

# *Agricultural Economics* at 50: Scholarship of the global agricultural economics community

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## Abstract

Last year, *Agricultural Economics* reached its 50th volume, after 34 years. In this article, we reflect on the evolution of the journal during this period. We describe the evolving editorial structure of the journal and the composition of the editorial board from only editorial advisory board to both associate editors and editorial advisory board. We also employ bibliometric analysis to showcase the evolution of the average number of pages per article, number of articles per volume, authorship patterns that reflect the steady rise in collaborative research, article content, research coverage, as well as the journal's impact as chronicled by its citations over the period under consideration. We conclude by briefly defining some goals and providing perspectives for the future of the journal in the face of the evolving publishing landscape. We found that although articles published in the journal remain predominantly on agricultural topics, significant changes in topical coverage has occurred in the last two decades. While 20 years ago, only very few articles were classified under environmental issues and mathematical and quantitative methods, the share of articles published in these areas increased by 19% and 45%, respectively, over this time period.

## KEYWORDS

agricultural economics, citation impacts, co-authorship, editorial structure

## JEL CLASSIFICATION

B20, O10, Q01

## 1 | INTRODUCTION

This year, *Agricultural Economics* reached its 50th volume. The journal was launched in 1986 by the International Association of Agricultural Economists (IAAE) to serve as its flagship publication. In its inaugural issue, the first editor-in-chief, Douglas D. Hedley, characterized the journal as “designed to serve the breadth of the needs faced by the members of the International Association of Agricultural

Economists and their professional colleagues.” He also outlined the broader range of interests that the IAAE had identified to serve the journal's audience. Three general areas for coverage were outlined in the journal's policy statement to help define its scope. First, the journal was to cover disciplinary topics in economics applied to problems in the agricultural and food sectors. Second, the journal was to cover multi-disciplinary or subject matter topics that combine relevant evidence and information about the food and

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agricultural sector. Third, the journal was expected to publish articles dealing with a broad range of problem-solving approaches and techniques in a range of fields, from farm management, extension, marketing, and market development to decision-making in farming, government, national or international organizations, private enterprise, and research institutions. The above outlined policy statement was crafted by Glenn Johnson, Jim Hildreth and Theodor Dams in the Executive Committee and was to be included on the inside cover of every issue.

The inaugural issue contained five articles that employed rigorous empirical analyses on various policy relevant topics covering different countries. In seeking articles for the journal, Editor Hedley emphasized the significance of providing the readership with a balance across all major regions of the world and across the three general areas of interest mentioned above. He further indicated: "the diversity of concerns and professional interests of IAAE members, as well as the differences in methodology, style and approach to research around the world represent a major challenge for the journal to record and report." He concluded that the journal was intended as another pillar to support the shared communication that takes place between members at the triennial meetings, on a more continuous basis than the meetings can achieve.

At this stage, it is proper to acknowledge the contribution of members of the IAAE who helped in setting up the journal. First, Yujiro Hayami and John Dillon helped a very great deal in trying to assure world-wide access to the journal. They worked with Douglas Hedley to assure that different styles and research methodologies could have access to the journal. In particular, they wanted to ensure that the research methodology that was driven by Hayami, and was quite common in much of Asia, needed to be seen and published.

The journal's accumulated archive of more than 1,800 high-quality research articles covering various subject areas in the field of agricultural economics is an accomplishment made possible by past editors and editorial board members, and article authors with support from the association's board. In the 25th volume of the journal, in which all the previous editors were highlighted with their biographies, then Editor-in-Chief Stephan von Cramon-Taubadel rightly pointed out that "anniversaries are an opportunity to look both back and forward, to review what has been attained in the past and to define goals for the future." In his review, he asked "what will the Editor-in-Chief be looking back upon in our 50<sup>th</sup> anniversary issue?" Almost all the potentially dramatic technical innovations he identified are now in use at the journal. Electronic manuscript subscription and processing, involving the review process and checking proofs, as well as electronic publication and password-enabled subscriber access to an online journal site are now fully in place.

These changes present an opportunity to review what has been achieved in the past, and to outline some implications

of three decades of evolution of the journal for the future. In particular, the adoption of web-based manuscript management software in 2007 helped to reduce the need for secretariat support, as well as increase manuscript turnaround through fast communications between editors, authors, and reviewers. To ensure a broader reflection on the evolution of the journal, we engaged with some of the past editors to solicit suggestions and comments on the contents and structure of this article. Specifically, Douglas Hedley, the inaugurating editor, Stephan von Cramon-Taubadel, and Gerald Shively provided valuable information on significant measures that were implemented at various stages in the evolution of the journal, as well as the structure of this article.

In particular, we describe the evolving editorial structure of the journal, as it moved from one editor-in-chief to two co-editors, and the composition of the editorial board from only editorial advisory board to both associate editors and editorial advisory board. We also employ bibliometric analysis to showcase the evolution of the average number of pages per article, number of articles per volume, authorship patterns, article content, research coverage, as well as the journal's impact as chronicled by its citations over the period under consideration. To the extent that the journal continues its role as the flagship publication of the IAAE and one of the top outlets in the profession, we conclude by briefly defining some goals for the future of the journal.

## 2 | EVOLVING EDITORIAL STRUCTURE OF THE JOURNAL

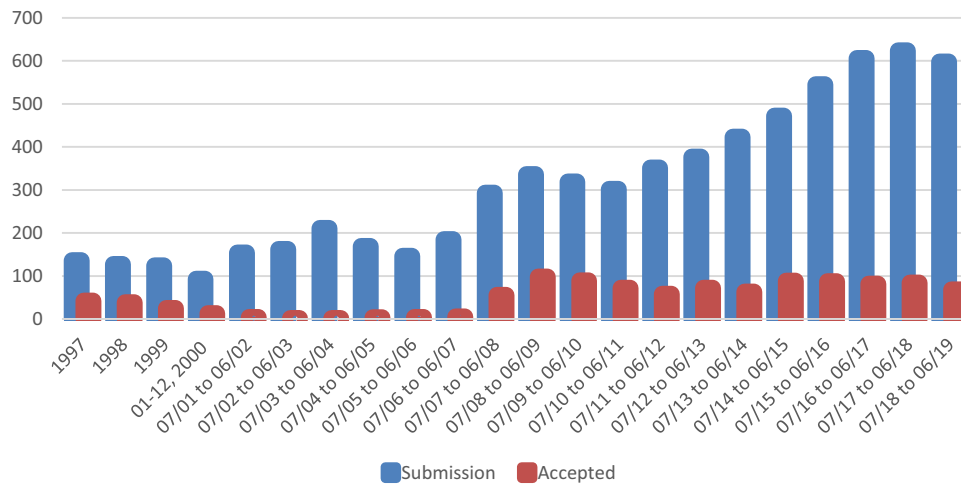
The editorial structure of the journal has evolved over the period under consideration, changing from single editor-in-chief to two co-editors. At its inception in 1986, only one editor-in-chief, Douglas Hedley, was appointed, and he handled volumes 1–7. The next three editors that followed were also single editors. We provide a detailed timeline of the editors and co-editors with their respective tenure of service and affiliations in Table 1. Bruce Greenshields handled volumes 8–11, Stanley Johnson handled volumes 12–23, and Stephan von Cramon-Taubadel handled volumes 24–37. Volume 38 saw the shift to co-editors with staggered terms of office, with the pairings of William Masters (volumes 38–42) and Gerald Shively (volumes 38–46), Gerald Shively and Awudu Abdulai (volume 44–46 onward), and Awudu Abdulai and Ashok Mishra (volume 47 onward) taking responsibility, with some caveats.

Gerald Shively and William Masters handled volumes 38–42 together, before William Masters relocated from Purdue to Tufts in Boston, and decided to step down from the journal's editorship position. Gerald Shively then continued as editor-in-chief, and handled volumes 43 and 44 alone, serving a total of 9 years as editor. Awudu Abdulai joined Gerald Shively as

**TABLE 1** *Agricultural Economics* editor timeline

Douglas Hedley	Ottawa, Canada	Volumes 1–7
Bruce Greenshields	Economic Research Institute, United States Department of Agriculture, United States	Volumes 8–11
Staley R. Johnson	Iowa State University, United States	Volumes 12–23
Stephan von Cramon-Taubadel	University of Göttingen, Germany	Volumes 24–37
William Masters	Purdue University, United States	Volumes 38–42
Gerald Shively	Purdue University, United States	Volumes 38–46
Awudu Abdulai	University of Kiel, Germany	Volumes 44–50
Ashok Mishra	Arizona State University, United States	Volumes 47–50

Submissions, 1997- June 2019



**FIGURE 1** Submissions and acceptance of manuscripts compiled from the annual Editor Reports [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

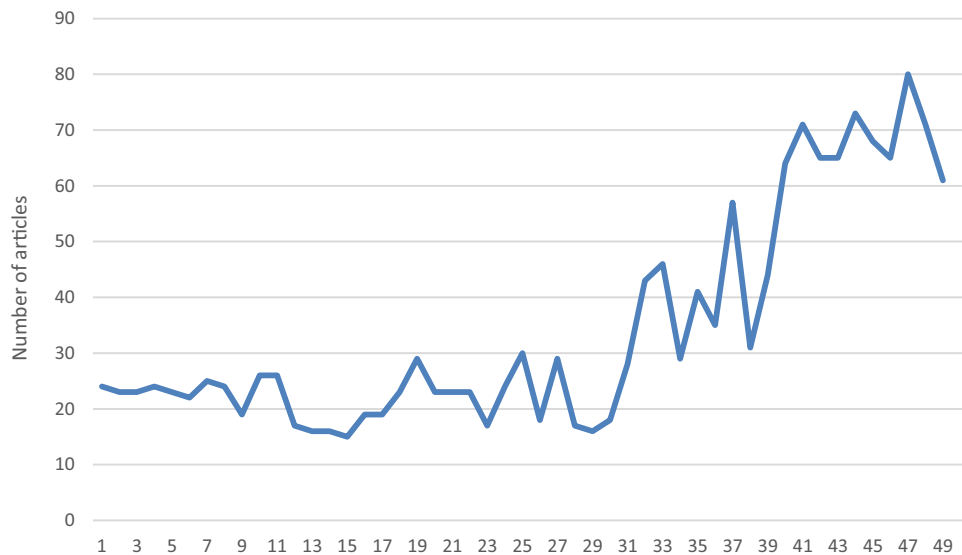
co-editor in July 2012, with volume 43, although the articles published in this volume and in volume 44 were solely handled by Gerald Shively. When Gerald Shively’s tenure ended in June 2015, Ashok Mishra joined Awudu as co-editor of the journal starting in July 2015.

The journal did not have a systematic labeling of the individual volumes per year until 2009. For example, volume 1 spanned the years 1986–1988 with four issues, while volume 13 contained articles for 1995/1996. On average, there were two volumes, with three to four issues per year between 1986 and 2008. The journal shifted to one volume with six issues per year, starting with volume 40 in 2009.

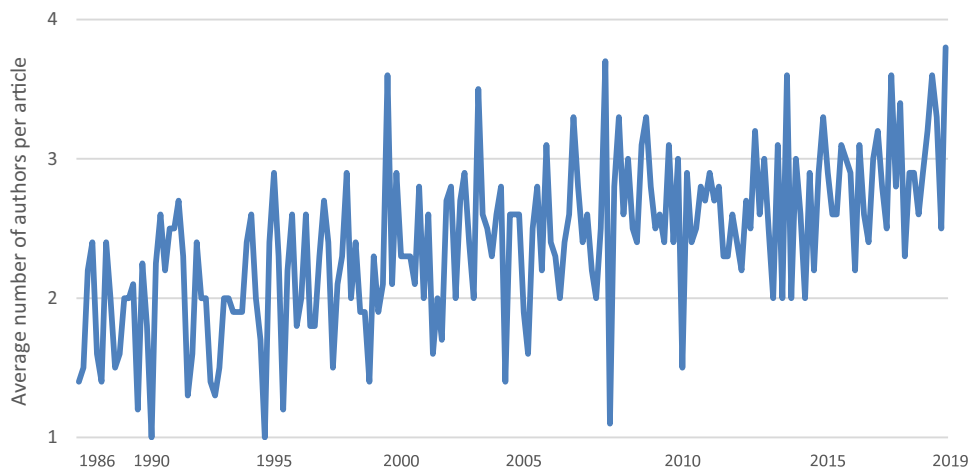
With regard to the editorial board, the journal initially established an editorial advisory board that consisted of 26 members to help the editor with editorial decisions on manuscripts. The editorial structure changed when Stanley Johnson took over the editorship in 1994, from the editor-in-chief and editorial advisory board to an editorial board that consisted of the editor-in-chief, five associate editors and twenty-eight editorial advisory board members. This editorial structure remained the same during the tenure of Stephan von Cramon-Taubadel (2000–2006). Gerald Shively and William

Masters changed the structure when they took over in 2007. Their approach was to recruit a small advisory board to look at the overall direction of the journal, and a larger set of associate editors to help with the individual manuscripts. The journal has maintained this structure until now. Generally, the members of the editorial advisory board are prominent leaders in the discipline, representing a wide range of fields and institutions, and are normally consulted by the editors on issues relating to special issues for the journal. The associate editors are distinguished colleagues, with specializations in particular regions and methods. They support the editors in choosing referees and making editorial decisions, as well as assisting in the process of selecting the best article award.

Christopher Delgado and Gerald Norton, who supported the editors with book reviews, occupied the position of book review editor for the journal over many years. When Gerald Shively and William Masters took over, they recognized that the world of book publishing had changed fundamentally, especially with the innovation of online reviews at places such as Amazon. Hence, they did not attempt to replace the book editors.



**FIGURE 2** Number of articles per volume [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



**FIGURE 3** Average number of authors per article [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

### 3 | SUBMISSIONS AND ACCEPTANCE RATES

In this section, we use information from the annual Editor Reports published on the IAAE website to show the evolution of the number of submitted and accepted manuscripts per year. Unfortunately, the data are not complete, because there are no reports on the earlier issues. Despite these incomplete data, Figure 1 clearly shows that there has been a huge increase in the number of submissions and a sharp decline in acceptance rates. In particular, the number of submissions has increased from around 140 in 1997 to an average of about 600 manuscripts per year in the last 3 years. The single largest source of articles continues to be the United States. Specifically, roughly half of all articles accepted in the most recent

years had a corresponding author with a US affiliation. However, large fractions of manuscripts also come from India, Australia, Germany, Iran and France, each of which accounts for about 4–10% of submissions. China's share of submitted manuscripts continues to rise and averaged about 10% in the last 5 years.

The acceptance rate, which averaged 14% between 2009 and 2011, is currently less than 10%. The journal continues to attract a vast number of articles from authors who aspire to publish in an internationally recognized journal, but whose work is not yet ready for publication in *Agricultural Economics*. The journal editors use desk-rejections to avoid unnecessary delays for authors and burdens on reviewers when manuscripts are clearly unsuitable for review or do not fit the journal.

**TABLE 2** Most highly cited articles in the journal by decades

Decade	#	Year	Authors	Title	Citations
1986–1995	1	1992	George E. Battese	Frontier production functions and technical efficiency: A survey of empirical applications in agricultural economics	253
1986–1995	2	1993	Akinwumi A. Adesina, Moses M. Zinnah	Technology characteristics, farmers' perceptions and adoption decisions: A Tobit model application in Sierra Leone	252
1986–1995	3	1995	Akinwumi A. Adesina, Jojo Baidu-Forson	Farmers' perceptions and adoption of new agricultural technology: Evidence from analysis in Burkina Faso and Guinea, West Africa	224
1986–1995	4	1989	John K. Lynam, Robert W. Herdt	Sense and sustainability: Sustainability as an objective in international agricultural research	115
1986–1995	5	1990	Yohannes Kebede, Kisan Gunjal, Garth Coffin	Adoption of new technologies in Ethiopian agriculture: The case of Tegulet-Bulga district Shoa province	99
1996–2005	1	2002	Luc Anselin	Under the hood: Issues in the specification and interpretation of spatial regression models	590
1996–2005	2	2001	Thomas Berger	Agent-based spatial models applied to agriculture: A simulation tool for technology diffusion, resource use changes and policy analysis	362
1996–2005	3	1997	David J. Pannell	Sensitivity analysis of normative economic models: Theoretical framework and practical strategies	217
1996–2005	4	2001	Jean O. Lanjouw, Peter Lanjouw	The rural non-farm sector: Issues and evidence from developing countries	195
1996–2005	5	1998	Bekele Shiferaw, Stein T. Holden	Resource degradation and adoption of land conservation technologies in the Ethiopian Highlands: A case study in Andit Tid, North Shewa	189
1996–2005	5	2000	M. W. Rosegrant, C. Ringler, D. C. McKinney, X. Cai, A. Keller, G. Donoso	Integrated economic–hydrologic water modeling at the basin scale: The Maipo river basin	189
2006–2015	1	2008	Derek Headey, Shenggen Fan	Anatomy of a crisis: The causes and consequences of surging food prices	274
2006–2015	2	2008	Maros Ivanic, Will Martin	Implications of higher global food prices for poverty in low-income countries	228
2006–2015	3	2006	Cheryl R. Doss	Analyzing technology adoption using microstudies: Limitations, challenges, and opportunities for improvement	151
2006–2015	4	2008	Hermann Lotze-Campen, Christoph Müller, Alberte Bondeau, Stefanie Rost, Alexander Popp, Wolfgang Lucht	Global food demand, productivity growth, and the scarcity of land and water resources: A spatially explicit mathematical programming approach	145
2006–2015	5	2011	Jenny C. Aker	Dial "A" for agriculture: A review of information and communication technologies for agricultural extension in developing countries	132

(Continues)

**TABLE 2** (Continued)

Decade	#	Year	Authors	Title	Citations
The last 3 years					
2016–2018	1	2016	T. S. Jayne, Jordan Chamberlin, Lulama Traub, Nicholas Sitko, Milu Muyanga, Felix K. Yeboah, Ward Anseeuw, Antony Chapoto, Ayala Wineman, Chewe Nkonde, Richard Kachule	Africa's changing farm size distribution patterns: The rise of medium-scale farms	31
2016–2018	2	2017	Kalle Hirvonen, John Hoddinott	Agricultural production and children's diets: Evidence from rural Ethiopia	29
2016–2018	3	2016	Jing Xie, Zhifeng Gao, Marilyn Swisher, Xin Zhao	Consumers' preferences for fresh broccolis: Interactive effects between country of origin and organic labels	28
2016–2018	4	2016	Jenny C. Aker, Ishita Ghosh, Jenna Burrell	The promise (and pitfalls) of ICT for agriculture initiatives	25
2016–2018	5	2017	William J. Burke, Thom. S. Jayne, J. Roy Black	Factors explaining the low and variable profitability of fertilizer application to maize in Zambia	18

#### 4 | NUMBER OF ARTICLES PUBLISHED PER VOLUME

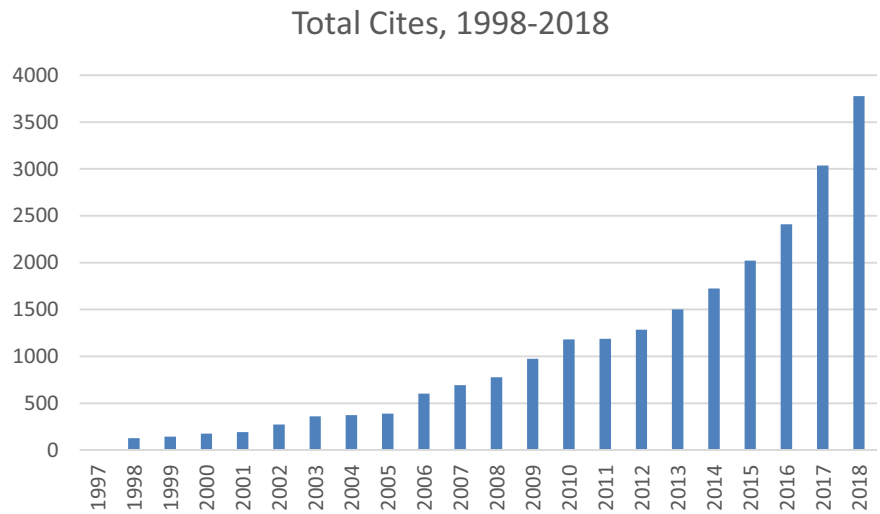
Over the years, the journal has devoted a substantial fraction of the published articles to special issues of various kinds, the content of which merits particular attention. It currently publishes six issues per year, plus an annual supplement. After each triennial conference of the IAAE, the supplement is normally used for plenary articles. In previous years, post-conference years also used two of the six regular issues for double issues of contributed articles from the conference. From its inception in 1927, all articles from the IAAE conference were published as a book, edited by the program Chair and one other person. The last published proceedings were in 2001 by George Peters and Prabhu Pingali. However, this edition and a couple before it provided only selected articles from the conference. Starting with Stan Johnson's editorship, articles at the conference were reviewed and some selected for the journal. The rationale was that the explosion of articles accepted for the conference starting in Zimbabwe, 1994, was too high for a single book publication. As the number of accepted articles at the conference continued to grow, the "Blue Book" was discontinued, with the journal so well established at that point. Because of increased competition for space in the journal, only the plenary articles are now published in the journal's annual supplement, without a regular review process. Authors of articles presented at the triennial conferences are usually encouraged to submit their articles to the journal for consideration through the standard review process.

In nonconference years, the annual supplement is sometimes used for regular submissions, or for special issues, with articles solicited on a common theme. Three special issues have been published in the last 6 years. These include, "Modeling climate change and agriculture," published in 2013, and guest-edited by Gerald C. Nelson. In 2015, a special issue on "Gender and agriculture in sub-Saharan Africa" was guest-edited by Talip Kilic, Paul Winters, and Calogero Carletto. The last was on "The structural transformation of African agriculture and rural spaces," published in 2017, and guest-edited by Christopher B. Barrett, Paul Christian, and Bekele A. Shiferaw. In some years, the supplement is used to publish regular submissions that are in the publication pipeline, thereby increasing journal throughput.

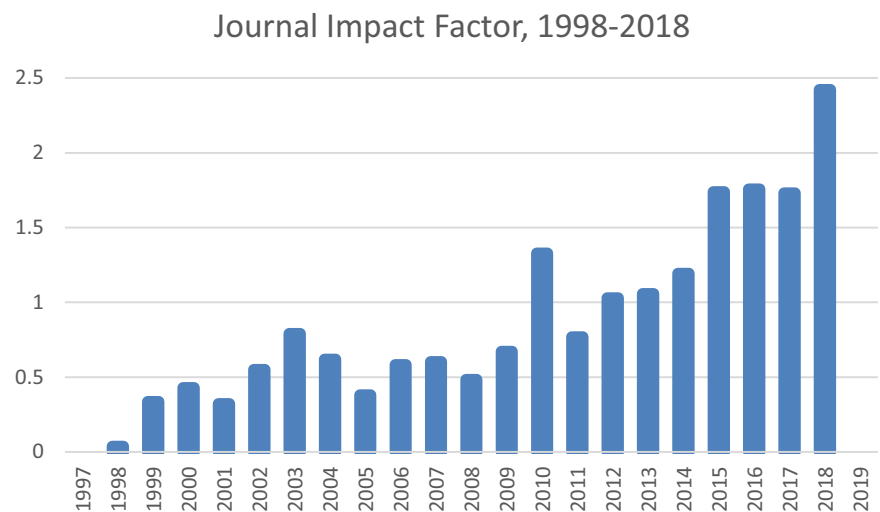
As is evident in Figure 2, the average number of published articles shows an increasing trend. The journal now publishes an average of more than 60 articles per volume, compared to about 25 when it started in 1986. We opted for an absolute number of articles per volume rather than annual growth rates, to make interpretation easier. The number of articles published per volume averaged around 20 for the first 25 volumes, rising to an average of 40, before sharply increasing to 80 with volume 48, and then declining to 60 in volume 49, because there was no supplement in 2018. However, it is significant to mention that the increase in the number of published articles after volume 40 is partly because of the change in the number of issues per volume. In 2009, Wiley shifted to one volume per year starting with volume 40, with six issues per volume, compared to the initial four



**FIGURE 4** Citation counts over time.  
 Data source: Web of Science [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



**FIGURE 5** Journal's impact factor over time, 1998–2018 [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]



issues per volume. It is also worth mentioning that volume 40 was the first volume in which the journal started publishing a data and model codes archive—something the editors initiated before other journals in the field, such as the *American Journal of Agricultural Economics*, followed up with the idea.

#### 4.1 | Co-authorship rates over time

The average number of co-authors per article has also increased over time. As can be observed from Figure 3, single authorship, which was very prominent during the early years of the journal, is now quite rare. With an increase from 1.96 authors per article in 1988 to 2.8 in 2018, the upward trend is quite visible. This dramatic rise in multi-authored articles is generally shared across economics journals (Henriksen, 2016; Khwajy & Mangal, 2018; Rath & Wohlrabe, 2016). Some authors attribute this trend to the “division of labor” or specialization focus, a phenomenon that is expected to continue in the near future (e.g., Kuld & O’Hagan, 2017; Lybbert, Beatty, Hurley, & Richards, 2018).

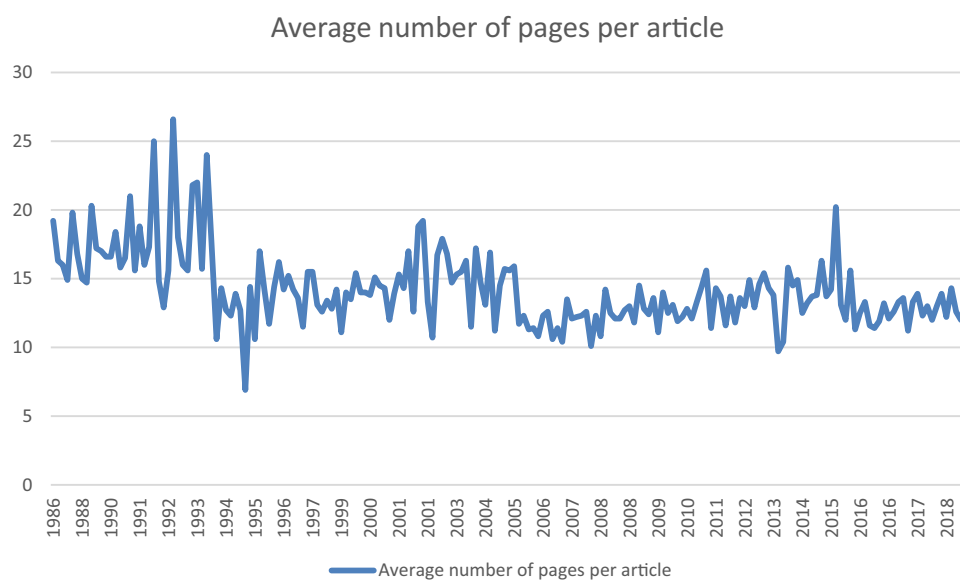
#### 4.2 | Citations of articles published in the journal over time

In this section, we report data from Scopus to highlight the most highly cited articles in the journal during the last 34 years (see Table 2). We show the five most highly cited articles, as measured by number of citations, in each of the first three decades of the journal. We also present the most highly cited articles in the last 3 years. Quite interesting is the fact that the most highly cited articles in the first decade covered traditional research issues related to technology adoption and production efficiency. During the second decade, there was a surge in citations of articles that covered empirical approaches and those addressing environmental and natural resource issues, as well as markets and institutions. The third decade of the journal saw issues relating to food demand, food prices, energy, agricultural technologies, and the environment gaining increasing significance, as articles on these topics were highly cited. The recent most highly cited articles, which fall into the traditional agricultural economics

**TABLE 3** Total articles citing *Agricultural Economics* in selected journals

Journal	2018–2012	2011–2005	2004–1999	Total
<i>American Journal of Agricultural Economics</i>	16	10	15	41
<i>Food Policy</i>	59	22	16	97
<i>Canadian Journal of Agricultural Economics</i>	6	3	6	15
<i>European Review of Agricultural Economics</i>	12	5	4	21
<i>Journal of Agricultural Economics</i>	21	6	2	29
<i>Journal of Agricultural and Resource Economics</i>	6	1	6	13
<i>Ecological Economics</i>	17	12	10	39
<i>Applied Economic Perspectives and Policy</i>	16	7	5	28
<i>World Development</i>	62	21	3	86
Total articles in the SSCI and SCI citing <i>Agricultural Economics</i>	2,590	813	247	3,650

Note. *Applied Economic Perspectives and Policy* was previously published as *Review of Agricultural Economics*. No data were available for the years 2007–2008. Abbreviations: SCI, Science Citation Index; SSCI, Social Science Citation Index.

**FIGURE 6** Average number of pages per article [Color figure can be viewed at [wileyonlinelibrary.com](http://wileyonlinelibrary.com)]

disciplinary areas of production and food consumption, show that agricultural economists are well aware of the numerous demands by policy-makers and the society for improving food security and the environment.

In this section, we present information on the journal's citation performance over time. Specifically, we present the available cumulative citation counts and impact factor of the journal from 1998 to 2018, as data on earlier years are not available.

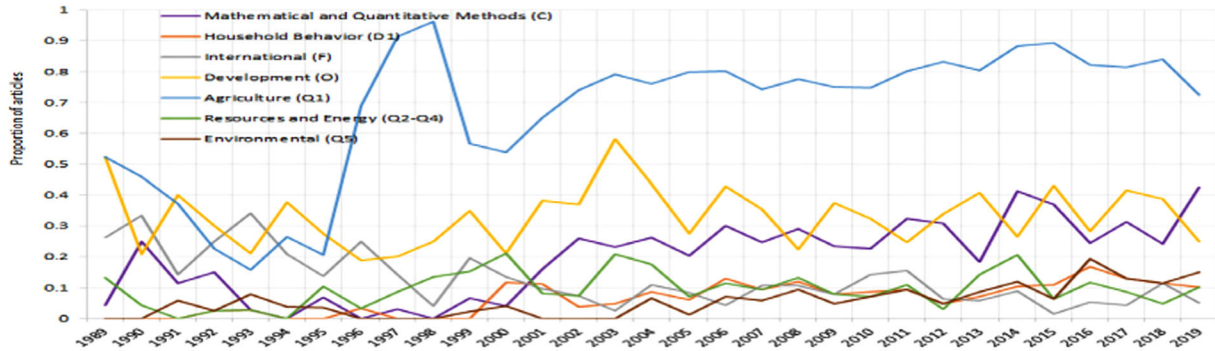
The citation data presented are drawn from the Web of Science. Their citation data are compiled on a calendar year basis, and their Journal Citation Reports (JCR) offer industry-standard impact factors for comparing journals. Although the data and procedures used are proprietary and hotly contested, the JCR database remains the authoritative source for several purposes.

We present in Figure 4 the citations of articles published in the journal over time. The citation counts refer to the total

number of citations to all past issues of that journal in a particular year. As can be observed from the figure, articles in *Agricultural Economics* continue to be widely cited. This trend toward increased citations over time is actually shared across the journal and other top journals in the agricultural and food economics field. In the last 3 years, the journal was consistently listed as the third most highly cited journal among the 18 listed in the category of agricultural economics and policy. As shown in Figure 4, the journal received 3,776 citations in 2018, up from 3,036 in 2017. In recent years, with the move to make more articles available "online-early," we have seen a tendency for citations to appear more rapidly following publication. A key to increasing the citation rates of the journal has been to make more articles available through this channel.

We also present the evolution of the journal's impact factor between 1997 and 2018 in Figure 5. Although the impact factor has varied over time, it is clear from the figure that the journal has experienced a dramatic increase over the





**FIGURE 7** Topical coverage using core JEL classification, share of articles currently published in the journal [Color figure can be viewed at wileyonlinelibrary.com]

20-year period under consideration. The figures for the individual years indicate that averages tend to disguise differences in the behavior of contributing articles. In particular, the impact factor score in a particular year appears to be quite reliant on the inclusion of a few highly cited articles. Notwithstanding the controversy on the use of the impact factor to rank journals, it is still generally accepted as a metric for comparison of journals in the academic profession. Although we avoid a ranking of journals in this article, the available evidence shows that the journal has developed to be one of the top journals in the agricultural economics and policy field. In particular, in the impact factor rankings of 18 agricultural economics and policy journals, the journal has ranked among the top five in the last 5 years, albeit with variations within the years. Even across the economics discipline, the journal has made significant strides in the previous decade, with the impact factor ranking of journals among all economics journals rising from 149th in 2008 to 68th of 347 in 2018.

Table 3 reports on the number of articles citing *Agricultural Economics*, as collectively identified in the Science Citation Index and Social Science Citation Index between 1999 and 2018. To illustrate the impact, we consider nine major journals in agricultural economics and related field journals. It can be observed from the table that *Agricultural Economics* citations in most of the journals increased significantly over time. Noteworthy is the significant increase in citations in journals such as *Food Policy*, *Journal of Agricultural Economics*, and *Applied Economic Perspectives and Policy*, as well as a multidisciplinary journal like *World Development*. In particular, *World Development* recorded the highest increase over the period considered, from just three citations during 1999–2004 to 62 in 2012–2018.

### 4.3 | Average number of pages per article

Figure 6 shows that the average number of pages per article trended upward during the first 8 years of the journal, before moving downward at the beginning of the 1990s, and then leveling out in the last two decades. The average number of

pages declined from a peak of 26 pages in 1992 to around 13 pages in 2018. The much lower number of pages observed in the last 5 years appears to be in line with the journal editors’ policy to encourage authors of lengthy articles to make use of the online appendices for some material not essential to the core arguments of the articles. The lower number of pages also shows a shift to more focused technical quantitative articles, which again is a reflection of the general trend in the economics profession.

### 4.4 | Topical coverage in the journal

We use the JEL classification system to track the topical coverage over the past 34 years of the journal’s existence. Figure 7 reports the share of articles classified in seven key areas of economics. The figure shows that a higher percentage of articles published in the journal has been in agriculture (Q1). The share of articles in Q1 increased from 21% in 1995 to 96% in 1998, before declining to about 55% in the 2000, and then gradually increasing to about 70% in 2019. We also see an increasing trend in the mathematical and quantitative methods (C) classification. Specifically, the share of articles in this classification increased from about 7% in 1999 to about 45% in 2019. However, in recent years, this classification has shown significant variability. Another area that has demonstrated remarkable variability is the development (O) classification, as can be observed from the figure. The environmental (Q5) classification remained very small, ranging from 2% in 1999 to zero around 2001–2003, after which it started to increase steadily. In 2016, about 19% of the articles published in the journal used Q5 JEL classification, showing the increasing significance of environmental issues. The share of articles using international (F) classification was about 20% during the 1989–2000 period. However, the articles using international (F) classification has fallen to about 8% during the 2001–2010 period and 7% during the 2011–2019 period. Finally, Figure 7 shows that household behavior (D1) and resource and energy (Q2-A4) classification follow an irregular growth pattern.

**TABLE 4** Authors with co-authors publishing in *Agricultural Economics*

Decade	Author	Number of co-authors	Solo authors
1988–1989 <sup>a</sup>	Grabowski, R.	3	
1988–1989	Hayami, Y.	3	
1988–1989	Isard, P.	3	
1988–1989	Giesen, G. W. J.	2	
1988–1989	Hayami, Y.	2	
1988–1989	Pardey, P. G.	2	
1988–1989	Feder, G.	2	
1988–1989	Lee, C.	2	
1988–1989	Lee, J. G.	2	
1988–1989	Nagy, J. G.	2	26
1990–1999	Riethmuller, P.	5	
1990–1999	Nyangito, H. O.	5	
1990–1999	Thirtle, C.	4	
1990–1999	Varela-Ortega, C.	4	
1990–1999	Backus, G. B. C.	4	
1990–1999	Rodriguez, A.	4	
1990–1999	Nordblom, T. L.	4	
1990–1999	Howard, W. H.	4	
1990–1999	Strauss, J.	4	
1990–1999	Alston, J. M.	3	124
2000–2009	Smale, M.	8	
2000–2009	Pandey, S.	7	
2000–2009	Florkowski, W. J.	7	
2000–2009	Alene, A. D.	6	
2000–2009	Piketty, M. G.	5	
2000–2009	Wang, J.	5	
2000–2009	Beach, R. H.	5	
2000–2009	Kassie, M.	5	
2000–2009	Lotze-Campen, H.	5	
2000–2009	Rosegrant, M. W.	5	114
2010–2019	Nelson, G. C.	21	
2010–2019	Robinson, S.	15	
2010–2019	Schmitz, C.	18	
2010–2019	Valin, H.	18	
2010–2019	von Lampe, M.	19	
2010–2019	Boussios, D.	12	
2010–2019	Lotze-Campen, H.	12	
2010–2019	Jayne, T. S.	10	
2010–2019	Ainembabazi, J. H.	8	
2010–2019	Lambert, D. M.	8	113

<sup>a</sup>The publication of the journal started in 1988. Only 2 years are included in the first decade.

#### 4.5 | Authors, collaborators, and international connectivity

Table 4 presents decade-by-decade information on the evolution of co-authoring and solo articles published in the

journal. Specifically, the table shows the number of distinct co-authors by authors. Using data collected from the journal, we see a dramatic rise in the co-author collaborations. For instance, in the initial years (1988–1989), the maximum number of co-authors was about three, and it

**TABLE 5** Countries of origin of authors and co-authors in *Agricultural Economics*

<b>Total 41 countries</b>			
North America	Canada, Mexico, United States		
South and Central America	Brazil, Colombia		
Europe	Austria, France, Germany, Greece, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland, Turkey, United Kingdom		
Africa	Ethiopia, Ghana, Kenya, Malawi, Nigeria, South Africa, Tanzania, Zambia		
Asia Pacific	Australia, Bangladesh, China, India, Indonesia, Iran, Israel, Japan, Nepal, New Zealand, Pakistan, the Philippines, South Korea, Sri Lanka, Thailand, Vietnam		
<b>Countries represented by decades</b>			
	<b>1989–1999</b>	<b>2000–2009</b>	<b>2010–2019</b>
South and Central America	Barbados, Honduras	Argentina, Chile, Costa Rica, Guatemala, Honduras, Nicaragua, Paraguay, Peru	Argentina, Bolivia, Chile, Costa Rica, Panama, Nicaragua, Peru, Uruguay
Europe	–	Belgium, Bulgaria, Denmark, Finland, Hungary, Ireland, Russia, Slovenia, Ukraine	Belgium, Denmark, Finland, Hungary, Ireland, Lithuania, Poland, Slovenia
Africa	Botswana, Burkina Faso, Cameroon, Egypt, Ivory Coast, Mali, Sudan, Togo, Zimbabwe	Benin, Botswana, Cameroon, Madagascar, Mali, Mozambique, Senegal, Tunisia, Uganda, Zimbabwe	Benin, Burkina Faso, Burundi, Congo, Côte d'Ivoire, Rwanda, Senegal, Togo, Tunisia, Uganda
Asia Pacific	Gaza Strip, Jordan, Malaysia, Oman, Saudi Arabia, Syria, UAE	Syria	Malaysia, Myanmar

increased to four and five in the 1990s. However, the number of co-authors in the recent decade has increased significantly (10–21<sup>1</sup>), perhaps due to globalization, interconnectedness due to information technology (e.g., Internet, Skype), research funding, and a global focus on work being performed in Africa, South Asia, and Southeast Asia. The last column of Table 4 shows the number of articles, in specific decade, published by solo authors. For instance, during a short period of 1988–1989, 26 articles were published by single authors. During circa 1990–1999, the number of solo authorships increased to its highest level, 124 articles. In the early 2000s, the number of single authorship articles fell to 113 and has stayed about the same in the recent decade (2010–2019).

Though the majority of the authors are from the United States, articles from other developed countries have also gained prominence in the journal. These countries include developed countries like Australia, Japan, Germany, the Netherlands, United Kingdom, Italy, France, Spain, Austria, Sweden, and Canada. Studies from authors in several developing countries (low-income and emerging economies) have also been published in the journal. For example, authors from Brazil and Chile from South America; Ethiopia, Uganda, Kenya, Nigeria, Senegal, Tanzania, Rwanda, DR Congo,

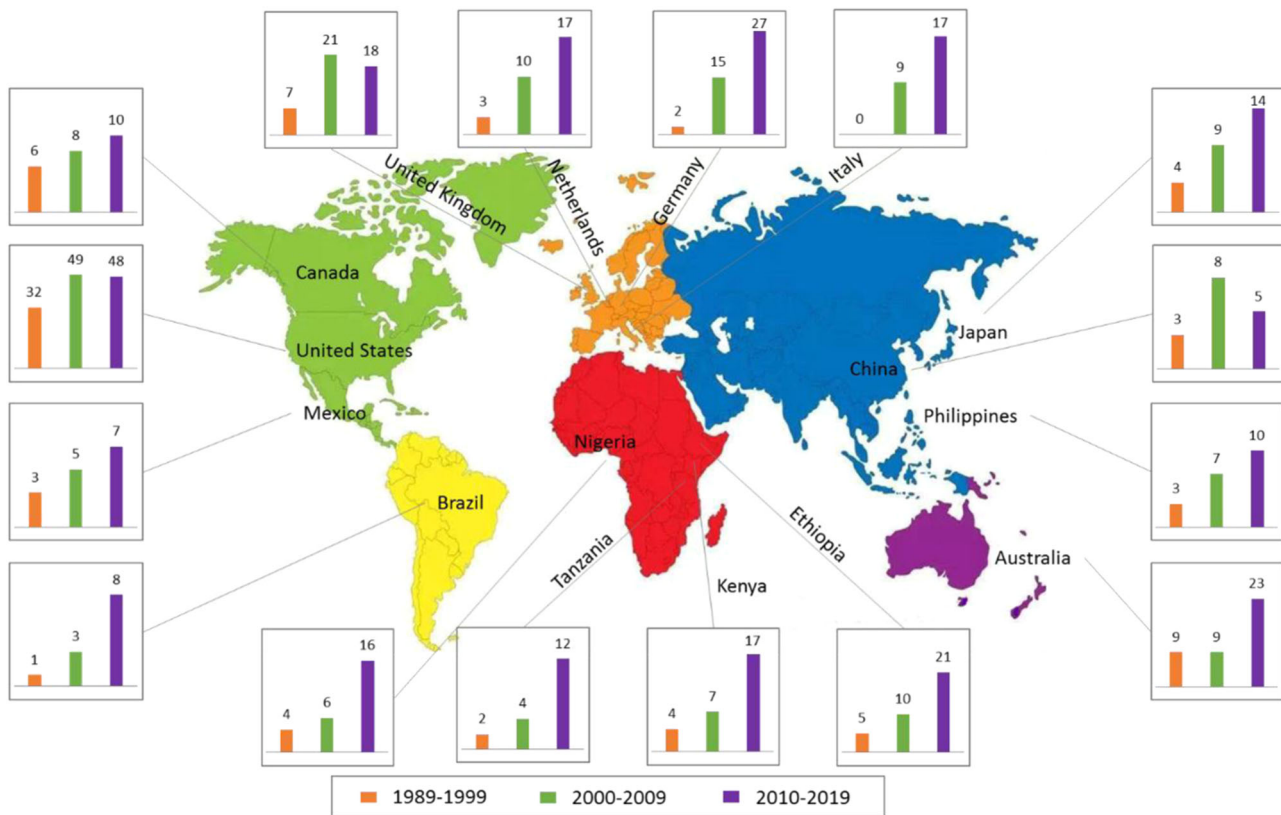
Nigeria, Tanzania, South Africa, Zambia, and Malawi from Africa; Tunisia, Jordan, Iran and Syria from Middle East; Pakistan, India, and Bangladesh from South Asia; Indonesia, Thailand, the Philippines, and Vietnam from Southeast Asia have published in the journal. Recent studies in the journal have highlighted the importance of issues in countries like China and Nepal.

#### 4.6 | *Agricultural Economics*: An international journal

We divided 50 years (1989–2109) of the journal publication into three decades, namely 1989–1999, 2000–2009, and 2010–2019. Table 5 reveals the location of authors and co-authors (collaborative efforts). During the 1989–1999 period, scholars and researchers from 59 countries published articles in the journal. The second decade (2000–2009) of the journal shows an increased presence in several countries. For example, the number of countries represented by authors increased to 69. Finally, in the last decade (2010–2019), authors and co-authors from 70 different countries have published their research in the journal. The number in countries represented during the 2010–2019 decade is slightly higher than in the previous decade.<sup>2</sup> An exciting pattern of global collaboration emerges in Table 5. The table shows an upward

<sup>1</sup> One article has 21 co-authors.

<sup>2</sup> Estimates exclude the final issue of volume 50.



**FIGURE 8** Number of collaborations with authors' location from 1989 to 2019 [Color figure can be viewed at [wileyonlinelibrary.com](https://onlinelibrary.wiley.com)]

trend in the number of countries represented by authors from the South and Central American and European regions. On the other hand, Table 5 also reveals a downward trend in the number of countries represented by authors from the Asian and Pacific region. The majority of the decrease is coming from the Middle-East countries. Finally, in the African region, although the number of countries represented in the journal publication has remained constant, the composition of the number of countries has changed during the last three decades.

Table 5 shows 41 countries from where authors have published articles in the journal for all three decades (1989–1999, 2000–2009, and 2010–2019). For illustrative purposes, Figure 8 is constructed to show the global footprint of the journal. Figure 8 only represents 16 out of 41 countries. Due to space and clarity, only 16 countries, based on the number of collaborations by authors in the recent decade 2010–2019, were chosen. As evident from Figure 8, we have four regions (North America and South and Central America<sup>3</sup> or America, Europe, Africa, and Asia Pacific) with four countries representing each region. The bar chart in Figure 8 shows the

number of partner countries, of the 16 chosen countries, in three different decades. We observe an increasing trend in cooperation between economists and agricultural economists around the world. The last decade has seen increased collaboration between researchers in the Americas and others. For example, take the case of United States, the number “48” (2010–2019 decade)—the purple bar shows that authors from 48 different countries have published articles with authors from the United States. Similarly, in the European region, on average, 17 different countries have published articles with authors from United Kingdom, the Netherlands, Germany, and Italy. Finally, in the African region, we see a significant increase in global cooperation between authors from Tanzania, Kenya, and Ethiopia and rest of the world.

## 5 | CONCLUSION

During the last three decades, *Agricultural Economics* has provided an outlet for rigorous economic analyses relating to agriculture and other related disciplines. In launching the first issue of the journal, the editor, Douglas Hedley (1986) noted, “[T]he diversity of concerns and professional interests of IAAE members, as well as the differences in methodology, style, and approach to research around the world represent a major challenge for the journal to record and report. With the

<sup>3</sup> We combine the North, South, and Central American countries into one region—America region, because the number of countries representing this region is five. Similarly, we chose four countries each from rest of the three (Europe, Africa, and Asia Pacific) regions.

triumph of a first issue, the really difficult work begins, to meet and exceed the vision and expectation that the journal holds for all of us.”

The evolution of the journal over the past 34 years reveals that contributing authors have continuously aspired to publish cutting-edge research that is significant in contributing to knowledge generation. At the same time, they have made substantial efforts to address the demands of policy-makers and the broader society for improving the basic conditions of food and nutrition security, poverty reduction, clean environment, and fair trade, albeit without any knowledge of the inaugural editorial challenges. The researchers contributing to the success of the journal in terms of publishing, editing, and reviewing articles represent a wide range of backgrounds and countries.

Given these developments, the journal has developed to become one of the most attractive research outlets for agricultural economists worldwide, and this trend will continue in the future, as the journal continuously aspires to maintain or improve its competitive edge by providing quick turnaround of manuscripts, and making accepted manuscripts available for early view and dissemination.

To the extent many institutional funding preferences are shifting from subscription fees to article publishing charges in support of open science and open access (OA) publishing, the publication landscape could change dramatically as publishers strive to ensure the economic viability of their enterprises. Wiley, the publisher of *Agricultural Economics*, is already taking steps now and preparing for future actions to manage a sustainable transition to open access for customers, because of recent developments in the OA landscape. As an initial step toward this future, Wiley has suggested that the journal could increase article output to offset the potential gap between current subscription revenue and future OA-based revenue. Thus, in the future, the number of articles published in a year may be influenced by these developments in the OA landscape. To the extent that the IAAE shares profits with Wiley, which helps the association to fund operations, international

conferences and inter-conference symposia, the journal would have to strike a balance between maintaining and improving quality and, at the same time, the continued financial viability of IAAE, given possibly far-reaching changes to the current publication landscape.

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## REFERENCES

- Hedley, D. D. (1986). Editorial. *Agricultural Economics*, 1(1), v–vi.
- Henriksen, D. (2016). The rise in co-authorship in the social sciences (1980–2013). *Scientometrics*, 107(2), 455–476.
- Khwajy, A. I., & Mangal, K. (2018). Review of economics and statistics over the past 100 years: A counting exercise. *Review of Economics and Statistics*, 100(2), i–v.
- Kuld, L., & O’Hagan, J. (2017). Rise of multi-authored papers in economics: Demise of the ‘lone star’, and why? *Scientometrics*, 111(3), 1207–1225.
- Rath, K., & Wohlrabe, K. (2016). Recent trends in co-authorship in economics: Evidence from RePEc. *Applied Economics Letters*, 23(12), 897–902.
- Lybbert, T., Beatty, T. K. M., Hurley, T. M., & Richards, T. J. (2018). American Journal of Agricultural Economics volume 100: A century of publishing the frontiers of the profession. *American Journal of Agricultural Economics*, 100(5), 1253–1274.

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