
The Turkish Experience in the Localization of the Automotive Industry: Strategy, Implications and Results

التجربة التركية في توطين صناعة السيارات: الإستراتيجية، الإنعكاسات والنتائج

* Talem Ali

University Of Tiaret, Algeria
ali.talem@univ-tiaret.dz

Hambli Zouhair

University Of Oum El Bouaghi , Algeria
hambli.zouhair@univ-ueb.dz

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Abstract :

As this intervention aims to show the Turkish experience and its implications locally and abroad, as well as highlighting the various achievements and results achieved and the current and future strategy for resettlement Auto industry.

The descriptive and analytical approach was relied on in this study, as the results showed that Turkey has made great strides in the field of localizing the car industry and has become one of the countries with global economic weight, as it has been able to enter the field of electric cars and achieve a Turkish car in addition to entering foreign markets.

Key words: localization of the auto industry; The strategy; Merger.

JEL classification codes: F43 , L22.

Résumé:

Cette intervention vise à montrer l'expérience turque et ses implications locales et à l'étranger, ainsi que la mise en évidence des différentes réalisations et résultats obtenus et la stratégie actuelle et future de réinstallation de l'industrie automobile.

L'approche descriptive et analytique a été retenue dans cette étude, car les résultats ont montré que la Turquie a fait de grands progrès dans le domaine de la localisation de l'industrie automobile et est devenue l'un des pays ayant un poids économique mondial, car elle a pu entrer dans le domaine des voitures électriques et réaliser une voiture turque en plus d'entrer sur les marchés étrangers.

Mots clés : localisation de l'industrie automobile ; Fusionnement.

JEL classification: F43, L22.

1. Introduction.

One of the leading industries in determining the growth rates of the global economy is the “automobile industry”, an industry that plays an important role in the economy in particular.

Since its invention, the automobile industry has gone through several stages, and has recently developed until it has played an important role in the global economy. Experts say that some countries and international companies have sought to adopt important plans to "localize the automobile industry" by developing and supporting the auto sector. and generate significant revenue for research and development programs in the hope of staying ahead of rapidly changing markets.

The auto industry constitutes more than 40% of the global economy, and the localization of the auto industry provides about 4.9 million jobs, and the value of patents and research for the auto industry is estimated at more than 120 billion dollars, and the volume of spending on such research exceeds 9 billion dollars annually.

As a study by the Regional Center for Strategic Studies says that there are countries that were considered among the faltering economies, but they succeeded through the localization of the auto industry in improving their economic situation, and even became a competition for countries with long experience in the field of cars, and among these countries we find "Turkey", where The Turkish experience can be presented in this research framework, and from it the following problem can be raised.

- **The research problem** : How was the Turkish experience in the field of localizing the auto industry, and what were the internal and external economic repercussions, and what were the results and gains?.

- **Study hypotheses** :The following hypotheses can be put forward:

- The success of the Turkish experience in the field of car localization and its positive repercussions on the economy;
- Adopting new mechanisms and advanced technologies to compete with foreign markets;

- The use of foreign expertise to be able to localize the auto industry and achieve significant economic gains.

- **Importance of the study:** This study is of great importance through:

- Demonstrating the extent of the ability and ability of the State of Turkey to adopt and impose a strong strategy characterized by well-thought-out laws and mechanisms that control the localization of the automobile industry, which should be emulated;
- Highlighting the phased orientation of the localization of the automotive industry in accordance with a long-term strategy, in order to be able to enter and compete in global markets;
- Showing the economic repercussions of localizing the auto industry, in terms of bringing in hard currency and experience, providing job positions for the local workforce, and integrating the economy into global economies, due to the auto industry occupying more than 40% of the global industry;
- The possibility of imitating the Turkish experience according to its various stages in Algeria, and it would be a starting point for the localization of the automobile industry in Algeria.

- **Methodology :** To address this problem, we will rely on the descriptive analytical approach by presenting only the Turkish experience in the field of localizing the auto industry, as well as the repercussions of the experience on the various economic indicators and the Turkish strategy adopted to continue the challenge and global competition for major auto manufacturers and access to global markets.

In order to address the problem at hand, the study can be divided into three axes:

- The boom and record growth of the auto industry in Turkey;
- The Turkish auto industry is geared towards foreign markets;
- Orientation towards the electric car industry to keep pace with global changes.

2. The boom and record growth of the auto industry in Turkey

2.1. Turkish auto industry booming

The automotive industry in Turkey has witnessed a quantum leap, especially in the increase in the proportion of its exports. As Turkey seeks to increase investment in this field, in order to reserve its place in the global automotive market.

In January 2017, KPMG Consulting Services published its annual report on the global automotive industry, which is being prepared by nearly 1,000 experts from 42 countries around the world. In this context, the company said in its report that this industry is under threat in Turkey due to the political and economic turmoil in the country (**Bossart & Zeitung, 2017, page 22**).

In fact, the vehicle industry in Turkey reached its peak in 2016, with about one million and 480 thousand vehicles, where the number of private cars represented one third of this number, and the remaining third can be divided between small trucks and goods transport vehicles, and the lowest percentage was for large trucks, and at the present time. Turkey produces more cars than the Czech Republic and Poland (**Bossart & Zeitung, 2017, page 43**).

According to the Association of Automobile Manufacturers of Turkey, the car manufacturing curve trended upwards in 2017. Indeed, Toyota announced an increase in its production in Turkey to the extent of 82% in that period, especially the hybrid C-HR model. On the other hand, the Mercedes-Benz plant in Turkey also announced the doubling of its production, and that was in 2018 (**Bossart & Zeitung, 2017, page 56**).

The Turkish manufacturer is distinguished from others in this field by the low cost of energy and the abundance of distinguished technical personnel, in addition to the lower level of wages than its counterparts in Poland and Hungary. In addition, the European Customs Union, of which Turkey is a part, guarantees the export of cars within Europe and exempts them from customs duties, and customs tariffs are applied to countries that have trade relations with the European Union (**Press, A report published on the website of Turk, August 5,2017, page 12**).

Despite the tense relations between Ankara and Brussels, the customs union laws between them are still in force. On the other

hand, Germany announced at that time a temporary suspension of the proposed extension by the European Commission in the treaty with Turkey, against the background of the tense relations between the two countries (**Press, A report published on the website of Turk, August 5,2017, page 19**).

Global automakers (Renault, Fiat, Hyundai, Honda, Toyota and Ford) together with local partners dominate the emerging markets in the auto industry. The Ford Otosan company in the Turkish city of Bursa is a clear example of these partnerships, as it is the product of a partnership between the American Ford company and the Turkish company Koç Holding, the largest Turkish group of companies. Of course, there are many other industries that take place under the name of these global brands (**Bossart & Zeitung, 2017, page 10**).

Attempts to catch up with the global industry are still based on research and development. According to the Automotive Industry Association of Turkey, 1% of the volume of investment in the Turkish industry goes to research and development, in addition to about 3% in the automotive industry.

These ratios exceed the average value of the entire industry sector, and in the future more money will be invested in research. For a strong impetus to investment in the automotive industry in Turkey, the digital transformation of this industry is in full swing, as the fewer workers in the production lines, the higher the competitive value of low production cost and low wages.

Currently, research and development in this field is funded by the Turkish State Treasury under the name "Industry 4.0". The objective of this financing is to integrate industry operations with information technology, and statistics showed that only 3.5% of exports in emerging markets are high-tech industries. Thus, Turkey still has a lot to do in this field (**Press, A report published on the website of Turk, July 25, 2017, page 62**).

In this regard, Hakan Olikli, in the analytical study conducted by KMBG regarding the automotive industry in Turkey, expects that Turkey still needs more IT professionals, to reach the level of "industry 4.0" . Olikli also noted that competitors are now in Eastern Europe and North Africa trying to secure their place in the European market. In a related context, Olikli continued that in the past few years, well-known car manufacturers have chosen other places within Turkey in order to inject more investments in this field

(Press, A report published on the website of Turk, July 25, 2017, page 06).

2.2. The automotive sector in Turkey achieves a record growth rate and supports the overall growth

The automotive sector in Turkey achieved a record growth rate of 41.1 percent during the first seven months of 2017, and Turkish exports in this field reached 193 countries.

The high growth rate of the auto industry provided a new impetus to the general growth rate in Turkey. During 2017, Turkey achieved the best export rate in the six years since 2017, with an increase of 31.2 percent, amounting to 11.4 billion dollars.

The Turkish economy made a quick start with the third quarter of 2017, and the increase in the export rate during July 2017 reached 31.2 percent, at 11.4 billion dollars, to be the best during the six years prior to 2017, and the second best rate in the eight years prior to 2017 **(Press, A report published on the website of Turk, July 25, 2017, page 33).**

Turkish Economy Minister Nihat Zeybekci said at the time that the Turkish government would support the export sector, and that it expected the sector's contribution to growth to exceed the 5 percent threshold during the second quarter of 2017, and the contribution index to rise to more than 7 percent during the third quarter of 2017. **(Press, A report published on the website of Turk, July 25, 2017, page 12).**

Zeybekci summarized the reasons for the rise in Turkish exports, with the increase in exports to European countries to achieve record numbers, and the exceptional performance shown by the automotive industry and its exports to European countries, in addition to the increase in the proportion of Turkish exports to Qatar by 171.2 percent, or 48.1 million US dollars **(Press, A report published on the website of Turk, August 5, 2017, page 71).**

3. the Turkish auto industry's orientation towards foreign markets

3.1. Germany is the largest European importer of Turkish products:

According to the data of the Turkish Exporters Council, the percentage of Turkish exports to Germany during the first six

months of 2017 increased by 28.1 percent, followed by Britain by 37 percent, and Spain by 60 percent.

Turkey's exports to Germany in July 2017 increased by 31.2 percent, compared to the same period in the previous year, reaching 11.474 million\$. Thus, the German market maintained its position as the first import market from Turkey among European countries (**Press, A report published on the website of Turk, July 25, 2017, page 63**).

The data showed that trade relations were not affected by the recent political tensions with Germany, and that exports to Iraq witnessed a remarkable increase of 55.8% despite the problems experienced by Turkey's southern neighbor.

The data indicated that in the first seven months of 2017, it achieved an increase of 10.7 percent, amounting to 88 billion dollars and 926 million, compared to the same period last year, while exports in the previous 12 months increased by 7.5 percent, compared to the previous year, reaching to 150 billion and 22 million dollars (**Press, A report published on the website of Turk, July 25, 2017, page 51**).

According to the data of the month of Turkish exports in July 2017, Russia occupied the list of the twenty countries that recorded the highest increase in receiving exports by 95.7%, while Egypt recorded the lowest percentage in terms of receiving Turkish exports (**Press, A report published on the website of Turk, July 25, 2017, page 23**).

3.2. Approximately 78 percent of the Turkish auto industry's exports go to the European Union:

The European Union countries obtained the lion's share of the total Turkish exports in the automotive sector, during the first half of 2017, reaching 78.24 percent of the total number.

According to the report of the Automobile Industry Exporters Association, Turkey exported its products during this period from 2017 to 174 countries around the world, with its exports to 147 countries, including 3 billion, 127 million and 276 thousand dollars (**Bossart & Zeitung, 2017, page 36**).

While the value of Turkish exports to 27 countries in the European Union amounted to 11 billion and 232 million and 209 thousand dollars.

The top 5 importing countries of Turkish products in the auto sector also recorded more than half of the total Turkish exports alone, which are, respectively, Germany, Italy, France, Britain and Spain (**Press, A report published on the website of Turk, July 25, 2017, page 48**).

The value of Turkish exports to Germany during the first half of 2017 amounted to two billion and 191 million and 276 thousand dollars, then Italy with one billion and 676 million and 900 thousand dollars, followed by France with one billion and 488 million and 150 thousand dollars, and Britain with one billion and 469 million and 803 thousand dollars, and Spain with fifth 827 million and 624 thousand dollars (**Press, A report published on the website of Turk, July 25, 2017, page 81**).

3.3.Turkish auto industry in 2021

During this period, there was a drop in Turkey's exports of cars of all kinds, reaching 28%, according to the data of the Turkish Automobile Manufacturers Association, where the union said in a statement from January to November, which was affected by measures to combat the spread of the Corona virus, production decreased by 13% to 1.148 million cars. He continued, "Exports fell by 28 percent to 821,900 cars in the same period," and the collapse of car exports deprived the country of an important source of foreign exchange and exacerbated the crisis of the deterioration of the Turkish lira. Its plans to establish a new factory in the country, due to the economic repercussions that the automotive sector is witnessing after the spread of the new Corona virus (**magazine, Reports published on the website of Al-Jazeera, 2021, page 35**).

The carmaker "Ford Automotive", the Turkish branch of the American car industry group "Ford Motor Corp.", had suspended production at its three factories in Turkey in March 2020 against the background of the crisis of the spread of the Corona virus (**magazine, Reports published on the website of Al-Jazeera, 2020, page 13**).

In the same month, the Japanese car company Toyota announced the suspension of its activities in Turkey for the same reason.

But the numbers confirm that the auto sector in Turkey is going through a major crisis even before Corona, the cause of which is the erosion of confidence in the Turkish economy and the regime of President Recep Erdogan, as well as the erosion of the purchasing power of the Turks.

America is moving to impose sanctions on Turkey for its purchase of the Russian S-400 air defense system, under legislation aimed at preventing the purchase of military equipment from Moscow (**magazine, Reports published on the website of Al-Jazeera, 2021, page 38**).

At the same time, Turkey's economy is reeling between a combination of domestic economic and financial pressures, and sanctions on Ankara by EU countries.

A Turkish opposition party also revealed new burdens borne by the poor of Turkey in the central government budget for the year 2021 (**magazine, Reports published on the website of Al-Jazeera, 2021, page 76**).

The Turkish opposition "Good" party said that 19.5% of the country's tax revenue in the new budget, in 2021, will go to repay the government's borrowing interests.

4.The trend towards the electric car industry to keep pace with global changes

4.1.Electric car 100% Turkish made

Turkey witnessed the birth of its first national car in a large ceremony held by the Turkish Car Project Group "TOGG", which was attended by Turkish President Recep Tayyip Erdogan and a large number of political and economic figures in the country.

During the ceremony, a model of the Turkish car manufactured with pure Turkish techniques was presented, which will enter service and run in the streets of Turkey (**Press, April 06, 2015, page 06**).

The Marketing and Display Authority of the new Turkish car production project said that the factory designated for it will open in the state of Bursa (southwest of Istanbul) with the full support of the

Turkish government, indicating that the state will provide government insurance for 10 years and exemption from consumption tax and value-added tax for a period of 10 years (**Press, report published on the website of Turk, 2016, page 30**).

The authority explained that the total investment value of producing the car is 22 billion Turkish liras, or 3.704 billion dollars, and 4,323 workers will work in the project, which consists of 3 phases over 15 years, including 300 qualified experts (**Press, report published on the website of Turk, 2016, page 11**).

One of the media coordinators in the authority told Al Jazeera Net that the car production work plan aims to produce about 175,000 cars annually.

She added that 30,000 copies of the car, which will be launched in 2022 in the C-SUV model, have been guaranteed to be sold to customers who booked it before it was put on the market with the five models that are all powered by 100% electric power (**Press, report published on the website of Turk, 2016, page 92**).

4.2. Turkey's rising trend in electric and hybrid vehicles:

The number of fully electric vehicles on Turkish streets increased during 2020, despite the pressures imposed by the Corona pandemic on the abundance of liquidity among citizens and residents (**magazine, Reports published on the website of Al-Jazeera, 2020, page 61**).

The head of the Union of Electric and Hybrid Vehicles, Burgan Bayram, said that the use of electric cars witnessed a noticeable increase during the Corona year.

Bayram pointed out that the outbreak of Corona led to a serious process of change in many countries, including Turkey, where the adoption of the generation of cars that was not completely dependent on fuel increased.

The number of cars that run entirely on electric energy has increased to 2,500 vehicles by the end of 2020, but the acceleration of demand during the current year 2021 and the coming years opens the door to a major step towards a market in which emissions are declining (**magazine, Reports published on the website of Al-Jazeera, 2021, page 33**).

Despite the difficulties in the areas of production and the supply chain in the automotive industry during the epidemic phase, Turkey witnessed during 2020, a noticeable increase in the annual sales figures for electric cars compared to the previous year, according to Bayram (**magazine, Reports published on the website of Al-Jazeera, 2020, page 09**).

The head of the Electric Vehicle Association stated that 2020 was a year in which all standards for the electric vehicle sector were redefined, and the importance of protecting the environment from pollution was re-emphasized (**magazine, Reports published on the website of Al-Jazeera, 2020, page 22**).

4.3.Turkey exports electric car manufacturing technology to China

The first Turkish-Chinese company, CADMA, was established in China. This company is based on the strategic cooperation between the Turkish car production company "Drin Dora" (DMA), the first local company that manufactures electric cars, and the largest battery manufacturer of the Chinese government, CALB (**magazine, 2018, page 11**).

This Turkish-Chinese company will produce electric driving systems for Chinese cars, according to the models it requests, and it is planned that the turnover of this company will reach one billion dollars within 5 years.

The Chairman of the Board of Directors of the Turkish-Chinese company CADMA "Onder Yul" stated that the electric cars produced in Turkey are based on local programming systems 100 percent. Driving electric cars in Turkey (**magazine, Reports published on the website of Al-Jazeera, 2019, page 71**).

Yul explained that the Turkish research institutes will have a share in developing and programming the integrated systems for each brand, and the joint company CADMA will give a guarantee to produce a certain number of cars required (**magazine, Reports published on the website of Al-Jazeera, 2019, page 32**).

"We have conducted meetings with most of the Chinese companies that are active in the domestic Chinese market, and we have signed many agreements with each other in order to convert

their cars into electric cars," Yuol added (**magazine, Reports published on the website of Al-Jazeera, 2019, page 66**).

On the importance of cooperation with Turkey, Yul said: "China sees Turkey as a door to openness to Europe if any European company requests electric cars. He stressed that Turkey plans to produce a battery factory in the near term and that preparations for that have begun (**magazine, 2018, page 87**).

5. Results and discussion

Through the above, it can be said that the Turkish experience in the localization of the auto industry, is an experience that relied mainly on the strong control of the laws regulating the mechanism of car localization, which guarantees significant gains for Turkey, especially with the foreign investor who has experience and huge capital that covers such investments, Then moving to the stage of covering the local market and entering foreign markets, and finally working to keep pace with global changes to maintain markets such as manufacturing electric cars and not leave the gap.

As for the hypotheses, they can be combined, as through the study it was found that the Turkish experience in the localization of cars is very successful and positively returned to the Turkish economy by adopting new mechanisms and technologies and advanced technologies, which allowed Turkey to compete with foreign markets and achieve great economic gains.

6. Conclusion

It is possible to come out of this study with a set of results that can be imitated and benefited from with regard to the localization of the automobile industry in Algeria:

- Turkey has developed a strong conditions book that guarantees the rights of all dealers, and achieves great gains for Turkey in the field of localizing the auto industry;
- Attracting foreign direct investment, especially large dealers in the field of manufacturing and localization, due to the great experience, qualified labor and huge capitals;

- Heavy reliance on the localization of the auto industry because it represents 40 percent of the global industry, which has a great return on the local economy, increasing the gross domestic product and achieving a growth rate that ensures a strong economic position;
- The percentage of the workforce in the car manufacturing sector is large, and this sector must be developed so that we have outlets to address the unemployment crisis and achieve acceptable economic indicators;
- Turkey has worked to cover the local market, while working to enter the markets that are most in demand for cars of all kinds, especially those looking for quality and low cost;
- Working to preserve the Turkish market by keeping pace with various changes in the global market, which is looking for environmentally more useful and energy efficient cars such as electric and hybrid cars;
- Work on publicizing its various industrial and automotive products by various means and at the highest level;
- The success of the car resettlement process in Turkey despite the many political and economic obstacles;
- For the success of the Turkish experience, there was first a great political will to include Turkey in the refineries of the manufacturing countries, especially the manufacture of cars.

7. Recommendations and suggestions: The following suggestions can be made:

- It is possible to adopt and adopt the Turkish experience in the field of localizing the auto industry, especially for Algeria, which suffers to this day in this field;
- Establishing cooperation mechanisms between Turkey and Arab countries, especially Algeria, to benefit from the Turkish experience;
- Overcoming some obstacles, especially legal ones, to advance the auto industry and enable the process of resettlement;

- The large investment of funds with good allocation and efficiency in use in the field of automobile manufacturing to gain access to this field.

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