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COMPETITVE STRUCTURE OF THE SPANISH AUTOMOTIVE INDUSTRY

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Overall, automotive manufacturing is a global industry in which large groups of vehicle manufacturers try to be present in either commercial or industrial most important global markets.

Car and truck manufacturing sector is a key area within Spanish industrial activity. In 2011, it reached almost 10% of GDP. Nowadays, there are nine vehicle manufacturing companies and seventeen production plants. In addition, Spain is the second largest producer of vehicles in Europe and the twelfth worldwide.

In 2012, Spanish vehicle production amounted to 1.98 million cars, which represent a strong decrease from the previous year (-17%). These production levels have been made possible due to the demand from main European markets, which absorb 87.4% of production. Consequently, foreign trade is a growth via for the Spanish automotive industry.

The forecast for 2013 has evolved in a more favorable way than in previous years. Due to PIVE Plan (Incentive Plan for Efficient Vehicles, in English) and the policy of containment of labor costs, it is expected that automotive sector will close this year with a total production around 2.2 million vehicles, an amount not seen since the 90s but higher than 2009. The fall of traditional European markets and Spanish market crash are the main causes of this decline.

Throughout the first half of 2013, vehicle sales outside Spain rise 6.1% which is explained mainly by opening new markets and increasing export rates to them. In spite of this and as consequence of the lack of demand, the vulnerability of production plants allocated in Spain continues to be affected. For this reason, it has been necessary to carry out a redefinition of automotive sector in order to ensure the future of this key industry of the Spanish economy.

1. RIVALRY AMONG EXISTING COMPETITORS

The analysis of NACE 29 led to conclude that automotive industry is characterized by a moderately-high concentration. In this sense, the average concentration ratio CR4 is 68.6% and Hirschman-Herfindahl index is 1,542.5, both for 2007-2011. CR4 ratio measures the percentage of net turnover of the four largest companies on the whole sector. An industry is more concentrated as the indicator CR4 is greater. This ratio has been calculated as follows:

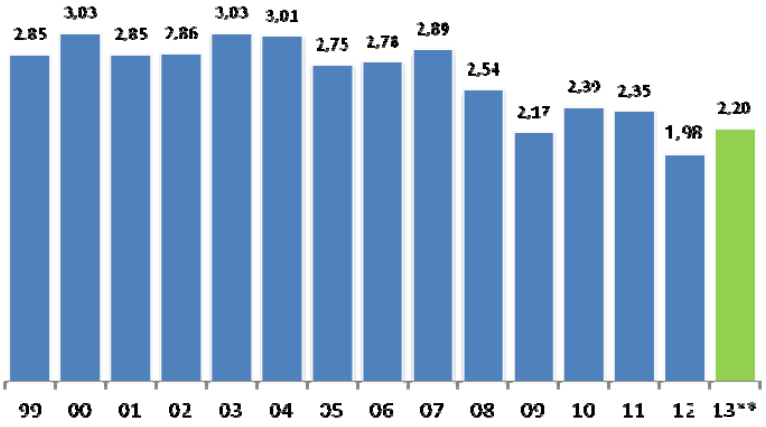
$$CR4 = \frac{\sum_1^4 \text{Operating revenues of the largest companies}}{\sum_1^n \text{Net turnover of the total sector}}$$

Hirschman-Herfindahl index (HHI), which ranges from 0 to 10,000, corresponds to the sum of the squares of the market shares of companies in the sector. Like the CR4 ratio, the concentration of the industry will be greater as the IHH increases.

The automotive industry maintains a growth rate close to zero and it is in the mature stage of its life cycle. Consequently, companies of the automotive industry try to maintain its competitive advantage through innovation, spending 40% of their turnover to the development of new or improved products.

Vehicle production has decreased over the last years, especially since the beginning of the economic crisis in 2007 (Figure 1). The drop in the Spanish car sales in Europe has caused a stock excess and, therefore, production capacity of manufacturing plants has become loose.

Figure 1. Spanish production of vehicles*



* In million units.
** Forecast for 2013.

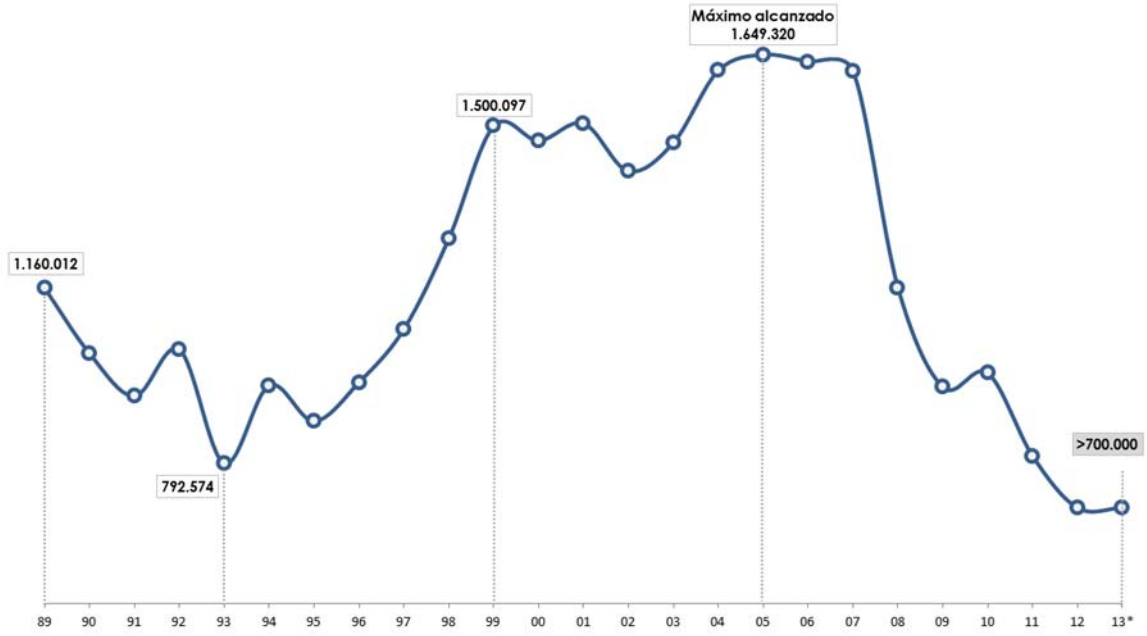
Source: OICA y ANFAC.

The high level of competition in the automotive industry is due to the fact that potential supply of vehicles exceeds its existing demand, so causing an excess of productive capacity, mainly since 2007. This situation has forced both car manufacturers and Government to make decisions to compensate the mismatch between supply and demand. On the one hand, automotive manufacturers have strongly reduced car prices through promotions. On the other hand, Government has financed car buyers with some subsidies. For example, in 2009 the E Plan contributed to a 40% increase in sales during the first half of 2010. Moreover, in the first week of October 2012, both automotive companies and Government launched PIVE Plan (through which it was intended to encourage the purchase of energy-efficient vehicles (more than 65% of the current market) and withdraw from circulation those cars older than twelve. The beneficiaries (individuals, professionals, freelancers, microenterprises, and SMEs) received 2,000 euro when paying the bill at the automotive dealership (1,000 euro from the Ministry of Industry, Energy and Tourism, and 1,000 by the manufacturer or importer). Finally, PIVE Plan was successful and the Government has granted new subsidies to encourage the sale of cars (2nd and 3rd PIVE Plan).

During the last few years, and particularly since the beginning of the economic crisis, car registrations in Spain have tended to decrease (Figure 2). In particular, it has been expected that car sales did not exceed 700,000 units in 2012, which is 40% less than in 2005.

Although the lack of consumer confidence, unemployment rate, lack of funding, and lower purchasing power of families continued to be the main drags on the car market, the recent grants for the purchase of vehicles has contributed to encourage the upward trend of car sales during the first seven months of 2013. Even though, the automotive sector accumulates a decrease of 2.1% in car registrations between January and July.

Figure 2. Evolution of car registrations 1989-2013.



* Forecast to 2013.

Source: Compiled from ANFAC.

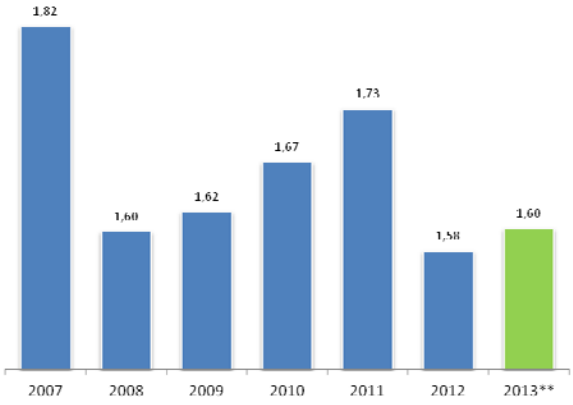
The drop in demand in Europe has led companies to produce below their capacity, which directly affects their profitability. Manufacturers are at risk to suffer losses when using less than 90% capacity. In 2012, that percentage was about 75% on average (e.g. PSA in Europe was 62%, according to consultancy *LMC Automotive*). The problem of overcapacity could eventually result in the closure of production plants and layoffs of thousands of employees.

In contrast to the general decline in car sales in Spain over the last few years, the second-hand market has been rising since 2008. This may be explained because 72% of prospective buyers are open both to the possibility of purchasing a new vehicle and to choice the second-hand market. Only a minority exclusively restricts their search to new cars (17%) or second-hand cars (11%). Furthermore, the increase in VAT in September 2012 also favored the purchase of second-hand cars because private operations, which involve six over ten operations, are not subject to VAT, but transfer tax. It was expected that 2013 will end with a total amount of second hand car sales around 1.6million (Figure 3).

There are low **mobility barriers** among different segments within the automotive industry (micro, small, medium, minivan, sport, luxury, etc.) since the production plants have a flexible manufacturing system, easily adaptable to the type of vehicle they want to make.

The automotive industry is characterized by highly specialized assets, among which machinery used in factories (machines dedicated to machining, stamping, casting parts, assembly ...) constitutes a great **exit barrier** due to the high capital investment required for its purchase. Vehicle manufacturers also have specialized and large manufacturing plants, they are labor-intensive, and have large workforce whose costs of closure and redundancy are quite high.

Figure 3. Evolution of sales of second-hand cars*.



* In million units.
** Forecast for 2013.

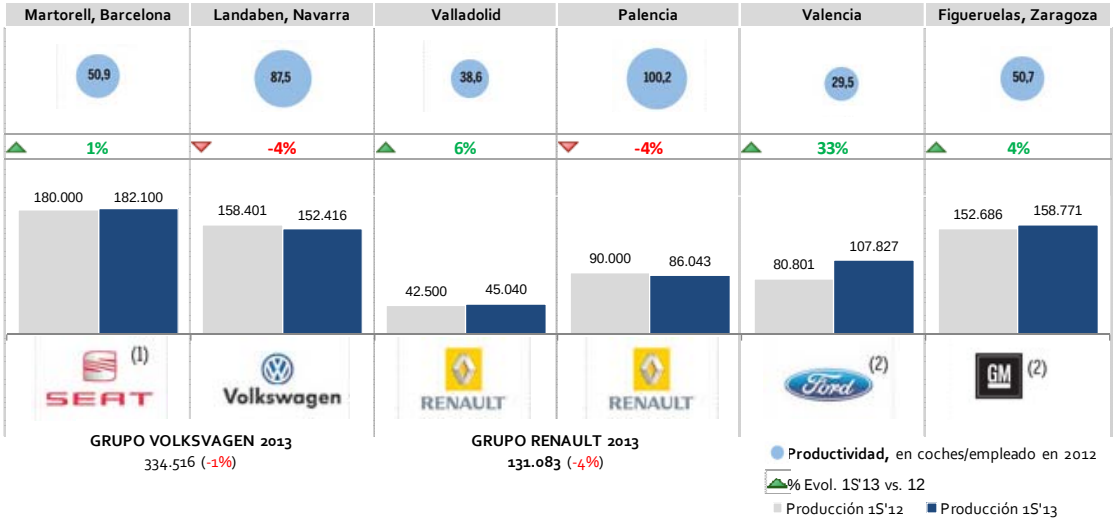
Source: GANVAM.

2. THREAT OF NEW ENTRANTS

If new entrants want to compete in the industry, they should face several **entry barriers** such as scale economies and supplier switching costs.

The automotive industry is a medium demand and technology industry where there are significant **economies of scale** in view of the need to reach a minimum efficient size. According to Booz Allen and Hamilton, and INFOTEC (1987), it is required that manufacturing plants produce 150,000 units annually for the factory to be efficient. While in 2010 almost all production plants exceeded that amount, nowadays only Seat, Volkswagen and Opel factories manage to achieve it in the first six months of 2013. It is explained by the drastic decrease if sales during the last years which has affected directly to car production (figure 4).

Figure 4. Cars' production in Spanish factories during the first six months of 2013.



*PSA Group, with two factories in Spain, does not communicate industrial information.
(1) Forecast, lack of official data. (2) Temporal redundancy plan in 2012.
Source: Compiled from car manufacturers' information and ANFAC.

Switching costs will tend to be high for several reasons. Firstly, there are close collaboration between car manufacturers and their suppliers, who have an extensive knowledge about organizational routines, technologies, and know-how of processes, whose transfer would be extremely complicated. Consequently, the level of information shared by the manufacturers and their suppliers is very high and the amount of information shared is almost plenty. Finally, suppliers are characterized by a strong collaboration in the field of design, engineering and R&D with the assemblers.

3. THREAT OF SUBSTITUTE PRODUCTS

If it is considered that a substitute product of a car can be any means of transport which covers the necessity to move from one place to another, it is possible to analyze all alternative means of transport in short, medium and large distance by land, sea and air within Spanish borders.

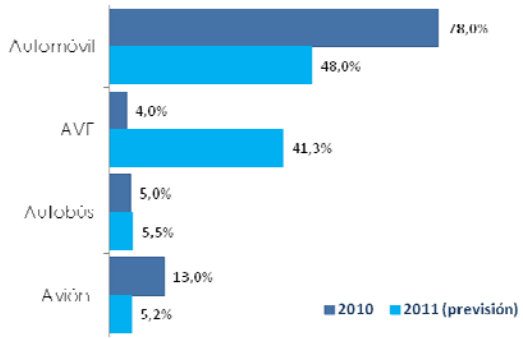
After creating a replacement ratio in order to determine the degree of threat posed by such means of transport for the automotive industry and considering as short distance urban transport by bus and metro, we have obtained the following results:

During the period 2000-2011, *urban transport by bus* in the regions of Madrid and Catalonia is not generally a threat to the automotive industry since the average replacement ratio is 8.65% and 4.30%, respectively.

In the metropolitan area of Madrid and Barcelona, the average percentages obtained are 19.82% and 21.95%, respectively. Approximately two out of ten people use the metropolitan transportations instead driving in such areas. This threat is higher than the urban transport by bus, but still not so high.

These results can be extrapolated to long distance considering as such the intercity transport by bus and train, national air passenger transport, and shipping (cabotage).

Figure 5. Substitution effect of the TGV Madrid-Valencia.

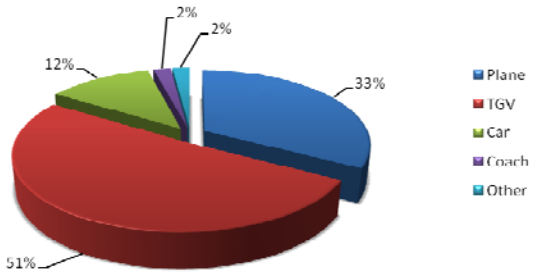


Source: Ministry of Development (2010).

An example of the substitution effect between train and automobile is the TGV Madrid-Valencia opened in December 2010. Spanish Ministry of Development (2010) expected that 48% of journeys that will occur in this corridor in 2011 would be made by car. In 2010, the percentage of journeys made by car between Madrid and Valencia were 78%. Figure 5 shows the percentage of trips made by each of the different means of transport. Finally, the TGV transported 83% of travelers of the corridor Madrid-Valencia, absorbing 25% of all journeys that were made by car in 2011 (El País, 15th December 2011).

A non scientific survey carried out by elpais.com, shows that more than a half of the respondents prefer to use high speed lines to other railway transport for long journeys (Figure 6).

Figure 6. Transportation for long journeys: preferences.



Source: Compiled from http://www.elpais.com/encuestas/resultados.html?id=14036.

4. BARGAINING POWER OF SUPPLIERS

The automotive components manufacturing is an industry characterized by low business concentration. The average CR4 concentration index is around 14% for the period 2004-2010. Therefore, suppliers of automotive industry have a low bargaining power because of the fragmentation of the industry.

Due to the close collaboration between suppliers and car manufacturers, suppliers have a high level of information about their customers, and the amount of information shared is plenty.

Suppliers provide products in the supply chain (raw materials, pieces, components, systems and modules…) that can be stored. This fact reduces their bargaining power.

In 2005, 53% of products purchased by Spanish car manufacturing plants were made in Spain and the rest were imported. Since then, the weight of domestic automobile industry within total turnover of Spanish component industry has dropped 22 percentage points. This is primarily due to the strategy of costs reduction followed by car manufacturers, who are unifying components of their different models.

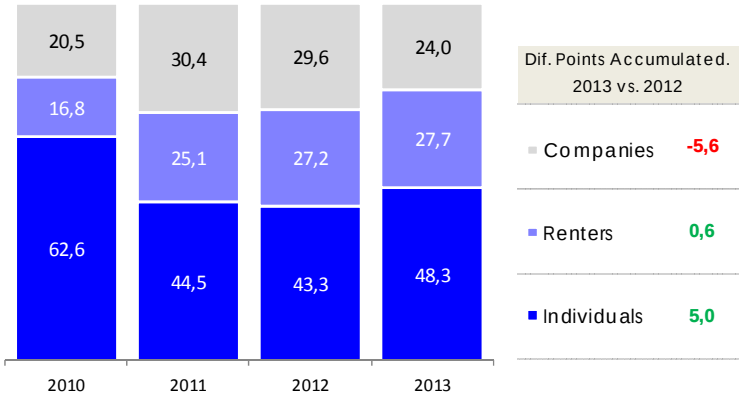
5. BARGAINING POWER OF CUSTOMERS

Despite the fact that car dealers act as intermediaries within the supply-chain of automotive industry, here it is final car consumers (individuals, businesses and car rental companies) who pose the real bargaining power. This is because car dealers work under the guidelines, strategies and commercialization rights imposed by manufacturers.

In the first seven months of the period 2010-2013, individuals market has reached the highest percentage of car registrations (Figure 7). While sales to individuals market supposed 63% on total sales amounted in 2010, they were less than 50% in 2013. Nevertheless, car registrations have had an increase of 5.0 percentage points compared to 2012. It was mainly caused by the lack of customer confidence, unemployment rate, lack of financing, and reduction in families' purchasing power.

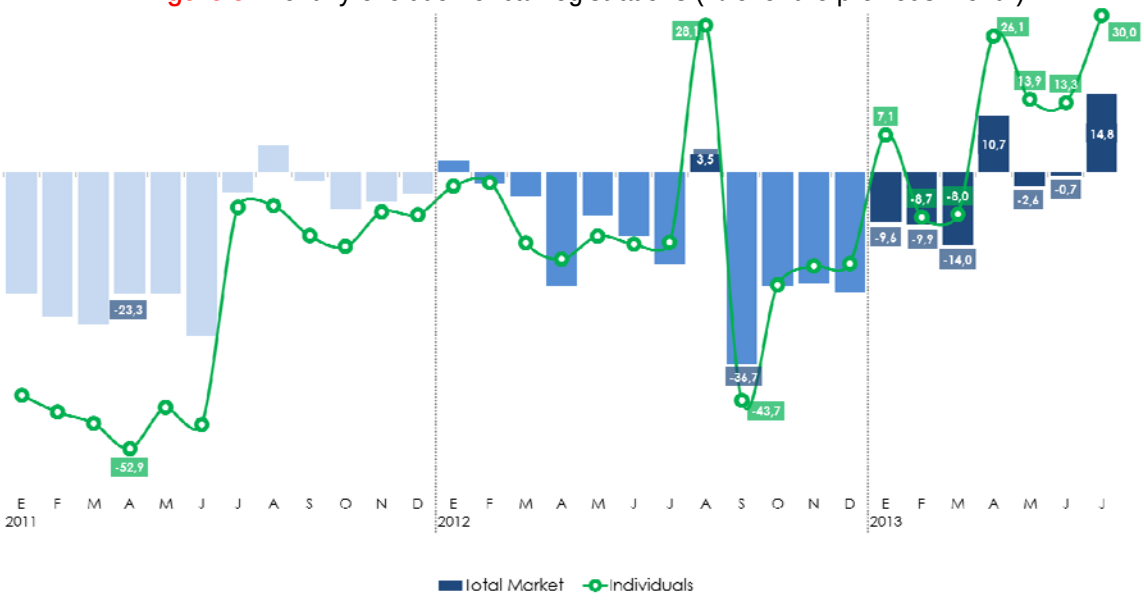
Individual's car purchases have had a downward trend during the last three years (Figure 8). In the first seven months of 2013, individuals market reflected the impulse of PIVE Plan and closed July (the last month of application of the grant) with the highest growth rate since 2010.

Figure 7. Evolution of the percentage of registered cars in Spain by kind of customer*



*Evolution of car registrations accumulated between January and July of each year.
Source: Compiled from ANIACAM.

Figure 8. Monthly evolution of car registrations (% over the previous month).



Source: Compiled from ANFAC y ANIACAM.

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