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Wine tourism in Spain: The economic impact derived from visits to wineries and museums on wine routes

El enoturismo en España: El impacto económico derivado de las visitas a bodegas y museos en las rutas del vino

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ABSTRACT

Wine and tourism represent a perfect symbiosis, as they offer a different experience to tourists and also promote the economic, social, and environmental development of wine regions. In Spain, wine tourism is an increasingly important research field and several studies have been conducted on the role of wine routes in boosting the competitiveness of a territory, increasing wine production, improving the quality of life of citizens, and respecting the environment. However, to the best of our knowledge, the economic impact generated by these routes in Spain has not been addressed in the academic literature. To overcome this research gap, this paper aims to analyze the supply and demand of tourism activities by examining the evolution of the institutions involved in the Spanish wine routes, on the one hand, and the economic impact of these routes, on the other. The results show a sharp drop in the supply of institutions and the demand for tourist routes in 2020 as a result of COVID-19, with a decrease of 2.58% in the total number of institutions adhered to the wine routes, a decrease of 73.53% in the total number of visitors to the different Wine Routes of Spain and a decrease of 74.7% in the economic impact compared to the previous year. Likewise, the research shows the existence of differences between the Wine Routes of Spain in terms of the number of visitors and their economic impact, which could serve as a guide for managers to make investments through acquisitions and/or their own investments in wineries located on the routes with the greatest economic impact.

KEYWORDS: Wine tourism; wine routes; wine industry; Spain; economic impact.

RESUMEN

El vino y el turismo representan una simbiosis perfecta, ya que ofrecen una experiencia diferente a los turistas, además de promover el desarrollo económico, social y medioambiental de las regiones vinícolas. En España, el enoturismo es un campo de estudio cada vez más destacado, existiendo varios estudios sobre el papel de las rutas del vino en el

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impulso de la competitividad de un territorio, el aumento de la producción de vino, la mejora de la calidad de vida de los ciudadanos y el respeto al medio ambiente. Sin embargo, hasta donde sabemos, el impacto económico generado por estas rutas en el país ibérico no ha sido abordado en la literatura académica. Para superar este gap de investigación, este trabajo pretende analizar la oferta y la demanda de actividades turísticas mediante el análisis de la evolución de las instituciones implicadas en las rutas del vino españolas, por un lado, y el impacto económico de estas rutas, por otro. Los resultados muestran un fuerte descenso de la oferta de instituciones y de la demanda de las rutas turísticas en 2020 como consecuencia de la COVID-19, con una disminución del 2,58% en el número total de instituciones adheridas a las rutas del vino, un descenso del 73,53% en el número total de visitantes a las diferentes Rutas del Vino de España y un descenso del 74,7% en el impacto económico respecto al año anterior. Asimismo, la investigación pone de manifiesto la existencia de diferencias entre las Rutas del Vino de España en cuanto al número de visitantes y su impacto económico, lo que podría servir de guía a los directivos para realizar inversiones mediante adquisiciones y/o inversiones propias en las bodegas ubicadas en las rutas con mayor impacto económico.

PALABRAS CLAVE: Enoturismo; rutas del vino; industria del vino; España; impacto económico.

I. INTRODUCTION

Currently, tourism activity is showing clear signs of evolution towards shorter and more frequent trips, which means that travelers, apart from demanding the classic sun and beach destinations, are opting to discover and enjoy new experiences (Lai, 2019). As a result of these changes in tourist consumption patterns, the tourism offers, promoted by public and private agents, is adapting to the new demands of travelers through the creation of thematic tourism products, including those related to the recovery of the cultural, social, and gastronomic heritage of geographical areas (Sánchez-Cañizares & López-Guzmán, 2012). In particular, tourists are very interested in the gastronomic offer of the places they visit and, within this, in everything related to the world of wine.

Wine and tourism, therefore, represent a perfect symbiosis, offering a different experience to tourists, as well as promoting the economic, social, and environmental development of wine-growing regions (López-Guzmán et al., 2011). On the one hand, wine tourism offers a complete sensory experience to the tourist, since the visitor can experience and taste wine through sight, smell, touch, taste, and sound. Any tourist, regardless of their knowledge of oenology, can appreciate the smell and taste of the different wines, get to know the winery facilities or the sound of opening a bottle of wine and toasting with the right glasses. As a result, wine has often become the main reason for visiting a particular geographical area rather than a complementary activity to travel (Stewart et al., 2008). On the other hand, wine tourism allows the economic development of rural and urban areas to be boosted under the premises of sustainable development. This type of tourism is part of the social, cultural, environmental, and economic history of the municipalities and their inhabitants and has even been defined as the “wine landscape” (Brunori & Rossi, 2001).

Wine tourism is an increasingly important activity in Spain, with a great tradition in the so-called New World countries, such as the United States, Australia, Chile, and South Africa. The agents involved in wine tourism activities are structured as a cluster structured through wine routes in which cooperation and relations between the different companies are encouraged. Therefore, the generation of wine routes represents a key element for the correct functioning of wine tourism activities. In fact, in the case of Spain, several researchers have studied the role of wine routes in boosting the competitiveness of a territory, increasing wine production, improving the quality of life of citizens, and respecting the environment (Jiménez & Sevilla, 2008; Guerrero & Albert, 2012; Romero, 2017; Portela & Domínguez, 2020). However, to our knowledge, the economic impact generated by these routes in the Iberian country has not been addressed in the academic literature. To overcome this research gap, this paper aims to analyze the supply and demand of tourism activities by analyzing the evolution of the institutions involved in the Spanish wine routes, on the one hand, and the economic impact of these routes, on the other. The research also seeks to analyze the company effect on this economic impact, as well as the relationship between the Spanish industry's quality labels, namely the Denomination of Origin (DO) and Protected Geographical Indications (PGI), and the creation of the Spanish wine routes. Therefore, the study aims to answer the following four research questions: How has the number of institutions adhered to the Spanish wine routes evolved? What is the economic impact of each of these routes? Do the wine routes that generate the greatest economic impact have the most large winemaking groups? Do the existing wine routes come from protected areas under DO or PGI?

The research is structured as follows. Section 2, after this brief introduction, analyses the relationship between wine and tourism, as well as the role of wine routes as the backbone of wine tourism activity, with special emphasis on the case of Spain. Section 3 discusses the methodology followed in this research. Section 4 presents the results and, finally, section 5 presents the conclusions, limitations, and future lines of research.

II. TOURISM AND WINE: A PERFECT SYMBIOSIS

The first research in the field of wine tourism dates back to the nineties of the last century, focusing on the influence of wine tourism activity on rural areas and on the behavior of wine tourists (Hall, 1996). Thus, among the pioneering works on wine tourism, the books *Wine Tourism Around the World* (Hall et al., 2000) and *Explore Wine Tourism* (Getz, 2000) stand out for their relevance and disruptive character in the field, as well as the research carried out by Charters & Ali-Knigh (2002), Carlsen (2004), Getz & Brown (2006) and Mitchell & Hall (2006).

The definition of the term wine tourism is not homogeneous, as it has been analyzed from different perspectives. Thus, Hall et al. (2000) consider wine tourism as the experience associated with visiting vineyards, wineries and wine demonstrations in which wine tasting is the main element. Getz & Brown (2006), on the other hand, conceive wine tourism as a strategy to develop a certain geographical area and an opportunity for wineries to promote and sell their products directly to consumers. Therefore, wine tourism is not simply wine tasting, but a set of socio-cultural and environmental factors that make it possible to respond to the tourist's search for a differentiating experience. Given the proliferation of definitions, Clemente-Ricolfe et al. (2012) conducted an extensive literature review on the different definitions and conceptualizations of the term.

As far as wine tourists are concerned, academic literature has traditionally employed two procedures to analyze and segment this type of tourists: (a) the classification of the customer considering demographic factors (origin, age, education and family background);

and (b) the establishment of a profile detailing their psychographic background (values, attitudes and lifestyles). In this sense, different publications consider both demographic and psychographic variables when identifying and analyzing wine tourists, being widely considered as a typology of tourists who are between 30 and 50 years old, are in the moderate and high income bracket, come from the wine region or live close to it, are regular wine consumers, have an intermediate or advanced knowledge of wine and have diverse external and internal motivations for visiting a winery (Mitchell et al., 2000; Mitchell & Hall, 2006; Nella & Christou, 2014). For the purposes of this research, we have considered as wine tourists all those visitors to the wineries and wine museums belonging to the Wine Routes of Spain.

In recent decades, wine tourism has emerged as a complementary way of generating employment and wealth in the economy. As a consequence, its study has acquired a high level of development and maturity in the academic literature, with research in several countries such as: Australia (Sigala, 2019), Canada (Hashimoto & Telfer, 2003; Getz & Brown, 2006), Chile (Torres et al., 2021), Hungary (Medina, 2015), Italy (Colombini, 2015), New Zealand (Baird et al., 2018), Portugal (Levandoski et al., 2018), South Africa (Ferreira & Hunter, 2017) and Spain (Gómez et al., 2015). In the case of Spain, the first research was carried out by foreign researchers, focusing on La Rioja (Gilbert, 1992) and Marco de Jerez (Hall & Mitchell, 2000). However, these early studies were later complemented by Spanish researchers. Among the pioneering research carried out by Spanish researchers on the subject are the studies by Armesto-López & Gómez-Martín (2004), Medina & Tresserras (2008) and Alonso & O'Neill (2009) on the Catalan wine routes, the research by Pastor (2006), Gómez & Molina (2011) and Gómez-Rico (2011) in the context of La Rioja, the studies by Millán-Vázquez et al. (2008), Millán-Vázquez & Melián-Navarro (2008) and López-Guzmán et al. (2009) on the Montilla-Moriles wine route, as well as the research by Alvear-González et al. (2007), Matellanes-Lazo (2009), Miranda-Escolar & Fernández Morueco (2011) and Gómez-Rico (2011) on wine tourism in Ribera del Duero.

The interest shown in this type of wine is mainly due to three factors: (1) it increases tourist flows in a given geographical area, (2) it generates an image of a quality tourist destination and (3) it serves as a mechanism for territorial development. Currently, there are numerous lines of research in this field. In this regard, Gómez et al. (2019) identify seven fronts of research on wine tourism:

1. Territorial development. This line of research analyses the link between wine tourism and economic and regional development. In particular, studies examine issues related to the remains and potential of wine tourism for regional development and sustainability (Stavrinoudis et al., 2012; Contò et al., 2014), the comparison of wine tourism destinations (Getz & Brown, 2006), as well as the importance of wine tourism for regional and national branding (Simpson & Bretherton, 2004; Gómez & Molina, 2012).
2. Wine routes. The second block of research focuses on the creation and proliferation of wine routes in different countries, among which we can highlight: Chile (Sharples, 2002); Greece (Tzimitra-Kalogianni et al., 1999); Italy (Brunori & Rossi, 2000); Portugal (Correia et al., 2004); South Africa Africa (Bruwer, 2003) and Spain (López-Guzmán & Sánchez-Cañizares, 2008). Indeed, this line of research has now been extended to the study of sophisticated and innovative networks, clusters and alliances within wine regions (Taylor et al., 2007; Rebelo & Caldas, 2013).

3. Behavior of wine tourists. The studies included in this block seek to understand the profile of this type of tourists by segmenting them. These studies include profiling demographic characteristics (Alonso et al., 2007; Grybovych et al., 2013) or combining demographic characteristics with psychographic characteristics (Tassiopoulos et al., 2004; Nella & Christou, 2014). In addition, this typology of studies also focuses on post-visit/purchase behavior in order to build brand loyalty (Kolyesnikova & Dodd, 2008).
4. Tasting and winery experience. The fourth block includes research on the winery experience and tastings. The wine tourist experience and well-being is key, as the sales that can be made after the winery visit represent an important distribution channel for the winery (Charters & O'Neill, 2001; Wilson & Goddard, 2004). Research includes the needs and expectations of wine tourists at the winery (Alonso et al., 2008; Fountain et al., 2008), as well as the quality of the service provided.
5. Theoretical models. The research included in this line of investigation develops conceptual models of wine tourism, tending to study the cause-effect relationships between constructs related to wine tourism behavior, such as: involvement and territorial rootedness (Gross & Brown, 2008), destination image and self-image (Pratt & Sparks, 2014) or tourist experience and emotional attachment (Orth et al., 2012). These theoretical models highlight, as Carlsen & Boksberger (2013) point out, the complex interactions brought about by the marriage of wine and tourism.
6. Wine events and festivals. This line of research focuses on the study of wine events and festivals. In particular, they assess the impact of such events on wine regions (Veres et al., 2008), visitors' motivations for attending events (Park et al., 2008) and the analysis of festival routes (Mason & Paggiaro, 2012).
7. Wine marketing and promotion. Research on wine tourism marketing and promotion consists of studies of regional positioning in the consumer's mind (Frochot, 2003), analysis of information provided on wineries' websites (Murphy et al., 2005) and research on winery sales (Olsen & Thach, 2008)

Within these lines of research defined by Gómez et al. (2019), in the following research we focus on tourist routes, specifically on the analysis of supply, through the evolution of the institutions adhered to the wine routes in Spain, and demand, through the analysis of the economic impact of this tourist product over time in the Iberian country. Wine routes are based on the definition of one or several itineraries in a given geographical area in which both the wineries to be visited and the historical sites and other places of interest are indicated (Hall et al., 2000), serving as a strong tool for the economic and social development of the area in which the activity is developed. In the following two sections, the academic literature on the conceptualization of wine routes and the role they play in New World and Old World countries is reviewed in depth, with a special focus on the case of Spain.

2.1. Wine tourism routes

As mentioned above, one of the main lines of research on wine tourism is that which deals with the creation and development of wine routes. Following Pastor (2006, p.198), a clear definition of this type of routes can be found in Italian legislation, since in the transalpine country this tourist product is defined as “the routes marked and advertised with special panels in which emphasis is placed on natural, cultural, environmental values, vineyards and wineries, individual farms or cooperatives open to the public; these constitute the instrument with which the wine-growing territories and their related productions can be publicized, marketed and enjoyed in the form of a tourist offer". Therefore, the creation of a wine route is an opportunity to generate synergies between different types of tourism, among which the following stand out: rural tourism (promoting accommodation in rural areas), gastronomic tourism (tasting the typical dishes of the areas where the route is located) and cultural tourism (facilitating the contemplation of the tourist landscapes and visits to the cultural attractions of the municipalities that make up the route).

The creation of a wine route is motivated by a double objective. On the one hand, it improves the image of the wine-growing area and, as a consequence, the image of the wineries that belong to the route. On the other hand, the routes allow the wineries to increase their sales, being an essential element for those wine SMEs that cannot easily access the large distribution channels (Correia et al., 2004). For its creation, it is necessary to establish a network of alliances between the actors in charge of offering the service, since while the wine tourist buys a single product (travel), this product is sold by various suppliers (restaurants, hotels, wineries, etc.). Therefore, it is necessary to establish a series of legal bases in order to reach agreements between suppliers, as well as the creation of an organization, made up of public and private organizations, to promote, foster and manage this tourism product.

The main elements that make up the tourist experience on a wine route are: the visit to the winery and sample vineyards, the entrance to a museum, the tasting of local gastronomy, the observation of landscapes, the purchase of wine or accommodation (Ravenscroft & Van Westering, 2001). Therefore, the greater the number of tourist resources in a given area (wineries, museums, natural parks, etc.), the greater the number of overnight stays by tourists. In fact, one of the criticisms that appears as a common denominator in the literature on wine tourism is the scarce complementary offer in wine routes, which leads to low overnight stays in wine-growing areas (García et al., 2010).

In the old continent, wine tourism has been structured through tourist routes, which are both natural (landscapes) and physical (wineries, museums, etc.) attractions. Thus, although most of the scientific production on wine tourism comes from Australia and New Zealand, these Oceanic countries have not fully developed this tourist offer, unlike European countries (López-Guzmán et al., 2013). This can be explained by the greater tradition in the design of wine routes in Old World countries (García et al., 2010), among which *La Strada del Vino* in Italy, the *Routes des Vin* in France, the *Rota do Vinho* in Portugal and the *Ruta del Vino* in Spain stand out, which will be discussed in more detail in the following section.

As Charters (2009) points out, there are two different approaches to understanding wine tourism in the Old and New World. On the one hand, in the Old World there is a reactive approach in which there seems to be no need to look for new markets, given that member countries have been producing wines for centuries, so wine tourism tends to focus more on the history, culture and food context. Meanwhile, in the New World, a proactive attitude prevails, encouraging innovation in wine tourism through more dynamic products and the development of new markets. Likewise, wine tourism in the New World tends to focus on the total experience and on the conception of the activity as a wine distribution channel, while in the Old World the tourism offer continues to focus on the wine itself, conceived as a secondary activity to wine production itself (Cambourne et al., 2009).

2.2. The Wine Routes of Spain

The origin of Spanish wine tourism is uncertain, as the first routes consisted only of a map indicating the location of the wineries. One of the first milestones can be found in the 1970s, when tourist routes began to be designed with a certain level of development in La Rioja, followed by other Spanish wine-growing areas.

The first recorded wine route in Spain was that of Cambados (Clemente-Ricolfe et al., 2012). However, it was not until 1994 that the design and methodology necessary to configure the tourism product began to be established as a result of the creation of the Spanish Association of Wine Cities (ACEVIN, for its acronym in Spanish), given that, until then, wine routes were designed exclusively in rural areas and by groups with little training in this area. The objectives of the creation of ACEVIN were, therefore, the structuring of the wine routes, the establishment of a coordination mechanism between the different routes and the generation of a quality tourism product that would promote the Spanish cultural offer through the wine tradition of the country.

In 2000, the Spanish government presented the Integral Plan for the Quality of Spanish Tourism, which aimed to improve the quality of tourism products. This plan envisaged the creation and development of tourism products, such as the “Wine Routes of Spain”, in order to achieve greater tourism diversification, being one of the tourism products envisaged. As conceived in the plan, a Wine Route can be conceived as “the integration under the same thematic concept of the resources and tourist services of interest, existing and potential, of a wine-growing area, based on authenticity and experiential vocation, in order to build a product based on the identity of the destination, to facilitate the joint marketing of the whole area and to guarantee the level of satisfaction of the demand, thus promoting the integral economic-social development of the area” (State Secretariat for Tourism, 2000). This tourism product helped to improve the national and international image of the large Spanish wine groups and, at the same time, to increase wine sales through the tourists' purchases at the winery itself. Subsequently, 2009 saw the culmination of the Spanish government's commitment to the development of wine routes through the gastronomic project “Savoring Spain”, as the project aimed to promote the creation of new tourist destinations specializing in different culinary elements, as well as to improve the promotion and marketing of these places.

In order to certify a Wine Route in Spain, three phases must be followed: launching, development and consolidation (López-Guzman et al., 2013). Firstly, the launch is carried out when the entities, both public and private, involved in the development of the tourist product create an organization in charge of managing the route and the different members of the same adapt their facilities to comply with the quality requirements demanded by the General Secretariat of Tourism. This phase culminates with the granting of official certification as a Wine Route. Secondly, the development phase starts once the Wine Route has been certified and lasts for one year. During that year, the organization managing the route must ensure that the requirements of the General Secretariat for Tourism are met. Thus, if the assessment by the Secretariat is positive, the route will maintain its certification and move on to the next phase. If the assessment is negative, the route will lose the official certification and will be penalized by not being able to apply for certification again for one year. Thirdly, consolidation is based on a periodic process of checking the quality standards by the members of the route. If a negative assessment is given during the verification, the wine route has six months to rectify the errors. After this period, if the route manages to rectify the errors, it will maintain the certification. If it fails to rectify the errors, it will lose the certification and would not be able to apply for it again for one year.

At present, the "Wine Routes of Spain" tourism product is made up of 34 wine routes, with at least one route in 13 of the 17 autonomous communities that make up the Spanish territory (see Figure 1). This shows the great capillarity of the wine tourism industry in Spain.

Figure 1. Wine routes in Spain

Source: Adapted from Wine Routes of Spain (2022). For more information on the Wine Routes of Spain: https://wineroutesofspain.com/ (accessed March 20, 2022).

Specifically, the Wine Routes of Spain Tourism Product Manual, formulated by the two aforementioned institutions, sets out the methodology to be followed during the process of implementation and subsequent certification of the wine routes. This process consists of three phases:

(1) Launching. In this phase, both the public and private entities that form part of the tourism product must ensure that the required demands are met, given that a managing body of the route must be founded, a manager of this body must be appointed and the facilities of the future members must be adapted to the quality requirements demanded by the institutions.

(2) Development. This phase lasts two years, starting once the Spanish Wine Route certification has been obtained. During this temporary period, the members of the route must commit themselves to develop the actions included in the Manual of the Tourist Product Wine Routes of Spain. If, once the period is over, the process ends with a positive evaluation, the tourist product will maintain the certification and will pass to the next phase. Otherwise, the destination would lose its certification and would not be able to apply for it again for a period of one year as a penalty. This system guarantees the continuous effort of the wine routes to maintain and even improve the required quality standards.

(3) Consolidation. In order to maintain the level of demand of the wine routes, the standards set out in the aforementioned manual are checked every two years. If, after the assessment, a negative result is obtained, the destination loses the distinction of Wine Route

of Spain, having to reapply for the distinction when it meets the minimum requirements established.

Of all the routes that have been certified since the birth of the product, six have lost the Wine Route of Spain certification for not meeting the required quality standards. These are: the Tacaronte-Acertejo route in 2009, the Tenerife and Condado de Huelva routes in 2012, the Ribeiro route in 2013 and the Empordà and Txacolí wine routes in 2018. On the one hand, the routes of the Canary Islands, Tacaronte-Acertejo and Tenerife, lost their certifications due to the mismanagement of the now defunct Tenerife Wine Route brand, which was born as an insular extension of the original Tacoronte-Acentejo (Delgado, 2016). The routes were not able to certify externally the quality standards that the Wine Routes of Spain impose on their partners and, moreover, they did not carry out the work plans approved and established for the Tenerife project (Delgado, 2016). Similarly, the Condado de Huelva, Ribeiro, Empordà and Txacolí wine routes lost their certification for not complying with the quality standards of the tourism product. However, in Condado de Huelva, talks have begun between La Palma del Condado and the Association of Wine Cities of Spain (ACEVIN) to recover the certification (Lanza, 2022), and the Txacolí wine route has restarted the certification process and is expected to be certified again in 2023 (Peciña, 2021). In the rest of the routes that lost certification, there is also a popular clamor for the reaccreditation of their wine tourism areas given the reputation and quality associated with the Wine Routes of Spain tourism product. Moreover, it should be noted that since the birth of the routes in 2008, the Spanish wine routes have followed a positive evolution in terms of number of members.

III. METHODOLOGY

In order to answer the research questions posed, the study is conducted under a quantitative approach with an exploratory scope, since the work addresses a current topic on which there is no previous academic literature. The research is conducted under a quantitative approach with an exploratory scope, as the work addresses a current topic on which there is no previous academic literature. Likewise, a non-experimental design is adopted, which implies that no modifications have been made to the independent variables and the conditions observed are those present in the natural context (García-Fernández & Cordero-Borjas, 2010).

In terms of information sources, secondary information has been used to carry out the research, given that in an age where large amounts of data are collected and archived, the ability to use and interpret data is becoming increasingly important (Andrews et al., 2012). As Hakim (1982) points out, the analysis of a topic through the review of secondary sources generates additional and different knowledge. In order to study the evolution of the different members of the routes (supply), the number of tourists on each route (demand) and the average expenditure on each route, the Spanish Wine Tourism Observatory (OTVE, for its acronym in Spanish) was used. The data provided in the reports of this organization have allowed us to calculate the economic impact generated in each of the routes between 2017-2020, because although the reports have been published since 2008, the information necessary to make the calculations has been provided since 2017. Thus, although the first reports were initial and did not offer disaggregated information, since 2017 the documents provided offer a vast amount of information to be able to carry out research such as that presented in these sheets. The formulas used to calculate the economic impact of the wine routes are as follows:

- Economic Impact of Winery Visits (EIWV) = Number of visitors in the wineries on the route*average price of the visit + Number of visitors in the wineries on the route*average spend in shop per visitor in the winery
- Economic Impact of Wine Museum Visits (EIWMV) = Number of visitors in the wine museums on the route*average price of the visit + Number of visitors in the wine museums on the route*average retail expenditure per visitor in the museum
- Total Economic Impact = EIWV + EIWMV

It is important to note that for the calculation of the economic impact, this work has focused on the route partners. Specifically, within the route partners, we have analyzed the wineries and wine museums since they are the two agents on which the OTVE provides information. Thus, if in the section on supply (see Table 1) the research aims to analyze the evolution of all the institutions that are members of the wine routes, the section on demand (see Table 2 and Table 3) aims to calculate the economic impact generated by the wineries and wine museums.

Finally, in order to calculate the market shares in volume and value of the DOs/PGIs, we have used the data provided by the MAPA in its latest report entitled *Data on Protected Designations of Origin for wines (PDOs): 2019/2020 Campaign*. For its calculation, the total marketing of wine from a given DO/PGI in hl/€ has been divided by the total marketing of wine from all existing PDOs/PGIs in hl/€ in Spain. These data have allowed us to link the wine routes with the market shares of the quality labels associated with these routes (see Table 4). In addition, the ten most important Spanish winemaking groups in terms of operating income have been identified in order to establish comparisons between the economic impact of the routes and the presence of these groups. For their identification, the Iberian Balance Sheet Analysis System (SABI, by its acronym in Spanish) database was used, using the National Code of Economic Activities (CNAE, by its acronym in Spanish) 1102 corresponding to wine production.

IV. RESULTS

The main results of the research are presented below, divided into four parts: (1) the analysis of supply, through the evolution of the institutions adhering to the Spanish wine routes, (2) the analysis of demand, through the study of the economic impact generated by these routes, (3) the link between the wine routes and the DOs/PGIs and (4) the relationship between the impact generated by the routes and the existence of large winemaking groups.

The companies associated to the Wine Routes of Spain have increased since 2017, from 1871 in 2017 to 2295 in 2020, a variation of 22.66% during the period studied (see Table 1). As can be seen, this increase has been constant, given that both rates of change analyzed are positive. The data provided show that the main driver of wine tourism activity is the wineries, with more than 600 members in the four years analyzed. This is followed by the accommodation and catering sectors, with 476 and 357 in 2020. Thus, while the number of accommodations has been increasing since 2018, restaurants have experienced a slight decrease 2020, with a year-on-year variation rate of -1.38%. Both accommodation and restaurants represent the basic offer of any tourist destination. However, in the case of the Wine Routes of Spain they are particularly important since their offer is themed and specialized around the world of wine. Themed leisure activities, on the other hand, include all kinds of experiences related to wine culture and follow an irregular evolution during the period, proof of which are the variation rates: -7.55% in 2018-2017, 13.27% in 2019-2018 and -8.11% in 2020-2019. In contrast, the number of museums and interpretation centers have experienced an increase from 2018 to 2020.

Likewise, with regard to route partners, it can be seen how there is a notable increase during 2018-2019 in all items except for the number of digital-based companies, given that there was a reduction of -36.36%. In 2019-2020, on the other hand, a generalized decrease is observed in the rest of the partners, given that wine shops (-5.00%), transport companies (-10.00%), tour guides (-20.00%), visitable centers in the vineyard (-43.75%) and tasting and tasting services (-35.48%) experienced negative variation rates.

With regard to the entities that make up the wine route, we can highlight the predominant role played by the town councils, since their integration reinforces the role of the wine routes as a regional economic engine. The number of member town councils increased from 2017 to 2019, from 543 to 775 respectively, and then experienced a considerable drop of -24.00% in 2020. The number of regulatory councils, on the other hand, follows an upward trend since 2018. The rest of the member entities follow an irregular evolution during the period under study, with variation rates of -5.63% and 13.43% in 2018-2019 and 2019-2020 respectively. In aggregate, while the number of member entities of the routes increased in 2018-2019 (17.84%), in 2019-2020 these entities saw their representation decrease (-19.95%).

In terms of the type of accommodation, it is worth highlighting the three- and four-star hotel offer, with a positive evolution in both types of establishments since 2018 and with more than 100 establishments since 2019. In terms of extra-hotel supply, rural houses stand out, with more than 200 establishments since 2019, as well as hostels and guesthouses, being the establishments experiencing the highest growth during the period analyzed. Likewise, while all the items related to the number of accommodations grew in 2018-2019, during 2019-2020 there was a reduction in the number of two-star hotels (-7.69%), rural houses (-0.50%) and campsites (-10.00%). However, if we analyze the number of accommodations in aggregate it is possible to highlight the existence of a positive evolution during the whole period, from 373 accommodations in 2018 to 476 in 2020.

Table 1. Offer of wine tourism services

	2017	2018	2019	2020	Variation Rate 2018-2017	Variation Rate 2019-2018	Variation Rate 2020-2019
Wineries	602	595	688	718	-1.16%	15.63%	4.36%
Accommodation	376	373	462	476	-0.80%	23.86%	3.03%
Restaurants	308	306	362	357	-0.65%	18.30%	-1.38%
Thematic leisure	106	98	111	102	-7.55%	13.27%	-8.11%
Museums and interpretation centres	86	82	95	132	-4.65%	15.85%	38.95%
Tourist offices	84	96	113	114	14.29%	17.71%	0.88%
Wine bars	79	71	75	81	-10.13%	5.63%	8.00%
Shops	65	62	70	75	-4.62%	12.90%	7.14%
Wine shops	53	50	60	57	-5.66%	20.00%	-5.00%
Incoming agencies	35	33	42	44	-5.71%	27.27%	4.76%
Transport companies	14	19	20	18	35.71%	5.26%	-10.00%
Wine therapy services	12	11	11	12	-8.33%	0.00%	9.09%
Agri-food companies	12	19	28	35	58.33%	47.37%	25.00%
Other services	11	13	21	26	18.18%	61.54%	23.81%
Digital-based companies	10	11	7	7	10.00%	-36.36%	0.00%
Tourist guides	9	6	15	12	-33.33%	150.00%	-20.00%
Visitor centres in the vineyard	6	9	16	9	50.00%	77.78%	-43.75%
Tasting services	3	11	31	20	266.67%	181.82%	-35.48%
Route Partners	**1871**	**1865**	**2227**	**2295**	**-0.32%**	**19.41%**	**3.05%**
City councils	543	642	775	589	18.23%	20.72%	-24.00%
Regulatory Boards	28	27	30	33	-3.57%	11.11%	10.00%
Other member institutions	47	71	67	76	51.06%	-5.63%	13.43%
Member entities of the routes	**618**	**740**	**872**	**698**	**19.74%**	**17.84%**	**-19.95%**
5-star hotels	8	7	8	9	-12.50%	14.29%	12.50%
4-star hotels	51	46	54	59	-9.80%	17.39%	9.26%
3-star hotels	40	44	59	63	10.00%	34.09%	6.78%
2-star hotels	31	33	39	36	6.45%	18.18%	-7.69%
1-star hotels	11	13	14	14	18.18%	7.69%	0.00%
Hostels and guesthouses	12	11	23	30	-8.33%	109.09%	30.43%
Flats	33	34	34	36	3.03%	0.00%	5.88%
Rural houses	166	163	202	201	-1.81%	23.93%	-0.50%
Hostels	3	5	7	7	66.67%	40.00%	0.00%
Campsites	4	6	10	9	50.00%	66.67%	-10.00%
Other accommodation	17	11	12	12	-35.29%	9.09%	0.00%
Number of accommodations	**376**	**373**	**462**	**476**	**-0.80%**	**23.86%**	**3.03%**
Total	**2865**	**2978**	**3561**	**3469**	**3.94%**	**19.58%**	**-2.58%**

Source: own elaboration based on data provided by OTVE.

With regard to the demand for wine routes in Spain, it is important to highlight that the most visited routes during the period analysed were the Penedès Wine Route, the Marco de Jerez Wine Route and the Ribera del Duero Wine Route (see Table 2). In fact, these three routes represent more than 40% of the total number of visitors to wineries and wine museums in the four years studied, which shows their high specialisation in wine tourism. Since 2017, the total number of visitors to wineries and wine museums associated with the Wine Routes of Spain had stabilised at around 3,000,000 visitors. However, in 2020 there was a drastic fall in demand, experiencing a drop of 73.53% compared to the previous year.

Regarding the evolution of the number of visitors to wineries in the different Wine Routes of Spain, it is worth highlighting the important increases achieved by the Wine Routes of Campo de Cariñena (41.59%), Montila-Moriles (38.64%) and Yecla (27.56%) in 2018, as well as Navarra (76.24%), Sierra de Francia (36.58%) and Montilla-Moriles (26.98%) in 2019. As regards the evolution of the number of visitors to museums on the different routes, it is important to highlight the increases achieved in Montilla-Moriles (404.27%), Arlanza (196.39%) and Rueda (30.10%) in 2018, as well as Cigales (236.94%), Rioja Oriental (133.44%) and Montilla-Moriles (107.86%) in 2019. In 2020, on the other hand, all the routes experienced negative rates of change, both in terms of the number of visitors to wineries and the number of visitors to wine museums. It is also important to note that the number of visitors to wineries is mostly higher than the number of visitors, given that, of the 32 wine routes, only in 7 (Arlanza, Bierzo, Bullas, Calatayud, Campo de Borja, Rioja Oriental, Valdepeñas) there is a greater weight of visitors to museums compared to visitors to wineries.

Based on the number of visitors to wineries and wine museums, the average price of the visit and the expenditure made in the shop for each Wine Route, an approximation of the economic impact of wine tourism in the wineries and museums of the Wine Routes of Spain has been calculated (see Table 3). The economic impact of wine tourism in wineries and museums has been increasing from 75,269,963.10 € in 2017 to 91,799,104.12 € in 2019, an increase of 21.95%. With regard to the evolution of the economic impact generated as a result of visits to wineries, it is necessary to highlight the increases in the Navarra wine route (141.47%), Ribera del Duero (101.63%) and Jumilla (80.65%) in 2018, as well as Sierra de Francia (58.66%), Ronda (85.25%), Somontano (111.01%) in 2019. In terms of the evolution of the economic impact generated by visits to museums, the routes that most increased this impact were Arlanza (234.21%), Montilla-Moriles (468.62%) and Rueda (46.7%) in 2018 and Cigales (247.37%), Rioja Oriental (140.66%) and Montilla-Moriles (114.29%) in 2019. In 2020, however, there was a sharp reduction of -74.70% compared to the previous year.

Likewise, the three routes that generate the greatest economic impact are those that receive the greatest number of tourists: The Penedès wine route, the Marco de Jerez wine route, and the Ribera del Duero wine route. However, this relationship is not always the case, given that there are routes with a higher number of visitors, but with a lower relative economic impact. As an example, we can give the case of the Rias Baixas wine route and the Somontano wine route in 2019, since, although the former received a greater number of visitors both in the winery and in the museums, the Somontano wine route generated a greater economic impact. Based on the results presented in this section, the work responds to the research questions formulated.

Table 2. Number of visitors to wineries and museums on the different Wine Routes in Spain

	2017		2018		2019		2020							
Route	Winery visits	Museum visits	Winery visits	Museum visits	Winery visits	Museum visits	Winery visits	Museum visits	Variation rate. Wineries. 2018-2017	Variation rate. Museums. 2018-2017	Variation rate. Wineries. 2019-2018	Variation rate. Museums 2019-2018	Variation rate. Wineries. 2020-2019	Variation rate. Museums 2020-2019
Alicante	36,228	5,434	41,822	5,685	49,137	5,931	18,246	3,088	15.44%	4.62%	17.49%	4.33%	-62.87%	-47.93%
Arlanza	4,905	11,123	4,758	32,967	3,210	32,967	1,726	17,250	-3.00%	196.39%	-32.53%	0.00%	-46.23%	-47.67%
Arribes[1]	-	-	-	-	1,390	0	822	0	-	-	-	-	-40.86%	-
Bierzo	11,900	15,127	10,027	12,685	9,293	15,565	2,508	745	-15.74%	-16.14%	-7.32%	22.70%	-73.01%	-95.21%
Bullas	4,229	17,383	3,955	18,468	3,538	19,428	1,577	6,532	-6.48%	6.24%	-10.54%	5.20%	-55.43%	-66.38%
Calatayud	3,434	293,163	4,239	292,086	4,368	295,372	1,537	72,226	23.44%	-0.37%	3.04%	1.13%	-64.81%	-75.55%
Campo de Cariñena	8,903	11,733	12,606	9,449	13,845	10,066	3,510	2,025	41.59%	-19.47%	9.83%	6.53%	-74.65%	-79.88%
Cigales	12,262	1728	12,520	1,911	11,820	6,439	534	1,663	2.10%	10.59%	-5.59%	236.94%	-95.48%	-74.17%
Empordà[2]	50,582	322,624	-	-	-	-	-	-	-	-	-	-	-	-
Enoturisme Penedès	380,815	57,297	384,888	56,579	315,944	54,312	84,784	47,632	1.07%	-1.25%	-17.91%	-4.01%	-73.16%	-12.30%
Garnacha - Campo de Borja	3,763	52,882	4,054	52,767	3,424	51,331	638	22,953	7.73%	-0.22%	-15.54%	-2.72%	-81.37%	-55.28%
Jumilla	32,772	4,001	38,448	4,274	41,464	5,641	13,359	208	17.32%	6.82%	7.84%	31.98%	-67.78%	-96.31%
Lleida	52,116	0	50,596	0	45,573	0	13,796	0	-2.92%	-	-9.93%	-	-69.73%	-
La Mancha[3]	-	-	-	-	16,092	7,898	4,634	5,921	-	-	-	-	-71.20%	-25.03%
La Manchuela[4]	-	-	-	-	22,308	0	3,783	0	-	-	-	-	-83.04%	-
Madrid[5]	-	-	-	-	-	-	4,638	19,106	-	-	-	-	-	-
Marco de Jerez	550,945	23,297	553,786	28,565	550,530	18,467	96,396	2,610	0.52%	22.61%	-0.59%	-35.35%	-82.49%	-85.87%
Montilla-Moriles	17,085	164	23,686	827	30,077	1,719	4,368	270	38.64%	404.27%	26.98%	107.86%	-85.48%	-84.29%
Navarra	22,399	7,045	20,809	4,796	36,673	2,783	7,289	3,093	-7.10%	-31.92%	76.24%	-41.97%	-80.12%	11.14%
Rías Baixas	110,096	5,363	112,131	4,426	118,680	5,424	31,915	174	1.85%	-17.47%	5.84%	22.55%	-73.11%	-96.79%

[1] The Arribes wine route was certified in 2019.
[2] The Empordà wine route lost its certification in 2018.
[3] The La Mancha wine route was certified in 2019.
[4] La Manchuela wine route was certified in 2019.
[5] The Madrid wine route was certified in 2020.

Ribera del Duero	256,369	122,294	243,211	139,939	249,935	139442	62938	31971	-5.13%	14.43%	2.76%	-0.36%	-74.82%	-77.07%
Ribera del Guadiana	26,462	20,242	27,126	22,319	27,831	24885	4148	3435	2.51%	10.26%	2.60%	11.50%	-85.10%	-86.20%
Rioja Alavesa	145,984	23,904	167,699	24,514	185,756	18759	49129	1852	14.87%	2.55%	10.77%	-23.48%	-73.55%	-90.13%
Rioja Alta	184,556	71,747	225,693	71,575	253,652	59845	59342	10036	22.29%	-0.24%	12.39%	-16.39%	-76.60%	-83.23%
Rioja Oriental[6]	-	--	3,614	2,282	2,968	5327	1291	393	-	-	-17.87%	133.44%	-56.50%	-92.62%
Ronda	24,918	13,768	25,301	1,517	22,993	1730	2886	995	1.54%	-88.98%	-9.12%	14.04%	-87.45%	-42.49%
Rueda	29,375	2,997	34,110	3,899	36,675	4707	5899	1655	16.12%	30.10%	7.52%	20.72%	-83.92%	-64.84%
Sierra de Francia	1,388	0	1,479	0	2,020	0	573	0	6.56%	-	36.58%	-	-71.63%	-
Somontano	77,541	0	79,601	0	93,119	0	28294	159	2.66%	-	16.98%	-	-69.62%	-
Txakolí[7]	4,093	0	-	-	-	-	-	-	-	-	-	-	-	-
Toro[8]	-	-	-	-	26,843	9042	16960	1798	-	-	-	-	-36.82%	-80.12%
Utiel-Requena	44,757	26,538	50,440	26,187	53,678	25226	18830	5798	12.70%	-1.32%	6.42%	-3.67%	-64.92%	-77.02%
Valdepeñas[9]	-	-	-	-	2,492	11477	554	2564	-	-	-	-	-77.77%	-77.66%
Yecla	5,537	0	7,063	0	6,924	0	1267	0	27.56%	-	-1.97%	-	-81.70%	-
Total	2,103,414	1,109,854	2,143,662	817,717	2,242,252	833783	548171	266152	1.91%	-26.32%	4.60%	1.96%	-75.55%	-68.08%
	3213268		2961379		3076035		814323		-7.84%		3.87%		-73.53%	

Source: own elaboration based on data provided by OTVE.

Table 3. Economic impact of wine tourism in the wineries and museums of the Wine Routes of Spain

	2017		**2018**		**2019**		**2020**							
Ruta	EIWV	EIWMV	EIWV	EIWMV	EIWV	EIWMV	EIWV	EIWMV	Variation rate. Wineries. 2018-2017	Variation rate. Museums. 2018-2017	Variation rate. Wineries 2019-2018	Variation rate. Museums. 2019-2018	Variation rate. Wineries. 2020-2019	Variation rate. Museums. 2020-2019
Alicante	1,072,711.08	54,503.02	1,342,904.42	64,297.35	1,563,047.97	69,155.46	652,112.04	36,963.36	25.19%	17.97%	16.39%	7.56%	-58.28%	-46.55%
Arlanza	74,899.35	111,563.69	107,292.90	372,856.77	72,385.50	384,395.22	60,686.16	206,482.50	43.25%	234.21%	-32.53%	3.09%	-16.16%	-46.28%

[6] The Rioja Oriental wine route was certified in 2018.
[7] The Txakoli wine route lost its certification in 2018.
[8] The Toro wine route lost its certification in 2019.
[9] The Valdepeñas wine route was certified in 2019.

Arribes	-	-	-	-	52,222.30	-	23,180.40	-	-	-	-	-	-	-
Bierzo	269,654.00	151,723.81	286,070.31	143,467.35	252,026.16	181,487.90	59,464.68	8,917.65	6.09%	-5.44%	-11.90%	26.50%	-76.41%	-95.09%
Bullas	65,676.37	174,351.49	67,472.30	208,873.08	66,266.74	226,530.48	39,078.06	78,188.04	2.73%	19.80%	-1.79%	8.45%	-41.03%	-65.48%
Calatayud	128,775.00	2,940,424.89	187,363.80	3,303,492.66	186,076.80	3,444,037.52	55,332.00	864,545.22	45.50%	12.35%	-0.69%	4.25%	-70.26%	-74.90%
Campo de Cariñena	125,710.36	117,681.99	205,351.74	106,868.19	213,213.00	117,369.56	102,351.60	24,239.25	63.35%	-9.19%	3.83%	9.83%	-52.00%	-79.35%
Cigales	365,407.60	17,331.84	388,996.40	21,613.41	364,410.60	75,078.74	12,677.16	19,906.11	6.46%	24.70%	-6.32%	247.37%	-96.52%	-73.49%
DO Empordà	1,711,189.06	3,235,918.72	-	-	-	-	-	-	-	-	-	-	-	-
Enoturisme Penedès	12,563,086.85	574,688.91	13,459,533.36	639,908.49	11,623,579.76	633,277.92	3,119,203.36	570,155.04	7.14%	11.35%	-13.64%	-1.04%	-73.16%	-9.97%
Garnacha - Campo de Borja	98,063.78	530,406.46	112,255.26	596,794.77	98,679.68	598,519.46	5,193.32	274,747.41	14.47%	12.52%	-12.09%	0.29%	-94.74%	-54.10%
Jumilla	810,451.56	40,130.03	1,464,099.84	48,338.94	1,655,657.52	65,774.06	378,326.88	2,489.76	80.65%	20.46%	13.08%	36.07%	-77.15%	-96.21%
Lleida	1,650,513.72	-	2,799,982.64	-	1,475,653.74	-	459,406.80	-	69.64%	-	-47.30%	-	-68.87%	-
La Mancha	-	-	-	-	381,863.16	92,090.68	127,064.28	70,874.37	-	-	-	-	-66.73%	-23.04%
La Manchuela	-	-	-	-	813,349.68	-	147,537.00	-	-	-	-	-	-81.86%	-
Madrid	-	-	-	-	-	-	174,574.32	228,698.82	-	-	-	-	-	-
Marco de Jerez	17,470,465.95	233,668.91	15,860,431.04	323,070.15	20,771,496.90	215,325.22	2,878,384.56	31,241.70	-9.22%	38.26%	30.96%	-33.35%	-86.14%	-85.49%
Montilla-Moriles	362,714.55	1,644.92	340,367.82	9,353.37	461,381.18	20,043.54	68,577.60	3,231.90	-6.16%	468.62%	35.55%	114.29%	-85.14%	-83.88%
Navarra	217,942.27	70,661.35	526,259.61	54,242.76	670,749.17	32,449.78	195,199.42	37,023.21	141.47%	-23.24%	27.46%	-40.18%	-70.90%	14.09%
Rías Baixas	2,174,396.00	53,790.89	2,575,649.07	50,058.06	2,622,828.00	63,243.84	866,492.25	2,082.78	18.45%	-6.94%	1.83%	26.34%	-66.96%	-96.71%
Ribera del Duero	5,886,232.24	1,226,608.82	11,868,696.80	1,582,710.09	10,194,848.65	1,625,893.72	2,948,015.92	382,692.87	101.63%	29.03%	-14.10%	2.73%	-71.08%	-76.46%
Ribera del Guadiana	1,238,686.22	203,027.26	549,844.02	252,427.89	554,671.83	290,159.10	82,669.64	41,116.95	-55.61%	24.33%	0.88%	14.95%	-85.10%	-85.83%

Rioja Alavesa	5,931,329.92	239,757.12	6,565,415.85	277,253.34	6,679,785.76	218,729.94	2,375,387.15	22,168.44	10.69%	15.64%	1.74%	-21.11%	-64.44%	-89.86%
Rioja Alta	6,380,100.92	719,622.41	9,409,141.17	809,513.25	11,021,179.40	697,792.70	2,363,591.86	120,130.92	47.48%	12.49%	17.13%	-13.80%	-78.55%	-82.78%
Rioja Oriental	-	-	95,481.88	25,809.42	94,649.52	62,112.82	40,279.20	4,704.21	-	-	-0.87%	140.66%	-57.44%	-92.43%
Ronda	970,306.92	138,093.04	526,007.79	17,157.27	974,443.34	20,171.80	112,467.42	11,910.15	-45.79%	-87.58%	85.25%	17.57%	-88.46%	-40.96%
Rueda	961,443.75	30,059.91	1,289,699.10	44,097.69	1,333,136.25	54,883.62	213,838.75	19,810.35	34.14%	46.70%	3.37%	24.46%	-83.96%	-63.90%
Sierra de Francia	19,057.24	-	29,269.41	-	46,439.80	-	17,785.92	-	53.59%	-	58.66%	-	-61.70%	-
Somontano	2,173,474.23	-	2,333,105.31	-	4,923,201.53	-	1,342,267.36	1,903.23	7.34%	-	111.01%	-	-72.74%	-
Txakolí	66,265.67	-	-	-	-	-	-	-	-	-	-	-	-	-
Toro	-	-	-	-	1,181,628.86	105,429.72	434,684.80	21,522.06	-	-	-	-	-63.21%	-79.59%
Utiel-Requena	1,170,395.55	266,176.14	1,434,513.60	296,174.97	1,551,830.98	294,135.16	618,188.90	69,402.06	22.57%	11.27%	8.18%	-0.69%	-60.16%	-76.40%
Valdepeñas	-	-	-	-	40,918.64	133,821.82	25,484.00	30,691.08	-	-	-	-	-37.72%	-77.07%
Yecla	179,177.32	-	159,341.28	-	135,571.92	-	44,294.32	-	-11.07%	-	-14.92%	-	-67.33%	-
Total	64,138,127.48	11,131,835.62	73,984,546.72	9,248,379.27	82,077,194.34	9,721,909.78	20,043,797.13	3,185,839.44	15.35%	-16.92%	10.94%	5.12%	-75.58%	-67.23%
	75,269,963.10		83,232,925.99		91,799,104.12		23,229,636.57		10.58%		10.29%		-74.70%	

Source: own elaboration based on data provided by OTVE.

With regard to the link between Spanish wine routes and quality labels, market share and large winery groups, Table 4 attempts to reflect these links. It shows the wine routes, the average of the last three years of tourist and economic impact[10], the Denominations of Origin and/or Geographical Indications to which the wineries belonging to the wine routes belong, the market shares in volume and value of the quality labels, and the ten winery groups with the highest operating income in the year 2021.

As can be seen, most of the wine routes that currently exist come from areas protected by DOs, given that of the 32 wine routes analyzed, only in one case are their wineries protected under the PGI label, this being the case of the Sierra de Francia wine route. Therefore, 96.88% of the wineries adhering to the wine routes in Spain belong to business agglomerations protected under the DO label, or, in other words, most of the certified wine routes come from DO wine-growing areas.

With regard to the market share in both volume and value of the DOs/PGIs associated with the wine routes in Spain, it is important to note that the market share of all the DOs/PGIs is 0.91% in volume and 0.92% in value. As can be seen, 18 of the 32 exceed the average market share in both volume and value. Therefore, it is possible to affirm that more than half of the wine routes (52.95%) are associated with DOs/PGIs that have a market share both in volume and value that is higher than the average. It is also worth highlighting the link between the routes with the greatest tourist and economic impact and the quality labels with the greatest market share, given that of the four wine routes with the greatest tourist and economic impact (Penedés, Marco de Jeréz, Ribera del Duero, Rioja Alta), three belong to the DOs/PGIs with the greatest market share in terms of both volume and value (Rioja, Penedés, Ribera del Duero). In other words, the Penedés, Ribera del Duero and Rioja wine routes are three of the four routes with the greatest tourist and economic impact and, furthermore, the DOs/PGIs associated with these territories have the largest market shares in terms of both volume and value.

Similarly, Table 4 shows the link between the large Spanish wine groups and the tourism and economic impact of the wine routes, given that the four wine routes that generate the greatest tourism and economic impact (Penedés, Marco de Jeréz, Ribera del Duero, Rioja Alta) have 7 of the 10 largest wine groups in terms of operating income. These are Freixenet SA, Miguel Torres SA, Codorníu SA on the Penedés wine route, Gónzalez Byass SA on the Marco de Jeréz wine route, Vega Sicilia SA on the Ribera del Duero wine route and Compañía Vinícola del Norte de España SA and Barón de Ley SA on the Rioja Alta wine route. This shows the importance of the winery effect in the generation of tourism and economic impact by the wine routes.

[10] When the wine routes were less than three years old, their tourist and economic impact was divided by the number of years they had been certified.

Table 4. Characteristics of the Spanish wine routes

Wine Routes	Tourism Impact (Average last three years)	Economic Impact (Average for the last three years)	DO/PGI	DO/PGI market share (hl)	PDO/PGI market share (€)	Winemaking groups
Alicante	41,303	1,242,826.86	DO (Alicante)	0.80%	0.59%	
Arlanza	30,959	401,366.35	DO (Arlanza)	0.02%	0.03%	
Arribes	1,106	37,701.35	DO (Arribes)	0.05%	0.06%	
Bierzo	16,941	310,478,01	DO (Bierzo)	0.68%	0.82%	
Bullas	17,833	228,802.90	DO (Bullas)	0.09%	0.06%	
Calatayud	223,276	2,680,282.66	DO (Calatayud)	0.73%	0.54%	
Campo de Cariñena	17,167	256,464.44	DO (Cariñena)	2.65%	1.32%	
Cigales	11,629	294,227.47	DO (Cigales)	0.24%	0.28%	
Enoturisme Penedès	314,813	10,015,219.31	DO (Penedès and Cava)	18.17%	20.37%	Freixenet SA, Miguel Torres SA, Codorníu SA
Garnacha - Campo de Borja	45,056	562,063.3	DO (Campo de Borja)	1.33%	0.98%	
Jumilla	34,465	1,204,895.66	DO (Jumilla)	2.03%	1.38%	García Carrión SA
Lleida	18,893	1,578,347.72	DO (Costers del Segre)	0.32%	0.46%	
La Mancha	16,432	335,946.245	DO (La Mancha)	3.66%	2.78%	Virgen de las viñas bodega y almazara SL
La Manchuela	33,317	480,443.34	DO (Manchuela)	0.18%	0.11%	
Madrid	23,744	403,273.14	DO (Vinos de Madrid)	0.24%	0.30%	
Marco de Jerez	416,78	13,359,983.19	DO (Jerez-Xérès-Sherry)	2.15%	1.85%	Gónzalez Byass SA
Montilla-Moriles	20,31	300,985.13	DO (Montilla-Moriles)	1.40%	0.99%	
Navarra	25,148	505,307.98	DO (Navarra)	2.91%	1.81%	
Rías Baixas	90,917	2,060,118.00	DO (Rias Baixas)	2.30%	4.17%	
Ribera del Duero	289,145	9,534,286.01	DO (Ribera del Duero)	5.77%	7.60%	Vega Sicilia SA
Ribera del Guadiana	36,581	590,296.47	DO (Ribera del Guadiana)	0.46%	0.22%	
Rioja Alavesa	149,236	5,379,580.16	DO (Rioja)	23.22%	25.60%	
Rioja Alta	226,714	8,140,449.76	DO (Rioja)	23.22%	25.60%	Compañía Vinícola del Norte de España SA, Barón de Ley SA
Rioja Oriental	5,292	107,679.01	DO (Rioja)	23.22%	25.60%	

Ronda	18,474	554,052.59	DO (Málaga)	0.14%	0.26%	
Rueda	28.982	985,155.25	DO (Rueda)	6.99%	5.63%	
Sierra de Francia	1,357	31,165.04	IGP (Sierra de Salamanca)	0.01%	0.01%	
Somontano	67,058	2,866,825.81	DO (Somontano)	1.17%	1.18%	
Toro	27,322	871,632.72	DO (Toro)	1.12%	1.55%	
Utiel-Requena	60,053	1,421,415.22	DO (Utiel-Requena)	2.33%	2.03%	
Valdepeñas	8,544	76,971.84	DO (Valdepeñas)	4.65%	3.12%	Félix Sólis Avantis SA
Yecla	5,085	113,069.17	DO (Yecla)	0.46%	0.35%	

Source: own elaboration based on data provided by OTVE, MAPA and SABI.

VI. CONCLUSIONS

The results of this research are of special interest for the academic community, as well as for companies and professionals in the wine sector, as they improve knowledge about the Spanish wine tourism industry. In particular, the research contributes to a better understanding of the supply and demand of the Spanish Wine Routes, allowing to know the evolution of the member institutions and the economic impact of wine tourism in the wineries and museums of the Spanish Wine Routes. In this way, the research aims to fill a gap in the literature, as the economic impact of wine tourism activities in Spain has not been addressed in the academic literature.

Spanish wineries have discovered the importance of wine tourism activities as a way to promote the image of their wines within and beyond their borders. Moreover, wine tourism is linked to other types of tourism, such as gastronomic, cultural and health-beauty tourism (wine therapy), thus allowing the generation of synergies derived from this linkage.

The Wine Routes of Spain product, for its part, brings with it a series of potential benefits of various kinds for customers, entrepreneurs and the regulation of the system itself. Firstly, customers can obtain synergies in terms of being able to get to know the environment in which the product is produced and receive a more comprehensive and professional service. Secondly, for the entrepreneurs it means the creation of a strong and distinctive joint brand in the market, mutual assistance and collaboration, the exploitation of a growing and dynamic market niche, the de-seasonalisation of demand, the introduction of service quality systems, training, central purchasing and sales, promotion and joint marketing. Thirdly, the routes allow for the regulation of the wine tourism system, with the town councils, the regulatory councils and the entrepreneurs involved in the wine routes taking on the main role in the shaping and branding of the tourism product.

One of the first conclusions to be drawn from the study is the major impact of COVID-19 on the wine tourism industry, given that both supply and demand data show a sharp decline. COVID-19 has severely affected the Spanish wine industry, since, although there has been an increase in wine consumption in households, wine consumption through the Horeca channel, direct sales in wineries and wine tourism activity has been severely affected by the coronavirus (Marco-Lajara et al., 2021). Thus, as a consequence of the mobility limitations imposed during the COVID-19 pandemic, in 2020 there was a decrease in the total number of institutions adhering to the wine routes of 2.58%, a decrease in the total number of visitors to the different Wine Routes of Spain of 73.53% and a decrease in the economic impact of 74.7% compared to the previous year.

The research shows the existence of differences between the Wine Routes of Spain in terms of the number of visitors and their economic impact. On the one hand, the Penedés Wine Route, the Marco de Jerez Wine Route and the Ribera del Duero Wine Route are the ones that generate the greatest tourist attraction, representing more than 40% of the total number of visitors to wineries and wine museums in the four years studied. This is largely explained by the fragmentation of wine tourism activity in the region into three different wine routes, given that if we were to take the data from the three routes as a single Rioja would be in the top three positions in terms of number of wine tourists and impact generated. These three routes cover the three sub-areas that make up the Rioja DO: Rioja Alta, Rioja Alavesa and Rioja Oriental. On the other hand, there is no positive correlation between the number of visitors to a given route and the economic impact of that route, since there are routes with a higher number of visitors but with a lower relative economic impact. This is due to differences in the price of the visit and the average expenditure during the visit. Thus, those routes that are able to charge a higher price and encourage greater consumption during the visit can generate a higher relative economic impact. In this context, the differentiating attributes of the Spanish Wine Routes tourism product make more sense than ever, since they are those that should guide the recovery of wine tourism activity after the crisis: authenticity, the link with the rural environment, the absence of overcrowding and the enjoyment of nature and local gastronomy.

Among other factors that explain the asymmetric impact of the coronavirus on the Wine Routes of Spain analyzed, we can highlight some such as the wine tourism offer of their wineries, the geographical location and their proximity to large tourist centers, the tourist development of the destinations, the positioning of the destinations and their wines, or the communications to access these wine routes.

The research also reveals the link between wine routes and quality labels, as well as the existence of large winemaking groups. On the one hand, the wine routes currently in existence come from DO-protected areas, given that of the 32 wine routes analysed, only in one case do their wineries come under the PGI distinctive. It is also worth noting the relationship between the routes with the greatest tourist and economic impact and the quality labels with the greatest market share, since of the four wine routes with the greatest tourist and economic impact (Penedés, Marco de Jeréz, Ribera del Duero, Rioja Alta), three belong to the DOs/PGIs with the greatest market share in terms of both volume and value (Rioja, Penedés, Ribera del Duero). On the other hand, the study highlights the company effect as a tourist attraction pole and, as a consequence, of wealth generation, given that the four wine routes that generate the greatest tourist and economic impact (Penedés, Marco de Jeréz, Ribera del Duero, Rioja Alta) have 7 of the 10 largest wine groups in terms of operating income.

The first management implication derived from the research is that winery managers should join the wine routes where their wineries are located, since wine tourism activity under a wine route can provide several advantages, such as increased wine sales in the winery itself, improved reputation, and diversification of activities. For its part, the tourism observatory of the Wine Routes of Spain should provide constant information to the market on the characteristics of its wine tourism offer, encouraging activities to increase the notoriety of the collective brands it represents. In the same way, the results of the research can serve as a guide for managers to make investments through acquisitions and/or own investments in wineries located on the routes with a greater economic impact.

Despite the contributions made, it is also possible to establish certain limitations of the work. In this sense, it should be noted that the research addresses the economic impact derived from visits to wineries and museums, so that the total impact of wine tourism in the destinations that make up the routes would be greater if other concepts such as accommodation, restaurants or activity companies were considered. In addition, the information used comes from the OTVE may affect the magnitudes obtained, given that historically there has been a tendency to underestimate the number of wine tourists because not all visitors to wineries and museums have been included. To overcome these limitations, as a future line of research the authors would like to extend the analysis of the economic impact to all the agents involved in the wine routes. We would also like to ask the wineries directly about the effects of the pandemic on their wine tourism activity, as well as their opinion on the different measures that the Spanish government has implemented to improve the situation of wine companies.

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CONTRIBUTION OF THE AUTHORS

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