



EXPLORE AI

APPLE STOCK

An In-Depth Analysis of Apple Inc.

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Team Daisy



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Introduction

In the dynamic realm of technology, Apple Inc. stands as an emblem of innovation and success. This white paper embarks on an Exploratory Data Analysis (EDA) journey into Apple Inc.'s stock data, unraveling the secrets behind its remarkable ascent.

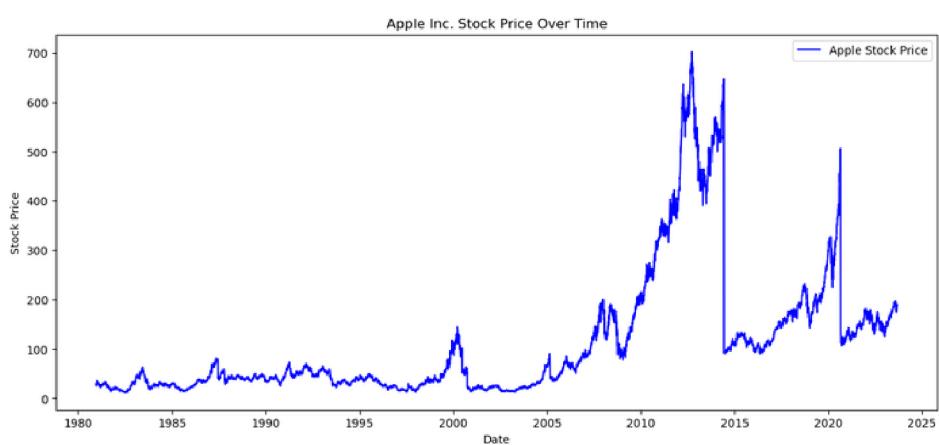
Apple Inc., headquartered in Cupertino, California, is a global tech giant celebrated for its iconic products, including the iPhone, Macintosh computers, iPad, and Apple Watch. The company also offers a host of software and online services, shaping the digital world.

Welcome to an insightful journey through the historical data of Apple Inc.'s stock, spanning an impressive timeline from December 12, 1980, to September 5, 2023. This invaluable dataset, sourced from Kaggle, forms the bedrock of our exploration into Apple Inc.'s stock performance over the past four decades.

This EDA journey will navigate this rich historical stock data, uncovering patterns and insights to empower investors and analysts in understanding the dynamics of Apple's stock performance. Welcome to a data-driven exploration of Apple Inc.'s financial universe, where knowledge becomes your compass.

Time Series Analysis

The Apple Inc. stock price has shown steady growth since 1980, offering long-term investors substantial returns. Between 2010 and 2015, there was an impressive surge, with the stock price increasing by over \$700, benefiting early investors. However, periodic fluctuations are evident, reflecting typical market

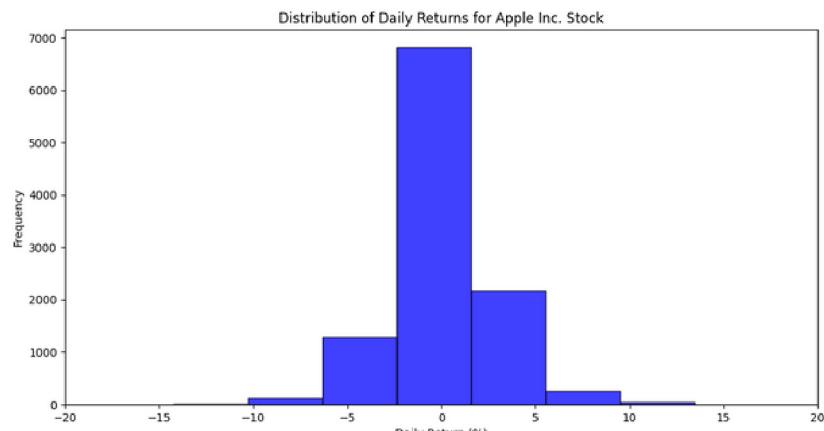


dynamics influenced by factors like market sentiment and economic conditions. In 2020, the stock exhibited significant volatility, possibly due to the COVID-19 pandemic's impact. Notably, from 2020

to 2025, a downward trend was observed, which could be attributed to changes in the competitive landscape, economic conditions, or investor sentiment.

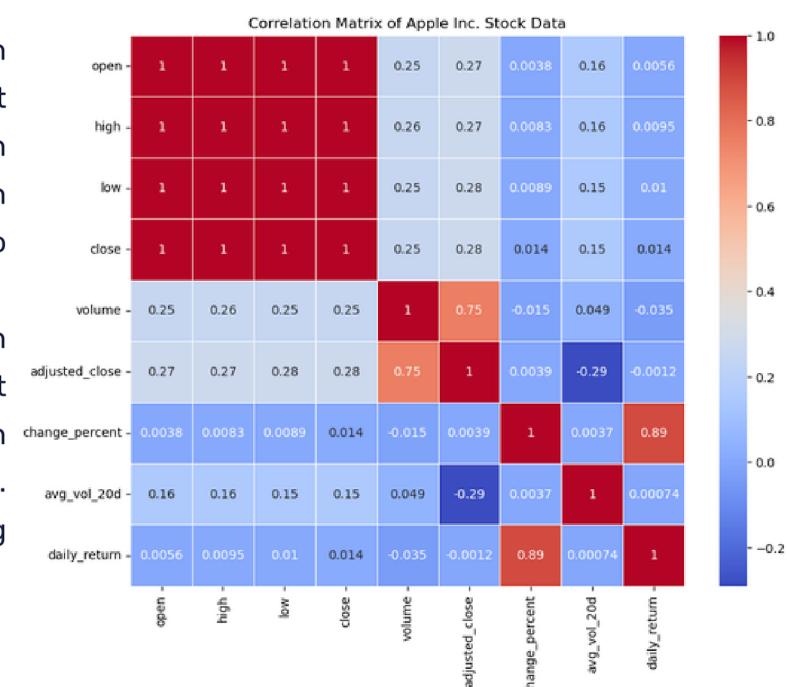
Stock Price Characteristics

The histogram of daily returns indicates that most daily returns are clustered around zero, suggesting relatively stable daily price movements.



Correlations and Relationships

- The moderate positive correlation between volume and stock prices suggests that there is some degree of synchrony between trading volume and price movements. When the stock is actively traded, it tends to experience price changes.
- The strong positive correlation between adjusted_close and volume suggests that periods of high trading volume often coincide with significant price movements. This relationship can be useful for analyzing market dynamics.



Industry Comparability

Annualized Returns

Apple (AAPL) has an annualized return of approximately 43.58%. This indicates that, on average, an investment in Apple over this period would have yielded an annual return of around 43.58%.

When compared to the other three stocks, Apple has the highest annualized return. This suggests

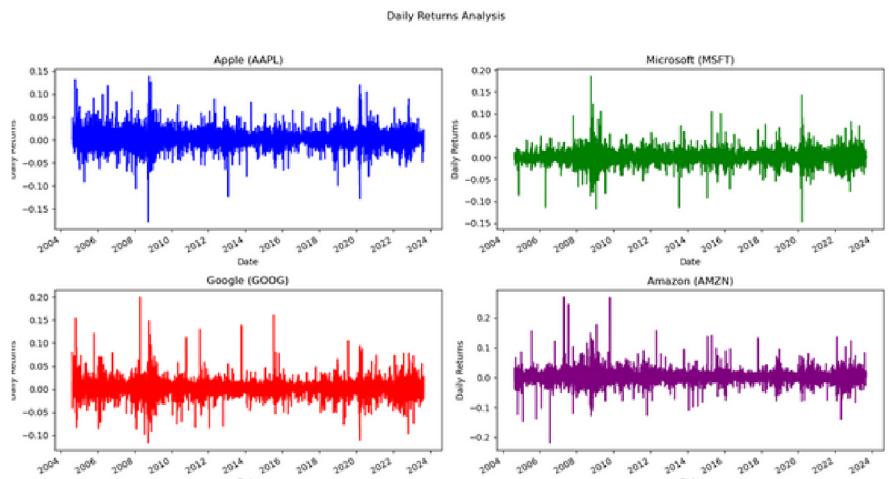


that, in terms of returns, Apple has been a strong performer among these tech giants.

Volatility

• Apple (AAPL) has an annualized volatility of approximately 33.00%. This represents the annualized standard deviation of returns, indicating the stock's level of price fluctuation over the period.

• Apple's volatility is lower than that of Amazon (AMZN) but higher than that of Microsoft (MSFT) and Google (GOOG). A lower volatility can be attractive to investors seeking a more stable investment.



Key Insights for Investment in Apple Stock

- **Strong Returns:** Apple has demonstrated strong annualized returns, outperforming the other three tech giants in this analysis. This can be an attractive feature for investors seeking growth.
- **Moderate Volatility:** While Apple's volatility is not the lowest among the stocks analyzed, it is still at a moderate level. This suggests that Apple has relatively stable price movements compared to Amazon, which has higher volatility.
- **Correlation with Other Tech Stocks:** Apple's positive correlations with Microsoft, Google, and Amazon indicate that it shares some common market trends with these companies. Hence it will not be advised to diversify stock portfolio within the tech company since they all have positive relationship.

Conclusion

After conducting a comprehensive Exploratory Data Analysis (EDA) of Apple Inc.'s historical stock market data, several key insights have been uncovered. These insights provide valuable information for investors and stakeholders seeking to understand the historical performance of Apple stock and make informed decisions.

In conclusion, Apple Inc.'s stock presents opportunities for investors, but it's essential to approach it with a clear investment strategy and an understanding of the potential risks involved. Historical data provides valuable insights, but future performance depends on various factors, including market conditions and company developments. Make investment decisions that align with your financial goals and risk tolerance.