PATHSTONE
THE FAMILY OFFICE℠

# *Monthly Market Insights*

DECEMBER 2024

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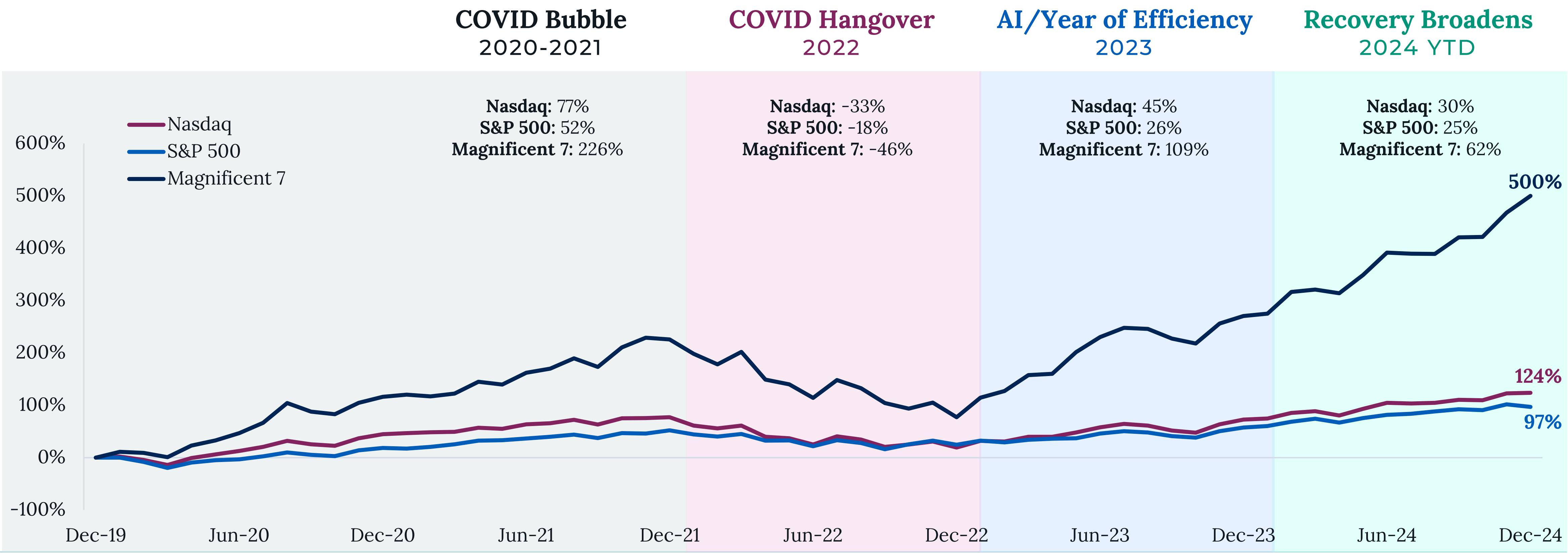
**The Magnificent 7 stocks (Apple, Microsoft, Nvidia, Amazon, Alphabet, Meta, Tesla) have been among the biggest drivers of returns in the post-pandemic period.** 2024 has been a continuation of this trend, with many of these names being some of the leading beneficiaries of the AI revolution. Lest we forget, this cohort also had to go through a painful 2022 of some business headwinds and compressing valuations. If you have a diversified portfolio, you're always going to own something that's underperforming and you're unlikely as concentrated in the top performing asset class of the moment. While the best and worst are frequently changing, outperformance trends can also persist over time.



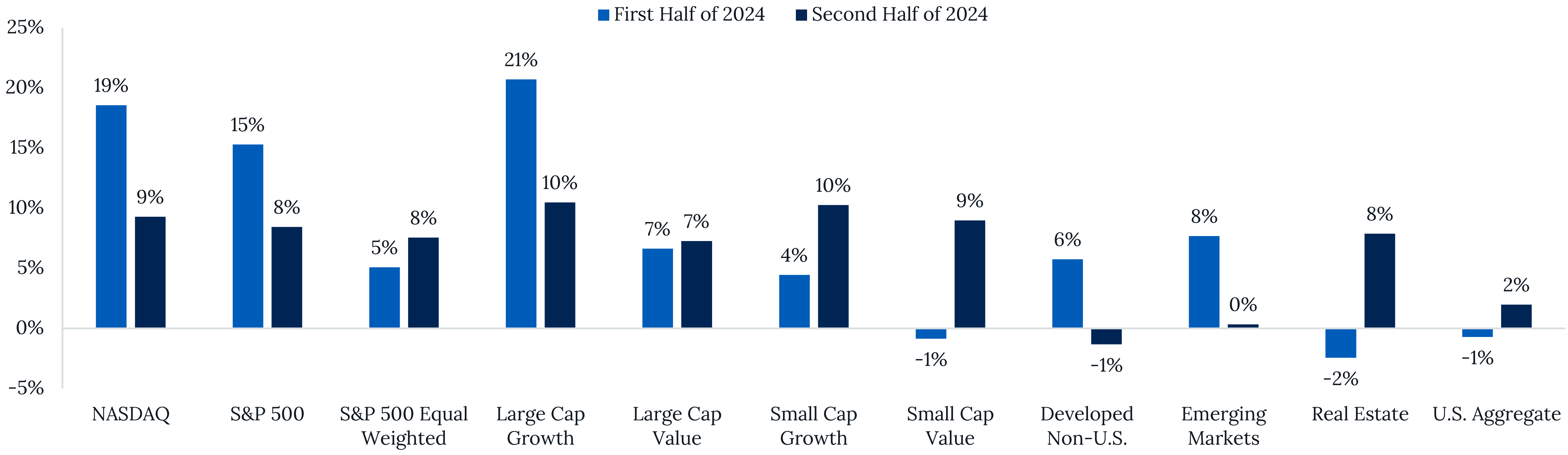

Source: FactSet, as of 12/30/2024.
Past performance is no guarantee of future returns. As with any investment, there is the risk of loss.

## THE SECOND HALF OF 2024 IS EXPERIENCING SOME BROADENING OUT OF PERFORMANCE LEADERSHIP

While the Magnificent 7 have been leaders across the full year-to-date timeframe, markets have experienced some broadening out of performance in the second half of 2024 and the outperformance gap is narrowing. We have started to see a market rotation, improving breadth beyond the largest companies in the S&P 500.

Real estate and small caps, previously lagging, have rallied strongly, marking a notable rotation from first-half trends. **Furthermore, the S&P 500 Equal Weighted has outperformed the S&P 500 (market cap weighted), suggesting that the other 490+ S&P stocks have collectively outperformed the Magnificent 7 since midyear.**

### SECOND HALF RETURNS LOOK VERY DIFFERENT THAN FIRST HALF OF 2024

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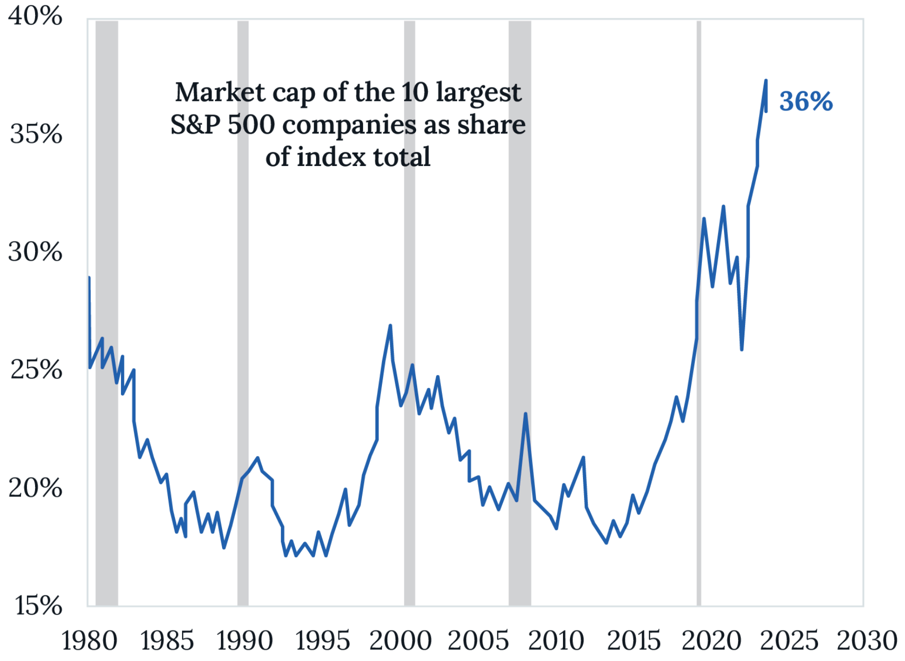
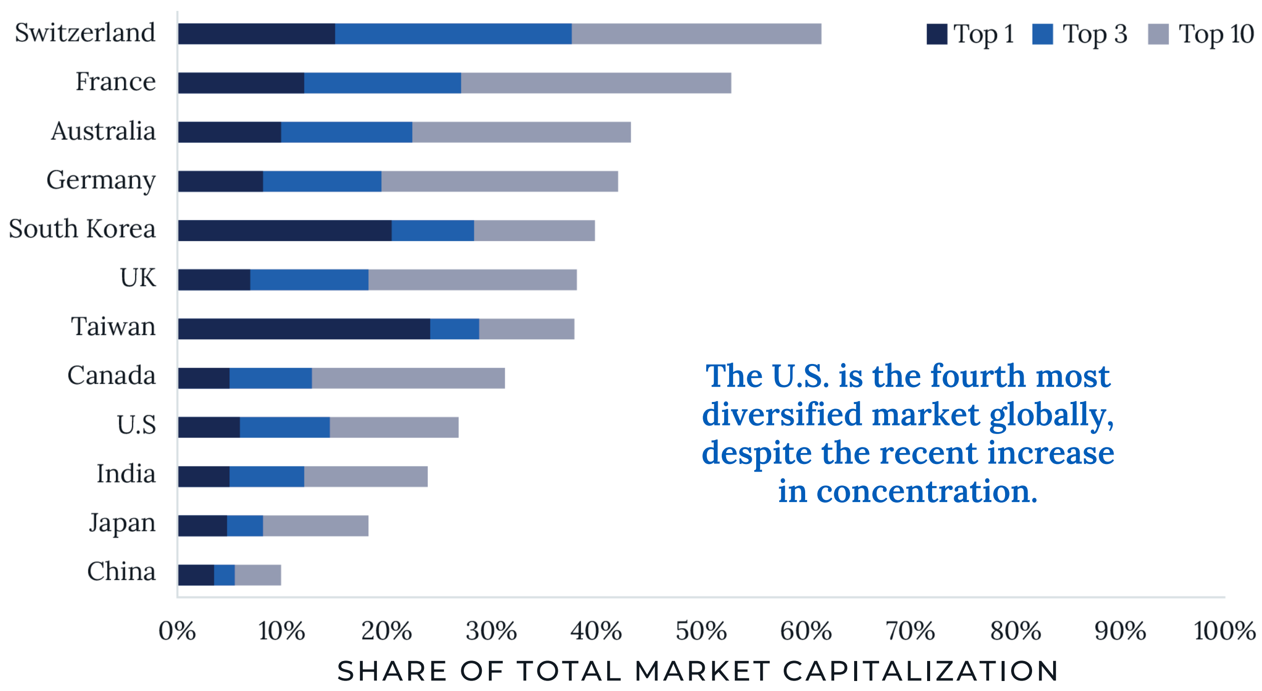
## EVEN WITH THE MOST RECENT BROADENING, THE MARKET IS STILL CONCENTRATED

The top 10 stocks in the S&P 500 now represent a combined 36% of the index's value—a historic level of concentration that has sparked some concern. **This dominance is even more stark in the Russell 1000 Growth index, where seven stocks make up 54% of the value. The index has never been this "top-heavy." Investors have been faced with a choice of embracing this concentration or going elsewhere to seek more diversification.** That said, of 54 countries who have at least 45 stocks listed, the U.S. ranks 51st in the concentration of the 10 largest stocks as a % of total market cap. So put into a global context, U.S. market concentration is not quite as "exceptional."

### THE 10 LARGEST STOCKS IN THE S&P 500 ACCOUNT FOR MORE THAN A THIRD OF TOTAL MARKET CAP




### US STOCK MARKET CONCENTRATION IS NOT EXCESSIVE RELATIVE TO REST OF WORLD




Source: FactSet and Counterpoint Global.
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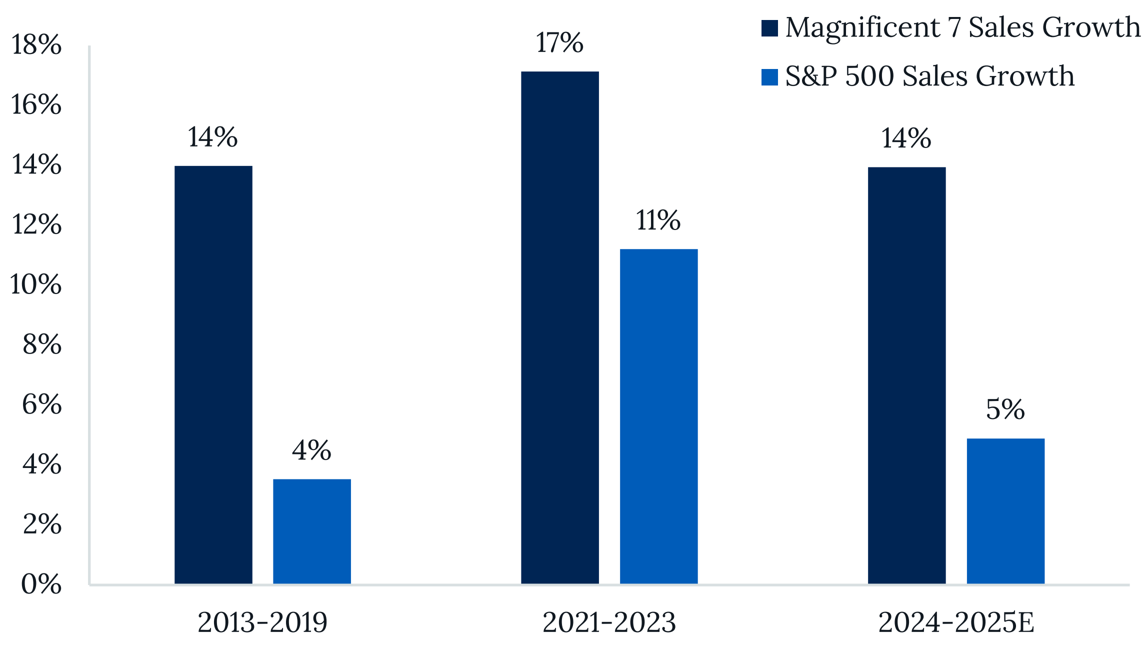
## MAGNIFICENT 7 HAVE OUTGROWN (SALES) AND OUTEARNED (NET PROFIT MARGINS) THE REST

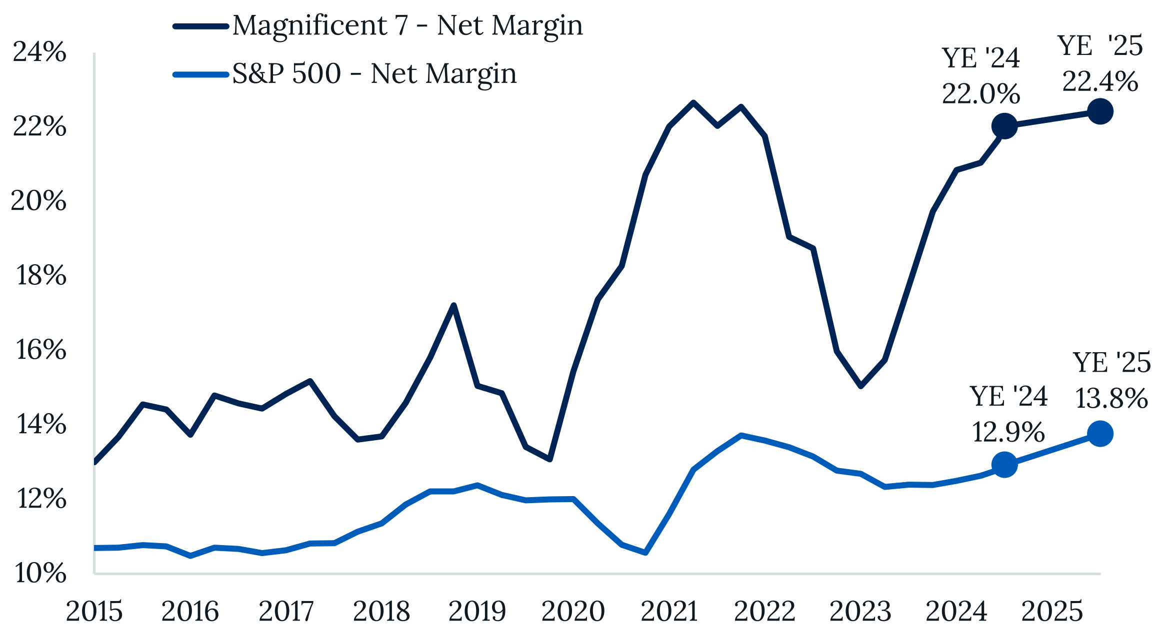
Delving deeper, the "Magnificent 7" have a history of outpacing the broader index on both top-line and bottom-line measures. Their sales growth and net margins have consistently exceeded the S&P 500's and are projected to remain above-index on a forward-looking basis. **While these companies are no longer "cheap" in the conventional sense, their premium pricing reflects sustained, superior growth trajectories and resilient profit margins. One could argue that much of their outperformance is justified based on fundamental outperformance.**

**Note that the S&P 500 sales growth and margin metrics are inclusive of the Mag 7, the divergence would be even wider comparing the S&P 500 ex-Mag 7.*

### SALES GROWTH MAGNIFICENT 7 VS. S&P 500




### NET PROFIT MARGINS MAGNIFICENT 7 VS. S&P 500

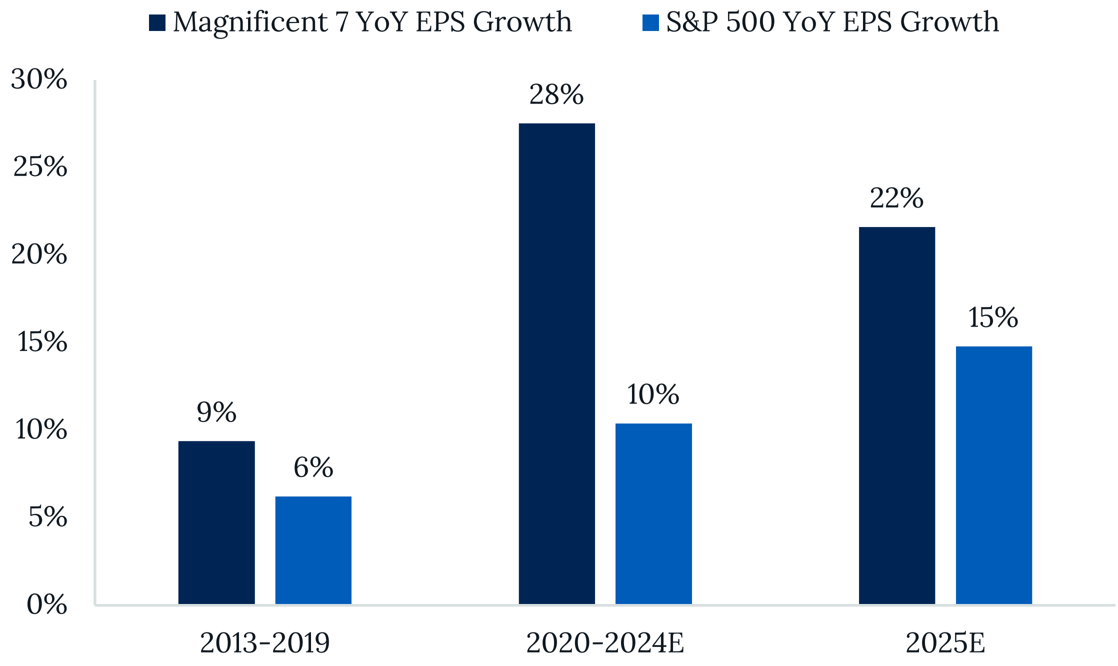


# MARKET CONCENTRATION HAS BEEN DRIVEN BY ECONOMIC CONCENTRATION

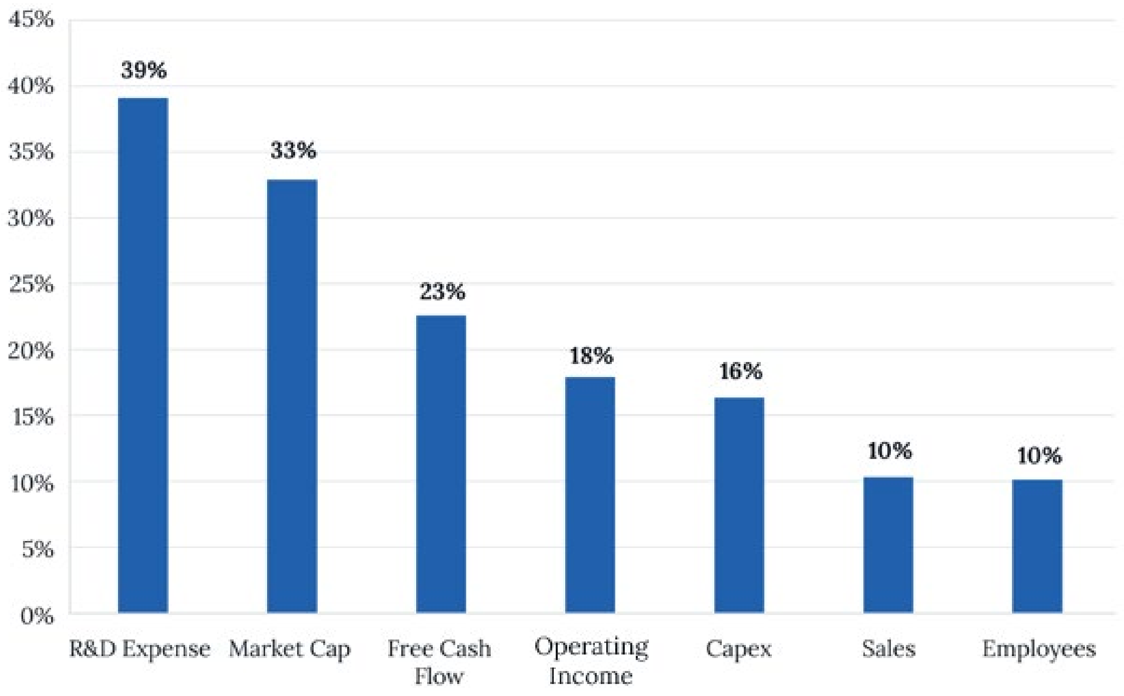
**In the 10 years through 2023, a period when concentration rose sharply, the top 10 stocks averaged 19% of the market capitalization, while the companies averaged 47% of the economic profit.** In 2023 alone, the top 10 stocks were 27% of the market capitalization and earned 69% of the economic profit.

The Magnificent 7 account for a sizable 36% of market cap, but they also account for 39% of R&D spending, 23% of free cash flow, and 16% of capex. The strongest have been getting stronger. Concentration today appears to showcase corporate resiliency and companies that are at the forefront of growth.

## MAGNIFICENT 7 STOCKS EARNING MORE POST COVID BUT THE SPREAD TO THE BROADER INDEX IS LIKELY TO NORMALIZE




## MAGNIFICENT 7 STOCKS PERCENTAGE SHARE OF VARIOUS S&P 500 VARIABLES




Source: Left – FactSet, 12/30/24. Right – Morgan Stanley Stock Market Concentration, June 4, 2024. Michael Mauboussin and Dan Callahan.
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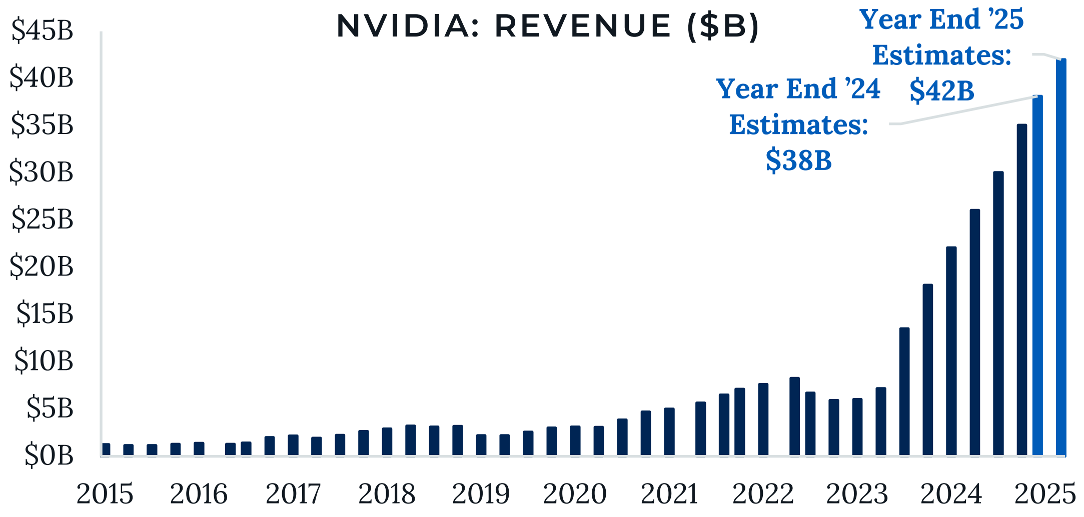
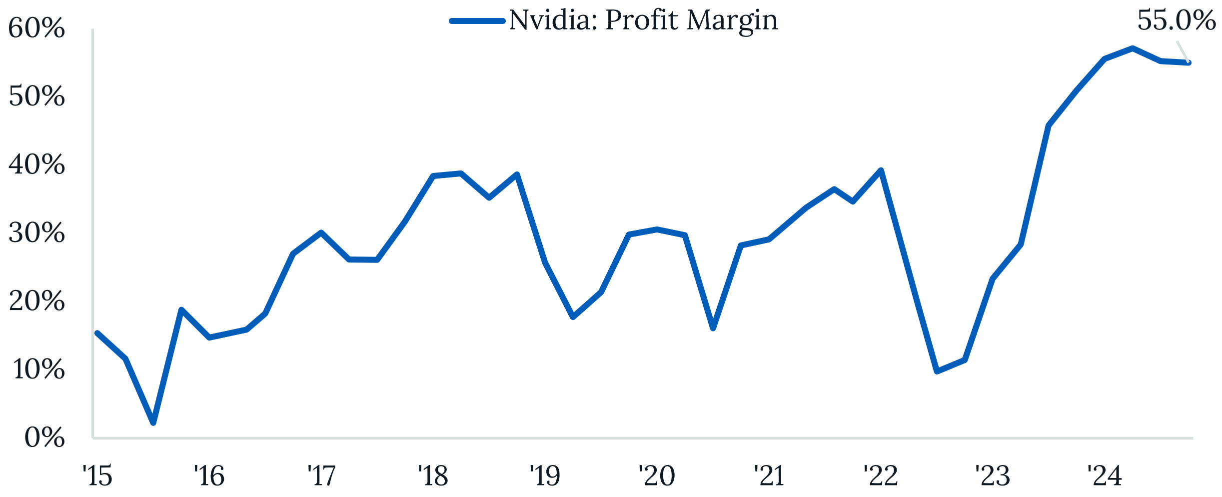
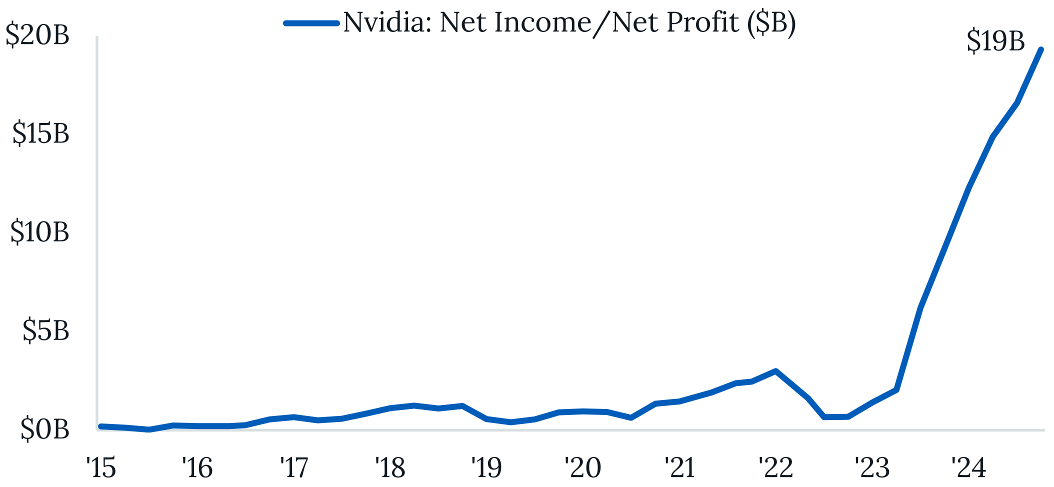
## NVIDIA HARDWARE IS LEADING THE AI REVOLUTION, DRIVEN BY CAPEX SPENDING BY HYPERSCALERS

Nvidia illustrates how market leaders can translate technological advantages into extraordinary results. In the past year, its revenues soared by 94%, net income more than doubled, and profit margins hit all-time highs. This underscores Nvidia's pricing power and strategic positioning as a critical supplier of advanced AI and cloud computing hardware. With new, cutting-edge chips like the Blackwell series accelerating innovation, Nvidia has entrenched itself at the heart of the rapidly expanding AI ecosystem. Furthermore, **as Nvidia expects more compute demand coming from AI model inference (recurring compute for model deployment) versus AI model training (big, but less frequent), they continue to see massive growth opportunities ahead across both their hardware and software platforms.**




Source: Bloomberg. https://bilello.blog/2024/the-week-in-charts-11-26-24.
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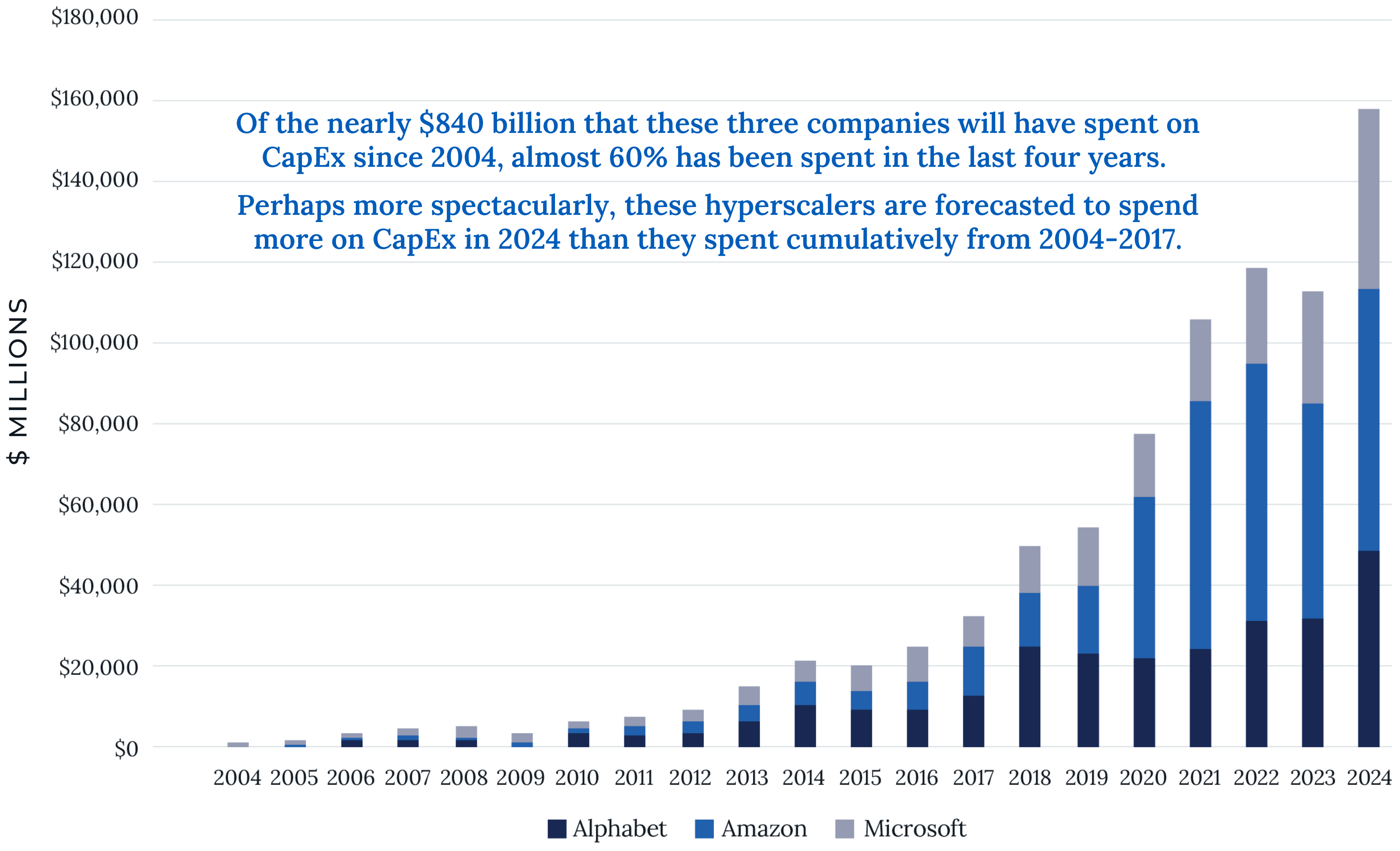
Nvidia's success is anchored in the investment boom led by cloud hyperscalers—Alphabet, Amazon, and Microsoft—whose appetite for expanding digital infrastructure knows few bounds. It is clear that we are witnessing a computing infrastructure build-out on a historic scale. It reflects a calculated push to meet soaring demand for data centers, cloud capacity, and AI workloads, all of which rely on advanced hardware solutions like those provided by Nvidia.

**The sheer size, scale, and costs of these projects is widening the competitive moats these businesses already have.**

**While questions have arisen around the future economic value creation required to justify such spending, many of these companies have noted they still can't keep up with current demand trends from their customers.**

## CAPEX SPEND ACROSS MAJOR HYPERSCALERS




Source: Spyglass Capital Management. Visible Alpha. 2024 figures based on consensus estimates as of June 30, 2024.
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# VERTICALS OF (BUSINESS AND INVESTING) OPPORTUNITIES FOR THE AI REVOLUTION ARE WIDE REACHING

- Established industry leaders
- Strong competitive positions / first movers
- High entry barriers

## INFRASTRUCTURE

- Cloud
- Datacenter Equipment
- Semis

## BUSINESS TRANSFORMATIONS

- Power
- AI Search
- Robotaxi
- Financial Services
- AI Agents

- First innings of decade-long industry changes
- Early winners emerging… but much more will change
- Highly disruptive

**Let's double click on AI Agents as an example…**

## AGENTS WILL BE VERTICALLY SPECIALIZED ACROSS AN ORGANIZATION

| CYBERSECURITY | FRONT-OFFICE | MONITORING | IT SERVICE MANAGEMENT | BACK-OFFICE | VERTICAL SaaS |
|---|---|---|---|---|---|
| paloalto, zscaler, FORTINET, okta, CROWDSTRIKE, SentinelOne | salesforce, HubSpot, Microsoft, monday.com | DATADOG, GitLab, dynatrace | servicenow, ATLASSIAN, freshworks | workday, SAP, CERIDIAN Dayforce, INTUIT | AUTODESK, Veeva, AXON, PROCORE, samsara |
| *"Investigate this breach"* | *"Increase my pipeline"* | *"Monitor this app"* | *"Change my password"* | *"Onboard this employee"* | *"Track this fleet/drug/worksite"* |

Source: Coatue Publics Year-End Update, November 26, 2024. Do not redistribute.
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# AI IS DRIVING EFFICIENCY, WITH SOFTWARE ENGINEERING SEEING DRAMATIC SHIFTS

" [We] started important work to ***reengineer our cost structure… through the use of AI… Today, more than a quarter of all new code at Google is generated by AI…*** "

Google

" We use GitHub Copilot to ***write more that 35% of the code for all the rest of the Copilots… We'll save hundreds of millions of dollars in the call center…*** customer stats are up, employee stats are up, ***case resolution has improved by more than 12%…*** "

Microsoft

" We're ***not adding any more software engineers next year… we have increased the productivity this year… with AI technology… by more than 30%…*** We will have less support engineers and more salespeople next year… "

salesforce

" **AI's Most Promising Startups Are Getting Younger and Leaner**
But while AI's 50 early-stage newcomers are on average ***raising more money than before, they are also doing it with fewer employees.*** "

Forbes

Source: Public company filings.
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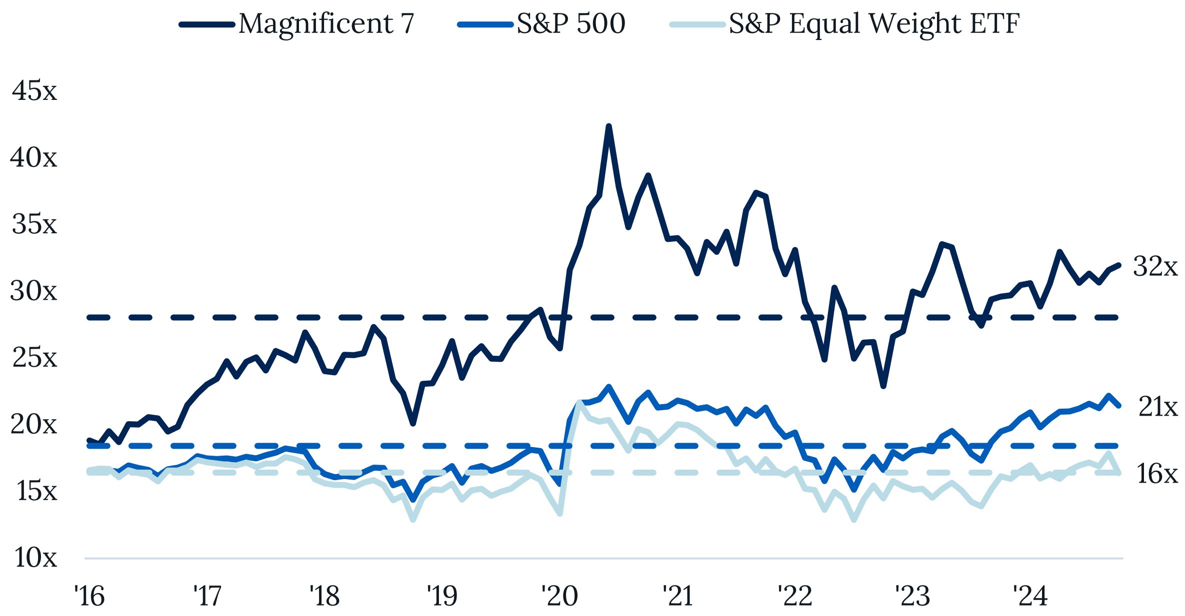
# ALL THAT SAID, THE MAGNIFICENT 7 ARE NO LONGER CHEAP, RATHER REFLECT ELEVATED VALUATIONS

Given the fundamental strength of these businesses, the next natural questions are "how much we should be willing to pay for these businesses?" and "how much of this is already priced in?" The Magnificent 7 have seen their valuations climb in recent years, though these businesses have consistently commanded a premium to the index, as is typical for quality growth businesses. On a relative basis to the broader market, the valuations are not at extreme, but the absolute valuations have risen materially throughout 2024. **We have noted in prior writing that this cohort had not looked as expensive when accounting for the higher growth forecasts, but that has changed as reflected by the PEG ratio climbing to 1.9x. While this is not at peak extremes, it certainly suggests more optimism is already priced in and warrants consideration of managing portfolio exposure** given the elevated concentration of this cohort in the broader index, meaning pullbacks in these stocks would have an outsized impact on returns.

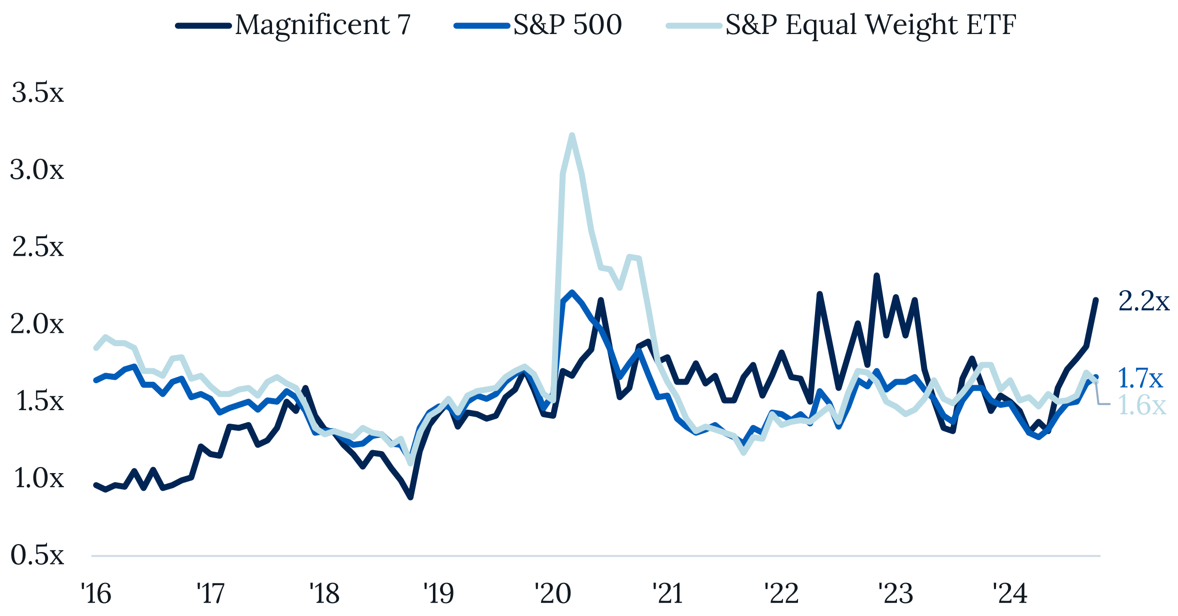
### FORWARD P/E RATIO

Expensive relative to broader index…




### FORWARD PEG RATIO

…even when adjusted for growth




Source: FactSet, as of 12/30/24.
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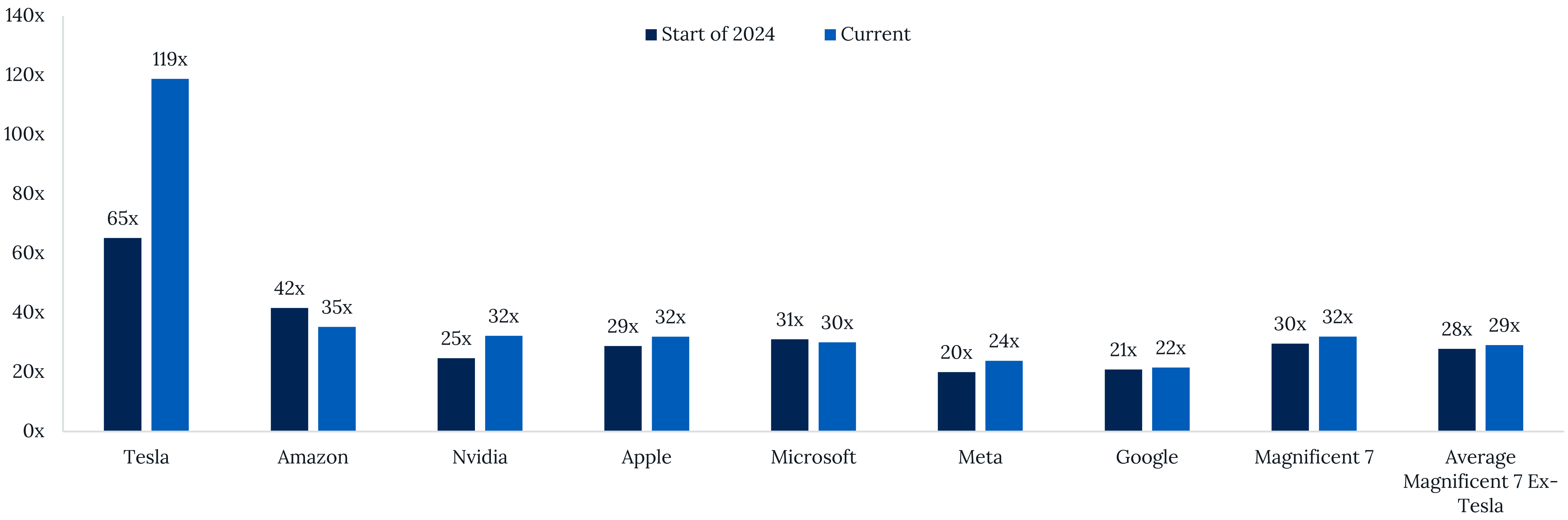
# THOUGH, OF COURSE, NOT ALL MAGNIFICENT 7 VALUATIONS ARE CREATED EQUALLY

While the market cap weighted average valuation of the Magnificent 7 is elevated, you can see that there is quite a range across the stocks. Tesla is a clear standout on the high side, both in absolute terms and in terms of multiple expansion throughout 2024, which may also visually mask the 15-point P/E multiple difference across the remaining six in the chart. Add in differing growth rate forecasts and varying market opportunity expectations, and this creates opportunities for active managers to have over/under weight positions within this cohort of stocks as well.

## FORWARD PE RATIO




Source: FactSet, as of 12/30/24.
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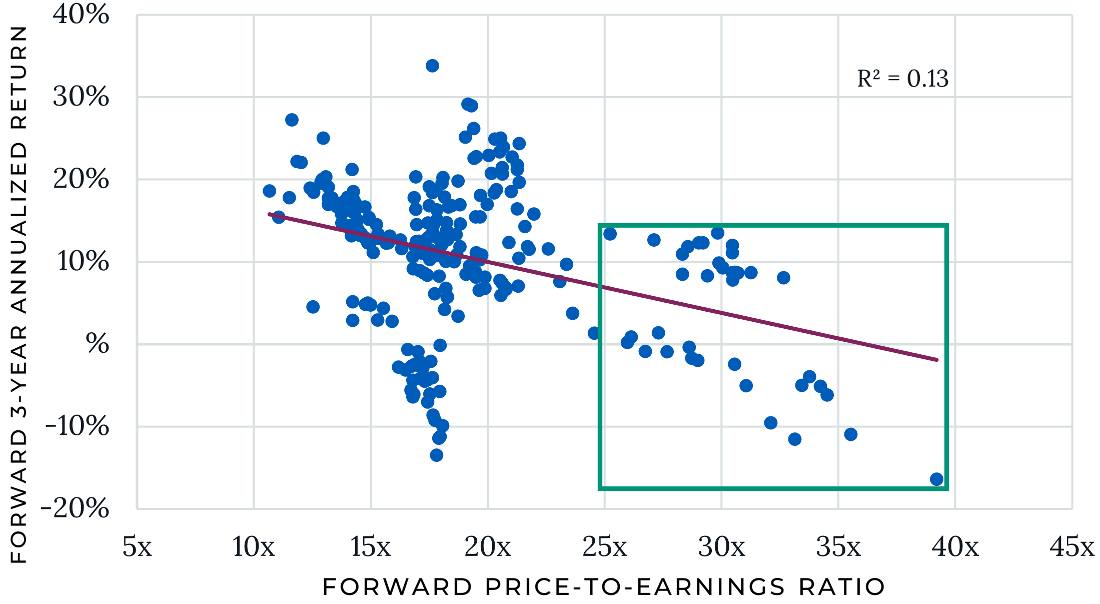
## MORE BROADLY, THE US LARGE CAP GROWTH INDEX TRADES NEARER THE HIGH END OF VALUATIONS

With the Magnificent 7 making up 54% of the Russell 1000 Growth index (US Large Cap Growth), the overall universe is trading near the high end of its historic valuation range. There is little correlation between high valuations and returns over the following year; expensive stocks can always get more expensive, and often do. That said, the upside case becomes harder to justify the higher the starting point multiple, and the hurdle placed on earnings growth materializing is greater (from already optimistic forecasts) with less room for multiple expansion. The below charts show that at lower multiples, you might expect a wide range of outcomes in returns over the forward 3- and 5-year periods. **However, valuations have mattered more at extremes, with the distribution of outcomes narrowing when P/E multiples trade above 25x. While we still want to strategically own these exceptional growth businesses, current elevated valuations warrants appropriately sizing and thus we suggest being marginally, tactically underweight US large cap growth exposure.**

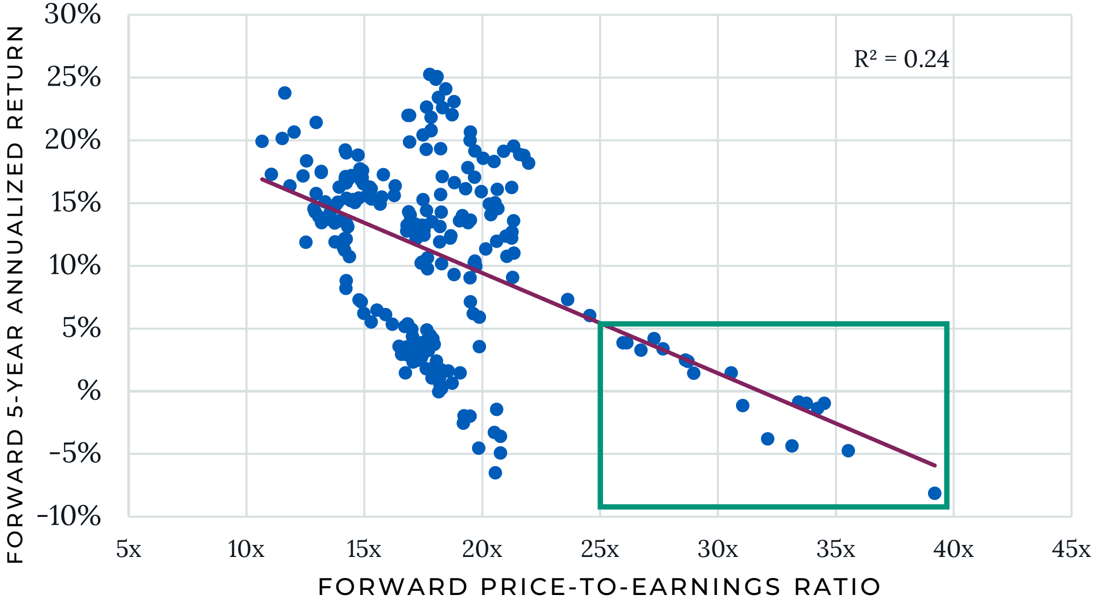
### RUSSELL 1000 GROWTH FORWARD 3-YEAR RETURNS

Current NTM PE: 29x




### RUSSELL 1000 GROWTH FORWARD 5-YEAR RETURNS

Current NTM PE: 29x




Source: Pathstone Investment Research. FactSet, as of 12/30/24.
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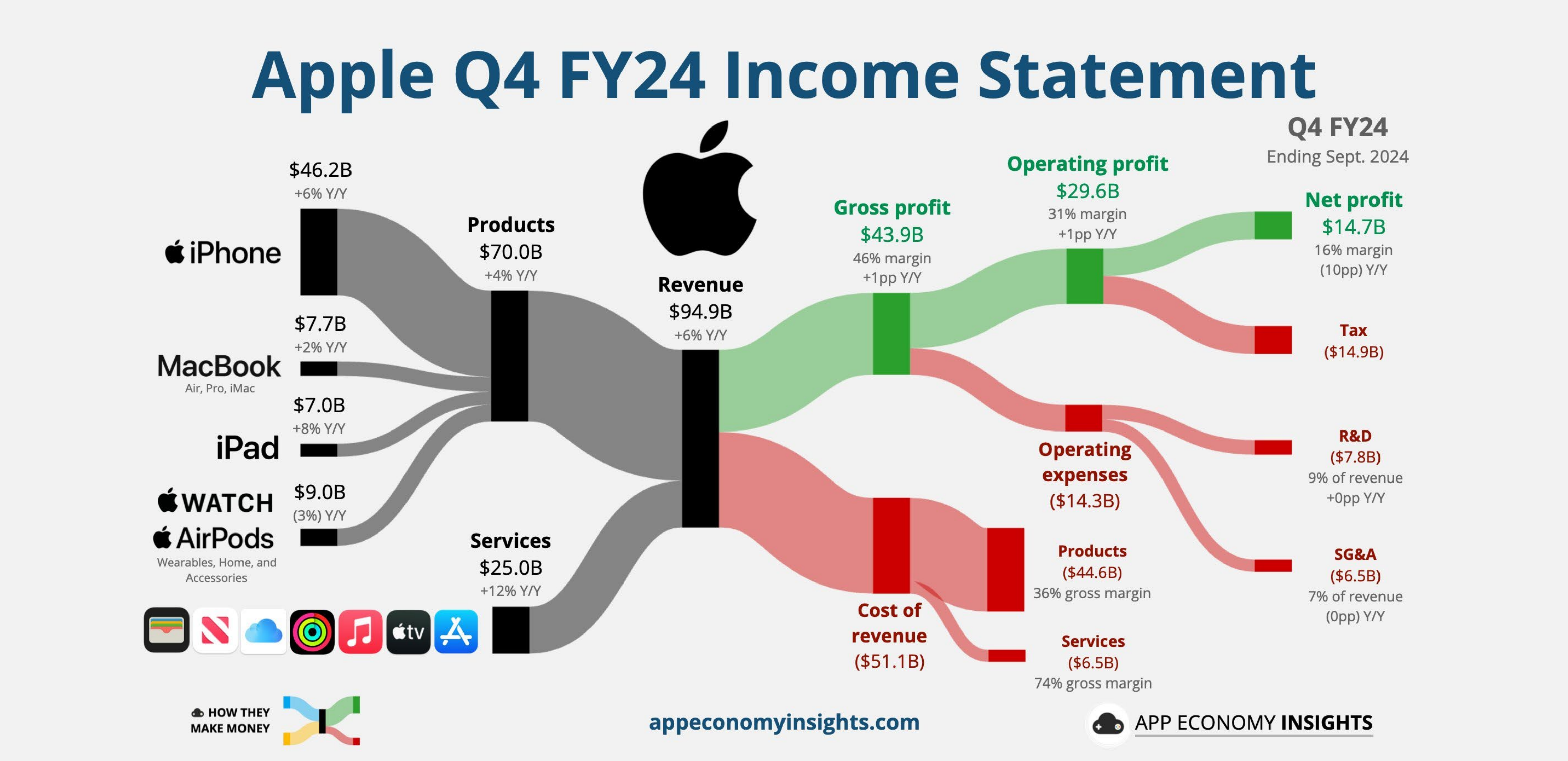
SPECIAL APPENDIX

# *How Each of The Magnificent 7 Companies Makes Money*




Source: App Economy Insights.
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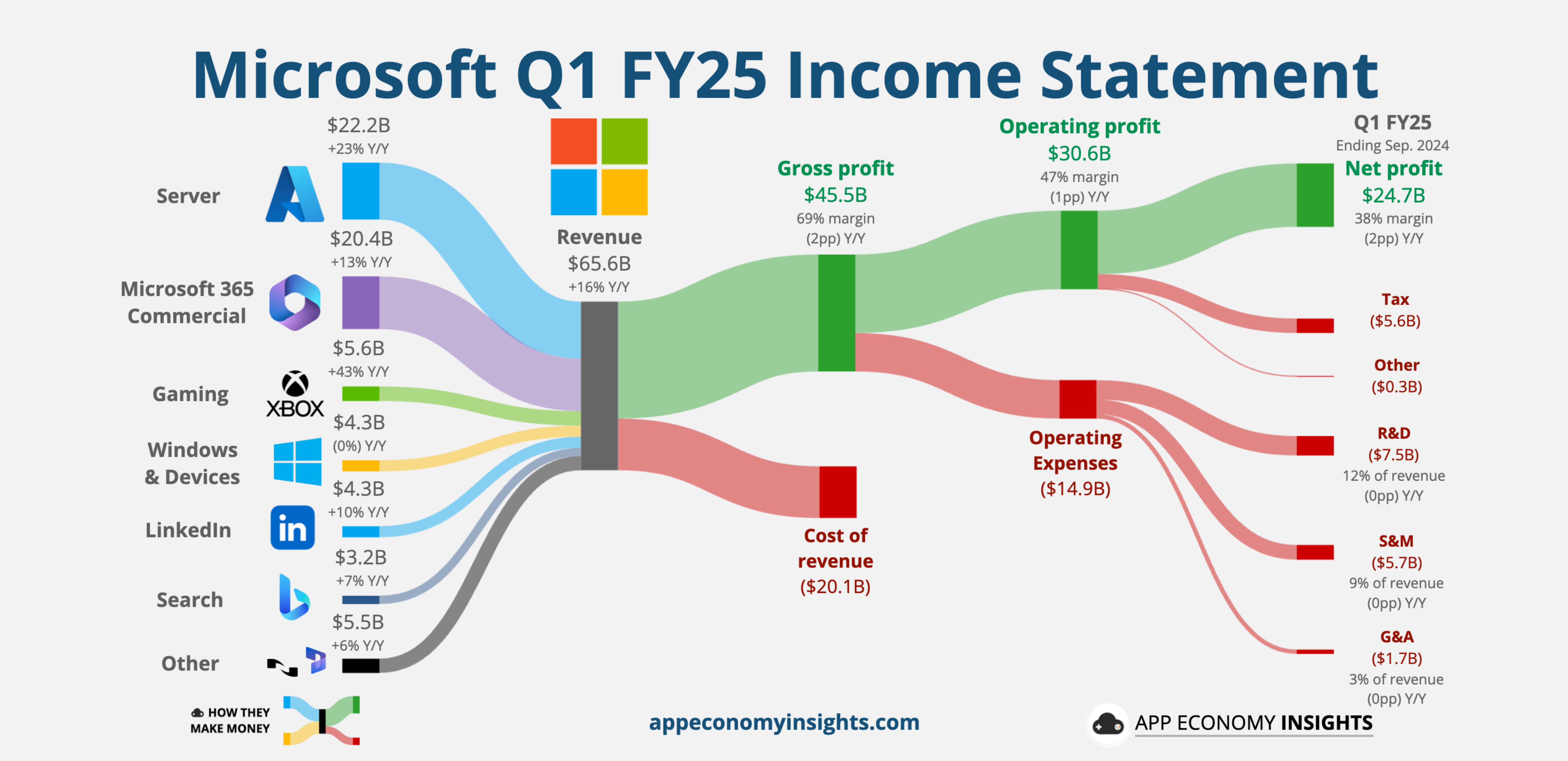


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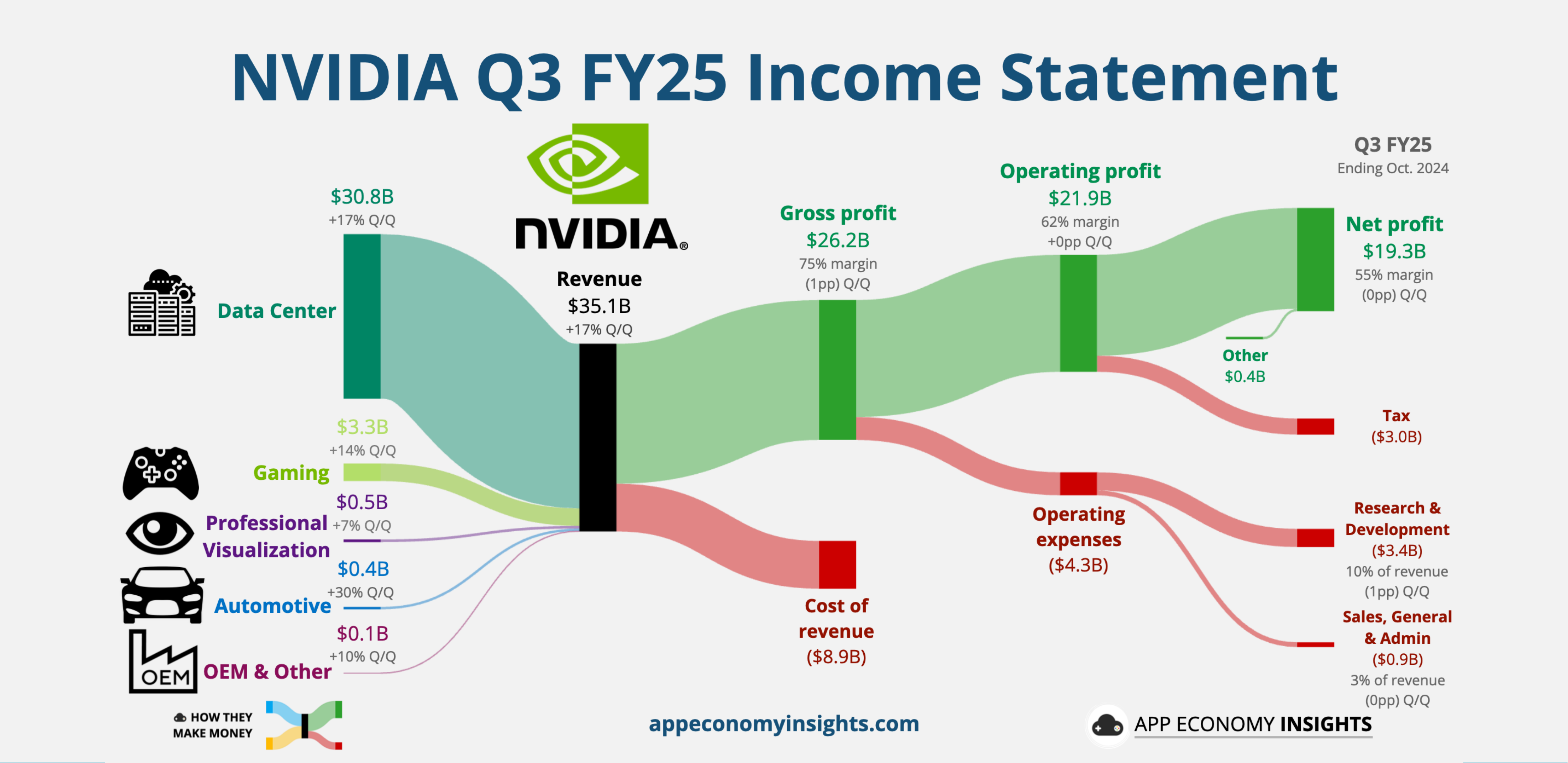


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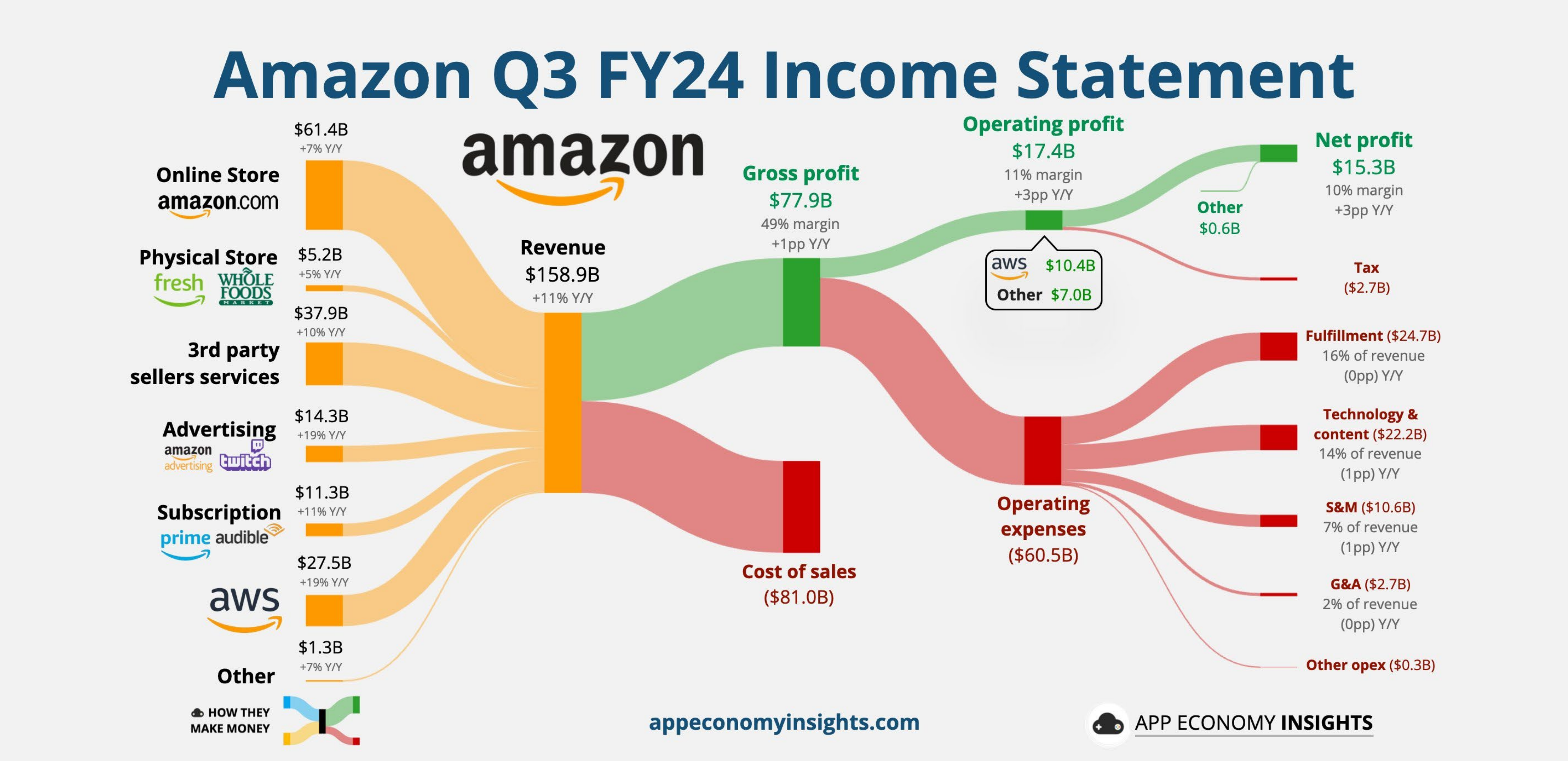


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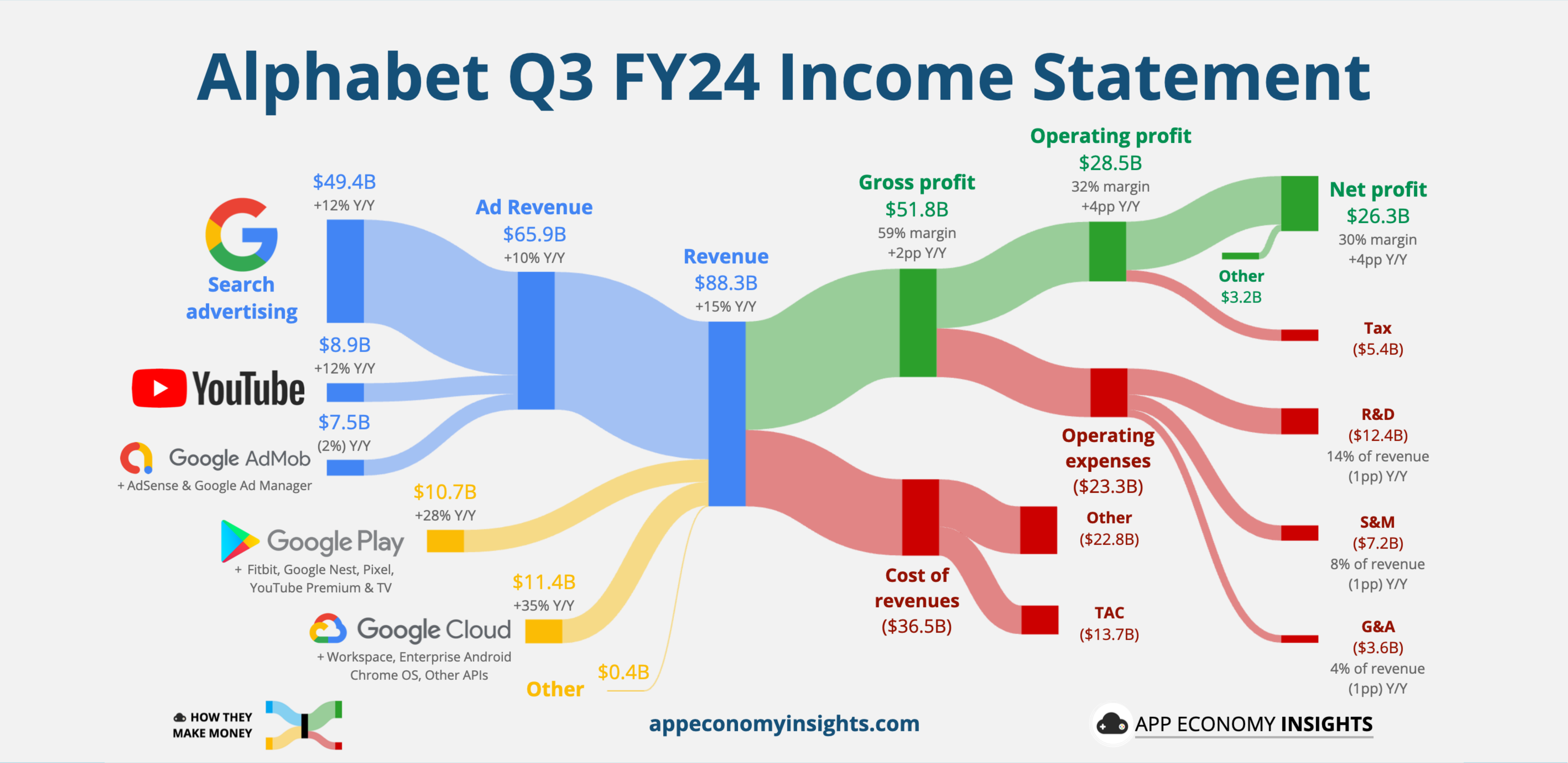


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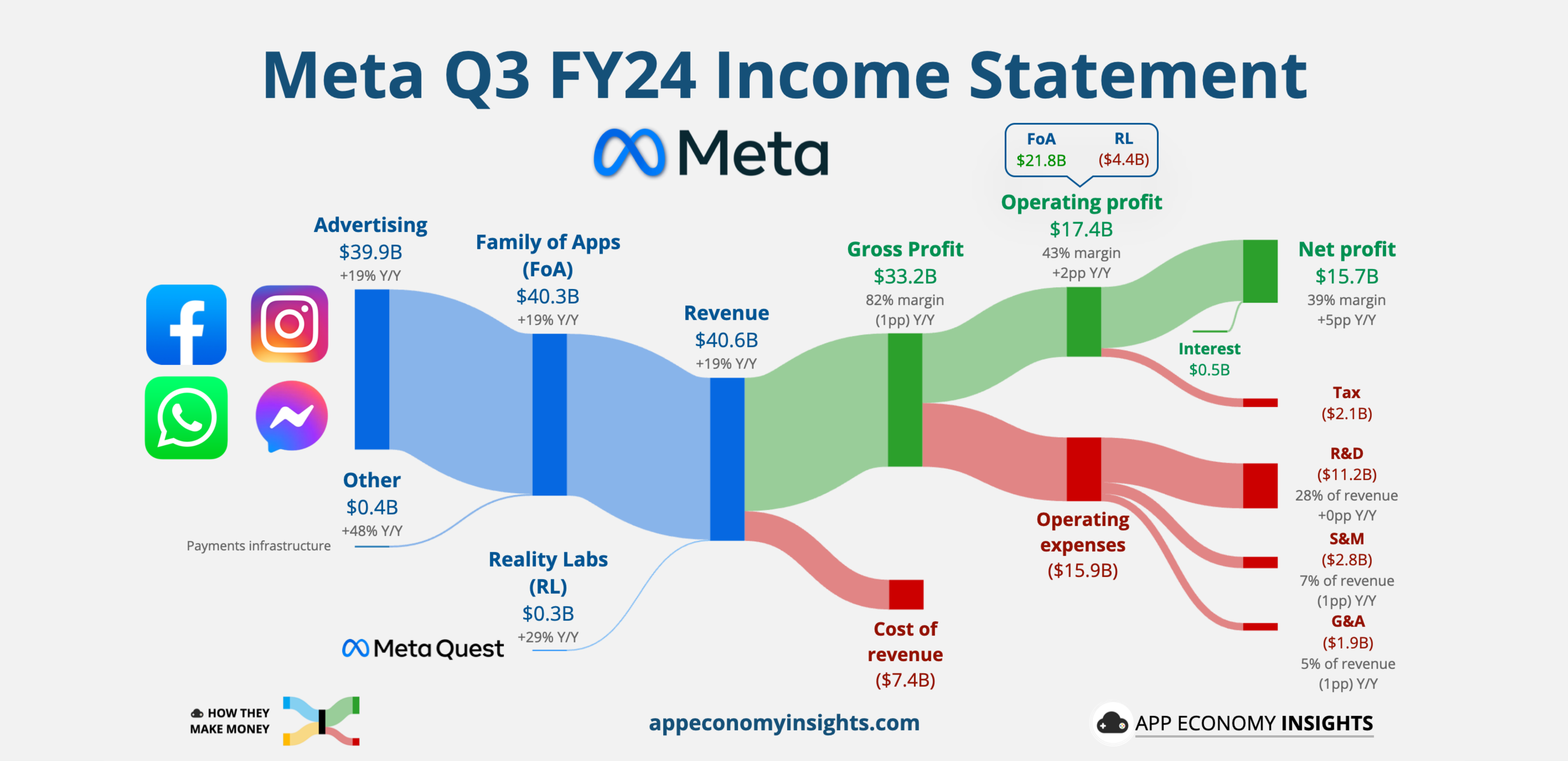


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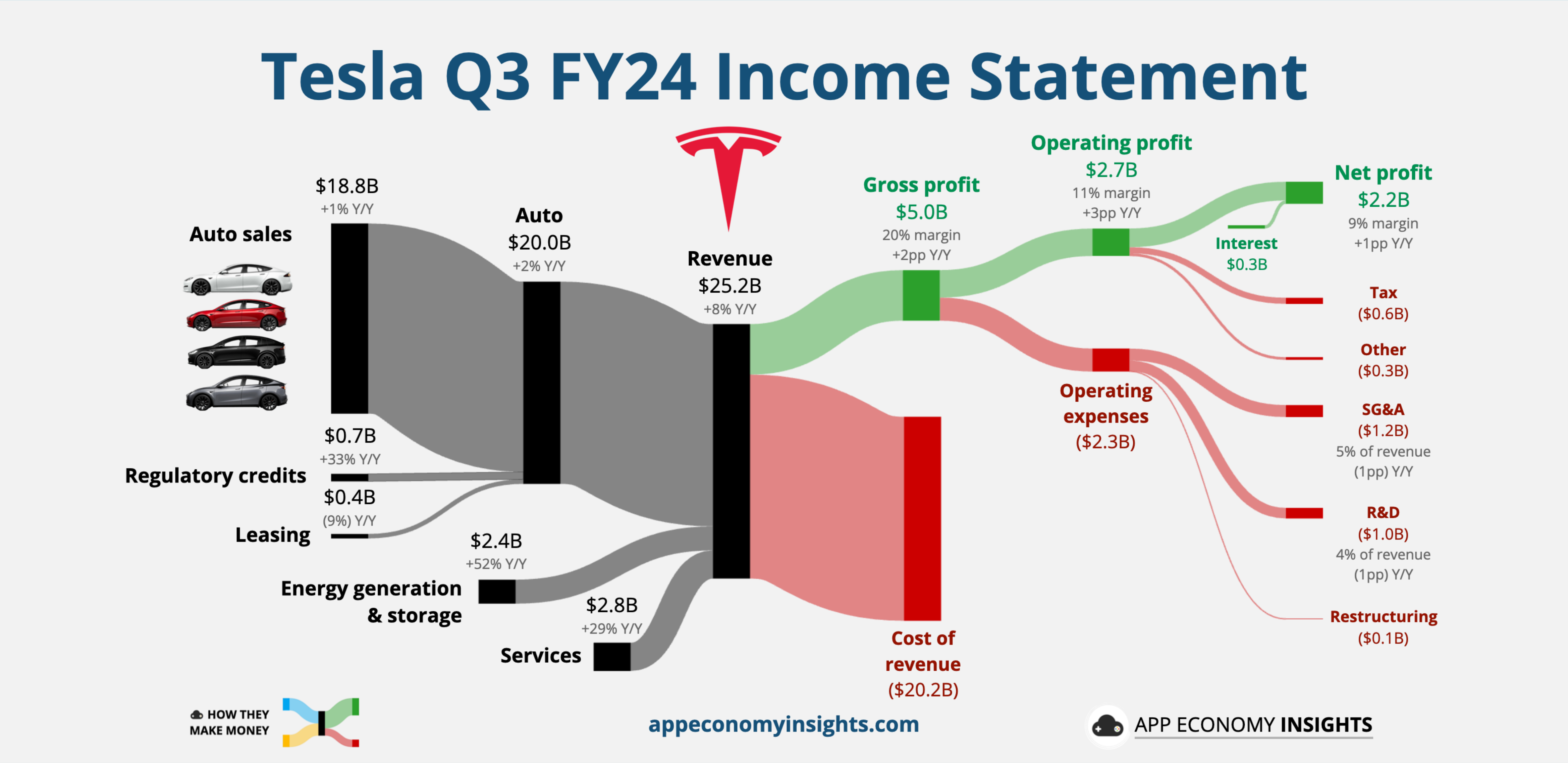


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