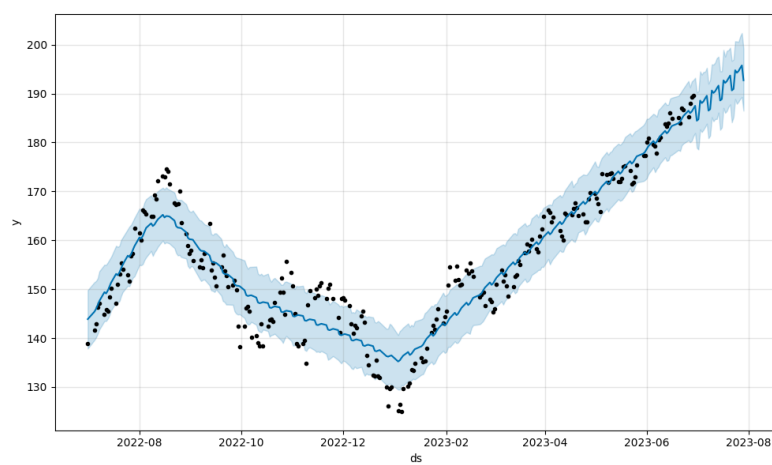
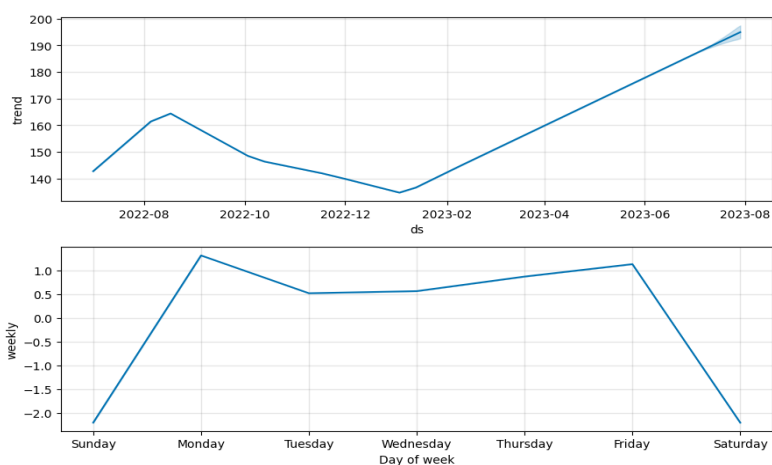


Abdulrahman Alamoudi

Analyzing FAANG Stocks A Comprehensive Forecast and Valuation Analysis

In this article, we analyze Apple (AAPL) within the FAANG group, providing a comprehensive forecast and valuation analysis. Utilizing the Prophet forecasting model, we predict Apple's future performance and present a visual representation of the forecasted stock price. Furthermore, we examine key financial metrics to assess Apple's valuation compared to the average values of the FAANG stocks. Additionally, we delve into the concept of overvaluation and calculate a target price and valuation for Apple. Lastly, we discuss the potential downside risk for Apple, offering valuable insights for investors.



The graph above provides a visual representation of Apple's stock price trends and patterns over a specific timeframe. It consists of two distinct graphs: the "Trend" graph and the "Weekly" graph. The "Trend" graph showcases the historical and projected movement of Apple's stock price from July 2022 to July 2023. It highlights significant price milestones, including an initial rise above \$144, followed by a subsequent increase above \$160. A subsequent decline is observed, causing the price to temporarily fall below \$140. The graph then indicates a substantial surge, with the price surpassing \$190. Towards the end of the forecasted period, minor fluctuations are depicted by the small shadows above and below the price line. In contrast, the "Weekly" graph presents the weekly patterns and fluctuations within Apple's stock price. Each day of the week is assigned a specific value on the graph. Sundays indicate a value below -2, reflecting a potential downward trend. Mondays exhibit an upward surge above 1, suggesting a positive start to the week. Tuesdays display a value around 0.5, indicating a relatively neutral outlook. Wednesdays slightly exceed the 0.5 mark, reflecting a mildly bullish sentiment. Fridays showcase a value slightly above 1, implying a potentially positive end to the week. Lastly, Saturdays indicate a value below -2, signaling a bearish sentiment.

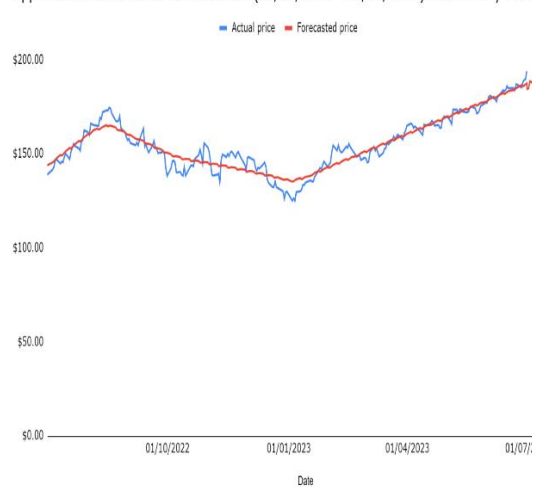
The graph provides a comprehensive view of the forecasted stock price of Apple (AAPL) using the Prophet forecasting model. It visually represents the projected trends and includes additional elements to enhance understanding. The blue line represents the forecasted stock price, indicating the expected movement over the specified time frame. This line serves as a reference for investors to gauge potential price fluctuations. The black dots represent the actual stock prices, showcasing how they align with the forecast. By examining the relationship between the black dots and the blue line, investors can gain valuable insights. When the black dots are positioned above the blue line, it suggests that the actual price is higher than the forecast, indicating a potential future decline. This could be considered an opportunity to sell shares. Conversely, when the black dots fall below the blue line, it signifies that the actual price is lower than the forecast, implying a potential future increase. This could be seen as a favorable time to buy shares.

These insightful graphs allow investors to assess historical trends, identify potential turning points, and understand the recurring patterns in Apple's stock price. By utilizing these visual representations, investors can make informed investment decisions based on observed patterns and market trends.

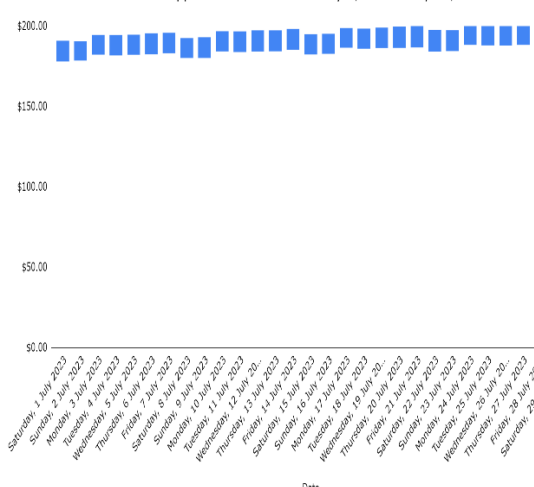
Prophet Forecast for Apple:

Using the advanced forecasting model, Prophet, we predicted the future performance of Apple. The forecast suggests a positive outlook for Apple's stock price, indicating steady growth in the coming months. To visualize the forecast, refer to the graph and chart below, which display the projected trajectory of Apple's stock price based on historical data and trend analysis.

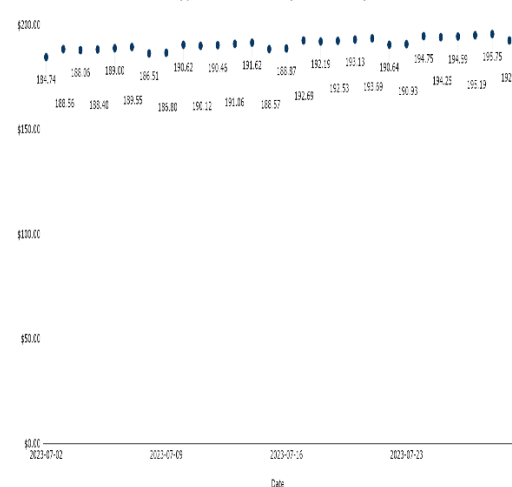
Apple Stock Price: Actual Performance (01/07/2022 - 30/06/2023) and 30-Day Fore



Forecasted Apple Stock Price Trend: July 1, 2023 - July 29, 2023



Forecasted Apple Stock Prices: July 1, 2023 - July 29, 2023



This chart presents the actual performance of Apple's stock price over a specific period, from July 1, 2022, to June 30, 2023. The line graph depicts the historical price movement, showcasing the ups and downs experienced by the stock. Additionally, it includes a 30-day forecast line, indicating the projected direction of the stock price based on the analysis. This chart enables investors to assess the accuracy of the forecast and compare it with the actual performance.

This chart provides a concise visualization of Apple's stock price forecast for the next 30 days using candlesticks. Each candlestick represents a specific time period, typically a day, and displays the opening, closing, highest, and lowest prices within that period.

Apple Stock Price - 30-Day Forecast Patterns (Small Circles) In this chart, small circles are used to represent the forecasted patterns in Apple's stock price for the next 30 days. By analyzing these patterns, investors can gain insights into the stock's expected behavior and make more informed trading decisions.

Valuation Analysis and Fair Value Assessment of Apple (AAPL)

In this section, we will focus specifically on Apple (AAPL) and its valuation within the FAANG group. We have conducted a comprehensive valuation analysis using key financial metrics, including EV/Sales, EV/EBITDA, EV/EBIT, and P/E ratios. The aim is to provide insights into the relative valuation of Apple and its fair value assessment. It's important to note that this type of valuation may not be recommended for the fast-paced tech industry or industries undergoing significant innovation.

Based on the financial metrics comparison, Apple appears to be overvalued when compared to the average values of the FAANG group. The EV/Sales, EV/EBITDA, EV/EBIT, and P/E ratios for Apple are higher than the group average. This indicates that

investors are willing to pay a premium for Apple's sales, earnings, and profitability.

To estimate Apple's fair value, we consider the average fair prices derived from the valuation analysis. The fair value for Apple ranges from \$126.10 to \$203.15, depending on the respective multiplier. The average fair price for Apple is calculated to be \$172.67.

It's important to note that these fair values are based on historical performance and may not reflect future earnings or market conditions. They serve as a reference point for investors in evaluating the investment potential of Apple.

Considering a downside scenario, the estimated downside for Apple is -10.98%. This implies the potential risk in case of

adverse market conditions.

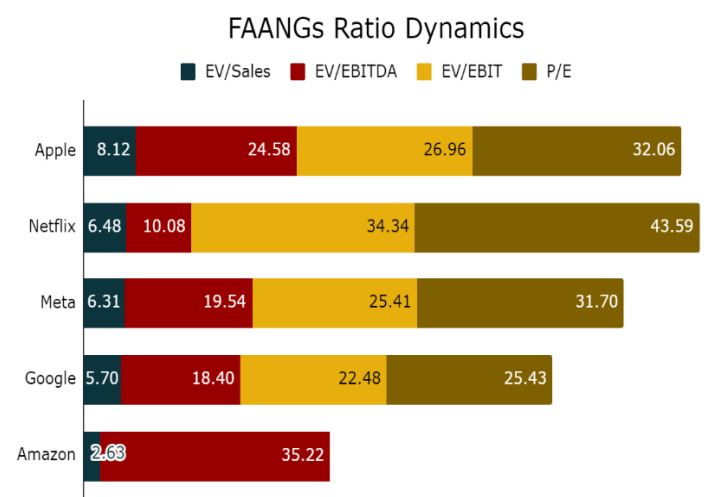
Through our valuation analysis, we have assessed the relative valuation of Apple within the FAANG group. While Apple appears to be overvalued based on the provided financial metrics, it's crucial to consider additional factors such as industry dynamics, competitive landscape, and future growth prospects when making investment decisions.

Investors should carefully evaluate the information provided and conduct further research before making investment choices. Valuation models are tools that aid in the decision-making process, but they should not be the sole basis for investment decisions.

Note: All values mentioned are as of the most recent reporting period and are subject to change.

Company	Apple	Amazon	Netflix	Google	Meta
Price	\$193.97	\$130.36	\$440.49	\$119.70	\$286.98
Market cap	\$3,050,895,958,200	\$1,337,539,232,262	\$195,815,816,699	\$1,525,095,267,117	\$735,452,570,535
EV	\$3,147,318,958,200	\$1,350,801,232,262	\$205,021,716,699	\$1,611,655,267,117	\$735,466,717,535
Sales	387,537,000,000	513,983,000,000	31,615,550,000	282,836,000,000	116,609,000,000
EBITDA	128,048,000,000	38,352,000,000	20,332,955,000	87,613,000,000	37,630,000,000
EBIT	116,725,000,000	-3,569,000,000	5,970,141,000	71,685,000,000	28,944,000,000
Earnings	95,171,000,000	-2,722,000,000	4,491,924,000	59,972,000,000	23,200,000,000

	EV/Sales	EV/EBITDA	EV/EBIT	P/E
Apple	8.12	24.58	26.96	32.06
Amazon	2.63	35.22		
Netflix	6.48	10.08	34.34	43.59
Google	5.70	18.40	22.48	25.43
Meta	6.31	19.54	25.41	31.70
Average	5.28	20.81	27.41	33.57
Difference	1.54	1.18	0.98	0.95
AAPL price fair value compared	\$126.10	\$164.23	\$197.19	\$203.15
Average fair price of AAPL	\$172.67			
Downside of AAPL	-10.98%			
valuation/ worth of AAPL	\$2,715,846,443,273.80			



Risk-Adjusted Performance Analysis: Comparing AAPL, AMZN, NFLX, and META

In the fast-paced world of investing, understanding the risk profiles of stocks is crucial for making informed decisions. In this section, we will analyze the risk-adjusted performance of four prominent technology stocks: Apple (AAPL), Amazon (AMZN), Netflix (NFLX), and Meta Platforms Inc. (META), based on data from 2013/1/1 to 2023/06/30. By examining key risk metrics such as mean returns, variance, standard deviation, downside deviation, Sharpe ratio, and Sortino ratio, we aim to gain valuable insights into their risk-adjusted performance.

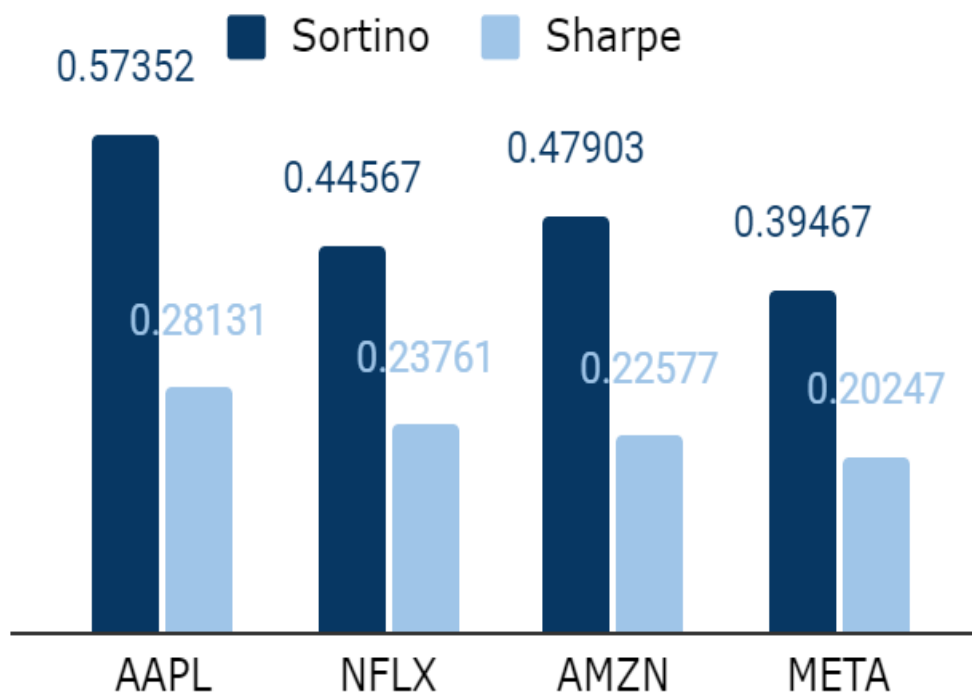
Evaluating the investment potential of FAANG stocks requires a comprehensive analysis of both returns and associated risks. While high returns may be enticing, it is crucial to consider risk metrics that provide a more holistic view of their risk-adjusted performance. The Sharpe ratio is one such widely recognized risk-adjusted performance measure. It compares the excess return of an investment relative to a risk-free rate with the volatility (standard deviation) of the investment's returns. A higher Sharpe ratio indicates better risk-adjusted performance, as it means the investment has delivered higher returns relative to its level of risk.

By examining the Sharpe and Sortino ratios of the FAANG stocks, we can gain valuable insights into their risk-adjusted performance. However, it is important to note that these ratios serve as tools for comparing investments and should not be considered as definitive indicators.

Apple (AAPL) has long been recognized as a market leader in the technology sector. With a mean return of 2.42%, AAPL showcases a consistent performance, indicating its ability to generate returns for investors. The low variance of 0.00628 suggests relatively stable price movements, which is further confirmed by its standard deviation of 0.07927. Moreover, AAPL's downside deviation of 0.03888 highlights its resilience to negative returns. These risk metrics, combined with a positive Sharpe ratio of 0.28131 (the highest among the analyzed stocks) and a promising Sortino ratio of 0.57352, demonstrate that AAPL offers a favorable risk-adjusted performance, making it an attractive investment option. 0.07927 confirms relatively stable price movements, and the downside deviation of 0.03888 highlights its resilience to negative returns. These risk metrics, combined with a positive Sharpe ratio of 0.28131 and a promising Sortino ratio of 0.57352, demonstrate that AAPL offers a favorable risk-adjusted performance, making it an attractive investment option.

Meta Platforms Inc. (META), formerly known as Facebook, is a major player in the social media landscape. With a mean return of 2.32%, META showcases a strong performance in terms of generating returns. The higher variance of 0.01110 and standard deviation of 0.10534 indicate slightly higher volatility compared to AAPL. However, META's downside deviation of 0.05404 demonstrates its ability to mitigate the risk of negative returns. With a positive Sharpe ratio of 0.20247 and a respectable Sortino ratio

Comparing Stock Returns



of 0.39467, META offers a promising risk-adjusted performance, attracting investors seeking a balance between returns and risks.

Amazon (AMZN) is a global e-commerce giant known for its innovation and market dominance. With a mean return of 2.22%, AMZN exhibits a stable performance in generating returns. The variance of 0.00808 and standard deviation of 0.08991 indicate relatively lower volatility compared to META. Moreover, AMZN's downside deviation of 0.04237 demonstrates its ability to mitigate the risk associated with negative returns. The positive Sharpe ratio of 0.22577 and the commendable Sortino ratio of 0.47903 further emphasize AMZN's ability to provide favorable risk-adjusted returns.

Netflix (NFLX), a prominent streaming service provider, has revolutionized the entertainment industry. With a mean return of 3.14%, NFLX exhibits a strong performance in generating returns. The higher variance of 0.01540 and standard deviation of 0.12397 indicate slightly higher volatility compared to the other analyzed stocks. However, NFLX's downside deviation of 0.06159 demonstrates its ability to mitigate the risk of negative returns. With a positive Sharpe ratio of 0.27671 and a respectable Sortino ratio of 0.55769, NFLX showcases a favorable risk-adjusted performance, attracting investors seeking higher potential returns.

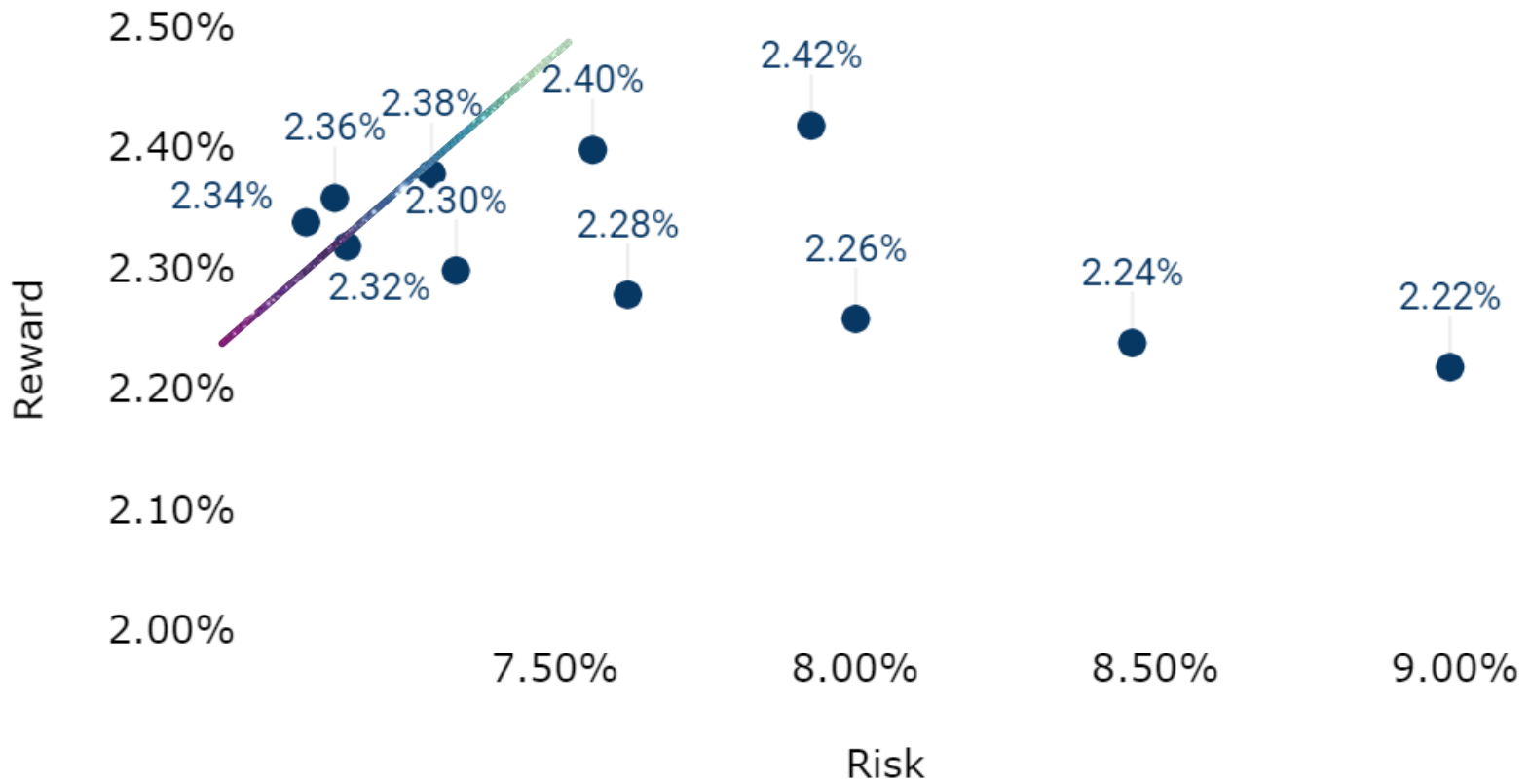
Analyzing the risk-adjusted performance of AAPL, AMZN, NFLX, and META provides valuable insights into their investment potential. Among the analyzed stocks, Apple (AAPL) stands out with the highest Sharpe ratio, indicating superior risk-adjusted performance. AAPL consistently delivers returns while maintaining relatively lower volatility compared to the other stocks. However, Meta Platforms Inc. (META), Amazon (AMZN), and Netflix (NFLX) also exhibit promising risk-adjusted performance, offering a balance between returns and risks. Investors should carefully consider their investment goals, risk tolerance, and the unique characteristics of each stock before making investment decisions.

Analyzing Risk-Return Tradeoff and Portfolio Optimization: A Comparative Study of AAPL and META

In the dynamic world of investing, understanding the risk and return characteristics of stocks is essential for making informed decisions. In this part, we will analyze the risk and return profiles of two prominent stocks, Apple (AAPL) and Meta Platforms Inc. (META). By examining their historical returns, covariance, correlation, and risk metrics such as standard deviation and Sharpe ratio, we aim to gain insights into their performance and explore portfolio optimization opportunities. Additionally, we will utilize the efficient frontier and Markowitz model to further enhance our understanding of risk and reward tradeoffs.

Tow Asset Markowitz Model

50% AAPL & 50% META



Based on the analysis, we observe that the risk-reward tradeoff varies depending on the allocation between AAPL and META. Allocating a higher percentage to AAPL results in higher returns, while a higher percentage allocated to META tends to lower the overall risk. Notably, a 30% AAPL and 70% META allocation yields the highest Sharpe ratio of 0.30422, indicating the best risk-adjusted return.

The covariance between AAPL and META is 0.003050, indicating a positive relationship between the two stocks. The correlation coefficient of 0.364048 suggests a moderate positive correlation. This implies that there is some degree of synchronized movement between the two stocks, but they are not entirely dependent on each other.

To further optimize our portfolio, we can utilize the efficient frontier and Markowitz model. The efficient frontier represents a set of portfolios that offer the highest expected return for a given level of risk. By plotting the risk on the x-axis and the reward on the y-axis, we can visualize the tradeoff between risk and return.

By drawing the efficient frontier, we can identify the optimal portfolio allocation that maximizes return for a given level of risk or minimizes risk for a desired level of return. The slope of the efficient frontier represents the risk-return tradeoff. In our case, the efficient frontier line suggests that increasing the allocation to AAPL will result in higher returns but also higher risk.

In conclusion, the comparative analysis of AAPL and META reveals varying risk and return profiles based on different allocations. The portfolio optimization techniques, along with the efficient frontier and Markowitz model, allow us to identify the optimal allocation that balances risk and reward. A 30% AAPL and 70% META allocation provides the highest risk-adjusted return, as indicated by the highest Sharpe ratio.

“Investing in Apple: Innovation that Drives Growth”

- A. Alamoudi, Financial Analyst

“Apple's Resilience Shines in Market Volatility”

- A. Alamoudi, Financial Analyst

“Beyond the Numbers: Apple's Ecosystem and User Experience”

- A. Alamoudi, Financial Analyst

Investors should consider their risk tolerance, investment goals, and market conditions when making portfolio allocation decisions. The findings from this analysis can serve as a guide for investors looking to optimize their portfolios and strike a balance between risk and return in the context of AAPL and META. However, it's important to note that past performance is not indicative of future results, and thorough research and analysis should be conducted before making any investment decisions.