

The “industrial halo” and its impact on the assessment of corporate reputation

“Industrial halo” and corporate reputation

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Abstract

Purpose – The gap that this research attempts to fill is to analyse the explanatory factor “industry” when assessing the reputation of a corporate group. In other words, this research attempts to demonstrate the impact of the “industrial halo” on the assessment of corporate reputation, given that, to date, the academic literature has not considered industry as an explanatory variable in the assessment of the reputation of private companies.

Design/methodology/approach – A sample of 43 Spanish companies was used to analyse the relationship between the reputation of firms as measured by the Merco Empresas index, and the industries to which they belong, after controlling for company performance, size, turnover, public recognition of their leadership, and corporate responsibility. This involved conducting a cross-sectional analysis of the relationship between the variables for each year in the time period from 2005 to 2016. The available data were taken from the firms’ annual financial reports and websites, as well as from the Merco.

Findings – The paper shows the existence of industrial halos that account for the corporate reputation of businesses in Spain. It is also shown that industrial halos are not permanent over time, and that they tend to occur in years of crisis.

Research limitations/implications – It would have been desirable for this study to have had sufficient data to include other industries, but this was not possible. As for possible extensions, in addition to expanding the period considered, other analytical techniques, such as panel data models, could be applied to allow comparison with the results obtained here.

Practical and social implications – The results of this study have some practical implications. Firstly, firms that publish corporate reputation rankings should be aware of the distortion that the industrial halo can produce, especially in times of uncertainty, and seek to correct for it in their measurements. And secondly, corporate groups themselves should assume that the reputation of the industry affects their individual reputation, and consequently, they should see the other companies in the industry not only as competitors but also as “reputational allies”. They should therefore make collective efforts to improve in this respect, especially in the face of reputational crises.

Originality/value – This paper provides a better understanding of the relationship between the reputation of a company and the industry to which it belongs, and of its permanence over time. This relationship has been little studied in the Spanish market to date.

Keywords Reputation, Reputational risk, Stakeholders, Reputation measurement, Industry, Industrial halo
Paper type Research paper



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1. Introduction

The advent of globalisation in recent decades has made corporate risks increasingly evident. The need to make investments profitable, reduce production costs and capture new markets has led to a continuous growth in the size of business organisations, a logical reaction to the new perception of the planet as a vast open market. However, deregulation and increased demand volatility mean that companies are exposed to greater risks in the course of their business.

Indeed, globalisation has generated a “complex”, increasingly interrelated world that (probably because of this) is also more uncertain and unpredictable (Rodríguez-Castellanos and San-Martín-Albizuri, 2020). This has clear repercussions for the business world. In addition, there have been rising, changing and more sophisticated demands by consumers/users, which have resulted in a substantial reduction of their traditional habits of brand loyalty, while also demanding responsible behaviour from the business world.

However, the vast majority of the risks to which business is currently exposed have existed for many decades; the only difference is that new circumstances have now awakened some that were dormant, that had a small impact or a limited impact on certain business units. This is the case of “reputational risk”, i.e. the possibility that a company may lose its “reputation” or corporate prestige, or may see it significantly reduced, which can negatively affect the business. Reputation management has therefore become a decisive component of business strategy, and measuring it is essential in managing reputational risk.

Nevertheless, this measurement may be distorted by cognitive biases that misrepresent the perception of stakeholders. These include belonging to certain industries, that is, the “industrial halo”, which we consider important for an accurate analysis of reputational perception. This type of halo has been little analysed in the academic literature to date. The aim of this study is to demonstrate the impact of the “industrial halo” on the valuation of corporate reputation. Therefore, the research focuses on whether this phenomenon occurred in Spanish companies during a broad period around the economic crisis that began in 2008–2009, considering three sub-periods: pre-crisis (2005–2008), full crisis (2009–2012) and post-crisis (2013–2016).

In line with this objective, the structure of this paper is as follows: after this introductory section, the conceptual framework is presented. The concepts of “reputation” and “industrial halo” are delimited, and the hypotheses to be tested are established. The methodology used is then described, including sampling and data used. This is followed by the presentation and discussion of the results, and the conclusions and limitations. The paper ends with the references section.

2. Conceptual framework

The numerous definitions of *corporate reputation* (Dowling, 2016; Fombrun, 2012) indicate the difficulty involved in comprehensively capturing this concept. A well-known definition is that by Fombrun, “a corporate reputation is a collective assessment of a company’s attractiveness to a specific group of stakeholders relative to a reference group of companies with which the Company competes for resources” (2012, p. 100).

As can be deduced from this definition, it is a latent, multidimensional, slow-burning concept, which is not directly observable and reflects the collective view of the company by certain actors, specifically, the stakeholders (Freeman, 1984). These peculiarities will be discussed in detail below.

Firstly, it is a *collective assessment* carried out by certain stakeholders who have different types of links with the company or organisation being assessed: consumers or users,

employees, managers, financial analysts, competitors, financial journalists, opinion leaders, public regulators, etc. Secondly, the *attractiveness* that the company offers to these evaluators needs accounted for. This requires identifying the elements that determine what makes it attractive, something that refers to a range of economic/financial, social, employment-related, environmental, ethical and good governance attributes. These even include emotional factors, which therefore reflect the *multidimensional* nature of reputation. Moreover, the formation and strengthening of corporate reputation require a long *period of time* to establish the perceptions that shape it; it does not depend on one-off promotional activities. Finally, this assessment has a clear comparative purpose, as it takes as a benchmark the *group of companies* competing with the one being evaluated within a given industry or number of industries.

Academic research has shown the effect of corporate reputation on the value creation of companies, both internationally (Vig *et al.*, 2017; Roberts and Dowling, 2002; Dunbar and Schwalbach, 2000), and in Spain (Fernández-Sánchez *et al.*, 2015; De Quevedo-Puente, 2003). This makes it necessary to control the procedures for measuring it, to try to ensure an assessment that is bias-free and allows for correct strategic decisions to be made. Biases may include a cognitive distortion in the perceptions of stakeholders: the industrial halo.

The term *halo effect* was first coined by Thorndike (1920). It can be described as a cognitive distortion or bias that causes the unconscious generalisation to the whole of a particular (positive or negative) trait of the subject being analysed. In short, it is an illogical generalisation that is usually accompanied by insufficient information on the subject matter.

Thorndike’s conclusion has been confirmed in subsequent decades by a large body of research, both in the field of psychology (Keeley *et al.*, 2013; Kahneman, 2011) and in the area of corporate behaviour and performance.

In the field of business, different types of halos have been identified, both in relation to individual decisions and to the company as a whole (Thaler, 2015; Rosenzweig, 2007), as well as to various specific aspects, such as commercial (especially brand image) (Leuthesser *et al.*, 1995), corporate social responsibility (Moliner *et al.*, 2019), the company’s country of origin (Šapić *et al.*, 2018) and the company’s corporate reputation (De Quevedo-Puente, 2003).

These references point to the existence of various typologies of business ‘halos’, such as financial, managerial, marketing and product’s country of origin.

It has also been argued that there may be an “industrial halo” in the perception of corporate reputation by stakeholders, in the sense that corporate reputation may be strongly influenced by the industry to which the assessed firm belongs. This would therefore involve a distortion of corporate reputational assessments in the form of a negative or positive bias about a company’s reputation based on its membership of certain industries. Ultimately, there seems to be a transfer of the reputation of the industry to the firms that make up the industry. This “halo” could be expected to be stronger in circumstances where there is less information or greater uncertainty (economic crises, for example), or in groups with restricted access to information (such as the general public). It could also have a stronger impact when “industrial” reputation is particularly favourable or unfavourable.

The effect that belonging to a certain industry has on corporate reputation assessment and strategies has attracted the interest of a number of researchers (Melo and Garrido-Morgado, 2012; Rouviere and Soubeyran, 2011; Susaeta *et al.*, 2008; Csizsar and Heidrich, 2006). Moreover, reputation assessment bodies such as the *Reputation Institute* and the *Edelman Group* take business industries into consideration in their analyses.

The interest of considering the “industrial halo” in the evaluation of corporate reputation lies in the views discussed above and in two additional aspects. Although previous academic research has shown some interest in the effect that belonging to a certain industry may have

on the evaluation of corporate reputation, this interest has so far been rather limited. Additionally, it should be borne in mind that part of the sample in reputational assessment procedures based on surveys usually includes non-specialists [1]. They are particularly exposed to a possible “industrial halo” that may distort their perceptions, as a result of prejudices due to ignorance or to limited or even biased external information received.

Based on the above considerations, the following hypothesis is proposed:

- H1.* The reputation of Spanish firms had an “industrial halo”, i.e. their reputation was influenced by the industry to which the firm belongs.

Moreover, it seems reasonable to expect that this “industrial halo” will be maintained over time. This assumption is corroborated by the fact that public satisfaction with the different industries seems to change only slightly over time, as shown by data on consumer satisfaction indices across various industries over time in the USA, for example [2]. It can therefore be inferred that reputational perception with respect to the different industries will not vary excessively over time. This second hypothesis is also therefore proposed:

- H2.* The “industrial halo” effect on the reputation of Spanish firms remains over time.

3. Methodology

3.1 Model

To test these hypotheses, we relied on the specification and estimation of a model for the evaluation of corporate reputation. We used cross-section regression and industries as explanatory variables to test whether (or not) industry membership is significant for the reputation of companies. The “halo” is measured by analysing the statistical significance of the explanatory variable “industry”. A series of control variables were also used, including profitability, size, turnover growth, leadership and corporate responsibility.

The following specification for corporate reputation is proposed:

$$RP_{it} = \alpha_1 + \alpha_2 RoA_{it-1} + \alpha_3 FS_{it} + \alpha_4 SG_{it} + \alpha_5 LEA_{it} + \alpha_6 CR_{it} + \sum_j \beta_j IND_{ji} + u_{it} \quad (i = 1, \dots, N; t = 1, \dots, T; j = 1, \dots, J) \quad (1)$$

where RP_{it} is the reputation of firm i in period t ; RoA_{it-1} is the ratio between the income of firm i and its Total Assets in $t-1$; FS_{it} is the size of i in t ; SG_{it} is the annual sales growth rate of i in t ; LEA_{it} is the leadership of i in t ; CR_{it} is the corporate responsibility for i in t ; and IND_{ji} a binary independent variable (dummy variable) is industry j to which company i belongs.

The choice of variables (both of the variable to be explained and of the control and explanatory variables) to be included in the specification of the model requires some clarification.

For the variable *corporate reputation*, the Naperian logarithm of the *Merco España* index for the years 2005–2016, developed by [Análisis & Investigación \(2010, 2013, 2014, 2016\)](#) was used as a measurement tool.

Regarding the control variables, considering firstly the *Profitability* of the company, one-period lagged RoA was used. This ratio, measured as Return on Total Assets, seems to be the most suitable profitability indicator compared to other profitability measures. Although earnings before interest and taxes are ordinarily used as the numerator for the calculation, in this case we have decided to use the “Annual Profit” reported in firms’ financial statements, as we believe that it provides greater visibility of the “Return” magnitude for an uninformed audience. Several papers have explored the relationship between profitability and reputation,

either as an explanatory variable or as a control variable, usually with a time lag. A positive relationship with reputation has been generally found (Musteen *et al.*, 2010; Brammer *et al.*, 2009; Brammer and Pavelin, 2006; Dunbar and Schwalbach, 2000), as financial return is presumed to be a reliable reference for the reputational perception of stakeholders. A similar relationship is therefore expected to be found here.

The *Size (FS)* of the corporate groups obtained from their number of employees, i.e. their headcount at the end of each year, taking Naperian logarithms. We believe that this measure is more objective than the volume of assets, which is subject to accounting criteria, and is more stable than other measures such as turnover or stock market value. In studies on the determinants of corporate reputation, this variable is usually a control variable. In principle, firm size may have an ambiguous relationship to reputation, as at first sight there does not necessarily seem to be a clear relationship, either positive or negative, to reputation. However, if a significant relationship is found, it is often positive (Musteen *et al.*, 2010; Dunbar and Schwalbach, 2000), which is also expected here.

Sales growth (SG) was calculated as a rate of change, i.e. $f_{i,t}$ being the sale of i in t , $F_{i,t} = (f_{i,t} - f_{i,t-1})/f_{i,t-1}$. This choice was influenced by the difficulties in obtaining reliable data on aspects of reputational assessment such as the quality and effectiveness of the business offering, referring, among others, to innovation (in products, processes, marketing and organisation), an important aspect that has made it necessary to take this variable as a proxy for business quality and effectiveness. It has also been used by other authors (Musteen *et al.*, 2010; Urra-Urbieta *et al.*, 2009). A positive relationship with corporate reputation is expected.

Considering the *Leadership (LEA)*, the role and public image of an organisation's leader are important elements in establishing corporate reputation. Their prominence as the visible head of business activities, their initiative in social responsibility actions, their prominent role in the media, their integrity and their capacity to respond to crises and anticipate change are taken into account by stakeholders in assessing the credibility and appreciation of an organisation. Several studies have found a positive and significant relationship of this variable to corporate reputation (Love *et al.*, 2017; Urra-Urbieta *et al.*, 2009), so a similar relationship is expected here. This study has taken the Naperian logarithm of the *Merco Líderes* score as a measure.

It also seems clear that the last variable, *Corporate Responsibility (CR)*, contributes to companies' reputation. Social agents have demanded that the business world behaves in a way that, apart from economic sustainability, also seeks social, labour, environmental and ethical sustainability. A positive and significant relationship has been found between various measures of this variable and corporate reputation (Quintana-García *et al.*, 2021; Melo and Garrido-Morgado, 2012; Brammer and Pavelin, 2006). We also expect a similar kind of relationship. The Naperian logarithm of the *Merco Líderes* score has been taken as a measure.

Regarding the independent variables, the different *Industries (IND)* have been reflected in the model by including binary *dummy variables* with a value of 0 or 1, depending on whether the corporate group considered belongs to the specific industry or not. Eleven industries were considered, the members of which are indicated below, although only ten appear in the regression, as one of them (Media), which is established as a benchmark, is represented by the independent term of the regression. Therefore, in equation (1) $J = 10$.

3.2 Geographical area, period and sample

The geographical area was Spain.

The analysis spans the period from 2005 until 2016 and it was divided into three sub-periods of four years each, based on the Spanish economic situation as measured by the rate of change of the GDP: (1) 2005–2008, pre-crisis (2005: 3.7%; 2006: 4.1%; 2007: 3.6%; 2008:

0.9%); (2) 2009–2012, crisis (2009: –3.8%; 2010: 0.2%; 2011: –0.8%; 2012: –3%); and (3) 2013–2016, end of crisis (2013: –1.4%; 2014: 1.4%; 2015: 3.8%; 2016: 3.0%). This study therefore covers a time span of interest, as it has allowed us to examine the behaviour of industrial halos before, during and after the economic crisis that began in 2008–2009.

The reference group was made up of corporate groups operating in Spain that feature often enough in the *Merco Empresas* monitor ranking, classified into eleven industries. There were initially 43 corporations, but there were some changes over time. The corporate groups included in each industry are listed below. Any variations over time are indicated in brackets.

IND₁- Insurance: DKV Seguros - MAPFRE - Mutua Madrileña - Sanitas Seguros (featured in 2013–2016).

IND₂- Banking: BBVA-Bankia - Bankinter-CaixaBank - Popular-Sabadell - Santander-BANESTO (featured in 2013–2016).

IND₃- Construction: ACCIONA - ACS - FCC-Ferrovial - SACYR (not featured in 2009–2012 or 2013–2016).

IND₄- Department Stores: El Corte Inglés - EROSKI - Inditex-Mango - Mercadona.

IND₅- Utilities: ENDESA - Gas Natural - Iberdrola - REE - Agbar (featured in 2013–2016) - Enagás (first featured in 2013–2016).

IND₆- Consumer Electronics: BSH Electrodomésticos - Prosegur.

IND₇- Hotels: NH Hoteles - Meliá Hoteles.

IND₈- Energy: CEPSA - Corporación Logística de Hidrocarburos (CLH) - Repsol.

IND₉- Passenger Transport: Abertis - IAG Iberia - RENFE-Operadora.

IND₁₀- Engineering: Abengoa - GAMESA - Indra - Corporación Mondragón (featured in 2013–2016) - Técnicas Reunidas (first featured in 2013–2016).

IND₁₁- Media: Vocento - Grupo Prisa.

Therefore, the sample size was 43 corporate groups in the 2005–2008 sub-period, 42 in 2009–2012 (as Sacyr no longer featured in the ranking) and 40 for 2013–2016 (as Sanitas Seguros, Banesto, Aguas de Barcelona (Agbar) and Corporación Mondragón no longer featured, and Enagás and Técnicas Reunidas featured for the first time in that period). In terms of representativeness, as of 31 December 1986, the 26 listed groups in the sample represented 76% of the total Spanish stock market capitalisation. However, given the available source of reputational data, a bias towards high-volume firms is inevitable.

3.3 Data collection

The three main sources of information were the *Monitor Empresarial de Reputación Corporativa (Merco)* (Corporate Reputation Business Monitor) (www.merco.info), the companies' annual financial statements (National Securities Market Commission, CNMV) and their corporate websites.

4. Results

The model estimation results in equation (1) for each year are shown below. Tables 1, 2 and 3 show the results for each year in the three sub-periods considered: pre-crisis (2005–2008), crisis (2009–2012) and post-crisis (2013–2016). Least squares estimation was used, with robust inference under heteroscedasticity where necessary [3] (see Table 3) (see Table 4).

Year	2005 ^a	2006	2007	2008
Constant	0.2186	0.8641	0.5690	1.0309***
RoA t_{-1}	0.0137	−0.0107	−0.0065	−0.0099*
Firm Size	0.0635	0.0211	0.0032	−0.0125
Sales Growth	−0.0674	−0.1315	−0.0391	−0.0155
Leadership	0.3648***	0.5909***	0.8035***	0.7743***
Corporate Response	0.5170***	0.3139***	0.1492**	0.1120***
Insurance	—	—	—	0.4282***
Banking	—	—	—	0.2308**
Construction	—	—	—	0.1606*
Department Stores	0.2517*	—	—	0.3689***
Utilities	—	—	—	0.3727***
Consumer Electronics	—	0.4419*	—	0.2999***
Hotels	—	−0.5410**	—	0.3009***
Energy	—	—	—	0.3893***
Passenger Transport	0.2946**	—	—	0.3212***
Engineering	—	—	0.2349*	0.3232***
Adjusted R^2	0.6944	0.8147	0.8917	0.9480
F -value all industries	p: 0.124	p: 0.0983*	p: 0.4411	p: 0.0036***
F -value all regressors	p: 3.96e−15***	p: 8.81e−09***	p: 8.65e−12***	p: 5.45e−16***

Note(s): ^a indicates that the variance and covariance have been robustly corrected for heteroscedasticity in the regression using the White estimator

F -value all industries shows the p -value for $H_0: \beta_1 = \beta_2 = \dots = \beta_{10} = 0$ y F -value all regressors shows the p -value for the contrast for $H_0: \alpha_2 = \alpha_3 = \dots = \alpha_6 = \beta_1 = \beta_2 = \dots = \beta_{10} = 0$

*, **, *** indicate significance at 10%, 5% y 1%, respectively

Source(s): Table by authors

Table 1.
Pre-crisis sub-period
(2005–2008) N = 43

Year	2009	2010	2011 ^a	2012
Constant	2.0804***	0.4987	3.5216***	1.1557*
RoA t_{-1}	−0.0104	0.0061	−0.0036	−0.0032
Firm Size	−0.0344	0.0232	0.0559***	0.0351
Sales Growth	−0.0590	−0.1550	0.0119	−0.0290
Leadership	0.6424***	0.4186***	0.4888***	0.1757
Corporate Response	0.1751***	0.4741***	0.0134	0.6452***
Insurance	—	0.3702***	0.6321***	0.2685*
Banking	—	0.3072***	0.2837***	—
Construction	—	0.2592***	0.2735***	—
Department Stores	—	0.1622*	0.4293***	—
Utilities	—	0.3458***	0.5383***	0.2345*
Consumer Electronics	—	0.3181***	—	—
Hotels	—	0.5056***	0.5409***	—
Energy	—	0.3599***	0.4556***	0.3029**
Passenger Transport	—	0.3953***	0.3961***	—
Engineering	—	0.3155***	0.4191***	—
Adjusted R^2	0.8675	0.9163	0.7741	0.8712
F -value all industries	p: 0.7149	p: 0.0039***	p: 5.74 e−10***	p: 0.2275
F -value all regressors	p: 2.83 e−10***	p: 8.83 e−13***	p: 1.06 e−16***	p: 1.99 e−10***

Note(s): ^a indicates that the variance and covariance have been robustly corrected for heteroscedasticity in the regression using the White estimator

F -value all industries shows the p -value for $H_0: \beta_1 = \beta_2 = \dots = \beta_{10} = 0$ y F -value all regressors shows the p -value for the contrast for $H_0: \alpha_2 = \alpha_3 = \dots = \alpha_6 = \beta_1 = \beta_2 = \dots = \beta_{10} = 0$

*, **, *** indicate significance at 10%, 5% y 1%, respectively

Source(s): Table by authors

Table 2.
Crisis sub-period
(2009–2012) N = 42

Table 3.
Crisis exit sub-period
(2013–2016) N = 40

Year	2013	2014	2015	2016
Constant	1.9554**	0.9934	0.3656	2.0654***
RoA $t-1$	−0.0008	−0.0030	−0.0001	−0.0009
Firm Size	0.0336	0.0442**	0.0347	0.0332*
Sales Growth	−0.0331	0.0014	0.3002*	0.0410
Leadership	0.1725	0.0586	0.1604	0.1311
Corporate Response	0.5600***	0.7744***	0.7642***	0.5733***
Insurance	0.2287*	—	—	0.2436**
Banking	—	—	—	0.2349***
Construction	—	—	—	—
Department Stores	—	—	—	0.1977**
Utilities	—	—	—	0.1763**
Consumer Electronics	—	—	—	—
Hotels	0.2781**	—	—	0.2396**
Energy	0.2670**	—	—	0.2927***
Passengers Transport	—	—	—	0.1865*
Engineering	—	—	—	—
Adjusted R^2	0.8192	0.8752	0.8794	0.9113
F-value all industries	p: 0.2122	p: 0.8626	p: 0.6930	p: 0.0528*
F-value all regressors	p: 5.49e−08***	p: 8.05e−10***	p: 5.41e−10***	p: 1.55 e−11***

Note(s): F-value all industries shows the p -value for $H_0: \beta_1 = \beta_2 = \dots = \beta_{10} = 0$ y F-value all regressors shows the p -value for the contrast for $H_0: \alpha_2 = \alpha_3 = \dots = \alpha_6 = \beta_1 = \beta_2 = \dots = \beta_{10} = 0$

*, **, *** indicate significance at 10%, 5% y 1%, respectively

Source(s): Table by authors

Table 4.
Industries-Frequency
of significance
(2005–2016)

Industry	Years	Total
Insurance	2008–2010-2011–2012-2013–2016	6
Hotels	2006–2008-2010–2011-2013–2016	6
Energy	2008–2010-2011–2012-2013–2016	6
Utilities	2008–2010-2011–2012-2016	5
Passenger Transport	2005–2008-2010–2011-2016	5
Department Stores	2005–2008-2010–2011-2016	5
Banking	2008–2010-2011–2016	4
Engineering	2007–2008-2010–2011	4
Consumer Electronics	2006–2008-2010	3
Construction	2008–2010-2011	3

Note(s): The table shows the years for which the corresponding industry has been statistically significant

Source(s): Table by authors

In each table, the rows of the first column show the variables for which results are displayed, and the other columns display these results. The corrected coefficient of determination and the p -values associated with joint significance tests are shown for the industries and for all the model's regressors. Only the estimated coefficients of the individually significant industries are shown, in order to avoid overloading of the tables.

As can be seen in Table 1, the variables are jointly significant for all the years in the sub-period, as shown by the p -value associated with the corresponding F-test. However, the joint test for industry significance only rejects the null hypothesis for 2006 (at 10%) and 2008 (at 1%). It is remarkable that 2008, when the crisis began to manifest itself clearly, was also the year in which all industries showed a significant explanatory capacity of the corporate

reputation index. In addition, their sign indicates that they all improved their reputation in that year with respect to the Media industry, which was taken as a benchmark. In previous years, it was specific industries that reflected this significance: in 2005, Department Stores and Passenger Transport (significant positive differences in both cases with respect to the Media industry); in 2006, Consumer Electronics (positive) and Hotels (negative); and in 2007, Engineering (positive).

The Leadership and Corporate Responsibility control variables were always shown to be significant (at 1% or 5%) over the four-year period. This is logical, considering that these variables contribute to shape the variable to be explained. For the rest (Profitability, Size and Sales Growth), only Profitability was significant, specifically in 2008, but accompanied by a negative sign, which contradicted expectations.

Turning to [Table 2](#), again the variables were jointly significant for all years. Nevertheless, the joint industry significance test only rejected the null hypothesis for 2010 and 2011 (at 1%). Except for 2009, all industries showed a high individual frequency of significance for 2010; nine did for 2011; whereas for 2012 the number dropped to three, namely, Insurance, Utilities and Energy. This seems to reflect the context of the deep economic crisis experienced in that four-year period. It is surprising that there was no industry significance in 2009, the year when economic deterioration was at its greatest. By contrast, in 2010 and 2011, all industries (except Consumer Electronics in 2011) showed significance and, moreover, positive differential effects with respect to Media.

In relation to the control variables, Leadership was significant except in 2012, and corporate responsibility was also significant except in 2011, both with positive coefficients, as expected. For the rest of the variables, only Size was significant (positively, in line with expectations) in 2011.

As shown in [Table 3](#), the variables continued to be jointly significant in all years, but the industries were only jointly significant in 2016 at 10%. There was no individual significance of the industries in 2014 and 2015, and only three in 2013 (Insurance, Hotels and Energy); in all cases a positive differential effect was shown. However, 2016 again saw the emergence of seven significant industries, namely, all except Construction, Consumer Electronics and Engineering. Moreover, the coefficients were positive, indicating that the reputation of the other industries outperformed that of the Media.

Turning to the control variables, over the four-year period, Corporate Responsibility showed the best records of significance of the three sub-periods, with positive values, as expected. However, Leadership, which had showed a very high significance in the previous sub-periods, did not do so in this one (for any year). For the other variables, only Size in 2014 and 2016 and Sales Growth in 2015 were significant, with positive coefficients in all cases, also in line with expectations.

5. Discussion and conclusions

As a preliminary step to examining whether the hypotheses were supported or not, the significance results for the different industries will be analysed, taking into account two aspects: (1) the annual frequency of significance; (2) the frequency of significance by industry.

[Tables 1, 2 and 3](#) show that there were nine years when industries were significant, which may reflect a halo effect; while in three years (2009, 2014 and 2015) there was no such phenomenon. The emergence of industry significance in the sub-period of the crisis is remarkable, except for 2009, as noted above.

Regarding this sub-period of the crisis, the results show an increase in industry significance compared with the first three years of the pre-crisis sub-period (2005, 2006 and 2007) and those corresponding to the post-crisis sub-period. It should be considered that there may have been an impact of the economic crisis that began in 2009, which had already fully

manifested at the end of 2008 with the bankruptcy of Lehman Brothers in September, and continued over the following three years (2010, 2011 and 2012). Considering the sub-period of the crisis and the years before and after (i.e. the 2008–2013 interval) the concentration of industrial significance is clear. As already indicated, results for 2009 were surprising, there was no significance at a time of deep and widespread recession, when Spanish GDP fell by 3.6%. This lack of industry significance only seems to be explained by the fact that the strong generalised shock in economic activity meant that the stakeholders were unable to differentiate between the different types of business activities. Despite the favourable economic situation, 2016 was once again a year of great financial, political and social uncertainty, although the industries' significance was similar to that of the crisis years.

The behaviour that seems to follow from the above is that the financial crisis led to an increase in industry significance, i.e. of the “industrial halo effect”, mainly due to the uncertainty associated with the crisis. Uncertainty, associated with a lack of information, but above all with doubts as to how to interpret the information correctly, led stakeholders to place particular value on whether a company belonged to one industry or another. Thus, in 2008, which was not yet a year of full crisis, but uncertainty was increasing due to the worrying news from the US mortgage market, stakeholders relied heavily on the “industrial halo” to assess the reputational status of companies. Nevertheless, in the face of the widespread crisis in 2009, as all industries seemed to be equally affected, discriminating between them perhaps did not make sense. In the years immediately after, when the effect of the crisis on different types of firms could be observed more clearly, even despite the great uncertainty, discrimination by industry seemed to make sense again, as the difficulties affected different industries in different ways.

Although 2016 did not turn out to be a particularly negative year for Spain in economic terms (3.3% GDP growth), it was wrought with uncertainty, due to economic and financial turbulence both in Europe and Spain. In Europe, there was uncertainty about Brexit, about the solvency of some large German banks and the critical situation of banks in Italy and other countries (Carbó Valverde and Rodríguez Fernández, 2016). In Spain, there was also strong uncertainty, both political and economic (Jiménez, 2016). This could explain the increase in industrial significance during that year.

Turning to the frequency of significance by industry for the nine years in which this phenomenon was manifested, the information in this respect is provided in Table 4, ordering the industries from the highest to the lowest frequency and in chronological order. The years in which each industry showed a statistically significant differentiated behaviour in relation to the reference industry are shown.

Three industries (Insurance, Hotels and Energy) had a high annual presence/permanence (six times in twelve years) and therefore may have generated a halo effect, followed by Utilities, Passenger Transport and Department Stores, each being featured five times out of twelve years. This bias was most pronounced in the sub-period of the crisis in these six industries except for 2009, and in the years before (2008) and after (2013), as well as in 2016, a year of great uncertainty, as mentioned above.

We will turn now to consider whether the two proposed hypotheses are confirmed or not. Regarding H1, concerning the existence of an “industrial halo”, at least two industries had an explanatory power in nine of the twelve years considered. An exception to this was 2007, when only one industry had explanatory power. Six or more industries were significant in four of the years analysed. As the existence of industrial halos in explaining corporate reputation in Spain seems to be confirmed, it cannot be rejected.

With regard to H2, concerning the permanence of the “industrial halo”, the results obtained suggest several considerations. Firstly, no industry appears continuously as a halo generator for the entire period analysed (2005–2016). In fact, as noted above, in three of the twelve years no industry had an explanatory power for Reputation, although all of them were

significant in some of these years. Secondly, there were three industries (Insurance, Hotels and Energy) that had a high presence over time (six of the twelve years), accompanied by considerable levels of significance. Moreover, they were present in the three sub-periods analysed, but with a predominance at the initial and the consolidation stages of the crisis; The first two were at a considerable distance from the benchmark industry, Media. Finally, there were three other industries (Utilities, Passenger and Department Stores) had frequently featured in the ranking (five times). While they were at considerable distances from the benchmark, good levels of significance were found, and they were predominantly present at the initial and the consolidation stages of the crisis. The remaining industries (Banking, Engineering, Consumer Electronics and construction) were significant at least on three occasions in the 12 years under study.

As a conclusion to the above considerations, based on the results it cannot be stated that, strictly speaking, there was a “permanent industrial halo” effect on the reputation of Spanish firms. This led to the rejection of the second hypothesis. However, the results obtained, at least in some industries, suggest that this rejection should be qualified to a certain extent. For the group formed by Insurance, Hotels, Energy and Utilities, the “industrial halo” was mainly evident during the crisis years. It is therefore difficult to reject the existence of an “industrial halo” with a certain permanence for these years, so H2 was partially confirmed for these industries. Something similar could be said for Passenger Transport, Banking and Engineering, which obtained levels of significance in four years, mainly concentrated in 2008, 2010 and 2011.

These results constitute an important contribution, since, as far as we know, in previous studies industry has not been used as an explanatory variable, nor with so relevant results in terms of significance. In this sense, our results do not coincide with those of [Fernández-Sánchez et al. \(2015\)](#) and [Aguilera-Caracuel et al. \(2017\)](#), which do not find significance in the Industry variable, and are more in line with those of [Brammer et al. \(2009\)](#) and [Melo and Garrido-Morgado \(2012\)](#), although in these works the significance of industry refers to the relationship with another variable, specifically with gender diversity in the first case and with CSR in the second.

It may be inferred from the results of this research that industrial halos are not only present, but are intensified at times when business activity is subject to particular uncertainties, either because of negative contemporary economic conditions or because of worrying expectations. It may be of interest in this respect to compare the sequence of the *Índice de Confianza del Consumidor* (Consumer Confidence Index) of the *Centro de Investigaciones Sociológicas* (Sociological Research Centre) (2021) with the significance shown for industries in each year in [Tables 1, 2 and 3](#) for the total period of our analysis (2005–2016). This comparison is featured in [Figure 1](#). The reasons that justify this comparison are, on the one hand, in addition to the relationship between uncertainty and reputational halos observed in this work, the support of studies such as that of [Diez-Martín et al. \(2022b\)](#), which find how uncertainty plays an important role in the evaluation of organisational legitimacy, a concept not identical, but linked in many aspects, to corporate reputation ([Deephouse and Carter, 2005](#)). On the other hand, uncertainty is related to consumer confidence, as shown by various studies in both emerging economies ([De Mendonça and Almeida, 2019](#)) and developed economies ([Ghosh, 2022](#)). And, finally, the measure of reputation that we use, that is, the Merco Spain index, in its evaluation procedure is based on various samples, an important part of them being non-specialists, whose perception regarding organisational reputation is similar to that of the average consumer, so the measurement of reputation is highly influenced by the perception of consumer confidence.

As can be seen, the changes in the number of halos over time tends to accompany these consumer perceptions. Thus, in the sub-period prior to the crisis, in the “boom” period, only two halos appeared in 2005 and 2006, and one in 2007; but with the onset of the crisis at the

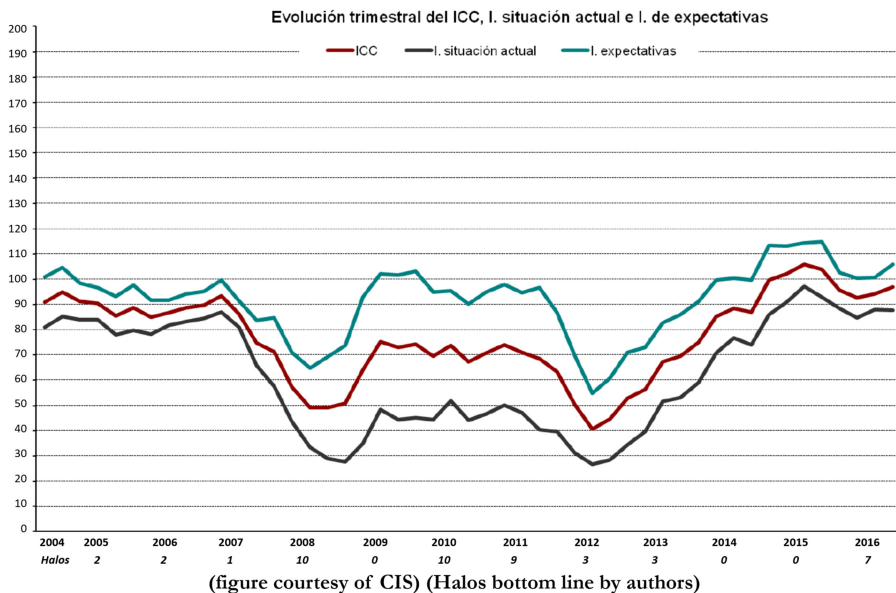


Figure 1.
Consumer Confidence
Index (ICC) in Spain
and industrial halos

Source(s): Centro de Investigaciones Sociológicas (CIS) (2016), and own results

end of 2008, all the industries considered featured halos. Moving on to the sub-period of full crisis, 2009, when the perception of the magnitude of the crisis and economic and social uncertainty had clearly emerged, the halos “collapsed”. This unfavourable perception was maintained in 2010–2011, with the appearance of ten and nine halos, respectively. In 2012, with a collapse in consumer perception and a contraction of -3% in Spanish GDP, only three halos were found to occur. In the sub-period towards the end of the crisis, in 2013, when there was a positive change in GDP in the last quarter (0.3%), uncertainty was reduced and consumer perception recovered, three halos appeared. In 2014 and 2015, consumer confidence continued to improve, and the halos disappeared; but in 2016, as indicated above, there was a marked upturn in uncertainty, generating a significant number (7) of industrial halos [4].

As for the control variables, *Corporate Responsibility*, as expected, had a very high explanatory power. This was particularly evident in the sub-period when the crisis was coming to an end, as all coefficients were significant at 1% . It seems that it was in this time interval that stakeholders considered this variable to be particularly important in explaining firm reputation. These results were in line with those found by Quintana-Garcia *et al.* (2021), Melo and Garrido-Morgado (2012) and Brammer and Pavelin (2006). *Leadership* had a peculiar performance in that it was highly significant from 2005 to 2011, and the results for this interval coincide with those by Love *et al.* (2017), and Urrea-Urbieta *et al.* (2009). However, it subsequently lost its explanatory power for reputation precisely in the sub-period in which the significance of the previous variable was consolidated.

In contrast, the rest of the control variables did not exhibit the explanatory power they were supposed to have. The most striking case was that of *Profitability*, referring to the previous year. This variable has been widely covered in a wide range of studies, both with current and lagged values. In some of them it appeared positively and significantly associated with reputation (Musteen *et al.*, 2010; Brammer *et al.*, 2009; Brammer and Pavelin, 2006;

Dunbar and Schwalbach, 2000), while in the study described here, it only showed an explanatory power (at 10%) in 2008, and with the opposite sign to what was expected. Some authors (Olmedo-Cifuentes and Martínez-León, 2011) have indicated that financial position and value creation measures weaken as an explanatory factor of reputation in periods of economic crisis, although in the case described here, it was also weak both before and after the crisis.

Firm Size, measured by the Naperian logarithm of the number of employees, was positively significant in 2011, 2014 and 2016. Our results for these years coincided with those of Musteen *et al.* (2010), and Dunbar and Schwalbach (2000). It is presumed that larger company size may have a positive effect on reputational ratings, especially in the crisis and post-crisis sub-periods, although it is true that in many studies this variable has not been found to be significant. Additionally, the sample here showed large firm sizes and also low dispersion, which seems to hinder its explanatory power.

Finally, the attempt to include a factor reflecting the quality of the business offering in the model by using a proxy variable, namely, *Sales Growth*, does not seem to have yielded significant results. It failed to show explanatory power for reputation, except in 2015, when the significance was at 10% with a positive coefficient, as expected. These results are not consistent with those found by Musteen *et al.* (2010) or Urra-Urbieta *et al.* (2009).

The results of this study have some practical implications. Firstly, firms that publish corporate reputation rankings should be aware of the distortion that the industrial halo can produce, especially in times of uncertainty, and seek to correct for it in their measurements. And secondly, corporate groups themselves should assume that the reputation of the industry affects their individual reputation, and consequently, they should see the other companies in the industry not only as competitors but also as “reputational allies”. They should therefore make collective efforts to improve in this respect, especially in the face of reputational crises.

It would have been desirable for this study to have had sufficient data to include other industries, but this was not possible. As for possible extensions, in addition to expanding the period considered, other analytical techniques, such as panel data models, could be applied to allow comparison with the results obtained here.

Finally, this work opens up a wide range of future research possibilities. Thus, one line of research that opens is to delve deeper into the relationship between sectoral reputational halos and consumer confidence. Other lines of research of interest would be to analyse sectoral halos in other countries, or the relationship of these halos with organisational legitimacy (Diez-Martín *et al.*, 2021), or firm size (especially for small and medium-sized firms), or with entrepreneurial intention, in the latter case in line with the work carried out in this regard in relation to legitimacy (Diez-Martín *et al.*, 2022a).

Notes

1. See, for example, the process of preparing the Merco España report (Análisis&Investigación, 2010, 2013, 2014, 2016, 2017, 2018, 2019, 2020, 2021).
2. The American Consumer Satisfaction Index-ASCI. 1994–2023, <https://www.theacsi.org/>.
3. Descriptive statistics for the variables are available on request.
4. A comparison has also been made with the “Economic Policy Uncertainty Index” for Spain (Ghirelli *et al.*, 2019), with very similar results.

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