Research Productivity and Selected Characteristics of Agricultural Economics Faculty In The Southern Region: A Quarter of A Century Later

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Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meetings, Little Rock, Arkansas, February 5-9, 2005

Abstract

Productivity and characteristics of southern agricultural economics faculty was compared to other regional faculty. With few exceptions, faculty members in the Southern region are as productive as their counterparts. We also found that the majority of respondents in all regions considered themselves in the top-quartile in all areas.

Keywords: faculty salaries, faculty productivity, faculty characteristics, regional comparisons, survey

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Introduction

Studies on research productivity have been approached from several different directions. One of the first analyses was published in 1954 by Arnold and Barlowe. They classified contributions from 1919-1953 to the *Journal of Farm Economics* (*JFE*) in multiple classes, which included institutional affiliation, subject matter, and article type. In 1963, Nielson and Riley analyzed the concentration of authorship of papers in the 1958-1967 issues of the *JFE*. Redman (1972) focused on the locational distribution of American Agricultural Economics Association (AAEA) membership and the locational distribution of contributor to the AAEA's journal, the *American Journal of Agricultural Economics* (*AJAE*). In 1974, Holland and Redman again focused on *AJAE* contributions and followed the Arnold and Barlowe type of classifications.

Research in 1977 (Opaluch and Just; Oursbourn, Hardin, and Lacewell) also classified journal contributors by institutional affiliation. Opaluch and Just examined *AJAE* articles from 1968-1972, while Oursbourn, Hardin, and Lacewell focused on the Southern Journal of Agricultural Economics articles from the 1969-1976 period. With the exception of Oursbourn, these studies found that agricultural economics faculty from universities in the Southern region of the United States generally have not ranked very high as contributors to major economic journals.

In 1980, Broder and Ziemer specifically addressed the issue of the productivity and select characteristics of Southern region faculty. They surveyed 500 randomly selected academic agricultural economists from land grant universities. They based the regional definitions on the 1976 Peck and Babb AAEA membership study. Broder and

Ziemer's data consisted of 197 usable responses, defined as holding a Ph.D. degree and having at least a 10% research appointment. Their analysis showed little statistical difference in the productivity of faculty employed and educated in the Southern region and that of faculty elsewhere. They also found only one significant difference in the characteristics of faculty employed and educated in the Southern region and that of other faculty, which they believe supports the productivity findings.

The primary objective of this research is to compare the productivity of Southern faculty and their other regional counterparts. Two different definitions of the "Southern" region will be examined. The second objective is to compare and contrast other characteristics of the different faculty groups. The third objective of this study is to compare responses to self-evaluation questions from the different regions. The methodology for the first objective includes our own categorical definitions of productivity and no adjustments to appointment splits.

Data

We designed a survey based on the original one mailed by Broder and Ziemer, which was provided to us by Dr. Broder. Our survey was an electronic version to be completed via the Internet. Through one email and one follow-up, the survey of 2004 garnered 209 respondents who held a Ph.D. degree, had greater than a 10 percent research appointment, and worked at major land grant universities. . Respondents from the Southern region were separated from the rest of the sample based on Peck and Babb's study in 1976 on employment and mobility patterns of agricultural economists. The universities that comprise the Southern region are as follows: Auburn, Arkansas, Florida, Georgia, Kentucky, Louisiana State, Mississippi State, North Carolina State, Clemson,

Tennessee, Virginia Polytechnic Institute, and West Virginia. When the data are split by region of employment, there are 12 (24.5%) institutions included in the Southern region and 37 in the remaining regions. The split by region of education was comprised of 8 and 35 institutions, respectively, for the Southern and other regions (18.6% and 81.4%).

Research Performance

Research performance is measured by individual faculty member contributions to selected categories. Using individual faculty members as the observational unit enables one to avoid the problems of faculty size and distribution associated with comparisons by department. Table 1 shows Broder and Ziemer's results along with the 2004 survey results. Average individual career research productivity of agricultural economics faculty in the Southern region is compared to other regions. Broder and Ziemer's adjusted research appointments to reflect a 100 percent research appointment. They assumed that an individual with a 50 percent research appointment would be half as prolific as one with a 100 percent appointment, etc. Therefore, they increased an individual's article count according to their appointment ratio. A potential criticism of the Broder and Ziemer study may be the assumption to equally weight single and joint authorship. Some may consider that the results are not representative of individual efforts.

Broder and Ziemer found significant productivity differences in *AJAE* publications only. Other productivity measures had no significant differences between Southern and other regional faculty. A typical Southern researcher produced more *regional journal and experiment station publications* than their other regional counterparts.

The 2004 survey resulted in findings similar to Broder and Ziemer. Again, there were significant productivity differences in *AJAE* publications only. At the 5% level, no other productivity measures were statistically significant between Southern faculty and other regional faculty. Compared to the results of Broder and Ziemer, Southern researchers are now focusing on *book* writing rather than other publication outlets and are achieving more *research awards*.

Research productivity of Southern-trained faculty was compared with other faculty who were educated in other regions. Table 2 contains both the 1980 and the 2004 survey results. Except in *experiment station publications*, Broder and Ziemer failed to find any significant differences in research productivity between Southern-trained faculty and the faculty trained in other regions. Their results indicated that regardless of where faculty members were educated their productivity was comparable.

The 2004 survey results indicated other significant differences between the faculty educated in the Southern region and those faculty educated elsewhere. Their productivity in *regional journals, other national journals,* and *AJAE publications* was statistically different.

Faculty Characteristics

Average characteristics of faculty in the Southern region are listed and compared to faculty of other regions in table 3. Broder and Ziemer's results are presented first and are followed by the 2004 results. Broder and Ziemer found that *time served on committees* was the only significant difference between the Southern and other region faculty. Southern faculty members were comparable in *age* and *academic appointment.* They experienced similar *promotion schedules* and received about the same nominal

salaries. Just over half the Southern faculty obtained *grants*, and an average faculty member received about $1,320 in *consulting income*. Southern faculty had about 12 *undergraduate* advisees, 2.4 *Master's* students, and 1.2 *Ph.D.* students. Courses were adjusted to reflect a 100 percent teaching appointment. Faculty averaged 6.4 *undergraduate* and 2.6 *graduate courses*. Broder and Ziemer indicated that these results explained the similarity in research productivity shown in their results in table 1.

In the 2004 results, the *salary for full professors, research appointment, extension appointment,* and the *number of career changes* were significantly different between faculty employed in the Southern regions and those in other regions. Southern faculty had a higher *research appointment* and lower *extension appointment*. These results coupled with lower *full professor salaries* and lower *career changes* may indicate that Southern faculty members are less mobile than their counterparts in other regions. Southern faculty members were comparable in *age* and *teaching appointment*. The 2004 survey did not contain questions regarding the years of experience as an assistant, associate, or full professor. Therefore, we assumed the difference between graduation year and year of tenure was the *years of experience as an assistant* professor. *Years of experience as an assistant* professor and *salaries* for assistant and associate professors were similar for the regional faculty sets. In 2004, 83 % of Southern faculty obtained *grants*; this was a large increase from the Broder Ziemer results, but not significantly different from faculty in other regions. On average, Southern faculty had $10,789 in annual *consulting income*, 55 *undergraduate* advisees, 11 *Master's* students, and 6 *Ph.D.* students. When adjusted to a 100 percent teaching appointment, Southern faculty taught 4.92 *undergraduate* and 1.83 *graduate* courses.

A comparison of the average characteristics for faculty trained in the Southern and other regions is shown in Table 4. Broder and Ziemer found a significant difference only in the *number of career employment changes*. All other characteristics were similar between the two groups. The recent survey results indicated significant differences several areas. The *salary of full professors*, the number of *Ph.D.* student advisees, and the number of *graduate courses* taught were all statistically different at the mean between the groups. The lower *salary* may be a product of fewer *Ph.D. advisees* and *graduate courses*. This relationship would be consistent with Golden et. al (2004).

Self Evaluation

The second objective of this analysis was to examine respondents' answers to questions asking for an individual's estimation of their personal skills. The questions were divided into four performance areas: research, teaching, extension, and administration. Five responses were offered for each area: top quartile, upper middle, lower middle, bottom quartile, and not applicable. Not applicable responses were excluded from calculations. The majority of faculty in both regions ranked themselves in the top quartile of all areas. However, none of these results were statistically different at the 5% level.

Conclusions

Research productivity and average characteristics were described for agricultural economics faculty employed at a university in the Southern region and for faculty educated at a Southern region university. The research performance of these faculty groups was compared to their faculty counterparts employed or trained at universities in all other regions. Results from this study support the findings of Broder and Ziemer that,

with few exceptions, average research productivity for faculty in the Southern region is similar to that of faculty in other regions. In 1980, Broder and Ziemer found most faculty characteristics similar on average between the regions. They indicated that the lack of statistical difference in productivity was likely explained by the similarities in faculty characteristics. The 2004 results were similar when comparing faculty employed in the Southern region to those employed of other regions. However, the 2004 results indicated significant differences in several average characteristics when the two groups were split according to where the faculty member was educated.

Because several previous studies did not control for departmental size, Broder and Ziemer hypothesized that superior ranking given to selected universities might be more indicative of that aspect rather than individual faculty productivity. This study avoids that problem by examining individual faculty members. The 2004 results shown in tables 1 and 3 tend to support Broder and Ziemer's claim. However, tables 2 and 4 indicate additional reasons for prior rankings. The 2004 results show that although the productivity of faculty members educated in the Southern region does not differ from faculty educated elsewhere, several average characteristics of these faculty groups are significantly different.

This analysis also examined faculty responses to self-evaluation questions. Broder and Ziemer did not examine this issue, so no comparisons could be made. The 2004 results indicated that most faculty members consider themselves in the top quartile in research, teaching, extension, and administration. These results did not vary across the two regions.

References

Arnold, Carl J. and Raleigh Barlowe. "The Journal of Farm Economics—Its First 35 Years." *Journal of Farm Economics*. 51(1954):441-52.

Broder, Josef M. and Rod F. Ziemer. "Research Productivity and Selected Characteristics of Agricultural Economics Research and Teaching Faculty in the Southern Region." *Southern Journal of Agricultural Economics*. ??(1980):157-60.

Golden, Bill B., Leah J. Tsoodle, Oluwarotimi O. Odeh, and Allen M. Featherstone. "Determinants of Agricultural Economic Faculty Salaries: A Quarter of a Century Later." Working Paper. 2004.

Holland, David W. and John C. Redman. "Institutional Affiliation of Agricultural Economists—1953-1972." *American Journal of Agricultural Economics*. 56(1974):784-90.

Nielson, James and Harold M. Riley. "Concentration of Authorship in the *JFE*?." *Journal of Farm Economics*. 45(1963):885-7.

Opaluch, James and Richard E. Just. "Institutional Affiliation of Authors of Contributions in Agricultural Economics, 1968-1972." *American Journal of Agricultural Economics*. 59(1977):400-3.

Oursbourn, Cecil D., Daniel C. Hardin, and Ronald D. Lacewell. "Classification of Contributions to the Southern Journal of Agricultural Economics: 1969-1976." *Southern Journal of Agricultural Economics*. 9(1977):155-8.

Peck, Anne E. and Emerson M. Babb. "The AAEA Membership: Employment and Mobility Patterns." *American Journal of Agricultural Economics*. 58(1976):600-5.

Redman, John C. "Locational Distribution of AAEA Memberships and Journal Contribution," *American Journal of Agricultural Economics*. 54(1972):145-6.

TABLE 1. RESEARCH PRODUCTIVITY OF AGRICULTURAL ECONOMICS RESEARCH FACULTY BY REGION OF EMPLOYMENT[a]

	BZ Region		KSU Region	
	Southern	All others	Southern	All others
Average Number of Papers in:				
American Journal of Agricultural Economics	1.7*	4.68	1.94*	5.23
Other National Journals	4.35	9.5	5.6	8.54
Foreign Journals	1.97	3.98	N/A	N/A
Regional Journals	4.42	3.38	18.87	24.17
Books	0.96	1.61	1.26	1.18
Experiment Station Publications	37.66	30.61	58.6	51.19
Contributed and Invited Papers	16	15.49	3.3	6.94
Research Awards[b]	0.2	1.07	0.59	0.2

[a]Based on 100 percent research appointment (only individuals with research appointments considered)

[b]Includes departmental, college, university, and professional associations

*Different at the α=.05 level of significance

TABLE 2. RESEARCH PRODUCTIVITY OF AGRICULTURAL ECONOMICS RESEARCH FACULTY BY REGION OF EDUCATION[a]

	BZ Region		KSU Region	
	Southern	All others	Southern	All others
Average Number of Papers in:				
American Journal of Agricultural Economics	2.49	4.20	1.44*	4.73
Other National Journals	5.65	8.68	2.64*	8.41
Foreign Journals	2.85	3.61	N/A	N/A
Regional Journals	5.17	5.15	14.81*	23.78
Books	1.18	1.50	0.76	1.26
Experiment Station Publications	55.21*	29.09	36.11	55.99
Contributed and Invited Papers	25.88	14.19	2.63	6.39
Research Awards[b]	0.57	0.91	0	0.34

[a]Based on 100 percent research appointment (only individuals with research appointments considered)

[b]Includes departmental, college, university, and professional associations

*Different at the α=.05 level of significance

TABLE 3. AVERAGE CHARACTERISTICS OF AGRICULTURAL ECONOMICS FACULTY BY REGION OF EMPLOYMENT

	BZ		KSU	
	Southern	All Others	Southern	All Others
Age	43.00	42.82	47.75	47.95
Percent Appointment				
Research	47.34	45.29	56.52*	47.71
Teaching	23.22	29.13	37.83	38.07
Extension	19.2	20.34	6.60*	13.66
Years Experience as				
Assistant	3.45	3.56	7.44	7.22
Associate	4.05	3.47	N/A	N/A
Full	3.96	4.69	N/A	N/A
Salary[a]				
Assistant	$23,841.00	$24,619.00	$65,425.00	$65,359.00
Associate	$29,360.00	$28,252.00	$79,662.00	$74,138.00
Full	$34,667.00	$36,472.00	$95,862.00*	$107,509.00
Annual Consulting Income	$1,320.00	$3,084.00	$10,789.00	$15,432.00
Percent Obtaining Grants	50.91	61.83	83.02	71.03
Hours/Week Served on Committee	4.58*	3.39	2.60	2.50
Number of Career Employment Changes	0.74	0.9	0.83*	1.19
Number of Student Advisees				
Undergraduate	11.64	14.79	54.68	75.54
Masters	2.4	2.41	10.98	9.50
Ph.D.	1.22	1.56	5.67	6.78
Average Number of Courses Taught[b]				
Undergraduate	6.38	5.67	4.92	4.59
Graduate	2.56	3.32	1.83	1.68

[a]Based on 12 month contract

[b]Based on 100 percent teaching appointment (only individuals with teaching appointments considered)

*Different at the α=.05 level of significance

TABLE 4. AVERAGE CHARACTERISTICS OF AGRICULTURAL ECONOMICS FACULTY BY REGION OF EDUCATION

	BZ		KSU	
	Southern	All Others	Southern	All Others
Age	42.69	43.98	45.14	48.25
Percent Appointment				
Research	45.62	45.79	49.21	50.13
Teaching	21.14	28.69	43.41	37.33
Extension	28.1	18.98	12.05	11.73
Years Experience as				
Assistant	3.93	3.49	7.82	7.21
Associate	4.1	3.53	N/A	N/A
Full	2.69	4.77	N/A	N/A
Salary[a]				
Assistant	$25,450.00	$23,941.00	$64,528.00	$65,478.00
Associate	$28,498.00	$28,579.00	$74,599.00	$75,931.00
Full	$34,286.00	$36,343.00	$85,750.00*	$106,257.00
Annual Consulting Income	$1,883.00	$2,793.00	$17,067.00	$13,957.00
Percent Obtaining Grants	55.17	59.91	81.82	73.30
Hours/Week Served on Committee	3.34	3.71	1.05	1.1
Number of Career Employment Changes	.45*	0.92	3.09	2.46
Number of Student Advisees				
Undergraduate	7.55	13.9	79.25	68.02
Masters	1.97	2.12	10.31	9.89
Ph.D.	0.79	1.33	2.29*	6.9
Average Number of Courses Taught[b]				
Undergraduate	6.96	5.66	4.98	4.64
Graduate	2.39	2.95	0.78*	1.84

[a]Based on 12 month contract

[b]Based on 100 percent teaching appointment (only individuals with teaching appointments considered)

*Different at the α=.05 level of significance

TABLE 5. QUARTILE RANKING BY REGION OF EMPLOYMENT

	Southern	Percent	All others	Percent
Research Performance:				
Top Quartile	22	40.00%	68	44.74%
Upper Middle	18	32.73%	62	40.79%
Lower Middle	12	21.82%	17	11.18%
Bottom Quartile	3	5.45%	5	3.29%
Teaching Performance:				
Top Quartile	26	53.06%	70	48.95%
Upper Middle	15	30.61%	57	39.86%
Lower Middle	7	14.29%	14	9.79%
Bottom Quartile	1	2.04%	2	1.40%
Extension Performance:				
Top Quartile	14	50.00%	54	56.84%
Upper Middle	6	21.43%	18	18.95%
Lower Middle	6	21.43%	13	13.68%
Bottom Quartile	2	7.14%	10	10.53%
Administration Performance:				
Top Quartile	11	50.00%	44	50.57%
Upper Middle	5	22.73%	28	32.18%
Lower Middle	3	13.64%	8	9.20%
Bottom Quartile	3	13.64%	7	8.05%

[a]Based on 100 percent research appointment (only individuals with research appointments considered)

*Different at the α=.05 level of significance

TABLE 6. QUARTILE RANKING BY REGION OF EDUCATION

	Southern	Percent	All others	Percent
Research Performance:				
Top Quartile	6	25.00%	84	45.90%
Upper Middle	9	37.50%	71	38.80%
Lower Middle	7	29.17%	22	12.02%
Bottom Quartile	2	8.33%	6	3.28%
Teaching Performance:				
Top Quartile	11	52.38%	85	49.71%
Upper Middle	7	33.33%	65	38.01%
Lower Middle	3	14.29%	18	10.53%
Bottom Quartile	0	0.00%	3	1.75%
Extension Performance:				
Top Quartile	11	68.75%	57	53.27%
Upper Middle	1	6.25%	23	21.50%
Lower Middle	3	18.75%	16	14.95%
Bottom Quartile	1	6.25%	11	10.28%
Administration Performance:				
Top Quartile	6	50.00%	49	50.52%
Upper Middle	3	25.00%	30	30.93%
Lower Middle	1	8.33%	10	10.31%
Bottom Quartile	2	16.67%	8	8.25%

[a]Based on 100 percent research appointment (only individuals with research appointments considered)

*Different at the α=.05 level of significance