# Collusive behaviour in the automobile sector in Spain. Quantifying consumer damages

## Comportamiento colusorio en el sector del automóvil en España. Cuantificación de los daños al consumidor

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## ABSTRACT

On July 23, 2015, the Spanish National Markets and Competition Commission (CNMC) passed judgement (S/0482/13) against 20 automotive sector companies for alleged restrictive competition practices between March 2004 and August 2013. The exchange of information among the different companies would have had repercussions on the fixing of vehicle sale prices, homogenization of conditions and future commercial plans for the automobile sale and post-sale services in Spain. This paper estimates the loss suffered by consumers as a result of these collusive practices using the Before and After method. We have reconstructed the prices that would have prevailed in the absence of the collusive practice. The analysis reveals an increase of 10.16 percent. The observation of the prices and the production of automobiles during the period exhibits an anomalous behaviour with respect to GDP evolution and prices in the economy as a whole.

## RESUMEN

El 23 de julio de 2015 la CNMC dictó la Resolución de la sentencia, en el expediente S/0482/13, contra 20 empresas del sector automovilístico por supuestas prácticas restrictivas de la competencia desde marzo de 2004 hasta agosto de 2013. Este intercambio de información habría repercutido en la fijación de los precios de venta de los automóviles, así como en la homogeneización de las condiciones y planes comerciales futuros de venta y posventa de los automóviles en España. Este trabajo estima el daño sufrido por los consumidores derivado de dicho acuerdo utilizando el método "before and after" para la reconstrucción de los precios que hubieran prevalecido en caso de que no hubiese existido la práctica colusiva. El análisis arroja un sobre precio del 10,16 por ciento. La observación de los precios y la producción de automóviles evidencia, asimismo un comportamiento anómalo respecto de la evolución del PIB y los precios del conjunto de la economía.

## 1. INTRODUCTION

The impact of cartels on markets and the different agents involved (both promoters and those affected by the collusive practices) have been extensively studied in economic literature. Collusive practices refer to agreements between two or more companies to reach a consensus on commercial practices that would result in a price and/or quantity different from the ones would occur if such collusive practices did not exist.

There is a broad consensus that the existence of these collusive practices leads to higher prices, a decrease in production, and a redistribution of wealth from consumers to producers. The consumer surplus –the difference between what consumers are willing to pay for a product or service and what they actually have to pay at the given market price– reduces as prices increase. In most cases, unless the demand is highly inelastic regarding the price, the quantity consumed decreases when prices go up. In this sense, most countries, at national and supranational level, have created a series of organizations responsible for markets which define appropriate measures to guarantee they function correctly. In the case of Spain, the National Commission for Markets and Competition (CNMC) promotes and defends markets in the interest of consumers and companies.

On July 23, 2015, the CNMC (2015a) ruled against various automotive sector companies (S/0482/13) for practices restrictive of competition (Restrictive practices of competition prohibited in article 1 of the Law 16/1989, of July 17, in Defence of Competition (Law 16/1989), in article 1 of Law 15/2007, of July 3, in Defence of Competition, and in article 101 of the Treaty on the Functioning of the European Union).

The existence of agreements to exchange commercially sensitive and strategic information between a large number of car manufacturers and distributors in Spain between March 2004 and August 2013 was thus considered to be proven. The resolution recognized the breach committed by 20 car manufacturers and issued fines amounting to €178.4 million. Appendix 1 y 2 shows the different companies affected by the ruling, their turnover in 2014 and the sanctions applied to each of them. The sanction was calculated as a percentage of turnover and was also dependent on the duration of the collusive practices[1].The markets sanctioned include new and used car marketing and distribution, and car spare parts and accessories in the Spanish territory.

The exchange of information would impact on the fixing of car sale prices, and lead to a homogenization of the conditions and future commercial plans for car sales and post-sale services in Spain from at least 2004 until July 2013, when the Commission's inspections took place.

Car manufacturers or suppliers sell their products to distributors, dealers (official or independent), and the latter resells them to customers applying a margin which constitutes the source of income. In the case of new cars, the car brand recommends a sale price so that dealers can freely establish the final sale price[2]. It is the dealer, in any case, who would have to assume responsibility for consumer claims as they would be ultimately responsible for the final sale price of the car.

The fine has been decided in accordance with each brand's market share and opens the door for affected individuals and companies to claim compensation given that, in principle, they could not benefit from the best commercial conditions available in a context of free competition. Therefore, the claim would equal the extra cost incurred due to the price surcharge. The greatest difficulty facing the courts is to decide on the compensation, since there is no consensus regarding the procedure to follow[3]. Hence, expert reports are used to determine the amount.

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1. In some cases, these sanctions have been appealed by car manufacturers. Thus, in the last six months of 2021, the Supreme Court has issued various rulings resolving some of the appeals. In some cases, the sanctions have been ratified, although there are still appeals to be resolved. Mazda has been the only company that has managed to avoid the sanction, since the investigation ensured "that the percentage or quota of participation of the appellant entity in said conduct had been nil". On the other hand, Seat, together with Volkswagen and Porsche, were exempt from paying the penalty since they collaborated by providing sufficient information to undertake the investigation into the conduct of the automobile manufacturers' cartel.

2. This practice is covered by the Category Exemption Regulation when the market share of each of the parties to the agreement does not exceed the 30 per cent threshold, provided that it does not imply a minimum or fixed sale price.

3. See Oxera (2009) and Seixas & Lucinda (2019) for a guide to quantify cartel overcharge and antitrust damages.

This is the framework for our study. Our main objective is to provide a coherent method to estimate the price consumers would have paid in the absence of collusive practices and to estimate, where appropriate, the corresponding compensation based on CNMC and the European Commission recommendations. In addition to the methodology and estimation of the additional cost, the evolution of a series of variables, specifically production and prices, related to the automobile market has been analysed. The purpose is to observe any anomalous behaviour that could demonstrate the collusive behaviour between companies.

The following section describes the restrictive competition practices in the car sector in Spain during 2004-2013 period. The third section includes the theoretical framework, methodology and sources. Subsequently, the descriptive and econometric analysis and the estimate of the additional cost are included. Finally, we end with some brief conclusions and discussions.

## 2. RESTRICTIVE COMPETITION PRACTICES IN THE CAR SECTOR IN SPAIN (2014-2013)

In its resolution of July 23, 2015 (Case No. S/0482/13 Automobile Manufacturers), the CNMC finds proven the existence of agreements for the exchange of commercial and strategic information among manufacturers and distributors of car brands in Spain. In that resolution, the CNMC concludes that this type of coordination between companies has enough harmful effects to be considered as a restriction of market competition, given that competitors have enough information about competing companies to modify, accordingly, their market behaviour.

The exchange of confidential information ranged from:

– Profitability and turnover of their dealership networks: new and used car sales and after-sales activities (workshop and spare parts sales).
– Commercial margins and remuneration policy offered by the different brands to their dealership networks: final selling price, weights, bonus system, among other information.
– Structures, characteristics, and organization of their dealership networks, and data on the management policies of such networks.
– Conditions of their current and future commercial policies and strategies regarding after-sales marketing.
– Marketing campaigns to the end customers.
– Customer loyalty programs.
– Policies adopted regarding external sales channels and best network management practices.
– Disaggregated monthly sales figures by car models.

In its early stages, in 2004, the brand club consisted of Chevrolet, Citroen, Fiat, Ford, Opel (i.e., General Motors), Peugeot, Renault and Toyota. Seat joined the club in June 2005. Communications between the cartel's companies took place in meetings held several times a year. The first proven meeting among the "members of the brand club" took place on January 16, 2006.

At least 16 meetings are documented, between January 16, 2006, and May 21, 2013. Apart from physical meetings, contacts through email have been evidenced as the ones that initiated the "cartel". There exists evidence of these communications since 2004. To maintain anonymity in their agreements, the brands were assigned numbers, thus avoiding mentioning names.

The objective of the brand club was to attract more brands to join, so the invitation was gradually extended to other brands. Table 1 in the appendix provides information on the incorporation and duration of each brand in the club.

The exchange of information is considered proven through three channels:

– The brand club, where participating companies shared information about their commercial distribution strategy, brand results, and dealership margins. In the club meeting held on April 16,

2009, it was decided to hire an external company (SNAP-ON) for the management and organization of meetings and information exchange among the companies in the club.

- The After-Sales Forum, where information related to the results of marketing campaigns in after-sales services and activities was exchanged. The company URBAN has been managing this information exchange since 2010.
- Constructor Meetings: These meetings involved the sharing of information about present and future commercial policies, customer loyalty, and policies related to external sales channels. They took place between 2010 and 2011.

Out of a total of 21 vehicle distribution companies, 12 participated in all three information exchange forums (Volskswagen Audi España –Audi, VW and Skoda–, BMW, Citroen, Fiat, Ford, Hyundai, Mazda, Nissan, General Motors, Peugeot, Seat, Toyota and Lexus), 5 participated in two of the tree forums (Chevrolet, Honda, Kia, Renault and Volvo) and 4 companies participated in only one of the forums (Mitsubishi, Mercedes, Chrysler and Porsche). The significance of the car cartel will be undeniable, as 100% of vehicles sold in Spain, according to ANFAC 2013 data, correspond to the brands included in the CNMC's sanctioning proceeding.

Despite the proven information exchange among the brands, the companies argued that such exchange did not have anti-competitive effects. They rather argued the opposite, claiming, that the meetings had pro-competitive effects, by increasing dealership profitability, which allowed them to compete more aggressively in the market. Furthermore, the brands argued that there was no evidence of increased prices, price agreements, or commercial conditions, and that there has been no collusive response as a result of this exchange. In fact, many of the brands have appealed the CNMC's ruling, arguing that there has not been sufficient economic analysis to justify the conclusions regarding the effects of the information exchange and its restrictive nature on competition. However, all of them have received unfavourable rulings, obliging them to pay the fines imposed by the Commission.

## 3. THEORETICAL FRAMEWORK

The literature analysing cartels points out that the appearance of a cartel at some stage in the supply or production channel generally leads to a higher price and lower production than a competitive market, one without collusive agreements. In figure 1, a competitive market is depicted with a quantity $Q_0$ and a price $P_0$. Obviously, cartel behaviour can cause other damages or inconveniences for customers, not only manifesting in price and quantity, but those damages will be specific to each type of cartel and therefore cannot be generalized.

When companies reach a collusive agreement, the cartel price can approximate a price setting similar to what occurs in a monopoly context, meaning that production is set at the level where marginal revenues equal marginal costs. This results in a decrease in the quantity produced, $Q_1$, and an increase in prices, $P_1$ (figure 1).

These effects harm consumers, resulting in a decrease in their well-being (area A+B). At the same time, there is a transfer of consumer welfare (loss of part of the consumer surplus, area A) to the companies that make up the cartel. This transfer would not be complete, given that the cartel implies a loss of efficiency that no agent appropriates (area B)[4]. Both reasons justify that, in most countries, antitrust laws do exist to penalize such practices.

The damages caused by the cartel, often referred to as "overcharge" in the literature, can be defined as the illegal appropriation of profits by the companies. Overcharge can result from a direct price fixing or other trade restrictions that may arise from collusive practices. The damage caused by the cartel, area A, can be expressed as:

$$D = (P1 - P0) * Q1$$

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4. See Davis & Garcés (2010) for a detailed analysis of the effects of the cartel on the market, pp. 364.
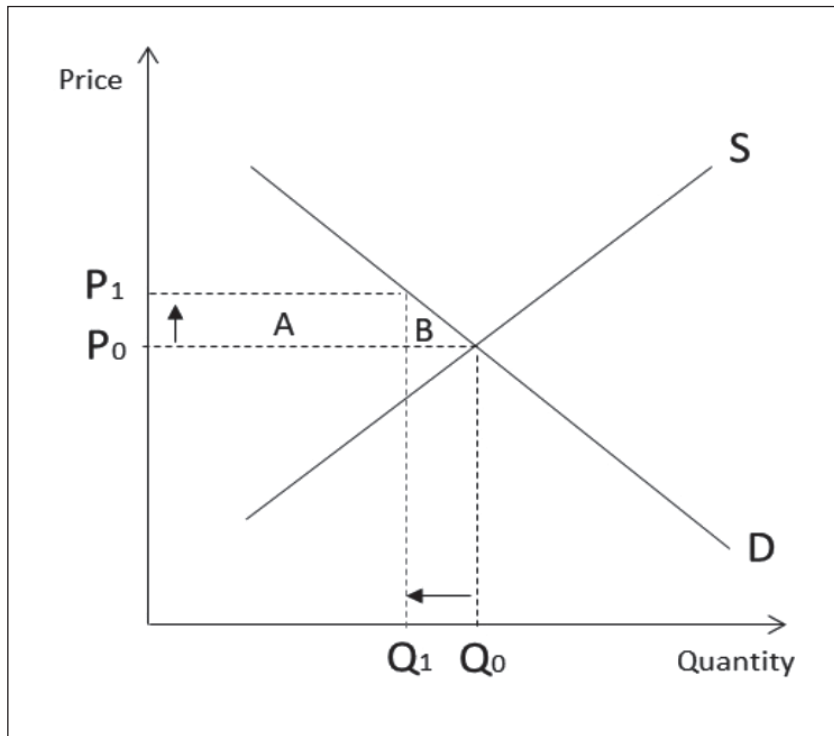
**Figure 1.** Welfare effects of a cartel. Source: own elaboration.

The term ($P_1 - P_0$) represents the overcharge per unit. This measure of damages does not include all the harm done to buyers (the area of triangle B in the case of a linear demand curve). In most studies, this area has been ignored when assessing damages because it may be very small relative to the overcharge, and it is much more difficult to estimate this region because it would require estimating the demand curve.

Another factor to consider when estimating damages caused by the cartel is the industry's structure in which the agreement has been made. In other words, if the cartel sells the product directly to consumers or if the first or direct purchaser is an intermediate agent who resells the product to consumers, who are then the indirect purchasers. The existing literature on cartel pass-on effects focuses on three layers: the producers who form a cartel, the direct purchasers who sell to the third layer, and the final consumers.

The works of Basso and Rose (2010) and Van Dijk and Verboven (2007) provide an interesting breakdown of the damage caused by the cartel between what are considered direct effects (which affect the cartel's direct buyer, in this case, the dealerships) and indirect effects that affect consumers. There are other indirect costs associated with the emergence of a cartel that go beyond the effects on final consumers. The suppliers of the cartel can also be affected since there will be a decrease in the purchases made by the cartel due to its reduced production.

In this paper, however, we do not analyse the cartel's effects on global efficiency levels; instead, we aim to estimate the extra cost paid by consumers who actually purchased the product. The effects on consumers resulting from the emergence of a cartel are not uniform across all industries. The extent of the damage, however, depends on the number of intermediate layers and their corresponding levels of competition. Han et al. (2009) and Laitenberger and Smuda (2013) suggest that the level of industry competition is an important factor to consider. If perfect competition exists on each downstream layer, the incidental price increase by cartelists will be completely passed on to final customers. Boone and Mueller (2012) confirm that consumer harm is negatively related to the marginal cost and price of the aggregate industry, as well as the elasticity, which measures the percentage change in output price in response to a one percent increase in input costs. Brander and Ross (2006) and Basso and Rose (2010) analyse in detail the difference in damages caused by cartel agreements under the assumption that direct purchasers are themselves sellers in perfectly competitive markets, or conversely, the direct purchaser is itself a monopolist.

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In conclusion, the literature asserts that the damage caused by the cartel to consumers will be greater the higher the degree of competition exists at intermediate levels of the industry, i.e., between the companies that make up the cartel and the final consumer. In the descriptive analysis section, we will delve into the characteristics of the cartel under study.

## 4. METHODOLOGY AND SOURCES

The number of studies that directly analyse the harm suffered by consumers are scarce, due to the difficulty of obtaining rigorous information for the analysis. For this reason, in many cases, statistical methods are employed to assess the potential overpricing resulting from price-fixing agreements.

Both the European Commission (2013) and the CNMC (2015b and 2020) propose two type of methods to quantify damages and compensations in these cases: comparative methods and non-comparative methods. Comparative methods are the most commonly used and are based on estimating market behaviour regarding prices and quantities if the cartel had not occurred. Non-comparative methods rely on economic models, drawing upon economic theory, or utilize production costs and profit margins to estimate a scenario without infringement.

The main advantage of comparative methods is that these procedures utilise real data from the analysed market or a similar market in terms of product or geographic area. This is the primary reason why our work leans towards the use of these methods.

Within comparative methods, three options are considered:

i. *Before and After*. This method compares the real situation during the collusive behaviour period with situation the in the same market before or after these practices (temporary or diachronic comparison).
ii. *Market comparison, synchronous or yardstick*. This method compares the market affected by the collusive behaviour with a market of similar characteristics, but located in another geographical region or corresponding to another product.
iii. *Mixed*. This method combines both methods.

The quantification of damages for non-compliance with articles 101 and 102 TFEU (2013) is, by its very nature, and as recognized by the European Commission Guide (2013, subject to considerable limitations in the degree of certainty and precision, since there cannot be a single "true" value of the damage suffered, but only best estimates based on assumptions and approximations. The results obtained can only be taken as a probable rather than as an exact value.

In practical terms, the greatest difficulty faced by courts is determining a fair amount of compensation. There are many law firms and companies prone to prepare an expert report to determine such an amount, but there is a total lack of explanation regarding the calculation required to establish these figures. It is not easy to determine what price consumers would have paid in the absence of a car cartel.

The "Before and After" method is the most commonly used by jurisdictional bodies and affected parties, as well as in economic literature. Without aiming to be exhaustive, it is worth mentioning the work of Laitenberger and Smuda (2013), which tries to measure the damage caused to consumers by the detergent cartel that took place from January 2002 to March 2005 in Germany[5]. Using the same procedure, Hastings (2004) studied the impact on gasoline prices following the acquisition of many independent gas stations by the ARCO company, a large American oil company. This model predicted that when independents are replaced by branded integrated stations, price competition in the market was softened, resulting in higher local market prices. In the United States, Bernheim (2002) estimated the price of vitamin C if the cartel that took place from December 2001 to June 2006 had not existed. He concluded that the price of vitamin C was substantially higher as a direct consequence of the defendants' conspiracy to restrain trade and control prices. As a result of the conspiracy, the plaintiffs suffered damages of approximately $58.4 million.

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5. They obtained an average overcharge of 6.7% to 6.9% and a potential loss for consumers of 315 million euros.

The availability of data and the effectiveness of the Before and After method have made it the one chosen for this paper. However, it must be noted that comparing it with a market similar to the automobile sector in Spain is extremely complex.

The procedure, therefore, consists of comparing the variable of interest, in our case the car price, during the collusive period with the price in a period after or before it. In our analysis, a later moment has been considered for two reasons. Firstly, due to the difficulty of establishing the start date of collusive practices (it is easier to identify the cessation date using the legal ruling). And secondly, because the data corresponding to each vehicle model is not found in any official statistics so we must resort to specialist car sector publications. In this sense, obtaining data prior to 2006 (representing the start of the price collusion) is very complex.

It is true, in any case, that the use of data from the immediately subsequent period may underestimate the effect of the law-breaking, as there may be a delay before market conditions return to the level prior to the collusion (European Commission, 2013 and Harrington, 2002). In an effort to avoid this problem, the year 2015 has been used as a reference instead of 2014 as the final period of the price agreement. We are aware that by applying this diachronic method we are indirectly assuming that the market structure has not changed during the periods covered in the analysis. This assumption is not too improbable, as we consider very close time periods (2013 and 2015).

Once the year of reference has been decided, an attempt has been made to identify the determinants of the car price, the variable that we intend to explain. There are a broad range of factors that could affect car prices, both on the demand side and on the supply side. In this article we have focused mainly on the characteristics of the car given the difficulty in sourcing data regarding cost structures and competitive marketing strategies applied to each car brand. Additionally, there are certain supply factors, such as the number of vehicles sold, which could be conditioned by the collusive behaviour itself and whose inclusion in the estimate could give rise to endogeneity problems.

The choice we are assuming would leave out the estimate variables that can be decisive in setting car prices. If the model were interpreted as an explanatory model, it could present considerable problems of omission and, consequently, a bias in the estimators. Therefore, the model should be interpreted as a prediction model, which may affect the consideration of the coefficients as a measure of causal effect, but does not lead to a biased estimation of the predictions (Davis & Gracés, 2010).

The estimate equation is the following:

$$P_i = A + \beta X_i + \varepsilon_i$$

Where *P* corresponds to the prices of each car (i), the β coefficients are the estimated parameters of the model and X are the independent variables that determine price. The term ε represents the random error, and it collects the information that is not explained by the independent variables. In order to have efficient and consistent estimates, the error term is supposed to be a random variable with a mean of zero and constant variance.

There are various factors that can affect car prices, both on the demand side and the supply side. In this article, we have focused on price determination as a result of car characteristics for several reasons. Firstly, due to the lack of transparency in the sector and the difficulty of finding individual data that allows for robust estimations. Secondly, we have avoided supply factors that may be influenced by the cartel itself, as they could introduce endogeneity issues. This choice excludes variables that may be determinants in car price determination, as the total quantity of vehicles sold. In any case, if the model was interpreted as an explanatory one, we will find problems related with omitted variable bias. As mentioned earlier, the model will be interpreted as a predictive model, which may affect the interpretation of coefficients as a measure of causal effect but does not lead to biased predictions.

In order to choose the determinants of the price we have considered the availability of data and the interaction with our variable object to study.

The car distribution market is not transparent, with limited official sources regarding vehicle sales figures, profitability, commercial campaigns or after-sales services for each brand. In this sense, the only public source of information is the General Directorate of Traffic (DGT) for vehicle registration, recording the type of vehicle, maximum load, fuel type, the power, year of registration, the grouping of seats and the cylinder capacity, but not the price of the car, which is our variable of interest.

For this reason, we have considered specialized car magazine data, specifically from "Cars" magazine corresponding to January 2013 and January 2015. A total of 2509 observations have been collected (1,352 observations for January 2013 and 1,157 observations for January 2015). We have included the equivalent models for both years for each brand. Models that only existed in 2013 and have disappeared by 2015 and vice versa have been excluded from the sample.

Additionally, hybrid car versions were removed from the sample due to their lower sales volume and market share in 2013 and 2015, and because characteristics and market positioning differed considerably to those of gasoline and diesel cars.

It should also be noted that the price we access is the official recommended price set by car brands, which may not coincide in some cases with the dealer's sale price. Likewise, and given that the prices analysed are from two different years, the effects of inflation must be considered. Between 2013 and 2015 there was a 1.1 percent drop in prices according to the National Statistical Institute (INE) (data from January 2013 and 2015). However, and given the strong discrepancies in the evolution of car prices and the global inflation rate, we decided to deflate prices with the car sales subgroup index. According to said index, the subgroup corresponding to car prices would have risen by 4.19 percent[6].

Once again, a caveat must be made as this trend is not homogeneous in all car price strata. In fact, the two lowest deciles of the price distribution show a drop, while the two highest ones exhibit a rise, especially marked in the last percentile. In short, we can affirm that high-end cars maintain the greatest growth in prices, while low-end cars show stagnation or a drop in prices. The inclusion of the high-level mark variable allows us, in part but not completely, to solve this problem.

As a result, we have considered the following as dependent variables:

– Cubic centimetres: indicating the displacement of the vehicle, that is, the volume of the engine cylinders.
– Power: measuring engine horsepower (HP).
– Fuel consumption: measuring the litres of fuel consumed per 100 km.
– Speed: measuring the car's maximum speed.
– Length and Width: measuring the size of the car.
– Gasoline. measuring fuel used through a dummy variable that is 1 for petrol driven cars and 0 for diesel.

When choosing these variables, we have considered the availability of data and its impact on prices. In order to observe it we have calculated the correlation between prices and each variable (table 1). All the variables considered have a correlation greater than 0.5 except the one corresponding to fuel consumption. Among the independent variables, it is also observed a high correlation between cubic centimetres and power and that is why the estimates have been replicated excluding the first variable.

In addition, a dummy variable that considers high-end brands (High-end) has been included for BMW, Nissan, Mercedes, Volvo and Porsche. These brands sell more luxury vehicles and this consideration, from a marketing perspective, can be a decisive determinant in setting prices. An individualized regression analysis for each brand has not been ruled out as the number of observations was too small to obtain statistically significant results.

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6. The consumer price index in 2015 for the car sales subgroup is 90.29 and in 2013 86.82.

**Table 1.** Correlation matrix.

| | Price | Centimetres | Power | Fuel consumption | Speed | Leght | Width | Gasoline |
|---|---|---|---|---|---|---|---|---|
| Price | 1 | | | | | | | |
| Centimetres | 0.868 | 1 | | | | | | |
| Power | 0.911 | 0.919 | 1 | | | | | |
| Fuel consumption | 0.726 | 0.793 | 0.815 | 1 | | | | |
| Speed | 0.755 | 0.760 | 0.866 | 0.676 | 1 | | | |
| Leght | 0.493 | 0.539 | 0.525 | 0.425 | 0.560 | 1 | | |
| Width | 0.531 | 0.571 | 0.580 | 0.497 | 0.609 | 0.975 | 1 | |
| Gasoline | 0.159 | 0.101 | 0.245 | 0.481 | 0.179 | -0.174 | -0.126 | 1 |

Source: own elaboration based on Cars magazine.

## 5. RESULTS

### 5.1. Descriptive analysis

In this section we refer to the structure of the automobile market in Spain. We will also introduce the evolution of production and prices throughout the collusive period to identify the possible anomalous behaviour of both variables. Subsequently, we offer the price estimates that would have prevailed without these collusive practices.

The analysis of the automobile market is defined through the dynamics of supply and demand. In a purely competitive environment, the price will be a consequence of the equilibrium between these forces. First, let's address a description of the supply.

The automobile sector is one of the most dynamic industries in Spain. In fact, the automobile industry ranks second, just behind the agro-food manufacturing industry, with a total of 17 operational factories in 2013. In fact, Spain is second to Germany in production of automobiles in Europe. In 2015, the automotive sector represented 8.7 per cent of Spanish GDP, employing 9 per cent of the active population (table 2), according to the Spanish Association of Car and Truck Manufacturers (ANFAC). In addition, the sector generates considerable knock-on effects in other sectors of the economy, creating demand for intermediate metal products and components. A large portion of vehicle production is exported to hundreds of countries. In fact, the 86.9% of the total production is exported. Europe is the main destination for our exports, with Germany, Italy, France, and the United Kingdom accounting for 74.7% of our exported vehicles.

**Table 2.** Basic information of the industry.

| | 2013 | 2015 |
|---|---|---|
| Vehicle production (number) | 2,163,338 | 27,33,201 |
| Production of passanger cars (number) | 1,719,700 | 2,202,348 |
| Production of industrial vehicles (number) | 443,638 | 530,853 |
| Total production (% GDP) | 6.7 | 8.7 |
| Total employment (% Labour Force) | 8.1 | 9 |

Source: own elaboration based on ANFAC.

According to ANFAC, there were a total of 77 car brands in the Spanish market in 2013. Table 3 shows the total number of registered vehicles (exclusively passenger cars), as well as that corresponding to each of the sanctioned brands[7]. As can be observed, none of the car brands exceeded a market share greater than 11 percent in terms of car registrations. However, certain groups like the SEAT Group, for example, which includes SEAT and Volkswagen, capture a market share of almost 18 percent, positioning themselves as the market leaders.

In any case, the sum of the sanctioned companies would cover 81 per cent of the car market in Spain. The evolution of automobile production would therefore be practically explained by the production evolution of these brands.

**Table 3.** Vehicle registration (passenger cars).

|  | 2013 | | 2015 | |
|---|---|---|---|---|
|  | **Number** | **%** | **Number** | **%** |
| Alfa Romeo | 3,030 | 0.42 | 2849 | 0.28 |
| BMW | 31,600 | 4.37 | 35927 | 3.47 |
| Chevrolet | 12,693 | 1.76 | 31 | 0.00 |
| Chrysler | 2 | 0.00 | | 0.00 |
| Fiat | 28,244 | 3.91 | 37764 | 3.65 |
| Ford | 55,841 | 7.73 | 64327 | 6.22 |
| Honda | 3,558 | 0.49 | 7821 | 0.76 |
| Hyundai | 30,079 | 4.16 | 44154 | 4.27 |
| Kia | 22,019 | 3.05 | 45028 | 4.35 |
| Mazda | 5,797 | 0.80 | 15289 | 1.48 |
| Mitsubishi | 3,915 | 0.54 | 8971 | 0.87 |
| Mercedes | 30,891 | 4.27 | 39058 | 3.78 |
| Nissan | 39,010 | 5.40 | 55313 | 5.35 |
| Peugeot | 76,230 | 10.55 | 76314 | 7.38 |
| Porsche | 1,186 | 0.16 | 2075 | 0.20 |
| Renault | 65,449 | 9.06 | 77087 | 7.45 |
| Seat | 59,256 | 8.20 | 77529 | 7.50 |
| Toyota | 38,583 | 5.34 | 49120 | 4.75 |
| Volkswagen | 71,073 | 9.83 | 88300 | 8.54 |
| Volvo | 8,631 | 1.19 | 10620 | 1.03 |
| Total 20 Brands | 587,087 | 81.24 | 737577 | 71.32 |
| Total market | 722,689 | 100.00 | 1034232 | 100.00 |

Source: own elaboration based on ANFAC.

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7. Note that the number of vehicles produced does not coincide with the number of registered vehicles.

In figure 2 a wider perspective including the data corresponding to the evolution of the manufactured passenger cars from 2003 to 2015 is adopted. If we consider the period in which the collusive agreement took place (2004-2013), we observe a decrease in the number of manufactured units, especially visible from 2008 to 2012. This reduction reflects, in part, the impact of the 2008 financial crisis, which affected not only the car market but the entire Spanish economy. The car sector was especially sensitive to the financial crisis as the lack of access to credit caused by the recession prevented families from financing the purchase of vehicles and companies their investment projects.

The Spanish automotive sector has an average production capacity that surpassed three million units in 2004. However, since then, the sector has experienced a degree of underutilization due to a decline in demand. In 2005, 90 percent of the capacity was utilized, but in the last five years, only 80 percent of the capacity has been reached. Vehicle production in Spain has undergone a cumulative reduction of approximately 32 percent (31 percent for passenger cars and 34 percent for commercial vehicles).
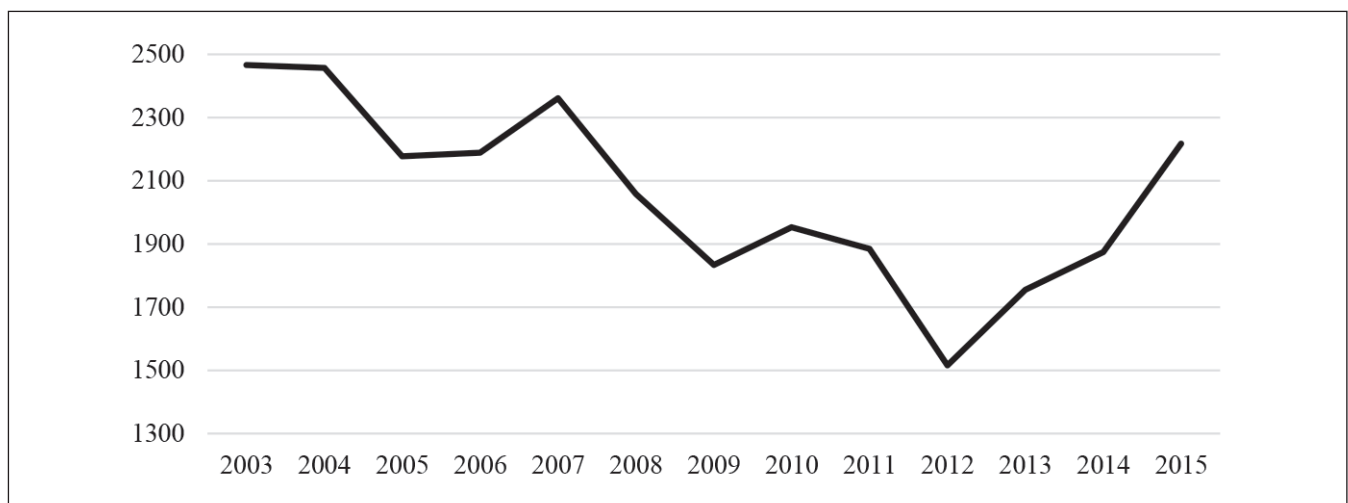


**Figure 2.** Evolution of passenger car units manufactured (thousands). Source: own elaboration using data from the Statistics National Institute (INE).

Figure 3 shows the growth rates of passenger car production and GDP. As can be seen, there are strong discrepancies between both variables. In the 2003-2007 period, when the Spanish economy was experiencing an economic boom, passenger car production underwent sharp variations (a very abrupt decline until 2005 and a recovery until 2007).

The strong impact of the 2008 financial crisis on the automobile sector caused the Government to intervene. Different measures were defined including direct public participation in some companies, the definition and negotiation of financial alternatives and promotion of vehicle purchases by consumers (Aláez-Aller et al. 2009). In any case, this high volatility, with little correspondence with the product evolution, could reflect the existence of some type of collusive behaviour in line with economic literature.

The problems faced by the Spanish automotive industry during this period cannot be attributed to intrinsic causes but rather to external factors, as our closest environment, Europe, has also had to deal with a similar situation. The European automotive industry has seen the closure of 87 factories and the loss of 500,000 jobs. The EU-27 experienced a cumulative decline of around 18 percent in vehicle production from 2007 to 2012.

Spanish vehicle production decreased by an average of 7 percent annually from 2007 to 2012, resulting in a loss of over half a million vehicles on average per year from 2008 to 2012. In the first half of 2013, production showed a slight recovery. While the United Kingdom and Germany experienced declines of 9 percent and 10 percent respectively in cumulative terms, each with an average annual reduction of 2 percent. The UK's production reduction exceeded 300,000 vehicles between both five-year periods, while Germany's reduction was less than 90,000 vehicles.
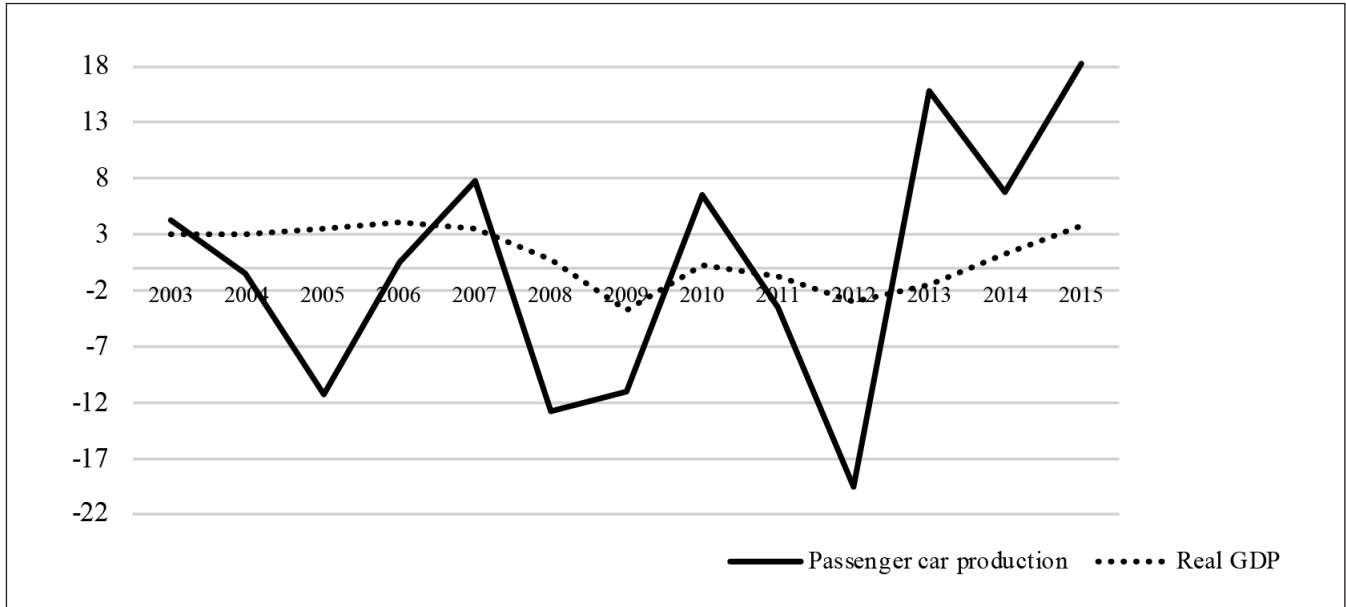
**Figure 3.** Growth rate of passenger car production and GDP. Source: own elaboration using data from the Statistics National Institute (INE).

We have followed the same procedure with prices. In this sense, there are two main official statistical sources in Spain: the INE and those corresponding to the Ministry of Industry, Commerce and Tourism (Statistics on the manufacture of motor vehicles and bicycles). Given that the INE data does not separate passenger cars from vans, we have just considered the former. Figure 4 shows the evolution of the average price of passenger cars from 2003 to 2015. As we can see, the trend increases throughout the collusive period (2003-2013), except for the years 2008-2009, the start of the financial crisis. The increase in prices is, as mentioned, much higher than the increase in prices for the economy as a whole.
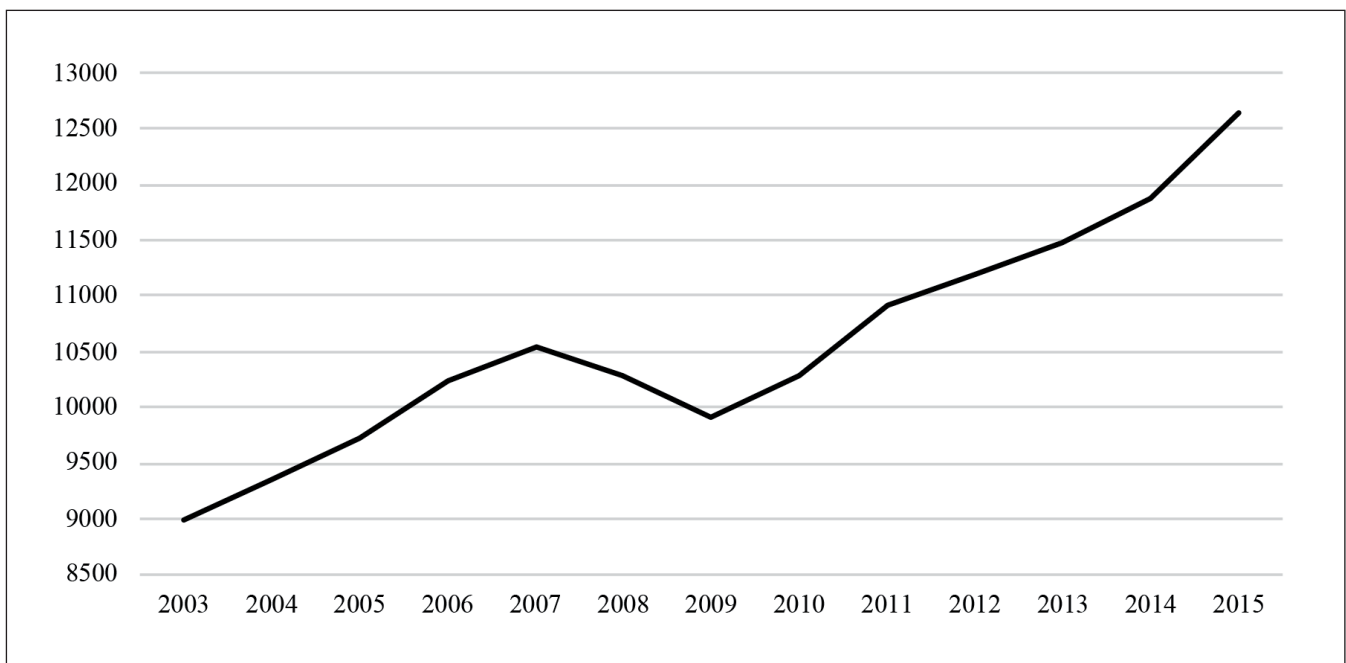
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**Figure 4.** Average passenger car price (€). Source: own elaboration using data from the Statistics National Institute (INE).

Despite the overall decrease in prices in the general economy as reported by the SNI the prices of passenger cars do not follow the same trend. Prices actually showed a significant growth of 4.98 percent between 2013 and 2015, as observed in table 4. However, this trend is not uniform across all price strata. The two lowest percentiles of the price distribution showed a decrease, while the two highest percentiles evidenced an increase, particularly pronounced in the last percentile. In conclusion, we can affirm that high-end luxury cars maintain a price growth, while lower-end cars experience a decrease in prices.

**Table 4.** Descriptive analysis, car sales prices.

|  | **2013** | **2015** |
|---|---|---|
| Percentile 25 | 18,900 | 18,700 |
| Percentile 50 | 25,220 | 24,600 |
| Percentile 75 | 32,960 | 34,400 |
| Percentile 99 | 180,300 | 193,100 |
| Average | 33,290 | 34,950 |
| Observations | 1,352 | 1,157 |

Note: The prices for 2013 are real, not deflated.

Source: own elaboration.

Figure 5 shows the evolution of the passenger car prices and GDP growth rates. Both variables follow a very similar trend until 2009. From this year, however, and especially until 2013, the behaviour of prices is quite anomalous, standing well above GDP growth. Once again, this evolution could be the result of collusive practice.

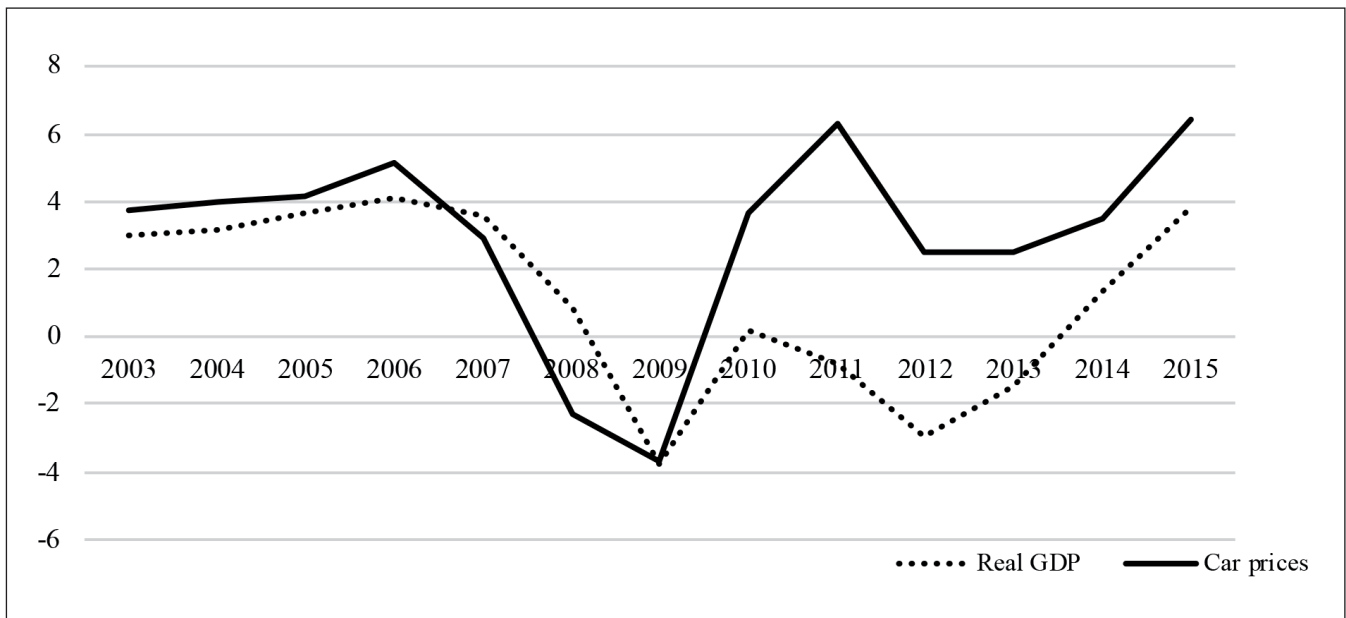**Figure 5.** Growth rate of passenger car prices and GDP (%). Source: own elaboration.

In relation to after-sales services, which determine the final price of the vehicle, brands have a distribution system for new and used automobiles and the provision of after-sales services based on a network of dealerships. These dealerships can be either official dealerships of the brand or independent dealerships.

The dealership sells the vehicle to the final customer as an independent company on its own behalf. When it comes to new cars, the automobile brand recommends a selling price to the dealership and then they sets the final selling price freely. This practice of recommending a resale price is covered by the Category Exemption Regulation when the market share of each party to the agreement does not exceed 30 percent, as long as it does not involve a minimum or fixed selling price. However, the determination of the final selling price of the car is closely related to the remuneration policy established by the brand for its dealership network.

This is a capital-intensive business that has undergone significant reorganization and concentration due to the economic crisis of 2008, which resulted in a decrease in car demand. Between 2007 and 2012, the number of dealerships decreased by 20 percent, leading to a continuous loss of employment, dropping from 180,202 to 130,409. According to data from FACONAUTO. At the end of 2013, 359 independent dealerships disappeared, while brand-affiliated dealerships increased from 90 to 102.

As for after-sales services, which were also part of the collusive agreement through the After-Sales Forum, there is limited publicly available data regarding the economic activity of this sector at both the European and Spanish levels. In Spain, only the Annual Trade Survey by the INE provides aggregated data on motor vehicle maintenance and repair or the trade of vehicle parts and accessories. It is true that the prices of vehicle inspections and repairs carried out in the official network of each brand may have been affected by the information exchange. However, approximately 80 percent of the vehicles that undergo inspections or repairs are new cars, still under warranty, so the impact on consumers regarding a possible overpricing of these services does not exist.

Regarding the demand for automobiles, it comes from two different channels: private individuals or companies. The demand from companies includes fleets of private companies and those engaged in car rental or leasing. In terms of volume, private individuals represented 55.18 percent of sales in 2013, followed by corporate fleets accounting for 26 percent of sales, and car rental companies with 18.51 percent. Among all vehicles sold, there is a preference for diesel cars, which outnumber gasoline-powered cars.

The decrease in demand has been felt throughout the automotive sector during the years 2008 and 2012, coinciding with the economic crisis. It was further exacerbated by two successive VAT increases in 2010 and 2012, raising the tax rate from 16 percent to 21 percent, and the depletion of the budget for the "Plan 2000E" in May 2010. This decline resulted in a cumulative reduction of nearly 24 percent in the period 2007-2012, with an average annual decrease of over 5 percent in the EU-27 market, while the decrease in the eurozone was similar (-22.5 percent). The impact of the crisis on the European market exacerbates the problem for the Spanish industry, as our sector has a strong export orientation. During the five years of the crisis, exports decreased by almost 28 percent, although they grew by 6 percent in the first half of 2013.

A sharp drop in sales is observed for all vehicles, reaching its lowest point in 2012 (figure 6). Since then a recovery is observed in 2013, stimulated by Government approval in 2012 of the incentive plans for efficient vehicles (PIVE) to encourage the demand for cars with lower energy consumption. In spite of the positive results of the PIVE plan, resulting in the scrapping of many vehicles, the vehicle fleet has continued to age. The average age of our fleet in 2013 is over 11 years old.

Considering the type of vehicle and its characteristics, the demand can be segmented into cars in the low or mid-range, with lower prices and qualities, and high-end cars, also known as "premium," targeting a population group with higher incomes. According to the ANFAC 2013 report, more than 75 percent of vehicles belong to the mid-range and low-range categories, while the remaining vehicles fall into the high-end and luxury segments

## 5.2. Econometric estimates

Next, the hypothetical price that would have prevailed in the absence of collusive practices is calculated. In the first place, the price of automobiles is estimated using 2015 data (year without surcharge). The estimation method used is ordinary least squares (OLS). This model provides us with unbiased estimates of the

coefficients (as long as no relevant variables have been omitted and there is no causality or endogeneity between the dependent and independent variables). Furthermore, OLS predictive models provide unbiased estimates, even if the predicted coefficients are biased (Davidson & MacKinnon, 1993).

Once the independent variables coefficients have been estimated, they are used to obtain the counterfactual of the prices, that is, the prices which should have been set in 2013 (the year with the premium), following the model. Finally, the premium is calculated in percentage terms through a variation rate between the hypothetical price and the real price.

The hierarchical method was used to make the estimates using least squares regression (table 5). According to this procedure, a linear regression model is initially adjusted including just one explanatory variable, and subsequently the rest of explanatory variables were added[8]. If the R-squared in the second model is significantly higher than the R-squared in the previous model, this second one will be selected. In addition, the F statistic, when introducing a new variable to the model, is checked to observe if the new variables add explanatory value to the model. In our case, estimate (1) is the one that reports the best results. The introduction of the variable cubic centimetres and width do not contribute significance to the joint estimate and the Student's t statistic of each variable were not significant. As shown, the explanatory power of the model is positive given that the R squared is 0.84, which implies a high goodness of fit.

**Table 5.** Econometric Estimates (Least Squares Regression Method).

| | Estimate (1) | | | Estimate (2) | | | | Estimate (3) | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Coef | t | p value | Coef | t | p value | | Coef | t | p value |
| High-brand | 4.017 | 3.17 | 0.002 | 3.930 | 3.13 | 0.002 | | 3.8100 | 2.96 | 0.003 |
| Cubic centimetres | | | | | | | | 0.0050 | 1.56 | 0.119 |
| Power | 0.323 | 13.33 | 0.000 | 0.323 | 13.32 | 0.000 | | 0.2850 | 7.61 | 0 |
| Fuel consumption | 0.216 | 0.24 | 0.809 | 0.290 | 0.33 | 0.740 | | -0.5780 | -0.83 | 0.407 |
| Speed | -0.180 | -2.70 | 0.007 | -0.175 | -2.67 | 0.008 | | ´-0,1550 | -2.34 | 0.019 |
| Length | 0.012 | 0.52 | 0.603 | 0.029 | 0.87 | 0.387 | | 0.0211 | 0.59 | 0.557 |
| Width | | | | -0.126 | -0.93 | 0.355 | | ´-0,0650 | -0.44 | 0.660 |
| Gasoline | -4.993 | -3.78 | 0.000 | -5.149 | -4.01 | 0.000 | | ´-2,8500 | -2.10 | 0.036 |
| Constant | 12.884 | 1.45 | 0.147 | 26.690 | 1.55 | 0.122 | | 15.6500 | 0.77 | 0.441 |
| $R^2$ | 0.84 | | | 0.84 | | | | 0.84 | | |
| F adicional variable | F(1, 1149) = 31.98, p=0.000 | | | F(1,1148) = 0.94, p=0.33 | | | | F(1, 1147) = 15.95, p=0.40 | | |
| Number observations | 1156 | | | 1156 | | | | 1156 | | |
| Markup | **10.39%** | | | **10.16%** | | | | **8.54%** | | |

Source: own elaboration.

As we can see, poser in the one of the determining elements of price. Additionally, the variable corresponding to high-end brands has a positive and significative effect on prices. In this sense, it seems that there is a prior segmentation of consumers who purchase luxury brands at a higher price. In contrast, the variable gasoline had a negative impact on prices at that time. The negative effect of maximum speed on

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8. In table 5, estimations with fewer than 6 variables are not shown, as the F-statistic improved progressively with the introduction of each new variable.

price may not appear very intuitive, but can be explained by some relatively inexpensive cars with relatively high maximum speed.

With the coefficients of estimate 1, statistically the most appropriate option, the hypothetical price that would have been reached in 2013 without price collusion has been calculated. We use thus the coefficients obtained for 2015 and apply them to the reality of the explanatory variables in 2013 and we had the contrafactual price for each observation.

Table 6 shows the descriptions of the explanatory variables for 2013 and 2015. The explanatory variables do not present large differences in average, except for horsepower, which on average has decreased in 2015. The average price at which vehicles should have been sold (32,722.9 euros) is considerably lower than the price at which vehicles were sold (33,343 euros).

The average surcharge has been calculated for each observation, that is, for each car model. The premium is calculated as a percentage variation between the actual price in 2013 and the counterfactual price. The average of this percentage is the average surcharge, which is determined to be 10.39 percent. This represents the compensation that consumers who purchased a car during the collusive period should receive. This surcharge has been calculated using the estimation coefficients of Estimate (1), which is the most accurate. Additionally, surcharges for estimations 2 and 3 are also presented.

**Table 6.** Descriptive analyses and contrafactual price.

| Variable | 2015 | | | | |
|---|---|---|---|---|---|
| | **Obs** | **Mean** | **Std Dev** | **Min** | **Max** |
| Price | 1,156 | 33,564.6 | 33.2 | 8,846.3 | 276,000.0 |
| Cubic centimetres | 1,156 | 1,866.5 | 914.3 | 875.0 | 6,208.0 |
| Power | 1,156 | 161.9 | 105.4 | 9.0 | 630.0 |
| Fuel consumption | 1,156 | 5.6 | 1.8 | 3.1 | 14.3 |
| Speed | 1,156 | 202,8 | 31.2 | 150.0 | 403.0 |
| Length | 1,156 | 440.9 | 35.1 | 298.0 | 522.0 |
| Width | 1,156 | 179.3 | 6.7 | 160.0 | 194.0 |
| Gasoline | 1,156 | 0.6 | 0.5 | 0.0 | 1.0 |
| | **2013** | | | | |
| Price | 1,352 | 33,344.3 | 30.1 | 8,000.0 | 277,000.0 |
| Cubic centimetres | 1,352 | 1,875.7 | 891.8 | 875.0 | 7,011.0 |
| Power | 1,352 | 156.0 | 101.0 | 60.0 | 1,586.0 |
| Fuel consumption | 1,352 | 5.6 | 1.9 | 2.1 | 15.0 |
| Speed | 1,352 | 197.2 | 34.6 | 99.0 | 320.0 |
| Legth | 1,352 | 440.1 | 35.6 | 298.0 | 509.0 |
| Width | 1.352 | 179.0 | 6.7 | 160.0 | 194.0 |
| Gasoline | 1.352 | 0.5 | 0.5 | 0.0 | 1.0 |
| **Contrafactual price 2013** | 1.352 | 32,722.9 | 29.4 | 3,729.9 | 489,959.0 |

Source: own elaboration.

It is worth emphasizing, once more, as stated by the European Commission, that said surcharge is not a perfect reproduction of what would have happened without collusive practices, but rather an assessment. It is impossible to know with certainty and precision the reality that would have prevailed without collusive agreements. However, this problem is faced by all damage assessments that attempt to reproduce what would have happened if the unlawful conduct had not occurred.

## 6. DISCUSSION

We offer a consistent method to estimate the price consumers would have paid in the absence of collusive practices. The procedure chosen, *Before and After*, compares the price of the car during the collusive period (2013) with that corresponding to a later period (2015). Regarding this methodology, both the European Commission (2013) and the CNMC (2020) propose comparative and non-comparative methods to quantify damages and compensations. We have deemed it more appropriate to use the former, as they allow for the use of real market-specific data. Within the comparative methods, we have considered the "Before and After" method, given the difficulty of finding a market with similar characteristics to the Spanish one and, most importantly, a homogeneous statistical source. This method has been used in the literature in works such as those of Laitenberger and Smuda (2013), in the detergent market in Germany, Hastings (2004), in gas stations, and Bernheim (2002) in the vitamin C market, both in USA.

As for the percentage of overcharge, it is higher than those calculated in the works of Bernheim (2002), Hastings (2004) and Laitenberger and Smuda (2013). In any case, our results are in no way comparable since we are dealing with markets for different products in different regional contexts. It is feasible that considering a product that, in principle, has a higher income elasticity, a higher percentage of overcharge could be established. In fact, it has been observed that the percentage of overpriced is higher in those vehicles with higher prices.

Indeed, this percentage should be interpreted with caution because, as stated by the European Commission, it is not feasible to determine with exactitude what price would have prevailed in the absence of the collusive agreement. Nevertheless, our work allows for an approximation to be made, which is of great utility when determining compensations. To the best of our knowledge, there are no studies that have conducted a similar analysis to ours for this market in this period.

Additionally, while statistical regression analysis is often the preferred method for measuring cartel damages, it would be interesting to consider the use of non-comparative methods based on production costs and profit margins to estimate a scenario without infringement. This analysis could be relevant if there could be an overestimate or underestimate of the damages.

## 7. CONCLUSIONS

The existence of cartels, whether explicit or implicit, theoretically results in an increase in the prices of the products affected by the agreements and a reduction in the quantity demanded. While economic literature has demonstrated these effects for consumers, in practical terms, there is no consensus on how to estimate the loss of consumer surplus. This issue becomes evident when, in real life, there is a court judgment that proves the existence of an agreement between companies that negatively impacts consumers, and the courts have to decide the amount of compensation.

Estimating the loss of consumer surplus in cartel cases can be challenging due to the complexity of market dynamics and the lack of perfect information about how prices would have behaved in the absence of the cartel. Additionally, the behaviour of consumers and the elasticity of demand can vary, making it difficult to predict the exact impact on consumer welfare.

In legal cases involving cartels, determining the appropriate level of compensation for affected consumers can be a complex task for courts. The methodologies used to estimate consumer damages may

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vary, and various economic and statistical tools are employed to arrive at a reasonable estimate. However, due to the practical challenges and complexities involved, reaching a consensus on the precise calculation of consumer losses remains a challenging task in cartel litigation.

The difficulty in accurately determining the counterfactual scenario (the price that would have prevailed without the cartel) is a common challenge in cartel cases. Due to the lack of actual data on how the market would have behaved in the absence of the collusion, economists and experts often use various economic models and statistical techniques to estimate the potential competitive price levels and consumer damages.

Our paper estimates the loss suffered by consumers from the alleged restrictive practices of competition by 20 companies in the automotive sector between March 2004 and August 2013 (Resolution of the sentence, in file S/0482/13 of the CNMC). The exchange of information between companies would have impacted car sale prices fixing, as well as the homogenization of conditions and future commercial plans for the sale and post-sale of cars in Spain.

We offer a consistent method to estimate the price consumers would have paid in the absence of collusive practices. The procedure chosen, *Before and After*, compares the price of the car during the collusive period (2013) with that corresponding to a later period (2015). Our work also considers the evolution of automobile production and prices during the collusive period and detects certain anomalous behaviours. Specifically, variations in passenger car production differ considerably from the evolution of GDP and a much higher increase in passenger car price.

In the explanatory model, the cubic centimetres, the power of the car, fuel consumption, maximum speed, the fuel type, and the brand of the car, are identified as determining price variables.

We have obtained, using the hierarchical least squares regression technique, the coefficients corresponding to each determinant and apply them to the reality of cars in 2013. The cubic centimetres and width, as determinants of prices, were not statistically significant in our estimates. The key determinant of prices is the variable that captures high-end brands. Apparently, there is a prior segmentation of consumers who purchase luxury brands at a higher price. The explanatory power of the model, as a whole, is positive, as the R square is 0.84.

According to the model, the average price at which vehicles should have been sold is 10.39 percent lower than the actual sale price, which represents the amount that consumers who purchased a car during the collusive period should receive as compensation. Our results show, therefore, that the existence of collusive practices has led to a substantial increase in vehicle prices.

While our estimates may not be precise, they can still provide valuable insights for courts and regulatory authorities when deciding on appropriate compensation for affected consumers. These approximations are essential tools to address the damages caused by cartels and contribute to ensuring fair outcomes for consumers who have been negatively affected by anti-competitive practices.

**Responsible reporting and conflict of interest**

The authors declare that they have no conflict of interest.

This article does not contain any studies with human participants or animals performed by any of the authors.

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Both authors have participated in the preparation of the article: theoretical framework, descriptive and econometric analysis.

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**APPENDIX 1**

Period of cartel

| Brand car | Period |
|---|---|
| Automóviles Citroen España S.A. | February 2006 - July 2013 |
| B&M Automóviles eSPAÑ, S.A. | Mars 2010 - August 2013 |
| BMW Ibérica, S.A.U. | June 2008 - August 2013 |
| Chevrolet España, S.A.U. | February 2006 - July 2013 |
| Chrysler España, S.L. | April 2008 - July 2010 |
| Fiat group automóviles España, S.A. | February 2006 - August 203 |
| Ford España, S.L. | February 2006 - July 2013 |
| General Motors España, S.L.U. | February 2006 - July 2013 |
| Honda Motor Europe Limited | April 2009 - August 2013 |
| Hyundai Motor España, S.L.U. | Mars 2010 - August 2013 |
| Kia Motors Iberia, S.L | Mars 2007 - November 2012 |
| Mazda Automóviles España, S.A. | Mars 2010 - November 2012 |
| Mercedes Benz, España, S.A. | Mars 2010 - February 2011 |
| Nissan Iberia, S.A | June 2008 - August 2013 |
| Peugeot España, S.A. | February 2006 - July 2013 |
| Porsche Ibérica, S.A. | June 2010 - August 2013 |
| Renault España Comercial, S.A. | February 2006 - July 2013 |
| Seat, S.A. | February 2006 - July 2030 |
| Toyota España, S.A. | February 2006 - January 2013 |
| Volkswagen Audi España, S.A. | October 2008 - July 2013 |
| Volvo Car España, S.A. | Mars 2010 - August 2013 |

Source: CNMC (2015a)

**APPENDIX 2**

Brand car santioned

| Brand car | Duration (months) | Turnover 2014 (€) | Santion (%) | Sanction (€) |
|---|---|---|---|---|
| Automóviles Citroen España S.A. | 90 | 1,136,075,000 | 1.30% | 14,768,975 |
| B&M Automóviles eSPAÑ, S.A. | 41 | 119,388,460 | 0.65% | 776,024.99 |
| BMW Ibérica, S.A.U. | 59 | 1,147,397,086 | 0.70% | 8,031,779.602 |
| Chevrolet España, S.A.U. | 90 | 13,858,000 | 1.00% | 138,580 |
| Chrysler España, S.L. | 28 | 40,845 | 0.65% | 265.4925 |
| Fiat group automóviles España, S.A. | 90 | 580,887,817 | 1.20% | 6,970,653.804 |
| Ford España, S.L. | 90 | 6,744,944,000 | 0.30% | 20,234,832 |
| General Motors España, S.L.U. | 90 | 380,462,847 | 0.80% | 30,437,027.77 |
| Honda Motor Europe Limited | 52 | 203,108,411 | 0.30% | 609,325.233 |
| Hyundai Motor España, S.L.U. | 41 | 464,749,000 | 0.95% | 4,415,115.5 |
| Kia Motors Iberia, S.L | 69 | 414,844,000 | 0.50% | 2,074,220 |
| Mazda Automóviles España, S.A. | 24 | 218,796,801 | 0.30% | 656,390.403 |
| Mercedes Benz, España, S.A. | 12 | 2,379,329,985 | 0.10% | 2,379,329.985 |
| Nissan Iberia, S.A | 62 | 287,061,039 | 1.10% | 3,157,671.429 |
| Peugeot España, S.A. | 90 | 1,209,434,000 | 1.30% | 15,722,642 |
| Porsche Ibérica, S.A. | 38 | 122,600,000 | 0.20% | 245,200 |
| Renault España Comercial, S.A. | 90 | 1,516,951,831 | 1.20% | 18,203,421.97 |
| Seat, S.A. | 84 | 1,334,205,000 | 0.95% | 12,674,947.5 |
| Toyota España, S.A. | 90 | 824,477,429 | 1.05% | 8,657,013.005 |
| Volkswagen Audi España, S.A. | 57 | 2,526,000,000 | 1.05% | 26,523,000 |
| Volvo Car España, S.A. | 41 | 213,260,391 | 0.80% | 1,706,083.128 |
| **TOTAL** | | **25,262,037,566** | **0.71%** | **178,382,499** |

Source: CNMC (2015a)