The Who and the What of the Journal of Sports Economics - 20th Anniversary Edition

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Abstract

This paper describes the content published in the Journal of Sports Economics (JSE) for its 20th anniversary. The analysis focuses on the most relevant topics and captures the characteristics of authors, institutions, and types of collaborations over a 20-year period. In total, the sample includes 663 research articles (published from February 2000 to December 2019) and 856 authors from 490 institutions. The 20-year period offers an insightful picture of sports economics research. The paper discusses additional features and trends and reflects on expected directions for future research in the journal.

Keywords: authorship, content analysis, journal, manuscript, sports economics

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Introduction

The year 2020 has been a remarkable year that will not be easy to forget. This year has brought some unpleasant challenges but also opportunities to improve and tie up loose ends in society. Also, 2020 has a special meaning for the field of sports economics. The Journal of Sports Economics (JSE) celebrates its 20ᵗʰ anniversary. As the perception of time is malleable, judging whether this is a long or a short period is difficult. However, it is time enough to look back and describe the journal's achievements and contributions to the field.

The first volume of the journal was published on February 1, 2000. Thanks to the opening chapter of Kahane, Idson, and Staudohar (2000), we know that the idea of creating the journal emerged a few years earlier and that the process combined the forces of professors on both sides of the Atlantic Ocean. The JSE was born with the intention of welcoming theoretical and empirical contributions that covered all aspects of professional and amateur sports while also examining the intersections with other disciplines, e.g., business, finance, history, law, and politics. Kahane et al. (2000) described the complete scene and research strategies of the JSE that have yet to be developed.

The journal set the grounds and offered an outlet for the publication of contributions that followed celebrated seminal articles and books in sports economics. The contributions of Rottenberg (1956), Neale (1964), Jones (1969), Sloane (1969), El-Hodiri and Quirk (1971), Sloane (1971), Demmert (1973), Noll (1974), and Scully (1974) had a great impact and laid the foundations for sports economics research to come.

In the early years, the JSE mainly published articles on performance, payrolls, labor market issues, and governance. Mondello and Pedersen (2003) performed the first content analysis that also included detailed information on the editors, authors, and institutions involved.[1] Since then, the journal has rapidly evolved and joined interdisciplinary efforts worldwide. Kahane et al.

(2000) anticipated that the JSE would gather articles analyzing not only the sports context itself but also sports data to test economic theories in general.

This paper provides an updated content analysis and describes the evolution of the publishing history of the JSE. The analysis also captures a 20-year marriage of authors that is informative in several ways. The structure of the paper is as follows. First, we examine the length of the manuscripts and the types of contributions. Second, we show the number of publications by topic, narrow down the most popular sports, and describe the origin of the data used in empirical contributions. Third, we investigate authorship and institutional characteristics to map the contributions and specify the type of collaboration. Finally, we conclude with a summary and a brief note on expected directions and challenges.

Data and Method

The sample consists of 663 full-length research articles published in JSE, the leading journal in sports economics. The sample articles were published from February 2000 through December 2019 and cover a wide range of topics. If examining five-year periods, we notice an increase in the total number of articles published: 115 (2000-04), 166 (2005-09), 165 (2010-14), and 217 (2015-19), in accordance with the higher number of issues. The sample excludes notes, comments, and replies and includes 856 authors attached to the publication, representing 490 different institutions.

We perform content analysis by skimming the published manuscripts. First, we classify the articles' topics into several categories and distinguish whether the contribution is mainly empirical or theoretical. The classification of articles into topics and subtopics is challenging because some articles can be assigned to several categories, which sometimes overlap. We provide the data set for examination and replication.[2] The following section provides more details on the different topics and subtopics. Finally, we analyze the citations of the manuscripts, the number of pages, and the type of data used regarding the segment of the sports sector.

Additionally, the data collected for each article include the number of authors and information on demographics, i.e., age, experience, gender, and race.[3] We also note the affiliation at the time of publication and information on the doctoral degree of the authors. To gather this information, we use the official website of the JSE (https://journals.sagepub.com/home/jse) and the official websites of colleges, universities, and organizations, where the authors carry out their professional activity.

Results

The Manuscript and Content

Type of manuscript

The first tentative distinction of the 663 research articles published is based on the type of research. By examining the articles that include and do not include data analysis, we categorize them into theoretical and empirical. In total, 576 articles (87%) included some type of data analysis. The contributions to the journal show a preference for the use of data, which results in a relatively consistent positive trend over the analyzed period. The percentage of articles using data increased from 77% (2000-2004) to 89% (2015-2019).

The average length of the manuscripts reflects what a typical publication in the journal looks like. Mondello and Pedersen (2003) reported that the articles in the first ten issues averaged 16.4 pages. Our sample shows an increase in the average number of pages, which now remains close to 18.4 pages. The evolution of this feature shows a noticeable change. The average number of pages ranges from 15.6 in the first decade (2000-09) to 20.5 in the second decade (2010-19). Figure 1 displays a histogram and a chart with the average number of pages over time.

[Figure 1 near here]

Sports economics focus

The evolution of the main topics of the published articles in this journal is especially relevant to understand the direction of sports economics. However, categorizing the published articles into topics is challenging because some articles fit well into different categories. By examining the main aim of all the articles, we build the following topic categories and assign the articles accordingly: (1) Behavior; (2) Competitive Balance (CB) and Demand; (3) Performance; (4) Labor Market; (5) Organization; (6) Impact; (7) Betting; (8) Efficiency; (9) Finance; and (10) Others. We allow for the possibility of assigning one article to two topic categories when needed. Consequently, some articles represent two different categories in the analysis.[4]

Briefly, we describe the content of the categories. (1) Behavior includes articles analyzing the behavior of sports agents (i.e., players, coaches, and referees), using either data or game theory. Additionally, it includes articles that trace changes in patterns after the implementation of new rules and policies, as well as discrimination studies—unless the latter focus on labor issues. (2) CB and Demand mainly includes articles analyzing CB, the uncertainty of outcome, and determinants of demand—stadium or television. (3) Performance refers to articles that focus on the performance of players and teams and are empirical in nature. The effect of red cards on football outcomes or the effect of wage disparity on team performance are some recurrent subtopics.

(4) Labor market articles mainly analyze the contractual relationship between sports agents, primarily between players and clubs (e.g., player compensation and discrimination studies). (5) Organization includes articles examining issues related to tournament design and league structure such as promotion and relegation, drafts, seeding, and ranking. (6) Impact refers to articles analyzing the economic impact of sporting events, teams, and stadiums in different communities. Some articles include additional impacts on outcomes such as well-being and crime. (7) Betting includes articles analyzing any dimension of betting markets in sports, e.g., biases, efficiency, and regulations.

(8) Efficiency refers to articles that aim to define the distance of different units of analysis (i.e., coaches, teams, countries) concerning their production or cost frontiers. Most articles use either data envelopment analysis (DEA) or stochastic frontier models. (9) Finance includes articles analyzing financial models, crises, and risk management plans of sports organizations. Finally, (10) Others include the rest of the articles that did not belong to any of the abovementioned categories. The most recurrent subtopics of this category are e-sports, forecasting, and participation. Figure 2 graphically shows the weight and evolution of the different topics within the journal.

[Figure 2 near here]

Behavioral (25%), followed by CB & Demand (17%), Labor Market (13%), Organization (12%), and Performance (10%), represent the core of the contributions to the journal. The weight of the topics within the journal has remained relatively stable over time. We observe the largest fall for performance articles in the second period (2005-2009) and an unstable representation of finance articles. A closer analysis of each of the topics and subtopics over time will be more informative regarding the journal's direction. For example, the shift in the means of consuming sports (i.e., the greater importance of television) has resulted in more articles using TV ratings to examine demand.[5] However, the detailed analysis of topic subcategories goes beyond the reach of this paper.

The number of citations of articles is also informative for examining the relevance of the different topics. We collected the number of citations provided by Google Scholar as of February 10, 2020. Table 1 shows the total number of articles by topic and the average number of citations. The descriptive analysis yields some interesting results. While contributions to Finance or Efficiency are limited, the average number of citations reveals a broader general interest for these topics. Future research may want to examine the connections between these topics and other settings in adjacent economic fields.

[Table 1 near here]

Additionally, we provide a short overview of the most cited JSE articles in each five-year period.

Table 2 shows the five most cited JSE articles in Google Scholar as of February 10, 2020, including

the year of publication and the main topic category. Highly cited articles contribute to

consolidating the impact of the journals. The impact factor of the JSE in the Journal Citation

Reports (JCR) increased from 0.628 in 2009 to 1.615 in 2019.[6] The latest figure is the highest

value ever and places JSE in the second quartile in economics (154 out of 371 journals).

[Table 2 near here]

Gathering information on the type of articles and journals that use JSE articles to build their

contribution is important for creating strategic partnerships and advancing knowledge. In

economics, the journals citing JSE articles more frequently are Managerial and Decision

Economics, Applied Economics, Contemporary Economic Policy, and Economic Inquiry. In these

journals, JSE citations are often used to test economic theories in the labor market, e.g.,

collective bargaining, monopsony exploitation, pricing, and other issues related to the economic

impact of events, including sports participation, demand, and managerial efficiency.

In adjacent fields such as Hospitality, Leisure, Sport, and Tourism, we find multiple citations in

the International Journal of Sport Finance and European Sport Management Quarterly. In both

journals, topics of interest are very similar, and we find many synergies with JSE researchers. We

trace JSE citations in journals with diverse aims and scope in management and business, e.g.,

Sport, Business and Management, Journal of Sport Management, and Sport Marketing

Quarterly. The works citing JSE contributions employ different methods to approach common

topics such as corporate governance, ownership types, financial fair play, ethics, leadership,

externalities, the betting market, consumption, and other behavioral issues.

Sport setting and data

Any discussion of research content in a discipline should identify its most frequently analyzed branches. If focusing on the most analyzed sport disciplines over the 20 years, we notice the large influence of soccer and the Big Four sports in the United States, i.e., baseball, football, basketball, and ice hockey. Figure 3 displays the weight and evolution of sports disciplines among JSE publications.

[Figure 3 near here]

While baseball is the most analyzed sport in JSE articles (24%), it shows a negative representation trend. Conversely, the percentage of articles analyzing soccer (21%) and American football (19%) has increased over time, and both sports are the most analyzed in the last 5-year period. Basketball (13%) is the fourth most analyzed sport in the sample and shows a relatively consistent trend, which contrasts with the negative representation trend of ice hockey (7%). Additionally, golf (4%), auto racing (2%), and tennis (2%) are other noticeable disciplines in the sample.

While Figure 3 shows that interest in other minority sports has increased over time, their representation is limited. The "Others" category includes sports representing one percent (or less) of the total JSE articles, e.g., athletics, cricket, cycling, horse racing, Australian football, boxing, figure skating, triathlon, or e-sports. The shift in preferences and interest in both minority and main sports that we observe in the sample may hide a more complex relationship regarding the type of collaboration and authors' affiliations. We pay more attention to these factors when analyzing the demographics of authorship.

Beyond sport disciplines, the number of articles that focus on the different segments is also relevant to the journal's evolution and the field. By segment, we mean the different settings within the sports field, i.e., professional, intercollegiate, amateur, men´s, and women´s leagues. Professional sports leagues represent the preferred setting, with a total of 471 articles (71%). The evolution shows a drop during the last five-year period when the number of articles that

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focus on professional sports is 136 (63%). In contrast, the number of articles that focus on college sports steadily increased during the analyzed period, from 5 publications (4%) in 2000-04 to 34 publications (16%) in 2015-19. In total, we count 77 articles with a focus on college sports (12%). The distinction between men's and women's sports also deserves special attention.

Women's sports are increasingly attracting the attention of sports fans worldwide. For example, Nielsen Sports (2018) shows that 84% of general sports fans are interested in women's sports. However, the number of contributions to the JSE that target this segment is rather small. In total, the journal includes 48 articles, which represent 7.2% of the pool of publications. The percentage of articles that focus on women´s sports has modestly increased from 6% (2000-2004) to 8.8% (2015-2019). However, the period 2005-2009 registered the lowest value (4.8%). The lack of data available for some sports and countries may be a barrier for researchers to perform analyses on women's sports. We encourage joint work of leagues, federations, media channels, and academics to provide this segment with more data and attention.

Number of authors in a manuscript

The analysis of joint work through the number of authors in a manuscript is an appropriate preamble to the subsection on the demographics of authorship. In our pool of JSE published articles, the average number of authors was virtually two. However, we note a tendency toward publications with more collaborative work. While the percentage of solo articles decreased from 42.3% (2000-09) to 29.0% (2010-19), the percentage of articles with at least three authors increased from 18.1% in the first decade to 30.4% in the second decade. The number of authors that sign a manuscript offers naive insights into the type of collaboration and the outreach of the field of sports economics. The following subsection tackles these issues in more detail.

The Authorship

Research has already shown interest in the demographics of authorship and coauthorship in top economic journals (Hamermesh, 2013). In this paper, we focus on JSE contributors and compare features and trends with related journals. Specifically, we examine the age, gender, academic experience, and country of affiliation of authors, as well as international collaborations and renowned figures.

Demographics

The age and gender distributions of authors of JSE articles provide insights concerning the maturity and diversity of the field and the journal. We do not count just the number of authors but their weighted contribution to the journal. Thus, one author appearing in two different articles counts as two in the respective group.

We observe that the contribution of women almost doubled from 5.4% in 2000-04 to 10.6% in 2015-19. However, the overall representation is limited; 116 appearances (9% of the pool). The representation and evolution of women authors in JSE articles are in line with top economic journals. Hamermesh (2013) shows that the percentage of top economic articles with women authors increased from 4.7% in 1963 to 12.6% in 2011. This is slow progress, as the percentage was already 9.3% by 1993.

Regarding the age of authors,[7] we find a polarized evolution. While the percentage of articles by authors below 35 and above 61 increased during the analyzed period, the percentage of articles with authors aged between 36 and 60 decreased. The evolution of authors' age is quite different in top economic journals, where younger authors have lost importance in the distribution (Hamermesh, 2013). Taking 2011 as a reference, the closest value in time, from Hamermesh (2013), the distribution of authors' ages is 33.0% (< 35), 48.1% (36-50), 13.0% (51-60) and 5.9% (> 61). Table 3 shows the results for the JSE.

[Table 3 near here]

Unlike top economic journals, we find that the role of young academics has been increasing over the last 20 years. To further analyze the academic maturity of contributions, we include the academic age of the contributing authors. To do so, we calculate the time between Ph.D. graduation and publication in the JSE for each author/article. We observe how the average academic age has been reduced during the analyzed period, from 14.7 years after Ph.D. graduation in 2000-09 to 13.5 years after Ph.D. graduation in 2010-19. Figure A2 in the appendix shows more details of this evolution.

Any cross-country analysis on the demographics of authorship is difficult. We assume a neglect of important racial features related to ethnicity, nationality, and identity across countries to create the following groups: white, black, Asian, and authors from other minorities. White authors represent 90.8% of the total authorship. Asian authors are the most represented minority, with 67 appearances (5.4%), and display a positive tendency over time, from 2.7% in the first decade to 7.0% in the second decade. Black authors with 14 appearances (1.1%) and other minorities with 34 appearances (2.7%) lag far behind, and the evolution of articles' composition does not show any meaningful trend for these two groups.

Country of affiliation and type of collaboration

The geographical representation of institutions is an alternative measure to analyze diversity in the journal. Map 1 displays the percentage of authors who have contributed to the JSE from institutions in different countries and yields a significant imbalance. While the journal is missing the contribution of authors from several countries, especially in Africa, Central America, and the Middle East, four countries concentrate more than 75% of the contributions: the United States (60%), followed far behind by Germany (7%), the United Kingdom (5%), and Spain (4%). Other countries in the Top 11 are Canada, Belgium, Switzerland, South Korea, Australia, Italy, and France.

[Map 1 near here]

The representation of authors from the United States has fallen in later years, from 76% in 2000-04 to 50% in 2015-19, and the percentage of German authors has increased from 1% in 2000-04 to 14% in 2015-19. The representation of institutions from countries that do not belong to the Top 11 doubles during the analyzed period, which is a fruitful tendency for diversity in the JSE.[8] These changes in the representation of countries may also be related to content changes in the journal that we described above, for example, the decline of some North American sports, i.e., baseball and ice hockey.

The extent to which authors collaborate with peers from different countries is also relevant to the journal. Table 4 shows the frequency and evolution of domestic and international collaboration, i.e., at least two authors from institutions from different countries. Most articles published in the JSE do not include international collaborations (83.3%). However, we observe that the number of articles with authors from different countries increased during the analyzed period from 5.8% in 2000-04 to 19.5% in 2015-19. The growing number of international conferences and events in sports economics has probably contributed to this phenomenon.

[Table 4 near here]

The number of sports economics conferences was limited in the early 2000s. Today, the conferences organized by the International Association of Sports Economists (IASE), the North American Association of Sports Economists (NAASE), and the European Association of Sports Economics (ESEA), as well as the Gijón Conferences on Sports Economics, allow sports economists to meet several times a year. Additionally, international academic visits may have also contributed to enhancing international research collaborations. We expect this trend to continue in the future, as most universities offer mobility programs and promote international junior and senior academic staff.

Hall of Fame

Production capacity and impact are measures that, to some extent, define the contribution of renowned achievers in the JSE. This section intends to find objective criteria to provide a picture of the most fruitful men and women authors in the JSE, without, of course, devaluing the important work of all JSE contributors.

Table 5 shows the list of the Top 20 publishing male authors with the highest number of publications in terms of production capacity.[9] Authors with the same number of publications are ordered by the number of Google Scholar citations. Based on production capacity, we create two teams that represent the USA and the rest of the world for a hypothetical friendly game and select the starting 5 players. For the USA team: Brad Humphreys, Rodney Fort, Anthony Krautmann, David Berri, and Craig Depken II. For the rest of the world: Young Hoon Lee, Rob Simmons, Stefan Késenne, Tim Pawlowski, and Stefan Szymanski.

[Table 5 near here]

Additionally, Table 6 shows the list of the Top 20 publishing female authors with the highest number of publications. We can also create two teams to play a hypothetical friendly game and select a starting 5 players based on this metric. For the USA team: Eva Marikova Leeds, Janice Fanning Madden, Dawn Thilmany, Jane E. Ruseski, and Linda M. Woodland. For the rest of the world: Fiona Carmichael, Lucía Isabel García-Cebrián, Hannah Geyer, Pamela Wicker, and Sandra Schneemann.

[Table 6 near here]

To measure authors' total impact, we count the number of JSE article citations in Google Scholar and select the 20 most cited authors. Table 7 shows the Top 20 impactful male authors. Based on this metric of impact, we can substitute some of the starting 5 players. For the USA team: David Berri, Brad Humphreys, Rodney Fort, Andrew Zimbalist, and Martin Schmidt. For the rest of the world: Rob Simmons, Stefan Szymanski, Stefan Késenne, Jaume García, and Bernd Frick.

[Table 7 near here]

Similarly, Table 8 shows the Top 20 impactful female authors, which brings some changes to the starting 5. For the USA team: Eva Marikova Leeds, Janice Fanning Madden, Judith Grant Long, Jennifer Platania, and Kelebogile Tlhokwane. For the rest of the world: Fiona Carmichael, Lucía Isabel García-Cebrián, Stephanie Leach, Maria De Paola, and Isabelle Brocas. Additionally, we highlight the contributions of female authors from minority groups, e.g., Kelebogile Tlhokwane and Xia Fen, which are essential for the groups' visibility and geographical expansion of the journal.

[Table 8 near here]

The Hall of the Fame section could be changed in several ways. To refine the measure of the work's impact, the analysis could use the average number of JSE article citations and add specifications that control for implicit time bias in citations (older papers receive more citations).[10] Additionally, the Hall of Fame should recognize the (indirect) contribution of several authors who have helped advance knowledge in sports economics and that our JSE metrics fail to identify both in the core of the paper or the appendix. Roger Noll, James Quirk, and David Forrest are unquestionable figures in (sports) economics and have contributed to the development of the JSE in several ways.

Conclusions

This paper analyzes the work published in the leading sports economics journal since February 2000. The analysis includes two decades of scientific work and focuses on the characteristics of the manuscripts and their content, as well as on the demographics of authorship and collaboration. We offer plausible explanations for some of the observed relationships, but we do not intend to identify the underlying causes. We aim to provide evidence on the directions of the journal's publication and generate a discussion that serves to improve the field's outreach.

Specifically, we notice a tendency of JSE manuscripts for empirical research, which primarily focuses on issues related to behavior, CB and demand, and performance by using men's professional data. However, we trace a growing interest in nonprofessional sports settings and other minor sports disciplines. The analysis of authorship reveals a sizeable core of young authors in recent years and more diversity regarding the institutions' country.

Finally, we show the figures of the impact of the JSE in the 2019 Journal Citation Reports. The new placement of the journal in the second quartile is an important incentive for authors to choose the JSE as an appropriate outlet for leading research in the field. The intersection of sports economics with other fields is a great opportunity to further increase the impact of JSE. In this paper, we acknowledge the important steps taken by the journal regarding the number and origin of contributions and citations. Future efforts should be directed at developing a larger critical mass with a greater number of authors from less represented continents, i.e., Africa, Asia, and Oceania.

Notes

[1] With different purposes, Jewell (2006), Noll (2006), Sloane (2006), and Sánchez-Santos and Castellanos-García (2011) also provided insights about the development and directions of sports economics research.

[2] The database of articles supporting the findings of this study is available by request.

[3] For some authors, it was impossible to trace gender and racial attributes, which has a minor impact on the analysis of authorship.

[4] The number of articles categorized into two different topic categories is 149 out of 663 articles.

[5] CB and Demand is the most popular research topic in JSE. Many articles have analyzed these issues across sports and countries over the last twenty years. This period includes a shift in the means of consuming sports and an improvement in the access to information. Both factors have probably contributed to an increase in the number of articles that focus on TV ratings and demand in the JSE. Figure A1 in the appendix shows how the percentage of articles using TV data in this topic category shifts from 0% (2000-04 period) to 30% (2015-19).

[6] The Impact Factor without journal self-citations has increased from 0.449 in 2009 to 1.385 in 2019.

[7] Due to untraceable information, we had to infer the age of some of the authors. We did so by either subtracting 21 years from the bachelor graduation date or subtracting 30 years from the doctoral graduation date. The sample finally includes the age or inferred age for more than 95% of the authors.

[8] The Herfindahl-Hirschman Index values are 0.12 for the period 2000-2004, 0.09 for the periods 2005-2009 and 2010-2014, and 0.06 for the period 2015-2019. Therefore, we trace higher levels of competitive balance levels among countries in the JSE over time.

[9] Please note that the References section does not show the articles implicitly included in Tables 5, 6, 7 and 8.

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[10] Using the average number of JSE article citations, for those male authors with more than 3 articles in the JSE, we could create alternative teams with starting 5 players. USA team: Andrew Zimbalist, Martin Schmidt, Bruce Johnson, John Siegfried, and Dennis Thomas. The rest of the world: Plácido Rodríguez, Wladimir Andreff, Jaume García, Robert Simmons, and Stefan Szymanski. Calculating the average number of JSE article citations for women authors does not significantly impact the teams, but brings some new names to the starting 5 such as Erin Leanne Spenner, Xia Feng, and Sandra Kowalewski. Tables A1 and A2 in the appendix show these results. Further analyses to account for the time bias can be requested from the authors but the results only show minor changes.

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Figures

Figure 1. Histogram and evolution of the number of pages in JSE articles
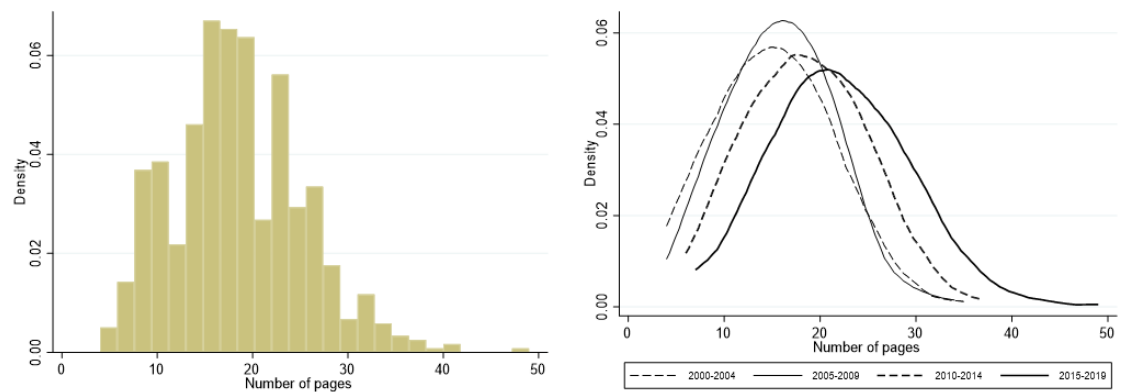
Figure 2. Evolution of the topics analyzed in JSE contributions
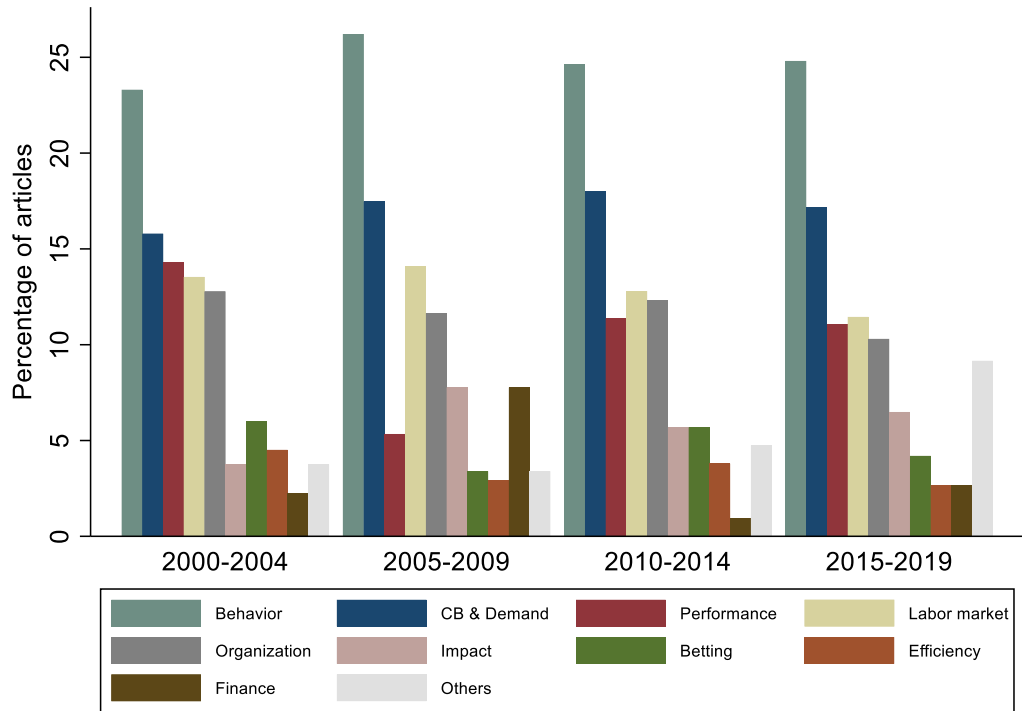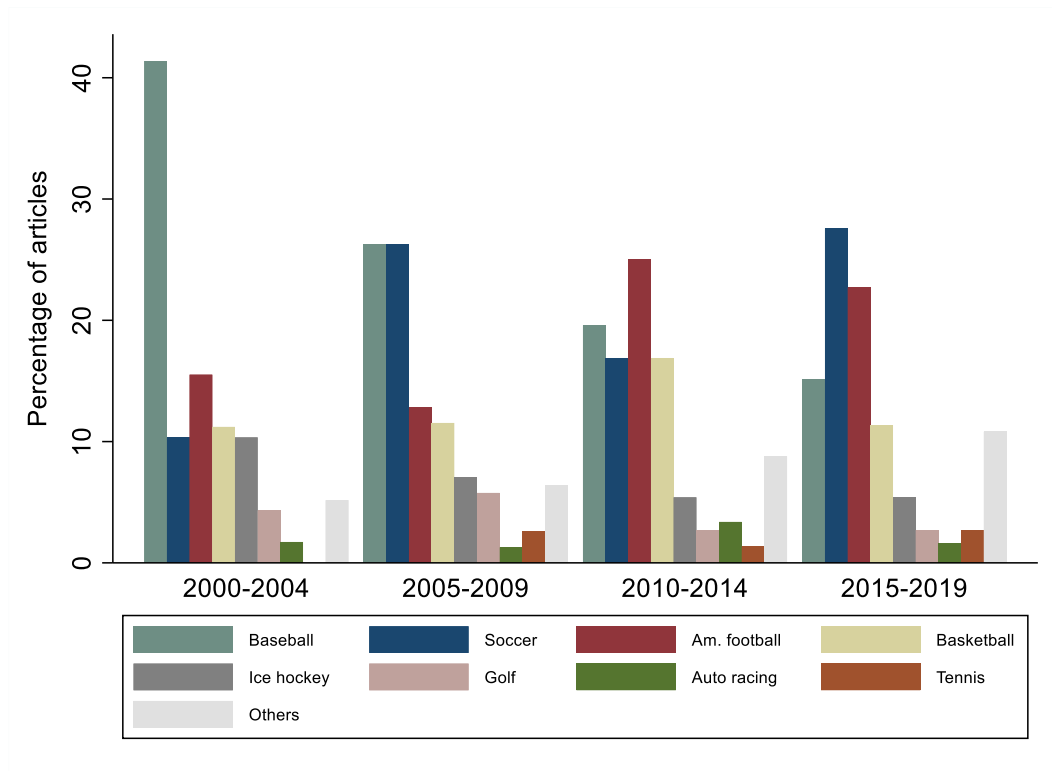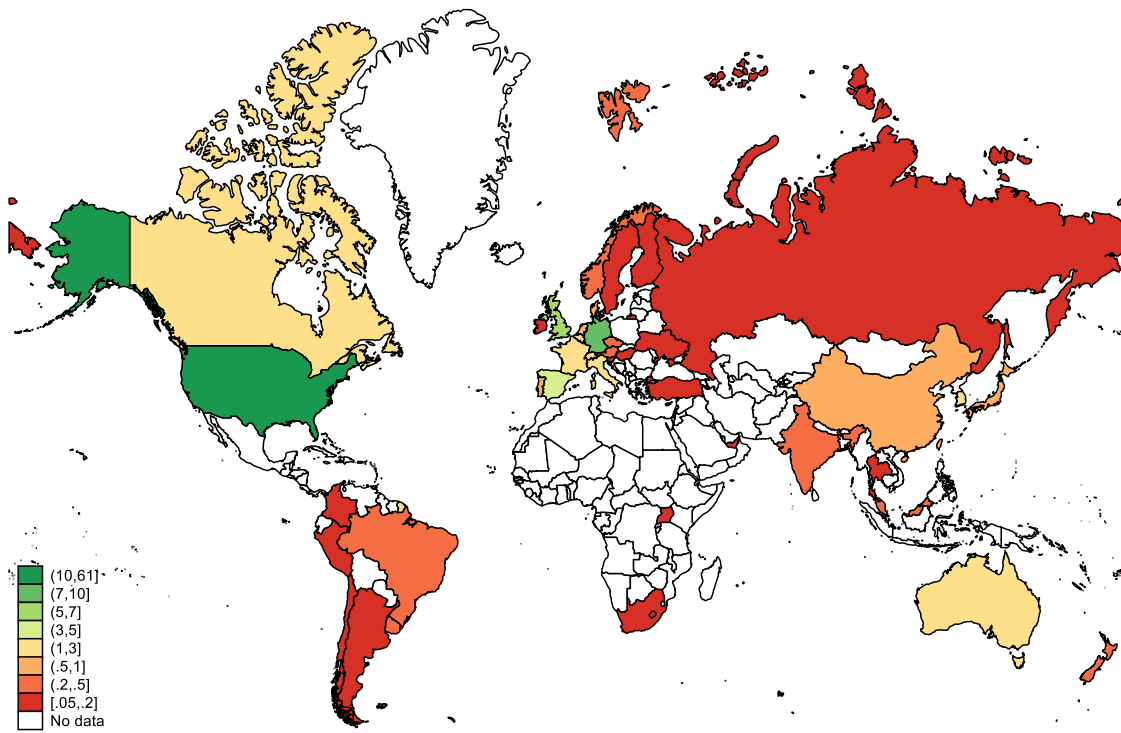
Figure 3. Evolution of sport disciplines analyzed in JSE contributions

Map 1. Geographical concentration of contributions to the JSE

Tables

Table 1. Average number of citations in Google Scholar by topic

Topic	Average citations	Articles
Behavior	27.4	204
CB & Demand	47.4	135
Performance	26.5	93
Labor market	27.4	88
Organization	33.8	66
Impact	49.1	49
Betting	17.4	37
Efficiency	51.2	29
Finance	59.1	28
Others	19.4	47

Table 2. Top 5 most cited JSE articles in each five-year period

Article	Topic	Scholar citations	Year	Period
Humphreys (2002)	CB & Demand	382	2002	2000-2004
García & Rodríguez (2002)	CB & Demand	372	2002	2000-2004
Schmidt & Berri (2001)	CB & Demand	326	2001	2000-2004
Késenne (2000)	CB & Demand	323	2000	2000-2004
Lucifora & Simmons (2003)	Labor market	294	2003	2000-2004
Ascari & Gagnepain (2006)	Finance	179	2006	2005-2009
Lago, Simmons, & Szymanski (2006)	Finance	172	2006	2005-2009
Forrest & Simmons (2006)	CB & Demand	169	2006	2005-2009
Baroncelli & Lago (2006)	Finance	166	2006	2005-2009
Walton, Longo, & Dawson (2008)	Impact	162	2008	2005-2009
Pawlowski, Breuer, & Hovemann (2010)	Behavior	136	2010	2010-2014
De Paola & Scoppa (2012)	Behavior	111	2012	2010-2014
Bryson, Frick, & Simmons (2013)	Labor market	93	2013	2010-2014
Lemke, Leonard, & Tlhokwane (2010)	CB & Demand	88	2010	2010-2014
Pestana Barros, Assaf, & Sá-Earp (2010)	Efficiency	86	2010	2010-2014
Feng & Humphreys (2018)	Impact	80	2018	2015-2019
Madden (2015)	Behavior	67	2015	2015-2019
Sass (2016)	Behavior	56	2016	2015-2019
Coates, Frick, & Jewell (2016)	Performance	51	2016	2015-2019
Cox (2018)	CB & Demand	46	2018	2015-2019

Note: The articles are ordered by period and number of Google Scholar citations.

Table 3. Age and gender distributions of authors of JSE articles (2000-19)

Period	Age				Gender ♀
	< 35	36-50	51-60	> 61	
2000-04	39 (22.3%)	82 (46.9%)	45 (25.7%)	9 (5.1%)	10 (5.4%)
2005-09	90 (29.4%)	137 (44.8%)	68 (22.2%)	11 (3.6%)	22 (7.0%)
2010-14	114 (35.4%)	140 (43.5%)	48 (14.9%)	20 (6.2%)	36 (10.7%)
2015-19	159 (36.1%)	167 (38.0%)	75 (17.0%)	39 (8.9%)	48 (10.6%)
Total	402 (32.3%)	526 (42.3%)	236 (19.0%)	79 (6.4%)	116 (8.99%)

Table 4. Evolution of the number of articles with international collaboration

	2000-04	2005-09	2010-14	2015-19	Total
National collaboration	49	92	98	124	363
	(94.23)	(83.64)	(83.76)	(80.52)	(83.83)
International collaboration	3	18	19	30	70
	(5.77)	(16.36)	(16.24)	(19.48)	(16.20)
Total	52	110	117	154	433

Notes: Pearson $\chi^2(3) = 5.3993$ p-value = 0.145.

Table 5. Top 20 publishing male authors in the JSE

Author	Number of articles
Brad R. Humphreys	15
Rodney Fort	15
Anthony C. Krautmann	13
David J. Berri	11
Young Hoon Lee	10
Rob Simmons	9
Craig A. Depken II	9
Rodney J. Paul	9
Peter A. Groothuis	8
Andrew P. Weinbach	8
Stefan Késenne	7
Dennis Coates	7
Tim Pawlowski	7
Stefan Szymanski	6
Bernd Frick	6
Carlos Pestana Barros	6
Scott Tainsky	6
John Charles Bradbury	6
E. Woodrow Eckard	6
Duane W. Rockerbie	6

Note: Authors with the same number of publications are ordered by the number of Google Scholar citations.

Table 6. Top 20 publishing female authors in the JSE

Author	Number of articles
Fiona Carmichael	3
Eva Marikova Leeds	2
Lucía Isabel García-Cebrián	2
Janice Fanning Madden	2
Hannah Geyer	2
Dawn Thilmany	2
Jane E. Ruseski	2
Linda M. Woodland	2
Pamela Wicker	2
Sandra Schneemann	2
Isabel Abinzano	2
Jodi E. Pelkowski	2
Stephanie Leach	1
Maria De Paola	1
Judith Grant Long	1
Jennifer Platania	1
Kelebogile Tlhokwane	1
Isabelle Brocas	1
Erin Leanne Spenner	1
Xia Feng	1

Note: Authors with the same number of publications are ordered by the number of Google Scholar citations.

Table 7. Top 20 impactful male authors based on the number of JSE-article Google Scholar citations

Author	Citations	Number of articles
Rob Simmons	1,045	9
David J. Berri	958	11
Brad R. Humphreys	908	15
Rodney Fort	717	15
Andrew Zimbalist	709	5
Martin B. Schmidt	658	5
Stefan Szymanski	655	6
Stefan Késenne	555	7
Jaume García	522	4
Anthony C. Krautmann	460	13
Bernd Frick	450	6
Plácido Rodríguez	436	3
Wladimir Andreff	433	3
Peter A. Groothuis	425	8
Carlos Pestana Barros	397	6
Dennis Coates	393	7
John C. Whitehead	342	4
Victor A. Matheson	341	4
Umberto Lago	338	2
Bruce K. Johnson	334	3

Table 8. Top 20 impactful female authors based on the number of JSE article Google Scholar citations

Author	Citations	Number of articles
Fiona Carmichael	300	3
Eva Marikova Leeds	135	2
Lucía Isabel García-Cebrián	126	2
Stephanie Leach	113	1
Maria De Paola	111	1
Janice Fanning Madden	102	2
Judith Grant Long	99	1
Jennifer Platania	97	1
Kelebogile Tlhokwane	88	1
Isabelle Brocas	87	1
Erin Leanne Spenner	81	1
Xia Feng	80	1
Sandra Kowalewski	74	1
Margaret Oppenheimer	71	1
Regina Madalozzo	70	1
Hannah Geyer	67	2
María José Suárez	66	1
Janet Kiholm Smith	59	1
Lesley Fong	55	1
Nola Agha	54	1

Appendix

Figure A1. Evolution of the subtopics analyzed in articles on CB & Demand in the JSE
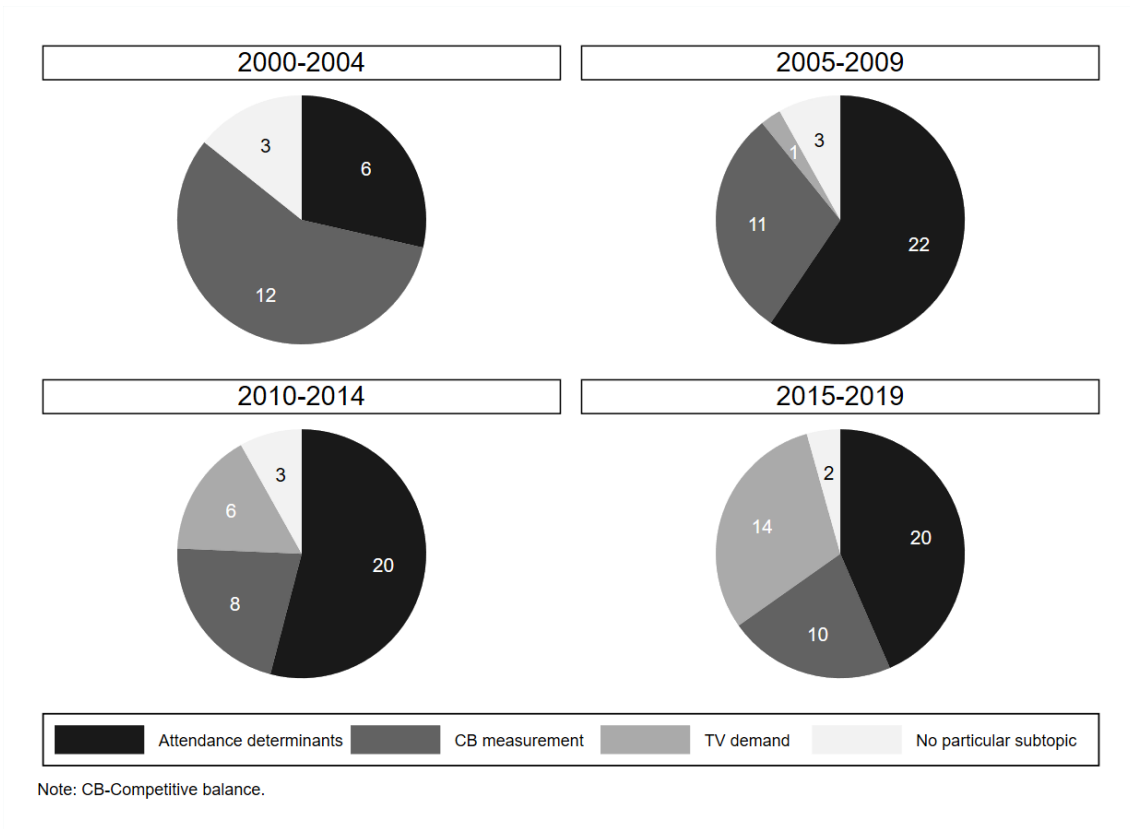

Note: CB-Competitive balance.

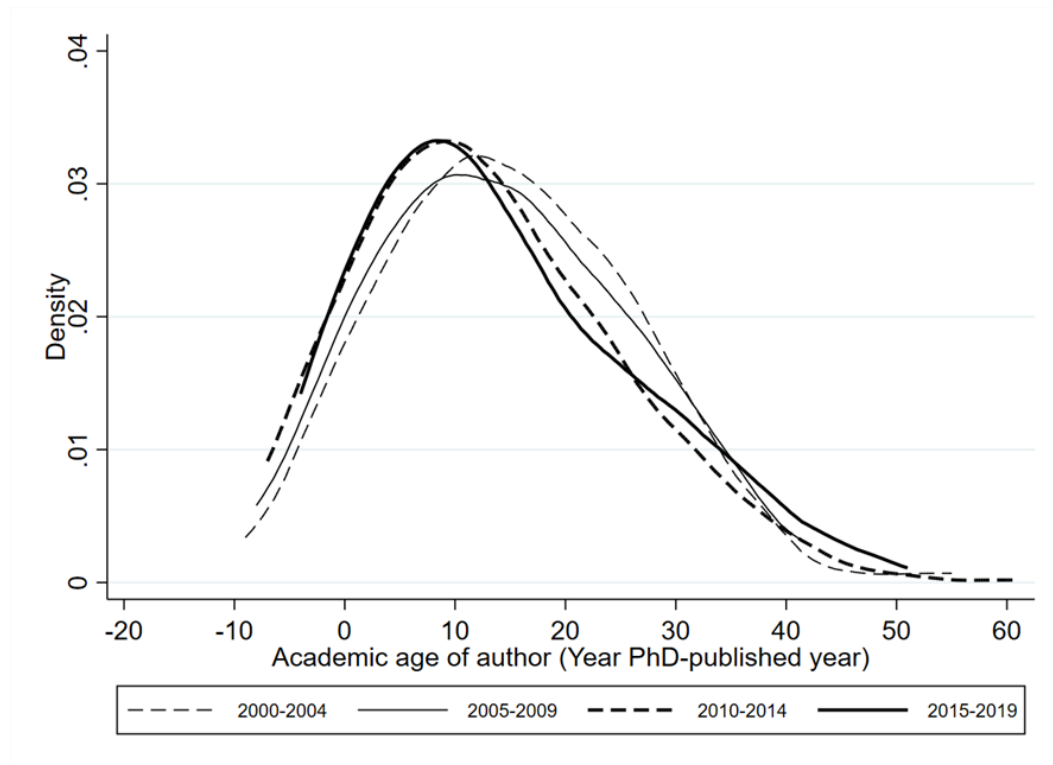Figure A2. Evolution of the academic age of publishing authors

Table A1. Top 20 publishing male authors based on Google Scholar average citations (> 2 articles)

Author	Number of articles	Citations	Citations/article
Plácido Rodríguez	3	436	145.3
Wladimir Andreff	3	433	144.3
Andrew Zimbalist	5	709	141.8
Martin B. Schmidt	5	658	131.6
Jaume García	4	522	130.5
Rob Simmons	9	1,045	116.1
Bruce K. Johnson	3	334	111.3
Stefan Szymanski	6	655	109.2
John J. Siegfried	3	304	101.3
Dennis Thomas	3	300	100.0
Fiona Carmichael	3	300	100.0
Egon Franck	3	267	89.0
David J. Berri	11	958	87.1
John C. Whitehead	4	342	85.5
Victor A. Matheson	4	341	85.3
Stefan Késenne	7	555	79.3
Donald L. Alexander	3	228	76.0
Bernd Frick	6	450	75.0
Kjetil K. Haugen	3	224	74.7
Carlos Pestana Barros	6	397	66.2

Table A2. Top 20 publishing female authors based on Google Scholar average citations

Author	Number of articles	Citations	Citations/article
Stephanie Leach	1	113	113
Maria De Paola	1	111	111
Fiona Carmichael	3	300	100
Judith Grant Long	1	99	99
Jennifer Platania	1	97	97
Kelebogile Tlhokwane	1	88	88
Isabelle Brocas	1	87	87
Erin Leanne Spenner	1	81	81
Xia Feng	1	80	80
Sandra Kowalewski	1	74	74
Margaret Oppenheimer	1	71	71
Regina Madalozzo	1	70	70
Eva Marikova Leeds	2	135	67.5
María José Suárez	1	66	66
Lucía Isabel García-Cebrián	2	126	63
Janet Kiholm Smith	1	59	59
Lesley Fong	1	55	55
Nola Agha	1	54	54
Janice Fanning Madden	2	102	51
Irina Pistolet	1	51	51