

# Independent Directors' Opposition, Earnings Management and the Risk of Stock Price Crash

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**Abstract:** The purpose of this article is to explore the factors affecting subsidy relaxation and the measures that the new-energy vehicle industry should take in response to the continued weakening of subsidy policies. Examination of relevant literature and case studies revealed that domestic and international research on the impact and shortcomings of the vehicle purchase subsidy policy itself has made some progress, but there are still other problems and challenges. This article explains the profound significance of the release of the new energy vehicle purchase subsidy policy and subsidy weakening, and how the new energy vehicle industry should respond to the subsidy weakening and others. Finally, the article summarises the main results and conclusions of the study, and provides a forecast on the research direction for the development of the new energy vehicle market.

**Keywords:** New Energy Vehicles, Purchase Subsidies, Carbon Emissions, Air Pollution, Energy Transition, Prospects for the Development of the New Energy Vehicle Industry.

## 1. Introduction

Compared with the long-term development of fuel vehicles, China's new energy vehicles started later, the foundation is weaker. In the initial stage of China's new energy vehicle industry, there are issues such as incomplete product range, narrow range of practical applications, single model, etc. The lack of consumer acceptance makes new energy vehicle enterprises have no incentive to produce, which results in the new energy vehicle business not being able to form an economy of scale, and the industry chain has become a state of depression. Therefore, at the end of 2009, the Chinese government launched a policy of subsidising the purchase of new energy vehicles, aiming to motivate the progression of the new energy vehicle industry chain. In 2012, the State Council issued the Energy Saving and New Energy Vehicle Industry Development Plan (2012-2020), which elaborated the purchase subsidy policy in more detail, confirming that the purchase subsidy for new energy vehicles can greatly motivate the advancement of new energy vehicle industry.

It is undeniable that the national subsidy policy does strongly facilitate the expand of new energy vehicle industry. However, the related purchase subsidy has experienced several "slopes back" until today.

Beijing, as one of the large new energy vehicle markets, is of high research value and will be used as a case study in this study.

## 2. Literature Review

### 2.1. Domestic Literature Review

(1) A study shows that, after the replacement subsidy policy slopes back, Beijing car market in order to catch up with the "subsidy" last window period, to attract consumers, have increased the replacement subsidy, while driving the sales of new energy vehicles, it also further the progression of new energy used car market.

(2) Sun Renjing in "China's new energy vehicle subsidies to evaluate the effect of policy evaluation of the policy" on the evaluation of the relevant policies and put forward

proposals for improvement [1].

### 2.2. Foreign Literature Review

(1) William Sierzchula theoretically investigated whether financial incentive policies such as subsidies can stimulate social demand for new energy vehicles, and came up with the remark that subsidy policies are conducive to the promotion of new energy vehicles [2].

(2) Langbroek used a choice test to suggest that subsidy incentives can increase the likelihood of consumers choosing to purchase new new energy vehicles [3].

(3) Max Ahman studied Japan's new energy vehicle subsidy policy and concluded that the subsidy policy can effectively promote the development of new energy vehicle-related in the early stage of new energy vehicle R&D, and that the government's policy focus should be on R&D investment, demonstration operation and market promotion [4].

Comprehensively summarising the above domestic and international literature, it can be concluded that most of the domestic and international studies on new energy policy subsidies focus on analysing the effects and shortcomings of the subsidy policy, and do not point out the significance of the subsidy policy other than promoting the progression of the new energy corporations (in terms of the natural environment). Few studies have analysed the improvement prospects of the new energy vehicle companies under the weakening of the subsidy policy by integrating relevant data.

In this study, we will take the above mentioned problems as a breakthrough and use Beijing as a case study to explore the more comprehensive meaning of the subsidy policy, as well as to predict the future growth of the market of the new energy vehicles.

### 3. The Significance of The Introduction of The New Energy Vehicle Purchase Subsidy Policy and The Weakening of The Subsidy

#### 3.1. Why the Government Introduced the New Energy Vehicle Purchase Subsidy Policy

The new energy vehicle subsidy policy started in 2009, and the government has made various considerations behind the implementation of the subsidy policy. Firstly, in terms of the new energy vehicle industry: guiding the direction of the industry and attracting social investment. The subsidy signals to guide enterprises and social resources to tilt towards the field of new vehicles, attract social capital to participate in the development of new energy vehicle industry, provide financial support and promote industrial development. Secondly, it stimulates consumer demand and optimises the industrial structure. The government provides consumers with new energy vehicle purchase subsidies, which reduces the consumption cost of new energy vehicles and makes the price more competitive compared to alternative oil vehicles, thus stimulating consumers' desire to buy and expanding market demand. This will lead consumers to buy energy-saving, environmentally friendly, low-emission new energy vehicles, thus promoting structural adjustment and technological upgrading of the automobile industry.

Secondly, in terms of protecting the natural environment: reducing environmental pollution and promoting green travelling. New energy vehicles can dramatically lower air pollution, electric vehicles do not produce tailpipe emissions during operation, and hybrid vehicles emit less tailpipe emissions compared to traditional fuel vehicles, thus

effectively reducing air pollution; new energy vehicles can also conserve fossil energy and reduce greenhouse gas emissions. New energy vehicles use electricity as a power source, which is more environmentally friendly and renewable compared to fossil fuels, and at the same time do not emit carbon dioxide and other greenhouse gases in the operation of new energy, which is more environmentally friendly.

In short, the subsidy policy motivates the development of new energy vehicle industry, promotes energy transition, improves energy efficiency and makes the automotive industry more environmentally friendly.

#### 3.2. The "Rollback" of Car Purchase Subsidies

In 2016, the acquisition subsidy policy has been implemented nationwide, while the financial subsidy began to adopt a sloping-back mechanism; as of 2018, the subsidies enjoyed by single pure electric passenger cars with different driving ranges have all dropped by 50%; after 2018, the subsidies for a portion of passenger cars of the same type with lower mileage are gradually reduced to zero, and the rest of the models have dropped in tandem; in 2022, the cars with a driving range of 300 kilometres or less will no longer enjoy subsidies.

#### 3.3. Why the Government Has Reduced Subsidies for New Energy Vehicle Purchases

##### 3.3.1. Effectiveness of New Energy Vehicle Purchase Subsidy

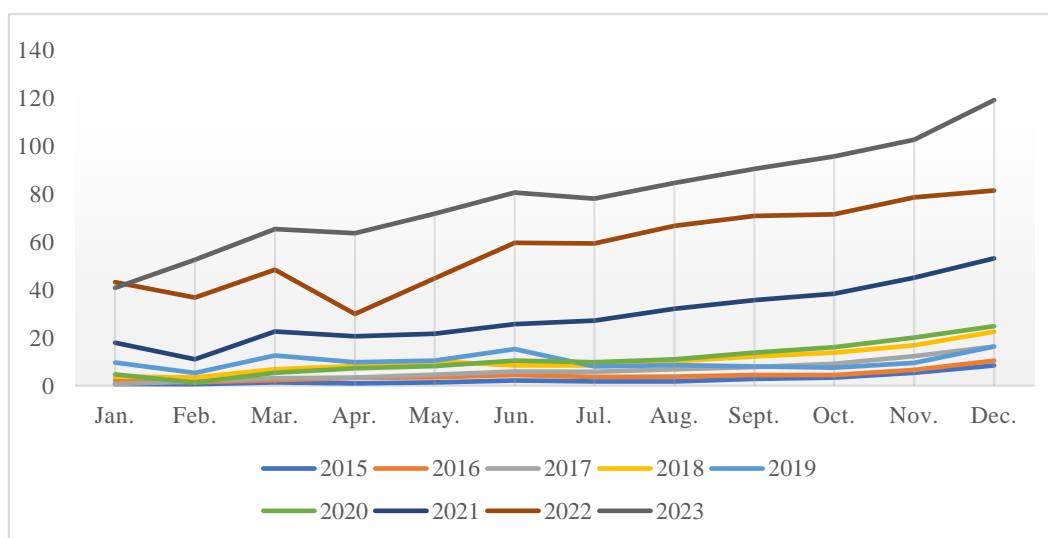


Figure 1. 2015-2023 China's NEVs monthly sales trend chart (unit:10 thousand)

The above chart is 2015-2023 China's new energy vehicle monthly sales trend chart, through the data in the chart can be found, 2015 China's new energy sales in the lowest, from 2015 onwards, the monthly sales of new energy vehicles are gradually increasing; to 2021, each month compared to the same period last year there is a significant increase; and to 2023 in December, the new energy vehicle monthly sales peaked at 1.191 million units. Analysing the above data, it can be seen that the new energy vehicle purchase subsidy policy has greatly improved the development of the new energy vehicle corporations, and the monthly sales of new energy vehicles have become a growing trend.

In addition, other data can also provide reference. New energy vehicle brands are booming and growing year by year, between 2013 and 2022, the number of annual registrations of businesses related to new energy vehicles grows from 5,100 to 239,400.

This shows that the subsidy policy has achieved remarkable results in the implementation phase.

In addition, Beijing, as the capital of China, will have close to 900,000 new energy vehicles by September 2024, with nearly 80% of the city's motor vehicles being new energy vehicles and National V vehicles or above, a leading percentage at the provincial level. In order to combat air

pollution, Beijing has been steadily eliminating over 2.3 million old vehicles and taking the lead in promoting new energy vehicles to make the emission structure of motor vehicles greener by optimising the traffic structure for more than 20 years.

### **3.3.2. Core reasons for subsidy policy regression**

Today, consumer demand for new energy vehicles has gradually stabilised, and the new energy vehicle market has become widely known nationwide, while the government's subsidies have also been fully rolled back. The subsidy policy also has its own connotation. Firstly, it incentivises companies to improve product quality and innovation, and encourages them to invest more in research and development, so that they can retain consumers with high quality and new innovations rather than relying on subsidies for car purchases. Secondly, to guide the healthy development of the industry, the gradual reduction of subsidies can eliminate uncompetitive enterprises, accelerate the reshuffle of the new energy automobile companies, and promote the progression of new energy industry in a healthy and sustainable direction.

## **4. Impacts of New Energy Vehicle Purchase Subsidy Regression on New Energy Vehicle Enterprises and Enterprises' Countermeasures**

### **4.1. Impacts and Opportunities of Subsidy Policy Regression**

#### **4.1.1. Implications for the enterprise concerned**

The impact of the regression of the subsidy policy on the new energy vehicle industry is mainly in the following aspects. Firstly, it means increasing the cost pressure of new energy vehicle enterprises. The gradual reduction of subsidies to cancellation may reduce consumers' desire to buy, and the reduced demand for new energy vehicles may lead to a reduction in the profitability of related enterprises, which will be forced to increase the selling price in order to cover the loss of costs, which will also lose consumers, thus leading to a vicious circle. Secondly, the reduction of subsidies for new energy vehicles will intensify internal competition in the automotive market. While new energy vehicles lose the advantage of purchase subsidies, traditional fuel vehicles may become the choice of more consumers, and fuel vehicle companies will seize the opportunity to compete for market share. This means that the new energy vehicle industry must innovate and optimise to highlight its advantages and keep itself competitive. Finally, how to innovate and break through the battery life, battery safety, charging speed and other issues are also new energy vehicle companies will face technical challenges.

#### **4.1.2. Opportunities arising from subsidy policy regression**

The new energy vehicle purchase subsidy policy has come to an end, while the construction and support of infrastructure such as charging piles continues to increase, and in September 2024, a new policy was released on subsidies related to the "trade-in" of new energy vehicles. This has helped to attract consumers and alleviate their concerns about the mileage of electric vehicles, and the government continues to stand the development of the new energy vehicle industry in other ways.

## **4.2. Response of the New Energy Vehicle Industry**

New energy vehicle industry can start from the following four aspects to deal with the subsidy decline.

Firstly, in terms of technology research and development, the new energy vehicle industry should increase its investment in research and development of battery range, battery safety and tram intelligence. Tackling technical difficulties, solving problems such as low battery range and safety hazards such as batteries that are prone to explode, to attract customers and maintain sales with high safety and intelligence. Enterprises can also improve new energy vehicle-related facilities such as charging piles through cooperation with the government as a way to attract customers.

Secondly, enterprise cooperation can also promote R&D and marketing. Within the new energy industry, companies can share R&D resources through cooperation to reduce R&D costs and improve R&D efficiency. For example, establishing joint ventures with several car companies to jointly develop batteries with better safety performance, such as coarse can also win the trust of consumers and increase publicity.

In addition, increasing advertising and marketing efforts is also one of the ways to cope with the subsidy regression. Enterprises can promote their products by linking them with popular products in the market. Enterprises can co-brand their products with popular cartoon images, make cartoon images on car paint, or launch cartoon character style products from car interiors. Enterprises can also sign a high commercial value of the star as a spokesman to increase brand awareness, enhance brand image, thereby attracting more consumers.

Lastly, they should invest more in overseas markets to seek new sales growth. Subsidy withdrawal makes the growth of the domestic market slow down, car companies can surrender their attention to overseas, increase overseas publicity efforts to open up overseas markets.

## **5. Conclusion**

In summary, this paper describes the significance and impact of the implementation of the new energy vehicle purchase subsidy policy, and through data analysis, it is concluded that the new energy subsidy policy has effectively increased the sales of new energy vehicles, while motivating the development of the new energy vehicle industry. In addition, this paper analyses the impact of the subsidy policy on the new energy automobile corporations, and puts forward relevant opinions on how new energy automobile enterprises can cope with the issue of regression, and concludes that the new energy automobile market still has development opportunities under the regression policy. However, this study still has limitations in analysing the future development direction of the new energy vehicle market. Future research in the new energy vehicle market can combine the diversity of new energy sources and economic feasibility to conduct empirical studies, speculate on the possibility of using new energy sources other than electricity as vehicle fuels, and explore whether new energy sources such as hydrogen can be practically applied to new energy vehicles, so as to open up a new market for the new energy vehicle industry and inject new possibilities.

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