Business-Government Relations in Domestic and International Marketplaces

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Abstract. Over the past few years, there has been a sharp increase in the number of electric vehicles (EVs) in China. Laws and incentives encouraging EV adoption have strengthened the domestic relationships between Chinese EV companies and the Chinese government, compared to their partnerships with other governments. Internationally, Chinese electric vehicle firms often face limited government support due to trade barriers and geopolitical conflicts that affect their operations. This paper explores the Chinese electric vehicle industry, highlighting its positive role in international trade and its potential threat to foreign manufacturers. It also recommends that the domestic government adopt a data analysis methodology to facilitate expansion and enhance competition among domestic firms through subsidies and tax incentives.

Keywords: Electric vehicles in China, Geopolitical Conflicts, International Business.

1. Introduction

The surge in Chinese electric vehicles (EVs) has been rapid over the past few years. In this case, when comparing the relationships with the government, Chinese EV companies have a solid domestic relationship with the Chinese government due to policies and incentives promoting EV adoption. Internationally, Chinese EV companies do not have much government support, with many countries offering trade barriers and geopolitical tensions affecting their relationships.

2. The Electric Vehicle Market

2.1 Electric Vehicle Market in China

The electric vehicle market in China is booming. The share of electric car sales increased drastically in the last 13 years from 0 to 38% of total cars sold in the country (see Figure 1). In this case, the most growth was achieved in the previous three years. For instance, in 2020, the number of electric vehicles sold reached three million, or 16% of units sold, up from one million cars sold or 5.7% of total sales (see Figure 1). Thus, the number of EVs sold increased by 185% compared to the last year. The following year, after this rapid growth, the electric vehicle market continued to expand, reaching close to six million vehicles sold (or 29% of total car sales), equivalent to an 82% growth rate over the last year. Finally, in 2023, electric car sales picked at more than eight million (38% in China), equivalent to an annual growth rate of 37% (see Figure 1).

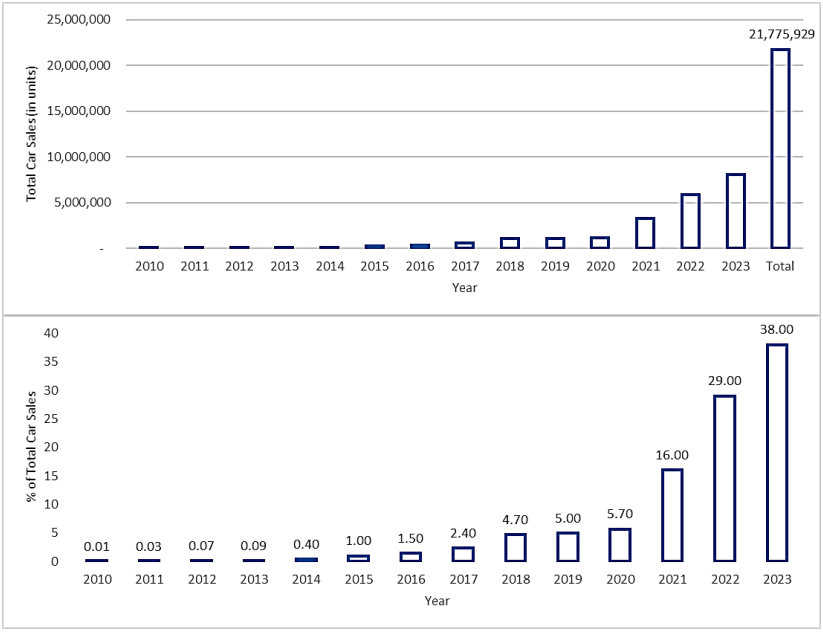


Figure. 1. Total Electric Vehicle Sales in China in Units Sold (top) and % of Total Units Sold(bottom) Source: IEA, 2024.

The significant factor propelling growth in China is its vast consumer market or population, which consists of 1.41 billion potential consumers, from which 464 million are certified auto drivers (Textor 2024; Zhang 2024). Further, the Continental Mobility Study 2020 indicated that the demand for cars would continue to be strong in the years following COVID-19 because the pandemic made many people avoid public transportation and consider buying a car instead, with 86% of them being indifferent about purchasing an electric or gas vehicle (Continental AG 2021). In this case, the potential for growth in the electric vehicle market in China is immense. Currently, only 27.8 out of 464 million vehicle owners are driving electric cars, accounting for less than 6% of licensed drivers. In line with these findings, the International Energy Agency (IEA, 2024) analysts further anticipate a 25% rise in electric vehicle (EV) sales in China in 2024, surpassing 10 million sales. Therefore, the Chinese market for electric vehicles is growing and is likely to continue to do so because of increasing demand.

As the demand for electric vehicles in China continues to surge, the supply also expands, with major player BYD increasing its influence in the market. All electric car manufacturers, except the first two (BYD and Tesla), are engaged in fierce and cutthroat competition. According to information from the Ministry of Industry and Information Technology, over 50 companies in China produce electric vehicles (Tabeta and Matsumoto 2024). However, the market seems to be very fluid and competitive. For example, the year 2021 saw the decline of several such companies in China, like Enovate, Byton, and WM Motor, under the relentless cost pressures of the industry (Van Wyk 2023). Similarly, the EV company Evergrande New Energy Auto, established in 2019 by the financially burdened real estate firm China Evergrande Group, was allegedly disposed of for 360 million yuan ($51.73 million) in December 2022 for the exact cause. In contrast, Xiaomi, a leading company in smartphones and consumer electronics, revealed its plans in March 2021 to begin manufacturing electric vehicles (Van Wyk 2023). However, the company has not entered the market yet, indicating the industry's challenging nature. The data from the China Passenger Car Association (CPCA), as shown in Figure 2 and Table 1, illustrate the cutthroat competition where every company can take a share of another company or lose its own share to another business, except for BYD (Build Your Dream) and Tesla. For example, note how such companies as SAIC Motor lost their market share in the first quarter of 2023 despite being the second company by sales in 2022, while some companies (e.g., NIO) from the bottom increased their sales drastically (see Figure 1 and Table 1). Nevertheless, during this fierce competition, one company, BYD (Build Your Dreams), managed to reach roughly

30% market share in China and overthrow Tesla in 2022 because of its highly efficient supply chain and ability to produce its own electric batteries (Van Wyk, 2023). Having highly efficient supply and production chains, along with expanding sales, provides the company with considerable influence in the Chinese market and substantial economies of scale. Such a power could potentially jeopardize the position of its competitors, including Tesla, in the future, as they may struggle to compete with significantly lower prices. However, it might not happen as many smaller companies, such as GAC Aion and Li Auto, are trying to compete with the market leader by manufacturing their own electric batteries or focusing on the niche market of SUVs, respectively (Van Wyk 2023). Hence, the Chinese electric vehicle can be characterized as very competitive despite having two prominent players in the market, underscoring the immense potential of the Chinese electric vehicle market and inspiring confidence in its future.

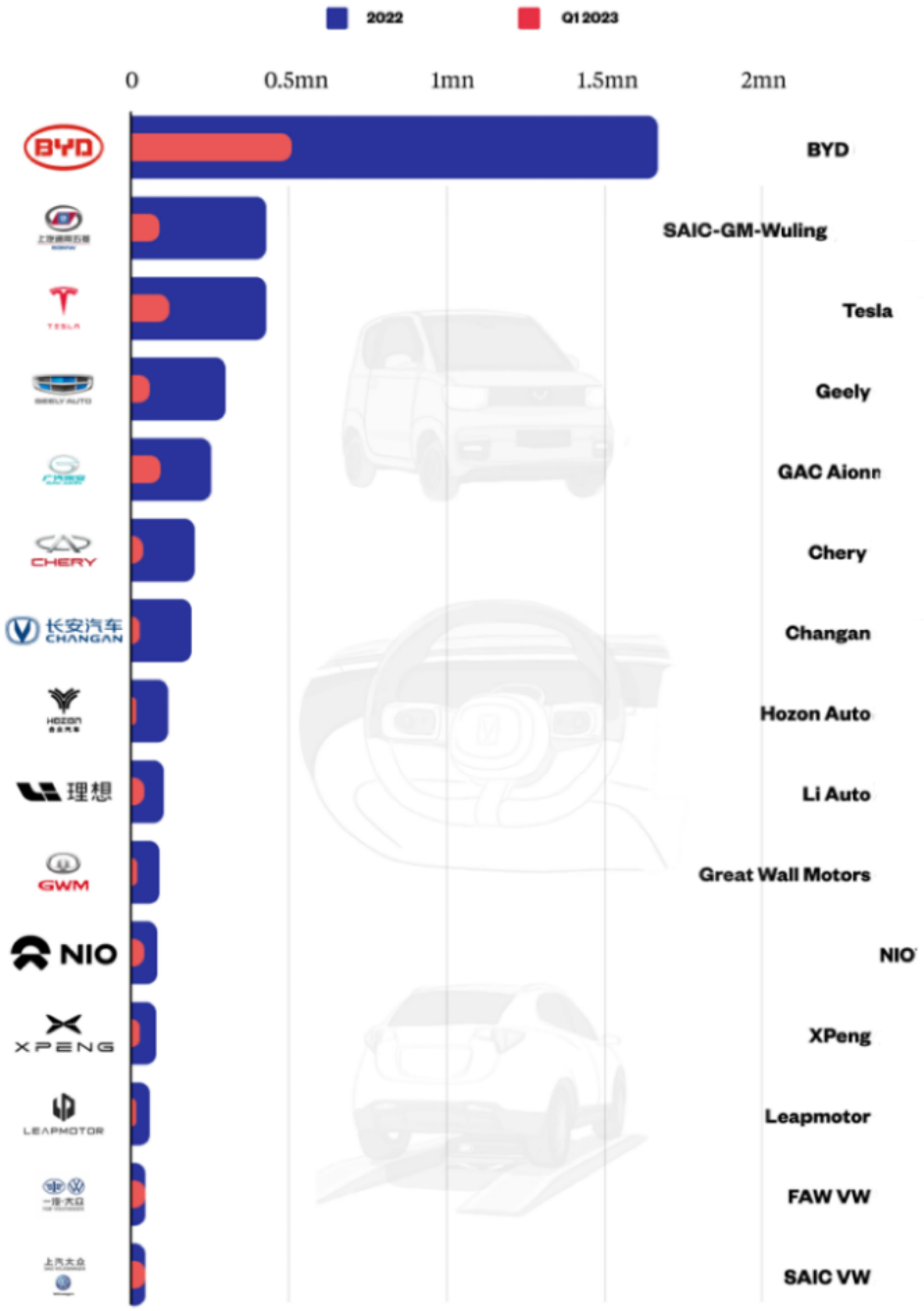
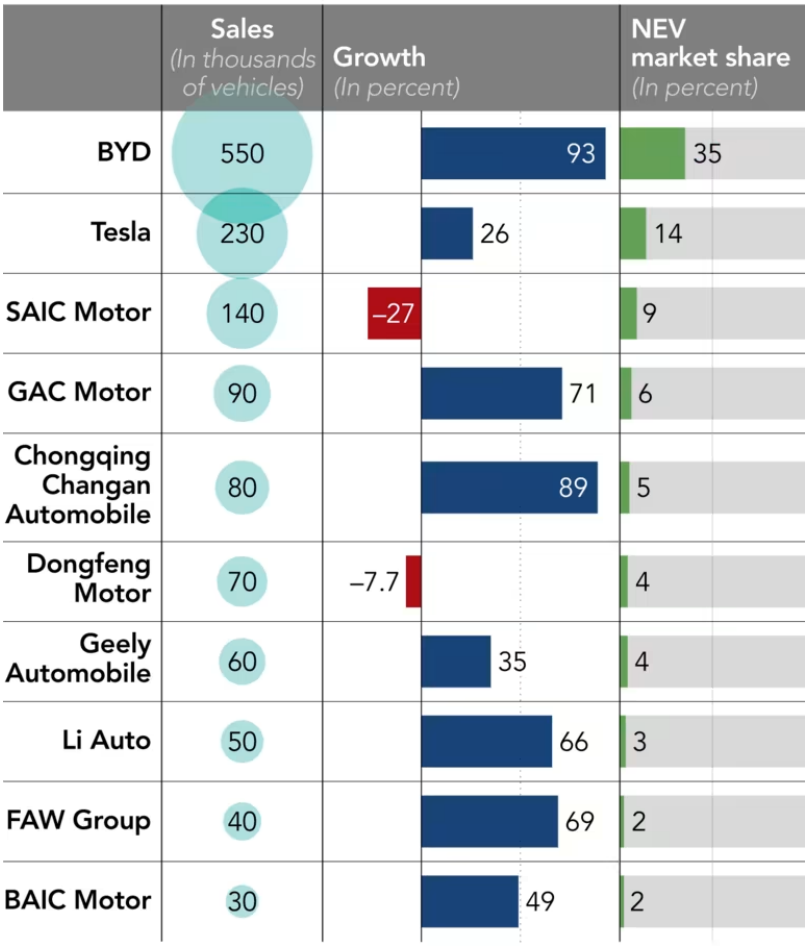


Figure. 2. Top 15 Companies: China Electric Vehicle Sales (2022 and Q1 2023) (units) Source: Van Wyk 2023.

Table .1. Top 10 Automakers by Sales of New Energy Vehicles in China (in Q1 2023) Source: Tan 2023.



2.2 Electric Vehicle Market Globaly

The electric vehicle market globally has also experienced rapid growth and significant developments in recent years, largely driven by the Chinese EV market. According to the International Energy Agency (IEA, 2024), in 2023, electric vehicle (EV) sales accounted for 18% of total global car sales, up from 4.2% in 2020. This substantial increase in demand for sustainable modes of transportation over the last four years is primarily due to global consumers' changing preferences. Consumers worldwide are increasingly choosing ecologically friendly or sustainable cars, with even 31% willing to pay extra for these cars (Armenio et al. 2022; Gehlmann, Haustein and Klöckner 2024). The decision to purchase an electric vehicle is primarily motivated by its positive environmental impact. EVs are known to produce lower greenhouse emissions and pollutants than traditional petrol or diesel cars, making them a more sustainable choice (Naeem 2023; Ritchie 2023). The EV emissions are minimized because no emissions are related to tailpipes and lower brake wear emissions, assuming the same weight for electric and gasoline vehicles (see Table 1).

Table 2 Carbon Emissions by Car Type Source: Ritchie 2023.

Source of Carbon Emissions	Electric Cars	Gasoline Cars
Tailpipe	Zero	Higher
Brake wear	Lower	Higher
Tire wear	Same	Same
Road wear and dust	Same	Same

Although the significant increase in global electric vehicle (EV) sales was mainly due to China, which is responsible for over half (58 percent) of all new electric cars sold worldwide today, Figure

4 clearly illustrates that this pattern is evident on a global scale (Oxford 2024). For instance, Figure 4 demonstrates that, in the United States, new electric car sales totaled more than 6 million in 2023. Some account for part of this growth with the Clean Vehicle Tax Credit, signed by Biden, which provided alongside electric car price cuts, making them eligible for credit in 2023. For example, the Tesla Model Y saw a 50% increase in sales compared to 2022 after it qualified for the full USD 7,500 tax credit (IEA, 2024). Similar results were observed in Germany, which became the third nation, following China and the United States, to document 3.2 million electric cars being sold in a single year, with 18% of car purchases being battery electric (and an additional 6% plug-in hybrid), which was achieved through government subsidizing electric vehicle manufacturers (IEA, 2024). The chart also shows the generally increasing trend in European Union (EU) countries and countries located in Europe, suggesting a greater focus of these countries on cleaner modes of transportation. Overall, the chart shows a globally increasing trend in electric vehicle sales, supported by national governments either in the form of tax breaks or subsidies.

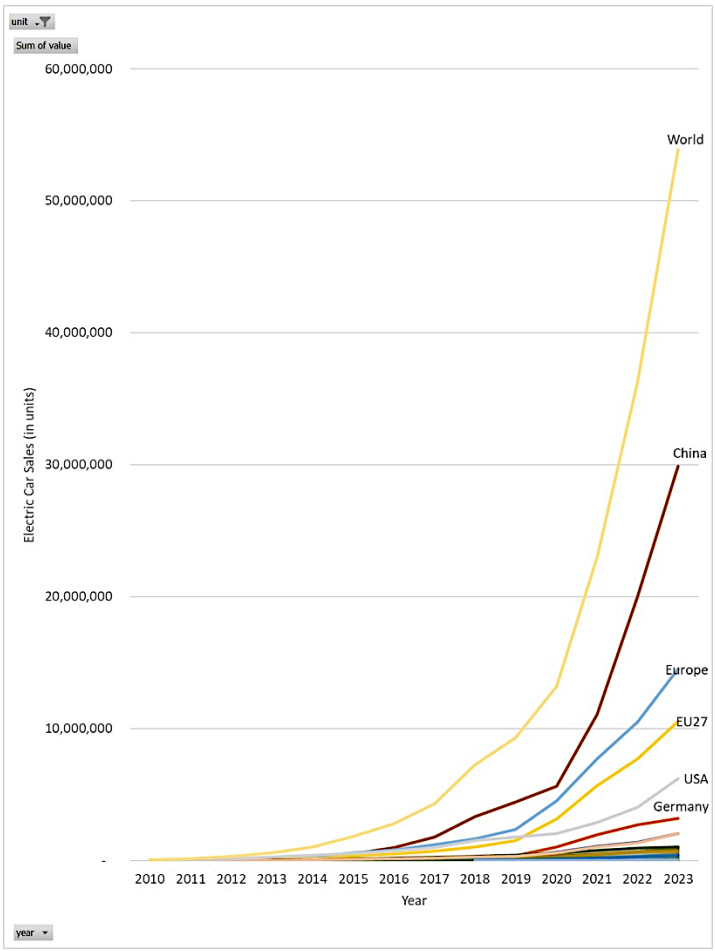


Figure 4. Electric Car Sales by Country and Region Source: IEA, 2024.

Regarding global producers of EVs, Tesla (United States) occupies the first position, selling most of the cars globally. In 2023, the company sold 19.9% of all electric vehicles globally (see Table 3). Its closest competitor is BYD, a Chinese company, which accounts for 17.1% of global sales. Chinese companies are the next two in the top ten electric vehicle companies globally, GAC Aion and SAIC-GM-Wauling. Moreover, the top 10 list has three companies from Germany (Volkswagen, BMW, Mercedes-Benz), two companies from South Korea (Hyundai and Kia), and another company from China (MG). Note that the global market for electric vehicles closely resembles the Chinese market, where two companies, Tesla and BYD, are above all others.

Table 3. Global Market Share by Company Source: Lu and Venditti 2024

EV Company	Country	Market Share (%)
Tesla	United States	19.9
BYD	China	17.1
GAC Aion	China	5.2
SAIC-GM-Wauling	China	4.9
Volkswagen	Germany	4.6
BMW	Germany	3.6
Hyundai	South Korea	2.9
Mercedes-Benz	Germany	2.6
MG	China	2.3
KIA	South Korea	2.0

3. Business-Government Relations in Domestic Market

The government's role in expanding the electric vehicles market in China was crucial, and its policies have had a significant impact. Since the Paris Agreement in 2015, China has set the goal of decreasing its carbon emissions by 65% until 2030 compared to 2005 estimates; however, at present, the country has managed to reduce its carbon emissions by 51% only (Yin and Edwares-Evans 2023). However, many analysts, even before the pandemic, pointed out that the central issue the country could face was expanding the car market, leading to higher oil consumption and, thus, higher carbon emissions (Bo 2015). For instance, Figure 3 shows that the number of passenger cars increased nine times in 10 years between 2000 and 2010.

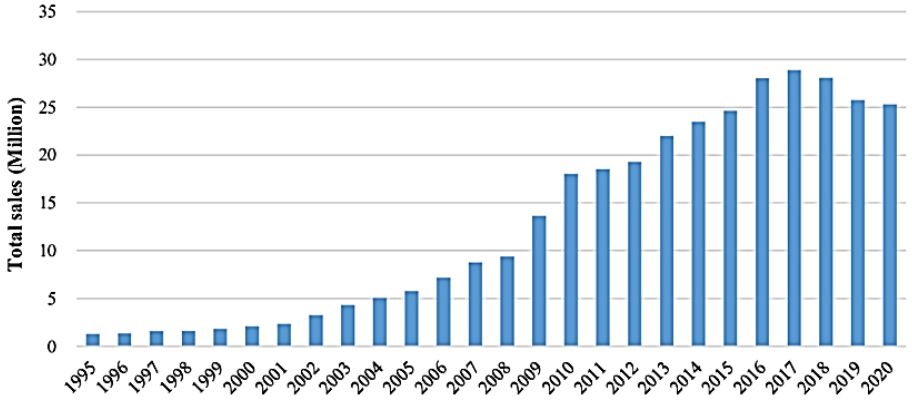


Figure.3. Passenger Car Sales in China Source: Chen et al. 2021.

As a result of this growing trend, the central authorities needed to intervene to curb the rapidly expanding market. Without taking more active measures, China's public goal of achieving sustainability has no chance of being met because of the higher demand for oil that will double by the end of the next decade, growing to 17.5 million barrels per day by 2030 from 8 million b/d in 2015 (Bo 2015). The rise in the number of vehicles and the amount of oil being used would nearly result in a twofold increase in the release of CO2 from the transportation industry, canceling out a lot of the reductions achieved by cutting back on coal usage in power generation and industrial sectors from the levels that would be expected under normal conditions. The government's implementation of a series of policies for electric car manufacturers has been instrumental in addressing this issue. First, in 2014, the government introduced tax exemptions for acquiring such cars (Bailen 2024). Between 2014 and 2022, the Chinese government invested $32.74 billion to promote the consumption of electric vehicles. In 2024, a new subsidy program was introduced to cut vehicle carbon emissions, offering up to $1,380 to drivers exchanging older vehicles for electric, hybrid, or new gasoline cars that satisfy national 2007 emissions standards (Weiwei 2024). In addition, the Ministry of Finance

revealed its most significant concession to the industry this year, offering a $72.35 billion tax break package over four years for battery, plug-in hybrid, and hydrogen fuel cell EVs (Bailen 2024). Further, developing critical EV infrastructure, such as electric charging units, facilitated the development of the EV market. In doing so, the Chinese government aims to encourage zero-emission vehicles to comprise 63% of total car sales by 2030. This move would lead to a 20% decrease in emissions by 2035, helping the government meet its current climate change obligations (Greenpeace East Asia, 2022). As a result of such policies, electric cars in China have become cheaper than gasoline ones

4. Business-Government Relations in Global Market

The significant difference can be seen in business-government relationships in domestic and international markets. Chinese EV companies have to compete with other companies in the domestic market based on their resources. Those that have developed economies of scale because of their electric battery production capabilities and highly efficient supply chains, like BYD, reach market dominance. The Chinese government's role, in this case, was to stimulate those companies by offering tax breaks or encouraging consumers to buy EVs by subsidizing them. Assuming that the electric car sales were about 8.1 million, the average price per EV was $10 thousand per car, and the elasticity of demand is approximately -2, it gives the following demand equation (Naughton 2024; Qin & Wu 2021):

$$Q_{Demand|China} = -1.62P + 24.3 \quad (1)$$

Based on the IEA (2024) and Mordor Intelligence (2024) reports, one should assume that the supply elasticity for electric vehicles should be close to 1.5, reflecting the industry's ability to scale production in response to price changes quickly and signal certain limitations related to substantial investments in manufacturing capabilities. In this case, the supply equation for the Chinese electric vehicle market would be as follows:

$$Q_{Supply|China} = 1.215P - 4.05 \quad (2)$$

Figure 5 visualizes those supply and demand equations. Here, one should consider that demand for Tesla and BYD is less elastic because of their significant market power, strong diversification, brand recognition, and, thus, a more vertical demand curve. At the same time, their competitors would face more horizontal demand lines because they are more likely to compete on price. Similarly, one should expect a more horizontal supply line for BYD because its highly efficient supply chain can help the company respond more readily to changes in demand by adjusting its output. In doing so, both companies can set higher prices than their competitors in the domestic market.

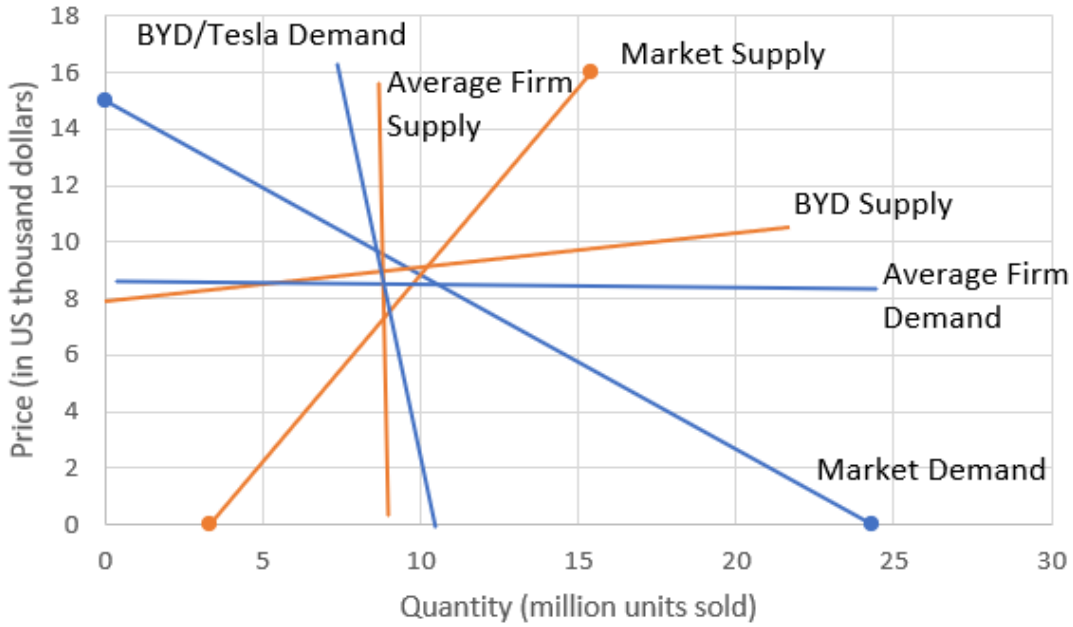


Figure 5. Domestic Electric Vehicle Market. Source: By Author

In contrast, Chinese companies are not welcomed by international markets. Figure 6 explains why. In particular, it indicates that EVs produced in China are much cheaper than those made in Europe or the United States, making their competition with domestically produced vehicles unfair. In fact, Chinese electric cars are $30,000 more affordable than American ones, with their average price ranging from $30,000 in 2023 (Naughton 2024). In response to such aggressive pricing by BYD, the American government increased the tariff on Chinese EVs to 100% (Oxford 2024). As a result of such a tariff, Chinese cars would not be cheaper than American ones. Similarly, the EU countries are also thinking about imposing tariffs on Chinese electric vehicles of 55%, leading to their prices being only somewhat cheaper than national ones (Butts 2024). Thus, in terms of international markets, Chinese companies face high tariffs from the United States and European countries to protect national EV manufacturers.

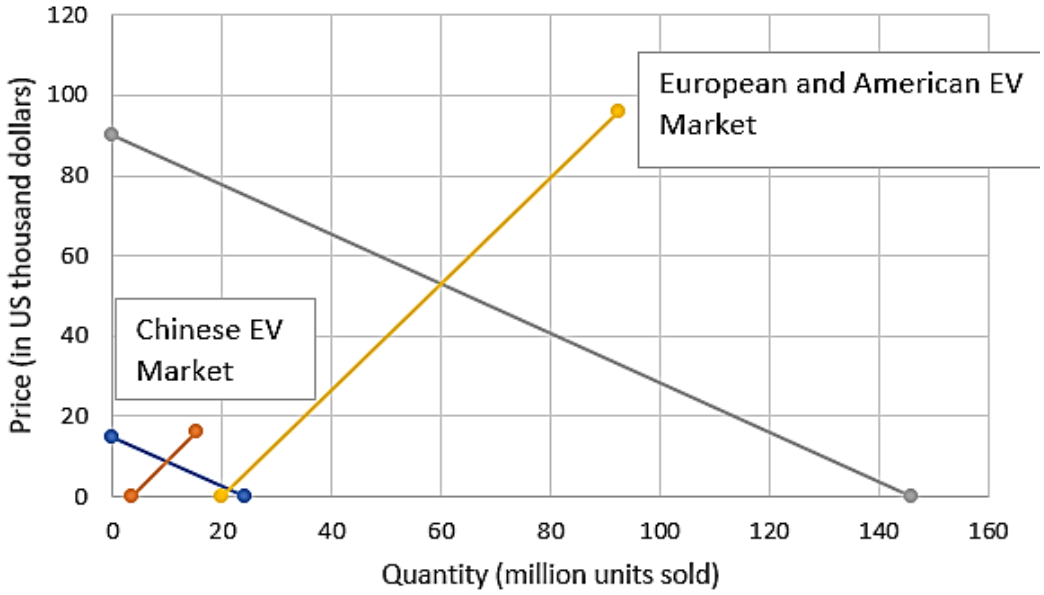


Figure 6 Domestic Vs. International Electric Vehicle Market. Source: By Author

5. Summary

The Chinese EV companies have different relationships with their domestic and international governments. In particular, the domestic government facilitates its expansion and competition with each other through subsidies and tax cuts. At the same time, international governments view them as unfair and threatening to their national manufacturers because of their extremely low prices, resulting in tariffs for imports, leading to higher prices for Chinese EVs.

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