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***The Electric Transition in the Automotive
Sector: Managerial Challenges and Market
Responses in Europe and Italy***

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INTRODUCTION

The concept of sustainable mobility has evolved from a generic social responsibility to a driver of a structural industrial reconfiguration. Within the global landscape, automotive sector is one of the main fields for developing alternative and sustainable mobility. Investigating the managerial impact of this transition allows to understand how the historical business models are challenged, together with the arrival of new competitors and new products. Understanding how these dynamics are affecting one of the most productive sectors of the European Union is becoming necessary to study the long-term sustainability of the whole European automotive value chain.

The study aims at presenting the automotive sector transition towards the sustainable mobility, with a specific focus on the electric vehicles, together with the consequent managerial challenges for Original Equipment Manufacturers, Franchised Dealerships and Retail Sellers.

The first chapter exhibits the legal framework that drove the European Union towards the sustainable mobility, followed by the combination with the main recent macroeconomic shocks. These factors are crucial to understand the scenario where managers are operating and how firms have been called to modify their strategies.

The second chapter analyses deeper the Battery Electric Vehicles value proposition, together with the European customers response. Specifically, it focuses on new business models that are arising with the new products available in the market.

The last chapter shows empirically two specific market scenarios. By considering the new business models, the first step concerns analyzing more in detail the divergence between the German and the Italian markets. The second part analyzes deeper the Italian landscape, with a specific focus on the impact in the recent months of the Chinese brands, to understand how the traditional second-hand market business models have been challenged by the arrival of these new competitive products.

CHAPTER 1

THE REGULATORY AND MACROECONOMIC LANDSCAPE

1.1 Political and Legal Framework

The Electric Transition represents nowadays one of the most challenging situations for politics and economics in the European Union (EU). Since 2019, a series of EU normative brought the automotive sector into an epochal transformation, that affected (and will) every European subject involved in this sector.

The European Union (EU) Regulation 443/2009 set for the first time a limit of CO₂ emissions for transportation vehicles. The parameter of the carbon dioxide measures the grams of CO₂ emitted every kilometre driven by a single vehicle. In 2009 the target was set to 130 g/km and with the Regulation 443/2009 the Union set as target a progressive reduction until 95 g/km.

Until 2019 the European automotive sector was globally perceived as the most symbolic and representative in the whole economic production, but not only. When considering the global scenario of the sector, the expectations were even more optimistic, since that for the precedent five years the amount of new cars sold was always growing at constant rates between 1% and 2% and the sector represented the main field of investment for R&D in the Union. After the introduction and the application of the new Regulation, together with the dramatic impact caused by the Covid-19 Pandemic, the European automotive sector entered in a crisis that is still

ongoing nowadays, where competition, increasing costs and other factors challenge managerial decisions every day.

McKinsey & Company in their industry report *"RACE 2050 – A Vision for the European Automotive Industry"* makes clear that the sector was aware of the future challenges and difficulties. The analysis was developed around three major points, that deserve to be mentioned to understand the political, social, commercial and economic scenario (p.3=:

1. *"Regions and players outside the traditional automotive set are gaining momentum, and a growing wave of technological megatrends is redefining mobility.*
2. *European automotive players will need to develop these competencies and manage an employment transition if they are to maintain their position at the forefront of the industry.*
3. *[...]leveraging the region's unique diversity of people and mobility realities as well as the strengths of its economies and technologies are fundamental to a vision for Europe's automotive industry."*

The concrete manifestation of these three disruptive trends became evident after 2019, however, mass market was shocked by the rapidity that characterised the clear separation between the pre and post pandemic scenarios. When traditional ICE was challenged by the diffusion of the EV and PHEV, what forecasted quickly became

reality. Since EV and PHEV rely more on software, electronic and chemical materials, USA and China producers (like Tesla and BYD) were and still are nowadays in a dominant position on Europe. European traditional know-how for ICE begun to be challenged by the electric transition, that moved the competitive advantage from the engine to the aforementioned components. This scenario influenced also the society and the labour market.

In the Ford Motor Company (2022) the CEO Jim Farley specifies that “*The production of EV requires 40% less manufacturing labour than combustion-engined cars.*”. The Pocket Guide from ACEA identifies relevant data to understand the impact of this statement for employment in automotive: in 2019 there were 13.3 million of people working in the automotive supply chain (6.1% of the EU’s working force). These numbers witness that labour market had begun to shift towards new skills and knowledge in the fields of mechatronics and software. The industrial production organization was entering in a period that was transforming the supply side (new suppliers required) and labour force structure (new profiles arising).

Since not every country shows similar trends and preferences, the study is warning that finding a common way (“*one size fits all strategy*”) might not be the proper solution, because of the economic diversity that existed (and persists nowadays) among the EU countries. Factors such as income, infrastructures, incentives and consumption habits strongly influence national markets’ response. This point is

crucial to understand producers' situation in Europe, where the non-homogeneity of market trends made very complex the application of a unique sales strategy.

Regulation 2019/631 and Regulation 2023/851 represent a turning point for the European automotive industry because they transform CO₂ emissions from an environmental target into a direct managerial constraint. The introduction of fleet-average emission targets, excess emission premiums, super-credits, pooling mechanisms and stricter 2030–2035 objectives forces manufacturers to reconsider their product mix, pricing policies, investment priorities and long-term business models.

Rather than analysing each article in legal detail, Table 1.1 summarises the main regulatory mechanisms and their managerial implications.

Table 1.1 EU Regulation 2019/631

Article	Content	Managerial Impact
Article 5: Super-Credits	In the computation of fines for producers, vehicles with a CO ₂ emission under 50 g/km have a “special weight”	The production of EV and PHEV is stimulated because it lowers the fines and “protects” the margin for ICE vehicles.

Article 6: Pooling	Allows different vehicle manufacturers to form a pool and aggregate their fleets to meet the specific emissions targets jointly.	Compliance becomes a tradable asset: pure EV players can monetize their structural advantage by selling "green credits".
Article 8: Excess Emissions Premium	Target fixed at 95 g/km. Fines of €96 for each exceeding g/km per vehicle registered.	Compliance with sustainability shifts from moral responsibility to a financial liability. Fines become a proper cost of production for ICE vehicles.
Article 10: Derogations for Small Manufacturers	Permits manufacturers with <10,000 registrations per year to apply for alternative, customized emission reduction targets.	Alternative business plans for niche producers with a low number of cars produced.

Source: own elaboration.

Regulation 2023/851 is the final product of the process started in 2021 with the “*Fit for 55 package*”. According to this Regulation, by the year 2035, the emissions must be reduced of 100%, so no more heat-engine cars produced in the EU; special derogations for small producers were progressively deleted; clause and revision for 2026, to check progress and compliance.

CO₂ neutral fuels (e-fuels) were - and still are - considered by countries with an important exposure in ICE vehicles production a possible exception or regulatory trading area. When the EU countries were called to approve and sign the Regulation, Italy and Germany considered the addition of this clause as mandatory. This is not a surprise if we read the data coming from the ACEA “*Pocket Guide 2022/23*” where we read that 50% of the automotive sector workers are in Germany or in Italy. If we consider what said before about the number of workers that the EV require, we can conclude how threatening is for Germany, Italy and indeed EU a future without a strong and developed industry for automotive, where the European competitive advantage always lied in the know-how for ICE cars.

1.2 Global Economic Scenario Evolution

As for many other sectors, the Covid-19 pandemic deeply reshaped the automotive industry, forcing manufacturing managers to completely renovate their industrial and commercial strategies. In order to understand this structural shift, this section

analyses the interconnected managerial effects that redefined the automotive business model: the drastic reduction in vehicle supply, the unprecedented escalation of delivery lead times, the systemic increase in retail prices, and the subsequent realignment of production priorities toward higher-margin models.

To analyze the first two effects, namely supply reduction and delivery lead times, the data demonstrates a profound decoupling between market demand and industrial capacity. According to the ACEA "*The Automobile Industry Pocket Guide 2021/2022*", the vehicle order backlog for European producers in 2021 experienced a dramatic increase of 20% to 30% compared to pre-pandemic 2019 levels. Paradoxically, despite this strong consumer interest, new car registrations in 2021 fell by 2.4% relative to 2020.

Managerially, this structural gap serves as empirical proof that demand was robust, but manufacturers were unable to fulfil it due to severe upstream supply chain disruptions. The primary bottleneck was the global shortage of microchips and semiconductors, components that are vital for modern vehicles' Advanced Driver Assistance Systems (ADAS) and digital features. The vulnerable architecture of the semiconductor supply chain meant that automotive factories faced unprecedented production stops. As a consequence, vehicle delivery times were severely stressed; data from Dataforce (2022) indicates that average delivery times in Germany and Italy escalated from a standard 60-90 days in 2019 to a critical 250-320 days by 2022. Crucially, this supply-constrained environment provided automotive

managers with an unprecedented tactical opportunity: since demand vastly outstripped supply, companies could systematically abandon volume-chasing strategies and pivot toward maximizing unit profitability.

This production crisis was further aggravated by a secondary wave of geopolitical and macroeconomic pressures following the outbreak of the war in Ukraine. The conflict immediately hit European car manufacturers on two fronts: fixed costs and market access. On one side, it triggered a systemic energy crisis that drastically increased manufacturing utility costs across European plants. On the other side, the enforcement of strict international sanctions, such as EU Regulation 2022/428, forced the immediate closure of the Russian market. This sudden exit deprived European premium and volume brands of a historically high-margin, profitable customer segment, compounding the financial pressure on global automotive balance sheets.

This scenario created new business strategies and new trends of customers' preferences in the market. The principle of "*from volume to value*", that means selling less cars but keeping profits as high as before by increasing prices, became the benchmark for producers. The car manufacturers modified their allocation strategies of scarce components (e.g. semiconductors), by optimizing the product mix towards high-margin segments (so the most expensive like BMW M series), by slowing down the production of cars belonging to lower but more commercial segments like A and B (e.g. Volkswagen Polo).

All these changes and events in the new car sector had several consequences for the second-hand market.

Until the Covid-19 pandemic, the second-hand market was considered a cheaper alternative to new cars, but the longer delivery times, the semiconductor crisis and the EU regulations made them increasingly expensive and not affordable as before to the largest part of the demand. The logic consequences were two: the number of cars in the second-hand market begun to decrease and the prices of the available cars to sell rose immediately.

The macroeconomic events triggered by the "volume to value" strategy, combined with inflationary pressures, had immediate repercussions on both the new and second-hand vehicle markets, shifting the car from a mass-market product to a premium asset. Managerially, three main indicators explain this structural contraction of private demand.

The first indicator is the unprecedented growth in new car pricing, which directly impacted the affordability of vehicles. According to UNRAE data, the average price for a new car grew by approximately 40% over the last decade, accelerated by the technical and regulatory costs of electrification. Concurrently, the second indicator reflects the severe erosion of private consumer purchasing power. Eurostat and Istat data from the 2019–2024 period register a general price increase of over 22%, which caused an asymmetrical loss in consumer spending capacity. Consequently, purchasing a new, sustainable vehicle became a privilege restricted to high-income

retail brackets and corporate fleets, forcing the mass-market demand to migrate entirely toward the second-hand market.

However, this shift triggered a third indicator: the financial distortion of the used car market. As reported by AutoScout24, secondary market prices escalated rapidly, marking a 40% increase in 2024 compared to pre-pandemic 2019 levels. This price growth was driven by a structural shortage of stock, as long vehicle delivery lead times prevented the natural turnover of older fleets.

From a managerial perspective, this scenario created a profound commercial paradox and a vicious cycle for the automotive industry's transition. Data from the Italian Public Automotive Register (PRA) indicates that over 51% of used cars sold were 10 years or more old, while consumers looking for a replacement were substituting vehicles with an average age of 12.5 years. Empirically, the market began substituting old vehicles with other old vehicles. Ultimately, the strict regulatory targets imposed by the European Union, combined with the pricing strategies of Original Equipment Manufacturers (OEMs), resulted in a severe market misalignment: instead of incentivizing the adoption of low-emission mobility, the economic context forced the majority of European consumers to hold onto aging, polluting fleets or turn to heavily depreciated second-hand internal combustion vehicles.

This process was not homogeneous across the EU states but varied according to different factors such as income, infrastructure, incentives and consumers habits.

1.3 New Challenges for Companies

The rise in prices helped companies to cover the increases in costs, but the new context showed that old business models were not anymore sufficient to develop long-term sustainable strategies, as presented in a recent article of Antonio Sileo for *IlSole24Ore*. Since the car did not produce anymore the sufficient margin, the sale begun to include also services that worked as extra-revenue for the firm. This concept has completely switched the automotive business model, from a *product-based* model to a *service-oriented* model. Companies started to develop their own financial services, like *Volkswagen Financial Services* or *Mercedes-Benz Mobility*. In the aforementioned Ford Motor Company (2022) we read that Ford has begun to include in its revenue streams also certain types of services that allow to “*unlock*” new ways to generate profit.

The logic of vehicle purchase is undergoing a structural shift, particularly among younger generations, where the traditional psychological value of asset ownership is systematically losing traction in favor of usage-based models. In this new scenario, the consumer's primary purchasing driver is no longer the total list price of the vehicle, but rather the predictability and impact of the monthly payment relative to their disposable income. This behavioral transition has been validated by Deloitte in its “*2024 Global Automotive Consumer Study*”, which observes that “*against the backdrop of uncertain economic conditions causing concern for*

financial capacity, a significant number of younger consumers surveyed in many markets are at least somewhat interested in giving up vehicle ownership altogether in favour of a subscription model” (p. 14).

Sales strategies have evolved by proposing to customer new purchases options. Traditional financing preserves the logic of ownership by simply spreading capital expenditure over time, but modern alternatives like leasing and long-term rental transfer the core focus to usership by allowing the consumer to pay only for the periodic depreciation. With this solution the asset ownership and the final residual value risk are shifted to financial institutions or manufacturers.

The analysis of *Volkswagen Group* financial performances from 2021 strengthens this point of view. Their annual reports show EBIT evolution peaking in the years 2021 and 2022, with financial services accounting for an incidence between 25% and 30% of the total Group's results. This shifting of profit pools, where margin increasingly migrates from the vehicle production to downstream financial services, has fundamentally transformed the captive bank into a primary profitability driver. However, this structural reliance on financial services exposes the Group to a critical managerial risk: the management of vehicles' residual values (RV). This value represents the balance sheet asset value for the financial company and directly dictates the monthly leasing or financing rate paid by the customer. Consequently, captive financial institutions face the complex challenge of balancing competitive commercial rates with a sustainable balance sheet valuation for the future.

This risk management framework becomes even more volatile for EV and PHEV segments, whose future market value is highly sensitive to the technological obsolescence of its main components, like battery. This dynamic poses a structural dilemma: how can a financial service offer a competitive and sustainable rate if the future residual value is highly susceptible to sharp declines? This financial friction represents a major obstacle for EV and PHEV commercial strategies across Europe, where manufacturers struggle to build a stable value proposition. To address this mismatch, industry focus is divided between vehicle promotion and the creation of affordable financial structures designed to mitigate customer anxieties regarding capital loss and Total Cost of Ownership (TCO). Ultimately, market data across Europe has validated these friction points, demonstrating a clear trend that strictly links electric and hybrid vehicle adoption to the purchasing power of the consumer (*European Environment Agency*, 2022, p. 168).

This dimension is strictly linked with the infrastructural framework, which represents a barrier as critical as the initial pricing structure. Charging infrastructure across Europe remains heterogeneous, a disparity caused not only by high installation costs but also by uneven geographical distribution, varying charging speeds (AC vs. DC ultra-fast networks), and unequal access to private domestic charging solutions. Consequently, the weakness of the EV and PHEV value proposition is directly linked to these operational frictions: the utility of a

sustainable vehicle is heavily dependent on the ecosystem it operates in, turning a technological solution into a logistical burden for the end-user.

Because these infrastructural conditions vary within the EU, each member state presents a distinct market scenario that struggles with a standardized approach. This divergence creates another challenge for automotive manufacturers. OEMs are forced to reconcile the economies of scale of a centralized production strategy with a highly fragmented European demand, where the customer's propensity to buy is dictated by local infrastructure reliability and the associated TCO predictability.

These factors reshaped the managerial and marketing scenario for European automotive. The starting point remains the customer's response, that dictates future operational decisions. Facing this market reality means addressing a heterogeneous set of challenges: from restructuring a compelling EV value proposition to managing residual value volatility in secondary markets, and from defining country-specific sales strategies to evolving financial services and dealership network capabilities.

Consequently, the next chapter will present in detail how these interconnected management dilemmas are faced and which real, operational challenges are brought by this shifting business environment.

CHAPTER 2

ELECTRIC VEHICLES AND THE MARKET: VALUE, CONSUMER AND MODELS

2.1 EV Value Proposition

Technically, the shift from the ICE to BEV represents a radical de-escalation of mechanical complexity. The elimination of thousands of moving parts, typical of ICE powertrains, and the introduction of single-speed transmissions move the core vehicle value and its customer-perceived value proposition toward software integration, digital services, and power electronics. Managerially, this transition implies that an EV is no longer just a vehicle with an alternative propulsion system, but a structurally different asset whose value is co-created over time, redefining manufacturing logic, supply chain dependencies, and traditional automotive business models.

To understand better how this technological evolution affected them, Table 2.1 shows the main BEV pillars, by moving from technical drivers to customer-perceived value and managerial consequences:

Table 2.1 BEVs features and their effects for consumers and managers

EV Technical Feature	Perceived Effect on the Consumer (Pros/Cons)	Managerial and Strategic Consequences

Simplicity of the Powertrain (No oil, no gearbox, fewer moving parts, regenerative braking)	Pros: Drastic reduction in maintenance costs and lower Total Cost of Ownership during early lifecycle stages.	Aftersales Margin Erosion Collapse of the traditional high-margin workshop revenues. Assistance evolves towards mechatronics and software diagnostic services.
High Production Costs (Mainly caused by battery raw materials and semiconductors)	Cons: Higher purchase price compared to equivalent ICE segments, limit for mass market adoption.	New sales strategies: Shift from vehicle ownership to usage-based models like leasing, long-term rental and subscription to lower the barrier of entry.
Software-Based Architecture	Pros: Technological driving experience and digital integration.	Competence Shift: Competitive Advantage shifts from engine mechanics to digital

(Centralized power electronics and periodical updates)		features. Traditional dealer interaction is potentially bypassed with the creation of a direct contact between producers and customers.
Risk of Technological Obsolescence (Range efficiency of batteries decreases with time)	Cons: Doubts regarding long-term asset value. Customers fear owning an outdated device within 3-4 years.	Residual Value Uncertainties: Pricing and sales departments face unprecedented volatility in forecasting second-hand market behaviour. Captives must implement risk-mitigation strategies to stabilize residual values.
Asymmetric Charging Infrastructure: (Inhomogeneity across	Cons: Autonomy anxiety and logistic constraints for long-distance travel,	Fragmented Commercial Strategies: it is impossible to develop a uniform

different European states)	depending on charging stations.	commercial strategy for Europe. Incentives and volumes must be adapted and tailored to each country's situation.
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Source: own elaboration.

When considering the effective TCO difference between BEV and ICE every aspect has its own specific weight, acting not just as a financial metric, but as a commercial tool to face the high prices of electric vehicles purchase. Firms are now focusing on communicating the effective TCO to cover this high initial barrier, to make consumers aware of the BEV's advantages. However, this commercial narrative struggled to deal with empirical results. The *Market View Report* of the UK by *Warranty Solution Group* (that analysed more than 800 requests of warranty between March 2024 and April 2025) empirically proves that extra-ordinary intervention tends to be more expensive for EV. The average price is said to be 827 pounds for EV against the 623 pounds for ICE. This data show that the simpler nature of electric engine allows it to have a lower routine maintenance cost, but when it comes to extraordinary intervention, costs increase drastically, impacting real TCO. As the *Annual Auto Reliability Survey* of *Consumer Reports* shows, BEV

vehicles experience an average of 79% more unscheduled issues than ICE models. This point, also supported by *J.D. Power “Vehicle Dependability Study”*, is not attributable to mechanical traction itself, but rather to the saturation of semiconductors, power microprocessors, and complex software ecosystems that are not yet fully mature, which generate higher failure cases and electronic anomalies than proven internal combustion engine architectures.

The interventions that EVs generally show are usually linked to software, whereas ICEs show more problems to the powertrain (engine and transmission) in the long run because of its complexity.

To counteract these TCO uncertainties and protect the customer-perceived value, OEMs are forced to redesign their commercial strategies. Instead of traditional transactional sales, OEMs deploy risk-shifting mechanisms such as leasing, long-term rentals, and extended OEM warranties dedicated to battery health. By bundling charging infrastructure packages, wallbox installations, and over-the-air (OTA) software updates into a single monthly fee, firms transform a volatile cost structure into a predictable, all-inclusive service subscription, like *Care by Volvo*.

After having defined this service-centric approach for new cars, it is crucial how to manage the stock of used cars that return to the dealer from customers, which represents the final, critical variable of the TCO equation. The second-hand markets struggle to give homogeneous feedback and is often in competition with discounts

and special offers for new vehicles, together with the already mentioned obsolescence issues.

2.2 European Consumers' Response to Sustainable Mobility

A deeper analysis of the empirical results provides crucial insights into the European market's actual response to the electric transition. Instead of a uniform adoption, the chronological evolution of new vehicle registrations reveals a highly fragmented European consumer landscape, where market acceptance is strictly dictated by macroeconomic shocks and market-specific structural variables, like purchasing power of customers.

Rather than a common path towards mass market adoption, the diffusion of BEV and HEV (Hybrid Electric Vehicle) mirror how consumers differently deal with new technologies in different European markets. At the aggregate EU level, while BEV market shares experienced initial momentum—peaking at 14.6% in 2023 before experiencing a contraction to 13.6% in 2024—HEV market share demonstrated an expansion, climbing from 11.9% in 2020 to 30.1% in 2024 (source: ACEA, KBA, and UNRAE official consolidated annual reports). From an economic and consumer-behaviour point of view, this substantial gap indicates that the broader European market perceives the hybrid powertrain as a safer transitional technology. HEVs effectively eliminate the infrastructural and residual value anxieties associated with full electric cars, allowing consumers to comply with

environmental awareness without dealing with the operational risks of BEVs. This fragmented scenario becomes even more critical when analyzing the structural diversity between Germany and Italy, two of the major national markets. These two countries represent antithetical customer profiles, characterized by disposable income, corporate fleet structures, and public infrastructure readiness.

Germany's BEV trajectory shows a volatile market. The rapid growth of BEVs up to 18.4% in 2023 was heavily supported by substantial government subsidies (such as the *Umweltbonus*) and a highly developed corporate fleet sector, where company car tax incentives heavily BEVs. However, the sudden elimination of these state incentives at the end of 2023 triggered an immediate market correction, causing the BEV share to collapse to 13.5% in 2024. This event proves that consumer demand in the premium-heavy German market is deeply tied to corporate B2B strategies and other generic incentives.

On the other hand, Italy shows a different adoption barrier. throughout the 2020-2024 period, Italy's BEV market share remained stagnating at around 4.2%. This resistance is not a generic refusal of electrification, but a rational response from a market predominantly driven by private retail buyers. In Italy, lower average disposable income makes the initial upfront premium of BEVs harder to amortize, a challenge further amplified by a fragmented charging infrastructure network and a high density of urban apartments lacking private garages for overnight charging. Consequently, Italian consumers have oriented their purchasing power toward

HEVs, which increased from 16.0% in 2020 to 38.3% in 2024, establishing the hybrid as the true main character of the Italian transition.

Ultimately, these results show indicate that a “one-size-fits-all” commercial strategy within EU is not applicable. Managers cannot rely on a standardized customer response and are indeed brought to differentiate selling and promotion strategies tailored for each market.

2.3 New Business Models

All the factors presented in the precedent paragraphs contributed to create a new market, where new products (BEVs) required OEMs to develop innovative selling and promotion strategies. The European automotive retail landscape is currently facing a structural shift, from the traditional dealership model to the agency model. This undergoing transition represents a turning point for the European automotive industry, where historically franchised dealers played a central role in vehicles distribution. The new agency model completely renovates the business model.

The following table shows the main differences between the two models.

Table 2.2 The Transition from Franchised Dealer to Agency Model

Feature	Franchised Dealer	Agency Model
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Contractual Status	Buys and sells cars on own account (B2B wholesale, then B2C retail)	Acts as boundary between customers and OEM.
Stock Ownership & Risk	Dealer's balance sheet: the dealer owns the cars and is responsible for deriving costs and depreciation.	OEM's balance sheet: stock is owned by the OEM, with rare exceptions (e.g. demonstration vehicles).
Pricing Policy	Full Autonomy: the dealer decides the final price, negotiating discounts, promotions and evaluation of trade-ins.	Centralized Pricing: pricing strategy is set by the OEM. The agent has no power of offering special discounts.
Invoicing	Two-Step: OEM invoices the dealer, then the dealer invoices the customer.	Direct: OEM directly invoices the customer, by paying commissions to the agents.

Remuneration Structure	Variable Margin: driven by entrepreneurial abilities and volume-related bonuses paid by the OEM.	Fixed Commission: every agent has a pre-established commission on each sale, with possible bonuses according to KPI compliance.
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Source: own elaboration, Deloitte Italy (2025) “*Evoluzione dei modelli distributivi del settore automotive*”.

This new model gives a central power to OEMs, that become however the owners of risk. An eventual mistake in pricing strategy or in production would hit directly the producers’ finances. Until now, any eventual misalignment between national/regional strategies have been solved locally by franchised dealers by offering special discounts, tailored to their specific market scenario. Without this instrument, OEMs hold all the responsibilities for the consequences of their strategies.

On the dealer’s side, the loss of stock ownership represents an opportunity, since it makes disappear the risk of holding too many vehicles whose values are uncertain and extremely volatile. On the other hand, a doubt on the nature of the business

model arises. The Agency Model reduces the dealer to a sort of shop-assistant, that supports customers and shows them the different product's features. However, the negotiating power and strategic purchase will not be anymore a tool for dealers, whose activity becomes strongly regulated and controlled by the OEM.

In this transition towards new products and new business models, also promotion is evolving. Because of the reasons shown previously, the focus has switched from the vehicle's Ownership to Usage.

Automotive marketing was hit by a processual servitization, with strategic marketing that shifted from the promotion of the proper product's features to the promotion of the TCO or total cost of mobility. This passage is an empirical proof of what theorised by Vargo & Lusch (2004), who developed the concept of Service Dominant (S-D) Logic. As stated, product's value arises only when there is a co-creation with the user, even with a personalisation of the offer (e.g. annual mileage or number of monthly rates). The result of this process is a development of the customer relationship with the company; purchasing a car is not anymore an isolated event, but with the servitization it becomes a continuous relationship kept alive by the monthly payment and the Final Residual Value scenario, where the customer can choose among replacing the car with a new one, paying or refinancing the maxi-rate or returning the car without further obligations. During the time of usage, OEM tend to include all the profitable services that characterise the after-sale scenario. Very often the monthly rate includes service interventions performed

by authorized workshops and accessory warranties, where OEM generates profit, that increases without affecting the customer's perception of Total Cost of Usage, since the monthly rate often includes these services. Alternatively, for purchase methods like financing or maxi-rate, where service is not usually included in the rate, after-sale income is kept by obliging customers to do the regular service by franchised workshops, in order to maintain the warranty. In both scenarios, the relationship with the customer is maintained, with this binding link that forces the owner/user of the vehicle to use OEM's proper after-sale services.

To conclude this analysis, it is crucial to focus on the key of this system: Future Residual Values (FRV). They drive both present and future business dynamics for two reasons: firstly, the maxi-rate's value affects the competitiveness of the monthly rate offered to the present customer. Secondly, the Future Residual Value of the vehicle will impact captives' future business sustainability, specifically in the capability of reselling the cars coming back from users after three or four years. Furthermore, the arising objective doubt regards who will deal with this issue once the vehicles sold with very competitive and aggressive rates will come back. Concretely, to lower as much as possible the monthly rate offered to the customer, salespeople can only use a higher FRV. However, this technique struggles with the BEV problems that arose recently: the uncertainty of second-hand market and the risk of technological obsolescence contribute to create a future volatile scenario for Captive Banks who pursued deep penetration pricing strategies.

At this point, the link with the passage to the Agency Model is even more relevant. Previously dealers had to create a solid financial structure of sale, that was competitive for the customer and sustainable in future for the company. The Agency Model is driven by OEM's direction with standardized offers, that develops a unique strategy to be applied in every local market, with all the consequent risks. At the same time, also the financial impact of these sales will be perceived differently. As shown before, dealers become agents that do not deal longer with depreciation of stock in their balance sheets, that is transferred directly on the captives' and OEMs' ones. However, this shift exposes OEMs to the risks linked to the uncertainties of FRV, especially for BEV.

In conclusion, the advent of electric powertrains completely redefines the manufacturer-dealer-consumer triad. While this technological and managerial redesigning is conceived as a global paradigm shift, its financial sustainability and market acceptance are highly dependent on local ecosystems. To understand how these global OEM strategies survive the impact of local market realities, it is essential to shift the analysis from abstract industry trends to empirical evidence. The following chapter will explore this friction through a comparative case study of European markets, focusing specifically on how German premium brands navigate these systemic asymmetries within the Italian automotive landscape.

CHAPTER 3

ELECTRIC VEHICLES AND THE MARKET: ITALY, GERMANY AND CHINESE BRANDS

3.1 Methodology

The following comparison between the German and Italian markets aims to illustrate more in detail the structural differences between two nations characterized by distinct macroeconomic conditions and consumer purchasing behaviors. To achieve a comprehensive understanding of these dynamics, we complemented industry insights and data with an interview conducted with a local automotive entrepreneur who has successfully owned and managed a multi-brand car dealership for more than 35 years. His witness offers an operational insight to analyze and understand deeper the divergence between the two national markets, while subsequently evaluating the real-time impact that Chinese brands are exerting on the European market and specifically in the Italian landscape.

From a methodological standpoint, the interview began with the presentation of objective market data, which served as a concrete and shared starting point for the discussion. This approach allowed the dialogue to move beyond mere generic perceptions, anchoring the entrepreneur's feedback to real market indicators. Consequently, the interpretation of his answers and operational insights serves to

confirm, validate, and observe more in detail the theoretical concepts, business models, and financial risks discussed in the preceding chapters.

3.2 Germany and Italy inverse Market Trends

When analyzing the purchasing decision-making process for passenger cars, two primary variables act as constraints: the real purchasing power of households and the evolution of real wages over the last decade.

According to OECD and Eurostat data, Germany possesses a superior baseline compared to Italy; the median equivalised disposable income in PPS (Purchasing Power Standard) stood at 25.200 for Germany against 20.800 for Italy. This income divergence struggles directly with the pricing strategies implemented by OEMs. As previously analyzed, the transition "from volume to value" forced manufacturers to prioritize high-margin segments while progressively abandoning affordable A and B segments. Industry data from JATO indicates that between 2018 and 2024, average retail prices in Europe increased by 34% in the B-segment and 36% in the C-segment across major markets including Germany and Italy.

As stated by a local entrepreneur, owner of a local car retail established more than 35 years ago: *“The lower Italian Purchasing Power has moved the most requested products towards the mini-SUV category, with a target price between €25,000 and €35.000”*

This affordability constraint is further worsened by the cost of capital. According

to ECB Statistical Data Warehouse and national central bank statistics, the average interest rate (TAEG) on new consumer credit loans to households has faced upward pressure, reducing the financing capacity of private buyers (between 8-10% in Italy and Germany). This financial friction acts differently based on the channel mix (Retail vs. Corporate/Fleet) of each country. From *Dataforce* and *KBA*, German the market is mainly driven by corporate fleets and B2B procurement. German firms benefit from corporate tax incentives and structured commercial leasing, where the high upfront price is mitigated by corporate financial capabilities and the *Umweltbonus* subsidies until their sudden removal at the end of 2023. Conversely, Italy is a predominantly retail-driven market (from UNRAE reports), where private buyers must directly absorb both the vehicle's initial premium price and the elevated TAEG of Captive Banks.

Always according to the interviewed entrepreneur: *“Customers are struggling to deal with 8/10% interest rates but are forced to do it because of the already mentioned purchasing power problems. From the dealer’s point of view, this scenario pushes us to sell financial services, where generate extra-profits, to comply with the higher costs.”*

Another aspect is the Italian consumers’ rational resistance to BEVs, orienting the purchasing power toward HEVs or extending the lifecycles of their existing cars. The main reason behind this market orientation is the lacking private charging infrastructure (such as home garages).

The entrepreneur states that: *“In our local market, like for many others in centre and South Italy, the diesel-engine represents a sort of cultural barrier that has been hard to overcome even for gasoline. This context is amplified in countries like Germany, where customers show a higher purchasing power and obviously a more developed infrastructural network.”*

As a direct consequence, the Italian market has experienced a forced polarization: private customers are extending the lifecycles of their existing ICE vehicles—leading to an aging national circulating fleet (with an average replacement age of 12.5 years according to *PRA* statistics)—or shifting their purchasing power toward the second-hand market.

An example of the consequences for dealers is brought by the interviewed M: *“For dealers like us there is the following trade-off: the customers are aware of the very low value of their old vehicle, so our selling process is leaner. However, the trade-in cars have always represented an opportunity to generate other profit for the company. If their conditions are not proper to fulfil our quality standards, we lose a part of our consolidated business model.”*

Historically, the residual demand for new vehicles was absorbed by premium used ICE cars, a high-margin sector managed by established dealer networks. However, this delicate equilibrium is currently facing a profound disruption. The structural inability of traditional premium brands to offer accessible vehicles has left a commercial vacuum in Italy, paving the way for a new wave of competitive and

technologically advanced alternatives. This shift introduces a critical challenge to conventional automotive business models, that deal with an aggressive product-level confrontation within the Italian premium used-car segment, driven by the aggressive advent of Chinese OEMs.

3.3 Chinese OEMs Impact on Second-Hand Market

The second market trend that will be analyzed is the recent exponential diffusion of Chinese brands in the Italian market. As previously shown, the competitive advantage in cost of production and primates in technological features allowed the arrival in the European market of new, cheaper and innovative products that are challenging traditional OEMs and their business models, as by N. Winton shows in an article for Forbes: *“Chinese automakers, with their 30% price advantage, are known to be ready and able to fill the EV gap; Europeans are struggling to do this profitably.”*

At the end of May 2026, Chinese brands are mostly represented in Italy by BYD, Omoda and Jaecoo, that together hold 5.05% of the new cars market (*Dataforce*). At the same period in 2025, the three brands held just 1.59% altogether. The reasons behind this exponential increase are influenced by several factors. The first is the Chinese vehicles new value proposition, regarding both technology and engines. If compared to European competitor products, they usually include in the basic version many extras that brands like Volkswagen usually charge to the customer

(e.g. Omoda 5 Pure configuration includes without extra fees full Park Assistance and other ADAS).

The impact of the new Chinese products has been shown by the entrepreneur through this concept: *“The main factor that is driving our customers towards vehicles like Omoda is the lower price for a new car. At the same time, we noticed a different approach of the younger customers, that tend to be more attracted by technological features rather than pure mechanics and driving experience.”*

The mechanic side is driven by innovative hybrid engines (both HEV and PHEV) that fulfil EU emission targets and allow lower fuel consumes, or longer autonomy for EV (e.g. BYD *Super DM-i* technology, guaranteed for 8 years). Alongside with these innovations, Chinese OEMs entered the European automotive market with very aggressive prices, to penetrate the market and reach rapidly a wide market share. By considering what analyzed previously, this impact has been fueled by very competitive rates, that allowed consumers to afford a new modern car with a rate for a compact car.

The interviewed entrepreneur shows an interesting comparison to explain the approach of customers towards new Chinese engines: *“This scenario reminds me the arrival of Japanese producers in the 90s, when they brought to the European customer an extremely reliable vehicle at very affordable prices. The customers’ approach of that time was like what we see today.”* If Japanese producers like Subaru brought a car that had as main value the reliability of its engine, nowadays

disruptive impact of Chinese brands is led by technological feature and financial risk management, together with an extended warranty that is an added value for customers. If for the engine quality the answers will come in the next years, the economic side is a successful model because of the FRV guaranteed by captives.

The combination of these two factors (affordability and technology) is the key that has driven BYD, Omoda and Jaecoo towards their actual success.

However, the implications of this aggressive market penetration extend far disposal of the new car segment, directly disrupting the dynamics of the second-hand vehicle market. Specifically, this new product availability creates a cross-segment competition, reshaping the traditional consumer trade-off between a used premium vehicle and a brand-new Chinese alternative. Customers that look for a premium second-hand car like an AUDI Q3 now have the alternative of purchasing for a similar price a new BYD Seal-U. When the price difference is very low, other factors play a crucial role in driving the decision-making process.

The first crucial difference between the two products is given by the warranty length. In Italy, the consumer who buys from a dealership a second-hand vehicle is safeguarded by law with a warranty of minimum twelve months. However, used cars are more likely to require extraordinary service interventions, that are usually expensive for premium brands. On the other hand, the customer finds a vehicle that is guaranteed for several years, together with the unlikeliness of having important

interventions to do in the near future after the purchase. The TCO difference is evident and is driving the Italian customer towards Chinese brands.

This scenario is confirmed by what stated by the interviewed entrepreneur:

“Together with the rise in the cars’ prices we faced also the rapid growth of maintenance and service costs. For dealers like us, a trade-in vehicle like a BMW X1 with a mileage of approximately 100,000 kilometres has always been an opportunity to generate profit, but now this type of product is suffering against Chinese competitors. The consequence for us is that this type of trade-in could become a risk, since the car may remain in the stock for months by becoming an obstacle for liquidity and other profitable operations.”

This market scenario produces a variation of the pricing structures of traditional European premium vehicles in the secondary market. To keep their commercial appeal against a new, highly equipped Chinese alternative, European used cars face a downward price pressure. The core business question remains the long-term sustainability of the Chinese automotive financial model. While brands like BYD, Omoda, and Jaecoo are currently experiencing exponential growth through highly aggressive pricing and heavily subsidized retail financing plans, the true asset-lifecycle test will occur when these first vehicles will hit the second-hand market in 36-48 months. If the Italian secondary market exhibits diffidence toward used Chinese cars (driven by consumer anxiety over traction battery or slower logistical supply chains for spare parts) their residual value will likely face a contraction.

Consequently, to absorb this depreciation risk, future leasing and monthly instalments for Chinese brands will inevitably increase, potentially neutralizing their initial "low-rate" competitive advantage in a long-term view.

The interviewed entrepreneur showed that: *“The FRV problem will be handled by captive banks, OEMs will have a great opportunity if they will be able to manage properly the remarketing side. Once that the Chinese vehicles will come back in the second-hand market, we will have the proof of how strong this business model is.”*

Furthermore, this disruption heavily impacts the internal economics of authorized dealership networks. While the extended warranties offered by BYD and Omoda successfully drive long-term customer relationship towards official dealer workshops, they introduce a potential operational bottleneck. If the logistical infrastructure of these new entrants cannot guarantee rapid parts availability, vehicles remain immobilized in workshop for extended periods. The after-sale management will affect directly long-term customer satisfaction. The interviewed A added that: *“Historically a doubt for Chinese brands was the availability of spare parts, but first feedback that we are receiving are extremely positive, regarding both times and prices. This is another factor that increases future customer-loyalty.”*

To safeguard their baseline market share against Chinese penetration, traditional European OEMs are increasingly deploying tactical marketing strategies, including artificial commercial discounts, subsidized lease campaigns, and a heavy reliance

on the self-registration channel (*Km 0* registrations), that impact the new cars registration numbers.

The arrival of Chinese OEMs in Italy is transforming the competitive landscape from a simple product-versus-product confrontation into a complex system based on financial risk and FRV forecasts.

CONCLUSIONS

This study allowed to identify how the European automotive sector has been challenged by recent legal and macroeconomic events. The transition towards sustainable mobility has been reshaping OEMs and retail dealerships business models, by making them evolve from traditional volume-driven strategies. Academic and industrial literature highlights that this transformation is based t on a shift "from volume to value" and a process of "servitization," where automotive players must move away from simple vehicle manufacturing toward comprehensive ecosystem orchestration, heavily relying on downstream financial services and Future Residual Value management. However, as demonstrated throughout this research, this transition is met with highly discontinuous responses from the market. Through the empirical analysis conducted in the third chapter, the study shows critical insights into the real-world operations. Firstly, the comparative study between Germany and Italy highlights a profound macroeconomic and structural divergence. Secondly, the Italian landscape is further disrupted by the recent penetration of Chinese OEMs.

To bridge the gap between theoretical frameworks and the practical reality faced by industry insiders, the final section incorporates the direct testimony of a local automotive entrepreneur, to witness concretely how this transition is affecting also smaller enterprises.

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