Big Corporates, Chinese EVs, and the Energy Transition in the Global Order[1]

Alicia Girón y Adheli Galindo

Abstract:

The global energy transition and the rapid advance of technologies such as electric vehicles (EVs) represent a fundamental challenge for large corporations established in the automotive sectors based on fossil fuels. This change is not simply price competition, but a confrontation between different industrial logics and business structures, raising questions about institutional adaptation in the face of the emergence of new actors like the Chinese automotive industry in the global order. This article addresses these dynamics through the conceptual framework of Thorstein Veblen, applying his ideas on the 'machine process' _and institutional change, where State policy makes technological change possible in the automotive sector. Generating a shift in the international market facing major automotive corporations from Japan, Europe, and the United States, this has created a dispute within the framework of the just transition. Through a qualitative analysis, the evolution of the Chinese automotive industry is reviewed, guided by maximizing the industrial efficiency of the transition. This work describes the main Chinese automotive companies based on fossil fuels; secondly, the main automotive companies based on renewable energies; thirdly, the impact of the competition from electric cars against Japanese, European, and US corporations and their influence in markets outside their territory like Mexico and Brazil. Finally, a reflection is made on whether this technological change helps the Just Transition globally or harms ecosystems in the Global South.

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> "In its bearing on modern life and modern business, the "machine process" means something more comprehensive and less external than a mere aggregate of mechanical appliances for the mediation of human labor. It means that, but it means something more than that." (Veblen, 1904).

This article addresses the confrontation between different industrial logics and business structures through Thorstein Veblen's conceptual framework of the "machine process". An institutional change, where State policy enables technological change, by seeking alternative sources to fossil fuels, has allowed China to position itself in renewable energy. The technological innovation generated across different industrial sectors by large Chinese corporations has impacted the main automotive corporations in Japan, Europe, and the United States.

The objective of this paper is to demonstrate how, starting from economic and financial reforms, the Chinese State adopted a strategy through an "import substitution" policy and subsidies to boost its companies, both public and private, with the aim of creating an automotive industry to satisfy the demand for vehicles and drive integral economic development. The substitution of fossil fuels with renewable energy, driven by a State industrial policy, through incentives and greater investment in technology, resulting from the lack of oil, began prior to the Paris Agreement and the 2030 Agenda.

Through an analysis of the Chinese automotive industry, this paper reviews the evolution guided by technological innovation and the maximization of industrial efficiency. First, the principal automotive companies based on fossil fuels are transitioning to become companies that use renewable energy; second, the impact of the competition from electric cars on Japanese, European, and American corporations and their expansion into emerging markets. Finally, it reflects on whether this technological change harms the ecosystems of the Global South or contributes to climate change.

1. Introduction

The concept of the "machine process", developed by Thorstein Veblen in *The Theory of Business Enterprise* (1904), is the dynamizing core of the modern industrial system. Veblen argues that this process encompasses much more than just the machinery itself or the action of the State; it includes an integral body of technical experts who direct and perfect the system.

As Veblen points out:

> "The civil engineer, the mechanical engineer, the navigator, the mining expert, the industrial chemist and mineralogist, the electrician, -- the work of all these falls within the lines of the modern machine process, as well as the work of the inventor who devises the appliances of the process and that of the mechanician who puts the inventions into effect and oversees their working." (Veblen 1904).

Facing the lack of oil to launch the industrial project—which was primarily based on coal, the main emitter of CO_2—the transition to substitute fossil fuels with renewable energy was proposed. Beyond the need to reduce greenhouse gas emissions, improve urban air quality, and diversify energy sources to face the challenges of global warming, the "machine process" was based on an autonomous policy to transition to renewable energy. The automotive industry presented itself not only as an economic strategy for China but also as a structural response to the global climate problem, contributing to the fulfillment of international agreements such as the Paris Agreement and the 2030 Agenda. The government's industrial technocracy has been crucial in explaining China's current economic development. The principles of large-scale planning and industrial development, which have governed the numerous Government's Five-Year Plans, have allowed the country not only to integrate the knowledge advancements of international experts but also to capitalize on the "machine process" to achieve a position of global leadership in the renewable energy market.

This chapter, in addition to Veblen's concept of the "machine process", emphasizes the concepts of Schumpeter and Minsky: "*Creative destruction*," "*Big Government*," "*Big Bank*" and "*Green finance*" to describe fossil fuel companies and the transition toward the "green revolution in the automotive sector" and the "Big Three (Four)" of Chinese automobile sector. In this panorama, and no less important, are shareholders and rare earths. Finally, the key factors toward leadership in the automotive industry and preliminary conclusions are discussed.

2. "Creative destruction", "Big Government" and "Green Finance"

From the perspective of heterodox economics, Joseph Schumpeter's hypothesis on "creative destruction" teaches us how a new product displaces an old one, but also how the "machine process" is driven through the State due to the need to strengthen long-term economic development. For this reason, in the book *Stabilizing an Unstable Economy*, Minsky argued that "the Great Depression represented a failure of capitalism that was resolved only by the creation of the Big Government and Big Bank, a phrase he frequently used to denote the size of government, the level of public expenditure, and the central bank, and by the various New Deal reforms." (Minsky 1993, 221).

Under the perspective of Hyman Minsky, economic development is based on a dialectical relationship between the unconditional support of the State (the "Big Government") and the policy of the central bank (the "Big Bank") to favor large consortia, allowing for the internal strengthening of the firm, the expansion of the domestic market, and the promotion of full employment. This dynamic is evident in China's expansion, where the "Big Bank" has strategically driven investments through its main banks in the Global South, demonstrating how domestic financing can transform the global productive structure. An example of the commitment established toward renewable energy has been an economic and financial policy, "Green Finance", which, through banking, has succeeded in executing projects, generating new jobs, and fulfilling sustainable development goals.

3. China and the "Big Three (Four)". From conventional fossil fuels automobiles to "green automobile revolution"

Today, China produces 70% of the world's electric cars (International Energy Agency 2025). The ability to impact global competition is the result of the government's centralized planning of economic policy, financing for its corporations, and the regulated entry of foreign automotive companies. This is a process of more than seventy years, which began with the founding of the People's Republic under the leadership of Mao Zedong and was seconded by the Soviet Union. The Chinese automotive

industry was included in the industrialization strategy, mainly in the elaboration and implementation of the: "...First Five Year Plan coupled extensive Soviet assistance with sizable budgetary investments in the heavy industry" (Chang 1971, 15). In 1950, resulting from the Industrial Cooperation Support Agreement signed between the two nations and the establishment of the Automotive Industry Preparatory Committee by the Ministry of Heavy Industry, the construction of the first automotive plant, named China First Automobile Works (FAW Group Corporation currently) in Changchun, was authorized. This was "It was the first automobile production base in China with an annual production capacity of 30,000 Jiefang trucks weighing 4 tons each" (National Museum of China n.d.). Construction work began in 1953 and finished in 1956, with the first four-ton commercial truck rolling off the production line that same year (FAW Group 2018).

The State provided its companies with financing through its banks and public investment, but it also imposed production and design rules on foreign manufacturers, all while possessing competitive advantages such as labor and technology. Thus, China has managed to list at least 218 corporations in the Fortune Ranking (Gasgoo 2018), including its so-called "Fantastic Four" (Redacción 2023).

An important element to highlight is how the following companies—SAIC Motor, Dongfeng, and Changan Automobile—incorporated foreign investment and achieved mergers with global leading companies in the automotive sector.

In the case of SAIC Motor Corporation, the automotive corporation of Shanghai Province, it started from the segment of auto parts and/or maintenance, leading to the creation of the *Shanghai Internal Combustion Engine Spare Parts Manufacture Corporation* in 1955. "The 'zero' progress in Shanghai's automobile manufacturing industry soon appeared in 1958. On September 28 of that year, the Shanghai automobile assembly plant attempted to build the first Phoenix brand car. In 1964, the Phoenix brand car was renamed the Shanghai brand car, and by 1975, an annual production capacity of 5,000 vehicles had been established, with the Shanghai brand car forming a series" (Sina Motors 2007). It is important to highlight its Joint Ventures: 1) SAIC-Volkswagen and 2) SAIC Maxus Automotive Corporation.

The founding of Dongfeng developed during the peak years of the so-called "Great Proletarian Cultural Revolution of China: 1966-1976" (Anguiano 2017) in 1969, with the construction of its predecessor: Second Automobile Works Co., Ltd., in the province of Shiyan, Hubei (Dongfeng Motor Company n.d.), as "...a holdover from Mao Zedong's 1964 diktat to invest in defense, technology, mining, manufacturing and power production to spearhead China's industrialization" (Tang 2018), as well as a strategy of "...security for the first automotive plant following the breakdown of Sino-Soviet relations" (Soto 2015, 77). Once the production plant was installed in 1975, the development and production of its first model began, which was "primarily focused on heavy vehicles for military use" (Soto 2015, 77); that same year, it received the State Council's approval for the official name of 'Dongfeng' (Dongfeng Motor Company n.d.). The Joint Ventures that Dongfeng has established include: 1) Dongfeng Nissan; 2) Dongfeng Honda; and 3) Dongfeng Peugeot-Citroën.

Changan Automobile "...is one of the four major Chinese automobile groups, ... [they] have 14 manufacturing bases and 39 plants worldwide" (Changan, n.d.). "Changan was founded in 1862 in Jiangbei, a district under the administration of the Chongqing municipality... [i]ts first model, called the Changjiang Type 46, is recognized as the first production vehicle in China with Jeep-like characteristics" (Redacción 2023). Changan's main Joint Ventures are: 1) Changan Ford; 2) Changan Mazda; and 3) JMC. Its prominent brands include Changan Uni, Changan Nevo, and Changan LCV, as well as Deepal and Avatr.

4. The Chinese Automotive Industry and the International Scenario

Technological innovation in the automotive industrial sector was transformed by switching from non-renewable to renewable energy, positioning China as a leader in financial markets. Starting from China's entry into the World Trade Organization (WTO) and continuing through the Great International Financial Crisis (GIFC) and the "Made in China" Project, the main Chinese automotive companies incorporated financing from financial markets, thus inserting themselves into the process of financialization of the economy. Following the subsequent crises of 1970 and 2008, non-financial companies sought strategies to contain the fall in profits, intensifying "...it is what Stockhammer would call the 'domination of financial capital that alters the relations of production'" (Toporowski 2016, 161). Furthermore, to highlight this scenario in the international automotive industry even more, the economic crises intensified the fragmentation of the productive system, leading the large automotive corporations—mainly North American—to implement productive and financial rescue strategies through government and private loans, as well as mergers and acquisitions.

This strategy became the means by which large automotive corporations could minimize the effects of the crisis in the productive sector, while simultaneously allowing the rise and/or insertion of new corporations, primarily from emerging economies, into the international automotive productive chain. China, which had been boosting its industrial sector since the late 20th century through the implementation of industrial development policies in its Five-year plans, became one of the main actors in automotive reorganization, leading its State and private automotive companies to establish strategies of mergers, acquisitions, and Joint Ventures (CEPAL 2017).

In 1999, China ranked ninth globally in automotive production with 1.82 million units, barely 14.05% of the United States' production (13.02 million units), which held first place until 2006 when Japan surpassed its production with slightly more than 200,000 units (11.4 versus 11.2 million), maintaining this position for the next two years. During these years, Germany and France occupied the top three positions, with individual production values oscillating between 3 and 5.5 million units. In 2001, within the framework of China's accession to the WTO, one of the goals of the "...Tenth Five-Year plan (2001-2005) aimed to consolidate the automotive industry through the internationalization of two or three consortiums..." (Sánchez 2012, 5) was launched. The presence of South Korea, along with China and Japan, became evident in the world market starting in 2005. This triad had a growth of 94.84%, increasing from manufacturing 22.2 million units in 2006 to over 43.4 million in 2023[2].

The Great International Financial Crisis (GIFC) of 2008-2009 was the peak moment for motor and fuel vehicles manufactured in China, thanks to the delocalization of production in the West since the 70s and the attempt to stop the transmission of the effects of the crisis impact on the circuits of financial internationalization and the production sector.

In 2009, vehicle production escalated to 13.7 million units, increasing by 48% compared to the previous year and positioning China in first place globally in 2023. In this stage, the average growth rate was 5.36%; a lower rate than that observed in the first stage prior to the GIFC. Despite the gross increase in units, the identified trend from 2011 to 2019 shows a decline, even more so facing the scenario of the 2019 pandemic. In the three years following the pandemic, production shows a recovery with 30 million units produced 11.6% compared to the previous year); this aligns with the level of sales observed, where China has also led the market with 30.09 million units in 2023, surpassing Europe (17.8 million) and the Americas (23.2 million). (OICA n.d.).

[2] CEIC Database via Bidi UNAM (n.d.).

4.1. Technological Revolution and the Reconfiguration of the Automotive Market

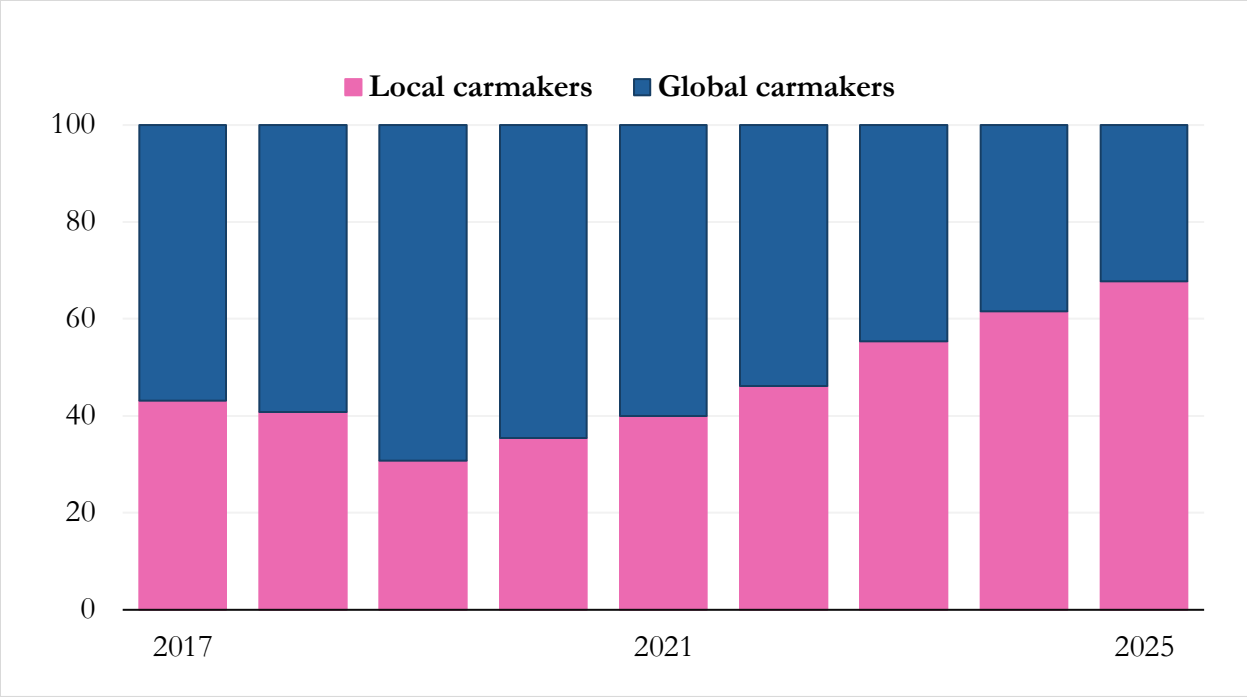
The strong technological innovation embedded in the "Made in China" plan has transformed the highly competitive manufacturing and automotive sectors internationally, adding the eco-friendly factor with new energy vehicles (NEVs). Thus, we are now speaking of a productive restructuring of the automotive sector in China for the global market. "Green" vehicles are not only "environmentally friendly" but represent a new effort/dispute to reconquer the international automotive market, and with it, control of the production chain, which involves the negotiation of commodity minerals, financing bonds, etc.

Segmented production statistics for this type of production show results starting in 2016. In that year, the production of these vehicles stood at just over 511 thousand units, of which 412,793 were fully electric, with passenger vehicles accounting for just over 70% with 263,031 units[3]. This has brought new players to the forefront, where the Big Three have paved the way for prominence in the international automotive industry.

The following graph illustrates the evolution of the structure of the Chinese automotive market. In 2017, the participation of domestic manufacturers was barely 40% compared to foreign manufacturers; this same share was diminished in 2019 amid the scenario of the US-China Trade War 1.0 and the eve of the Covid-19 crisis, falling to 35%. The market reconfiguration began in 2020, with domestic manufacturers recovering two percentage points of market share, gradually gaining ground to occupy over 60% of their own market. However, this reconfiguration of the market and consumption practices has also been a double-edged sword, both inside and outside China.

Figure 1. Market share of passenger vehicles in China (%) *

[3] CEIC Database via Bidi UNAM (n.d.).



Source: CAMM, Automobility. Retrieved from White and Li 2025.
*Note: "Data as of February 2025".

These adjustments, as the graph shows, primarily occurred in the domestic market, which inevitably led to their transmission to the global market, forming the basis through which electric cars became the best bargaining chip in the transition to green energy.

Kladensky (2025), as well as Chang and Bradsher (2024), have pointed out the crucial role that the governmental factor has played in the growth of the automotive industry. Initially, the strategy of 'joint ventures'—Chinese companies and foreign companies—was used, allowing the entry of foreign companies into Chinese territory.

Kladensky (2025) notes:

> "For decades, foreign companies needed to enter joint ventures with Chinese partners, facilitating substantial technology transfer. Chinese companies greatly benefitted from public procurement, tax incentives, and Beijing's support for charging infrastructure and control over key supply chains. Companies also receive generous subsidies, which allow them to sell at lower prices."

In this way, conventional fossil-fuel automobiles allowed China to gain a foothold in the international automotive industry. However, as technological innovation advanced, the subsidy policy was gradually eliminated, forcing a resurgence of competition. Another factor responds to the demands of the market itself and the interaction of the international economy. Regarding this, Chang and Bradsher (2024) point out that: "[a]s China's domestic market grew, so did its production capacity, propelled by massive government investment and world-beating advances in automation. … [the] sales have fallen behind as consumer spending slows in China's economic downturn.".

An additional factor that was added to the equation of the transition to new energy vehicles was the energy sector, which has been on the agenda for more than a decade. According to experts like Chang

and Bradsher (2024), this is because they note that "China has invested heavily for more than 15 years in developing electric cars, to limit its dependence on imported oil" as one reason, although others, like Ilaria Mazzoco (n.d. Quoted in White 2023), suggests that "...while the growth in many of the clean tech industries predates China's leader Xi Jinping, who came to power in 2012, the focus on industrial policy, strategic industries and climate change has been 'strengthened' under his administration.".

An example of this is the 370% growth in automotive sector exports between 2020 and 2023. In 2020, out of one million cars exported, 85% belonged to fuel-powered vehicles; in 2022, 2.3 million units were exported, equivalent to 79% of units; in 2023, the composition was reduced by two more percentage points, giving way to electric vehicles, which represented 31% of exports (See Graph 2). An important element in the international competition of the automotive market is that "[a]nd as Chinese drivers have shifted rapidly to electric vehicles, demand for gasoline-powered cars in China has plunged and many are being exported instead" (Chang and Bradsher 2024). Cheng mentions how "[e]xporting gas-powered cars to markets such as Russia and Mexico, where demand remains resilient for such vehicles, has helped automakers that have been slow to ride the electric wave in China and are grappling with excess output at their factories there" (Cheng 2024).

Using the role of Minsky's Big Bank and Big Government categories as a hypothesis, this chapter shows how government support has been a crucial factor in the development of the Chinese automotive industry, especially in the electric vehicle (EV) sector. Manufacturers have received low-interest loans from State banks, which has allowed them to build numerous factories and rapidly expand their production capacities. Furthermore, they have benefited from tax reductions, as well as lower ownership and electricity costs. It is estimated that Beijing's assistance to the electric car and battery sector has exceeded $230 billion USD since 2009, a figure that underscores the government's strategic commitment to this industry. This significant State aid, while effective in driving growth, has been a point of contention, leading to "the European Union has imposed anti-subsidy tariffs…" (Chang and Bradsher 2024), which illustrates the global trade tensions derived from these policies.

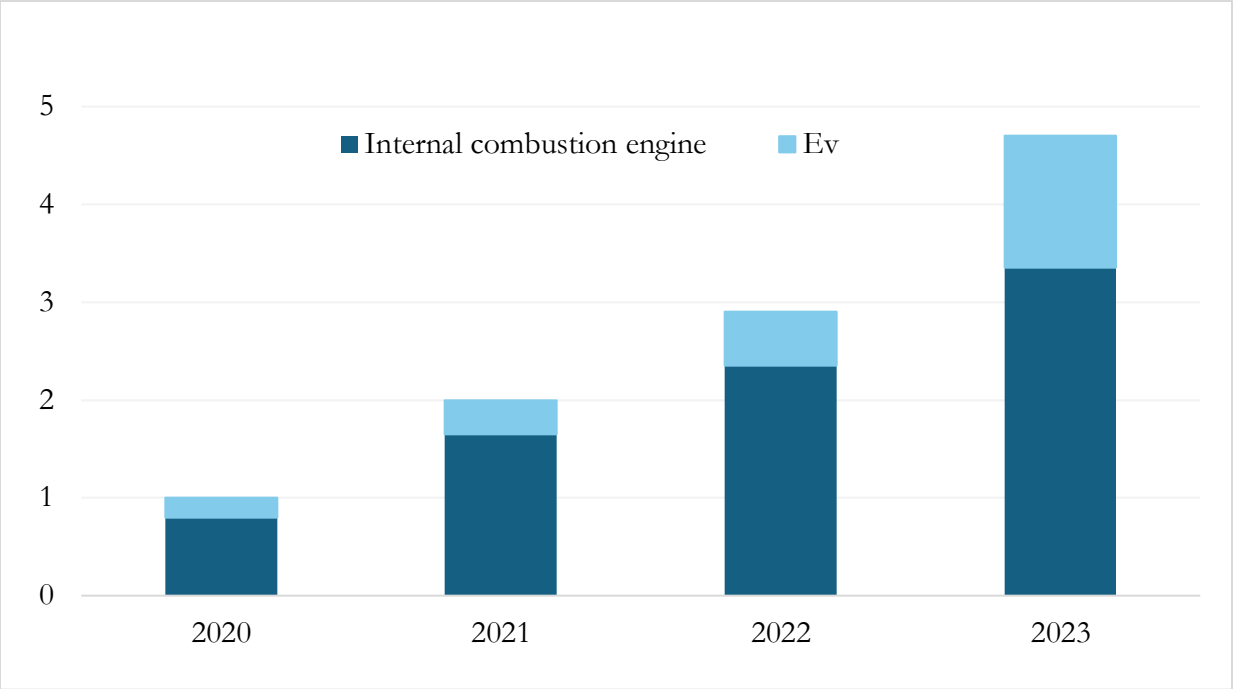
China's strategy in the automotive sector has been characterized by marked protectionism, implementing high tariffs and other tax barriers to disincentivize vehicle imports. This policy has resulted in the vast majority of cars sold in the Chinese market being nationally manufactured. This, in turn, has strengthened the local industry and its productive capabilities, a phenomenon well-documented by Chang and Bradsher (2024). The implications of this policy go beyond mere import substitution; they have driven a robust industrial ecosystem, capable of innovating and competing globally.

Within this domestic market, the competitive dynamic is exceptionally intense, as White and Li (2025) point out. The rapid technological evolution, particularly in the electric vehicle segment, is generating significant pressure. This competition is not limited solely to innovation in batteries, which is a crucial battleground, but extends to areas such as autonomous driving, advanced connectivity, and the integration of high-tech features at all vehicle levels. The financial repercussions of this fierce competition are felt by both large and small manufacturers within China, manifesting in plant closures, decreased profits, consolidations, and other economic challenges. This competitive pressure, while intense, also acts as a catalyst for innovation and efficiency.

Chang and Bradsher (2024) also highlight that some Chinese manufacturers, such as BYD, are capable of producing cars with quality comparable to that of international manufacturers. However, their competitive advantage lies in a significantly lower cost of production. This cost reduction is largely due to the strategic control that China exerts over the supply chain for essential electric car

components, including critical raw materials and key technologies. This position gives them a considerable advantage in the global market, allowing them to offer vehicles at highly competitive prices, which represents a significant challenge for traditional automakers elsewhere in the world. Vertical integration and control of the supply chain are, therefore, fundamental elements in China's strategy for global automotive market dominance.

Figure 2. China car exports 2023, units (mn)

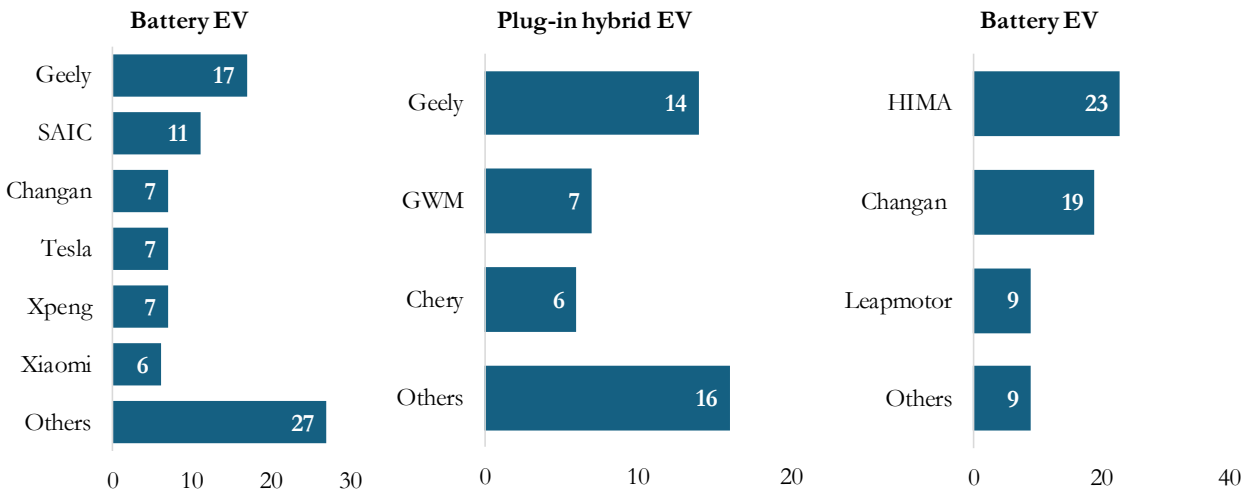


Source: Automobility. Retrieved from White and Campbell 2024.
Note: "2023= end Nov".

In the following Graph 3, the market share of the principal automotive companies for vehicles, categorized by type: electric vehicles (EVs), plug-in electric vehicles, and extended-range electric vehicles, is observed. In the first category (EVs), data presented by White and Li (2025) show that the companies BYD, Geely, and SAIC concentrate 46% of the Chinese market, compared to other brands like Tesla, which covers about 7%. In the second category, BYD appears again, this time individually capturing 56%, followed by its counterpart Geely with 14% of the market. In the extended-range electric vehicles segment, where the brands Li Auto and HIMA concentrate over 50% of the market (40% and 23% respectively), the "Fantastic Four" Changan is in third position, with 19% of the share.

On the other hand, "[a]s the world decarbonises, demand will rise further. By 2030 China could double its share of the global market, to a third, ending the dominance of the West's national champions, especially in Europe." (The Economist 2024a). "Last, consider the benefits to the environment. Politicians around the world are realising just what a tall order it is to ask consumers to go green, as a backlash against costly emissions-reductions policies builds. EVs, too, are currently more expensive than gas-guzzling cars (even if their running costs are lower). Embracing Chinese cars with lower prices could therefore ease the transition to net-zero emissions. The cheapest EV sold in China by BYD costs around $12,000, compared with $39,000 for the cheapest Tesla in America." (The Economist 2024a).

Figure 3. Market share in China (%), by product type and brand, Jan-Feb 2025



Source: Automobility. Retrieved from White and Li 2025.

As noted, the first trial of the automotive scenario takes place within the domestic market. While overproduction has been a crucial factor for competition, the emergence of companies that, as Beattie (2024) points out, are: "...the Chinese companies emerging from the cut-throat (and oversupplied) domestic market are ferociously globally competitive in their own right, … Chinese brands are in the lead in developing software to enhance their vehicles' performance." (Beattie 2024). As proof of this, Table 1 presents the 15 companies with the largest presence within China. At first glance, it is observed that 14 of them are of national origin, or primarily Chinese-owned capital, facing Tesla, the only foreign competitor in the count. However, the number of sales does not necessarily mean revenue and position in market capitalization. BYD and Tesla are examples of this.

In 2022, BYD sold 1.5 million units and achieved a market capitalization of 708.88 billion yuan. Meanwhile, Tesla sold 439.7 thousand units but with a capitalization of 3.66 trillion yuan. A notable difference of more than 2.5 trillion yuan, which still prevails for the rest of the companies, seven of which collectively achieve a market capitalization of 760.18 billion yuan with 342 thousand cars sold, according to reported data.

Highlighting the importance that these companies have within the market, behind BYD and Tesla are SAIC-GM-Wuling, Geely, GAC Aion, Chery, and Changan, who collectively managed to sell 1.5 million units. Nevertheless, despite its success abroad, the Chinese brand BYD had shown a decline in the number of cars sold domestically as of the latest 2025 report. Inagaki and Campbell (2025) mention that "BYD's sales in China fell 5.5 per cent year-on-year last month amid government pressure to rein in cut-throat price competition that was eroding industry profits." The importance of BYD lies in its positioning through the vertical integration it possesses internationally: "[t]he firm controls everything from mining rights of minerals it needs to build its own batteries to cargo ships for transporting its cars to foreign markets. In November it sparked fears of even fiercer competition when it pressed suppliers to cut prices by 10%." (The Economist 2025).

Table 1. Main 15 EVs companies in China, by sales

Company	*Sales (units)*		*Market capitalization (Yuan, 2023)**	*Highest selling model*	*Sub-brands*
	2022	*2023Q1*			
BYD	1.5 M	500K	708.88 B	Song Plus SUV	Dynasty, Ocean, Denza, Yangwang
SAIC-GM-Wuling (joint venture)	450K	80K	N/A	Hongguang	Baojun
Tesla	439.7 K	130K	3.66 T	Y compact SUV	None
Geely	330K	60K	87.83 B	Geometry A sedan	Geometry; Zeekr; Lynk&Co; Polestar; Livan; Galaxy; Smart
GAC Aion	270K	80K	91.83B	Y hatchback	None
Chery	220K	20K	N/A	QQ Ice Cream mini EV	eQ, iCar, Jetour, Exeed
Changan	230K	65K	105.29 B	Lumin Corn mini EV	Oshan, Kaicene, Deep Blue, Avatr
Hozon Auto	60K	30K	N/A	Neta V SUV	Neta
Li Auto	125K	55K	197 B	Li One Suv	None
Great Wall Motors	125K	20K	191.42 B	Ora Good Cat compact car	Ora; Haval; Wey
NIO	120K	28K	93.39B	ES6 SUV	Firely; Alps
Xpeng	123K	18K	59.01 B	P7 sedan	None
Leapmotor	118K	15K	38.02B	T03 hatchback	None
FAW VW (joint venture)	99K	17K	N/A	FAV VW ID.4 Crozz	Skoda, Audi, Porsche, Cupra, Passat, Tiguan
SAIC VW (joint venture)	86K			SAIC VW ID.4 X	

Source: elaboration with data from van Wyk, Barry 2023.
* Market Capitalization as of 15 May 2023

4.2. Emerging Markets and the Increase of Chinese Electric Vehicles

Another achievement of the "Big Government" and the "Big Bank" is the financing of technological innovation in the automotive industry. This has allowed China to compete against the technological lag facing the electric automotive market in the United States, Australia, and the United Kingdom, which have chosen to rely on the importation of Chinese vehicles and the Foreign Direct Investment (FDI) carried out by these companies (Beattie 2024).

For example, "EV prices relative to traditional vehicles in the US market are higher than in China and the EU, and Washington has reduced competitive pressure by walling off its market to Chinese

exporters with 100 per cent tariffs." (Beattie 2024). According to Boudette (2024), this environment has been observed since the Joe Biden administration, "in an attempt to reclaim the automotive industry on American territory, quadrupling the duties up to 100%, despite the fact that the imported models of both fuel and electric vehicles were only a few originating from companies like the joint venture between Zhejiang Geely, "…a South Carolina plant operated by Volvo Cars, which Geely owns." (Boudette 2024).

In international markets, the lower prices of Chinese electric cars and even combustion engine cars (gasoline or diesel) are competing with low prices against American, Japanese, German, and French brands. Latin America has been flooded by Chinese manufacturers of electric and hybrid vehicles because China "...after ramping up production at home—a strategy that threatens some of the world's largest automakers at a time of deepening global trade tension..." (Pearson 2024). Furthermore, BYD models in the large suburbs of Europe, their showrooms share corners with major luxury brands. The main appeal of this brand is its affordability (The Economist 2024b).

Beyond the Chinese government's strategy for technological innovation and renewable energy as a policy for sustainable economic development, it has indirectly created, in this juncture, a market in dispute with the large automotive corporations of the U.S. government. What is being shown, beyond tariff barriers toward Chinese electric cars, is the incipient investment in strategic sectors within a self-regulated market.

5. Batteries, Rare Earths, and Shareholders in the Dispute for Control of Electric Vehicles

As already demonstrated at the beginning of this chapter, the Chinese government's strategy—in response to the lack of inputs for the combustion automotive industry based on oil derivatives—began with economic and financial reforms, a plan to reduce reliance on oil in the long term.

Hence, "China's dominance of rare earths was years in the making. By the 1990s, China had developed top-quality rare-earth mines and a growing manufacturing sector hungry for rare-earth magnets. With State backing and easy access to raw materials, Chinese magnet makers undercut foreign competition. By 2010, the U.S. rare-earth magnet industry had all but disappeared. That gave Beijing a powerful weapon. One reason it has held off from restricting rare-earth exports in recent years is because that could catalyze efforts by companies around the world to develop rare-earth supply chains independent of China" (Emont and Bade 2025). Consequently, "China's chokehold on supplies of minerals essential to high-tech goods from electric vehicles to jet fighters has become a formidable advantage in trade negotiations with the U.S." (Emont and Bade 2025).

According to Hodgson, "China has a little under half of the world's rare earths reserves, with Brazil, India and Australia also hotspots, according to the US Geological Survey. The biggest rare earths mine is Bayan Obo in the Chinese region of Inner Mongolia, which produces the metals alongside iron ore." (Hodgson 2025). "China has been investing in refining and processing of rare earths for 30 years and controls 90 per cent of global processing capacity, according to the International Energy Agency." (Hodgson 2025). In Latin America, the lithium triangle between Chile, Bolivia, and Argentina is another source of resources for batteries and for the inputs of renewable energy.

Dozens of minerals classified as critical for economic and national security are used by China as a geopolitical lever (White 2023). White notes that "China is responsible for the production of about 90 per cent of the world's rare earth elements, at least 80 per cent of all the stages of making solar panels and 60 per cent of wind turbines and electric-car batteries. In some of the materials used in batteries and more niche products, China's market share is close to 100 per cent." (White 2023).

Institutional investors (shareholders) have supported the financing strategies for the technological development of the automotive industry, with batteries being the center of the competition and dispute over electric cars.

White and Campbell (2024) have highlighted that the role of government financing for its large corporations has brought the rules of a self-regulated market and industrial policies in the European Union and the United States to the debate table. "... European Commission President Ursula von der Leyen complained that China was flooding the global market with cheap EVs and that Beijing was making prices 'artificially low' via huge State subsidies." (White and Campbell 2024). However, other opinions also highlight "...even if China's automakers were confined to their home turf behind a wall of tariff protections, they would still be able to compete with US and European manufacturers on price." (White and Campbell 2024).

The tariff war promoted by the United States has also challenged the rare earths sector. According to arguments by Dempsey, et al. (2025), restrictions on the exports of these minerals for the automotive supply (electric and hybrid vehicles) to European Union countries, or directly to manufacturers of these vehicles like Tesla, would result in delivery delays (Dempsey et al. 2025).

The renewable energy strategy emerges as a State policy in the face of the obvious need for a lack of oil and the need to reduce dependence on coal. The competition to achieve a shift toward renewable energy prior to the conflict presented in recent years with climate change made it possible for China to be the current leader in renewable resources. This is to such an extent that it could be argued that China is helping Global South countries reduce polluting gas emissions, given that investments surpassing more than a trillion dollars have been made as a result of the control exercised by large Chinese corporations. This signifies control over specific minerals essential for climate change mitigation and the digital economy.

5. Conclusions

The global energy transition and the rapid advancement of technologies such as electric vehicles (EVs) represent a fundamental challenge for large corporations established in automotive sectors based on fossil fuels. This shift is not simply a price competition but a confrontation between different industrial logics and business structures, raising questions about institutional adaptation.

While progress is made in charging infrastructure and battery efficiency, the impact of Chinese electric cars could become a global benchmark in the fight for a cleaner mobility future less dependent on fossil fuels. However, the impact on the communities of the Global South that supply the inputs for electric cars, such as lithium, cobalt, aluminum, copper, and rare earths, must not be overlooked.

Minsky points out in his book that the strengthening of a Big Government and a Big Bank promotes the "machine process" in a strategic industry of economic policy, generating new jobs and supporting sustainable development. Today, China produces 70% of the electric cars, impacting global competition. An example is the closure of factories of the emblematic brand like VW in Germany or, in the case of Japan, the possible megamerger between Honda and Nissan aimed at strengthening the electric car in the international market.

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