The Great Challenges for Italian Industry

*by Francesco Zirpoli**

The automotive industry represents one of the pillars of the Italian economy. However, starting from 2000, the crisis of the FIAT production model, culminating in the merger between FCA and PSA, has led to a significant contraction in production and, consequently, in turnover, Italy remains an important player but risks lagging behind, threatened by the competition from other European countries. There is a need for structural reforms to address persistent issues, investments in R&D and workforce training, diversification of production, and a revival of the local public transportation industry.

The Italian automotive industry is a significant component of the country's industrial system and a driver of technological, managerial, and social development. It employs over 200,000 people (considering only manufacturing), generates a turnover of 54 billion euros (considering only component manufacturers), and in 2022 exported approximately 11.84 billion euros, with a net positive balance of 2.65 billion. Designing and developing cars require complex technological and managerial skills, as well as integration into global automotive supply chains. These skills are hard to replicate, and therefore, represent a reliable source of long-term economic and employment growth. Italy is undoubtedly an important player on the international stage. However, there are reasons to believe that the Italian automotive industry is at risk of losing its centrality and heading towards decline. This is due to a long-term trend of reduced production and the consequences of the merger between PSA and FCA, which resulted in the formation of Stellantis in January 2021, currently the only mass automobile producer in Italy.[1]

Below we will analyze the industrial path that led to the current situation and then propose directions for future development.

BRIEF HISTORY OF AN ITALIAN ANOMALY

Italy has gone from producing about 2 million cars and commercial vehicles in 1990 to 1.7 million in 2000, nearly 850,000 in 2010, and around 500,000 in 2022 (750,000 if light commercial vehicles are also considered). This latest figure is particularly significant, especially when compared to the overall production of automobiles in other European countries (in Europe, 16.331 million vehicles were produced in 2021).[2] The main manufacturing countries are:[3] Germany with 3.309 million cars thanks to production in the plants of BMW, Mercedes, VW, Stellantis, and Ford (Tesla is starting a factory), Spain with 2.098 million cars produced in the plants of VW, Ford, and Stellantis, France with 1.351 million in the factories of Renault, Stellantis, and Toyota, and the United Kingdom with 932,000 cars produced in the plants of Nissan, Jaguar Land Rover, BMW, Stellantis, VW, Honda, and Geely. As is known, European production has also been localized in Eastern Europe; here too, countries like the Czech Republic, with 1.111 million cars produced by VW, Toyota, and Hyundai, and Slovakia, and with 1 million cars produced, outpace Italy. Only Poland, with 439,000 vehicles, is on par with Italy's production levels.

* ***Francesco Zirpoli*** *is a Full Professor of Economics and Business Management at the Department of Management & Center for Automotive and Mobility Innovation at Ca' Foscari University in Venice.*

From these data and the list of manufacturers operating in Europe, it emerges that Italy, the second-largest manufacturing country in Europe, now brings up the rear in car production, losing over 20 percent of its workforce in the last twenty years, coinciding with being the only industrialized country hosting the production facilities of a single manufacturer. The origins of this anomaly date back to 1986 when the Italian government and Parliament gave their consent to the sale of Alfa Romeo by IRI to Fiat, rather than to Ford, which had made an offer that should have prevailed based on economic rationality and the international context (Pirone and Zirpoli, 2014). With the acquisition of Alfa Romeo, Fiat completed the process of acquiring all Italian competitors (a few years earlier, Fiat had acquired Lancia in 1978, Maserati in 1993, and Ferrari since 1969). In the 1980s and 1990s, while in other European countries and the United States governments opened up and favored so-called "transplants," which were direct investments from abroad by other car manufacturers, in Italy, FIAT could act as the undisputed lord and has continued to do so until today.

The 1980s and 1990s are also the years when a new division of labor between carmakers and suppliers took hold in the global auto industry, with suppliers gradually taking on a greater role in both design and production (Zirpoli, 2010). Fiat, like other manufacturers of that time, pushed for the outsourcing of production and design to levels even higher than Japanese competitors, known for their supply chain organization based on the "keiretsu" model (which is associated with the well-known models of lean production or just-in-time). By the mid-1990s, up to 75-80 percent of the components and systems of a FIAT vehicle were designed and produced by suppliers before being assembled in FIAT's plants. FIAT did not hesitate to encourage the arrival in Italy of large component manufacturers who were "invited" to buy local suppliers. This approach followed Fiat's need to have Italian suppliers capable of designing entire modules and complex systems ready for assembly. With a vertically integrated Fiat, Italian suppliers had not developed the necessary skills at that time to replace FIAT in the development of such systems and components. This resulted in a multi-level supply structure: FIAT began to deal directly with a small group of large multinational companies (almost all foreign) that, downstream, managed a plethora of smaller, more specialized local sub-suppliers. As we will see later, in the absence of competitors in Italy, FIAT's choices would have long-term consequences.

FIAT's production model began to face a crisis around the year 2000: outsourcing design and production to suppliers had drained the company of key competencies and had also backfired in terms of costs (Zirpoli, 2010, Zirpoli and Becker, 2011). In 2004, when FIAT was on the brink of bankruptcy, the entire Italian auto supply chain, which relied on FIAT for almost all of its revenue, was also on the verge of collapse. Furthermore, a strong cost-cutting policy towards suppliers, partly driven by the strategies developed in the alliance with General Motors, had reduced the profitability of suppliers and eroded trust in the relationship. During those years of crisis, a trend emerged where suppliers, especially large multinational ones, began to scale down their investments or attempted to leave Italy, concentrating their activities in markets like Germany, Spain, France, and England where their customer base was more diversified. The mostly Italian smaller suppliers, who were and heavily dependent on FIAT, tried to initiate a slow process of internationalization and diversification of their customer portfolios.

As is well-known, the Italian automotive industry was saved. Sergio Marchionne, a manager who would become an icon of FIAT's revival and the subsequent years, with extremely limited financial resources, began to rebuild FIAT starting from product engineering and the ability to develop economically sustainable projects (Becker and Zirpoli, 2017). For the supply chain, this was a sign of economic rationality and reliability that had been missing since the days of Vittorio Ghidella, the "father" of the Fiat Uno, who had left the company in 1987 due to disagreements arising from the financialization and divestment strategy in the automotive sector advocated by the Agnelli-Romiti duo. Partly out of necessity, as without FIAT many would have faced bankruptcy, but also out of conviction in the new project, many suppliers decided to follow the new leadership and agreed to an unconditional cost reduction of 3-4 percent in just one year. For a company that purchases components worth tens of billions of euros, such a cut freed up financial resources sufficient to initiate the turnaround (subsequently, General Motors' exit from the put option that obligated it to buy FIAT brought an additional injection of capital) (Whitford and Zirpoli, 2016).

The years that followed represented a moment of renewed vitality, culminating in the acquisition of Chrysler, which began in 2009 and was completed in 2014 with the establishment of Fiat Chrysler Automobiles (FCA). This operation also appears to be unique. In the automotive industry, mergers and acquisitions have been successful when framed in two patterns. The first is where the buyer dominates the acquired company, which becomes a "division" of it, as in the case of VW with Seat, Audi, or Skoda, Renault with Dacia, or BMW with Mini. The second

pattern involves equity agreements leading to collaborations on individual projects or platforms but not organizational and operational integration. This is the case with Renault-Nissan. The two companies have realized synergies only where deemed appropriate on specific platforms and projects. On the other hand, there have been many failed attempts, from the one between Renault and Volvo in the 1980s and 1990s to the dramatic experiences between Daimler and Chrysler or between GM and FIAT around the year 2000. FIAT and Chrysler, on the other hand, is a significant and unique example of a successful merger of equals.

In the following years, the management team led by Marchionne attempted to replicate the "FCA model" with an unsuccessful merger attempt with GM (Bricco, 2020). During these years, the ownership requested a reduction in the development rate of new products to avoid finding themselves in a new merger with investments that would become sunk costs as they would be difficult to convert into common industrial platforms with a new partner. In Italy, which was supposed to become the luxury hub according to Marchionne's plans, the objective of returning to production volumes of 1.4 million units was never achieved given the absence of the launch of new models. Nevertheless, in the dual-platform organization, small cars were all developed in Turin, while large cars were developed in Detroit. It's important to note that with FCA, Italy remained a key location for designing vehicles destined for Europe, and in some cases, such as that of the B-SUV project that gave rise to the Jeep Renegade produced in Melfi (and later in China and Brazil), for international markets as well.

THE ITALIAN AUTOMOTIVE INDUSTRY TODAY AND ITS WEAKNESSES

The formation in January 2021 of the Stellantis group, resulting from the merger between FCA and PSA, preceded by FCA's sale of Magneti Marelli to Calsonic Kansei, once again transformed the industrial destiny of Italy. At the time of the merger, Stellantis announced benefits of 5 billion euros per year, with 40 percent attributed to the convergence of platforms and powertrains, optimization of R&D investments, and improvements in production processes, and 35 percent to procurement optimization. An additional 7 percent would come from the integration of sales and marketing functions; the remaining portion of synergies would result from the optimization of logistics, quality, and after-market functions.

Although detailed data are not known, after more than two years, the way in which synergies in design and production have been realized is evident. Within the FCA group, Turin and Modena, which had carved out the role of engineering centers for the development of segments A and B and premium (Maserati and Alfa Romeo), underwent a significant downsizing (and in some cases closure) of design activities in favor of those carried out in France. This choice was the natural consequence of the almost complete absence of new R&D projects in Turin in the years leading up to the merger with PSA and the fact that, at the same time, PSA was investing in R&D at levels even higher than German competitors. In this competition, there was no doubt that Paris would absorb Italian R&D activities. A shift in the axis of vehicle design for production and sales in Europe to Paris has inevitably resulted in a further decline in the activities of the satellite engineering companies of FCA and especially of suppliers operating in Piedmont.[4]

On the front of production facilities, PSA and Opel had installed production capacity in Europe that was sufficient to meet demand, with a saturation of production capacity. In Italy, the 2014-2018 industrial plan that was supposed to transform the country into a hub for the production of premium segment vehicles had failed due to the absence of new models, with most of the plants kept open thanks to social shock absorbers. The subsequent choices made by Stellantis did not fill this gap, bringing production in Italy to its historic minimum (Bubbico, 2023).

The Italian supply chain, which had benefited from export growth and market and customer diversification for many years (in 2021, the value of exports increased by +9.9%, more than in Germany (+7%) and France (+3 percent), and had managed to maintain employment levels, has found itself squeezed in a vise in recent years:[5] between the downsizing of Stellantis activities in Italy on the one hand, and the decline in production in Europe on the other, linked in part to the Covid-19 crisis, especially in the area revolving around German production. The combination of these two factors has generated a deep crisis that has highlighted some critical elements (Moretti e Zirpoli, 2021, Calabrese et al., 2023):

- Stellantis remains the recipient of around 50 percent of the turnover of the Italian automotive components sector, making the sector heavily dependent on the group;
- approximately 50 percent of Italian suppliers have a workforce of less than fifty employees, while the larger companies (13 percent of firms employing more than 250 workers) are predominantly subsidiaries of foreign groups;
- Italian suppliers invest less in R&D compared to their European counterparts. The volume of R&D investments in Italian companies is approximately

half that of German companies. As mentioned above, this trend is also influenced by the reduction in R&D investments and orders from Stellantis;
- the Italian automotive components sector heavily relies on exports to German manufacturers, and to a lesser extent, French manufacturers, in a context where German production has decreased by around 40 percent in five years, from 5.646 million in 2017 to 3.3 million in 2021.

The situation of the Italian automotive supply chain and its structure are the result of Fiat's choices in the 1980s and 1990s and the inability of Italian suppliers to overcome certain structural limitations, linked in particular to their small to medium size. The supply chain is, therefore, subject to the production localization decisions of Stellantis and the parent companies located in other countries (consider the cases, for example, of the Italian plants owned by Bosch and Magneti Marelli). Independent Italian suppliers, on the other hand, have been victims of a situation that has led to a drastic reduction in the market (and liquidity) amid significant technological changes. Due to their small size, they face significant challenges in responding to these changes through investments in R&D, which are essential for a rapid technological and market repositioning.

THE PROSPECTS FOR SUSTAINABLE DEVELOPMENT

In the coming years, we will hopefully witness a strong acceleration of the transformation of the automotive industry towards a drastic reduction in car emissions and a downsizing of the circulating car fleet in favor of transportation solutions with less impact on the environment and health (such as shared public and private transportation, bicycles, etc.). What is the position of the Italian automotive industry in this context?

The answer is complex, as it primarily pertains to the effects of electrification of car drive-trains - the only technological option currently available for reducing greenhouse gases - on the Italian industrial structure. Secondly, it depends on the effects of reduced car demand on the automotive industry itself due to significant changes in consumer behavior, especially in densely populated areas (Wittwer *et al.*, 2019).

Regarding the first point, electrification will contribute to reinforcing a trend already present towards the reduction of components and parts in vehicles. However, the numerical reduction of components related to internal combustion engines (and the rest of the vehicle) is associated with qualitative and quantitative growth in components related to electrification and complementary products and services. To assess the impact of this trend on the Italian automotive supply chain, it is thus necessary to understand to what extent electrification will affect the competencies of Italian suppliers. Data presented in a recent study conducted by the Center for Automotive and Mobility Innovation at Ca' Foscari University in Venice (Calabrese et al., 2023) show, in contrast to other reports from industrial sources and anecdotal data, that the majority of Italian suppliers produce components that are indifferent to drive-train technologies (suppliers exclusively dedicated to producing components for internal combustion engines number less than a hundred out of over 2,400 suppliers surveyed in Italy). Furthermore, the report highlights that electrification will bring new professions to the supply chain related to electronic and electrical components (and software). Finally, the study reveals that, although suppliers have minimal exposure in terms of producing components exclusively dedicated to internal combustion engines, it is less certain whether they can exploit opportunities to develop new professions and competencies, which will need to complement the consolidation of their current ones.

In analyzing the prospects for the development of the Italian automotive industry, two themes are intertwined: one related to the market and production volumes, and the other tied to the skills for innovation that industry actors will need to develop.

From a mere survival perspective, if the production volumes of cars remain at current levels and/or if the product mix chosen by Stellantis for Italy does not favor successful electric vehicles, it will be difficult to imagine a short-term recovery of the Italian industry. In this sense, the idea promoted (or perhaps hoped for) by Italian policymakers and unions in recent weeks that Stellantis production return to levels around one million units per year in Italy would have the effect of enhancing design and production abilities, as well as contributing to the saturation of employment and installed production capacity and providing financial relief to the supply chain.

However, an industrial strategy on the part of Italy that simply seeks to increase Stellantis' volumes would be entirely insufficient, even in the short term. History teaches us that the future of the Italian automotive industry depends on actions that can structurally address the vulnerabilities outlined above. Furthermore, the need to profoundly change the industry's production model to align it with environmental and socio-economic needs implies that industrial policy actions be broad-ranging and at the same time capable of:
- selectively supporting Italian supply companies that have demonstrated the ability to innovate to make their investments in R&D and production competitive compared to those of their international coun-

terparts. This measure would lead to the creation of national centers of excellence, also leveraging public research networks, capable of driving innovation for second and third-tier Italian suppliers, which are too small to compete in global value chains;
- quickly closing the gap in Italy's investments in components/systems related to electric vehicle production, including alternatives to automobiles. In Italy, as highlighted in the Ca' Foscari research report, there is an industrial system that operates in services, components, and infrastructure related to electrification (and electric micro-mobility). However, the delayed start of electrification risks irreversibly damaging a sector that could otherwise grow exponentially and compete internationally;
- launching a national plan that guides workforce training selectively and in a coordinated manner to rapidly convert workers' skills in light of technological and market evolution. This plan should reflect the various geographical specializations that characterize Italian industry. Other European countries, following the modification of European regulations that mandate the phase-out of internal combustion engine vehicles, have already started implementing such plans for several years;
- favoring production diversification by attracting independent suppliers and manufacturers different from Stellantis to Italy, similar to what has already been done in the rest of Europe. This should involve imposing constraints and guarantees related to both employment and investment qualifications, aiming to strengthen international positioning and reduce the current dependency on Stellantis;
- investing resources in revitalizing the production of local public means of transport. Despite the presence of companies with high growth potential, such as Industria Italiana Autobus, Italy still depends on imports to meet the demand for this strategic sector of sustainable mobility.

The goals of reducing greenhouse gas emissions, however, will not be achievable without a paradigm shift in mobility, which is currently dominated by the conception of those who produce and sell cars. To achieve this, investment in public transportation must be significantly increased to match the levels of the most developed European countries. Initiatives such as social leasing[6] or car-sharing should be encouraged for people with lower incomes, to complete public services and ensure access to individual mobility for all citizens. Furthermore, the development of alternative infrastructure to private car-based mobility should be accelerated to free up space for zero-impact environmental mobility and reduce land consumption. These forms of investment are just a subset of what can be done to achieve environmental goals and illustrate how sustainable mobility can be combined with social and economic development objectives. Italy, which is now less dependent on automobile production than Germany and France, has a historic opportunity to achieve sustainable industrial development.

[1] *Ferrari and Lamborghini, along with other niche manufacturers located in the "motor valley" of Emilia-Romagna, are outstanding companies but cannot represent the backbone of the national industry and its supply chain (around 10 percent of Italian suppliers are located in Emilia Romagna.*
[2] *ACEA, www.acea.auto.*
[3] *The data here regard the plants of the major mass producers and not niche manufacturers like those that produce sports or luxury cars (author's elaboration based on ACEA data, www.acea.auto).*
[4] *PSA was absent in the US, where there was no possibility of developing significant synergies. As a result, FCA's activities in the USA substantially benefited from the synergies associated with belonging to a larger group.*
[5] *In contrast with the workers in assembly plants, whose numbers have significantly decreased (see Bubbico, 2023).*
[6] *For an example of social leasing applied to mobility, see: https://www.transportenvironment.org/discover/un-leasing-social-avec-des-voitures-100-electriques-fabriquees-en-france-et-en-europe-cest-possible/*

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