Final Project: Financial Analytics DAB401

Exxon Mobil Stock Analysis Report

GROUP - 6

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Business Summary:

Exxon Mobil (XOM)

➔ History of organization:

ExxonMobil Corporation is an American multinational oil and gas corporation formed in 1999 through the merger of Exxon Corporation and Mobil Corporation.

Exxon Corporation was originally founded in 1870 as Standard Oil Company of New Jersey by John D. Rockefeller, while Mobil Corporation was formed in 1911 as Standard Oil Company of New York. Both companies became part of the larger Standard Oil Trust, which was broken up by the US government in 1911.

Throughout the 20th century, both Exxon and Mobil grew into large, integrated oil and gas companies with operations around the world. Exxon was known for its research and development efforts, including the creation of the first commercial-scale oil refinery in the US in 1870 and the development of synthetic rubber during World War II. Mobil, meanwhile, focused on marketing and distribution, with a particular emphasis on retail operations.

After the merger in 1999, ExxonMobil became the world's largest publicly traded oil and gas company, with a market capitalization of over $400 billion. The company operates in over 200 countries and territories, with significant operations in the United States, Canada, Europe, Africa, Asia, and Australia.

ExxonMobil's current operations include exploration, production, transportation, and marketing of oil and gas, as well as the manufacture and sale of chemicals and plastics. The company has faced significant criticism in recent years over its role in climate change, with activists and governments accusing the company of misleading the public about the risks of fossil fuels and lobbying against action to reduce greenhouse gas emissions.

Despite these challenges, ExxonMobil remains one of the world's largest and most profitable companies, with revenues of over $220 billion in 2021. The company has also announced plans to invest in renewable energy and reduce emissions in the coming years, although critics argue that these efforts are not sufficient to address the scale of the climate crisis.

➔ Current Operations:

ExxonMobil is primarily engaged in the exploration, production, transportation, and marketing of crude oil, natural gas, and petroleum products. The company also produces and markets a range of chemicals and plastics.

In terms of upstream operations, ExxonMobil has exploration and production activities in several countries around the world, including the United States, Canada, Brazil, Guyana, Nigeria, and Papua New Guinea. The company has a significant presence in the Permian Basin in Texas and New Mexico, which is one of the largest oil-producing regions in the United States.

ExxonMobil's downstream operations include refining, marketing, and distribution of petroleum products such as gasoline, diesel, and jet fuel. The company has a global network of refineries and retail outlets under various brand names, including Exxon, Mobil, and Esso.

In addition to its traditional oil and gas operations, ExxonMobil has also announced plans to invest in lower-emissions technologies and transition towards cleaner forms of energy. The company has committed to reducing its greenhouse gas emissions intensity by 15-20% by 2025 and has announced plans to invest $10 billion in lower-emissions technologies such as carbon capture and storage, advanced biofuels, and hydrogen.

ExxonMobil is also investing in digital technology to improve its operations and efficiency. The company has launched several initiatives in this area, including a partnership with Microsoft to develop cloud-based solutions for energy industry applications.

Overall, ExxonMobil's current operations reflect its ongoing focus on traditional oil and gas operations, while also recognizing the need to transition towards lower-emissions technologies in response to changing market and regulatory conditions.

➔ Macroeconomic Environment:

ExxonMobil operates in a macroeconomic environment that is shaped by global supply and demand balances for oil and gas, geopolitical events, and regulatory policies. The demand for oil and gas is influenced by economic growth, industrial activity, and transportation demand, while supply is affected by investment in exploration and production, technology advances, and geopolitical tensions. Geopolitical events such as conflicts and sanctions can affect the company's ability to operate in certain regions and impact global supply and demand balances. Regulatory policies such as environmental regulations, tax policies, and energy policies can affect the cost of production, demand for oil and gas, and the competitiveness of the industry. ExxonMobil's ability to navigate these factors and adapt to changing conditions will be key to its success in the future.

➔ Business Cycle:

ExxonMobil's business cycle is characterized by four phases: expansion, peak, contraction, and trough. During the expansion phase, the company experiences growth and invests in exploration and production activities. The peak phase marks the end of the expansion and the beginning of a contraction phase, characterized by decreasing demand and profitability. During the contraction phase, the company reduces production and cuts costs to maintain profitability.

The trough phase marks the end of the contraction and the beginning of a new expansion phase, with signs of market recovery. The company's business cycle is influenced by various factors, and its ability to adapt to changing market conditions is crucial for long-term success.

➔ Current Industry Environment:

ExxonMobil operates in an industry environment that is shaped by a range of factors, including the COVID-19 pandemic, the transition toward cleaner energy sources, regulatory pressures, and geopolitical tensions.

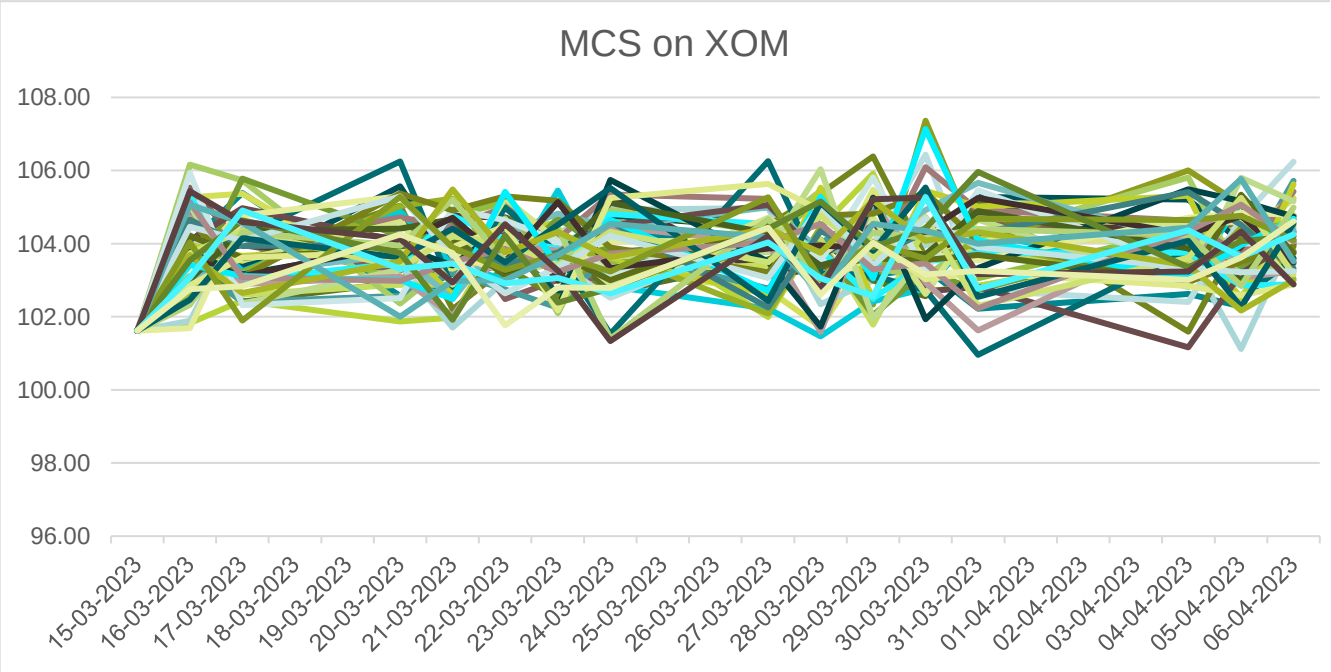
The pandemic has led to a sharp decline in global demand for oil and gas, while the shift towards cleaner energy sources is creating competition for ExxonMobil from alternative energy sources. The company is also facing regulatory pressures aimed at reducing greenhouse gas emissions and promoting renewable energy. Geopolitical tensions can lead to supply disruptions and price volatility. ExxonMobil's ability to adapt to changing market conditions, invest in alternative energy sources, and navigate regulatory and geopolitical challenges will be crucial to its long-term success.

➔ Industrial Competitors and their market share:

ExxonMobil competes with major players in the oil and gas industry such as Royal Dutch Shell, BP, Chevron, TotalEnergies, and ConocoPhillips. Shell has a market share of around 5%, followed by BP, Chevron, TotalEnergies, and ConocoPhillips with around 3% and 2% respectively. These companies operate in various countries, involved in exploration and production, refining and marketing, and petrochemicals. Additionally, some of these companies have also invested in renewable energy sources such as wind and solar power. Market share can change based on factors such as global demand for oil and gas, production levels, and economic conditions.

Technical Analysis:

➔ Monte Carlo Simulation

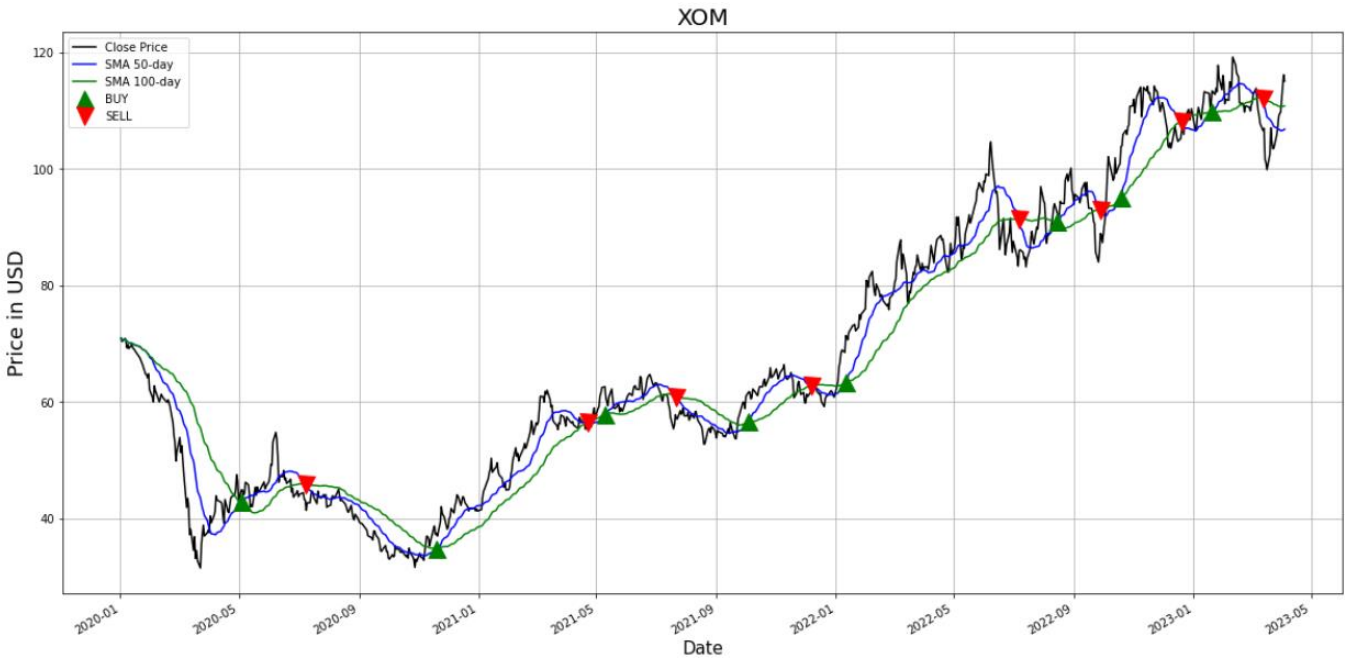


Finally, a Monte Carlo simulation of Exxon Mobil's (XOM) adjusted close price over the previous two years reveals that the average projected stock price for the next 15 days is greater than the present market price. This indicates that the stock price has the potential to rise in the short term. Investors should bear in mind, however, that this simulation is not a guarantee of future stock price movements, and it is critical to undertake additional research and analysis before making any investment choices. Additionally, stock investment is risky, and previous performance is not usually predictive of future outcomes.

➔ Capital Asset Pricing Model

According to Yahoo Finance, the beta value is approximately 1.08, and we received around 1.81, which is a significant difference from the original estimate. According to our data, if a stock's beta is more than one, it is more volatile than the market. This suggests that the stock is more likely to make better returns in a bull market but may suffer more substantial losses in a down market. If an investor is risk-averse and believes the market will continue to perform well, he should consider purchasing the stock. If the investor is risk-averse, he may wish to sell the stock or avoid it entirely.

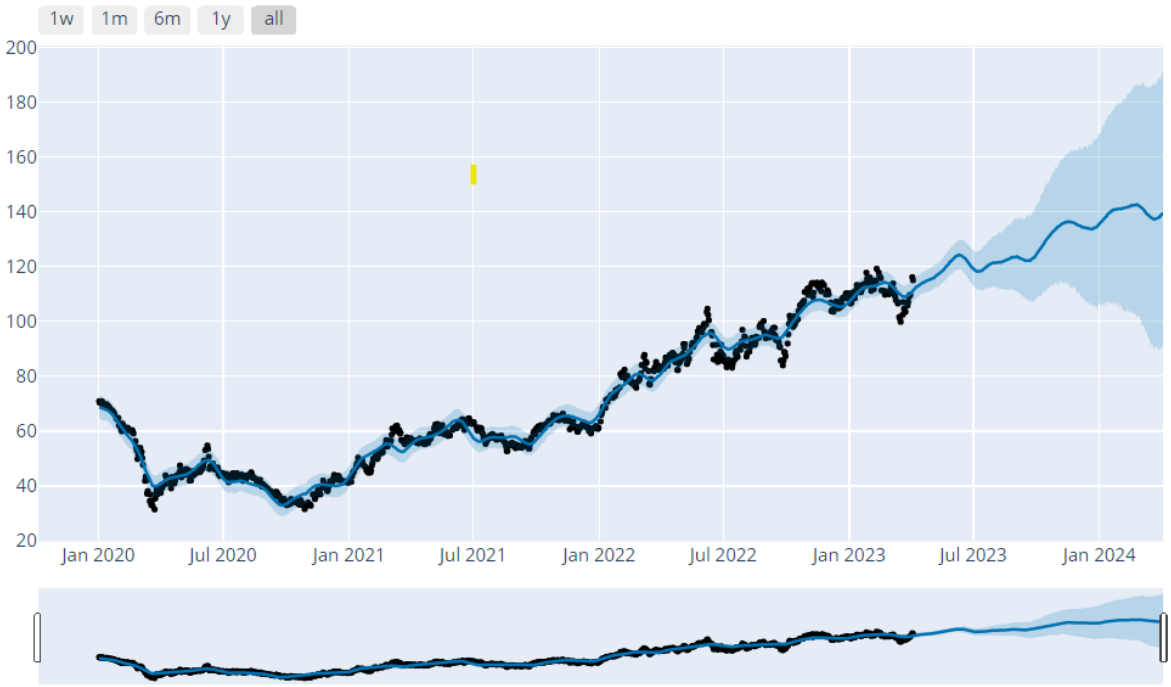
➔ Time Series Analysis (SMA)



Date	Close	SMA50	SMA100	Signal	Position
2020-05-04 00:00:00	44.88	42.952	42.5194	1	Buy
2020-07-08 00:00:00	43.14	45.644	45.8974	0	Sell
2020-11-19 00:00:00	37.4	34.8545	34.8476	1	Buy
2021-04-23 00:00:00	55.57	56.355	56.4644	0	Sell
2021-05-10 00:00:00	62.58	57.86	57.7864	1	Buy
2021-07-22 00:00:00	57.11	60.575	60.8604	0	Sell
2021-10-04 00:00:00	61.72	56.59	56.3866	1	Buy
2021-12-07 00:00:00	62.27	62.6635	62.726	0	Sell
2022-01-11 00:00:00	71.35	63.2915	63.1666	1	Buy
2022-07-07 00:00:00	85.94	90.9525	91.33	0	Sell
2022-08-15 00:00:00	92.32	90.94	90.6798	1	Buy
2022-09-28 00:00:00	88.86	92.7845	92.8464	0	Sell
2022-10-19 00:00:00	103.79	95.0915	94.9936	1	Buy
2022-12-20 00:00:00	106.69	107.874	108.022	0	Sell
2023-01-20 00:00:00	113.35	109.913	109.593	1	Buy
2023-03-13 00:00:00	106.54	111.705	112.116	0	Sell

When the short-term moving average crosses above the long-term moving average, this indicates a buy signal. Contrary, when the short term moving average crosses below the long term moving average, it may be a good moment to sell.

➔ Forecasting Using Fb-Prophet



The output of the above model is a predicted time series of future stock prices for ExxonMobil (ticker: XOM). The model uses the historical data of XOM stock prices from January 1st, 2020, to the most recent trading day to make predictions for the next 365 days using the Prophet library. The predicted stock prices gradually increase over time with occasional dips, and the uncertainty of the predicted stock prices increases over time as well, as indicated by the increasing width between 'yhat_lower' and 'yhat_upper' columns. The prediction of the model is based on the historical data of XOM stock prices from January 1st, 2020 to the most recent trading day, which is used to fit the time series data and forecast the future values using the Prophet library. The model takes into account the trend, seasonality, and daily components of the time series data to make predictions. It is important to note that the predictions are not guaranteed, as they are based on historical data and do not account for unexpected events that could impact the stock prices. Additionally, the predictions are subject to changes in the market and other external factors that may not be captured by the model. Therefore, the predictions should be used as one of many sources of information when making investment decisions.

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