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MAY 2024

MARKET COMMENTARY

EQUITY & FIXED INCOME MARKETS COMMENTARY

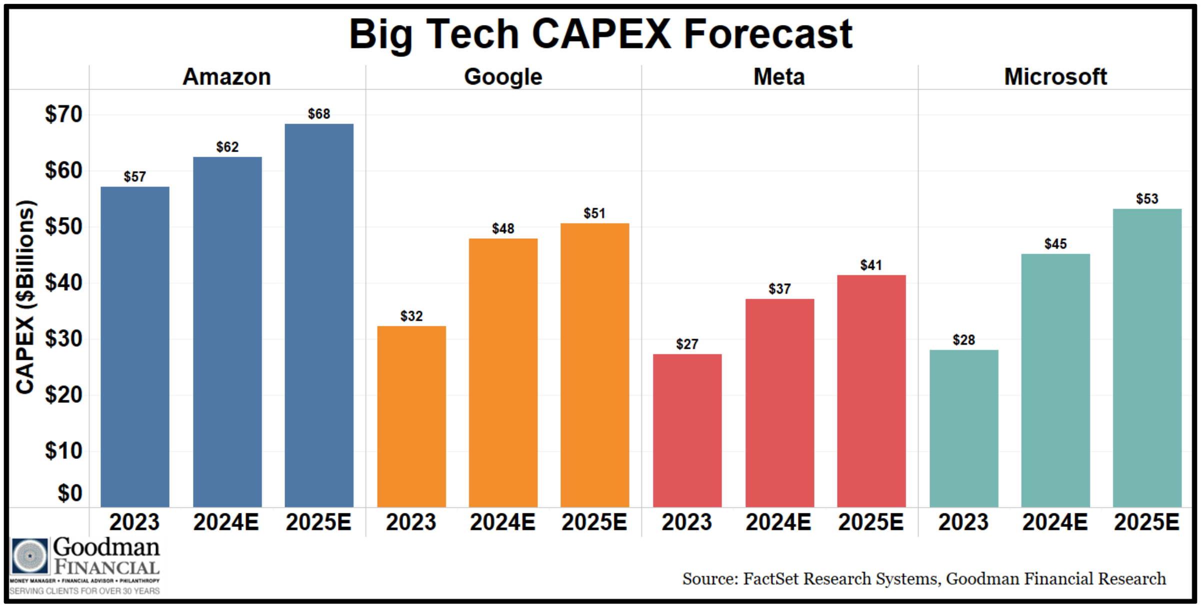
Stocks recorded gains in May, mostly offsetting their April losses. The S&P 500 rose by 5.0%, while the Blended Equity benchmark was up 4.8% for the month. The Mid-Cap S&P 400 Index and the Small-Cap S&P 600 Index rose by 4.4% and 5.0% for the month, respectively. The Dow Jones Industrial Average Index gained 2.6%, while the NASDAQ Composite Index was up 7.0% for the month. International stock indices lagged in May, with developed markets 3.3%, while emerging markets were up only 0.3%. Bond indices were mostly higher in May, as the 10-year U.S. Treasury bond yield fell to 4.49%, from 4.68% last month.

AI – BUILD IT AND THEY WILL COME…HOPEFULLY

Whereas few of us had heard of ChatGPT or thought about artificial intelligence (AI) just 18 months ago, one can hardly watch the news or read the paper without hearing about it now. The market's poster child for AI is Nvidia, of course, as the stock reflects a revenue ramp unlike any that we can recall. Analysts are currently projecting Nvidia to record $118 billion of revenues this year, nearly double last year's. So, just who is paying for all those billions of dollars of chips? The majority of sales are likely to cloud service providers (CSPs) that provide the backbone of AI data centers. The largest of those CSPs are Amazon through their AWS service, Microsoft through their Azure service and Google through their Google Cloud service. While Meta is not a CSP, they have huge data center operations of their own and have also been busy building out their own AI computing infrastructure.

Of note, all of the aforementioned companies have been dramatically increasing their capital expenditures (Capex). This can be seen in the chart below where we show annual capex spending by company for 2023, 2024 and 2025 (using analysts estimates for 2024 and 2025). As seen, all the companies are growing capex at an historically high rate – Microsoft, Google and Meta will grow capex by 60%, 48% and 36% respectively this year. Amazon will grow capex by only 9% this year as it laps high capex spending on its retail operations. It is safe to say that nearly all the growth in capex this year by these companies will be spent on AI infrastructure build out, which includes both the data centers and servers they house (using Nvidia's chips) to support AI computing. Much of this infrastructure is built to host the operations of companies that are developing/training generative AI "Large Language Models" (LLMs). The biggest of these LLMs are OpenAI's ChatGPT and Anthropic's "Claude". A large chunk of Google's capacity is being used for its own proprietary LLM, Gemini. Meta meanwhile uses its AI capacity for its proprietary LLM, Llama.

OpenAI hosts most of its operations on Microsoft servers while Anthropic uses both Amazon and Google servers. We find it interesting that Microsoft has invested $13 billion in OpenAI while Amazon has invested $4 billion in Anthropic, which both companies have in turn used to buy computing services from their respective investors. Note that the cost to train LLMs is rising exponentially and can now well exceed $100 million – at which time previous versions of the LLMs become outdated. While both OpenAI and Anthropic are generating revenues, as best as we can tell neither company is profitable, explaining why both companies continue to raise money from investors. Meanwhile, Google's spending could be considered defensive in terms of potentially cannibalizing its own lucrative search business, and Meta gives its Llama product away for free (for now). This begs the question of whether there is a real, sustainable business model for the customers of all the aforementioned cloud service providers, or generative AI specifically. Only time will tell on that question, but meanwhile one thing is for certain – return on invested capital for all the companies mentioned in our graph are likely headed down, which is not a good thing for investors, no matter how excited they get about AI. If our concerns become reality, that will ultimately not be good for these stocks, which make up nearly 25% of the S&P 500.



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REFERENCED INDICES

You cannot invest directly in an index. Index results assume the reinvestment of all dividends and interest.

- **S&P 500 Index** - a market-cap weighted index composed of the common stock of 500 leading companies in leading industries of the U.S. economy.
- **S&P 400 Mid-cap Index** – a market-cap weighted index composed of the common stock of 400 mid-sized companies reflecting the distinctive risk and return characteristics of the U.S. mid-cap equities sector.
- **S&P 600 Small-cap Index** – a market-cap weighted index composed of the common stock of 600 small-sized companies reflecting the distinctive risk and return characteristics of the U.S. small-cap equities sector.
- **Blended Equity Benchmark** – a customized index comprised of a blend of a 50% weight to the S&P 500 Large-Cap Index, 30% to the S&P 400 Mid-Cap Index and 20% to the S&P 600 Small-Cap index)
- **Dow Jones Industrial Average Index** – a price-weighted index composed of 30 U.S. blue-chip companies. The index covers all industries except transportation and utilities.
- **Nasdaq Composite Index** – an index that measures all Nasdaq domestic and international based stocks listed on the Nasdaq Stock Market.
- **Barclays Intermediate Govt/Corp Index** – the index includes investment grade, US dollar-denominated, fixed-rate treasuries, government-related and corporate securities with less than 10 years to maturity.