The Economic Impact of Tesla on China's Electric Vehicle Market

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ABSTRACT

This essay discusses the economic effects of Tesla's entry into the Chinese electric vehicle (EV) market. The driving force behind the automobile policy of Tesla's Shanghai Gigafactory was the entry of a wholly owned foreign car firm into the nation's automobile industry. The entry of Tesla into the Chinese electric vehicle market had short-run effects on the local electric automobile market such as insufficiency of the market price and competition in the automobile network; other effects included competition in the market automobile brand. The effects were long-run economic positive effects on the Chinese electric market that stimulated demand in the market and increased efficiency of the market, developed the local electric margin chain system in China, and induced innovation of the local market. This paper argues every economic effect of Tesla's entry into the China electric market did not have a negative effect in the electric market in the long run except the hard competition Tesla faced in the transform EV market that was dynamic and in contention with the world electric vehicle market. Hence, the China policy must stance an approach that allows entry of foreign investment, the capacity of local R&D and infrastructure to enter the international expansion of the local brand EV auto.

Keywords: *Tesla, China, Electric vehicle market, Foreign investment, Competition, Industrial policy.*

1. INTRODUCTION

The electric vehicle industry is becoming a catalyst for change within the global automotive sector, with China leading the way as a key player in the electric vehicle manufacturing, sales, and innovation landscape. The introduction of Tesla into the Chinese market, particularly with the construction of the Shanghai Gigafactory, presented potential repercussions: Would foreign competition in the form of Tesla harm local manufacturers following a "predatory" model, or instead invigorate the market and industry within China? Tesla's technological advancements, brand prestige, and competitive pricing fueled concerns about the companies overshadowing their domestic counterparts. However, this report argues that Tesla's entry positively influenced the industry to a greater extent, serving as a boon to consumer demand, the logistics sector, innovation and technological development, and China's standing in the global arena in the electric vehicle industry.

2. BACKGROUND OF CHINA'S ELECTRIC VEHICLE MARKET

In recent years, China has confirmed the position of the world's most important player in the electric vehicle (EV) market. Recently, a large part of worldwide EVs was produced in China, and China accounted for quite an disproportionate share of EV sales in the world [1]. This event is important for making sense of China's case and the interplay between foreign rivals and domestic industrial policy as well as consumer preferences in an increasingly competitive tech industry that develops rapidly.

China's automobile industry policies have evolved quite a lot. Prior to 2018, car manufacturers coming from abroad were essentially obliged to set up operations or a branch in China through a joint venture with a local partner, with a maximum of 50 percent foreign ownership in automobile production. The objective of this policy was to support domestic enterprises and make it a rule that foreign companies must cooperate with the

local businesses and transfer know-how and technology to their local partners. The Chinese government was hopeful that through this arrangement, the barrier would allow the Chinese automotive industry to manufacture competitive vehicles.

Before Tesla came to China, Chinese brands occupied the majority of the domestic market of electric vehicles, however, many Chinese companies primarily produced low-end electric models, which could not meet the needs of those consumers who wanted a premium car, high power and the use of modern technologies [3]. Moreover, in 2017, sales of internal combustion engine vehicles in China peaked, which showed that the market for cars with internal combustion engines was on the verge of a major crisis and change [4].

A landmark policy turn occurred in 2018, with the country permitting foreign automakers to set up factory operations without a local Chinese partner [2]. Tesla constructed its Gigafactory in Shanghai, hence being able to sell directly to Chinese consumers. Tesla is the first automaker to establish a fully foreign-owned business in China, countering the previous protectionist policy [6]. Following the policy swing, the Chinese electric vehicle market took off. China sold more than 11 million electric vehicles in 2024, more than all the world's combined electric vehicle sales in 2022 [1].

3. SHORT-TERM DISADVANTAGES OF TESLA'S ENTRY

Tesla's entry created a significant disruptive pressure on short-term Chinese EV manufacturers. Detractors say that domestic firms could not compete successfully with Tesla's global brand strength, leading technology, advanced technological prowess, and increased brand awareness. Tesla had already established its market share as one of the dominant global players, and the entry of Tesla directly intensified competition in China [3]. BMW and Mercedes are the competitors and local EV manufacturers, XPeng, BYD, etc. [6].

Price competition was a big issue. In 2023, Tesla reduced their prices in China, which propelled a price war in the electric vehicle market [8]. Other car manufacturers that competed with Tesla responded to this by lowering their price too [9]. This increased the risk of a local producer with low financial flexibility to go into a loss. Research revealed that entering Tesla's competitors forced local producers to bring down the price of electric vehicles, and lower prices were also noted for BEVs.

This created an unbalanced dilemma for some domestic manufacturers. Tesla came to China as a well-versed company, with plenty of experience in manufacturing all over the globe, with a strong innovative strategy, and also well-financed and part of a premium segment [6]. A lot of Chinese EVs had been developing under the government's protection, and the entering of a big international player made those firms to compete with the stronger one. Some of them had to change their business model, enhance the design of their products, or help the bigger manufacturer instead of rivaling Tesla in everything [3].

4. POSITIVE ECONOMIC IMPACTS OF TESLA'S ENTRY

The short-term impact caused by Tesla was negative; however, the long-term effect was positive for the EV market in China. Tesla extended the market, expanded people's trust in electric-powered vehicles, reinforced the supply chain and domestic manufacturers began to enhance the quality and capability of their products. As a result, this makes the China's EV market to be more competitive both on domestic and international markets.

4.1 Market Growth and Increased EV Demand

The existence of the Tesla Company led to much demand of electric vehicles in the Chinese market, and their overwhelming influence was not just in their sales of electric cars. It is true that with the release of the locally produced Tesla cars, the entire sales of electric vehicles were valued significantly [7]. It is also true that Tesla was not only an influence in terms of sales; they also contributed greatly to the electric vehicle's fame as well as acceptability in the Chinese community.

One specific advantage is cost savings for consumers. Localised vehicle production by Tesla in Shanghai can help the company to avoid shipping costs. In January 2023, Tesla reduced the prices of almost all its vehicles in China. The lowest price of Model 3 vehicles was decreased by 36000 RMB or 13.5% and the lowest price of Model Y vehicles was decreased by 29000 RMB or by 10% [10], [11]. According to several reports, Tesla had already decreased the original price in late 2022, so the percentage of the price reduction

compared to September 2022 was significantly higher [12].

Compelling other automakers to conform to Tesla's price cuts. XPeng slashed the price of several models in January 2023 while BYD also cut their prices on various models [13]. The outcome resulted in conveying lower prices for certain domestic EV vehicles to customers [7]. Electric vehicles have transitioned from a luxury product to a commonplace product for the public.

Tesla increased the public confidence in electric vehicles. Before the rise of Tesla in China, most consumers were worried about battery life, charging stations, and the advancements of battery technology, whether they could match up to petrol-driven cars. When the public witnessed the good performance of Tesla cars in China, it opened people's minds to the use of electric cars in general. This was in good taste for the whole industry and not necessarily for Tesla [14].

4.2 Strengthening of China's Electric Vehicle Supply Chain

With the delivery of Tesla to China, the country started to receive technology that helped to strengthen its electric vehicle supply chain. The construction of the Shanghai Gigafactory and the greater amount of locally sourced components gave impetus to the expansion of Chinese suppliers and manufacturing prowess [5]. Moreover, in terms of EV production, this empowered other Chinese EV manufacturers as well because they also had a more robust domestic supplier network to make more advanced and competitive vehicles.

The development of China's EV supply chain also contributed to exports. EV exports from China grew over 1,000% between 2018 and 2023 to almost 1.6 million units [15]. The value of the EV exports also increased, tripling from $2.9 billion in 2018 to $38.5 billion in 2023 [16]. By 2024, China became the largest vehicle exporter in the world, overtaking both Japan and the United States in the export of passenger vehicles [17]. The export growth indicates that following the strength of the domestic market and developing the suppliers, China's EV manufacturers have become stronger in international markets.

The Charging infrastructure growth became also a cycle of positive feedback loop. Li et al. point out that indirect network effects are significant for EV markets as more charging stations and more people using EVs enhance the value of EVs [18]. The more consumers purchased EVs, the higher the motivation of the corporations and the government to invest in the charging infrastructure. The more convenient it became to charge EVs, the more consumers aspired to purchase EVs. It fostered the development of the EV ecosystem.

4.3 Innovation Pressure on Local Competitors

Tesla has not only devastated Chinese companies' competitive position but also has pushed them to such an extent. On the contrary, the local companies have been energized to compete with them by providing better and faster innovations. Industry leaders like BYD, XPeng, Li Auto, and NIO have experienced pressure from Tesla to improve the batteries, in-car software, driving dynamics, and design aesthetics of their vehicles to be competitive. Consequently, there has been an increase in the quality level of the rival products.

Research indicates that the entry of Tesla resulted in positive effects for local incumbents despite increased competition [7]. Tesla captured a portion of the market share, but the electric vehicle market grew to the extent that many Chinese players sold more cars than they did prior to the entry. For instance, BYD's sales surged from 427,302 in 2020 to over 3 million in 2023 [19]. Li Auto's deliveries expanded from approximately 134,000 in 1920 to 376,030 in 20, and NIO's delivery increased from 2022 to 2023, even though it still faced financial difficulties [20]. As such, there is no evidence to support the notion that competition, in this case, killed the local players but rather that it enhanced the market through better innovation.

"Table 1" summarizes the main short-term and long-term effects of Tesla's entry into China's EV market.

Table 1. Main economic effects of Tesla's entry into China

Area	Short-term effect	Long-term effect
Price competition	Lower profit margins for some local firms	More affordable EVs for consumers
Consumer demand	Stronger brand competition	Higher consumer trust in EV technology
Supply chain	Pressure to improve supplier quality	Stronger domestic EV production ecosystem
Local firms	Need to respond to Tesla quickly	Faster innovation and global competitiveness

5. POLICY DISCUSSION

The case of China suggests that the policy of the government should be based on a uniform approach towards the foreign competitors in the electric vehicle market. The policy depends on innovations and the principles of true competition at the same time. The main goal should not be to protect the domestic market players from all possible foreign threats. Otherwise, the domestic companies should be supported in gaining a strong position, which will allow them to exist successfully in the international market.

A good strategy is to continue funding domestic research and development. Since the early 1990s, China has steadily accepted and encouraged electric cars and carried out national research and high-tech development plans. This could assist Chinese manufacturers to compete with foreign vehicle manufacturers. The States should continue to support the research, batteries, intelligent vehicle software, and advanced product creation.

Meanwhile, China needs to keep a level playing field. Overprotection may cause firms to lack improvement motivation. As EV market network effects are related to the growth of sales and charging facilities, it is dependent on the expansion of the entire market rather than the protection of individual companies [18]. Wider market efficiency can enable consumers, suppliers, and car makers to benefit.

The state may choose to assist domestic enterprises through other channels as well. Subsidies that are direct or temporary, and sector-oriented, can let those less competitive entities gain advantages over the market situation. Not only will these subsidies be fully market-protective, but they can also be linked with the increase in technology, product quality, and international market competition. Export assistance is also a priority because the region's makers of EVs are going to the outside market, where competition is becoming fiercer. The government can be a partner in the global EV sector by offering trade support, dealing with international regulations, supporting Chinese brands, etc.

Infrastructure investment is needed. China should invest more on charging stations, power grid and smart charging [6]. This will benefit the whole EV sector, as consumers will be less worried about charging. These needs will benefit domestic as well as foreign manufacturers and create an optimal consumption environment.

The primary policy implication is long term competitiveness is more valuable than short term protection. Chinese companies are coming into global competition in batteries, software and automobiles. The policy, market and competition made this possible. The Chinese state should enable a competitive dynamic in which domestic companies learn how to compete, globalize and build brand equity.

6. CONCLUSION

The initial effects were a market disruptor, but the long-term effects have created very good outcomes for the home country. Although local firms had to cope with rivals' prices and brand influence and technology of Tesla, such kind of pressure was bound to make any industry improve. Instead, Tesla was able to expand the market, lower the prices, create the supply chain, build the consumer confidence, and enable firms to innovate at a quick pace. The China example demonstrates that local development and foreign investment do not need to be in double with one another. A relatively balanced approach that is targeted at interdicting the foreign competition in still bound to help local businesses in this aspect. Relevant measures include subsidizing R&D, infrastructure

development, and also export assistance. Therefore, China needs to ensure that it remains focused on continued competitiveness rather than having a protectionist viewpoint. This strategy could result in China becoming the only country that will be involved in electric vehicle production.

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