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The Intellectual Impact of Agricultural Economists

Hector O. Zapata

Over the past decade, considerable thought has been given to the core functions of the Southern Agricultural Economics Association (SAEA) and to trends shaping the direction we are heading. The opinion of the members and nonmembers of the SAEA is that the primary two functions of the association are the annual meetings and the publication of the *Journal of Agricultural and Applied Economics* (JAAE). SAEA former president Jensen (2005) provides survey data that supports this contention, and adds, in regards to the JAAE, that the two top reasons for submitting articles to the JAAE include the contribution to professional career development and the content quality of the journal. It would seem intuitive to argue that similar reasons drive the interest in submissions to other journals in our profession. Publication in our

journals is a seal of approval for the quality of the scientific work; however, objective evaluations of the quality of our research publications in a multidisciplinary context are infrequent.¹

The primary aim of this *Address* is to measure the intellectual impact of agricultural economists and identify the multidisciplinary linkages via refereed journal articles. I take the view that agricultural economists are scientists that provide objective information for the solution of societal problems emerging from the food and fiber system. I also adopt refereed journal articles as the main scientific outlet used to measure their intellectual contributions, and assume that the flow of citations from journals in agricultural economics and policy to other journals, and vice versa, define a citation highway that helps to identify multidisciplinary linkages. Article cites listed in journals of agricultural economics compared with cites in other journals of articles published in journals of agricultural economics define *relatedness* of the various disciplines and is proposed as an objective measure of the scope of agricultural economics. This objective measure of scope is a complement to the scope of agricultural economics as defined by areas of specialization used in other works (e.g., Eidman). In preparing the reader for the content of this *Address*, I want to advance a few findings that may be of relevance to the profession at large. First,

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I would like to thank Damona Doye for my recruiting as President-elect of the SAEA, Gail Cramer for encouraging me to serve, and to the SAEA membership for trusting me with the honor to serve as President. I presented a first draft of this talk to a group of colleagues, friends, and family, namely Alicia Ryan, Ivan Dickson, Andrew Christie, and T. Randall Fortenbery; many thanks for their input. I thank Richard Kazmierczak for his critical review of an earlier draft of this article, Matt Fannin for his suggestions on the first two sections, Elizabeth Anne Dufour for her editorial suggestions, and to others in the Ag Econ Department at LSU who provided suggestions. I want to thank my family for their enthusiasm about attending this *Presidential Address*, especially to Paula and Laura, who were 5 and 3 years old at the time, and lasted through most of it.

¹Two previous presidential addresses (Segarra, 1998; Kilmer, 2004) have discussed the importance of multidisciplinary collaboration in agricultural economics and provided insights to how recent graduates are branching into other fields.

agricultural economists are truly multidisciplinary in their approach to science, and this characteristic gives them a competitive advantage in a research funding environment of multidisciplinary collaboration. Second, and equally relevant, is the observation that, whereas not all journals are created equal in the traditional rankings of agricultural economics journals, a good number of refereed articles written by agricultural economists are published in well-ranked journals from other disciplines; this may offer alternative ways of valuing the intellectual impact of agricultural economists, particularly that of young-scientists moving through the process of promotion and tenure. Third, the flow of traffic on the citation-highway is stronger in citations from journals in agricultural economics to other journals than vice versa; also, interdisciplinary linkages via citations are expanding to nontraditional fields. Fourth, the frequency of citation is low for most agricultural economics journals in the first three years of publication, which suggests caution in interpreting journal impact indicators routinely published in previous work. Lastly, the readability of abstracts from most journals in agricultural economics requires a high level of comprehension, well beyond the level needed for understanding practical information.

This article is structured as follows. The second section provides a preliminary review of the scope of agricultural economics, followed by section three, which briefly discusses methodologies concerning the measurement of intellectual impact through journal rankings. The fourth section evaluates interdisciplinary citations by listing the fields with strong collaboration via aggregate impact factors. The fifth section introduces an objective measure of the scope of agricultural economics, followed by section six with a discussion of the findings. Some concluding remarks with suggestions are included in the last section.

The Scope of Agricultural Economics

One insight into the scope of our work is through the history of agricultural economic thought. Agricultural economists have contributed to new ways of thinking in economics, and the spread of

such work to a wider scientific audience has facilitated multidisciplinary collaboration. This has certainly been true in econometrics, a field that I have followed closely over the last two decades, which is the primary field of research of well known econometricians such as George Judge and some of his contemporaries who started their careers as agricultural economists. Although the contributions to economic thought by these and many other agricultural economists would be a topic of much value, my emphasis in this *Address* is to focus on what the research market seems to value most about scientists in the food and fiber system: refereed journal articles.² Scholarly work is something that graduate programs around the world emphasize early in career development. I certainly remember my immense joy when receiving a letter of acceptance for a selected paper I submitted for presentation to the annual meetings of the American Agricultural Economics Association while I was a Ph.D. candidate in the mid-1980s. As an embryonic scientist I then understood the importance of professional associations and their role in mentoring and cultivating the scientific growth of all agricultural economists.

Notwithstanding the importance of annual meetings for the exchange of ideas, networking, and recognizing peers, it is the publishing of scholarly work in scientific journals that will be considered by many as the dominant measure of our scientific success. Those of us who have gone through promotion and tenure know that the success of young Ph.D.s in the job market is tied directly to their research productivity. Beilock, Polopolus, and Correal (1996) state that "citations measure the quality of an agricultural economist's work, as reflected by the degree to which fellow agricultural economists and other social scientists have found that

²The valuation of refereed journal articles by nonacademic institutions is not well known; anecdotally, some would argue that the value of referee journal articles to these institutions is low. However, it is now common to find researchers at private and government organizations publishing in refereed journals. As pointed out by Gibbons and Fish (1991), measuring scholarly work in economics through journal rankings would be the equivalent of ESPN's football poll to coaches, players, and fans.

work relevant in their own research.” As our profession responds to the continual pressures of change, the possibilities for multidisciplinary collaboration expand. A close examination of the existing citation record suggests that our collaborative experience is wide and expanding to nontraditional fields such as fuels and energy, environmental sciences, biology, and nutrition. Because we live in a very competitive academic world, there is continual interest in measuring the intellectual impact agricultural economists have on the field itself and on related fields. Eidman (1995) stated that agricultural economics has become broader and more diverse over time, and that as the scope of the field expanded, so did the diversity of agricultural economists. As the saying goes, one constant we can rely on is change. We have already experienced some of these changes taking place in the profession. As predicted by Kilmer (2007), one of the SAEA Life Time Achievement Award recipients in 2007, the AAEA membership voted in 2008 to change its name to the Agricultural and Applied Economics Association (while maintaining the AAEA acronym). The SAEA has maintained its name but changed the name of the journal from the *Southern Journal of Agricultural Economics* to its current name, the *Journal of Agricultural and Applied Economics* (JAAE) and the *Review of Agricultural Economics* is going through its own metamorphosis. Although the SAEA arguably remains a fairly homogeneous group in vision, the scholarly work of its members reaches not only the JAAE audience but also that of many other journals. This trend appears to hold true for the members of all agricultural economics associations. In essence, because of the wide-scope of problems in agriculture, and in an effort to adapt to change, we have become more multidisciplinary. It is not uncommon to find Fellows of the AAEA who publish in numerous journals. Examples also abound on articles published by agricultural economists that are cited by over 30 journals. In this address, I want to express my views on the implications of the findings primarily to SAEA stakeholders. It is my hope that the descriptive findings reported here would stimulate an open dialogue on strengthening the competitiveness

of journals in agricultural economics in the domain of multidisciplinary collaborative research and that a more comprehensive set of journals can be identified and used as a certification instrument for the quality of our scientific work.

Methodology and Data

Journal ranking studies in economics have used data from the Institute for Scientific Information (ISI) Journal Citation Reports (JCR). JCR publish data in two editions: the Science Edition (over 5,900 journals) and the Social Sciences Edition (over 1,700 journals). The two databases provide category listings from which journal citation analyses can be conducted. For example, the 2007 JCR Science Edition provides science categories such as acoustics, agricultural economics and policy, agriculture, dairy and animal science, agriculture (multidisciplinary), agronomy, and others in categories such as biology, chemistry, computer sciences, engineering, forestry, material sciences, mathematics, physics, veterinary sciences, water resources, and zoology among others. JCR provides citation data on a list of journals which can be initially listed by title, total cites, impact factor, current articles, and other indicators. The Agricultural Economics and Policy category in JCR includes the following journals: *Agricultural Economics-Blackwell* (AE-B), *American Journal of Agricultural Economics* (AJAE), *Australian Journal of Agriculture and Resource Economics* (AJARE), *Canadian Journal of Agricultural Economics* (CJAE), *European Review of Agricultural Economics* (ERAE), *Food Policy* (FP), *Journal of Agricultural Economics* (JAE), *Journal of Agricultural and Resource Economics* (JARE), and *Review of Agricultural Economics* (RAE).³ Note that many other Agricultural Economics journals, such as the *Journal of Agricultural and Applied Economics* (JAAE), are not listed in this category. The

³The RAE will be relaunched under the name *Applied Economic Perspectives and Policy* (AEPP) effective with the first issue of 2010.

Social Sciences Edition of JCR provides data on categories such as anthropology, business, business and finance, economics, history, sociology, and urban studies, among others. The economics category, for example, includes journals such as *American Economic Review* (AER), *Econometrica* (E), *Journal of Econometrics* (JE), *Journal of Applied Econometrics* (JAE), *Review of Economics and Statistics* (REStat), in addition to all the above journals in Agricultural Economics and Policy excluding the *Canadian Journal of Agricultural Economics*.

In assessing the multidisciplinary focus of agricultural economists, both databases were used and the information condensed in tables and figures provided in the sections below. JCR also produces a list of journals most closely related to a prespecified journal, the AJAE for example. An index number, R_{\max} , is constructed using citations, papers, and references as parameters. The result is a selection of journals that are semantically most closely related to the target journal (Pudovkin and Garfield, 2002). The R_{\max} index is used to create a list of journals that the agricultural economics and policy journals cite ($R_{\text{AGEC}} > R_j$) and journals that cite Agricultural Economics and Policy Journals ($R_j > R_{\text{AGEC}}$); the R_{\max} index is not an average of these two categories but the maximum score in $R_{\text{AGEC}} > R_j$ or $R_j > R_{\text{AGEC}}$. Examples on the construction of R_{\max} can be found in Pudovkin and Garfield (2002).

The readability of scientific journals has received considerable attention in various disciplines. Numerous indicators can be used to measure the reading accessibility of journals to a general audience. *The New York Times*, for example, is targeted to an audience with a high school level of education. Scientific journals tend to target a more specialized audience with a higher educational level. Applied journals may target their articles to wider readership, and if so, the readability scores of their articles should be measured in relation to the target audience. One use of such a measure would be in the study of whether applied journals are considered readable to potential members of the association, for instance, graduate students at the Masters level. As a marketing strategy, if we intend to recruit members of the SAEA from

this group, then we should make one of the Association's main products, journal articles in the JAAE, readable to them. Another aspect of readability of agricultural economics journals relates to that of scientific journals in economics and other related disciplines. If the JAAE intends to remain competitive in a world of growing scientific publication outlets, then its readability ought to be comparable to theirs. In an effort to provide a readability assessment, I obtained various readability indexes such as the Kincaid index (source), Fog Index, and the average length of words in sentences from abstracts of recent articles. Abstracts were used because typically these contain more precise and compactly written sentences, and thus, would be expected to be better written than whole papers. Abstracts also are used in preliminary bibliographic searches and some researchers typically read abstracts prior to deciding whether to read an entire article. For each journal evaluated for readability, the first, middle, and last abstract were chosen from papers of the first issue in 2007 and 2008. For example, for the AJAE, the February issues were used to select six article abstracts (three per year). Once all the abstracts were obtained, they were saved in Microsoft Word files, and those files were then imported into the *Readability.info* website available at (<http://www.readability.info>) to obtain readability scores including readability grades (e.g., Kincaid, Flesch, Fog indexes), sentence information (e.g., number of characters, number of words, average length of words, number of sentences, average length of sentence), word usage (verbs, conjunctions, pronouns, prepositions), and sentence beginning (e.g., pronouns, interrogative pronouns, articles). Nonagricultural economics journals included the *American Economic Review*, *Journal of Applied Econometrics*, the *American Sociological Review*, and the *Journal of Applied Physics* (JAP), with the JAP chosen as a measuring stick of readability of articles in a field that seems complex to a large audience.

An important aspect of published work is the citation frequency of articles published. One question would be: what percentage of articles published in agricultural economics and policy journals are cited within the first few

years of publication? Citation reports that are based on a history of 2-years of publication statistics may not be as relevant in establishing publication records for scientists or in ranking departments as is frequently done in some works. Publish or Perish (PoP) is a Google Scholar linked software that provides statistics on journal citation. After checking the journal citation listing provided by PoP for the years 2005, 2006, and 2007, the number of articles published by a given journal per year that received *one or more* citations were recorded and divided by the total number of articles published in that year to obtain the percent of articles cited. A second calculation generated the percent cited *twice or more*. The process to obtain these data from PoP was tedious because, for some journals, the resulting listing contained items that were not full articles. For example, requesting a Journal Impact Analysis for *Food Policy* brought in an array of articles published in *Food Policy* but also in other outlets. Even after using the "Exclude these words" option in PoP, the list of articles published in a year needed to be edited. The final list of articles was cleaned from ancillary materials such as notes, calls for papers, and other nonarticle materials. One attractive feature of PoP is that it recalculates its statistics after editing.

Interdisciplinary Citations

A manual count of citations by agricultural economics and policy (AE&P) journals to other journals and citations from those journals to AE&P journals was used to identify their corresponding JCR categories listed in Table 1, where the categories are sorted by ascending aggregate impact factors.⁴ This list was

supplemented with a list of journals generated from the Online resumes available for a number of fellows of the AAEA and lifetime achievement award recipients of the SAEA since 2005. It should be noted that some journals listed in JCR appear in more than one category; thus, the list in Table 1 could be much larger if allowance is made for double-listings. For example, *Ecological Economics* is listed in Environmental Sciences and Ecology but only Environmental Sciences is listed in Table 1. The final list of categories (with examples of journals) from the JCR Science Edition is as follows: Agricultural Economics and Policy (see journal list above), Agronomy (*Agronomy Journal*, *Crop Science*), Energy and Fuels (*Energy Journal*, *Energy Policy*), Environmental Sciences (*Climate Change*, *Ecological Economics*, *Journal of Environmental Management*, *Natural Resource Modeling*, *Water Research*, *Water Resources Research*), Forestry (*Agricultural and Forest Meteorology*, *Canadian Journal of Forest Research*, *Forest Ecology and Management*, *Forest Policy and Economics*, *Forest Science*, *Journal of Forestry*), Marine and Freshwater Biology (*Canadian Journal of Fisheries and Aquatic Sciences*), and Water Resources (*Agricultural Water Management*, *Water Resources Management*, *Water Resources Research*). Note that economics, business, management and other related social science categories are included in the JCR Science Edition. However, JCR Social Science Edition can be used to complete the list of categories in which agricultural economists have published their referee articles. Such additional categories include Business, Finance (*IMF Staff Papers*, *Journal of Finance*, *Journal of Risk and Uncertainty*, *World Bank Economic Review*), Economics (*Econometrica*, *American Economic Review*, *Journal of Econometrics*, *Journal of Applied Econometrics*, agricultural economics journals except for the *CJAE*), Management (*International Journal of Forecasting*, *Journal of Forecasting*, *Management Science*), Planning and Development (*Economic Development and Cultural Change*, *Growth and Change*, *Journal of Development Studies*, *Journal of Regional Science*, *World Bank Research Observer*, *World Development*),

⁴ An Aggregate Impact Factor (AIF) is calculated by JCR for cites in 2007 of articles published in any journal in a category in 2005 and 2006, and it measures the frequency with which the "average article" in journals in that category has been cited in a particular year. An example calculation of AIF can be found at the ISI Web of Knowledge website published by Thompson Reuters. Soon after the data for this article had been collected, JCR started publishing a 5-year *Impact Factor* for individual journals which is based on cites in 2007 of articles published from 2002 to 2006.

Table 1. Agricultural Economics and Related Disciplines, Journal Citation Reports, Science and Social Science Editions, 2007

| Category | Total Cites | Median Impact Factor | Aggreg. Impact Factor | Agg. Immed. Index | Agg. Half Life | Number of Journals | Articles |
|-----------------------------------|----------------|-------------------------|--------------------------|----------------------|-------------------|-----------------------|----------|
| Political Science | 41598 | 0.561 | 0.630 | 0.190 | 8.6 | 93 | 3672 |
| Agricultural Economics and Policy | 5653 | 0.635 | 0.763 | 0.113 | 8.2 | 9 | 424 |
| Sociology | 67100 | 0.631 | 0.794 | 0.157 | >10.0 | 96 | 3099 |
| Urban Studies | 15745 | 0.549 | 0.817 | 0.186 | 7.3 | 30 | 1092 |
| Business and Finance | 48115 | 0.720 | 0.834 | 0.172 | 9.8 | 45 | 2526 |
| Economics | 207952 | 0.653 | 0.911 | 0.193 | >10.0 | 191 | 9245 |
| Planning and Development | 22498 | 0.687 | 0.916 | 0.165 | 7.4 | 38 | 1503 |
| Forestry | 60452 | 0.759 | 1.211 | 0.214 | 7.6 | 39 | 2894 |
| Agronomy | 106963 | 1.000 | 1.261 | 0.215 | 7.9 | 49 | 5267 |
| Management | 130095 | 0.962 | 1.335 | 0.251 | 9.8 | 81 | 3772 |
| Water Resources | 141441 | 1.021 | 1.360 | 0.221 | 7.7 | 59 | 7399 |
| Agriculture (Multidisciplinary) | 80383 | 0.425 | 1.455 | 0.277 | 7.2 | 35 | 4120 |
| Energy and Fuels | 114275 | 0.829 | 1.471 | 0.247 | 6.0 | 64 | 9676 |
| Marine and Freshwater Biology | 234921 | 1.155 | 1.646 | 0.336 | 8.7 | 86 | 8724 |

Source: ISI Web of Knowledge, Journal Citation Reports, 2007.

Political Science (*Political Science*), Sociology (*American Journal of Economics and Sociology*, *American Journal of Sociology*, *American Sociological Review*), and Urban Studies (*Regional Science and Urban Economics*). Clearly, we have had a prolific publication history, and this is likely to expand as we continue to strengthen collaboration with nontraditional disciplines.

What has been the recent impact of Agricultural Economics and Policy articles? Figure 1 plots the aggregate impact factor (AIF)⁴ for agricultural economics and policy and related disciplines. At the top of the list is environmental sciences with the highest AIF (2.028), followed by marine and freshwater biology, energy and fuels, and multidisciplinary agriculture. In the middle of the list, with an AIF higher than 1.0, we find water resources, management agronomy, and forestry. Economics and business and finance carry an AIF of about 0.91, with the rest of the categories having AIFs lower than 0.90. At the bottom of the AIFs is political science, followed by agricultural economics and policy. This aggregate comparison of impact factors (citations in 2007 of articles published in 2005 and 2006) may not capture the true impact of our profession if one takes into account that many journals are of different size (number of articles published). For example, environmental sciences have the largest aggregate impact but also publish the highest number of articles (23,123), an observation that seems true for other fields such as energy and fuels (9,676) and marine and freshwater biology (8,724). Economics has the third largest number of articles published, but its impact falls in the bottom half of the rankings. Agricultural economics and policy, with an AIF of 0.763, published only 424 articles, about 21 times fewer than those in economics. The number of articles published varies not only by category but also by journal within each category. Figure 2 illustrates the citations per article for the same categories in Figure 1. The first striking observation is the upward movement by economics and sociology based on citations per articles, and the down-ranking of energy and fuels from third to second to last. After accounting for citations per article,

AE&P still ranks in the third lowest spot. A closer examination of Table 1 reveals an important fact of the impact of agricultural economics and policy to science: We achieve our impact, low as it may be, with the smallest number of journals and articles. And while it may not be the best strategy to proceed as though an increase in the number of journals would elevate our profession to the top ranks of research productivity, it is worth emphasizing that in the citations market, frequency of publication and number of publications increases the likelihood of citations.

The aggregate impact factor is an average of the impact factor of the journals included in each category in the ISI Web of Knowledge data. There is also considerable variability in the impact individual journals have on science. Citations per article obtained from Publish or Perish for articles published between 2005 and 2007 and impact factors for journals listed in the AE&P category of the 2007 JCR Science Edition are shown in Figure 3. The highest cited journal on a per article basis is the *European Review of Agricultural Economics*, followed by the *Australian Journal of Agricultural Economics*, and the *American Journal of Agricultural Economics*; *Food Policy* takes fourth place, and the *Journal of Agricultural*

and *Applied Economics* and the *Journal of Extension* are ranked last (no impact factors are available for these last two journals in JCR). Based on the JCR 2007 Science Edition's impact factors, the *European Review of Agricultural Economics* takes first place, followed by *Food Policy*, *AJAE*, *Australian Journal of Agricultural Economics*, and *Agricultural Economics-Blackwell*.

Semantic Relatedness of Journals

One method to assess the scope of agricultural economics is the semantic closeness of the relationship (Semantic Relatedness) between a reference journal in agricultural economics and other journals in agricultural economics and other fields. The 2007 JCR Science database, in the agricultural economics and policy category, contains a listing of journals based on the closeness of citation relationships (R_{\max} index). The approach requires identifying a reference journal, the AJAE for example, and then calculating the relatedness of the AJAE to the journals it cites and the citation from those journals to the AJAE; the resulting R_{\max} indexes, using one-journal-at-a-time as reference are reported in Table 2. The first column in that table is the listing of all journals that were

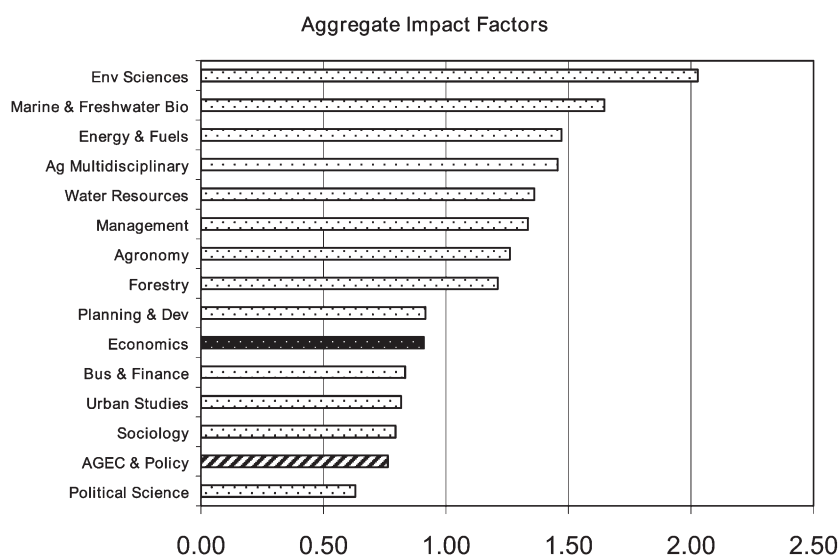


Figure 1. Aggregate Impact Factors, Selected Journal Citation Report Categories, Science and Social Science Editions, 2007

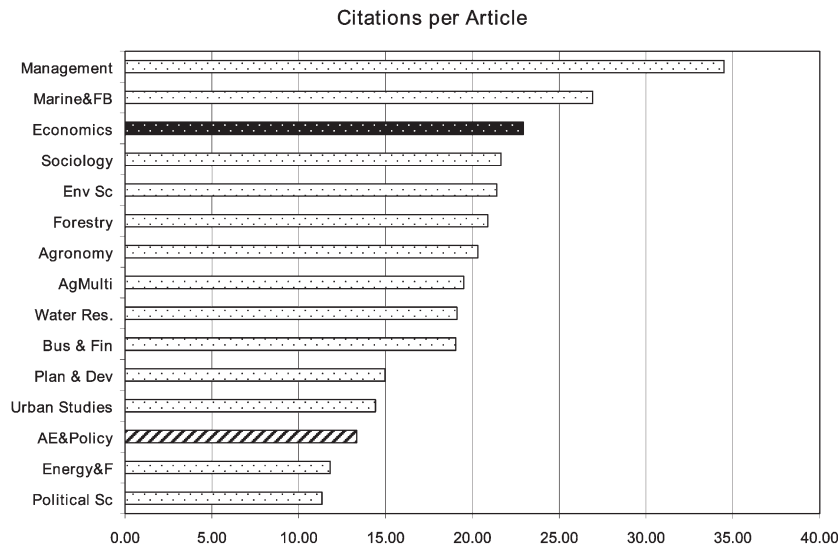


Figure 2. Citations per Article, Agricultural Economics and Related Disciplines, Journal Citation Reports, Science and Social Science Editions, 2007

found to be closely related to journals in agricultural economics (*AJAE*, *AE*, *AJARE*, *CJAE*, *ERAE*, *FP*, *JAE*, *JARE*, and *RAE*), based on the R_{max} index. The JCR category that journals belong to is listed in column 2.

The R_{max} index values were scaled to 100% in order to make journal ranking easier to read. The *AJAE* R_{max} values listed in descending order are given in column 3. The bold values in the *AJAE* column mean that the other journal was the citing journal. The 100% in the intersection of the cells suggest the maximum citations of *AJAE* are the *AJAE*, and this is true

for most of the other journals in agricultural economics, except for the *JARE* and for the *RAE*. That is, only in these last two journals is the citation of the *AJAE* stronger than their own citation.

Some results worth highlighting from this table are the following. First, the impact of articles published in agricultural economics and policy is concentrated in AE&P, economics, environmental sciences, forestry, water resources, ecology, agriculture, dairy and animal sciences, multidisciplinary agriculture, operations research and management science,

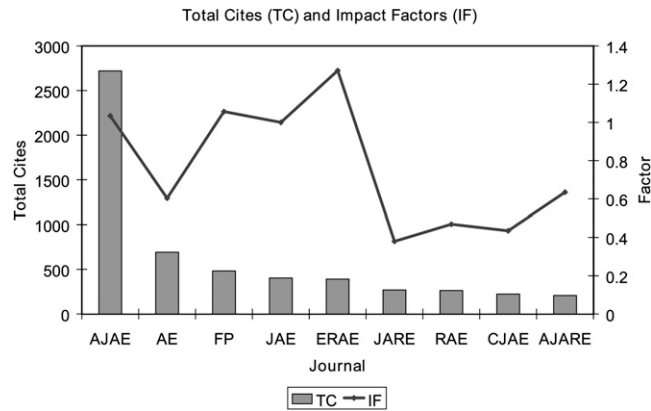


Figure 3. Total Citations and Impact Factors for Selected Journals in Agricultural Economics, Journal Citation Reports, 2007

agronomy, food science technology, public environmental and occupational health, and nutrition and dietetics. Second, the list of categories arises primarily from citations in three reference journals: the *American Journal of Agricultural Economics*, *Agricultural Economics*-Blackwell, and *Food Policy*. Third, the strength of the subject connection is within journals in agricultural economics (the top portion of Table 2), and between agricultural economics and policy and environmental sciences and ecology, multidisciplinary agriculture, and to some extent, operations research and management science. Fourth, journals such as the *AJAE*, *AE*, *ERAE*, *FP*, and *JARE* are cited frequently by journals in many other disciplines (the strength of subject connection is in many cases driven by citations from journals in other fields). Fifth, the *AJAE* is the only journal with a close relationship to economics, forestry, water resources, and multidisciplinary. Note that subject connection between agricultural economics and policy journals listed in JCR is defined by a total of 48 journals, and as previously mentioned, the strength of the subject connection is dominated by AE&P journals. Based on this analysis, it seems that our recent collaborative efforts are with faculty working in disciplines, which would include departments of economics, environmental and resource economics, renewable resources, and programs with a multidisciplinary focus in agriculture.

Rankings within Economics

It is not surprising to find that the *AJAE* is the dominant journal in citation counts among AE&P journals; what is less certain, however, is its ranking among the journals in economics. Table 3 is a summary of the subject connection for economics journals frequently cited by agricultural economists. Compared with the *American Economic Review*, often ranked at the top of economics journals (e.g., Kalaitzidakis, Stengos, and Mamuneas, 2003; Ritzberger, 2008), the *AJAE* ranks 69th semantically. Similarly, the strength of subject connection to *Econometrica*, *Empirical Economics*, *International Economic Reviews*, *Journal of Applied Econometrics*, *Applied Economics*, *International Journal of*

Forecasting, and *Journal of Development Economics* is relatively low.

The ranking of economics journals has been of much academic interest over the past three decades (e.g., Liebowitz and Palmer, 1984; Laband and Piette, 1994; Kalaitzidakis, Stengos, and Mamuneas, 2003; and Ritzberger, 2008, among others). The most recent published update of the rankings of economics journals, based on a new ranking method that eliminates self-citations and improves upon impact factors, is that of Ritzberger (2008), who evaluated 159 journals to generate a list of target journals as the standard for economics. Ritzberger's (2008) study is based on the 2006 Social Science Edition of the JCR, which is the source used by previous studies. The ranking is generated using Palacio-Huerta and Volij's (2004) invariant method with the normalization that assigns 100% to the top journal. In this analysis, the meaning of 'value' of a journal is defined as the ratio of the number of impact-weighted citations received by that journal to those obtained by the best journal in the sample excluding self-citations.

The JCR categories used by Ritzberger (2008) included economics, business, business-finance, industrial relations and labor, and a few selected statistics journals. The appeal of Ritzberger's study for this *Address* relates to its inclusion of many journals in agricultural economics and related fields (e.g., environmental and natural resource economics, and community development and sociology).⁵

Ritzberger (2008) divided his recommended list of journals into top, excellent, very good, good, solid, and minor, and compared his list for consistency with previous rankings to those of Kalaitzidakis, Stengos, and Mamuneas, 2003; and Palacio-Huerta and Volij (2004). From the list reported in Appendix 1 of

⁵The list of journals included in agricultural economics and related fields in Table 4 was chosen from a list of 182 journals and was created from the 2007 JCR Science Edition reports on 'Cited' and 'Citing' journals for each of the journals in the "Agricultural Economics and Policy" category of the 2007 JCR Science Edition. It should be noted that the original list of 182 journals also included journals in agriculture, forestry, and agribusiness that are included in Table 4.

Table 2. Semantic Relatedness of Journals in Agricultural Economics and Policy, Journal Citation Reports, Science and Social Science Editions, 2007

| Journal | JCR Category | AJAE | AE | AJARE | CJAE | ERAE | FP | JAЕ | JARE | RAE |
|---|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| <i>American Journal of Agricultural Economics</i> | AE&P | 100 | 100 | 37.35 | 34.18 | 29.85 | 42.3 | 46.2 | 100 | 100 |
| <i>European Review Agricultural Economics</i> | AE&P | 97.41 | 89.75 | | 21.7 | 100 | 26.61 | 59.63 | 33.84 | 45.8 |
| <i>Journal of Agricultural and Resource Economics</i> | AE&P | 84.83 | 26.34 | | 11.89 | 8.75 | | 13.18 | 93.22 | 64.12 |
| <i>Review of Agricultural Economics</i> | AE&P | 67.15 | 17.21 | 18.69 | 11.78 | 9.42 | | 18.02 | 51.02 | 61.25 |
| <i>Journal of Agricultural Economics</i> | AE&P | 64.22 | 66.91 | | 23.87 | 25.4 | 13.49 | 100 | 21.72 | 37.31 |
| <i>Agricultural Economics—Blackwell</i> | AE&P | 60.51 | 32.52 | 21.35 | 11.18 | 16.64 | 22.08 | 29.12 | 18.89 | 15.51 |
| <i>Food Policy</i> | AE&P | 48.23 | 41.6 | 7.38 | | 9.3 | 100 | 11.06 | | |
| <i>Australian Journal of Agriculture and Resource Economics</i> | AE&P | 47.79 | 45.15 | 100 | | | 8.28 | | | 35.62 |
| <i>Canadian Journal of Agricultural Economics</i> | AE&P | 47.7 | 25.76 | | 100 | 9.28 | | 23.97 | 19.67 | 24.49 |
| <i>Econometrica</i> | Economics | 42.55 | | | | | | | | |
| <i>Journal of Business and Economic Statistics</i> | Economics | 18.18 | | | | | | | | |
| <i>Natural Resource Modeling</i> | Environmental Sci | 16.23 | | | | | | | | |
| <i>Ecological Economics</i> | Environmental Sci | 7.76 | 4.37 | 5.82 | | 1.53 | 1.41 | 3.25 | 2.07 | 1.3 |
| <i>Oxford Bulletin of Economics and Statistics</i> | Economics | 7.08 | | | | | | | | |
| <i>Southern Journal of Applied Forestry</i> | Forestry | 5.69 | | | | | | | | |
| <i>Journal of Econometrics</i> | Economics | 5.53 | | | | | | | | |
| <i>Forest Science</i> | Forestry | 4.09 | | | | | | | | |
| <i>Econometric Reviews</i> | Economics | 3.74 | | | | | | | | |
| <i>Journal of Environmental Management</i> | Environmental Sci | 3.14 | | | | | | | | |
| <i>Water Resources</i> | Water Resources | 0.93 | | | | | | | | |
| <i>Ecological Applications</i> | Ecology | 0.74 | | | | | | | | |
| <i>Ecological Modeling</i> | Ecology | 0.45 | | | | | | | | |
| <i>Journal of Animal Sciences</i> | Agric. Dairy & An. | 0.31 | | | | | | 0.42 | | 0.7 |
| <i>Forest Ecology and Management</i> | Forestry | 0.26 | | | | | | | | |
| <i>Biological Conservation</i> | Biodiversity Consen | 0.22 | | 2.8 | | | | | | |
| <i>P. National Academy of Sc of the US</i> | Multidisciplinary | 0.06 | | | | | | | | |
| <i>Agricultural Systems</i> | Ag Multidisciplinary | | 17.18 | | | | | | | |
| <i>Field Crops Research</i> | Agronomy | | 2.93 | | | | | | | |
| <i>Agricultural Water Management</i> | Agron Water Res | | 2.84 | 1.6 | | | | | | |
| | | | | | | 5.99 | 10.04 | 11.99 | 2.23 | 5.43 |

Table 3. Subject Connection Relationship between Journals in Agricultural Economics and Economics

| Reference Journal | Ag Econ Journal | Relatedness Index | Rank with Reference Journal |
|--|-----------------|-----------------------|-----------------------------|
| <i>American Economic Review</i> | AJAE | 4.17/ 137.52 | 69 |
| <i>Econometrica</i> | AJAE | 10.77/ 394.20 | 43 |
| <i>Journal of Econometrics</i> | AJAE | 5.99/ 51.20 | 53 |
| <i>International Economic Reviews</i> | AJAE | 18.63/ 130.80 | 32 |
| <i>Journal of Applied Econometrics</i> | AJAE | 13.59/ 86.66 | 32 |
| <i>Empirical Economics</i> | AJAE | 39.70 /28.89 | 28 |
| <i>Applied Economics</i> | AJAE | 87.91 /7.44 | 16 |
| | AE-B | 10.42/ 23.41 | 59 |
| <i>Journal of Environmental Economics and Management</i> | AJAE | 185.77/ 467.18 | 11 |
| | AE-B | 26.67/ 66.68 | 31 |

Note: The Relatedness Index measures the strength of cited and citing relationships. Of the two values, the first one is the citing by the "Reference Journal" to the Ag Econ Journal, and the second is the citing by an Ag Econ Journal (AJAE or AE-B) to the "Reference Journal." Bold numbers highlight the maximum value. For example, citations by *Econometrica* to AJAE articles are relatively low (10.77) compared to citations by AJAE to *Econometrica* articles (394.20).

Ritzberger (2008), I selected journals that cite and are cited by journals in agricultural economics and related fields (see footnote 5) to obtain the list reported in Table 4. The top journals in economics, business, finance, industrial relations and labor, and a few economics-related statistical journals were included in this ranking and some are shown in the shaded portion of Table 4, with *Econometrica* as the top journal. The bottom portion of this table contains journals that were not ranked and is comprised mainly of journals in agricultural economics. Note that the *American Journal of Agricultural Economics* is recommended as a solid journal. Three points are worth highlighting about the contents of Table 4. First, there is a large number of journals ranked as solid (AJAE for example) or better that are a frequent outlet for work published by agricultural economists, including the *Journal of Econometrics*, *Journal of Business and Economic Statistics*, *Journal of Applied Econometrics*, *Journal of Marketing*, *Journal of Environmental Economics and Management*, *International Journal of Forecasting*, *Journal of Productivity Analysis*, *Regional Science and Urban Economics*, *IMF Staff Papers*, *Energy Journal*, and many others, all of which are ranked higher than all journals in agricultural economics and policy. Second, based on the ‘value’ ranking of

journals, it seems almost impossible to improve the rankings of journals in AE&P based on this mix of theoretical and applied journals. Third, the scope of agricultural economics is much wider than the list of journals in Table 4 would suggest. For example, journals in agriculture (multidisciplinary), forestry, agribusiness, food marketing, and many others in community development and sociology are excluded. Since journals in agricultural economics are, in theory, applied, and the scope of the profession tends toward more multidisciplinary collaboration, the assessment of the quality of work of agricultural economists should be based on an “applied” list of related journals. Clearly, the findings in Ritzberger (2008) point toward a dominance by the AJAE in the journal rankings market; however, strong competitors arise when properly accounting for multidisciplinary collaboration.

Journal Matters

The JAAE, the SAEA’s journal, is not included in the JCR database; thus, impact factors comparable to the journals in the Agricultural Economics and Policy of JCR are not available. Based on the analysis reported here and data from Publish or Perish, one would suspect the impact of the journal to be moderate. Therefore,

Table 4. Rankings of Agricultural Economics and Related Fields Relative to Journals in Economics, Business, and Finance

| Journal | Value | Recommendation |
|---|-------------|----------------|
| <i>Econometrica</i> | 100.00 | Top |
| <i>Quarterly Journal of Economics</i> | 72.41 | Top |
| <i>Review of Economic Studies</i> | 53.02 | Top |
| <i>Journal of Political Economy</i> | 51.34 | Top |
| <i>Journal of Monetary Economics</i> | 37.91 | Top |
| <i>American Economic Review</i> | 36.14 | Top |
| <i>Journal of Econometrics</i> | 25.99 | Top |
| <i>Journal of Business and Economic Statistics</i> | 17.66 | Excellent |
| <i>Journal of Risk and Uncertainty</i> | 16.92 | Very Good |
| <i>Marketing Science</i> | 14.81 | Very Good |
| <i>Journal of Economic Dynamics and Control</i> | 11.16 | Excellent |
| <i>World Bank Economic Review</i> | 8.67 | Very Good |
| <i>Journal of Applied Econometrics</i> | 8.56 | Very Good |
| <i>Journal of Marketing</i> | 8.30 | Good |
| <i>Journal of Environmental Economics and Management</i> | 7.78 | Good |
| <i>International Journal of Forecasting</i> | 6.56 | Good |
| <i>Journal of Urban Economics</i> | 6.07 | Good |
| <i>Journal of Productivity Analysis</i> | 5.51 | Minor |
| <i>Oxford Bulletin of Economics and Statistics</i> | 5.16 | Good |
| <i>Resource and Energy Economics</i> | 4.61 | Solid |
| <i>Regional Science and Urban Economics</i> | 4.48 | Solid |
| <i>IMF Staff Papers</i> | 4.10 | Good |
| <i>World Bank Research Observer</i> | 3.72 | Solid |
| <i>Energy Journal</i> | 3.51 | Solid |
| <i>Journal of Forecasting</i> | 2.81 | Minor |
| <i>American Journal of Agricultural Economics</i> | 2.38 | Solid |
| <i>World Development</i> | 2.02 | Solid |
| <i>Environmental and Resource Economics</i> | 1.73 | Minor |
| <i>Energy Economics</i> | 1.12 | |
| <i>Journal of Agricultural Economics</i> | 0.88 | |
| <i>Journal of Futures Markets</i> | 0.86 | |
| <i>Applied Economics</i> | 0.52 | |
| <i>Australian Journal of Agriculture and Resource Economics</i> | 0.44 | |
| <i>Review of Agricultural Economics</i> | 0.36 | |
| <i>Ecological Economics</i> | 0.33 | |
| <i>Food Policy</i> | 0.26 | |
| <i>Journal of Agriculture and Resource Economics</i> | 0.25 | |
| <i>Applied Economics Letters</i> | 0.23 | |
| <i>Agricultural Economics-Blackwell</i> | 0.16 | |

The value of a journal is interpreted as the ratio of the number of impact-weighted citations received by that journal to those obtained by the best journal in the sample (Ritzberger, 2008).

we must think about strategies that can strengthen the impact and improve the rankings of the journal in the context of applied interdisciplinary journals. In what follows, I provide a few thoughts that I believe merit some dialogue and perhaps immediate action.

Readability of Journals

In personal conversations with colleagues, I have revealed my preference in reading articles from the *AJAE* as *pre-AJAE* (that is, the *Journal of Farm Economics (JFE)*) and *post-AJAE*,

with *pre* strongly preferred to *post* articles. Articles from the *JFE* were written with much economic intuition and the methods adopted were essentially *de facto* (does anyone remember reading the article on the “tomato harvester” while in graduate school?); but today, a large percentage of published articles is devoted to complex methods, often inaccessible to the average reader. Perhaps the years are catching up with me, but anecdotally, there seems to be some agreement that the *AJAE* used to be easier to read and methodologically inviting. This argument may not be unique to the *AJAE* as others have asserted that modern scientific papers are less readable than their predecessors in fields of science that have longevity (e.g., Meadows, 1986). While I did not pursue a time-series inquiry on the readability of journals in agricultural economics, I pursued a cursory evaluation of readability of our journals, including journals in fields such as economics, sociology, and applied physics. The readability of physics journals has been of interest in science and may provide a useful basis for comparison given the complexity of the subject.⁶ The selective sample used for this analysis is based on abstracts from the first issue of each journal in 2007 and 2008; the abstracts were chosen from the first, middle, and last papers on each issue. The idea of using abstracts is subjective, and reflects my observations, and experience, that in conducting reviews of literature, the first point of entry is a listing of article titles, then a selection of abstracts from chosen titles, and if of interest, reading of a whole document. It seems intuitive to argue that journals with good scientific writing and with highly readable abstracts may have a higher likelihood of citation, and therefore, higher impact. Using similar indicators, Sawyer, Laran, and Xu (2008) found that

in marketing, award-winning articles are more readable than nonwinning articles.

Six abstracts from each journal were chosen for analysis and the results are plotted in Figures 4 and 5. The Kincaid index in Figure 4 is a readability index recommended in the evaluation of scientific journals. Note that the *American Journal of Agricultural Economics* has the lowest (better) Kincaid index and the shortest sentence length (Figure 5). It is assumed that the longer the sentence length, the more difficult it is to read its content. Under this assumption, the *AJAE* has the best ratings among agricultural economics journals and relative to abstracts for the *American Economic Review*, the *Journal of Applied Econometrics*, the *Journal of Applied Physics*, and the *American Sociological Review* (ASR), all of which are located at the right extremum of Figures 4 and 5. The most difficult to read abstracts come from the *Journal of Agricultural Economics* (JAE) which requires over 18 years of schooling for comprehension. Note that many journals in agricultural economics (*AJAE*, *AE*, *RAE*, *AJARE*, *ERAE*, and *JAAE*) have a lower Kincaid index than the abstracts from *AER*; however, most of our journals have a readability score comparable to that of the *Journal of Applied Physics*. Except for the *AJAE*, most abstracts in journals in agricultural economics have average sentences that are as long or longer than those in the *Journal of Applied Physics*.

Citation Frequency

How often are papers in agricultural economics and policy cited? *Scopus*, one of the largest databases on the Web, covering some 16,000 peer-reviewed journals and about 4,000 publishers, provides data on the percentage of papers not cited by journal. Table 5 provides the correlation coefficients between pairs of journals, including all agricultural economics and policy journals listed in JCR, plus other journals such as the *Journal of Applied Econometrics*, *American Sociological Review*, *Journal of International Food and Agribusiness Management* (JIFAM), *International Food and Agribusiness Management Review* (IFAMR),

⁶This may reflect my preference for Physics as pleasure reading. I strongly recommend to friends who have an inclination for the subject to read “The Dancing Wu Li Masters,” “Einstein: His Life and Universe,” and “On the Shoulders of Giants: The Great Works of Physics and Astronomy.” Thanks to Wayne Gauthier for introducing me to the first book in this list.

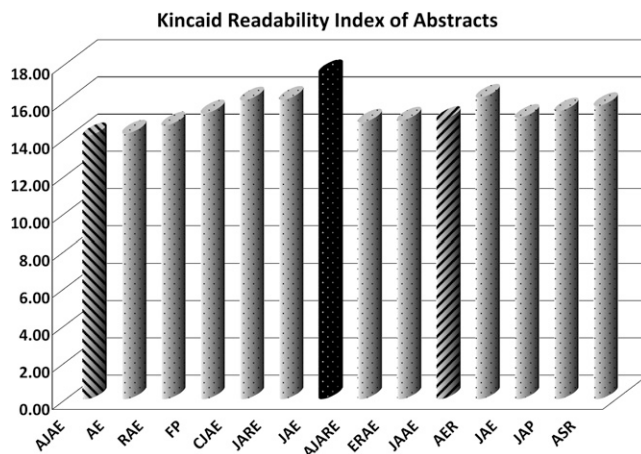


Figure 4. Kincaid Readability Index of Selected Abstracts, Journals of Agricultural Economics and Selected Fields, 2007–2008

Journal of Applied Physics, and *Applied Economics (AppEcon)*. Although this is a very small sample (7 years), the correlation coefficients are high for most journals in agricultural economics and policy and those in other fields. For example, the percentage of papers not cited in the *AJAE* has a 0.92 correlation with *Agricultural Economics* and its lowest correlation is with the *International Food and Agribusiness Management Review (IFAMR)*. If the comparison is made to pure sciences such as physics, the correlation between the *AJAE* percentage of not cites and the *JAP* is 0.84. The point of interest here is that there seems to be a strong correlation between the percentage of not citations to papers across many disciplines, and based on the selected journals plotted in Figure 6, it takes about 3 years before a paper published in a given year receives full citations (percentage of papers not cited stabilize around 2004). Of course, there exists quite a bit of variability across journals on the citation frequency of their articles.

Through a manual inspection of citations to *JAAE* articles in *Publish or Perish* by journal per year, the percentage of papers cited was calculated and subtracted from 100% to obtain Figures 7 and 8. Figure 7 shows the percentage of papers that were not cited from 2005 to 2007 for the *AJAE*, *FP*, *RAE*, *AJARE*, and *JAAE*. The *RAE* and *FP* clearly are cited promptly after publication and dominate even the *AJAE* in the

speed of citation even after 3 years of publication. Also note that the *JAAE* has the lowest citation frequency within the first 3 years of publication. A large number of articles are only cited once, and if these are deleted from the percentage cited, then the picture worsens considerably for some of these journals (Figure 8). For example, in 2007, close to 70%, or higher, of the articles published in the *AJAE*, *AJARE*, *RAE*, and *JAAE* are not cited. Clearly, associations in agricultural economics should address this performance issue and adopt strategies to improve early citations of articles in their journals. This is particularly true for the *JAAE*.

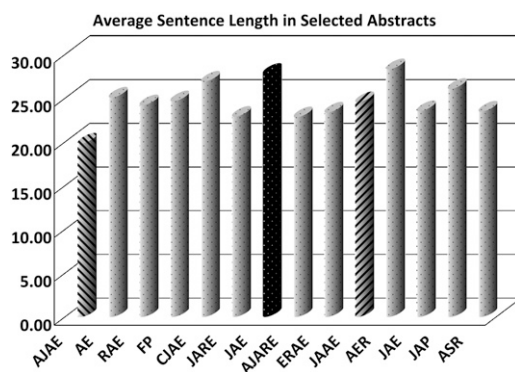


Figure 5. Average Sentence Length in Selected Abstracts, Journals in Agricultural Economics and Selected Fields, 2007–2008

Table 5. Correlation Matrix of Percentage of Papers Not Cited, Selected Journals, Scopus 2001–2007

| Journal | AJAE | AE | FP | CJAE | JARE | JAE | AJARE | ERAE | AER | JAE | JAP | ASR | JIFAM | IFAMR | AppEcon |
|---------|------|------|------|------|------|------|-------|------|------|------|------|------|-------|-------|---------|
| AJAE | 1.00 | | | | | | | | | | | | | | |
| AE | 0.92 | 1.00 | | | | | | | | | | | | | |
| FP | 0.94 | 0.91 | 1.00 | | | | | | | | | | | | |
| CJAE | 0.87 | 0.92 | 0.80 | 1.00 | | | | | | | | | | | |
| JARE | 0.84 | 0.90 | 0.93 | 0.79 | 1.00 | | | | | | | | | | |
| JAE | 0.79 | 0.83 | 0.74 | 0.61 | 0.77 | 1.00 | | | | | | | | | |
| AJARE | 0.81 | 0.82 | 0.80 | 0.70 | 0.76 | 0.81 | 1.00 | | | | | | | | |
| ERAE | 0.98 | 0.88 | 0.85 | 0.87 | 0.75 | 0.79 | 0.75 | 1.00 | | | | | | | |
| AER | 0.97 | 0.95 | 0.95 | 0.84 | 0.91 | 0.87 | 0.91 | 0.92 | 1.00 | | | | | | |
| JAE | 0.99 | 0.87 | 0.92 | 0.83 | 0.79 | 0.75 | 0.75 | 0.98 | 0.93 | 1.00 | | | | | |
| JAP | 0.84 | 0.94 | 0.91 | 0.78 | 0.97 | 0.86 | 0.76 | 0.78 | 0.92 | 0.79 | 1.00 | | | | |
| ASR | 0.92 | 0.68 | 0.81 | 0.65 | 0.62 | 0.65 | 0.73 | 0.90 | 0.83 | 0.94 | 0.61 | 1.00 | | | |
| JIFAM | 0.79 | 0.95 | 0.75 | 0.89 | 0.79 | 0.80 | 0.67 | 0.81 | 0.83 | 0.74 | 0.87 | 0.50 | 1.00 | | |
| IFAMR | 0.75 | 0.62 | 0.79 | 0.67 | 0.81 | 0.42 | 0.49 | 0.67 | 0.71 | 0.76 | 0.67 | 0.69 | 0.45 | 1.00 | |
| AppEcon | 0.96 | 0.97 | 0.97 | 0.87 | 0.94 | 0.84 | 0.88 | 0.90 | 0.99 | 0.92 | 0.94 | 0.79 | 0.85 | 0.73 | 1.00 |

Invited Papers

The March newsletter of the SAEA each year announces the call for invited papers and these papers are assumed to be on frontier issues of interest to the membership. Prior to publication, the editors of the *JAAE* review these papers to ascertain that they meet the guidelines of the journal. Two formats are used by organizers of these sessions: a) a four-paper session with no discussant or b) a three-paper session with a discussant. The discussant’s paper is also published and is subject to the same editorial

screening as the other papers. On a yearly basis, about 16 articles are published on invited papers. This comprises close to one-third of the number of articles published annually by the journal.

Given the share of journal space allotted to these papers, we must ask how these papers contribute to the impact of the *JAAE*? Using Publish or Parish statistics, I screened all the invited papers for citations from 2005 to 2007 and compared the number of citations of invited papers relative to total citations of the *JAAE* in each of those years (Figure 9). In 2005,

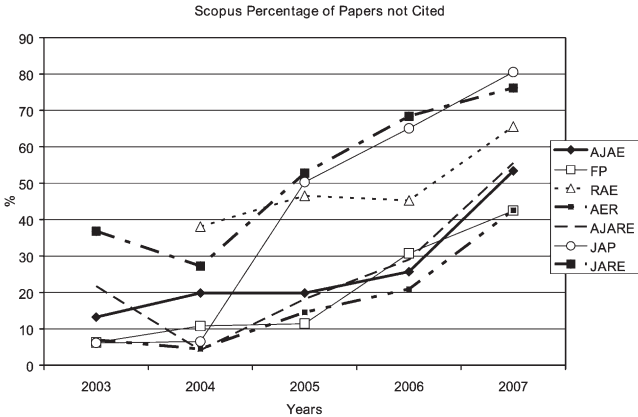


Figure 6. Percentage of Papers Not Cited Reported by Scopus, Selected Journals in Agricultural Economics and Food Policy, American Economic Review, and Journal of Applied Physics, 2003–2007

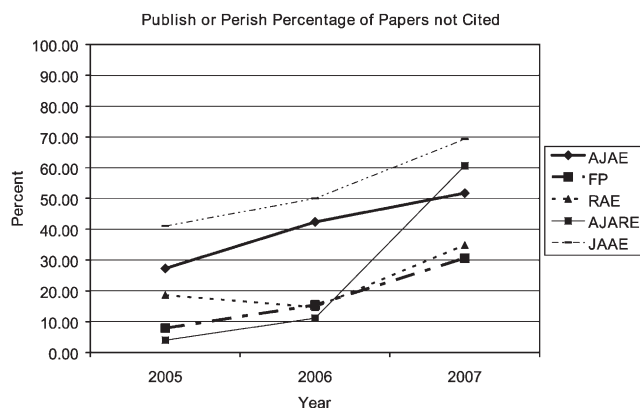


Figure 7. Percentage of Papers Not Cited Calculated from Publish or Perish, Selected Journals in Agricultural Economics, 2005–2007

for example, PoP shows that there were a total of 107 total cites to the *JAAE* (data collected from PoP at the end of December 2008), and 14 of those cites were to invited paper articles; this amounts to approximately 13% of total citations. In 2006, the citation count for the journal was low compared with 2005 (about half lower), and that year, invited papers did very well; they comprised about 48% of the total cites. If we keep in mind that it takes about 3 years to get papers fully cited, then clearly invited papers are not contributing to the impact of the journal as would be desired based on the journal space set-aside for these papers. This is an activity that needs closer examination and restructuring given its current impact through the *Journal*.

Authorship

What is the dominant form of authorship in the journals of agricultural economics? Figure 10a-f show the percent of papers published by one, two, three, four, five, and six authors in a selected set of journals that are reported as summary statistics by PoP for the years 2005–2007. For the *AJAE* (Figure 10a), 34% of the papers published during that period were written by single authors, 42% by two authors, 17% by three, and the remaining 7% were written by four to six authors. In the case of the *JAAE* (Figure 10b), the percent of papers published by single authors was lower (23%) compared with the *AJAE*, and so was the percent of papers published by two authors (30% versus 42%);

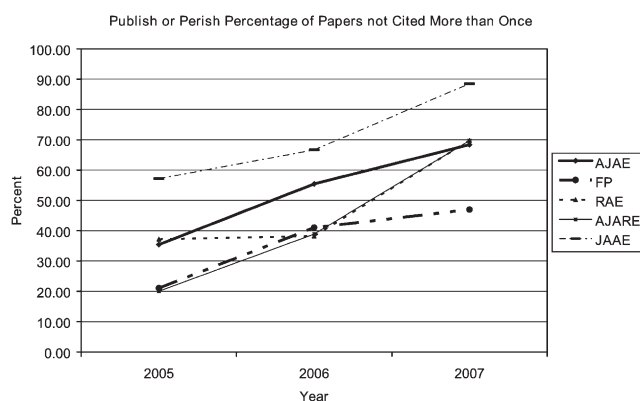


Figure 8. Percentage of Papers Not Cited More than Once Calculated from Publish or Perish, Selected Journals in Agricultural Economics, 2005–2007

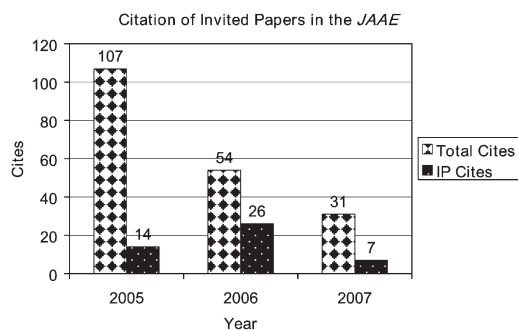


Figure 9. Total Cites of Invited Papers Published in the *Journal of Agriculture and Applied Economics* (JAAE), 2005–2007

note, however, that about 26% of the papers published in the *JAAE* were written by three authors and 13% by four authors, with the remaining 8% authored by five and six authors. Among other observations, one that stands out is the authorship similarities between the *JAAE* and the *Journal of Extension*. Both journals seem to publish a large percentage of papers with two or more authors, with about the same percentages by number of authors.

Conclusions

The descriptive evidence presented in this *Address* signals a need for dialogue in the profession about relative intellectual influence. This topic has been of much debate in economics, and although the jury is still out on the best way to conduct such analyses, a few points worthy of consideration emerge. Notwithstanding the limitations of this work, it is clear that a plain and direct dialogue among all stakeholders of the SAEA is needed in order to strengthen our leadership role among professional associations of agricultural economics via journals. I will elaborate on the conclusions that seem to emerge from the evidence presented here.

Readability

The benefits from good scientific writing are wider readership and higher impact; this should be of interest to all scientists, and in particular, young scientists who aspire to advance their

professional careers. This preliminary evaluation of journal abstracts points to the *AJAE*, *AE*, *AJARE*, *ERA*E and *JAAE* as examples of reasonably well-written journals. For most journals in agricultural economics, nonetheless, there seems to be ample room for improving the readability of abstracts. It remains unknown the extent to which the readability of entire papers correlates to that in abstracts.⁷ It appears that all journals have much to gain in terms of reaching various audiences by requiring abstracts to be clearly written, of reduced sentence length, and more effectively structured. Readability is important if we expect the *JAAE* to have a stronger impact on other disciplines. If our primary intent is to continue to produce an applied journal, then the journal's readability should have appeal to practitioners and policy and decision makers. If our primary market for new recruits is undergraduate and graduate students, then the *JAAE* should be accessible and readable to such an audience.

The Journal

On the aggregate, agricultural economics and policy journals have a moderate impact in science that is achieved by a relatively small number of journals and articles. The record shows that our invited papers generate a modest number of citations and that most invited papers fly under the citation radar. I have three recommendations that may strengthen content and impact of the journal. First, as advanced by Huang (2007), we should increase the number of issues of the *JAAE* per year.⁸ This action should reduce the time lag for readership and citations. Second, we should restructure invited paper sessions to be of stronger journal impact

⁷ A more complete random sample, rather than a selected sample of abstracts, should be used for a more accurate comparison of readability of journal abstracts.

⁸ In recent personal communication, the editors of the *JAAE* have expressed interest in submitting a proposal to increase the number of issues published per year from three to four. If the proposal is approved, this change should lead to a more timely publication of articles and to stronger journal impact.

without sacrificing the purpose of the sessions. Papers of high quality in frontier topics are more likely to be cited, particularly when they are sufficiently stimulating to lead to future work. One suggestion would be to designate one invited paper to a lead-frontier session by invitation from the SAEA with one presenter and one discussant, and publish one paper with a discussion on the subject. Lastly, a review of editorial policies of the *JAAE*, relative to those of other journals in agricultural economics, should be conducted aiming at strengthening the quality of journals, including requirements for readability and replicability (disclosure of data and methods).⁹ We should expand our readership if we want to strengthen our impact, and one way to move in that direction is by improving the readership of the *JAAE*. We do not want the journal to become popular reading but I would propose that we want the Journal to be stimulating to all scholars.

Citation Frequency

The citation evidence in this *Address* finds that journals in agricultural economics take at least 3 years to be fully cited. This information itself is useful for inviting a deeper study of our intellectual impact through the journals using a longer time series citation pattern in agricultural economics. Reducing the discussion to economics, I would feel more comfortable if

journal, and perhaps departmental, rankings were based on a set of applied journals. As currently done, I find little value in comparing applied journals to purely theoretical ones. In the parlor of “The Dancing Wu Li Masters” (see references), we must distinguish between the creators of new knowledge and the users of it.

Multidisciplinary Collaboration

When it comes to exploring the boundaries outside our own discipline: *We are it!* This is the phrase used by Segarra (1998), former President of the SAEA, and the citation evidence reported here supports it. We have been active and proactive players in interdisciplinary collaboration. We have a number of regional activities and collaborative efforts that promote interstate, interdiscipline, multidiscipline exchanges in teaching, research, and outreach. A recent report entitled “Facilitating Interdisciplinary Research” by the Committee on Facilitating Interdisciplinary Research (National Academies) emphasizes, among other things, that “professional societies have the opportunity to facilitate interdisciplinary research by producing state of the art reports on recent research developments and on curriculum, assessment, and accreditation methods; enhancing personal interactions; building partnerships among societies; publishing interdisciplinary journals and special editions of disciplinary journals; and promoting mutual understanding of disciplinary methods, languages, and cultures.” It is a bit surprising that many of the journals still have a large percentage of single and two-authored papers. Recent research (Laband, 2002; Hilmer and Hilmer, 2005) has found significant interdisciplinary differences on the relative importance of authorship and the allocation of property rights. It is found that agricultural economics places more emphasis on authorship than economics and other disciplines. Laband (2002) suggests, and the argument would be familiar with our own departmental experiences, that in agricultural economics, grant funding historically has been an important component of research budgets. Thus, individual researchers have a strong incentive to play *solo* acts, or as

⁹Replicability means that we should be able to reproduce the main findings reported in our published work. Several journals in economics require that authors either pledge to make their data sets available upon request (with exceptions) or require that authors of empirical papers submit their data sets for an inclusion in a special website as done by the *American Economic Review* in 2005 (Bernanke, 2004). The availability of data sets would also play a significant pedagogical role in their use in econometrics courses that have an applied emphasis, for example. Students could be presented with contemporaneous applications of methods through works recently published. Although counter arguments exist, there is a lot to gain by prompt response to data requests, even when this may not be required by the journal. If the credibility of empirical work can be enhanced by data availability and such data can have pedagogical value for students of a field, then these two reasons alone provide support to its adoption.

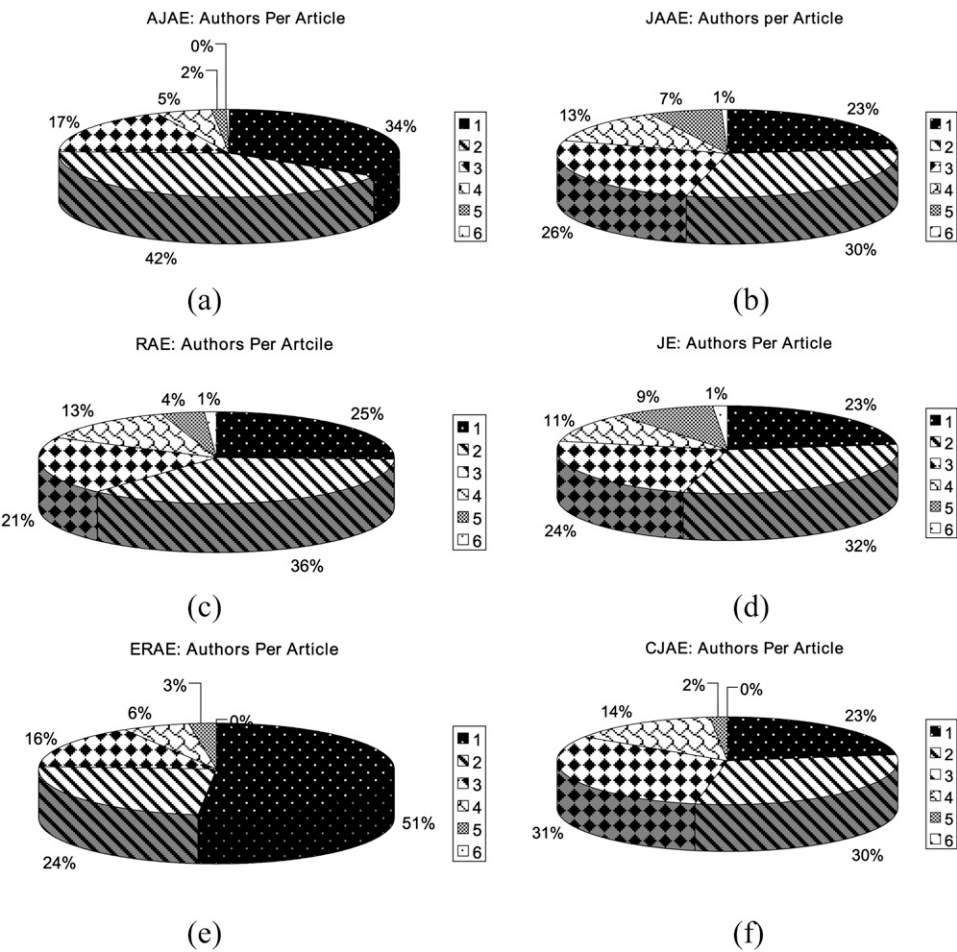


Figure 10. Number and Percentage of Authors per Article Published in Selected Journals in Agricultural Economics, 2005–2007

informally known, operate as “independent contractors.” The incentive is stronger when considering that quality publications have a greater impact on annual earnings in agricultural economics (Hilmer and Hilmer, 2005). Unfortunately, no evidence exists that such an incentive, and the ensuing *modus operandi* of solo players, leads to high quality publications, and relative to associations, stronger service. Cursory observation suggests that the latter tends to be a distraction for most solo performers.

The SAEA should continue to provide a leadership role in the transition to interdisciplinary collaboration, to stimulate a culture needed to interact with scientists in related disciplines, to facilitate exchanges that generate a dialogue of the sciences so that our

communication becomes clearer, to reward productivity arising from such complex collaboration, to reassess the Journal’s role in a multidisciplinary context, to promote multidisciplinary scholarship for undergraduate and graduate students, and yet do it in a way that preserves our pursuit of excellence as agricultural economists. This process has already started. At these 2009 meetings in Atlanta, the Southern Association of Agricultural Scientists (SAAS) has taken the initiative to hold a set of multidisciplinary sessions entitled “Spotlight or Stoplight: Alternative Energy, Bioenergy and Agriculture.” The SAEA is holding one of the track sessions on multidisciplinary collaboration and there is one Organized Symposium that discusses multidisciplinary collaboration

in the context of serving the next generation of agriculture and resource economics leaders, and explores ways on how to get there, the challenges to the profession, and funding sources for economists and social scientists. Perhaps the editorial staff and Council of the *Journal* can provide guidance on the inclusion of multidisciplinary scientist as a member of the Council and the possibility of publishing multidisciplinary articles.

Consistent with our professional heritage, it is found that the scope of agricultural economics continues to expand, and given the current emphasis on multidisciplinary collaboration, this trend is likely to continue. This should be of note to agricultural economists and should place them in leadership roles in multidisciplinary collaboration. How we maximize utility in a multidisciplinary research and outreach world of collaboration will determine the future strength of our profession. We can survive with excellence as agricultural economists, or we can continue to dissipate our enviable heritage by splitting interests. I propose that we have much to gain by marketing ourselves better rather than through product diversification. If we can agree on the principle that this is a problem solving profession, then we should see multidisciplinary collaboration as part of the strategy. In that context, our profession should have no need for a new name; instead, we should design an *Icon* that symbolizes our professional prowess!

Strengthening our interdisciplinary ties will be challenging because of the scarcity of research funding, but it is doable and associations such as the SAEA are doing their best to facilitate progress. As you may recall, the SAEA recently adopted a mission statement in its Operating Policies that reads:

The Mission of the Southern Agricultural Economics Association is to provide a forum for original thinking on applied economic issues, promote the attainment of excellence in the profession, facilitate the dissemination and exchange of research and extension information, and foster multidisciplinary collaboration through leadership in southern U.S. agriculture. The Association encourages the freedom of economic thought and abides by the

highest standards of professional ethics and conduct.

Our mission statement makes it clear we are ready to be at the forefront of this change! I look forward to facilitating the process in the year ahead, but, of course, count on your energetic engagement.

References

- Beilock, R.P., R.C. Polopolus, and M. Correal. "Ranking of Agricultural Economics Departments by Citations." *American Journal of Agricultural Economics* 68(1996):595–604.
- Bernanke, B. "Editorial Statement." *The American Economic Review* 94(2004):404.
- Eidman, V.R. "The Continuing Search for Relevance in Agricultural Economics." *American Journal of Agricultural Economics* 77(1995): 1083–95.
- Facilitating Interdisciplinary Research. Committee on Facilitating Interdisciplinary Research, National Academy of Sciences, National Academy of Engineering, Institute of Medicine. The National Academies Press, 2004. Internet site: http://www.nap.edu/catalog.php?record_id=11153#toc.
- Gibbons, J.D., and M. Fish. "Rankings of Economics Faculties and Representation on Editorial Boards of Top Journals." *The Journal of Economic Education* 22(1991):361–72.
- Hilmer, C.E., and M.J. Hilmer. "How Do Journal Quality, Co-Authorship, and Author Order Affect Agricultural Economists' Salaries?" *American Journal of Agricultural Economics* 87(2005):509–23.
- Huang, C.L. "Publish or Perish! An Editorial Perspective." *Journal of Agricultural and Applied Economics* 29(2007):225–29.
- Jensen, K.L. "The SAEA: Current Services and Future Directions." *Journal of Agricultural and Applied Economics* 37(2005):315–26.
- Kalaizidakis, P., T.P. Mamuneas, and T. Stengos. "Rankings of Academic Journals and Institutions in Economics." *Journal of the European Economic Association* 1(2003):1346–66.
- Kilmer, R.L. "Background, Experiences, and the Future of Our Profession." *Journal of Agricultural and Applied Economics* 39(2007):233–35.
- . "The Southern Agricultural Economics Association's Declining Membership." *Journal of Agricultural and Applied Economics* 36(2004):265–75.

- Laband, D.N. "Contribution, Attribution and the Allocation of Intellectual Property Rights: Economics Versus Agricultural Economics." *Labour Economics* 9(2002):125–31.
- Laband, D.N., and M.J. Piette. "The Relative Impacts of Economics Journals: 1970–1990." *Journal of Economic Literature* 32(1994):640–66.
- Liebowitz, S.J., and J.C. Palmer. "Assessing the Relative Impacts of Economics Journals." *Journal of Economic Literature* 22(1984):77–88.
- Meadows, A.J. "The Readability of Physics Papers." *Czechoslovak Journal of Physics* 36(1986): 89–91.
- Palacio-Huerta, I., and O. Volij. "The Measurement of Intellectual Influence." *Econometrica* 72(2004):63–977.
- Pudovkin, A.I., and E. Garfield. "Algorithmic Procedure for Finding Semantically Related Journals." *Journal of the American Society for Information Science and Technology* 53,13(2002):1113–19.
- Ritzberger, K. "A Ranking of Journals in Economics and Related Fields." *German Economic Review* 9(2008):402–30.
- Sawyer, A.G., J. Laran, and J. Xu. "The Readability of Marketing Journals: Are Award-Winning Articles Better Written?" *Journal of Marketing* 72(2008):108–17.
- Segarra, E. "Current State and Future Directions of SAEA." *Journal of Agricultural and Applied Economics* 30(1998):1–19.
- Zukav, G. "The Dancing Wu Li Masters: An Overview of the New Physics." New York: Bantam Books, 1980.