

Charged Revolution: The Spark of Electric Mobility

Auto Manufacturers Investment Overview

By Tin Hang

Investing in Electric Cars

Investing in electric cars presents a more favorable option compared to traditional oil-powered vehicles for several reasons. Firstly, the cost of oil and gas is steadily increasing, which makes fueling conventional vehicles progressively more expensive. In contrast, electric vehicles (EVs) rely on electricity, a resource that tends to have a more stable price and is often cheaper in the long run.

Moreover, electric cars significantly contribute to the reduction of global warming. By utilizing electricity, which can be sourced from renewable energy such as solar or wind power, EVs produce zero emissions during operation. This is a stark contrast to internal combustion engine vehicles, which release harmful greenhouse gases like carbon dioxide into the atmosphere, thereby exacerbating climate change.

Furthermore, investing in electric cars not only benefits the environment, aligning with sustainable investing principles, but also stimulates the economy. The production and adoption of EVs drive innovation and job creation in the green technology sector. Countries that prioritize electric vehicle manufacturing and infrastructure development can gain a competitive edge in the rapidly growing market for clean transportation solutions. Additionally, reducing dependence on oil imports can enhance energy security and mitigate geopolitical risks associated with fluctuating oil prices and supply disruptions.

In summary, the advantages of investing in electric cars extend beyond mere economic considerations. They offer a sustainable solution to combat climate change, promote technological advancement, and bolster both environmental and economic well-being on a global scale.



Rivian Automotive, Inc. (RIVN):

- **Overview:** Rivian is an American electric vehicle (EV) automaker and automotive technology company.
- **Founding:** Founded in 2009 by Robert "R.J." Scaringe.
- **Headquarters:** Plymouth, Michigan, USA.
- **Focus:** Rivian is known for its electric trucks and SUVs, including the R1T pickup truck and the R1S SUV. The company places a strong emphasis on adventure and sustainability.

Strengths & Weakness of RIVN

- **Strengths:**

- Innovation: Known for electric vehicles (EVs) with advanced technology.
- Backing: Received significant investments from major companies like Amazon and Ford.
- Strong Demand: High demand for electric trucks and SUVs.

- **Weaknesses:**

- Production Challenges: Newer company facing potential production and scaling challenges.
- Limited Product Portfolio: Currently focused on a limited range of electric vehicles.

Positive & Negative of RIVN

Positive:

- Innovative Electric Vehicles: Rivian is known for its innovative electric vehicles, which could position the company well in the growing electric vehicle market.
- Strong Backing: Rivian has received investments from major players like Amazon and Ford, providing financial stability.

Negative:

- Volatility: As a relatively new player in the market, Rivian's stock may be subject to higher volatility compared to more established companies.
- Production Challenges: Like many electric vehicle manufacturers, Rivian may face production challenges and delays.

LUCID

Lucid Group, Inc. (LCID)

- **Overview:** Lucid Motors is an American automotive company specializing in electric vehicles.
- **Founding:** Originally founded in 2007 as Atieva, it was later rebranded as Lucid Motors in 2016.
- **Headquarters:** Newark, California, USA.
- **Focus:** Lucid is known for its luxury electric vehicles, with the Lucid Air sedan being one of their flagship models.

Strengths & Weakness of LCID

- **Strengths:**

- Luxury EVs: Known for high-performance luxury electric vehicles.
- Advanced Technology: Emphasizes cutting-edge technology and design.

- **Weaknesses:**

- Production Capacity: May face challenges in scaling production to meet demand.
- Market Competition: Competing in a market dominated by established players like Tesla.

Positive & Negative of LCID

Positive:

- **Luxury EV Market:** Lucid Motors focuses on the luxury electric vehicle market, potentially appealing to high-end consumers.
- **Strong Product Reviews:** Positive reviews for Lucid's vehicles could translate into increased demand.

Negative:

- **Competition:** The electric vehicle market is competitive, and Lucid faces competition from both traditional automakers and other startups.
- **Production Constraints:** Manufacturing challenges or delays could impact the company's growth.



General Motors Company (GM)

- **Overview:** General Motors is one of the largest and most established automakers globally.
- **Founding:** Founded in 1908.
- **Headquarters:** Detroit, Michigan, USA.
- **Brands:** GM owns several well-known automotive brands, including Chevrolet, Cadillac, GMC, and Buick.
- **Diversity:** Produces a wide range of vehicles, from trucks and SUVs to electric vehicles.

Strengths & Weakness of GM

- **Strengths:**

- Diverse Portfolio: Offers a wide range of vehicles, including electric and traditional.
- Global Presence: Operates in various markets globally.

- **Weaknesses:**

- Legacy Costs: May have higher legacy costs compared to newer competitors.
- Transition to EVs: Transitioning to electric vehicles may require substantial investment.

Positive & Negative of GM

Positive:

- Established Player: GM is a long-established automaker with a global presence and diversified product portfolio.
- Commitment to EVs: GM has committed to transitioning to electric vehicles, providing potential for growth in the EV market.

Negative:

- Legacy Issues: Traditional automakers face challenges in adapting to new technologies and shifting consumer preferences.
- Market Perception: GM's reputation could be influenced by past business decisions, affecting investor confidence.



Ford Motor Company (F)

- **Overview:** Ford is a prominent American automaker with a long history in the automotive industry.
- **Founding:** Founded in 1903 by Henry Ford.
- **Headquarters:** Dearborn, Michigan, USA.
- **Iconic Models:** Known for iconic models like the Ford Mustang and Ford F-Series trucks. Ford has also entered the electric vehicle market with models like the Mustang Mach-E.

Strengths & Weakness of F

- **Strengths:**

- Established Brand: Recognized and established brand in the automotive industry.
- Electric Vehicle Push: Investing in the development of electric vehicles.

- **Weaknesses:**

- Transition Challenges: Faces challenges in transitioning from traditional vehicles to electric.
- Debt Levels: May have relatively high debt levels.

Positive & Negative of F

Positive:

- Strong Brand: Ford has a strong brand and a long history in the automotive industry.
- Electric Vehicle Push: Ford is investing in electric vehicles, which could attract investors interested in the EV market.

Negative:

- Financial Performance: Ford's financial performance has faced challenges in the past, which could impact stock value.
- Market Dynamics: The automotive industry is undergoing significant changes, and Ford may face challenges in adapting quickly.



HONDA

The Power of Dreams

Honda Motor Co., Ltd. (HMC)

- **Overview:** Honda is a Japanese multinational conglomerate known for its automobiles, motorcycles, and power equipment.
- **Founding:** Founded in 1946 by Soichiro Honda and Takeo Fujisawa.
- **Headquarters:** Tokyo, Japan.
- **Diversity:** Honda produces a wide range of vehicles, including cars, motorcycles, and power equipment. Known for its reliable and fuel-efficient vehicles.

Strengths & Weakness of HMC

- **Strengths:**

- Electric Vehicle Leadership: A pioneer in electric vehicles with a strong market share.
- Innovation: Known for continuous innovation in technology and manufacturing.

- **Weaknesses:**

- Production Challenges: Periodic challenges in meeting production targets.
- Market Dependency: Heavily dependent on the success of the electric vehicle market.

Positive & Negative of HMC

Positive:

- Established Reputation: Honda is a well-established brand known for reliability and fuel efficiency.
- Diversified Product Portfolio: Honda has a wide range of products beyond automobiles, including motorcycles and power equipment.

Negative:

- Dependency on Traditional Vehicles: Honda's dependence on traditional internal combustion engine vehicles may pose challenges in the transition to electric vehicles.
- Global Economic Factors: As a global company, economic conditions in various regions can impact Honda's performance.



Tesla, Inc. (TSLA):

- **Overview:** Tesla is an American electric vehicle and clean energy company.
- **Founding:** Founded in 2003 by Martin Eberhard and Marc Tarpenning. Elon Musk joined as an investor and later became CEO.
- **Headquarters:** Palo Alto, California, USA.
- **Pioneer in EVs:** Tesla is a pioneer in electric vehicles, producing popular models like the Model S, Model 3, Model X, and Model Y. The company is also involved in renewable energy solutions and energy storage.

Strengths & Weakness of TSLA

- **Strengths:**

- Electric Vehicle Leadership: A pioneer in electric vehicles with a strong market share.
- Innovation: Known for continuous innovation in technology and manufacturing.

- **Weaknesses:**

- Production Challenges: Periodic challenges in meeting production targets.
- Market Dependency: Heavily dependent on the success of the electric vehicle market.

Positive & Negative of TSLA

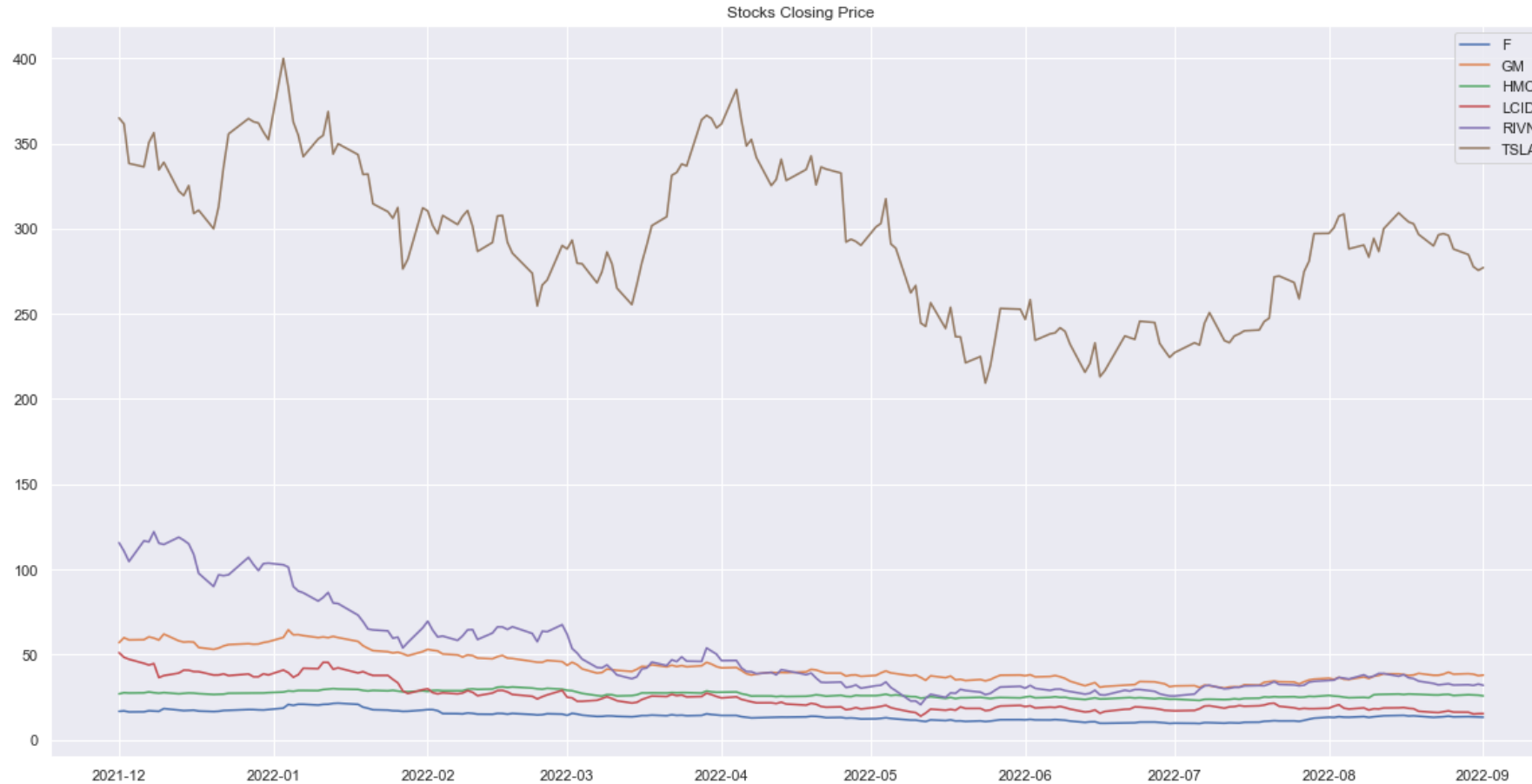
Positive:

- Market Leader: Tesla is a pioneer in the electric vehicle market and a market leader in innovation.
- Strong Growth: Tesla has shown significant growth in both production and stock value over recent years.

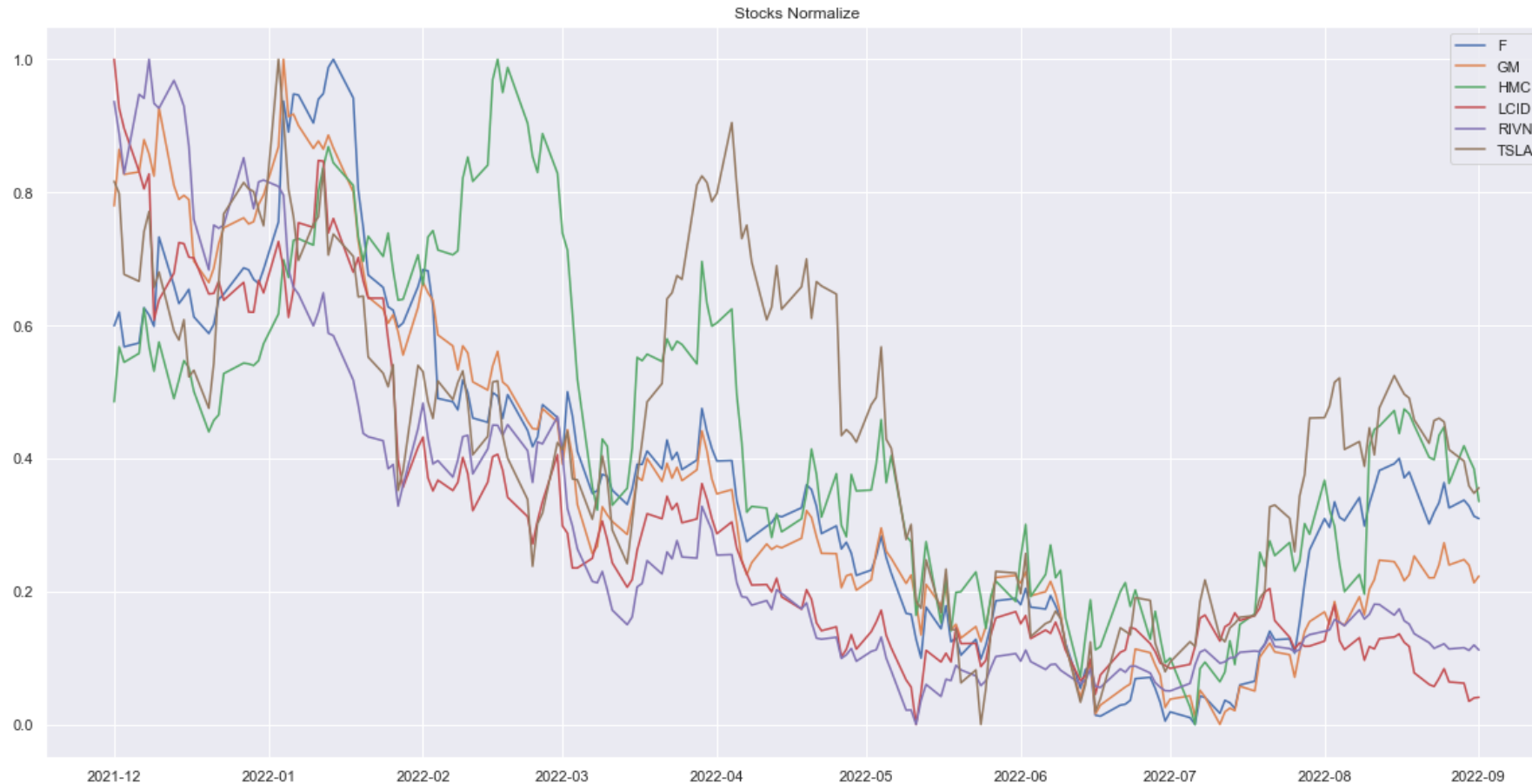
Negative:

- Volatility: Tesla's stock is known for its high volatility, which may not be suitable for all investors.
- Production Challenges: Tesla has faced production challenges and delays in the past, which could impact financial performance.

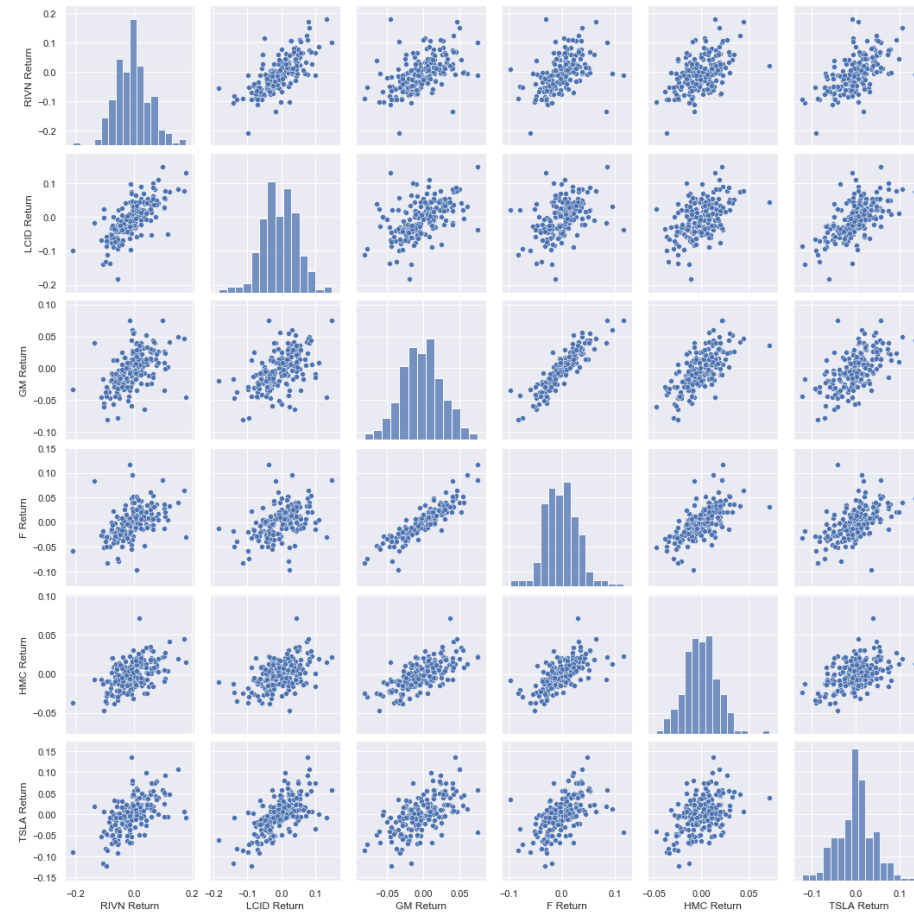
Electric Car Comparison Closing Price



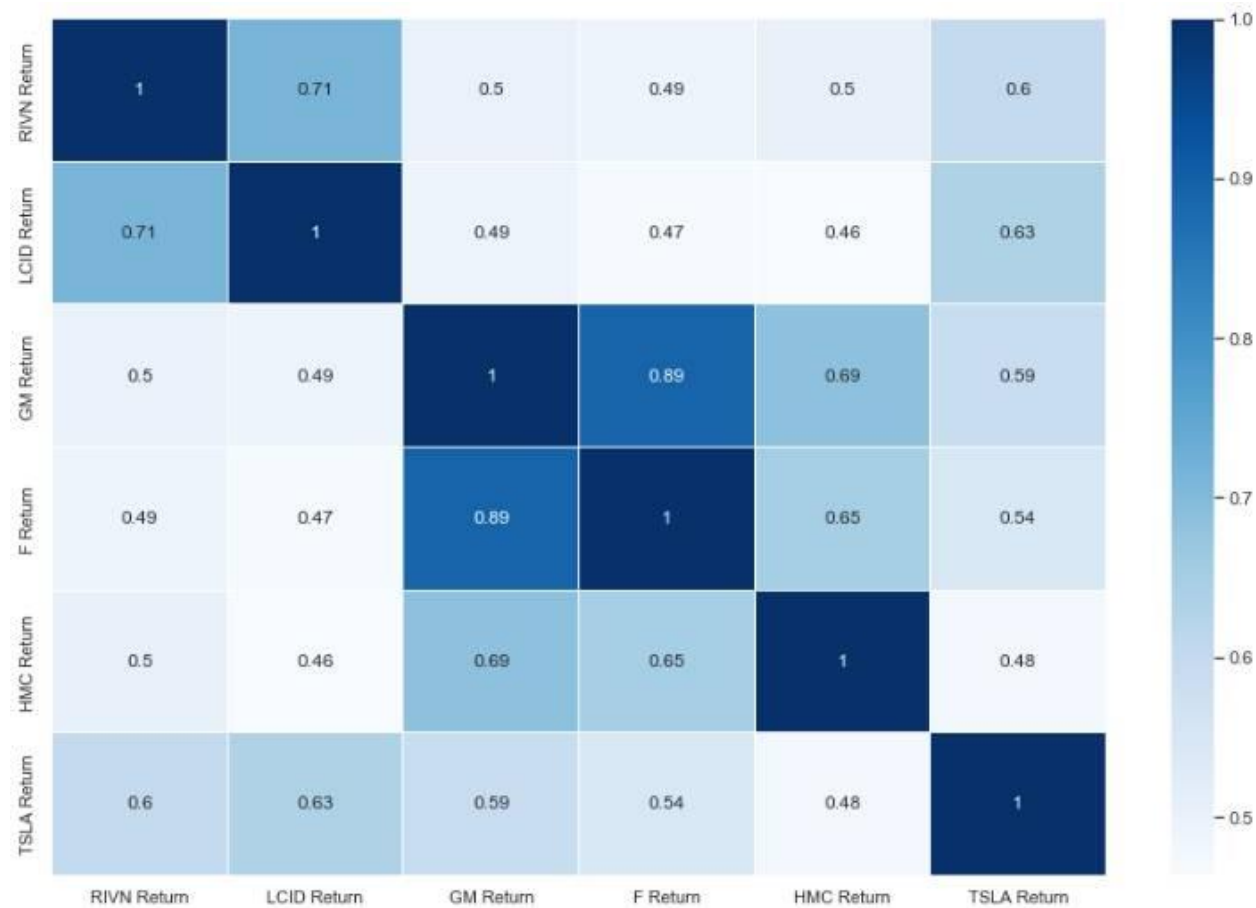
Electric Car Comparison Normalize Closing Price



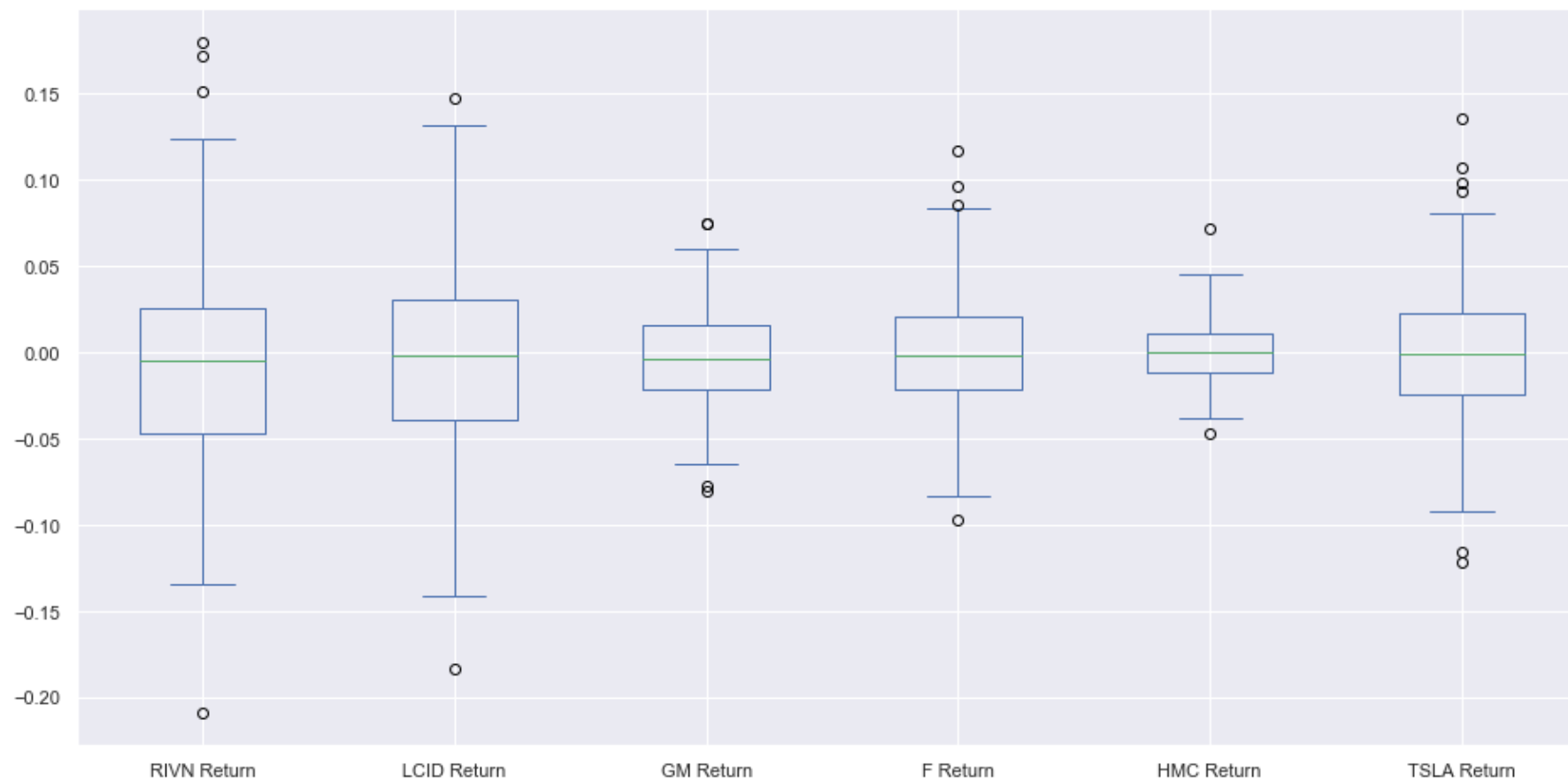
Pair plot



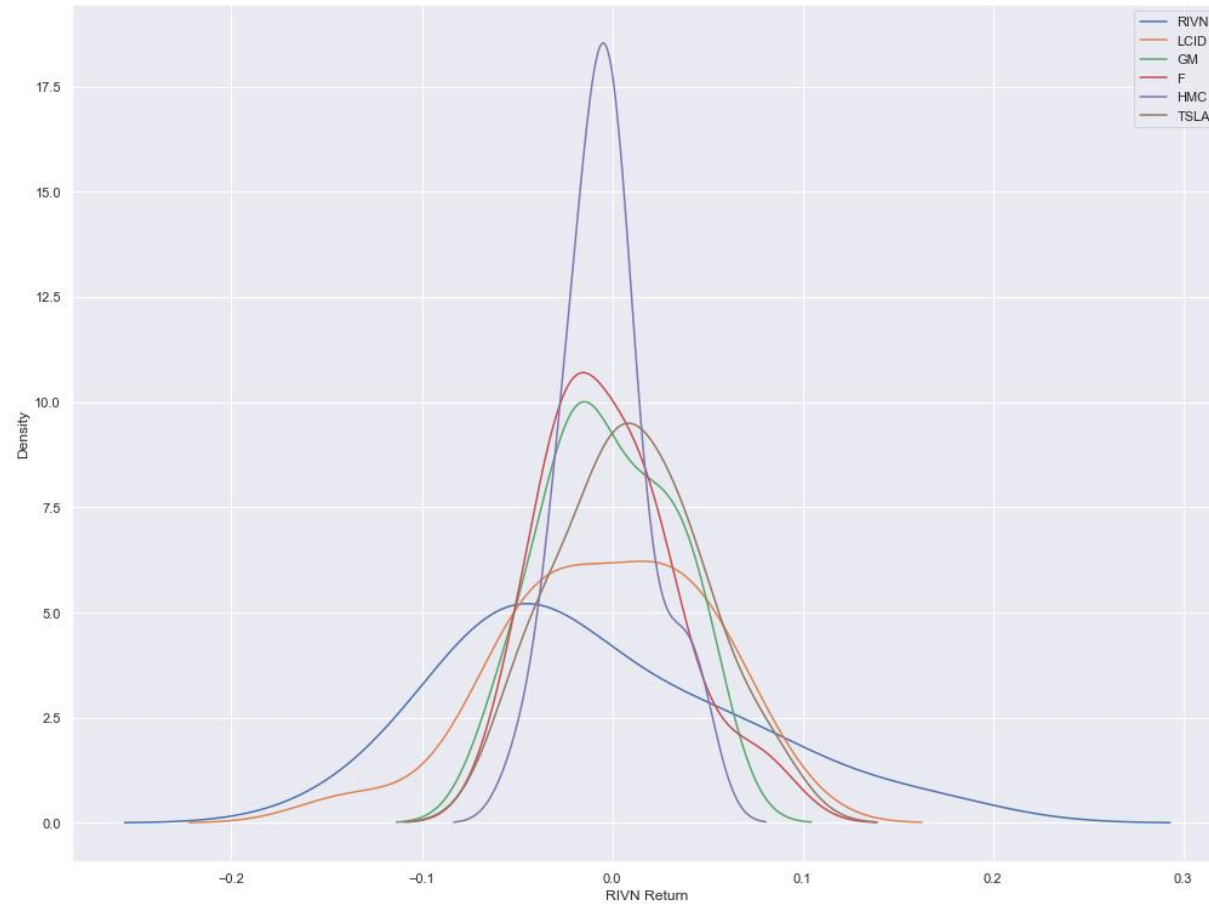
Heatmap



Returns Boxplot



Density Plot



Key Points

Rivian Automotive, Inc. (RIVN):

- Positive: Innovative Electric Vehicles, Strong Backing
- Negative: Volatility, Production Challenges
- Rivian has innovative electric vehicles and strong financial backing from major players. However, it is relatively new and may face higher volatility and production challenges.

Lucid Group, Inc. (LCID):

- Positive: Luxury EV Market, Strong Product Reviews
- Negative: Competition, Production Constraints
- Lucid focuses on the luxury EV market with positive reviews, but it faces competition and potential production constraints.

General Motors Company (GM):

- Positive: Established Player, Commitment to EVs
- Negative: Legacy Issues, Market Perception
- GM is an established player committed to electric vehicles, but it may face challenges due to legacy issues and market perception.

Ford Motor Company (F):

- Positive: Strong Brand, Electric Vehicle Push
- Negative: Financial Performance, Market Dynamics
- Ford has a strong brand and is investing in EVs, but financial challenges and industry dynamics may pose risks.

Honda Motor Co., Ltd. (HMC):

- Positive: Established Reputation, Diversified Product Portfolio
- Negative: Dependency on Traditional Vehicles, Global Economic Factors
- Honda has a solid reputation and diversified portfolio, but its dependence on traditional vehicles and global economic factors pose challenges.

Tesla Co (TSLA):

- Positive: Market Leader, Strong Growth
- Negative: Volatility, Production Challenges
- Tesla is a market leader with strong growth, but its stock is known for high volatility, and it has faced production challenges.

Conclusions

Investing in electric vehicle (EV) companies can be a promising venture given the global shift towards sustainable transportation. However, each company presents unique opportunities and challenges:

Rivian is a promising EV startup with significant growth potential. However, it faces challenges in achieving positive gross margins and establishing itself as an industry leader.

Lucid Motors has started delivering its first EV and is considered a promising long-term EV stock.

GM is a well-established automobile company that is making significant investments in EVs. It has a stable stock price and offers a good dividend yield. However, the automotive industry is highly competitive and cyclical, subjecting GM to market fluctuations and economic downturns.

Ford is showing stability and potential for growth, making it an attractive option for value investors. The company is investing heavily in EVs, but like GM, it is subject to the cyclical nature of the automotive industry.

Honda is a well-known automobile company with a stable financial performance. However, it has been slower than some competitors in entering the EV market, which could impact its future growth.

Tesla is the leading company in the EV market and has shown impressive growth. However, its stock is considered overvalued by some analysts, and the company faces increasing competition in the EV market.

In conclusion, while each of these companies offers potential investment opportunities, they also come with risks. It's important for investors to thoroughly research and consider their risk tolerance before investing in these companies. As investors, diversification across different companies and sectors is a key strategy to mitigate risk.

Thank you all for your attention throughout this presentation.
Your engagement and focus have been greatly appreciated.
Thank you again for your time.

