THE EFFECT OF COLLECTIVE BRAND STRATEGY ON ADVERTISING EFFICIENCY

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THE EFFECT OF COLLECTIVE BRAND ON ADVERTISING PRODUCTIVITY

Purpose: This paper analyses the advertising productivity of a collective brand strategy versus a non-collective brand strategy, as well as the moderating role of company characteristics (age of the company, individual brand reputation and degree of competition that the company faces). The main hypothesis is that a collective brand has a positive influence on the advertising productivity of its member companies, as it is a collective reputation indicator in experience goods.

Design/methodology/approach: The methodology is based on the application of regression models using panel data from 2004 and 2012 pertaining to companies in a Spanish experience goods industry. The empirical analysis is performed in the winery sector, given the proliferation in the wine market of public collective brands (i.e. Protected Designation of Origin labels).

Findings: The results show that a company associated with a collective brand has greater advertising productivity than a non-associated company. Advertising productivity is also higher for brands with better individual reputations associated with a collective brand. Moreover, the relative effect of a collective brand on advertising productivity is higher when the company competes in a market with a higher level of competition.

Originality/value: The literature has paid little attention to the relationship between collective brand strategy and the advertising productivity of member companies. This study considers that the advertising productivity of companies in collective brands could be explained by the effects derived from the collective brand reputation.

Keywords: brands, wine, collective reputation, advertising productivity.

Article type: Research Paper

1. Introduction.

The widespread use of a collective brand strategy has contributed to growing research interest in this field. A collective brand is a sign that distinguishes in the market the goods or services produced by firms belonging to an association, and it is registered to guarantee the origin, nature or quality of certain goods and services (see Directive 89/104/CEE). Members of collective labels share only a brand name, and are generally autonomous companies that make individual decisions and their own profits (Fishman, Finkelshtain, Simhon and Yacouel 2008). Empirical research has estimated collective brand equity through the price premium that consumers are willing to pay for a collective brand (e.g. Fernández-Barcala and González-Díaz 2006), and has analysed the impact of collective reputation indicators on product price (e.g. Landon and Smith 1997, 1998; Combris, Lecoq and Visser 1997; Loureiro and McCluskey 2000; Quagrainie, McCluskey and Loureiro 2003; Schamel 2000, 2009; Costanigro, McCluskey and Goemans 2010). Results suggest that one determinant of the success of products under the umbrella of this type of brand is collective reputation: if the collective label's reputation is high, the collective brand will be a powerful indicator of quality (Tirole 1996; Winfree and McCluskey, 2005). This has allowed the characterisation of collective brands as perceived signs of superior quality by consumers, who are willing to pay a price premium for them (Fishman et al. 2008).

The underlying logic of this phenomenon has followed the perspective of Agency Theory (Ross 1973; Jensen and Meckling 1976; Rees 1985). This has been developed by several researchers (see Klein and Leffler 1981; Shapiro 1983; Milgrom and Roberts 1986; Wernerfelt 1988; Montgomery and Wernerfelt 1992; Tirole 1996; Landon and Smith 1998), who argue that companies develop reputational capital, through individual and collective brand names, to address the information asymmetry between producer and consumer (Fernández-Barcala and González-Díaz 2006). That is, in the case of an "experience good", in which quality cannot be discerned prior to purchase (see McQuade, Salant and Winfree, 2012), and especially for agrifood products, producers repeatedly supply the promised quality to show that they are not exploiting their information advantage in terms of the actual quality. Thus, producers create an individual reputation for their brand names that will be

used as a guarantee for future consumers. However, the individual brand name of a company can co-exist with an umbrella brand name in which quality can be guaranteed by another private firm or by a public institution. When the guarantee comes from a public institution, a collective label is designed to ratify the product quality of the individual member companies, which can sell their products with a legal guarantee and the prestige of the superior quality of the specified geographical region and/or production method (Fernández-Barcala and González-Díaz 2006). For example, Protected Designation of Origin (PDO) is a public collective brand, which is used to describe foodstuffs (e.g. the wines of Rioja) that are produced, processed and prepared in a given geographical area using recognized know-how (see Loureiro and McCluskey 2000).

Some authors have centred on the role of the collective brand in the firm's performance, and have found that PDO labels increase the efficiency of member companies' economic activity, in terms of profits and sales regarding capital and employees (see Sellers-Rubio and Mas-Ruiz 2015). In this study, we focus on one of the key topics in the advertising literature, advertising effectiveness (see Cheong, De Gregorio and Kim 2014), which is defined as the extent to which advertising generates a certain desired communication effect (Büschken 2007). Furthermore, we focus on branding literature that holds the idea that the brand value improves company productivity by reducing marketing costs and improving margins (Keller and Lehman 2003; Rust et al. 2004). Specifically, advertising effectiveness and branding papers have been prominent in the field of firms' brand extensions into new product areas (Smith and Park 1992; Nijssen 1999), by finding that these extensions increase advertising productivity measured in terms of the advertising cost–sales ratio, which acts as an umbrella for several brands belonging to the same firm. In this paper, we extend advertising effectiveness to the collective brand strategy level (a brand that distinguishes several different homogeneous products produced by firms belonging to an association) and assess its implications, such as what the advertising productivity of a member company of a collective brand would be and whether there are conditions that affect this productivity. First, a collective brand could increase the productivity of a company's investment in advertising by reaching a certain level of sales with a lower level of investment than would be needed if the same product were launched by the same company

under an individual brand. Our hypothesis is that a collective brand has a positive impact on the advertising productivity of its member companies because a collective brand is a collective reputation indicator in experience goods. Our interest in testing this arises from its important implications for managers' decisions in terms of the effectiveness of collective brands in creating added value for companies and, thus, on whether to join a collective brand, whether to remain a member or whether to leave the collective brand in favour of independent promotion of the individual brand. Second, we analyse the moderating role of company characteristics on the effect of a collective brand strategy on advertising productivity. We hypothesize that some company characteristics (age of the company, individual brand reputation and degree of competition that the company faces) may influence the quality information process and consumer decision making on collective brands and, consequently, the advertising returns on this strategy for the companies involved.

Thus, the objective of this study is to examine the ability of a collective brand to generate greater performance from a company advertising productivity perspective, and to analyse the moderating role of company age, individual brand reputation and the degree of competition that the company faces. The methodology is based on the application of regression models using panel data. The empirical analysis is an experience goods industry, the Spanish winery sector, given the proliferation in the wine market of public collective brands (i.e. PDO) and the variety of types of brands (co-existence of individual and collective brands). More precisely, PDOs are used in Spain as a signal of superior quality, resulting from differential individual characteristics due to the geographical environment in which the raw materials are produced and the product is made, and the influence of the human factor (MMAMRM, 2009). These PDOs are used by a range of companies under the control and authorisation of the title holder (the Regulatory Council of each PDO), which certifies that the products comply with certain common requisites, especially those concerned with quality, geographical origin, technical conditions or method of production.

2. Literature review and development of hypotheses.

Advertising effectiveness has been under scrutiny by researchers, given the increasing focus on the accountability of advertising results (Pergelova, Prior and Rialp 2010). Early studies analysed

advertising performance through the lens of return on advertising investment (see Dhalla 1978). Later, advertising productivity was applied as an efficiency index of advertising spending measured in terms of the advertising cost–sales ratio (see Smith 1992). Under this view, companies evaluate their productivity by comparing themselves to similar companies (benchmarking) to learn from the best-performing organizations (Donthu, Hershberger and Osmonbekov 2005). Benchmarking studies have also implemented data envelopment analysis to estimate advertising efficiency in a context of multiple inputs and outputs (see Luo and Donthu 2001, 2005; Färe, Grosskopf, Seldon and Tremblay 2004; Lohtia, Donthu and Yaveroglu 2007; Büshken 2007).

Regarding the drivers of advertising effectiveness, there is a consensus in the brand literature regarding the idea that the value of a brand improves the company's productivity by reducing marketing costs and improving prices and margins (Keller and Lehman 2003, 2006; Fernández-Barcala and González-Díaz 2006). First, a very reputable brand virtually guarantees success with lower advertising investment (Aaker 1991; Keller 2002), due to the fact that better-differentiated brands can develop more efficient marketing programmes because their customers are more sensitive to advertising and promotion (Rust et al. 2004). Second, brands help consumers to interpret and process information on the product, and influence consumer confidence when making the purchase decision. Consequently, knowledge of a brand created in consumers' minds through a company's investment in pre-marketing programmes is a highly valuable asset for improving marketing productivity (Keller 1993; Rust et al. 2004).

Some empirical studies, such as Smith (1992), Smith and Park (1992) and Collins-Dodd and Louviere (1999), have examined the empirical relationship between the productivity of advertising and the strategy of brand extensions into new product areas (e.g. the extension of Honda to lawn and garden equipment). Their findings suggest that brand extensions increase the productivity of a company's investment in marketing communications (in particular, advertising) by generating a greater level of sales from a given advertising investment, or by achieving a target level of sales with less investment than would be needed if the same product were launched with a new brand name (Aaker 1990; Tauber 1988; Andersson 2002). However, the literature has paid little attention to the relationship between

collective brand strategy and the advertising productivity of member companies. This study considers that the advertising productivity of companies could be explained by the effects derived from a collective brand reputation. It assumes that a collective brand reputation could reduce consumers' purchase uncertainty and the advertising investment necessary to promote sales by companies that produce experience products, where quality is difficult to evaluate prior to purchase.

2.1. Effect of Collective Brand Strategy on Advertising Productivity.

From the point of view of experience goods, theoretical developments derived from the agency perspective (Ross 1973; Jensen and Meckling 1976) can be used to support the effect of a collective brand on its members' advertising productivity. In particular, the agency approach has been followed and developed by researchers through Reputation Theory with asymmetric information, which distinguishes two reputation models (Landon and Smith 1997, 1998): individual company reputation and collective reputation. The role of individual company reputation has been considered in the theoretical models of Klein and Leffler (1981), Kreps et al. (1982), Shapiro (1983), Allen (1984), Rogerson (1987), Mailath and Samuelson (2001), Tadelis (2002) and Jin and Leslie (2009), who explained the reputation of a company through its past output quality. Thus, for an experience good, product quality is imperfectly observable prior to purchase and can only be determined through its use. If this experience good is not frequently bought, information on the current product quality is not available to consumers or is costly to acquire. This means that consumer demand will depend, at least in part, on consumer predictions of the quality of the product. The quality reputation of companies is one of the most important pieces of information used by consumers when making these predictions. In addition, the individual company reputation model assumes that the reputation of a company depends, fundamentally, on the quality of its past output.

Moreover, the role of collective reputation, which is defined as an aggregate of individual reputations, was developed in the theoretical model of Tirole (1996), who used group information to approximate the quality of the product of the individual company. In fact, in industries with a large number of producers, specific information on the current or past quality of a given company is not readily available, and it is only possible (or it would be cheaper) to obtain information on the quality of a

group of companies with which the company in question can be identified. This group information can be used as an indicator of the product quality of an individual company in the group.

In summary, in experience products there are inefficiencies derived from information asymmetries between consumers and producers, and a very common market solution to this situation is reputation (Klein and Leffler 1981; Kreps et al. 1982). Using a reputation mechanism, although consumers cannot observe product quality prior to purchase, they can form beliefs around product quality (Jin and Leslie 2009). Collective brands are reputation mechanisms, as individual member companies share a collective reputation and consumers of any individual company can learn about the quality of all the member companies. Thus, knowledge of the collective reputation would allow consumers to reduce uncertainty surrounding a purchase and promote trial of an individual brand. Moreover, in terms of advertising effectiveness, knowledge of this collective reputation would reduce the amount of additional information that consumers need in order to evaluate the individual brand associated with this collective brand. This would allow a company to achieve its sales objective with less advertising investment than would be necessary to develop awareness and trust in an individual brand not associated with a collective brand.

Taking the above argumentation into account, we can expect that companies that use collective brands are more efficient from an advertising point of view compared to companies that do not use collective brands, because a collective brand provides a collective reputation indicator. Consequently, we propose the following hypothesis:

H1. The use of collective brands has a positive effect on the advertising productivity of the member companies.

2.2. Moderating Role of Company Characteristics.

Age of the company. It is expected that the relative effect of collective brands on company advertising productivity would be smaller for established companies than for companies that are newer to the market. Basically, as a company establishes itself within a community, its exposure and reputation spread via positive word of mouth (Thomas et al. 1998). Therefore, advertising costs decrease

following the company- or product-introduction period, independent of the brand strategy employed (Crawford 1987). However, according to Smith and Park (1992), the rate of decline of advertising costs should be greater for products introduced using an individual brand that is not associated with a collective brand than for an individual brand that is associated with a collective brand. Although an individual brand that is associated with a collective brand has an initial advertising cost advantage over a non-associated brand due to the collective brand leverage and established identity, this advantage is transient because consumer awareness of an initially unfamiliar brand can approach the levels of previously established brands over time. As a consequence, the advertising cost difference between individual brands that are associated or not associated with a collective brand decreases as the products and the company become more established. Thus, the following hypothesis is proposed:

H2. The relative effect of a collective brand strategy on the advertising productivity of a company is greater when the company is new to the market than when it is established.

Individual brand reputation. As stated above, the individual company reputation model of Klein and Leffler (1981) considers that the quality reputation of a company as the most important information source used by consumers when making predictions about the current quality of a product, with the company's reputation being explained through its past output quality. In contrast, the collective reputation model of Tirole (1996) assumes that the consumer uses group information to approximate the quality of the product of the individual company. However, the type of information used by the consumer that is assumed in each model (individual company reputation and collective reputation) can be highly restrictive (Landon and Smith 1997), which may influence advertising productivity. In particular, and according to the individual company reputation model, consumers can have information about past quality, but not about current quality; despite this, they could also use information about collective reputation to improve their predictions about current quality. In fact, even when consumers have access to free or low-cost information on current quality (see the incomplete information model of Rosen 1974), collective reputation indicators can also affect the demand for some products, as some specific collective brand products could benefit from a snob effect, such as easy pronunciation of the name of the collective brand (Landon and Smith 1997). In

this case, individual brands with a higher perceived prior quality that are associated with a collective brand can stimulate purchase trial with less advertising investment than individual brands that are not associated with a collective brand. Thus, the following hypothesis is proposed:

H3. The relative effect of a collective brand strategy on the advertising productivity of the company increases when individual brand reputation increases.

Degree of competition that the company faces. It is expected that the relative effect of collective brands on company advertising productivity would be greater for products introduced into markets with many competitors than for those introduced into markets with few competitors. When there are many established individual brands competing in a product category, the limitations in consumer capacity (see Bettman 1979) increase the difficulty of trialling a new brand (Smith and Park 1992), so the investment needed to launch a new product with a brand not associated with any collective brand will be higher. Therefore, the relative advantage of using a collective brand will be higher in markets with many established competitors, leading to the following hypothesis:

H4. The relative effect of a collective brand strategy on the advertising productivity of the company is higher in a market with many competitors than in a market with few competitors.

3. Methodology, sample and variables.

In order to test whether collective brand labels influence the advertising productivity of members, this paper implements a methodology based on regression models with panel data, which analyse the relationship between the collective brand, as a collective reputation indicator, and advertising productivity. Furthermore, the moderating role of several company characteristics has been considered. The EViews 8 software package is used to estimate these models.

The empirical analysis is performed on a sample of companies operating in an experience goods industry, the Spanish wine sector, between 2004 and 2012. For the sample selection, we use the population of companies registered in paragraph 1102 of CNAE-2009, which is the equivalent of code 2084 of the US SIC classification (“Wines, brandy and brandy spirits”), and which is found in the SABI database (the Iberian version of the Bureau Van Dijk database). The initial sample comprises

3,077 companies. To guarantee the homogeneity of the companies analysed, we exclude wineries that mainly produce brandy and other distilled high-alcohol products. These wineries can belong to a collective public brand (i.e. the PDO label). The companies in the 90 Spanish wine PDOs are listed on the PDO websites. In order to remove from the sample companies that only invest in advertising occasionally, we stipulated that the companies had invested in advertising in all years of the study period. Furthermore, in order to estimate firms' individual reputation, they had to have at least two references in the wine guide. Thus, the final sample used for the empirical study is made up of 196 wineries continuously operating from 2004 to 2012 (a total of 1,764 observations). A total of 20 wineries are not members of any PDO, and of the 176 that are members of the 28 PDOs represented in the sample, 22 are members of more than one PDO. Despite the reduction in the sample size, the final sample comprises all the firms that invested in advertising and represents 47.01% and 51.62% of the total sales revenue of the wineries in 2004 and 2012, respectively.

The dependent variable, productivity of advertising spending, is measured by the ratio between sales (S) and advertising (A) spending of the company, obtained from the SABI and Information for Advertising Expenditures database (which provides detailed information on advertising expenditures in Spanish media, such as television, newspapers, magazines, etc.). Given a certain level of advertising spending, companies belonging to a collective brand will generate higher sales and the S–A ratio will be higher for collective brand companies than for non-collective brand companies. If the objective is fixed in terms of sales, belonging to a collective brand should enable a company to generate higher sales with less advertising spending, yielding a higher S–A ratio for collective brand companies.

In order to explain the advertising productivity of companies, we consider the following variables. First, collective brand strategy, which is measured through a dummy variable that takes a value of 1 if the company belongs to a collective brand, and 0 otherwise. Second, we use five company characteristics:

i) Age of the company, measured in years since its creation. This information has been obtained from the SABI database.

ii) Individual brand reputation. As individual firm reputation is assumed to be a function of the firm's past output quality (Landon and Smith 1998), the brand reputation variable is represented by one-year lag in the individual brand quality index. The wine quality index is obtained from the guide "Los Mejores Vinos de España Repsol" from 2004 to 2012, which provides blind tasting quality scores for the best wines in Spain (those with more than 85 points on a 100-point scale rated by experts). The reasons for using this data are as follows: (a) the 100-point scale allows for finer quality differences than in consumer rankings that are based on a five-point scale; (b) this publication offers a wide database with more than 1,000 wines ranked every year; and (c) this quality ranking is based on blind tastings conducted every year once the wines are released onto the market.

iii) Degree of competition that the company faces. This index is measured through the number of direct competitors a product faces in its market, considering the different wines commercialized by each winery and their prices.

iv) Size of the company, a control variable measured through asset volume. This variable was obtained from the SABI database and was deflated by the GDP deflator index (2004–2012). Company size can affect advertising productivity because it can explain individual reputation, as bigger companies have more financial resources to invest in quality and promotion (Castriota and Delmastro 2008, 2010).

v) Number of the company's products appearing in the wine guide. This is a control variable that is a proxy for company brand strength. It is expected that the number of wine references appearing in the guide could affect advertising productivity. This could be explained because the value of a brand as a quality signal increases as the number of products associated with it increases (Wernerfelt 1988).

4. Results.

Table 1 shows the descriptive statistics and the bivariate correlations between the variables used in the empirical study. To test H1 to H4 of this paper (i.e. the relative effects of collective brand strategy on advertising productivity), we carry out a regression analysis using panel data. The models estimated in Table 2 include the main effects of the independent variable and the moderator variables (characteristics of the company), as well as the interactions between them. Given the high correlation between some variables and their interactions, Models 1, 2, 3 and 4 include different combinations of

the variables designed collectively to solve the problem of multicollinearity. The inclusion of fixed temporal effects allows us to control the unobserved heterogeneity between years in the panel. We also use the robust estimation of White (1980) to solve the possible heteroscedasticity (differences in behaviour variances) derived from individual elements (in our case, wineries). Regarding the procedure employed, it should be stressed that panel data regression can suffer from both heteroscedasticity (the variance of the residuals is not equal across the observations) and autocorrelation (residuals are not independent over time) (Hsiao 2003), which increases the standard deviation of the estimated coefficients, thereby reducing the individual significance of each coefficient (Wooldridge 2010; Greene 2012). The estimated models in our study include companies of substantially different sizes, in terms of both assets and advertising expenditure, which is a potential source of cross-section heteroscedasticity (the variance of the residuals could differ depending on the size of the company) (Hsiao 2003). Despite there being several approaches to tackling this problem in static panel data models with fixed effects, we opt to estimate the variance–covariance matrix with the robust method, proposed by White (1980) and implemented by Arellano (1987) in a panel data context, which is available in EViews 8 (EViews 2014). This robust estimation is less efficient than standard ordinary least squares estimation, but more robust in cases of cross-section heteroscedasticity (Wooldridge 2010).

PLACE TABLE 1 ABOUT HERE

As can be seen from Table 2, the coefficient of the dummy variable reflecting collective brand membership is positive and significant. This reveals the favourable effects of collective brands on advertising productivity, which supports H1 in the sense that collective brands positively influence the advertising productivity of their member companies. This finding reveals the importance of a collective brand strategy in the commercialisation of experience products, insofar as knowledge of the collective reputation would allow consumers to reduce the uncertainty surrounding a purchase and promote individual brand trial. It seems, therefore, that knowledge of the collective reputation would reduce the amount of additional information that consumers need to evaluate the individual brand associated with this collective brand, thus allowing a company to leverage explain the greater

advertising productivity of companies in a collective brand (i.e. to achieve sales objectives with less advertising investment than would be necessary to develop awareness and trust in a firm not associated with a collective brand).

Regarding the moderating role of company characteristics (see Table 2), the results show that the coefficient of the "collective brand strategy*age of the company" interaction is non-significant. This result was not expected and leads us to reject H2, which posited that the relative effect of a collective brand strategy on the advertising productivity of the company is greater when the company is new to the market compared to when it is well established. The non-significance may be explained because the results could be masked by a relatively recent phenomenon called the new wine "boom" (Roberts and Reagans 2007), which implies that markets may favour companies established during the last two decades. In fact, some companies have recently appeared on the market with very high-quality wines (Díaz 2011). The coefficient of the "collective brand strategy*individual brand reputation" interaction is significant and positive, so H3 is supported in the sense that the relative effect of a collective brand strategy on the advertising productivity of the company is higher when the individual brand reputation increases. This result suggests that when consumers have information about prior quality (in the previous year) but not about current quality, they could use collective reputation information to improve their predictions about current quality (Landon and Smith 1997). Furthermore, it stimulates trial with less advertising investment than that of individual brands not associated with a collective brand. It is worth noting that the interaction effect is statistically significant (that is, there is a difference in the effect of individual brand reputation between companies with and without a PDO), but the coefficient of individual brand reputation is non-significant (that is, there is no relationship between individual brand reputation and advertising productivity for companies without a PDO). These results support the notion that individual brand reputation is driving the impact on the A–S ratio only in the presence of a collective brand strategy.

PLACE TABLE 2 ABOUT HERE

The coefficient of the "collective brand strategy*degree of competition" interaction is positive and significant, which supports H4; i.e. that the relative effect of a collective brand strategy on the

advertising productivity of the company is higher in a market with many competitors than in a market with few competitors. It seems that when there are many established brands competing within a product category, the difficulty in promoting trial of a new brand will be higher, and the investment needed to launch a new product with a brand not associated with any collective brand will also be higher. Regarding control variables, the coefficient of the company size variable is positive and significant, which suggests that as company size increases, advertising productivity will be higher. This could be explained because company size impacts individual reputation, as larger companies have greater financial resources to invest in quality and promotion compared to smaller companies (Castriota and Delmastro 2008, 2010). Thus, larger companies are able to attract the attention of the media and to gain visibility. Moreover, the coefficient of the number of the company's products in the wine guide is positive and significant, suggesting that as the number of excellent products offered by a company (i.e. company brand strength) increases, so too will advertising productivity. This could be explained because brand value as a quality signal increases as the number of associated products increases (Wernerfelt 1988).

Finally, in order to test the potential bias derived from the unbalanced sample size between groups (bias towards companies with a collective brand strategy – PDO), we conducted a sensitivity analysis that implies re-estimating the models with 40 observations using a basic bootstrapping estimation procedure (Greene 2012). Specifically, we developed a re-sampling process in order to run the models with the same number of observations of both types of companies. That is, we re-ran the regressions using a sample of 40 firms (20 without a PDO and 10 sub-samples of 20 companies with a PDO). Afterwards, we calculated the arithmetic mean of the estimated coefficients and the standard errors, and finally the t coefficients and p values for each relationship (see parametric bootstrapping in Fox 2002; Greene 2012). The results obtained from the bootstrapping estimations (see Appendix) suggest that the use of a balanced sample size (equal number of companies of each type) does not affect the main findings of the model, therefore supporting the robustness of the initial estimations in Table 2.

5. Conclusions.

This study examines the advertising productivity of a collective brand strategy in an experience goods industry, as well as the moderating role of several company characteristics. While previous studies on this topic have analysed the drivers of advertising productivity in terms of brand extensions of a firm into new product areas, this study addresses a collective brand strategy (a brand that represents several homogeneous products from different firms belonging to an association), by assuming that a collective brand has a positive impact on the advertising productivity of its member companies because it is a collective reputation indicator. In addition, previous research to date has analysed the effect of a collective brand strategy on product prices, based on collective reputation, while this study extends the implications of Reputation Theory to advertising effectiveness.

Based on sample panel data on Spanish wineries, the results of this paper reveal several interesting findings, in the sense that the advertising productivity of collective-brand companies is significantly higher than that of non-collective-brand companies. However, managers should also consider some company characteristics that moderate this effect. In fact, our findings reveal that advertising productivity is higher for brands with better individual reputations, which are associated with a collective brand, and that the relative effect of the collective brand on advertising productivity is greater when the company competes with many competitors.

This study has relevant managerial implications. The finding regarding productivity differences between companies associated with a collective brand and companies not associated with a collective brand supports the protection policy of public collective labels, such as those developed in Europe and in Spanish Autonomous Regions. This is based on the fact that collective brands have the capacity to affect the advertising productivity of their member companies. If we extend the theoretical model of collective reputation (Tirole 1996), centred on price equilibrium, the results obtained in this study of the differential effect of the collective label on company advertising productivity suggests that wine consumers formulate their quality predictions on the output of an individual company using information on the output of other similar companies, giving a core value to the quality indicators of the group. The value that consumers attach to public collective brands implies that managers of public

or governmental institutions, which guarantee the quality of the umbrella brand name, should provide continual information to the market on the characteristics of their products.

Furthermore, the results suggest that choosing a collective brand strategy can play an important role in the success of a company. In particular, a collective brand can help a company to be more efficient because it can promote better investment in advertising by its members in terms of the advertising-to-sales ratio. Thus, a collective brand strategy may facilitate market entry, enabling a higher frequency of consumer trial and, thus, an initial market share with a lower advertising investment compared to that needed to introduce an individual brand not associated with a collective brand. However, collective brands should not be seen as a guarantee against failure. In fact, collective brands favourably contribute to company productivity, but they only explain a percentage of productivity variability. Our findings suggest that certain characteristics of the company, such as individual brand reputation and the competitive intensity of the market, may help to explain this variability. The advertising productivity of a company that is associated with a collective brand increases compared to that of a non-associated company, along with increases to individual brand reputation. This suggests that the likelihood of successfully introducing a new product is higher when the firm can benefit from leveraging the strong individual reputation of the collective brand. Finally, the result that the relative effect of collective brand strategy on the advertising productivity of the company is higher in a market with many competitors suggests that the limitations in consumer capacity derived from a situation with many brands in the market dissuade new brand entry (and facilitate the use of a collective brand). In contrast, in a market with few competitors the entry of a new brand with a well-known individual brand reputation acts as a strong point for facilitating competitive differentiation.

Although the aim of this study is to contribute to understanding of the impact of collective brand strategies on advertising productivity, it has some limitations that restrict generalisation of its results. First, the study is based on detailed information at the individual brand level, mostly on advertising spending, reputation and competitive intensity, but not on sales, which led us to estimate advertising productivity at a company level. Second, the database includes a sample of high-quality products (i.e. the best wines of Spain – those with more than 85 points on a 100-point scale of blind-tasting quality

scores). This limits the extent to which our results can be generalized to other groups of products. Third, a lack of information impedes the analysis of other factors that explain the effect of a collective brand strategy on company advertising productivity, such as the strength of the collective brand. Finally, the area of study is an experience goods industry, the Spanish wine sector, and the effects should be analysed in other industries of this type in order to generalize the results.

As further lines of research, we suggest estimating advertising productivity at an individual brand level, by analysing the influence of the strength of different collective brands on the productivity of the individual brands represented by them. Brand strength is one of the most central components of any model of brand equity, and such strength can not only be conceptualized in terms of consumers' attitude towards the brand with respect to quality, but also integrates behavioural dimensions, such as brand loyalty and brand share, across the markets in which the brand competes (Smith and Park 1992; Aaker 1991). Thus, it is expected that the strength of the collective brand influences individual brand advertising productivity, because a collective label of higher strength should be better able to stimulate trial of its members' products compared to a collective label of lower strength.

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TABLE 1

Descriptive Statistics and Correlations (N=189, Obs.=1,701)

Variable	Mean (S.D.)	Variable	Log advertising efficiency	Collective brand strategy	Company age	Individual brand reputation	Competition degree	Log company size
Advertis. Efficiency	1.625 (17.931)	Log advert. efficiency	1.00					
Collec.br. Strategy	0.920 (0.262)	Collective brand strat.	0.04*	1.00				
Company age	25.095 (20.906)	Company age	0.17***	0.11***	1.00			
Ind. brand Reputation	90.210 (2.207)	Individual brand reputa.	-0.07**	-0.07**	-0.11***	1.00		
Competit. Degree	22.672 (8.771)	Competition degree	-0.37***	0.11***	0.24***	0.10***	1.00	
Company size	51,754.01 (69,365.97)	Log comp. size	0.14***	0.08**	0.17***	0.08**	0.51***	1.00

* p <0.10; ** p<0.05; *** p<0.001

TABLE 2

Effect of Collective Brand on Log Advertising Efficiency

(Standard deviation in brackets)

Variable	Model 1a	Model 1b	Model 2	Model 3	Model 4
Intercept	-1.055	-8.692**	-8.659***	-8.262***	0.856
	(0.854)	(0.857)	(0.865)	(0.853)	(0.737)
Independent variable					
Collective brand strategy	0.375*	0.449***	0.396**		
	(0.197)	(0.138)	(0.196)		
Main effects					
Company age	0.027***	0.015***	0.012*	0.015***	0.027***
	(0.001)	(0.001)	(0.007)	(0.001)	(0.001)
Individual brand reputation	0.009	-0.002	-0.001	-0.007	0.011
	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
Competition degree	-0.104***	-0.247***	-0.247***	-0.247***	-0.130***
	(0.002)	(0.004)	(0.004)	(0.004)	(0.005)
Control variables					
Company size (Log assets)		1.289***	1.289***	1.289***	
		(0.025)	(0.024)	(0.025)	
Interactions					
Collective brand strategy*Company age			0.003		
			(0.007)		
Collective brand strategy*Individual brand reputation				0.005**	
				(0.002)	
Collective brand strategy*Competition degree					0.028***
					(0.006)
Adjusted R-squared	0.221	0.571	0.572	0.572	0.224
F-statistic	39.787**	168.392**	155.355**	168.443**	40.592**
Fixed effects Chi-squared	7.428	25.259**	25.188**	25.251**	7.713

Panel Least Squares estimation, period fixed effects and White heteroskedasticity robust estimation (cross-section). n=189, Obs. = 1,508

* p <0.10; ** p<0.05; *** p<0.001