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Gambling in Spain: the need for a geographical perspective

Juegos de azar y apuestas en España: la necesidad de una perspectiva geográfica

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Abstract

The social practice of games of chance and gambling can be read in an interesting variety of ways in the area of the Social Sciences. One is the geographical perspective, which highlights the spatial repercussions of this form of recreation. However, in Spain, very little scientific literature exists on the topic, which justifies the appropriateness of this contribution to promote the necessary debate on the matter. A variety of statistical and legal sources are treated to reach the following results: Spain is in a leading position in the gambling industry at the international level, which can be attributed to its land-based gambling infrastructure and, specifically, the popularity of Electronic Machines and their proliferation in both catering establishments and specific venues. An analysis of gambling distribution in Spain shows a relatively homogeneous inter-regional situation in this regard, as no clear spatial patterns have been found apart from the demographic weight of the different regions. Thus, it is relevant to raise the question whether the legal differences between the regions have been a factor in gambling's spatial distribution. To conclude, we detail some of the most demanding problem areas that require follow-up geographical research on the Spanish gambling landscape, although it would be desirable for the quality, variety and accessibility of data to be improved.

Keywords: geography of gambling; leisure; regulation; spatial analysis; betting venue.

Resumen

La práctica social de los juegos de azar y las apuestas ofrece diversas lecturas de interés en el ámbito de las Ciencias Sociales. Una de ellas es la perspectiva geográfica, que incide en las repercusiones espaciales de esta actividad recreativa. Sin embargo, en el ámbito español, existe muy poca literatura científica al respecto, lo que justifica la conveniencia de esta contribución, que pretende iniciar un debate en esta materia. A partir del tratamiento de las distintas fuentes estadísticas y legislativas llegamos a los siguientes resultados: España se encuentra en una posición de liderazgo en la industria del juego a nivel internacional, lo que puede atribuirse a su infraestructura de juego y, en concreto, a la popularidad de las Máquinas Electrónicas y su proliferación tanto en establecimientos de restauración como en espacios específicos. Un análisis de la distribución del juego en España muestra que no hay grandes diferencias interregionales, ya que no se han encontrado patrones claros aparte del peso demográfico de cada región. Por lo tanto, es relevante plantear la cuestión de si las diferencias legales entre ellas han sido un factor en la distribución espacial de los juegos de azar. Como conlusión detallamos las áreas

temáticas que requieren un mayor seguimiento geográfico en el futuro, aunque para ello se antoja deseable y necesario mejorar la calidad, variedad y accesibilidad de los datos.

Palabras clave: geografía del juego; ocio y entretenimiento; regulación; análisis espacial; salón de apuestas.

1 Introduction

Another new betting shop has just been opened in the neighborhood where one of the authors lives. The author took out his phone, opened an app. and filled out a form that included questions such as: Do they allow smoking? Do they sell alcohol? Do they have an entry check? Suddenly, an alarm went off, warning him that the betting shop was very close to a school. The software is called BetOver, a recently produced collaborative app. that monitors betting shops with citizen participation. This allows everyone to map gambling places, schools, parks and other sensitive places. This kind of project puts widespread social pressure on gambling businesses. According to Álvarez (2020), some non-profit organizations have already contacted the app. developers to help input into the databases all the geographical information they had earlier collected on their own.

The anecdotal, but meaningful experience described in the previous paragraph demonstrates the two important points elaborated below in this article. First, place-based gambling is increasing, as is the entire sector, and is becoming a matter of social concern: In recent years, 300 new venues have been opening annually in Spain, raising the total number to almost 3,500 in 2018 (Díez & Díez Carpintero, 2020). Second, both the spatial distribution of the gambling sector itself and its public regulations have a deep geographical background with multi-scalar approaches. The presence of gambling venues in the urban environment is not harmless. Their proliferation has led to a societal concern that points to the intentional placement of these establishments, i.e., in certain low-income neighborhoods where the population is more exposed and vulnerable. The case of the working-class districts of southern Madrid is quite illustrative and has attracted the attention of the regional and even the national media.

Figure 1. Demonstration against gaming halls
in the vicinity of centers of education (Sevilla, Spain)

Source: Europa Press (2019)

Hence, it comes as no surprise that the phenomenon of gambling is included on the geography research agenda (Raento & Berry, 1999). Moreover, as gambling develops and proliferates in space (real and virtual), geographers have become increasingly interested in researching the phenomenon (Fiedor et al., 2017). However, in Spain, the situation is different. Although Spain is one of the countries with the most highly-developed so-called gambling landscapes in the world (see Ziolkowski, 2020), no geographical research has been conducted into gambling to date. As a consequence, the understanding of the spatial aspects of gambling businesses is inadequate. Our contribution intends to lay the groundwork for a *geography of gambling* in Spain through an in-depth international bibliographic review and to propose some major lines of research into gambling in Spain.

The aim of the article is twofold; first, to assess the context of Spanish legislation on gambling and to conduct a basic spatial analysis of the gambling landscape in Spain in order to identify whether there are any spatial patterns of the proliferation of gambling facilities or not. The second aim is to explore the most in-demand aspects of the Spanish gambling landscape that require investigation and monitoring at a geographical level. To achieve these goals, a previous up-to-date review of the state-of-the-art in the frame of the geography of gambling has been conducted.

Thus, this article is structured as follows. First, a state-of-the-art has been addressed, in order to identify what has been researched so far and provide the theoretical starting point for geographical research into gambling. Second, sources and methodology are described, giving a

necessary definition of the analyzed variables along the manuscript (e.g. Gross Gaming Revenue, Venues, EGMs, and Catering establishments with slots). Next, the results are presented and discussed. Finally, the conclusions and the research perspectives have been exposed.

2 Theoretical background

2.1 A Brief history of gambling development and research

Gambling is a natural phenomenon of humankind that has implications not only for health and pathology, economic development, commerce and tourism but also for esthetics and architecture (Raento & Berry, 1999). This is aptly expressed by Reith (2007, p. 3), who states that "gambling is a nearly ubiquitous activity that has been practiced throughout history and across cultures by various social groups." Nevertheless, it is quite clear that the form that gambling takes has changed significantly over time. Until the 16th century, gambling was usually a private matter, with bets between two or more players (Ferentzy & Turner, 2013). According to Thompson (2015, p. 382), three features are usually important for defining gambling, namely 1) the player must bet something (in most cases, money); 2) the game must be based at least in part on chance; 3) the winner receives a valuable prize (in most cases, money). In the 16th and, especially, the 17th centuries, there were breakthroughs in the development of science, above all mathematics. Cardano & Galileo's initial ideas about random phenomena were developed in the 17th century by Fermat and, particularly, by Pascal, who laid the foundations of probability theory (Mlodinow, 2008). Gambling was the main driver of the ideas concerning probability. The development of probability theory subsequently enabled the emergence and gradual development of casinos and casino games. Gambling operators were thus able to offer players both entertainment and winnings, but they also benefited from gaming themselves. Ferentzy & Turner (2013, p. 11) point to the mutual relationship between gambling and probability mathematics when declaring that "the concurrent growth of casino gambling and probability mathematics is not coincidental, but the extent to which probability theory leads to the growth of gambling or that the growth of gambling leads to the discovery of probability theory is difficult to determine."

From the above, it is clear that gambling has been the subject of research since at least the 16th century. In addition to the math/probability that initiates research interest in specific gambling games, the research on gambling has developed mainly in the psychological and psychiatric disciplines with typical research problematics such as motivation to gamble and factors associated with the development of problem gambling and its treatment; also in criminology, the social

sciences and economics, mainly with a focus on the effects of gambling on operators, society and the State. Although gambling is the object of interdisciplinary research, the first meeting of experts that brought together researchers from various scientific disciplines and representatives of operators did not take place until 1974 when the National Conference on Gambling and Risk-Taking took place. Eadington & Schwartz (2012) identified two reasons that prevented any previous organization of a conference of this type specifically focused on gambling. First, gambling did not appear to be a serious topic for academics, who preferred to address the more traditional research agenda. Second, gambling operators did not have any confidence in research into gambling as they did not think that academic research could contribute anything for them. The conference has been held regularly since 1974, and every three years in recent times (with the last conference held in 2019). The conference enables to gather together the widest range of participants who engage in gambling (550 participants from 34 countries).

The regularity of the conference and the high number of attendees go hand-in-hand with the growing importance of gambling research. As a result, the role of research into the phenomenon of gambling has risen greatly in recent years, as many countries have witnessed the unprecedented commercial prosperity attached to gambling in recent decades (Ferentzy & Turner, 2013) and the serious social and economic consequences. On the one hand, the expansion of gambling affords economic benefits for the Treasuries of some particular States, regional governments and municipalities (although there is no consensus on this among researchers); on the other hand, the threat of the development of pathological gambling is prompting part of society to constantly call for the more severe regulation of gambling or even for it to be banned.

2.2 The current trends in geographical research of gambling

Given the spatial anchoring of the (dominant) social and economic aspects of gambling, the question arises as to whether geography is able to play an important role in the context of gambling research. This idea marginally entered the geographical community during the second half of the twentieth century. This is the reason why geographers commenced researching gambling quite late and, by the end of the nineties, geographers were approaching gambling mostly from the perspective of economic and recreational geography, with an emphasis on spatial analysis, the economic impacts of gaming, effects on local communities and tourism development (Raento & Berry, 1999).

The purpose of the following is to summarize the most frequent research topics related to gambling and the way that they have been approached and investigated by geographers in the last twenty years. Up-to-date knowledge of how gambling impacts individuals and the mutual interaction between players and the geographical environments in which they live will be elaborated. To be more illustrative here, it is possible to distinguish and discuss the following partial problems around gambling: gambling behaviour, spatial accesibility to gambling and public health. Although these are usually studied individually, it is crucial to bear in mind that they have strong effects on each other.

The first issue to discuss is gambling behavior, which is an intensively studied aspect of gambling. According to Marshall (2002), the nature of geography enables holistic research into gambling as a social phenomenon. This author also provides the following diagram (Figure 2) to corroborate his statement. The diagram shows the structure of the relationship between gambling behavior and gambling environment. It is based on basic geographical concepts and specifies some individual indicators used to analyze gambling behavior; many relevant aspects of gambling have been researched by combining the indicators in the diagram, with the emphasis on spatial issues such as the relationship between a geographical environment, where socioeconomic indexes are used to infer its characteristics, and the level of provision (e.g., Gilliland & Ross, 2005; Young, Markham & Doran, 2012a; Rintoul et al., 2013; Wardle et al., 2014; Wilson et al., 2006; Marshall & Baker, 2001; Wheeler, Rigby & Huriwai, 2006); the relationship between the closest or "regular" venue and the frequency of gambling (Pearce et al., 2008; McMillen & Doran, 2006; Kato & Goto, 2018; Welte et al., 2016); the relationship between the socio-demographic profile of individuals and the frequency of gambling (Robitaille & Herjean, 2008); and finally, the relationship between the level of provision and the consequences measured by the level of bankruptcy in a region (Badji, Black & Johnston, 2020). All these studies have provided valuable evidence about the relationship between the characteristics of geographical environments and gambling behavior.

Besides gambling behavior, the geographical concept of spatial accessibility to gambling, which combines both spatio-temporal accessibility and social and financial accessibility (Fiedor, 2016), have received attention from the research on gambling. While the spatio-temporal component of accessibility is explicitly included in the diagram, the social and financial components of accessibility are, at first glance, more difficult to discern. Although social accessibility does not relate to problem gambling, it is moderately related to gambling frequency and the amount of

money spent (Moore et al., 2011). Thus, it should not be omitted from research into gambling behavior (Hing, Haw, 2009).

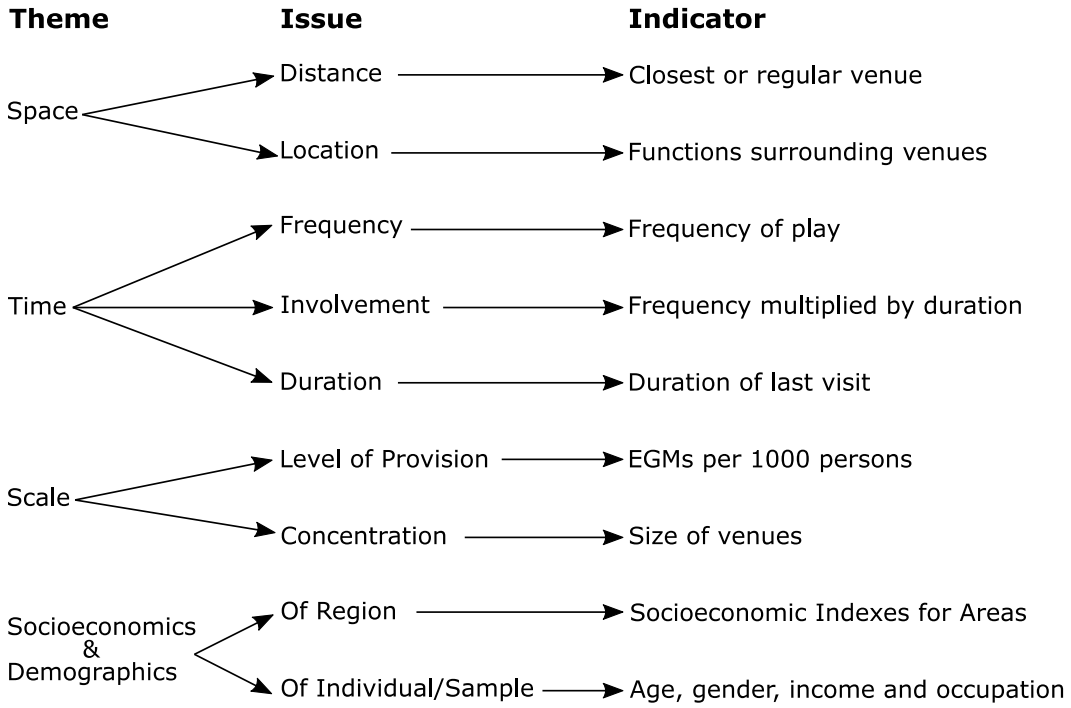
Multiple factors can be investigated in the frame of social accessibility, mainly linked to social acceptance (minimum age of participants in gambling[1], attitudes to gambling[2], personal relationships with gambling establishment staff and the need to register or feel secure[3]). It is not difficult to deduce the financial accessibility-related functions in the areas around venues (Marshall, 2002): not only ATMs and pawnshops, but also the socio-economic situation of some particular individuals. It can thus be observed that almost all the potential components of gambling accessibility are based on geographical concepts such as space or time-space, place and scale, all of which affect socioeconomics and demographics as well as the above-discussed gambling behaviors. This is at the neighborhood scale and reported by, among others, Pearce et al. (2008), who, in the New Zealand context, was able to reveal that neighborhood access to gambling venues influences gambling participation and gambling behavior, and affects neighborhood inequalities in gambling over and above individual-level characteristics. Marshall (2005) provided similar findings at the local level when he concluded that accessibility to EGM (Electronic Gambling Machines) facilities is an important factor in their usage. Although there may not be a direct link between the degree of accessibility to gambling and the development of problem or pathological gambling, thus far geographically-oriented research has proven the importance of the concepts of availability and accessibility; the rate of participation in gambling increases with the increasing availability of and accessibility to gambling.

1 In most countries of the world, the minimum age limit for gambling is set at 18 years. Until recently, however, this was different in some countries, e.g., in Finland gambling was allowed from the age of 15 (Tammi, 2014).

2 The connection between attitudes toward gambling and participation in gambling is stated by, for example, Fiedor et al. (2019a).

3 See, for example, St-Pierre et al. (2014) or Thomas et al. (2011).

Figure 2. Gambling environment-behavior relationship scheme



Source: prepared by authors based on Marshall (2002)

One of the most developed research directions in the gambling research addresses public health and deals with the research problems of why people gamble and why they become addicted to gambling. This public health approach is especially driven by the effort to reduce gambling-related harm (Dyall, 2007). Considering the negative influence of gambling on public health, the compositional and contextual factors of creating gambling addiction can be distinguished, with the compositional factors related to the characteristics of individuals and populations, whereas contextual features refer to the social and physical environment in which subjects live (Gatrell & Elliott, 2014). Both factors have a spatial dimension; they are situated in a space that influences the complex characteristics of particular factors. This opens the door to geographical research.

To date, the spatial dimension of both factors has been studied by geographers only to a limited extent. The geographical research has focused above all on the geographical dimensions of the risk of problem gambling in relation to the location of non-casino gaming machines (Wheeler, Rigby & Huriwai 2006), the local circumstances of individuals and communities (Marshall 2009), an association between gambling-related harm, places with concentrations of electronic gaming machines, socio-demographics (Young, Markham & Doran, 2012b), and the prediction of the spatial distribution of gambling venue catchment areas and, hence, the prediction of the spatial distribution of gambling-related harm (Doran & Young, 2010).

The proliferation of gambling identified as a global economic project (Markham & Young, 2014) has gone hand-in-hand with a rise in demand for high quality and reliable studies that focus not only on the impacts of gambling on public health, but also on the economic and social impacts of gambling on society and, also, the possible impacts of the latter on individuals and their surroundings (Eadington & Redman, 1991). One classic example of research of this type is the spatial analysis of the benefits (positive impacts) and costs (negative impacts) of gambling (Deng & Dyre, 2009; Economopoulos, 2014; Chhabra, 2007). In these studies, all the impacts of gambling are identified and subsequently financially quantified in the first phase. All in all, the identification of costs and benefits is a very complex issue in the case of gambling (Walker, 2007).

Although gambling is perceived as a rather negative phenomenon by most societies (Delfabbro & King, 2020), with problem and pathological gambling bringing distress not only to individuals and their surroundings, but also to society, some positive effects can also be identified and analyzed, as has already been suggested in the previous paragraphs. In this context, the effect on employment and tax revenues for public finances is the most discussed outcome in the literature (Marshall, 2002; Walker, 2007). The issue of gambling often poses a fundamental problem for legislators as well as for municipal and regional institutions, in the sense that, on the one hand, a balance has to be sought between the profit made by the State and municipal treasuries from gambling taxes (Long, 1996; Wacker, 2006; Wu & Chen, 2015) and the prevention of the negative effects of gambling on local communities, on the other (Fiedor et al., 2019b). Gambling establishments often recruit their customers locally (Shoemaker & Zemke, 2005). However, if non-residents make up the majority of a gambling establishment's clientele, these non-local gamblers can bring new financial income to the area and enable its economic growth without any negative consequences for its inhabitants (McMillen, 1996).

Thus, geographically-oriented approaches can also be applied that, in this case, focus on the importance of gambling for local and regional development (Marshall, 1998; Sharp, 2004). The spatial distribution of gambling establishments, especially casinos, shows that they are present in large cities, tourist areas and border areas, where different legislative approaches to gambling are particularly evident (Fiedor et al., 2017). It is these specific border areas that are often referred to in the literature in connection with the term border tourism (Jackson & Hudman, 1987; Sofield, 2006). In this context, it should be noted that border casinos are also common in Nevada (Harris & Alikhan, 2019), which is traditionally associated with a very liberal approach to gambling.

The gambling industry has always been the cause of a degree of controversy that resonates in individual societies. This is reflected in many developed countries in the world by the regular alternation of periods of legislative liberalization and restrictions on gambling (Sauer, 2001; Marshall, 2002; Schwartz, 2013). Etches (2009) develops this idea and devises a four-stage life cycle of commercial gambling:

a) introductory stage: gambling commences by spreading into State space with economic problems and illegal gambling develops as a consequence;

b) period of growth: expansion of gambling and its technological development;

c) period of maturity: characterized by the monopolization of the gambling market and the increased availability of gambling, even in suburbanized urban areas;

d) period of decline: the final stage of the cycle, with the very high availability of gambling causing a rising wave of public concern, which subsequently leads to a decline in the number of gambling establishments.

While the first three phases see the proliferation of gambling in space and time, the last phase leads to a decrease in the number of establishments and games (Fiedor, 2020). Unfortunately, to date there has been no study that has used any time geography approaches to shed further light on this life cycle.

The application of the geographical approaches and concepts presented above contributes to the development of knowledge about gambling. For example, the answers to the questions about why people take part in gambling and why some develop problem and pathological gambling are associated with the widely-understood concept of the availability to and accessibility of gambling, among other things (St-Pierre et al., 2014). At the same time, it is evident that geographical factors are key components of the concepts of accessibility and availability. Similarly, the consequences of gambling analyzed through its costs and benefits have different impacts in different localities and regions; for example, gambling establishments in tourism resorts can have a positive effect on the overall economic development of a given region (Rephann et al., 1997; Sheng & Gu, 2018).

So, geography is an important discipline that can contribute to the enrichment of the main research topics concerning gambling. However, as Raento & Berry (1999) and Fiedor et al. (2017) point out, geographers have not yet made full use of their potential for gambling research, which stems directly from the interdisciplinary nature of geography. Thus, geographical

research into gambling needs to be further developed. The geographical scale seems especially worth investigating; the scale plays a key role in all aspects of gambling, as different research problems arise at the (international), regional and local levels that geography should address. Another potential area of research for geographers is the exploration of the connections between virtual and brick-and-mortar gambling establishments, and the economy and legal systems (Wilson, 2003). Although the online gambling boom has significantly affected the spatial organization of gambling activities, these connections are only addressed to a limited extent in the geographical research.

2.3 Gambling research in Spain

The origins of gambling as a relevant aspect for the economy and society can be traced back to the Middle Ages, when the first regulations came into force (Rodrigo-Estevan, 2007). Following Becoña & Becoña (2018), while in the 19th and 20th centuries gambling flourished —the National Lottery was created as well as some privately-managed forms such as casinos— the Primo de Rivera and Franco Regimes banned all gambling until the 1970s, except for publicly-managed lotteries and some specific betting games. This attitude towards prohibition was not exclusive to the political, military and religious conservative elites. Likewise, a sense of rejection towards popular forms of gambling emerged at this time among political organizations of the working class. Workers movements saw in gambling a form of illicit enrichment not linked to the earned income, and typical of the urban gentry (Fontbona, 2008). Gambling was finally legalized in 1977 (with international tourism given as one of the reasons for its legitimation) and further authorizations have continued to the present day, including Electronic Machines (1981) and Online Gambling (2011), among others. The gambling sector in Spain is currently operated by both the Public and the Private sectors. The National Lottery was launched in 1811 and today operates under aegis of the Sociedad Estatal de Loterias y Apuestas del Estado (SELAE), which is a public company that comes under the Ministry of Treasury. The Organización Nacional de Ciegos Españoles (ONCE) was created in 1938 to resolve the lack of employment for blind and visually-impaired people in Spain, being the sale of so-called coupons (lottery slips) its main source of income. It is a public law non-profit corporation, thus could be also included in the public dimension of gambling[4]. Both the National Lottery and ONCE have been updated and

4 ONCE is not part of the Public Administration, but it is a Public Law Corporation, which has a social nature and is not for profit. These types of corporations represent the interests of certain social sectors before the Public Powers and carry out public management functions in those sectors. ONCE is, on the one hand, private-based,

currently offer a broader range of online and offline games (e.g., sports betting, jackpots and scratch cards). Meanwhile the private sector manages all other types of gambling: gambling machines, sports betting, casinos and bingo. New forms have emerged in recent years in the shape of both physical infrastructure (gambling halls, sports betting at gambling venues, etc.) and online digital game platforms (Becoña & Becoña, 2018).

Despite the growth of the gambling sector (and of the response from the media) and its treatment since the late 1990s in the international geographic literature, we still await the first publication on the issue in the Spanish geography. There are no articles or special issues in geography journals, nor research groups or projects whose objective is to understand the spatial keys of this process. A few exceptions do exist in other fields of knowledge that are more or less geographical. In the field of psychology and sociology, Chóliz & Saéz (2016) examine the link between bars —a core element of Spanish society— and gambling regulation deficiencies (e.g., entry checks) with the proliferation of EGMs across the country. From the same perspective, Mazón & Chóliz (2012) superficially analyze the status of the major gambling projects in Spain and the effects that they can have on nearby areas. In Law and the Political Sciences, Cases (2011) establishes a chronology around the Spanish Regions' political perception of gambling and the corresponding legislation. This could be a key element for understanding the current map of the sector at the national level. Finally, Díez & Díez Carpintero (2020) offer a non-academic, lighthearted view from the perspective of various topics related to the sector, including regional comparisons.

Apart from Spanish Academia, civil society platforms and media infographic departments have also offered recent geographical readings of the gambling sector. As an example of the first, the report prepared by the *StopCasasdeApuestas* Citizen´s platform (see Pérez, 2019) maps the territorial distribution of gambling venues in Madrid and offers a socio-demographic analysis of the neighborhoods involved. Regarding the latter, the *El País* newspaper published several maps of the spatial relationships between gambling venues and sensitive facilities such as schools.

3 Data and methods

We have collected the general data on gambling in Spain (economic data, operators, types of games, employment, venues, machines) from both the public administration and the private

as it is constituted in order to represent and defend the interests of a certain group, and at the same time have a public dimension, since they can exercise certain public functions of an administrative nature by attribution or delegation of the Public Administration.

sphere. The National Department for Gambling Regulation (Dirección General de Ordenación del Juego, hereinafter DGOJ) publishes figures and reports that are available online, with 2018 the last reported year (valid to November 2020), The sector also publishes its own reports, prepared by Cejuego —a Business Council formed of the largest Spanish gambling companies— in collaboration with Carlos III University (see Gómez & Lalanda, 2019). It has not been possible to accurately place some of the sector's figures in the European context due to the absence of equivalent sources at the European Union (Eurostat) level. In this regard, some consultants (such as H2 Gambling Capital) offer restricted access to up-to-date reports (that we were, therefore, unable to access). So, only some specific country comparisons have been made based on other national or academic studies. In this respect, only Ziolkowski (2020) has enabled a wider contextualization in the *World Count of Gaming Machines 2019* based on the number of electronic gambling machines per country.

The geographical distribution of gambling venues is presented as an important aspect for discussion. Two reliable sources have been consulted in this regard. On the one hand, the official DGOJ data, which give regional aggregations of venues and machines and, on the other, citizens platforms such as *StopCasasdeApuestas*, which geolocates gambling venues by using the Google geolocation tool to extract their locations from the data on the webpages of the three main companies in Spain, Codere, Sportium and Luckia. While the first is no more than a table of venues aggregated by region, the latter offers the precise position of every establishment.

It should be taken into account that not all recreational activities are under the regulation of gambling. In general, only those activities, dependent to some extent on chance, in which amounts of money or economically assessable objects are hazarded would be subject to this consideration, as stated, for example, the national regulation (Ley 13/2011, de 27 de mayo, de regulación del juego). Consequently, gambling must be considered as an economic activity with the capacity to generate wealth by stimulating economic growth and generating employment, despite its pernicious consequences. Taking into account the above, the following variables have been quantified and/or mapped in the manuscript to properly measure the dimension of the sector and its spatial distribution:

- *Gross Gaming Revenue* (hereinafter GGR) is the gross amount devoted to gambling and betting after deducting the prize money paid to participants by the operator (DGOJ, 2020). It does not include other concepts such as advertising and staff costs, taxes, etc. GGR is usually used as a variable to diagnose the status and trends in the sector.

- *Venues* are the basic land-based gambling infrastructure. They include *salas de apuestas* (betting shops), *salones de juego* (gambling halls), bingo halls and casinos. While official sources simply provide regional summations, the aforementioned *StopCasasdeApuestas* association enables their geolocation with reasonable accuracy.
- *EGMs (Electronic Gambling Machines)* or *Slot Machines* are another type of basic land-based gambling infrastructure. EGMs include "type B" machines in gambling venues and catering services and "type C" auxiliary machines in casinos[5]. This is the 2nd most popular type of gambling in Spain after the National Lotteries as from their inception, they have been allowed not only in bingo halls, casinos and gambling premises, but also in bars, cafes and restaurants (Becoña & Becoña, 2018). The DGOJ gives their numbers nationally and their regional distribution but, unfortunately, there has been no geospatial scope compiling them.
- Regarding the latter, we have used *Catering establishments with slots,* which includes bars, cafes and restaurants that offer these games to their customers, even though gambling is not their main business. A similar problem has been found regarding geolocalization.

These four variables have been weighted by population (GGR per capita, venues per 1,000 inhabitants, slot machines per 10,000 and catering establishments with slots per 1,000) using aggregated data from the Municipal Census of Inhabitants for 2018 (Instituto Nacional de Estadística [INE], 2019).

Following the analysis of the spatial distribution of EGMs and casino games, we evaluated the level of spatial concentration of EGMs using a Lorenz curve and the Gini coefficient, as applied in Fiedor et al. (2017). In our evaluation, we used the number of EGMs including casino games and regional populations. The Gini coefficient can be calculated as the ratio of the area bounded by a diagonal (the axis of the first quadrant of the Cartesian system of coordinates) and the Lorenz curve to the total area beneath the diagonal. In practice, however, the so-called Brown formula (Brown, 1994) is usually used:

$$G = \left| 1 - \sum_{i=1}^{n} (x_i - x_{i-1}) \times (y_i + y_{i-1}) \right|$$

5 "Type B" machines are defined in Decree 2010/98 as "in exchange of a price per game, they grant a time to play and, according to a probabilistic program, a possible cash prize". The program is set up as a game cycle, not a random operation in each game, which is the system of the "Type C" machines typically found in casinos. The placing of these land-based slot machines in bars, cafeterias, etc. as a secondary business depends on the regional administrations.

where x_i and y_i are the relative cumulative frequencies of the two characteristics, $x_0 = 0$ and $x_n = 1$. Values from 0 to 1 are used; when the value of the Gini coefficient approaches zero, this indicates the most even distribution of a phenomenon in the researched space, while a value close to 1 reveals an extremely unequal distribution.

4 Results

This section aims to detail and characterize the most important aspects of the Spanish gambling sector. Thus, we first pay attention to the basic economic profile of Spanish gambling and assess the international position of the Spanish gambling sector. Second, spatial aspects of the gambling landscape in Spain are presented. Finally, gambling's position in Spanish legislation is considered.

4.1 The basic characteristics of the gambling sector in Spain and an international comparison

The gambling industry is broadly understood to be an important segment of the economy in all countries and Spain is no exception. According to the Spanish Gambling Yearbook issued in 2019 (see Gómez & Lalanda, 2019), the gambling industry generated € 42 billion of circulating money and € 9.8 billion GGR[6] in 2018. The latter represents 0.82% of GDP, while in the European Union (EU-28) the figure stands at 0.71% (calculated by the European Gambling and Betting Association [EGBA], 2018). Following Gómez and Lalanda (2019), this sector creates 85,147 direct jobs (as well as 167,400 indirectly). These numbers include the public sector and its national lotteries: considering only the gambling industry run by the private sector, GGR is estimated at € 4.86 billion and direct jobs at 47,148. Thus, the private branch generates approximately half of GGR and half of the employment created.

Concerning the forms of the gambling in Spain, the public administration represents nearly 47% of GGR (Table 1). The most popular forms in the private sector are type B slot machines in bars or similar facilities (28.3%), gambling halls (8.6%), bingo halls (7.0%), casinos (3.6%) and betting shops (3.6%).

6 The Department of Gambling (DGOJ, 2019) estimated GGR at only € 6,4 billion in 2018 but excluded the revenue from land-based slot machines in catering services, which are the most popular kind of game in the country: According to the official report, there are 193,581 type B slot machines installed in Spain, of which 78.9% are in bars and cafeterias (158,247), 19.3% in gambling venues (38,799) and 1.8% in bingo halls (3,608).

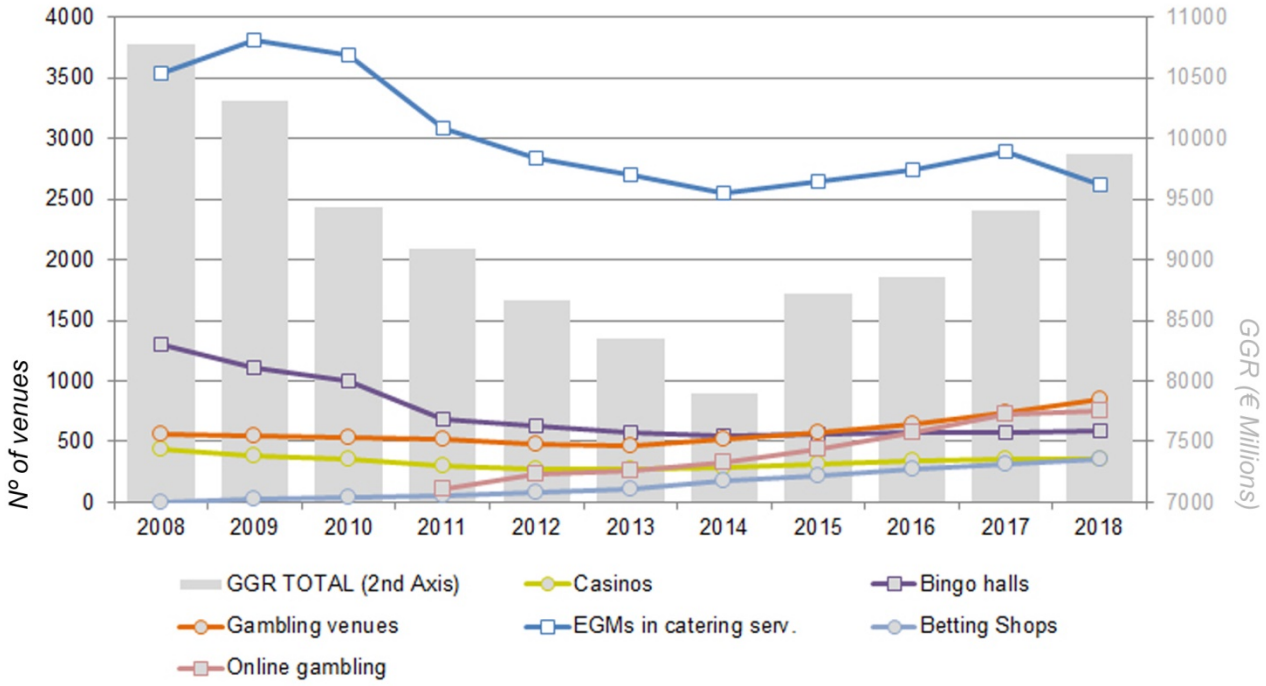
Table 1. GGR by form of gambling 2018

FORM OF GAMBLING	GGR (€ Millions)	GGR (% of total)	GGR (% of total). Only Private Sector
Public administration	**4,640**	**47.0**	**n/a**
Public lotteries	4,254	43.2	n/a
Other games managed by the Pub. Adm.	386	3.8	n/a
Private sector:	**5,196**	**53.0**	**100.0**
Type B slot machines in catering services (bars, etc.)	2,615	28.3	50.0
Gambling halls(TypeB machines & others)	847	8.6	16.3
Bingo halls (incl. bingo slot machines)	685	7.0	13.2
Casinos	358	3.6	6.9
Betting shops	352	3.6	6.8
Online gambling (only private sector)	338	3.4	6.5
TOTAL	**9,836**	**100.0**	**100.0**

Source: prepared by the authors from the Spanish 2019 Gambling Yearbook (see Gómez & Lalanda, 2019)

As Figure 3 shows, GGR plummeted by 27% between 2008 and 2014, followed by a subsequent 25% increase between 2015 and 2018. A similar evolution could be observed in the case of all face-to-face forms of gambling, except for betting, which presents continual growth and an increase of 530%. According to a DGOJ (2020) progress report, GGR continued to grow in all categories during 2018 and 2019, especially online games: Total online GGR was estimated at €747 million in 2019 (a 3% increase on 2018) with online gambling currently representing 47% casino and betting game GGR. This pattern may well have consolidated in 2020, bearing in mind confinement due to coronavirus.

Figure 3. Evolution of GGR in Spain by form of gambling (2008–2018)



Source: prepared by the authors from the 2019
Spanish Gambling Yearbook (See Gómez & Lalanda, 2018)

In Spain, State institutions have the power to grant gambling companies general or specific operating licenses.[7] According to the DGOJ (2020), there were a total of 141 general and 264 unique licenses specifically granted to gambling operators in 2019. Recipients of these licenses included both national[8] (Codere, Cirsa, Sportium, etc.) and international companies (Betfair, 888sport, Bet365, Betway, etc.), which run online as well as face-to-face gambling in the country.

The latest annual reports (DGOJ, 2019; DGOJ, 2020) give support to the finding that numbers of general and specific licenses have greatly increased in recent years thanks to three different Acts of Issue (2011, 2014 and 2018–2019). Data analysis shows that (a) the majority of the gambling operators (93) obtained their general licenses in 2011, when a new National Gambling Act (Ley

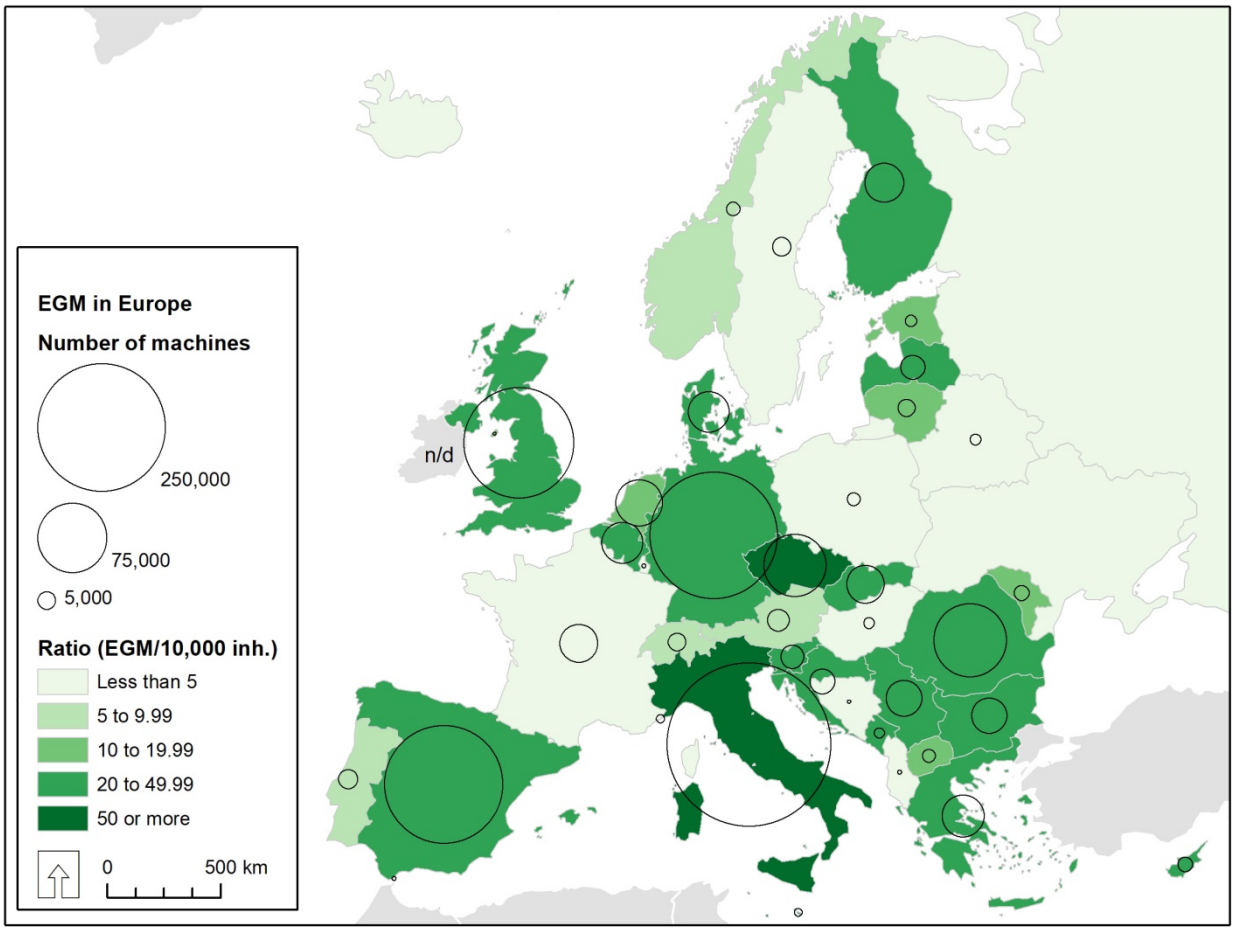
7 General licenses enable their holders to operate different gambling games for 10 years. A general license is granted by the DGOJ after the timely announcement of an administrative procedure. Specific licenses enable their holders to operate each of the individual types of games regulated and included in the scope of the general licenses. As a consequence, only operators with a general license can apply for the corresponding specific licenses. The duration of the latter ranges from 1 to 5 years.

8 The largest Spanish gambling companies (Codere, Cirsa, Luckia) have created their own associated online firms with their headquarters in Ceuta and Melilla, two autonomous cities with special tax regimes, lower tax rates in general and specific allowances that make them very attractive for online operators.

13/2011, de 27 de mayo, de Regulación del Juego) was passed, (b) another 25 gambling operators were granted licenses in 2014 and (c) in 2019, the second-highest peak was observed with 50 new licenses granted to operators.[9]

According to DGOJ data (2019), there are 4,451 gambling venues in Spain, 216,536 EGMs and 117,788 catering establishments with at least 1 EGM (See Appendix 1). The relativization of the numbers (weighted by population) results in the following values: 1 gambling venue (0.95) per 10,000 inhabitants, over 46 EGMs per 10,000 people (or, conversely, 216 persons per slot machine) and 25 catering establishments with slot machines per every 10,000 inhabitants. In any event, EGMs seems to be higly developed in Spain when comparing with other Europeans countries (See Figure 4 and discussion).

Figure 4. EGMs in Europe by country (2019)



Source: prepared by the authors from Ziolkowski (2020)

9 A full report on new licenses, renewals, license withdrawals and waivers can be found on the official DGOJ website: https://www.ordenacionjuego.es/es/act-01-licencias-autorizaciones#LG

4.2 The Spanish gambling landscape: spatial aspects

Gambling activities are regulated by the State at the national level, including traditional lotteries (National Lottery and ONCE) and games on the internet. The National Gambling Act (Act 13/2011) was, in fact, a response to the sudden emergence of new online gambling services. This act focuses on supervisory issues, the authorization of gaming operators, legal security for companies and participants, the protection of minors and gambling addicts, the limitation of advertising, combating money laundering and the financing of illegal activities. It does not alter the distribution of powers but it does oversee a large part of increasing online activity.

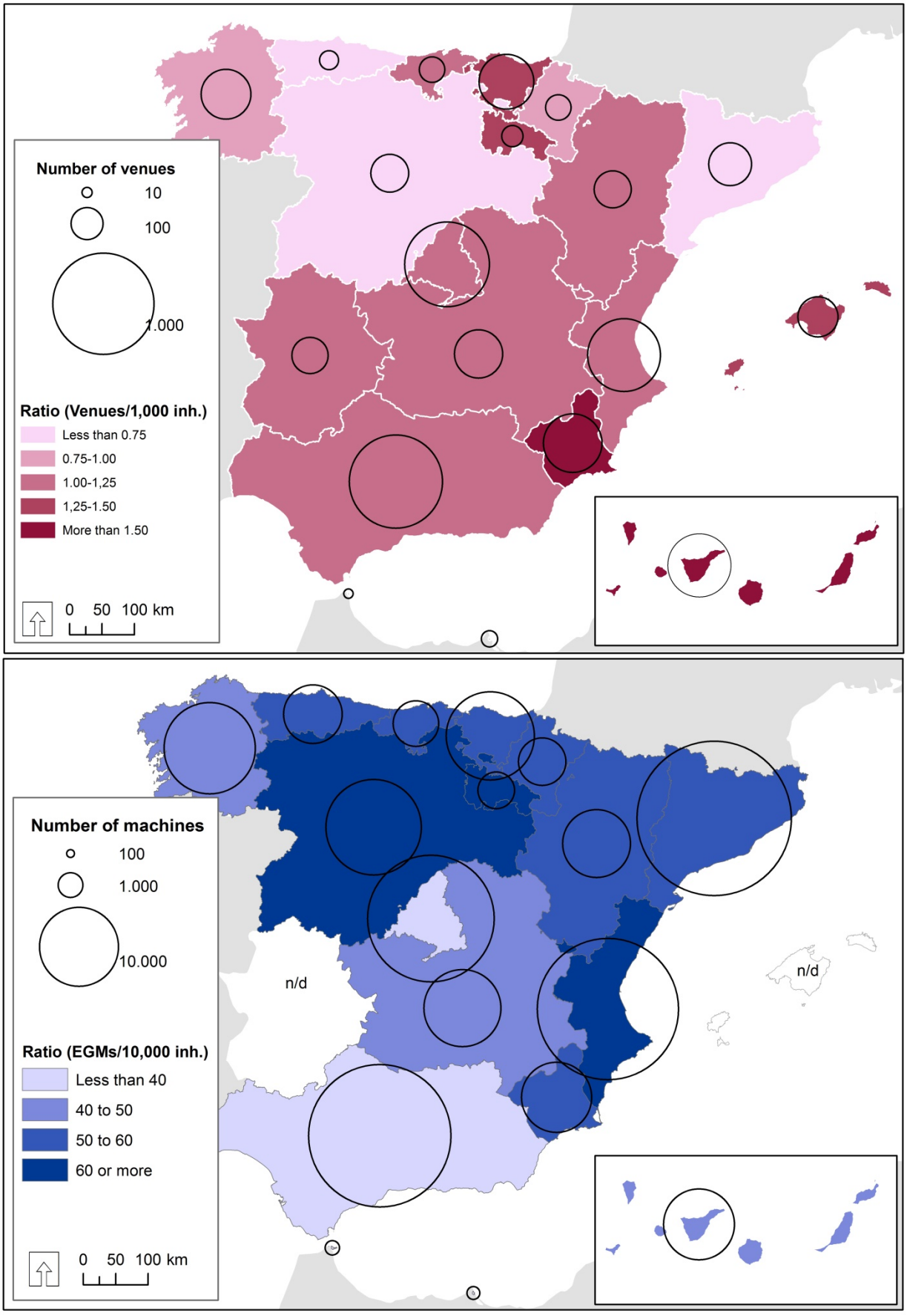
Despite the decriminalization of gambling in 1977 (Act 16/1977), the Spanish Constitution does not make any reference to the activity, not even in Arts, 148 and 149, which strictly formulated the delimitation of State and regional powers. This lack of any reference has resulted in gambling being interpreted as a competency attributable to the regions following Art. 149 (Spanish Constitution, 1978). Thus, all the Statutes of Autonomy include exclusive powers relating to casinos, games and betting (including those of the autonomous cities of Ceuta and Melilla), and this has enabled the regions to subsequently intensely legislate on the matter. According to Mazón & Chóliz (2001), the gambling industry has become a heavily-regulated and much-intervened sector due to being regarded as a harmful activity with a potential impact on health (minors, vulnerable groups exposed to addiction) and public order (fraud, organized crime, money laundering).

The Autonomous Regions have the power to measure, manage and plan the gambling sector within their territories, without prejudice to the freedom of enterprise, establishments and the provision of services. National and regional competencies converge when it comes to online terminals in brick-and-mortar face-to-face establishments: The State grants businesses the right to operate and regulates the criteria and conditions of the games, while the Autonomous Communities intervene in the regulation of the physical establishments. This enables the regions to implement a plethora of restrictions to safeguard health and public order, on the one hand, and promote economic activity, on the other.

Spanish national data on gambling show that there is a distinct spatial disparity in the regional distribution of both venues and EGMs in the country (Figure 5 and 6). Over 60% (62.9%) of the venues are located in 5 of the 17 Autonomous Communities: Andalucía, C. de Madrid, C. Valenciana, the Islas Canarias and Murcia, which together are home to half of the national population. This last region is a remarcable case, since there are almost 2.3 venues per 1,000

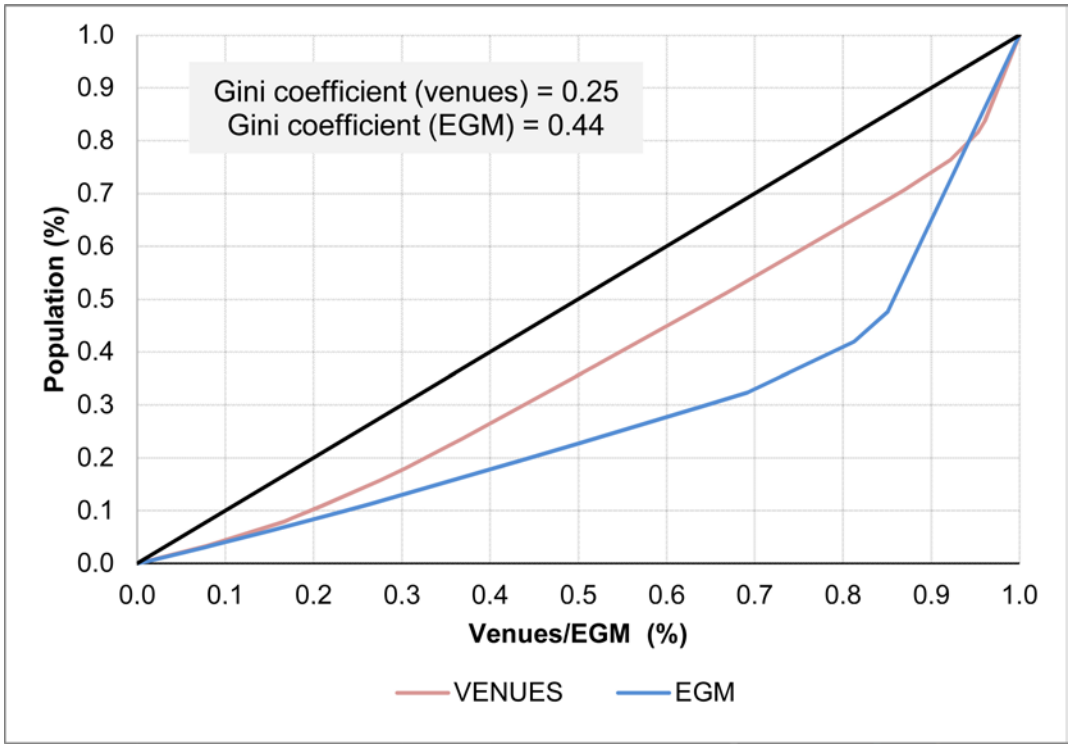
inhabitants, what means that Murcia doubles the national numbers. In the opposite case, Cataluña shows the lowest values, with 0.24 venues. The spatial concentration of machines is much higher than in the case of venues. From the Lorenz curve, it can be clearly seen that 80% of all the machines are distributed in the regions with only 40% of the population in Spain. La Rioja stands out as the region with more EGM per 10,000 inhabitants (68.2), while Islas Canarias presents the lowest value (37.9). These findings suggest that gambling's spatial distribution pattern would follow a criterion that goes beyond the demographic conditions and is mainly caused by other factors such as legislation (the severity of the laws) or the propensity to gamble.

Figure 5. Spatial distribution of venues and EGM in Spain (2018)



Source: prepared by the authors from the DGOJ (2019)

Figure 6. Spatial disparity in the regional distribution of venues and EGM



Source: prepared by the authors from the DGOJ (2019)

5 Discussion

The general figures put Spain in a prominent position in the European context. European GGR has been calculated at €95.7 billion (EGBA, 2018), and so Spain represents 10.2% (using the previous numbers from Gómez and Lalanda, 2019). However, considering online GGR alone, Spain represents only 5% and ranks 6th behind the United Kingdom, Germany, France, Italy and Sweden. This gap between the offline and online ratios might be seen as an indication of the relative importance of land-based gambling infrastructure in the Spanish case. Unfortunately, there is no available unpaid up-to-date country-by-country perspective of the entire European sector (including place-based venues)[10].

Naturally, some general rankings are influenced by countries' demographic size, so a per capita correction is often used to observe the real propensity for gambling. Based on our calculations (from EGBA, 2018; Gómez & Lalanda, 2019; INE, 2018), every person in Spain spent €202 on gambling in 2018, with €186 the EU28 average. Only Engebo (2017) offers up-to-date national data on Nordic countries: Finland is near the top of the ranking (€350 per person), while the

10 Some consultants (such as H2 Gambling Capital) offer up-to-date reports to which we have not had access.

others present similar values to Spain (Norway: € 209 per person; Denmark: € 208 per person; Sweden € 178 per person; Iceland € 174 per person). In 2011, H2 Consultant ranked European countries by gambling expenditure: Ireland, Finland, Italy and Luxembourg were at the top (at over € 300 per adult person), while Spain was in a second cluster with Sweden, Greece and Denmark (ranging from € 250 to € 300). Griffiths (2009) constructed a similar ranking which placed the United Kingdom at the top. In any event, these amounts should be viewed with caution, given the unequal socioeconomic development of different States (GDP per capita, average salaries, unemployment ratios, etc.)

In relation to the number of EGMs, Ziolkowski (2020) estimates the number of machines in the country at 212,153. This number would place Spain 5th in the EGM market, behind Japan, the USA, Italy and Germany (a position it has held regularly since 2010). Weighted by population (221 persons/machine following Ziolkowski), only 5 main countries —excluding the small city-state countries— would have a higher ratio: Japan (30), Australia (131), Italy (153), the Czech Republic (182) and Latvia (216). So, whether calculated according to Ziolkowski (2020) or Sulkunen *et al*. (2018, p. 31), the gambling landscape in Spain is clearly highly developed. As stated by De la Fuente (2019), the gambling *boom* has also given a boost to antiquated EGM venues, which have in many cases been modernized and equipped with new machines and betting terminals.

This work has focused on the regional distribution of gambling in Spain. But changing the geographical scale from the regional to the local level, it is also possible to find significant concentrations of gambling in the latter. Civil society platforms as Stopcasasdeapuestas and media have recently reported an extraordinary clustering of gambling establishments in some districts of Madrid, including Carabanchel, Tetuán, Puente de Vallecas, Usera, Latina and Ciudad Lineal, with a total of 10 betting shops in under 250 meters in the latter. Similar patterns have been observed in Málaga and Sevilla. The media have mooted some ideas as to the reason for these concentrations at the local level and have given prominence to the remarkable growth of betting shops and their location in low-income neighborhoods, especially, and clashes with the local population and civil society (Guzmán, 2019; Mateo, 2019; Pérez, 2019 and Rosa, 2019).

With respect to the latter, some City Councils have recently taken the initiative to halt private gambling in Spain, despite the competencies for its regulation not being municipal, but regional and national. The most striking case is the city of Barcelona, where Mayor Colau has launched an initiative with the main purpose of banning the opening of new bingo halls, casinos and betting

shops. Similar actions are being planned not only in major cities such as Sevilla, Zaragoza, Pamplona, Córdoba and Palma de Mallorca, but also in other towns on the periphery of metropolitan areas such as Alcalá de Guadaira (Sevilla province). This is possible through urban planning: using corrective actions such as moratoria on the granting of new licenses or by extending the minimum distance from schools. The private sector, however, claims that it is a usurpation of competencies (Romera, 2019).

There is an interesting geographical background to the legal limitations implemented at regional or local level that requires further discussion. Some of the explicitly geospatial standards that determine gambling regulations at the regional (standards 1, 2 and 3) and the local (4 and 5) scales are summarized below.

1. A maximum number of licenses. This limitation might be considered a barrier to the arrival of new venues and their probable spread to other regions. Such is the case of Decree 240/2006 issued by the Government of Cataluña. The decree permits a maximum of 75 bingo halls, 4 licensed casinos and 126 gaming rooms in all the region. Might it be possible, therefore, that operators have diverted their investments from Cataluña to Madrid or other Mediterranean coastal areas?
2. Temporary moratoria. Bringing the activity to a halt is often decreed late, after the sector has already peaked. In Madrid, the granting of new licenses was halted (Decree 21/2020), after gambling had already expanded in the region. This decision restricts the gambling sector in Madrid in the medium-long term, but also triggered a flood of requests (for new venues) before it came into force (El País, 2020). A similar process has been followed in the Autonomous Community of Murcia, which stopped issuing new licenses in 2018 but, by that time, Murcia was already one of the leading regions as far as the gambling industry was concerned.
3. Type-of-game restrictions. The Regions may exclude the installation of terminals in certain place-based venues, such as hospitality services. For example, face-to-face online games can only be run on premises specifically designed for the purpose, and no other establishments (such as bars, restaurants and hotels) are allowed to have game terminals. The lesser or greater flexibility of the regions in this regard may have a bearing on the map of new investments in the country.
4. Minimum distance between venues. The regional regulations usually include a distance standard for gambling venues that ranges from 1,000 m in Cataluña to 200 m in the Islas

Canarias (Table 2). Distances may be destined to become one of the most controversial spatial gambling regulations, given possible interference in the market guarantee unit and freedom of enterprise. However, in the words of Vega (2016), the distance measure complies with the act as it is a limiting measure justified by compelling reasons of general interest, adjusted to the principles of necessity and proportionality and also follows zoning and sector planning, a devolved competency of the Autonomous Communities. Besides, the setting of distances between commercial premises is a common practice in the Spanish legal system for activities with less intense interests (pharmacies, tobacconists).

5. Distance from sensitive places. It is evident that public health, and especially the protection of minors, is a core objective of these regulations. It is, therefore, not surprising that this is a common standard for ensuring a certain distance between gambling facilities and places frequented by young people, such as centers of education. The distance varies (Table 2) between the case of Andalucía (min. 50 meters from a school) and Madrid (100m) to other more restrictive regions such as Cataluña (300m) and Cantabria (500m).

Standards 4 and 5, above, have a particular impact at the local scale. However, bearing in mind the special concentration of venues in urban areas, they might be key factors to explain the differential development of the gambling landscape between regions (as are 1, 2 and 3). However, the regions also differ in considering the distances as either a straight line or as the route followed by public roads. This presents an additional aspect for debate, both from a thematic and technical scope, and once again proves the importance of geographical approaches.

Last but not least, it should be mentioned that the effect of the public administration on the sector transcends the legal frame and includes planning regulations on gambling. The different speed with which the regions plan the activity might be another factor in the analysis of the development of the gambling landscape across Spain. By way of an example, in 2008 Decree 72/2008 of the Murcia region specified the imminent arrival of a gambling plan that would take into account variables such as the number of existing premises and machines, the number of inhabitants living in the locality, the social incidence of the activity and the existence of tourist areas. However, 12 years on, there are no measures in this regard and the region has become one of the main gambling hotspots in the country.

Table 2. Some examples of geospatial standards

Region	Maximum number of licenses (1)	Distance between venues (4)	Distance from sensitive places (5)
Andalucía	Only for casinos (max. 10)	Bingo halls (500m; 1,000m in major cities), gambling venues (100m)	Gambling venues (min. 50m)
Comunidad de Madrid			Gambling venues (min. 100m)
Comunidad Valenciana	Only for casinos: (max. 12)	Bingo halls (1,200 m), gambling venues (800 m)	
Cataluña	Casinos (max. 4), bingo halls (75) and gambling venues (126)	Gambling venues (1,000 m) and bingo halls (1,000 m)	Gambling venues (min. 300m)
Islas Canarias	Casinos (max. 12), bingo halls (42) and gambling venues (396)	Gambling venues (200 m) and bingo halls (750m)	

Source: prepared by the authors from regional norms and regulations[11]

6 Conclusions

The above-identified geographical gambling patterns in Spain and the geospatial restrictions in Spanish legislation concerning the phenomenon of gambling open up an unexplored field in Spanish Geography, especially in relation to some topics already discussed in other countries. Below, we detail some of the most demanding problem areas that require follow-up geographical research on the Spanish gambling landscape.

First, the public administration's concern for rigorously legislating for this activity bears no relation to the quality, variety and accessibility of its statistical data. Deficiencies and limitations can still be detected in public sources, which on occasion even apply the same statistical process to betting shops as they do to any other commercial establishment. In this sense, both the sources compiled

11 Andalucía (Decree 230/1988, 250/2005, 65/2008), Comunidad Valenciana (26/2012, 62/2015, 55/2015, 26/2012), Cataluña (240/2004, 134/2006) and Islas Canarias (26/2012, 299/2003).

by the gaming industry itself and, especially, those published by civil organizations offer a greater level of detail. The need to generate large-scale geo-referenced information is especially relevant, as the legislation tends to apply spatial constraints that require it. So, the public administration lags behind the other stakeholders as far as the management of open data is concerned.

Despite this, the analyzed data enable us to state that Spain is in a leading position in the gambling industry at the international level. Although there is ongoing net growth in online gambling, the country's position can be attributed to its land-based gambling infrastructure and, specifically, the popularity of EGMs and their proliferation in both catering establishments and specific venues. An analysis of internal distribution in Spain shows a relatively homogeneous interregional situation in this regard. No clear spatial patterns have been found apart from the demographic weight of the different regions. Thus, it is relevant to raise the question whether the legal differences between the regions have been a factor in gambling's current spatial distribution, i.e., to what extent has the gambling sector sought expansion opportunities in the regions that have laxer attitudes toward gambling?

The regional-scale analysis has been inadequate for explaining the location patterns in the sector. This, together with the possibility of exploiting unofficial data sources that are only moderately accurate point to the need for an analysis on the urban scale, which is a task that we will note down on our agenda for our next article. Future research can explore a variety of spatial analysis options: the clustering of gambling infrastructure; correlation with the socio-economic landscape; spatio-temporal, social and financial accessibility; compliance (or non-compliance) with the standards defined in the legislation, etc. Finally, from a more qualitative perspective, we are still awaiting an exploration of the socio-cultural attitudes toward gambling.

One of the socially relevant outcomes of geographical research of this type would be that it would enable a better understanding of how the growing gambling industry affects disadvantaged population groups, among other things (Marshall & Baker, 2001). The notable growth of the gambling sector in recent years and, specifically, the proliferation of physical premises in certain places, as well as the increasing regulatory and social pressure on the sector, have brought a strong response from the media. However, the Spanish scientific literature on gambling is sparse and focuses on a limited number of fields, such as gaming taxation, the legal system and, to a large extent, psychology. Unfortunately, the debate has rarely reached our geographers. The present contribution does not attempt to answer all the above questions but,

rather, it was conceived to demand a space for discussion around the geography of gambling in the country.

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Legislation

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Decreto 72/2008, de 2 de mayo, por el que se aprueba el Reglamento de Máquinas Recreativas y de Azar de la Comunidad Autónoma de la Región de Murcia

Decreto 21/2020, de 26 de febrero, del Consejo de Gobierno, por el que se dispone la suspensión de la concesión de autorizaciones de comercialización y de apertura y funcionamiento de los establecimientos de juego y de la emisión de informes de consultas previas de viabilidad, en tanto se realiza la planificación de los mismos en el territorio de la Comunidad de Madrid.

Ley 13/2011, de 27 de mayo, de regulación del juego.

Real Decreto 2110/1998, de 2 de octubre, de 2 de octubre, por el que se aprueba el Reglamento de Máquinas Recreativas y de Azar

Real Decreto Ley 16/1977, de 25 de febrero, por el que se regulan los aspectos penales, administrativos y fiscales de los juegos de suerte, envite o azar y apuestas.

Appendix I. Main figures by regions

REGION	VENUES					CATERING	EGM	POPULATION AND INDEXES		
	Total	EGM ven.	Betting	Bingo	Casino	Number of catering est. with EGM	Number of EGM	Population	Venues /1,000	EGM /10,000
SPAIN	4,451	3,463	619	319	50	117,788	216,537	46,722,980	0.95	46.3
Andalucía	846	799	6	36	5	17,511	32,346	8,384,408	1.01	38.6
C. Madrid	700	459	194	45	2	11,244	25,641	6,578,079	1.06	39.0
C. Valenciana	521	426	33	59	3	16,055	31,931	4,963,703	1.05	64.3
Islas Canarias	393	220	137	28	8	2,680	8,069	2,127,685	1.85	37.9
Murcia	338	327	5	5	1	3,024	7,889	1,478,509	2.29	53.4
País Vasco	293	210	68	13	2	8,204	12,488	2,199,088	1.33	56.8
Galicia	242	91	137	12	2	8,094	13,364	2,701,743	0.90	49.5
C. la Mancha	228	181	30	7	10	5,230	9,483	2,026,807	1.12	46.8
Cataluña	179	127	0	48	4	18,423	38,084	7,600,065	0.24	50.1
Islas Baleares	157	146	4	4	3	4,216	n/a	1,128,908	1.39	n/a
C. y Leon	140	97	20	20	3	9,706	14,546	2,409,164	0.58	60.4
Aragon	136	116	5	14	1	3,573	7,377	1,308,728	1.04	56.4
Extremadura	129	94	26	8	1	n/a	n/a	1,072,863	1.20	n/a
Cantabria	65	55	6	3	1	2,046	3,299	580,229	1.12	56.9
Navarra	64	47	14	3	0	2,057	3,612	647,554	0.99	55.8
Rioja	44	30	9	4	1	1,619	2,153	315,675	1.39	68.2
Asturias	35	22	6	6	1	3,951	5,478	1,028,244	0.34	53.3
Melilla	26	11	13	1	1	83	262	86,384	3.01	30.3
Ceuta	9	5	0	3	1	72	335	85,144	1.06	39.3

Source: prepared by authors from DGOJ (2019)