

Case Analysis About Demand Changes of New Energy Vehicles and Its Stock Returns

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Abstract. The industry for new energy vehicles (NEVs) has experienced giant growth which draws interest from investors, decision-makers, and scholars. This research examines the relationship between changes in market demand and the stock returns of NEV firms. The method we use is to take into account a number of variables including international relations, governmental regulations, and developments in related industries. This article investigates the cases of Tesla Inc. and NIO Inc. on the performance of NEV stocks by the following ideas: the impact of foreign relations, government policies, and shifts in associated industries. For investors in the NEV industry, the results highlight how crucial it is to understand market dynamics as well as possible dangers and possibilities. Also, the article suggests topics for further investigation, such as the effects of NIO's global initiatives like growing product lines and Tesla's growing product range. Stakeholders hoping to properly manage the changing NEV ecosystem will find great insights from this thorough investigation.

Keywords: Market Demand, Stock Return, Government Policies, Foreign Relations, Associated Industries.

1. Introduction

Over the past ten years, the market for new energy vehicles (NEVs) has developed successfully due to the encouragement of government regulations, developments in related industries, and rising international relations between consumers. Investors and stakeholders have to understand the dynamics which influences NEV businesses' stock returns when the market for these vehicles is developing. In key markets like China, the US, and Europe, the NEV sector has grown at an exponential rate. We can see an increase of China's NEV market penetration rate from 8% in 2020 to approximately 13% in 2021. The Chinese government has set high goals to bolster this strong growth which is trying to achieve a 40% market penetration rate by 2030. In a similar vein, the European Union promised to accelerate the use of NEVs and cut greenhouse gas emissions by at least 55% by 2030. Also, in keeping with the worldwide trend toward sustainable transportation, the United States plans to have 50% of all automobiles be NEVs by 2030. With an emphasis on important factors including the impact of foreign relations, government policies, and shifts in associated industries, this analysis attempts to investigate shifts in market demand and the stock returns of NEV producers. This study explores how these elements manifest in practical situations by looking at the instances of Tesla Inc. and NIO Inc. Moreover, the results highlight how crucial it is for investors to comprehend market dynamics as well as possible dangers and possibilities in the NEV industry. This thorough investigation sheds important light on the intricacies of NEV stock returns and emphasizes the crucial influence of market demand on financial results.

2. Market Demand and Stock Returns

2.1. Market Demand Dynamics

NEV market demand is mainly affected by developments in related industries. Productivity gains in NEVs have increased customer interest due to advancements in battery technology, charging infrastructure, and vehicle performance. One major factor that might increase the spread of NEVs is the result of quicker charging times and increased energy density offered by solid-state battery

technology[1]. NEVs' Manufacturers may see an acceleration in the market demand as these technologies gain the profit which would be good for their stock returns.

Then, the market demand for NEVs is mostly driven by government policies and incentives. Customers are encouraged to convert from conventional internal combustion engine cars to non-electric vehicles (NEVs) because of subsidies, tax breaks, and strict environmental rules. The government has provided important assistance to the NEV market in China, including tax exemptions and purchasing subsidies[2]. These regulations provide investor confidence by stimulating demand and it benefits NEV firms' stock performance.

Also, Demand for NEVs in the market is heavily influenced by international relations between consumers like growing preferences and awareness. A growing number of consumers are attracted toward NEVs due to their growing environmental consciousness and demand for sustainable transportation options by friendly communications between people from all over the world. Research indicates that buyers are prepared to pay more for cars that are favorable to the environment[3]. It have a great impact on stock returns that NEVs' firms have increased sales volumes in response to growing customer demand.

2.2. Impact on Stock Returns

Changes in market demand have the potential influences to cause short-term volatility in NEV firms' stock returns. For example, a sudden change in legislation or advances in technology can cause sharp fluctuations in stock values [4]. One prominent instance is the declaration of government incentives for NEVs. It generally triggers solid increases in stock prices right away. On the other hand, stock values may drop unexpected if subsidies are removed. When purchasing NEV equities, investors should be carefully aware of this possible volatility.

NEV equities still have strong long-term growth possibilities except recent volatility. With the world moving toward more environmentally friendly forms of transportation, it is anticipated that demand for NEVs will continue to rise. According to analysts, the NEV industry is expected to see a large growth in the upcoming decades due to continuous technical breakthroughs and regulations supported from the government[5]. Long-term stock returns for NEV firms are probably going to keep stable as a result of this continued demand rise.

3. Case Analysis

To deeper explore how change in market demand and the stock returns of new energy vehicles (NEV), I will use two cases which are Tesla Inc and NIO Inc to present how they work.

3.1. Tesla Inc

One case is Tesla Inc, an American multinational automotive and clean energy company. An important factor in Tesla's growth is about government subsidies. Tesla vehicles' Sales have increased and stock returns have been positively impacted by the government tax incentives in the United States when residents purchase the new energy vehicles. Based on the California's Clean Vehicle Rebate Project, States have also increased demand for Tesla automobiles through their own incentives[6]. Market penetration has increased and investor confidence in Tesla's stock has increased as well because of these subsidies including tax credits and refunds, federal subsidies, Megadeals (single subsidy packages valued at \$50 million or more)(Fig.1), and training reimbursements. Due in large part to these subsidies, consumers' initial cost barriers have decreased, expanding market penetration, and boosting investor confidence in Tesla's stock. According to the Figure 1, the total amount of government subsidies given to Tesla and its subsidiaries has been increasing and is expected to exceed \$3 billion by 2022. This financial support has greatly improved Tesla's stock performance and contributed to its growth trajectory.

Moreover, Trade regulations and foreign relations have an impact on Tesla's global expansion. For example, right now, the U.S. and China have excellent trade ties between each other and makes it

easier to build a factory in Shanghai. With the help of this facility, Tesla has been able to enter China’s market which is the largest NEV market in the world[7]. It has greatly improved stock performance after doing this. A crucial component of Tesla's worldwide expansion strategy has the ability to handle trade disputes internationally and maintain solid partnerships in important areas.

Furthermore, another benefit that Tesla has experienced is the expansion of the renewable energy industry. Besides its car lineup, the firm also sells energy-related items including solar panels and energy storage systems. Increasing market share and stock returns for Tesla are created by the renewable energy industry as a result of the synergies[8]. Further increasing demand and stock performance save the costs and enhance performance of Tesla's vehicles. This results thanks to the advances in battery technology and expanded production capacity.

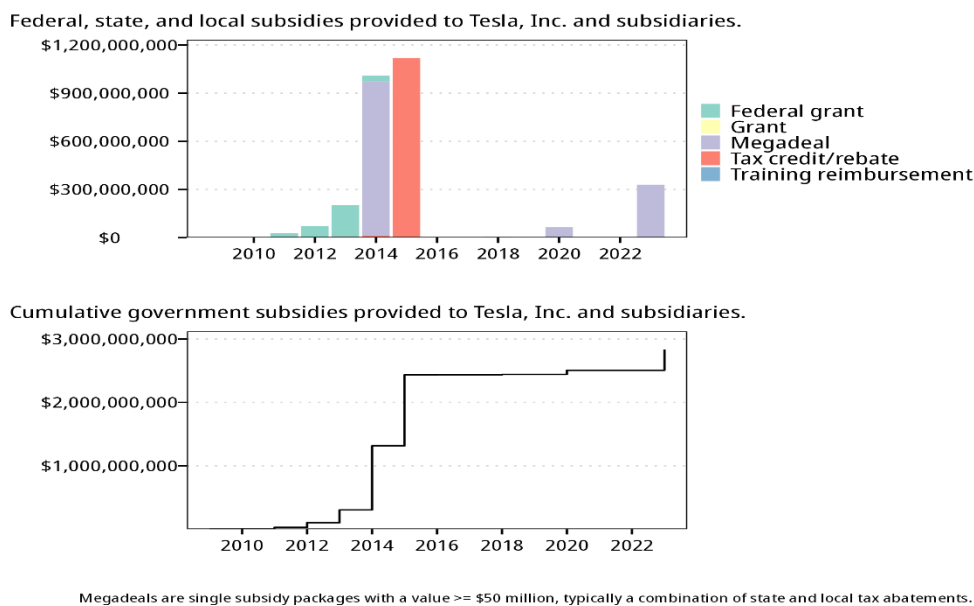


Fig. 1 Government, State, Local, and Cumulative Subsidies Provided to Tesla Inc.
 (Source: subsidytracker.goodjobsfirst.org)

3.2. NIO Inc

Another outstanding new energy vehicle’s firm is NIO. Several actions by the Chinese government promote NEVs a lot and NIO have been greatly benefitted. Not only to give out subsidies, there are a couple of strategies also involve regulatory assistance and calculated investments. For example, in 2020, the Chinese government gave NIO a 7 billion RMB (1 billion US\$) bailout which was essential to the company's survival and expansion[9]. Also, NIO's vehicles are now more reasonably priced and appealing to buyers due to programs like purchase incentives and tax exemptions. The NEV market has been further supported by the government's policies to being carbon neutral by 2060, which has improved NIO's stock performance. NIO's stock had significant fluctuation between October 2019 and November 2020(Fig.2). It peaked at US\$46.59 on November 17, 2020, after falling to US\$1.90 on December 2019 which coincided with the Chinese government promotion. During this time, important developments including revised forecast, capital raising initiatives, and updates on operating results also had a big influence on NIO's stock price.

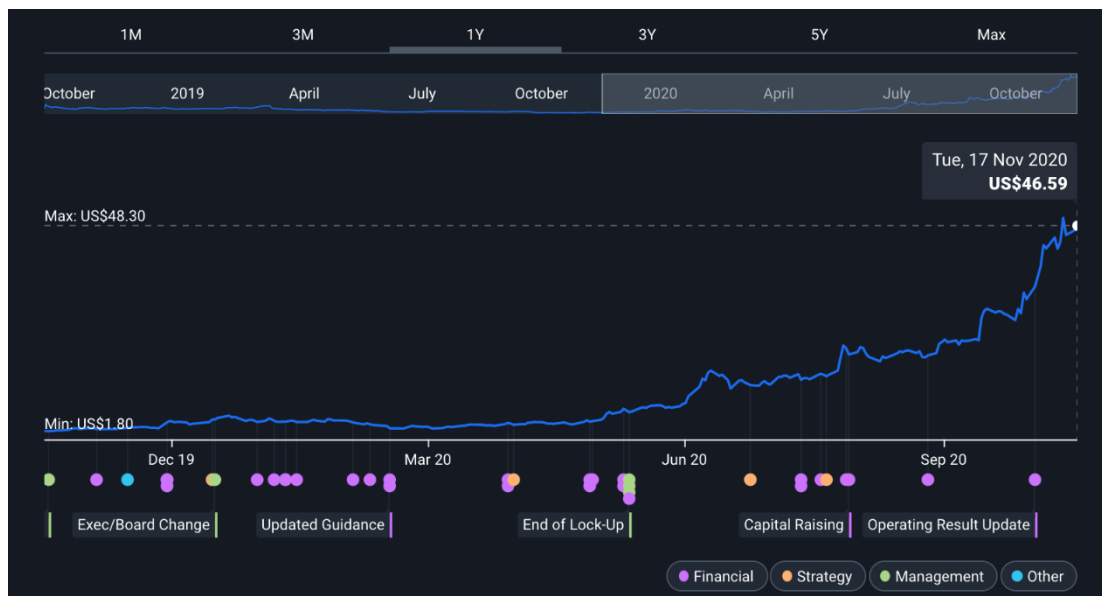


Fig. 2 The Stock Price Movements of NIO Inc.
 (Source: Simply Wall St.)

To have greater influences in the international market. NIO's attempts to break into the European market to run its global strategy. For example, the company's entry into Norway was made possible by advantageous trade ties and pro-NEV legislation from the European Union[10]. The diversification of NIO's income sources and the rise in its stock price have been facilitated by its global presence. Furthermore, a major contributor to NIO's successful development is its capacity to adjust to various regulatory frameworks and customer preferences in global markets.

On NIO, the growth of the battery business has had an effect as well. The performance and range of NIO's vehicles have increased because to advancements in battery technology to increase their market appeal. Partnerships with battery producers have also guaranteed a stable supply of high-grade batteries which help NIO meet its production and stock performance targets. NIO now has a stronger competitive advantage in the quickly changing NEV industry because of the inclusion of cutting-edge battery technology.

4. Discussion

Some interesting insights may be gained when we compare the stock returns of NEV producers with those of traditional automakers. To meet consumer demand, massive established manufacturers like Ford and General Motors happened to invest in NEV technology. But when compared to producers of pure NEVs like Tesla and NIO, their stock returns have typically been less erratic. The reason for this situation may be explained with being more experienced and conventional automakers' diverse product lines which means that act have a hedge against changes in the NEV market's demand.

Another reason is that changes in regional markets are the important factor affecting the returns on NEV stocks. For instance, strict emission rules and robust government support have led to the NEV market's explosive expansion in Europe. On the other hand, the expansion of the NEV market in the United States has been slower. It is mainly because of different legislations for each state and customer preferences. These geographical variances have an effect on the stock performance of NEV producers in various markets.

5. Challenges and Risks

Challenges and Risks exit in every single industry. A main idea for this that disruptions in the supply chain might affect the stock returns of NEV producers and provide serious problems to them. As we know, delays and higher prices have definitely resulted from the worldwide semiconductor

scarcity, and it has hindered the manufacture of NEVs. Stock prices may suffer as a result of these interruptions which may also lower market demand. In order to reduce these risks, NEV producers need to create robust supply chains.

Also, the number of firms joining the NEV market is making it more and more competitive. There is a serious competition between both new and established automakers for the market share. The market demand and stock returns of some of the small NEV producers might be impacted by this competitive environment. Companies and firms that can stand out from the competition through branding and innovation have a better chance of succeeding in this cutthroat market.

6. Summary

Technological developments, governmental regulations, or customer tastes, and international relations all have an influence on the market demand, and then affect the stock returns of new energy vehicles as well. To be more specific, subsidies, foreign growth, and advancements in related industries are known to be significant factors influencing stock performance when we study the cases about Tesla and NIO. NEV equities still have good long-term potential to grow even though short-term volatility is sometimes a big problem. To successfully navigating the changing stock return of NEV, investors need to be more and more familiar with market dynamics and developing trends.

7. Future Outlook

Future studies may concentrate on how its growing product line affects stock returns which now includes solar and energy storage products. Further investigation can focus on the company's tactics for preserving its competitive advantage in the face of growing competition from both established automakers and recent newcomers. We can also look at how its global product range expansion has affected stock performance over the long run.

Looking forward to the future, for the whole industry, the NEV market and how it affects stock returns are anticipated to be shaped by a number of developing trends. The development of autonomous driving technology has the potential to transform the NEV market and generate new demand. The customer interest is expected to be grown due to the developments in battery recycling and second life uses which will improve NEVs' sustainability. For investors and NEV makers, these movements provide both possibilities and difficulties.

The market's demand for NEVs will continue to be greatly influenced by policy changes in the future. Globally, governments will plan to introduce stricter emission standards and offer greater incentives to encourage the adoption of NEVs. The market demand and customer behavior will be impacted by these rules and thus will eventually affect the stock returns of NEV producers. To ensure they are making well-informed investment decisions, investors want to keep a careful eye on policy changes.

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