

# Economic & Market Outlook

## Executive Summary

- ~ The banking crisis appears to be contained, and recent signs of economic strength dispel the notion that our economy is slowing. The question on Wall Street: is this a bear market rally or the dawn of a new bull market?
- ~ Artificial Intelligence (AI) has gone mainstream with the release of ChatGPT, and Nvidia's comments on AI chip demand shocked the investing community.
- ~ Year-to-date, the stock market rally has been concentrated among a handful of large technology stocks, collectively referred to as the super-seven. Many of these securities are perceived to be benefactors of the AI revolution.
- ~ At face value, technology valuations once again seem stretched, but that is up for debate. Many stocks however, have not participated in the rally and are still well below their 2021 highs. The net result is a large divergence in headline valuations.

## Second Quarter Overview

Financial markets often enter a lull as spring transitions into summer. Corporate news releases and trading volumes slow as individuals prioritize vacation over work. This quarter proved exceptionally quiet. Concerns about a regional banking crisis have subsided, and inflation has continued to moderate, leading to a slowdown in Fed rate hikes. Last quarter's increase in initial and continuing unemployment claims reversed, and housing starts surged 18%, even with record mortgage rates. Against this backdrop, equity markets have appreciated, and volatility has plummeted.

## AI is Coming

However, amidst the quiet, one newsworthy development occurred when Nvidia released guidance that shocked the market. Artificial Intelligence (AI) is a hot topic, but until recently, the subject of AI felt relegated to science fiction novels. This changed when OpenAI released ChatGPT, an AI application that is accessible and applicable to daily life. Suddenly, students were using AI to write essays, stories, and poems, while analysts within our industry were leveraging AI to enhance their research processes. The potential applications seem limitless, and we have only scratched the surface of AI's capabilities. Still, it is hard to quantify the degree and speed at which change will occur. Nvidia's release on May 24th gave Wall Street concrete estimates investors could latch onto.

### Associated Press Headline Following Nvidia's Conference Call

**The 'jaw dropping' guidance heard around the world: Nvidia's \$4 billion A.I. bump has Wall Street analysts salivating**

Nvidia is uniquely positioned to capitalize on the AI boom as the dominant supplier of high-powered chips used for AI computing, controlling approximately 75% of the market. The company's guidance of \$11 billion in sales for the quarter far surpassed Wall Street's expectation of \$7.2 billion. During their conference call, CEO Jensen Huang fueled excitement by hinting at the company's potential market reach, hinging on the legacy central processing unit chips occupying data centers, which represent a market worth around "\$1 trillion." These numbers were nothing short of mind-boggling.

The morning after the Nvidia release I (the author of this commentary) texted the office, “the Nvidia reporting is nuts. Seems like this has the potential to turn into a major bubble.” When trading opened, NVDA surged by approximately 25%. In the days that followed, the company’s valuation surpassed \$1 trillion, placing it alongside Apple, Microsoft, Google, and Amazon.

### The Turning Point

Nvidia's quarterly report marked a turning point for the indices. From the end of the first quarter through May 24th, the S&P 500 saw a meager 0.39% increase, while the Nasdaq performed slightly better with a 2.3% uptick. However, following the Nvidia release, the markets surged higher, with the S&P 500 and Nasdaq jumping an additional 8.3% and 10.5%, respectively.

**S&P 500 Before & After Nvidia’s Report**



Source: Bloomberg

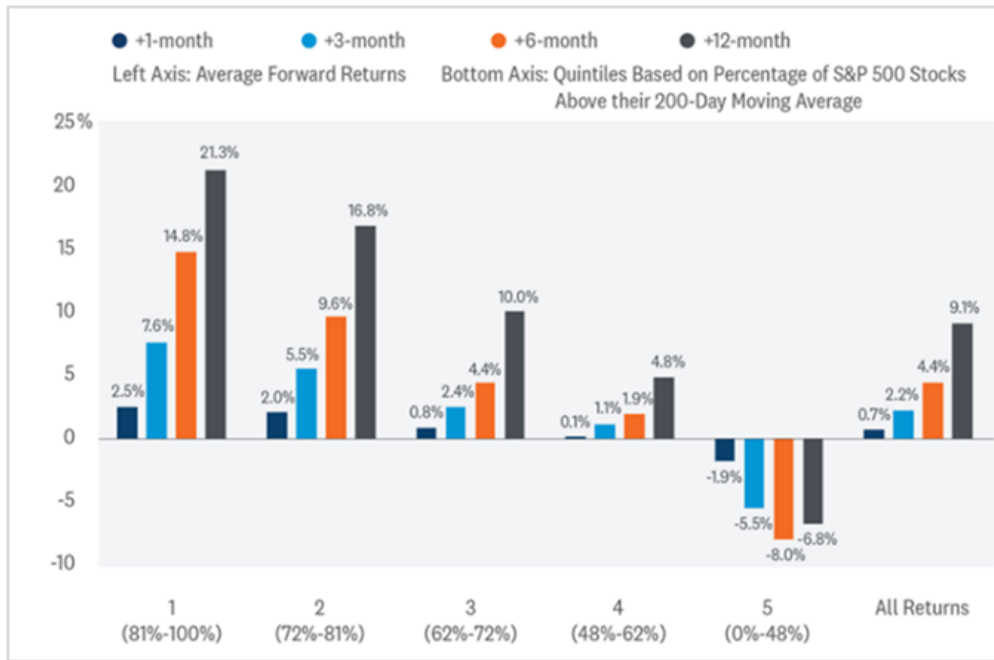
The sudden rally in stocks was sizeable but lacked breadth. The ten largest stocks in the S&P 500 accounted for roughly 32% of its weight, and seven of those ten are potential AI beneficiaries, including Nvidia, Apple, Microsoft, Amazon, Meta, Tesla, and Google. These large companies drove the market averages higher. Our calculations indicate they contributed to 73% of the market’s year-to-date return. A month ago (5/30/23), the index would have been negative if you excluded the seven. The divergence becomes most acute when you compare the returns of the S&P 500 to the S&P 500 equal weight index, with the former up 16.9% year-to-date and the latter up only 7.0%.

### Is this a Bear Market Rally or New Bull Market

There is no shortage of opinions about the recent run in stock prices, ours included.

Many bears argue that the market’s narrow leadership and lack of breadth exposes the market’s fragility. The current divergence between indices and the average stock is seen as a negative omen, as healthy rallies tend to be broad-based, while weak rallies, prone to failure, are concentrated among the few. LPL Research conducted a study measuring the percentage of companies trading above their 200-day moving average, a simple measure of breadth. They concluded the best forward returns follow periods of strong breadth, while the worst forward returns follow periods of weak breadth. For most of 2023, the US stock market has been in the fifth quartile, and only recently have we moved into the 4<sup>th</sup> quartile, neither of which is encouraging. *See graphic on the following page.*

**Poor Breadth Foreshadows Poor Returns?**



Source: LPL Research

On the other hand, bulls have their own data. They might argue that a strong start to the year (first 100 trading days) assures a strong finish. Looking at data since 1950, when the S&P 500 has risen 7% or more over its first 100 trading days, it has averaged returns of 9.4% for the remainder of the year, with an 88.5% accuracy across 26 observations.

**A Strong Start Forecasts a Positive Finish?**

|                | Performance First 100 Days | Performance Rest of Year | Calendar Year Return |
|----------------|----------------------------|--------------------------|----------------------|
| 1950           | 11.3                       | 9.3                      | 21.7                 |
| 1954           | 16.6                       | 24.4                     | 45.0                 |
| 1958           | 9.5                        | 26.1                     | 38.1                 |
| 1961           | 14.0                       | 8.0                      | 23.1                 |
| 1963           | 11.1                       | 7.0                      | 18.9                 |
| 1964           | 7.6                        | 5.0                      | 13.0                 |
| 1967           | 12.3                       | 7.0                      | 20.1                 |
| 1971           | 7.9                        | 2.5                      | 10.8                 |
| 1972           | 7.5                        | 7.5                      | 15.8                 |
| 1975           | 32.1                       | -0.4                     | 31.5                 |
| 1976           | 10.3                       | 8.1                      | 19.1                 |
| 1983           | 17.7                       | -0.4                     | 17.3                 |
| 1985           | 12.2                       | 12.6                     | 26.3                 |
| 1986           | 14.2                       | 0.3                      | 14.6                 |
| 1987           | 19.4                       | -14.5                    | 2.0                  |
| 1989           | 14.9                       | 10.7                     | 27.3                 |
| 1991           | 13.1                       | 11.5                     | 26.3                 |
| 1995           | 15.1                       | 16.5                     | 34.1                 |
| 1996           | 10.1                       | 9.2                      | 20.3                 |
| 1997           | 14.3                       | 14.6                     | 31.0                 |
| 1998           | 12.6                       | 12.5                     | 26.7                 |
| 2003           | 8.1                        | 16.9                     | 26.4                 |
| 2013           | 15.7                       | 12.0                     | 29.6                 |
| 2017           | 7.9                        | 10.7                     | 19.4                 |
| 2019           | 12.7                       | 14.3                     | 28.9                 |
| 2021           | 11.7                       | 13.6                     | 26.9                 |
| <b>Average</b> | 13.1                       | 9.4                      | 23.6                 |
| <b>Median</b>  | 12.5                       | 10.0                     | 24.7                 |

Source: Annandale

## Which Statistic Portends the Future?

We wouldn't rush to make trades based on either.

The first study on market breadth is unduly influenced by major market events, such as the tech bubble and the great financial crisis. There are many instances where poor breadth (5<sup>th</sup> quintile) was followed by strong market returns. We can count a handful since the great financial crisis: 2010, 2011, 2012, 2014, 2015, 2016, 2018, and 2020.

The second study, focusing on strong starts, presents an incomplete picture with arbitrary cutoffs. Consider the counterexample: the S&P 500's performance when the first 100 trading days stink. There have been seven instances when the S&P 500 was down more than 10% over the first 100 days. 86% of the time the S&P 500 went on to deliver positive returns, averaging 9.2% with a median return of 13.5% (quite a bit better). Moreover, different conclusions arise when the study is run on another index, like the Nasdaq. Historically, when the Nasdaq has an extremely strong start, such as a +30% gain, like this year, it has averaged losses of -11% over the second half of the year.

## Predicting Anomaly Performance with Politics, the Weather, Global Warming, Sunspots, and the Stars

Robert Novy-Marx is one of the world's leading financial economists. In 2014, he published a paper in the Journal of Economics akin to Jonathan Swift's essay, "A Modest Proposal." The paper demonstrated that one can predict equity market phenomena using factors like the weather, sunspot activity, and planetary positions. The satirical piece was written to expose the dangers of taking data at face value.

So why do we bring all of this up?

First, we want to remind investors that Wall Street is in the business of selling advice, the quality of the advice doesn't matter so long as they sell it.

Second, with AI readily accessible, humans will be far better equipped to discover relationships and patterns in financial data. Some of these findings will be real and others spurious, but we imagine the number of "stock market tips" is about to balloon.

Third, investors love shortcuts, us included. Studies like these satiate our appetite for quick answers, but they are empty calories. There is a big difference between correlation and causality.

We caution investors about the limitations of financial data, even when used correctly. Believe it or not, the stock market is relatively young. The S&P 500 was formed in March of 1957, 66 years ago. Before that, we had the Dow Jones Industrial Average, a less reliable index, which was first published in 1896, making it 128 years old. Business cycles average roughly five and a half years. In other words, US stock market data is only long enough to cover 23 business cycles, hardly enough to draw robust conclusions about the relationship between our economy and the stock market. This applies to inflation and the stock market as well. We have only had six major inflation regimes since 1986. It is very hard to draw macro conclusions from the data we have at hand. Furthermore, it is difficult to know whether the conclusions we do draw, about some pattern or relationship, will hold up under a different economic regime. Simply put, treat everything you read with caution.

## Focusing on What Matters

In the grand scheme, only two variables matter in investing: the price paid for an investment and the subsequent cash flows it generates. Everything else, including market breadth and past returns, is mostly noise.

This is consistent across markets. In bond markets, investors calculate the future coupon and principal payments to determine a bond's worth. In real estate, investors calculate the portion of the rent check they can put back into their pocket and the proceeds they can obtain from selling the property. In private equity, managers calculate how much

cash they can take out of a business via distributions and a sale. Small business owners employ a similar methodology. The only thing that matters is how much cash you can get out of an investment relative to the price you paid. Why should a stock or the market in aggregate be treated any differently?

To that end, let's divert our attention to Nvidia, the newest entrant to the trillion-dollar club and recent darling of the stock market.

## Nvidia (NVDA)

NVDA was founded in 1983 by Jensen Huang, who still leads the company today. The company's original business was designing chips for the visual computing market, specifically, high-powered graphic processing chips (GPUs) used for displays and video games. As luck would have it, GPUs have proven highly suitable for the computations required to train AI models, opening a new market for Nvidia: data centers.

Historical Snapshot of Nvidia

|               | FY 2016  | FY 2017  | FY 2018  | FY 2019   | FY 2020   | FY 2021   | FY 2022   | FY 2023   |
|---------------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|
| Datacenter    | \$ 339   | \$ 830   | \$ 1,932 | \$ 2,932  | \$ 2,983  | \$ 6,696  | \$ 10,613 | \$ 15,005 |
| Gaming        | \$ 2,818 | \$ 4,060 | \$ 5,513 | \$ 6,246  | \$ 5,518  | \$ 7,759  | \$ 12,462 | \$ 9,067  |
| Visualization | \$ 750   | \$ 835   | \$ 934   | \$ 1,130  | \$ 1,212  | \$ 1,053  | \$ 2,111  | \$ 1,544  |
| OEM & IP      | \$ 783   | \$ 698   | \$ 777   | \$ 767    | \$ 505    | \$ 631    | \$ 1,162  | \$ 455    |
| Automotive    | \$ 320   | \$ 487   | \$ 558   | \$ 641    | \$ 700    | \$ 536    | \$ 566    | \$ 903    |
| Total Sales   | \$ 5,010 | \$ 6,910 | \$ 9,714 | \$ 11,716 | \$ 10,918 | \$ 16,675 | \$ 26,914 | \$ 26,974 |
| YoY Growth    |          | 37.9%    | 40.6%    | 20.6%     | -6.8%     | 52.7%     | 61.4%     | 0.2%      |
| EBIT          | \$ 1,125 | \$ 2,221 | \$ 3,617 | \$ 4,407  | \$ 3,735  | \$ 6,803  | \$ 12,690 | \$ 9,040  |
| EBIT Margin   | 22%      | 32%      | 37%      | 38%       | 34%       | 41%       | 47%       | 34%       |

Source: Annandale Capital

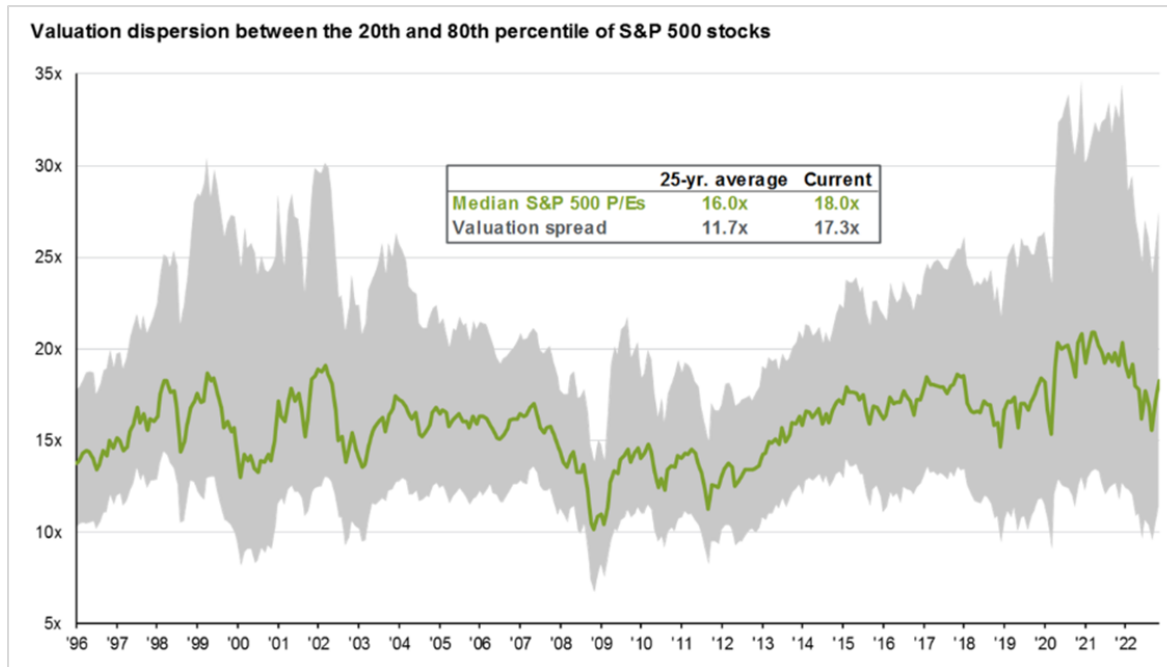
NVDA currently trades for \$435 per share and has 2.47 billion shares outstanding, valuing the company at just under \$1.1 trillion dollars. This represents a twofold increase from where it started the year and is roughly 40 times the company's last fiscal year's sales. To be clear, Nvidia is an exceptional business, converting roughly 40% of its revenue into earnings before interest and tax (EBIT). The attractive margins stem from its capital-light business model whereby Nvidia designs and sells its chips but uses a third-party (Taiwan Semiconductor) for manufacturing. The key questions are: will the AI revolution generate massive demand for GPUs in data centers and how much of that market will Nvidia capture? Will future data center sales grow enough to justify the company's \$1.1 trillion valuation?

This is where guesswork comes into play. Forecasting long-term projections for the AI chip market is challenging, with estimates ranging from \$200 to \$300 billion in sales by 2030. For the sake of discussion, let's assume \$250 billion. While Nvidia currently holds 75% market share, other players like Intel, AMD, Taiwan Semiconductor, and smaller competitors are trying to penetrate the new market. Let's assume Nvidia maintains 60% of the market come 2030, implying data center revenue reaching \$150 billion – 39% compound growth over the next seven years. To put this projection into perspective, it is 27% higher than the mean sell-side estimate provided by Bloomberg. For Nvidia's other segments, like gaming, visualization, and auto, we will rely on Wall Street's buoyant projections, which sum to \$48 billion in sales in 2030 and imply a 26% compound growth rate. Assuming a 40% operating margin, Nvidia would generate roughly \$76 billion in earnings before interest and taxes, resulting in approximately \$62 billion in net income. For investors to make a 10% rate-of-return, or higher, Nvidia would need to meet or exceed our cash flow projections, and the market would have to value the company at more than 27x EBIT and 34x net income in 2030. Although possible, the risk-to-reward ratio skews mediocre. It is akin to drawing a 5-6 offsuit in a game of Texas Hold'em – requiring substantial confidence in the size of the AI chip market and Nvidia's dominance to make such a bet.

## A Sliver of the Market

The good news is Nvidia, with its dramatic surge, represents only a sliver of the overall stock market. As previously mentioned, the average stock has significantly underperformed the indices. The ten largest stocks in the index contribute only 22% of the earnings despite accounting for 32% of its weight. This skews the headline market multiples, and while the S&P 500 trades at an expensive 19.1x times next year's earnings, excluding the ten largest stocks would lower that multiple to 15.7x. times.

### Stock Valuations Remain Dispersed



Source: JP Morgan

While the market has rebounded faster than expected, the overall investment climate is not necessarily unattractive. Small-cap stocks are still 21% below their 2021 highs, and emerging market stocks are down 30%. International stocks trade at a mere 12.9x times earnings. The argument of reentering a bubble does not hold true for the average stock. We aren't even confident it holds true for "AI stocks," but we are skeptical of their long-term ability to outperform market averages given their valuations.

To be bearish on stocks, writ large, likely requires a negative outlook on the global economy and corporate earnings. However, certain sectors have a pessimistic outlook already priced in. Regional bank stocks have plunged 37%, and many trade below tangible book value, implying their loan books are impaired. Spot oil prices have fallen from a high of \$97 a barrel to \$70 on concerns of falling demand. The futures curve is pricing oil at \$60 in just three years' time. Fears that lower-income households are starting to feel pinched have led discount retailers, like Dollar General, to trade down as much as 37%.

In life, you want to back individuals who under-promise and over-deliver. Picking stocks is no different. Companies that meet or exceed the expectations that have been priced into their securities perform well. Companies that fail to live up to Wall Street's dreams are punished.

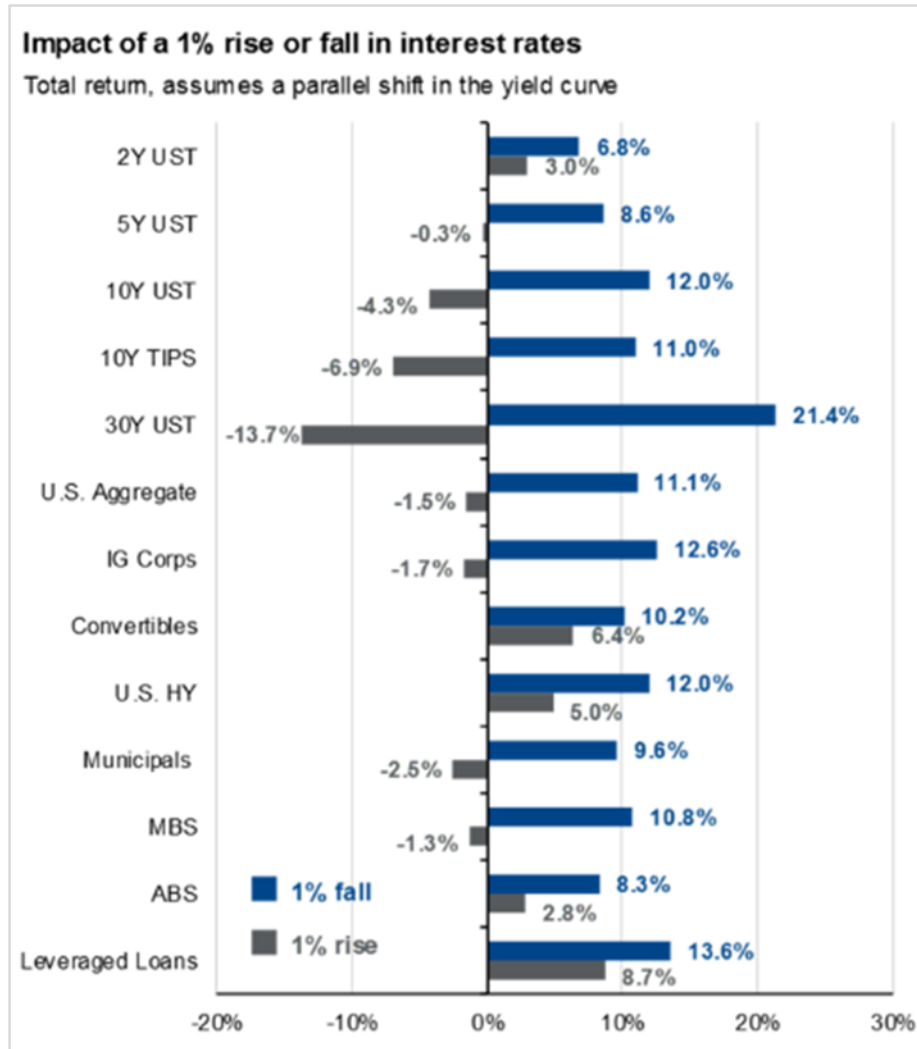
## Conclusion

We have no clue where our market or economy is heading. Forecasting market and macro cycles is a fool's game, and we have yet to see anyone be successful consistently. The market is manic, some days offering great bargains and on others exacting a high price. The great investors don't forecast the mood of the market but rather sit patiently scooping up cheap assets as they come along, however frequently or infrequently that may be.



Investors now have the advantage of risk-free assets offering returns that had been absent for over a decade, with +5% short-term rates and +4% long-term rates. With this rate backdrop, it is easier to be picky, even if you think we are in the early innings of a higher interest rate regime.

### The Risk/Reward Asymmetry of Bonds has Improved



Source: JP Morgan

We continue to practice patience and diligence in assessing investments, sifting through charts and headlines that claim clairvoyant insight into market behavior. This will become even more crucial as AI facilitates disruption and innovation in our industry. Amidst the influx of new data and emerging advice, we encourage returning to first principles. Diversification is the only free lunch, investing dictates a long-term mindset, and above all, price relative to future cash flows is what matters. We welcome higher interest rates, as they make it that much easier to employ our process.

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