Quality of Professional Life: Faculty Compensation and Appointments

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Abstract

The average real salary of agricultural economists has risen approximately 20 percent over the last two decades. Currently agricultural economists' salaries are approximately 6 percent above the average college of agricultural salary and 1 percent above the average of all university faculty. Over the last two decades agricultural economists' salaries have remained among the highest in the college of agriculture and their numbers have risen as a percentage of total agricultural faculty. Conversely our profession, and the college of agriculture in general, has experienced declines in salary levels and faculty numbers relative to average university salaries and total faculty numbers.

Key Words: agricultural economics, appointments, faculty, salaries

Economics is a profession concerned about resource utilization and values. Our profession contains many individuals who are recognized as leading authorities in analyzing the optimal use and pricing of numerous key resources, ranging from land and water to specific commodities such as corn, cattle and vegetables. The names and professional reputations of such individuals readily come to mind. But who among us is an expert on the market for agricultural economists and the value of our own resources, i.e. the professional services we render? In reviewing the literature I find that we are not void in this area of knowledge. But if all the work done in this area were bound together, it might add up to one healthy proceedings issue. Furthermore, the methodology and rigor of that combined set of work would not be judged by most reviewers as "pushing back the frontiers of our profession."

I speculate that if a multiple choice test were given to a representative sample of agricultural economists (including myself as a sample of one before developing this article) they would be hard pressed to come up with high marks on such basic questions as: 1) Has the growth rate of nominal wages for agricultural economists kept pace with inflation over the past five, ten and fifteen years? 2) Where do average salaries received by agricultural economists rank compared to other disciplines within comprehensive universities and other disciplines in colleges of agriculture? 3) Have salaries of agricultural economists risen faster than average per-capita income in general, faster than other disciplines in the college of agriculture, or faster than university salaries in general? 4) Are appointment structures within agricultural economics top-heavy with full professors, or bottom-heavy with new assistant professors compared to other disciplines? 5) In percentage terms have we been hiring more or fewer new assistant professors than other disciplines? 6) Has the size of agricultural economics departments been increasing or decreasing relative to other departments within colleges of agriculture and in comparison to total university faculty populations?

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These questions are basic and simple. Would you stake your professional reputation on being able to answer them? *Should* you be able to answer such questions? Any assessment of the state of our profession and the utilization of professional agricultural economics resources must first be able to answer basic questions such as these before moving on to other more involved questions.

The objective of this manuscript is to familiarize agricultural economists with the salary structure of the segment of their profession employed in universities. Previous research (Brandt, Schweikhardt and Reinschmiedt, and AAEA Employment Service) has shown that academic institutions are the leading source of employment for agricultural economics doctorates. They employ between forty to sixty percent all new Ph.D.s. Hence, this study will focus on that market for our professional services. A second objective of this manuscript will be to analyze the salary structure of university agricultural economists relative to that of other academic disciplines and to determine whether agricultural economics appears to be a competitive and growing discipline, or a discipline in decline.

Methodology

The methodology used for achieving the above objective will not be "cutting edge" (and need not be, given the stated objective). Instead it will employ basic tables and graphs. The key to achieving the above objective is having access to a good data set. Indeed, access to data is the primary explanation of why I believe many within our profession lack knowledge of the market for their own resources.

There are several reasons we lack such data. One reason is because in the grand scheme of things, as a resource, university agricultural economists are "peanuts". Indeed there is more revenue derived from peanut production than from than salaries earned by university agricultural economists. To document this point I estimate that in 1991 there were at most no more than 2,000 university employed agricultural economists in the United States earning an average annual salary of no more than $60,000 each, thus giving a total salary earnings of approximately $120 million. The gross value of peanut production in 1991 was $1,392 million, or over ten times the total wages of university agricultural economists. To place the total salaries of university agricultural economists in another perspective, $120 million is approximately the total budget of a typical land grant university. More specifically, the total budget of Oklahoma State University (which has approximately 1,000 tenure track faculty and 19,000 students) is approximately $200 million.

A second reason we lack information about the market for our own resources is that we are not a physical commodity/product and are not "freely traded". We are a human resource and our salaries carry with them a degree of confidentiality. Indeed, if we were not public employees even less would be known about our salary structure than I and others have been able to find. The market for agricultural economists is most nearly an oligopsonistic market, i.e. it has several buyers and many sellers. Within such markets, information has power and is often guarded. Likewise, the familiar pure-competition model that many of us are accustomed to using in analyzing agricultural markets, is inadequate in explaining such a market. Supply and demand are still at work in an oligopsonistic market, but institutional factors also play a major role. However, these questions are precisely those I previously indicated should not be addressed before answering a host of basic questions about current and past conditions characterizing the market for agricultural economist.

Data

The primary data source used for this study are the annual reports of the National Association of State Universities and Land-Grant Colleges (NASULGC). This association has published an annual salary survey since 1974. Since its inception the survey has been compiled and published by the Office of Institutional Research at Oklahoma State University. The 1974 survey contained the responses of forty-five universities. The number of universities participating in the survey over time has grown. In 1991 ninety-three institutions were invited to participate in the survey and seventy-nine did. The responding institutions are spread over the United States (see figure 1) and in most years include several universities from nearly every state.

Figure 1. Geographic Coverage of Participating Institutions

Table 1 depicts the categories of data reported in each annual report. This table is a summary for all disciplines and contains the responses for 78,178 faculty. Comparable tables of data are reported for some thirty-four "grouped disciplines" and nearly three hundred "major fields." Agricultural economics is one of the major fields reported. Essentially, for each grouped discipline and major field, the report contains the average salary, high salary, low salary and number of faculty by rank. An "All Ranks" summary of salary and faculty numbers is also given. Salaries are reported on a "nine-ten month academic year salary." Any compensation for "summer academic work, fringe benefits or perquisites is not included in the salary data." Two other pieces of information are also reported for each rank. They are "Fac Mix Pct" and "Salary Factor." Fac Mix Pct (Faculty Mix Percentage) indicates the percentage of faculty holding the rank in question. For example, in 1991 an average of 41 percent of all faculty were full professors. Salary Factor compares the average salary of the classification/rank in question to its respective national average. For example, note that full professors in Region IV (the Southeast) received average salaries equal to 99 percent of the national average for full professors, but new assistant professors in Region IV received average salaries equal to 103 percent of the national average for new assistant professors.

The classification scheme used for grouping disciplines and defining major fields was developed by the National Center of Education Statistics. For the purposes of this study their classification scheme has advantages and disadvantages. An advantage is that agricultural economics is listed as an independent major field. However, the college of agriculture is not neatly summarized under one set of "grouped disciplines", rather it is spread across several grouped disciplines including agribusiness & agriculture production, agricultural sciences, and renewable resources. In addition, certain departments contained in many colleges of agriculture, such as agricultural engineering and entomology are grouped with

Table 1. Summary of the National Association of State University and Land Grant Colleges Salaries for All Faculty by Rank and Region*, 1991

DISCIPLINE: ALL DISCLINE AVERAGES
MAJOR FIELD: ALL MAJOR FIELDS

	Professor		Assoc Prof		Asst Prof		New Asst Prof		Instructor		All Ranks	
Group	Salary	Num	Salary	Num	Salary	Num	Salary	Num	Salary	Num	Salary	Num
All Average Salary	61650	32422	45312	22926	38969	19772	38036	2734	28576	3058	49829	78178
High Salary	499148		249990		161138		159549		129656		449148	
Low Salary	20000		16148		15000		14000		8298		8298	
Fac Mix Pct	0.41		0 29		0 25		0 03		0.04		1 00	
Salary Factor	1 00		1 00		1 00		1 00		1 00		1 00	
#1 Average Salary	56339	4962	43360	3693	37542	3453	35376	594	29650	772	45978	12880
High Salary	449148		249990		146038		104162		958829		449148	
Low Salary	20000		16148		15000		14000		13210		13210	
Fac Mix Pct	0 39		0 29		0 27		0 05		0 06		1 00	
Salary Factor	0 91		0 96		0 96		0 93		1 04		0 92	
#2 Average Salary	59459	7351	43333	5137	375783	4618	37480	534	26444	502	48073	17608
High Salary	202878		122727		102273		98182		81818		202878	
Low Salary	23822		16280		15000		15000		8298		8298	
Fac Mix Pct	0 42		0 29		0 26		0 03		0 03		1 00	
Salary Factor	0.96		0 96		0 96		0 99		0 93		0 96	
#3 Average Salary	66020	11162	48020	7440	40645	6308	38130	695	29926	786	53475	25696
High Salary	188831		126768		116182		82892		105955		188831	
Low Salary	22000		16360		16935		20000		12000		12000	
Fac Mix Pct	0.43		0 29		0 25		0 03		0 03		1 00	
Salary Factor	1 07		1 06		1 04		1 03		1 05		1 07	
#4 Average Salary	60942	8947	44894	6656	39119	5393	39263	911	27755	998	49228	21994
High Salary	306613		212008		161138		159549		129656		306613	
Low Salary	20810		18000		15742		18000		9950		9950	
Fac Mix Pct	0 41		0 30		0 25		0 04		0 05		1 00	
Salary Factor	0.99		0 99		1.00		1.03		0 97		0 99	

*Region #1 -- West; Region #2 -- Central; Region #3 -- North East; Region #4 -- South East

disciplines such as engineering and life sciences. Despite this problem a reasonable representation of the college of agriculture and other colleges can be defined by combining various grouped disciplines.

Institutional data within the annual report are subdivided into four regions. Individual data for each participating university are not available in the report but are available directly from each participating university. A list of participating universities and contact individuals for each university is available from the Oklahoma State University Office of Institutional Research. A cursory cross check of agricultural economics departments listed in the 1991 American Agricultural Economics Association (AAEA) Directory and Handbook indicated that nearly fifty of slightly more than one hundred departments listed in the AAEA Directory were located at universities responding to the 1991 NASULGC survey. Many of those departments not included in survey were from relatively small universities. A consistent and regrettable omission are many 1890 land-grant institutions.

A listing of the institutions responding from Region IV (the Southeast) is given in table 2 by year of response. In addition the institutions responding from Oklahoma, Arkansas and Texas are given. These three states are categorized in the NASULGC survey as a part of Region II, but are often grouped with the "southern states" in other regional classifications. As can be seen from the table listing most of the major land-grant institutions of the region are included as well as approximately one other major state university in each state. The representation reported here for the south is typical of that for other regions. The consistency of universities responding from year to year is perhaps a little better for the Southeast than for other regions.

The data contained in the NASULGC survey is believed to contain a good representation of land-grant and major university salary structures. However, there are several problems with the data set that warrant brief mention with regard to the analyses to be presented and conclusions drawn. The largest problem with the data set is its

Table 2. Universities in Region IV (South East), Oklahoma, Arkansas and Texas Reporting to the National Association of State Universities and Land-Grant Colleges by Year

University	91	90	89	88	87	86	85	84	83	82	81	80
Auburn University	X	X	X	X	X	X	X	X	X		X	X
University of Alabama at Birmingham	X	X	X	X	X	X	X	X	X		X	X
University of Alabama	X	X	X	X	X	X	X	X	X	X	X	X
University of Florida	X	X	X	X	X	X	X	X	X	X	X	X
Florida State University	X	X	X	X	X	X	X	X	X	X	X	X
Georgia Institute of Technology	X	X	X	X	X	X	X	X	X	X	X	X
University of Georgia	X	X	X	X	X	X	X	X	X	X	X	X
Georgia State University	X		X	X	X	X	X	X	X	X		
University of Kentucky	X	X	X	X	X	X	X	X	X	X	X	X
University of Louisville	X	X	X	X	X	X						
Louisiana State University	X	X	X	X	X	X	X	X	X	X	X	X
University of Mississippi	X	X	X	X	X	X	X	X	X	X	X	X
Mississippi State University	X	X	X	X	X	X	X	X	X	X	X	X
University of N. Carolina at Chapel Hill	X	X	X	X	X	X	X	X	X	X		X
N. Carolina State University at Raleigh	X	X	X	X	X	X	X	X	X	X		X
Clemson University	X		X	X	X	X	X	X	X	X	X	X
University of South Carolina	X	X	X	X	X	X	X	X	X	X	X	X
Tennessee State University												X
University of Tennessee at Knoxville	X	X	X	X	X	X	X	X	X		X	X
University of Virginia	X	X	X	X	X	X	X	X	X	X	X	X
Virginia Polytechnic Institute	X	X	X	X	X	X	X	X	X	X	X	X
West Virginia University	X	X	X	X	X	X	X	X	X	X	X	X
University of Arkansas	X	X	X	X	X	X	X	X		X	X	X
University of Oklahoma	X	X	X	X	X	X	X	X	X	X	X	X
Oklahoma State University	X	X	X	X	X	X	X	X	X	X	X	X
Texas A& M University	X	X	X	X	X	X	X	X	X	X	X	X
University of Texas at Arlington	X	X	X	X	X	X	X	X	X	X	X	
University of Texas at Austin	X	X	X	X	X	X	X	X	X	X	X	X
University of Texas at Dallas											X	X
Texas Tech. University	X	X	X	X	X	X	X	X	X	X	X	X
University of Houston	X		X	X	X	X			X		X	X
Total Number Reporting	29	26	29	29	29	29	27	27	27	24	26	28

inconsistent base of participating universities. The number of universities participating has grown steadily over time, especially from 1974 to approximately 1983. Since that time the total number of universities participating each year has stabilized, but the composition of the group of universities is less stable than the total number participating. From year to year as many as a dozen universities will randomly fail to respond to the survey. Thus year-to-year comparisons must be viewed with some skepticism. This study has made limited use of comparisons of absolute numbers of faculty or salary levels between years because of this fact. Instead changes in ratios of salaries and/or faculty numbers in one department, college, region, etc. versus another were used whenever possible.

A second significant problem is that salaries are reported on a "nine to ten month academic year" basis. Most agricultural economics salaries are twelve month salaries (it should be noted however that this may be changing and is a subject not addressed here). Thus, the question arises as to whether twelve month salaries can be converted to "nine to ten month" salaries by simply multiplying them by some fraction, and what that fraction should be. The definition itself (i.e. nine to ten month) gives rise to the question of whether the ratio 9/12, 9.5/12 or 10/12 should be used to multiply and thus deflate twelve month average salaries to "nine to ten" month salaries. Nine elevenths is also a viable ratio, since most twelve month appointments include a month of paid vacation. Indeed 9/11 was the ratio used in the NASULGC survey to convert twelve month salaries to nine to ten month salaries.

Assuming that the ratio 9/11 is the correct relative work/time ratio, a critical question still remains. Does holding a twelve month appointment carry with it a additional security/utility since two additional months of income are guaranteed? The initial answer would appear to be yes. However it likely depends upon grant and consulting opportunities available. These opportunities appear to vary widely by disciplines. In some disciplines the average faculty member may earn more per

month in their two or three months of leave than they earn from their monthly faculty salary. In such disciplines faculty should be willing to take more than a eighteen percent [(11-9)/11] pay cut to move from a twelve month to a nine month appointment. I believe that most agricultural economists, if given the choice to change from a twelve month appointment to a nine month appointment with an eighteen percent annual pay current, would not do so. Given only a five to ten percent pay cut there may be a significant number of "takers." Thus, stated alternatively, I believe that most agricultural economists hold a "risk adjusted" short-term alternative monthly earnings expectations of about half their monthly salary. I will speculate no further and leave this question and its related problem unresolved.

Trends in Nominal Agricultural Economics Salaries

Table 3 depicts the growth rate of nominal salaries for agricultural economists by rank from 1975 to 1991. For comparison, the growth rate of nominal per capita income is also reported. In general the table reflects a more rapid rate of growth in nominal salaries and of per capita income during the first half of the reported period than the second half.

The average rates of nominal salary growth reported in the bottom row of the table raise as many questions as they answer. The first major point made is that the average growth rate of agricultural economist salaries, irrespective of rank, is approximately one percent less than that of average per capita income. The implication of this is not particularly appealing with regard to the market for university agricultural economists. Of particular concern also, is the fact that for the first time in seventeen years the average nominal salary of assistant professors actually fell in 1991. The salary of new assistant professors also fell in 1991, however, salaries for new assistant professors are observed to be very volatile over time. This characteristic can be explained by the fact that the sample for new assistant professors is rather small and thus subject to small sample volatility, i.e. the number of new assistant professors of agricultural economics has averaged only about a dozen a year over the data period.

Two confusing points emerge with regard to the average salary growth rates reported in table 3. First, the greatest growth rates are reported for the highest ranks. My own hypothesis was that lower ranking faculty typically receive the greatest percentage increase in salary. The second point of confusion is that the "All Ranks" growth rate is higher than any individual rank growth rate.

The first point of confusion cited above is largely resolved by a recent article in *Academe: Bulletin of the American Association of University Professors* (March-April, 1992) which reports salaries by rank of all faculty in over 2,000 universities and colleges. The article makes the statement that "statistics describing the 'average' campus and the 'average' faculty member always mask as much as they reveal." Their report of salary growth rates is broken down by "all faculty" and "continuing faculty." With almost no exceptions the salary growth rate for continuing faculty averages about one percent higher than the growth rate reported for all faculty. They conclude that "because we gain seniority, and because seniority is generally rewarded, the pattern of real earnings growth is not so bleak for us as individuals as it is for the average member of the profession". They go on to note that "among continuing faculty the percentage increases were steadily greater . . . the lower the rank of the faculty member." Their data for all faculty members tends to show higher salary increases for lower ranking faculty members also, but the pattern is not nearly as clear as it is for continuing faculty members. Thus, the fact that the data reported by NASULGC shows the largest percentage growth rate for higher ranks is somewhat surprising but is partially resolved by the data being for all faculty rather than only continually employed faculty.

The second point of confusion is one of basic mathematics. How can the average growth rate for "All Ranks" exceed the average for every individual rank? The explanation is somewhat of a brain teaser in weighted average arithmetic and percentage ratios. The All Ranks salary is a weighted average of the average for each rank and the weights have been shifting over time toward the highest paid rank. Historically the percentage of agricultural economics faculty holding the rank of full professors has risen from slightly over 40

Table 3. Annual Percentage Increases in Nominal Average Per Capita Income and Agricultural Economics Salaries by Rank

	Per Capita Income	Academic Rank				
		Professor	Associate	Assistant	New Assistant	All Ranks
1975	6.87%	7.39%	11.25%	9.51%	5.42%	6.26%
1976	9.91%	5.99%	3.69%	2.56%	10.57%	6.74%
1977	10.56%	6.79%	7.15%	7.12%	-3.28%	7.48%
1978	11.85%	7.72%	7.35%	6.33%	13.39%	8.16%
1979	10.27%	5.35%	6.71%	5.25%	-2.78%	5.12%
1980	7.35%	10.72%	8.25%	9.90%	16.17%	10.34%
1981	10.65%	9.33%	11.62%	8.68%	4.16%	9.89%
1982	2.72%	7.47%	6.56%	7.16%	12.70%	7.59%
1983	6.60%	3.00%	1.36%	2.92%	1.15%	3.67%
1984	9.80%	7.21%	7.53%	8.63%	10.56%	7.15%
1985	5.49%	5.53%	5.54%	5.21%	8.93%	5.78%
1986	4.44%	5.81%	5.06%	4.19%	1.59%	5.20%
1987	5.76%	4.95%	6.38%	5.10%	3.39%	5.37%
1988	6.95%	6.44%	3.75%	6.49%	5.82%	6.40%
1989	5.72%	6.53%	3.60%	5.46%	4.87%	5.19%
1990	3.98%	4.31%	6.15%	6.32%	12.20%	5.50%
1991	1.73%	1.27%	1.94%	-0.76%	-6.27%	2.02%
Average	7.10%	6.22%	6.11%	5.89%	5.80%	6.34%

percent in the late 1970s to around 55 percent in the early 1990s (see figure 2). In the late 1970s and early 1980s this growth appeared to come through a decline in the percentage of associate professors. More recently it has been sustained by a slow decline in the percentage of assistant professors. The net result has been a slowly maturing agricultural economics faculty composition. Additional comments on this phenomenon will be made later. The immediate point is that it explains why the All Ranks salary growth rate is more rapid than any individual rank's growth rate.

Trends In Real Agricultural Economics Salaries

Figure 3 depicts the trend in real annual salaries for agricultural economists over the seventeen year period from 1974 to 1991. Salaries are displayed as reported by the NASULGC, i.e. for nine to ten month appointments. The most obvious fact pointed out by figure 3 is that real salaries were stagnant from 1974 through 1983. However, from 1983 to 1990 real salaries grew by nearly twenty percent. In 1991 real salaries declined for the first time since 1982. If real salaries fall again in 1992 (which is a significant possibility) it will be the first time since the beginning of the reported data period (1974) that real salaries for agricultural economists declined for two consecutive years.

In comparing figure 3 for real salaries and table 3 for nominal salaries a striking asymmetry appears. Nominal salary growth was the most rapid when real salaries were stagnant, and real salary growth was the most rapid when nominal salary growth was the slowest. The source of this asymmetry lies in distinct slowing of rates of inflation during the early 1980s. Figure 4 displays the annual inflation rates (as measured by the GNP deflator) and growth rates of nominal salaries for agricultural economists from 1975 to 1991. Prior to 1984 the inflation rates and salary growth rates of agricultural economists were relatively equal and quite erratic. After 1983 the inflation rate stabilized at a relatively low level and the nominal salaries of agricultural economists consistently grew faster than the rate of inflation. This pattern ended abruptly in 1991 as the growth rate for nominal agricultural economists salaries fell sharply.

Figure 2. Ag. Economics: percent of Faculty by Rank, 1974-91

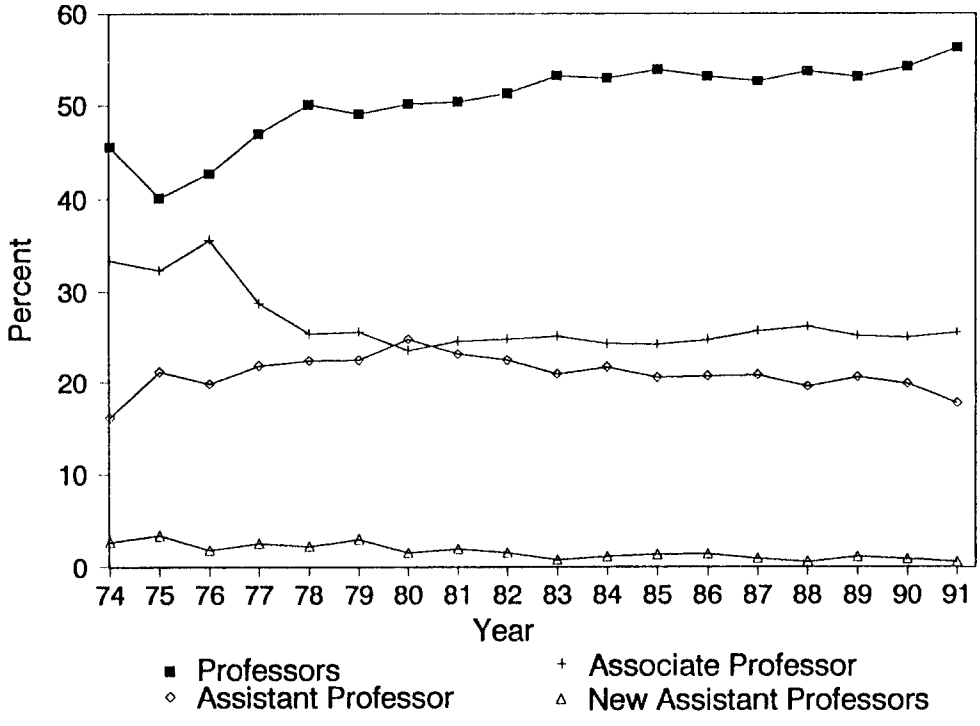


Figure 3. Real Salaries of University Agricultural Economists, 1974-91

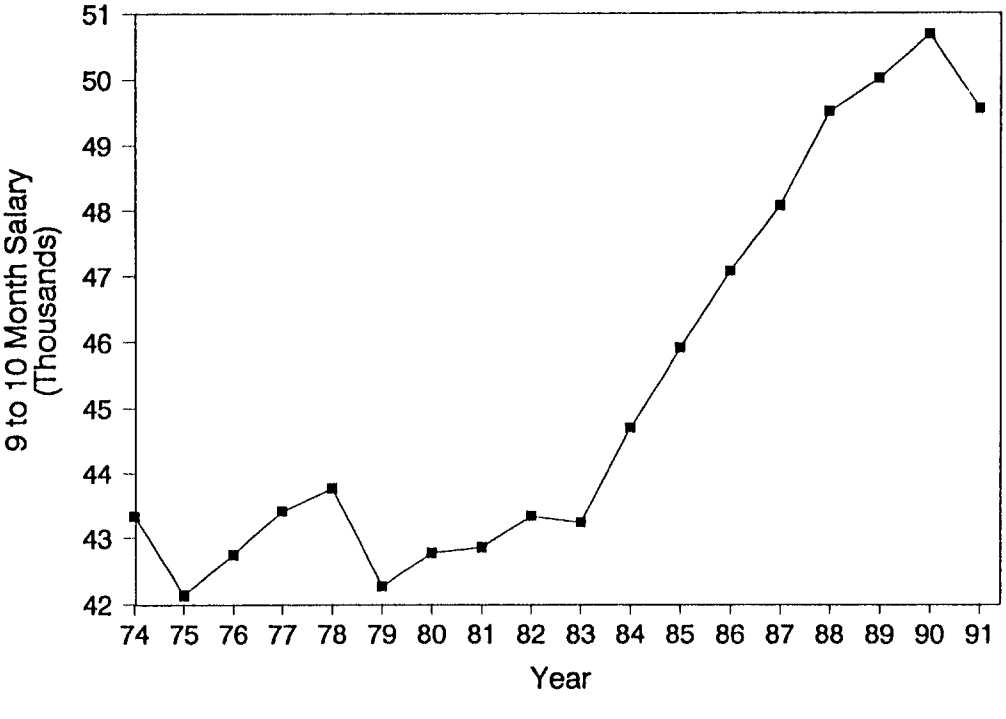
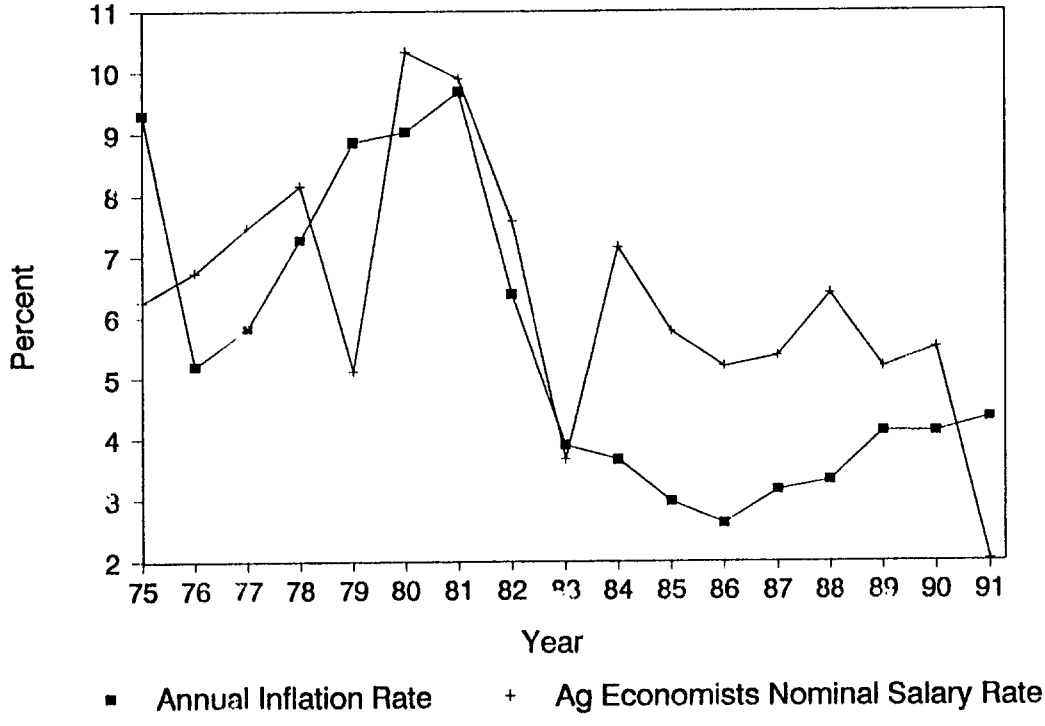


Figure 4. Annual Inflation Rates vs. University Agricultural Economics Salary Growth Rates, 1975-91



Figures 3 and 4 raise numerous economic questions which will be touched upon briefly here. The salary that university agricultural economists receive is, in essence, the price that the market is offering for their resources and is the result of supply and demand at work. The rapid rise in real salaries from 1983 to 1990 would appear to indicate that the demand for university agricultural economists has been growing more rapidly than the supply. Nelson, in his address to the Western Agricultural Economic Association in 1992, indicated that the supply of agricultural economists, as proxied by the number of Ph.D. recipients, remained relatively stable from 1981 to 1992. Thus, I am left to conclude that the demand for university agricultural economists must have been expanding from 1983 to 1990.

The above conclusion begs for more analysis and validation. While, I promised not to delve into such matters deeply, a few brief remarks will be made. The literature does not contain many theoretically based quantitative analyses of the supply of and demand for university agricultural economists. The most recent and perhaps most rigorous treatment of this subject was by Huffman and Orazem in the December 1985 *American Journal of Agricultural Economics* and by Peterson in the January 1992 *Review of Agricultural Economics*. Huffman and Orazem estimated the demand for agricultural faculty by individual universities. They specified this demand to be a function of graduate student numbers, graduate student assistantship rates, total state income levels, total state farm income, salaries of assistant professors, research budget size, and extension budget size. Surprisingly the number of undergraduate students was not considered as a demand factor for faculty despite the data being available. The results indicate the two strongest factors influencing the demand for agricultural economics faculty are total state income and the size of the extension budget. Farm income was found to have an unexpected, but insignificant

negative sign. The wage rate for assistant professors was found to have an unexpected, but insignificant positive sign. Even though Huffman and Orazem's analysis displays several statistical weaknesses, the fact remains that their results indicate that income and allocated budgets are critical factors.

Peterson specifies the demand for agricultural economists by state to be a function of total agricultural production in the state, state population, and state per capita income. He found that agricultural production and state population were both strong predictors of demand for agricultural economists by state. Contrary to expectations he found the states' per capita income to have a negative effect upon the demand for agricultural economists.

Both Peterson and Huffman and Orazem's analysis are concerned with state level demand for agricultural economists. Both fall short in my opinion of establishing a strong quantitative model of the demand for agricultural economists. This is not surprising given the complexity of the market being dealt with and the lack of complete data with which to address these complexities. No quantitative analysis of the market for agricultural economists at the national level was found in the literature. No such analysis will be made here, but a few basic correlations will be identified. The regression of nominal per capita income upon the nominal average salary of All Ranks of agricultural economists (as reported by NASULGC) results in a R-square value of 0.997 with a standard error of $621. Thus, if one wishes to forecast nominal salaries for agricultural economists they need look no further than for predictions of future nominal per capita income. The slope coefficient of the equation indicates that each $1 rise in nominal per capita income will result in $2.09 of increase in nominal salaries for agricultural economists.

One can argue that the general positive trends of both nominal per capita income and nominal agricultural economics salaries cause much of the correlation found. However, if the annual percentage growth rates of per capita income are regressed against the percentage growth rates for nominal salaries of agricultural economists (as reported in table 3) a strong and significant relationship is still found, i.e. an R-square of 0.30 with a standard error of 1.77 is found. The slope coefficient for percent of per capita income growth is 0.376 and has a *t*-value of 2.55.

Figure 5 shows that the relationship between growth rates for nominal salaries of agricultural economists and nominal per capita income. Close observation of figure 5 indicates that the correlation between these two variables has become stronger over time and is quite strong from 1983 through 1991. Regression of these two variables over this time period (instead of the period 1975-1991 as previously reported) results in an R-square value of 0.56 with a standard error of 1.06. The slope coefficient for per capita income is 0.51 with a *t*-value of 3.0.

The above results indicate that the general health of the economy plays an important role in the market for agricultural economists and are consistent with Huffman and Orazem's results. Following their theoretical developments it is hypothesized that a rapidly growing economy shifts the demand for agricultural economists upward at the same time it shift the supply of agricultural economists downward. The cause-and-effect relationship is hypothesized to be as follows. A healthy economy generates tax dollars and the ability to fund higher education in general and agricultural economics departments in specific. Thus, a healthy economy stimulates the demand for agricultural economists. At the same time a healthy economy provides job opportunities for students receiving B.S. and M.S. degrees and thus, with some delay, reduces the supply of agricultural economists.

Agricultural Economists Salaries Versus the Salaries of Other Disciplines

The competitive health of our profession, e.g. university agricultural economics faculty, can perhaps best be addressed by comparing our salaries to the salaries of other university disciplines. The NASULGC data set is uniquely designed to achieve this comparison.

Table 4 compares the salary structures of the nine largest departments typically found in the college of agriculture for the year 1991. The listed

Figure 5. Nominal Per Capita Income Growth Rate vs. University Agricultural Economists Salary Growth Rate, 1975-91

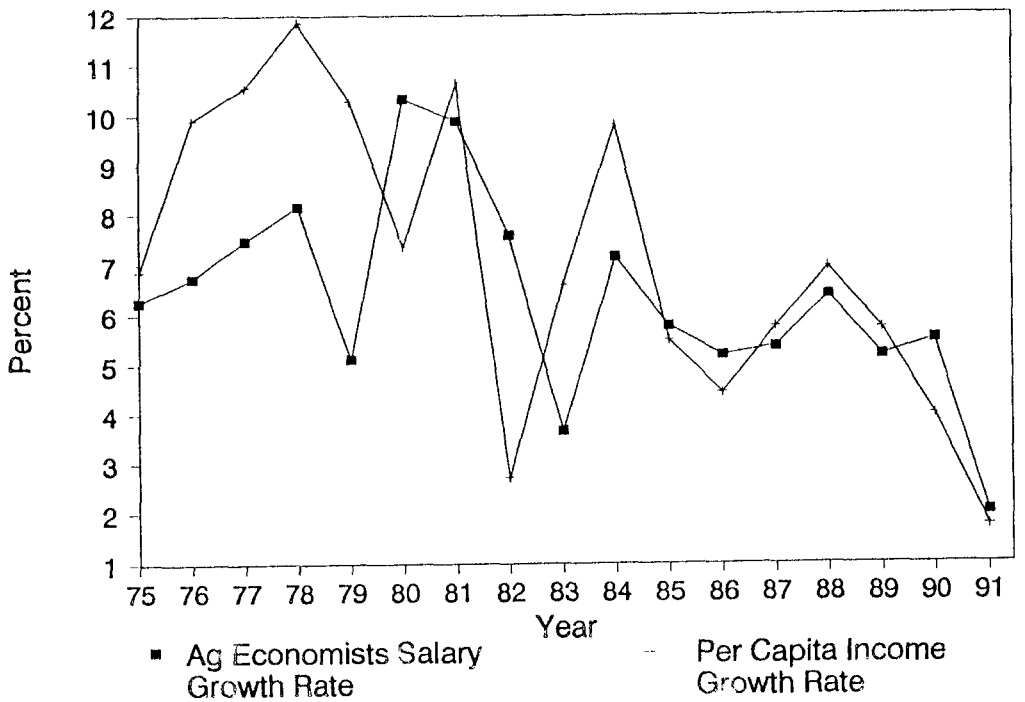


Table 4. 1991 Salaries by Major Departments in the Disciplines of Agribusiness, Agricultural Science and Renewable Resources (Percentage of All Disciplines Average by Rank and for All Ranks)[a]

Colleges/Schools	Professor	Associate Professor	Assistant Professor	New Assistant Professor	Instructor	All Ranks	Number of Faculty
Agricultural Engineering[b]	97%	105%	104%	106%	111%	102%	374
Agricultural Economics	93%	99%	98%	98%	81%	101%	743
Food Science	91%	94%	99%	102%	100%	97%	261
Horticulture Science	90%	95%	93%	98%	103%	95%	368
Agronomy	90%	92%	94%	100%	101%	94%	762
Animal Science, General	89%	93%	91%	93%	92%	93%	855
Soil Science	88%	91%	92%	92%		93%	210
Agriculture Science, General	89%	90%	90%			91%	210
Forestry & Related Sciences	84%	92%	91%	95%	101%	89%	444

[a]Data is taken from 79 State Universities and Land Grant Colleges reporting to the National Association of State Universities and Land Grant Colleges (NASULGC).

[b]Classified as an engineering department in NASULGC survey, but in many Universities is administered in the College of Agriculture.

departments have been ranked in descending order by the All Ranks average salary level. Salary levels are not expressed in dollars, but in percentages of the average level found by rank for faculty in all disciplines, i.e. as a percentage of the average salaries reported in table 1. Salaries paid to agricultural economists are exceeded in the college of agriculture only by those paid to agricultural engineers. Agricultural economists are paid on average, for all ranks, one percent more than the average university faculty member. Faculty members in the departments of agronomy and animal science, which are typically the two largest departments in colleges of agriculture, are paid significantly less than agricultural economists, i.e. on average seven to eight percent less.

Interestingly the All Ranks salary percentage for agricultural economists is above 100 percent while the salary percentage value for every individual rank is below 100 percent. This is particularly the case for full professors who are paid only ninety-three percent of the salary paid to the average full professor. At first consideration this may appear to be a mathematical impossibility. Once again averages are masking as much as they reveal. The explanation for the discrepancy is basically the same as that given regarding the average percentage growth rates over time in table 3. Agricultural economics departments have consistently had a much larger percentage of full professors than the "typical" university department. Figure 6 shows the percentage of full professors in agricultural economics over time versus the percentage of full professors in all disciplines over time. The percentage of full professors in agricultural economics has consistently been ten to fifteen percent higher and appears to be widening. Thus, the average salary of all ranks of faculty in agricultural economics is weighted much more heavily by full professors than is the case in general, thus making the All Ranks average more favorable than the average for any one rank.

The above phenomenon could be summarized as "the good news is you are more likely to become a full professor in agricultural economics, but the bad new is when you do you won't be paid very well." This summarization raises the question of why does agricultural economics have so many full professors? Several answers are hypothesized. One is that we promote individuals faster than other disciplines. A second is that we retain people longer than other disciplines. Still a third is that perhaps we are a department experiencing a declining rate of growth relative to other departments, i.e. rapidly growing disciplines hire many new assistant professors and tend to be bottom-heavy while declining growth disciplines hire very few new assistant professors, but continue to promote faculty upward and out of lower ranks. The resolution of the truth of these three alternatives is beyond the scope of this effort. It is hypothesized however that some combination of all three of these forces may be at work. Evidence of whether agricultural economics departments are declining in size relative to other departments will be presented presently.

Given that the agricultural engineering and agricultural economics departments are the highest-paid departments in the college of agriculture, but are only paid slightly more than the average university salary, it follows that many other departments/disciplines in the university must be paid relatively well. Table 5 shows the average salary levels of eight aggregations of various disciplines designed to roughly reflect eight "colleges." For comparison purposes the salaries of agricultural economists are also included. The best-paid university faculty, by far, are lawyers. Surprisingly, health sciences does not follow as the second best-paid college. The reason for this is because health sciences (as defined by NASULGC) is a rather broad field containing some low-paid disciplines relative to the average, such as dental hygiene -- 71 percent, medical technology -- 67 percent, physical therapy -- 75 percent, speech pathology -- 75 percent, health care administration -- 96 percent, nursing -- 74 percent, pharmacy -- 89 percent, etc. If one looks at the traditional medical physician disciplines, a very different salary level exists relative to the average university salary, i.e. internal medicine -- 124 percent, obstetrics -- 149 percent, orthopedics -- 209 percent, radiology -- 157 percent, surgery -- 182 percent. Indeed the highest paid-faculty salary reported in the 1991 survey was for a surgeon in the western region (Region I). That salary was $449,148! Please note this is for a nine to ten month based year! As a matter of interest the average All Ranks salary for faculty of veterinary medicine was 92 percent.

Figure 6. Percentage of Agricultural Economics Faculty and Total University Faculty Who Are Professors, 1974-91

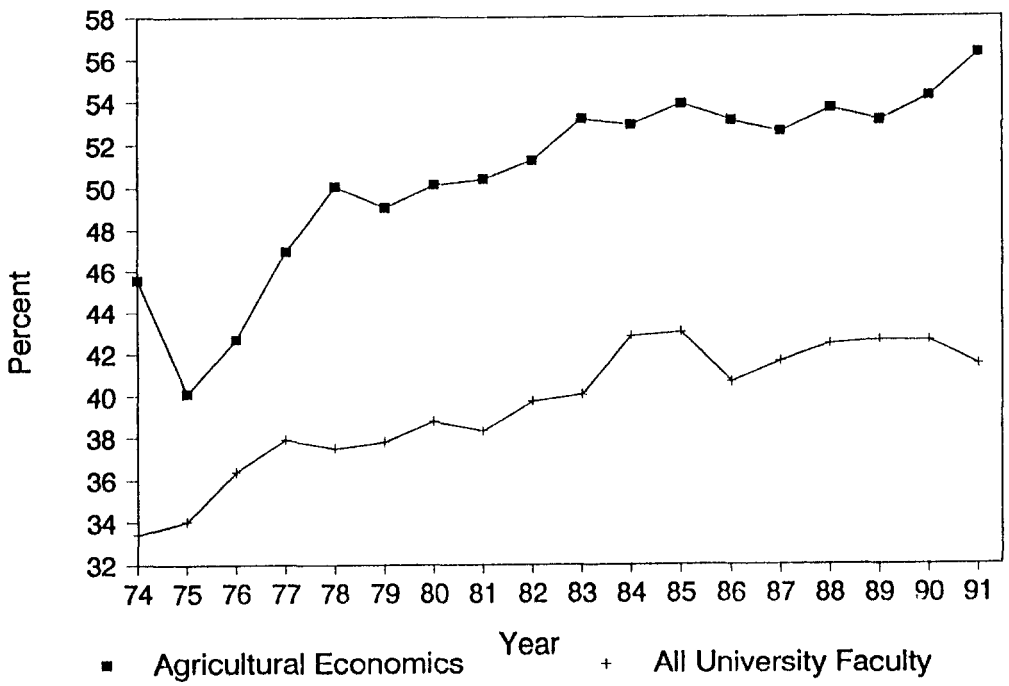


Table 5. 1991 Salaries by Colleges/Schools (Percentage of All Disciplines Average by Rank and for All Ranks)[a]

Colleges/Schools	Professor	Associate Professor	Assistant Professor	New Assistant Professor	Instructor	All Ranks	Number of Faculty
Law	136%	133%	145%	145%	125%	151%	1,234
Business and Management	118%	126%	137%	141%	118%	121%	5,060
Engineering	114%	117%	117%	119%	108%	119%	7,851
Health Sciences	119%	121%	118%	129%	121%	112%	8,151
Agricultural Economics	93%	99%	98%	98%	81%	101%	743
Arts and Sciences[b]	94%	92%	89%	88%	96%	94%	39,709
Agricultural and Renewable Resources[b]	88%	92%	91%	91%	93%	93%	5,229
Education	87%	91%	85%	85%	93%	85%	6,031
Home Economics	88%	92%	88%	90%	100%	83%	1,429

[a]Data is taken from 79 State Universities and Land Grant Colleges reporting to the National Association of State Universities and Land Grant Colleges (NASULGC).

[b]Estimates derived by taking weighted averages of selected discipline areas.

Based on the salary rankings given in table 5, a hypothesis can be formulated as to why agricultural engineers and agricultural economists are the highest-paid departments in colleges of agriculture. The hypothesis is that our counterparts across the university are paid better than the counterparts of other departments in the college of agriculture, i.e. the second highest paid college is the college of business and management followed closely by the college of engineering. The closest counterparts to animal science and agronomy are in the college of arts and sciences. As a college, arts and sciences ranks only slightly above agriculture and renewable resources. More specifically, the discipline area of "life sciences" (which contains the departments of biology, botany, plant pathology, microbiology, zoology, entomology, etc., and is likely the closest counterpart discipline to animal science and agronomy) has an All Ranks average salary of 101 percent. Thus, it would appear that within in the university system in general, the current demand for business and engineering talents is greater that the demand for life sciences resources. Likewise it appears that the demand for education and home economics faculty is weakest of all relative to the supply.

Before concluding this review of agricultural economics salaries relative to other salaries in the university system, one last (rather demoralizing) table will be presented. Table 6 compares the salaries of agricultural economists to major departments found within the college of business and management. Not surprisingly, agricultural economics is at the bottom of the list. Economists are not shown to be the most sought after discipline in the college of business and management either, be they "pure" economists or business economists.

One point should be kept in mind in comparing the salaries of agricultural economists to those in colleges of business and management. Most appointments in the college of business and management are for nine months versus twelve months in the college of agriculture. The added utility/security of a twelve versus nine month appointment was discussed previously. Based on the hypothesis formulated in that discussion, the ten to thirty percent greater salaries paid in the college of business range from nearly equal to agricultural economists' salaries to twenty percent greater than agricultural economists' salaries.

Some among us can make the case that we are equally trained and thus are as well qualified as the "pure" economists in the college of business. I am referring to those among us who received degrees from departments that grant both agricultural economics and economics degrees. Indeed, nearly all agricultural economics Ph.D.s receive considerable training directly from departments of economics. Other disciplines in the college of agriculture can likely make similar arguments with regard to their qualifications relative to their closest counterparts outside of the college of agriculture. The question thus arises why are college of agriculture faculty paid ten to thirty percent less that our closest academic counterparts? Part of the answer likely lies in the twelve month versus nine month appointment. But it would appear that this is not all of the answer. I would speculate that part of the difference is due to the fact the college of agriculture is, in general, a declining college within land grant universities. Evidence to that effect will be presented in the following section.

Trends in Agricultural Economists Salaries and Numbers Versus Other Disciplines

The preceding section summarizes the state of the profession's salary relative to other disciplines as of 1991. More insight can be gained by examining a few trends in salaries and numbers of agricultural economists relative to other disciplines. Figure 7 displays the salary of agricultural economists relative to all salaries in colleges of agriculture. Despite being very erratic, agricultural economists salaries have remained approximately five to six percent above the average for colleges of agriculture. Figure 8 indicates that relative to university salaries in general, agricultural economists salaries have not fared well since 1974. Since 1974 agricultural economists salaries have been trending downward from 105 percent of the average university salary to roughly equal to the average university salary. Figures 7 and 8 combined imply that college of agriculture salaries in general have not done well relative to university salaries in general. Figure 9 shows that college of agriculture salaries have been trending downward from near the average of all university salaries in 1974 to approximately 7 percent below the average university salary in 1991.

Table 6. *1991 Salaries by Major Departments in the College of Business and Management (Percentage of All Disciplines Average by Rank and for All Ranks)*[a]

Colleges/Schools	Professor	Associate Professor	Assistant Professor	New Assistant Professor	Instructor	All Ranks	Number of Faculty
Banking and Finance	123%	135%	156%	172%	145%	130%	507
Accounting	123%	133%	147%	140%	116%	124%	849
Marketing Management	118%	127%	135%	145%	106%	120%	487
Business Administration and Management	115%	126%	137%	149%	119%	120%	1,318
Operations Research	115%	122%	137%	151%	136%	119%	142
Economics[b]	115%	111%	111%	115%	138%	117%	1,180
Management Information Systems	104%	127%	140%	142%	159%	115%	110
Business Economics	106%	109%	118%	124%	171%	111%	272
Agricultural Economics	93%	99%	98%	98%	81%	101%	743

[a]Data is taken from 79 State Universities and Land Grant Colleges reporting to the National Association of State Universities and Land Grant Colleges (NASULGC).

[b]Classified as a Social Science Department by NASULGC.

Figure 7. Ratio of the Average Agricultural Economics Faculty Salary to the Average College of Agriculture Faculty Salary, 1976-91

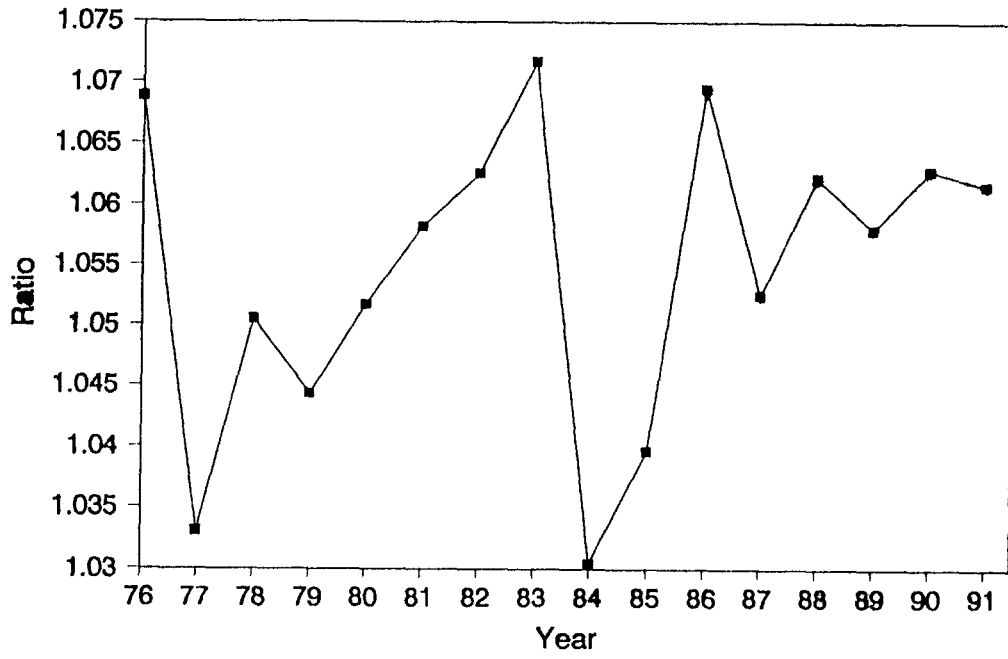


Figure 8. Ratio of the Average Agricultural Economics Faculty Salary to the Average Salary of All University Faculty, 1976-91

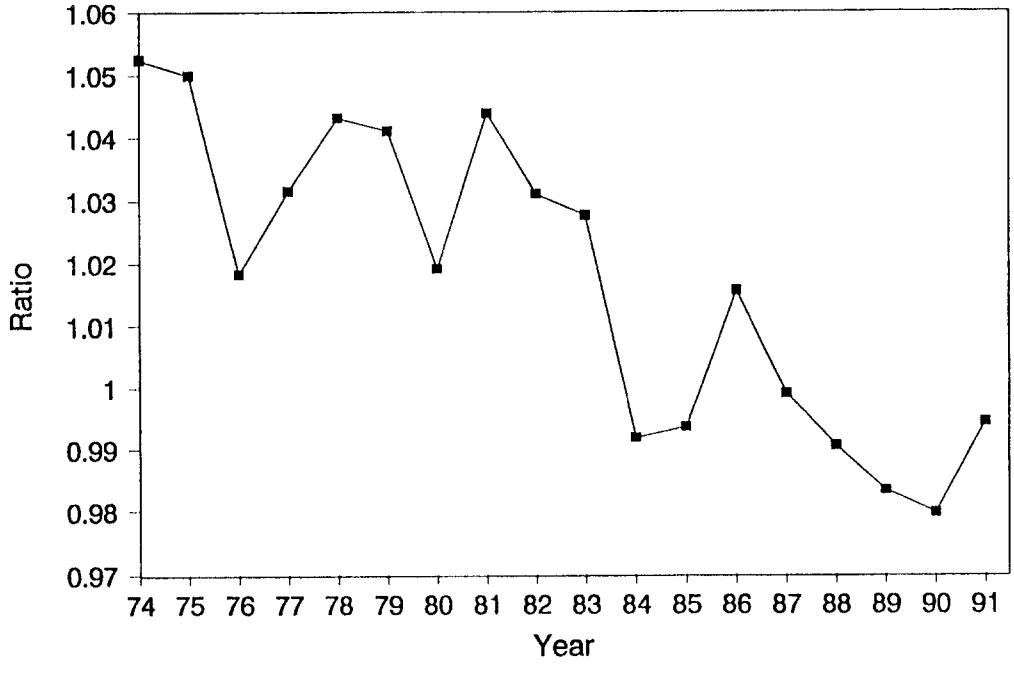
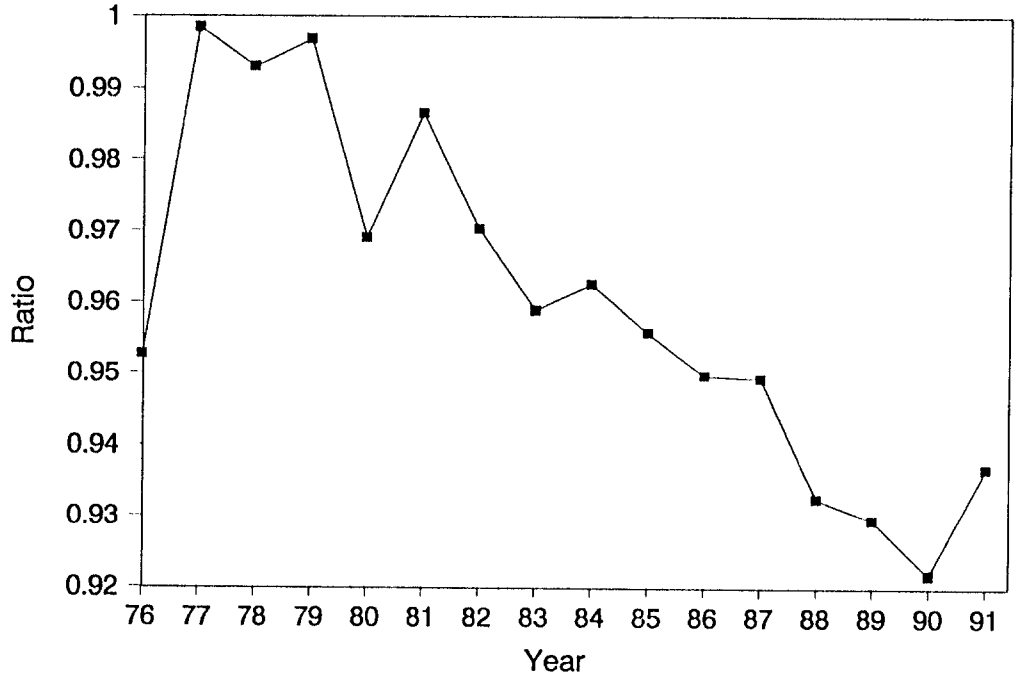


Figure 9. Ratio of the Average College of Agriculture Faculty Salary to the Average Salary of all University Faculty, 1976-91



Evidence that colleges of agriculture are declining in size relative to other colleges is provided in the NASULGC data set. Figure 10 displays college of agriculture faculty as a percentage of all university faculty from 1977 to 1991. A distinct downward trend from approximately 8.3 percent to 5.5 percent is shown. Figure 11 displays the same trend for departments of agricultural economics for a slightly longer period. Agricultural economics appeared to be a growing discipline until 1978 when it fell sharply to slightly less than one percent of all university faculty. Finally, Figure 12 displays agricultural economics faculty as a percentage of college of agriculture faculty. Since 1984 agricultural economics has been clearly growing as a percentage of college of agriculture faculty.

In reflecting upon the percentages of faculty that are in the colleges of agriculture and departments of agricultural economics, one should remember that only about half of the universities in the NASULGC survey are land-grant universities and thus have colleges of agriculture and departments of agricultural economics. Thus, within land-grant universities, these percentages may be roughly twice as large as presented here.

The trends for the department of agricultural economics and the college of agriculture as a percent of total university faculty must be viewed with some skepticism due to the nature of the changing institutional base of the NASULGC survey. As previously indicated, the number of universities participating in the survey nearly doubled from 1974 to 1991, thus ratios of numbers of agricultural economists and college of agriculture faculty to all faculty were used rather than absolute numbers to determine if each was respectively a growing or declining department/college. Caution still needs to be exercised however since a heavy proportion of the growth over time of universities reporting to NASULGC appears to have been non-land grant universities without colleges of agriculture or departments of agricultural economics. Thus, the trends in percentages of agricultural economists and college of agriculture faculty may be biased toward being too low, especially in more recent years. However the number and composition of universities participating in the survey after about 1983 has remained relatively stable. Thus, trends after 1983 should be relatively unbiased.

An alternative, but less satisfactory way of gauging growth of departments/disciplines is to look at the percentage of new assistant professors being hired each year over time. Figure 13 presents these percentages for agricultural economics, the college of agriculture, and for all disciplines. The percentages of new assistant professors being hired by departments of agricultural economics and colleges of agriculture over time is clearly below average with college of agriculture percentages being the lowest. Hiring of new assistant professors is not the only source of growth to a department/college. However when coupled with the trends in faculty percentages shown in figures 10 and 11 they strongly support the hypothesis that the college of agriculture is a declining college relative to other university colleges.

Thus, the general conclusion I reach, is that while agricultural economics is faring reasonably well within the college of agriculture, the college of agriculture is not doing well in academia. The relative weakness of the college of agriculture within academia may be contributing to the trend in declining competitiveness in agricultural economics salaries. Agricultural economics, despite being a strong department in the college of agriculture, is likely suffering due to the overall decline of the college.

Regional Agricultural Economics Salary Structures

Are salaries received by agricultural economists significantly higher in one region of the country versus another? The conclusion I draw from reviewing the data available from the NASULGC is "probably not". Figure 14 shows the nine-to-ten month salaries reported by NASULGC by region. The regions are defined in figure 1 and will be referred to here as West (Region I), Central (Region II), Northeast (Region III), and Southeast (Region IV). When viewed with no cost-of-living adjustments, the Northeast region seems to have consistent and distinctly higher salaries compared to the other three regions. Since 1988 the Central region seems to have experienced a slight gain in salaries relative to the Southeast while the West has fallen behind the Southeast in salary growth.

The approximate $5,000 higher salary levels of the Northeast are likely deceiving, given

Figure 10. College of Agriculture Faculty as a Percentage of all University Faculty, 1974-91

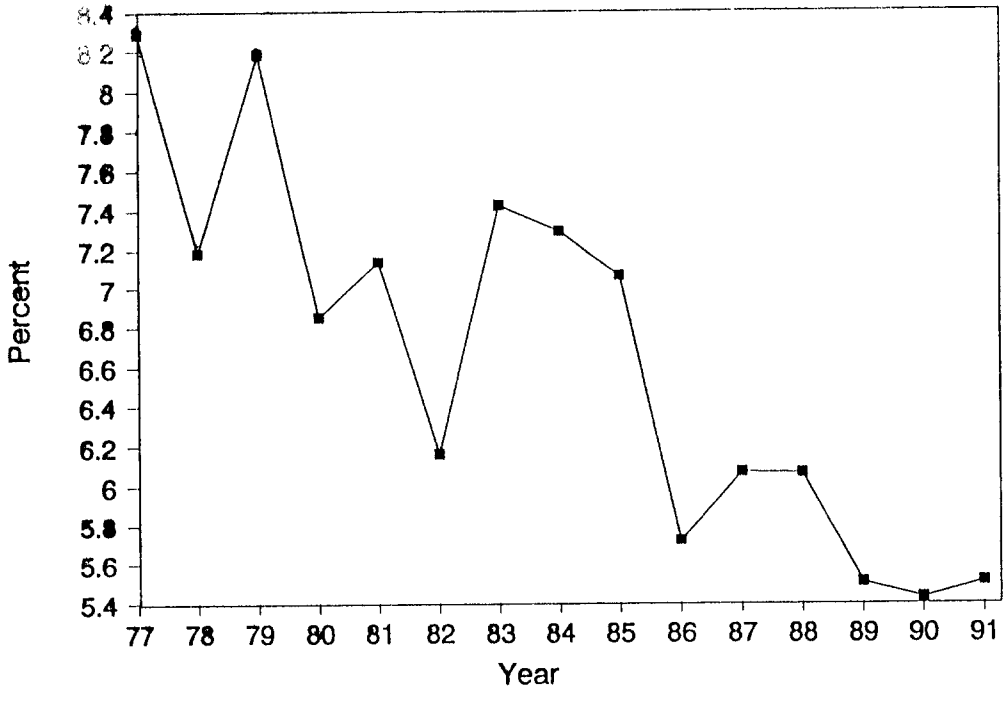


Figure 11. Agricultural Economics Faculty as a Percentage of all University Faculty, 1974-91

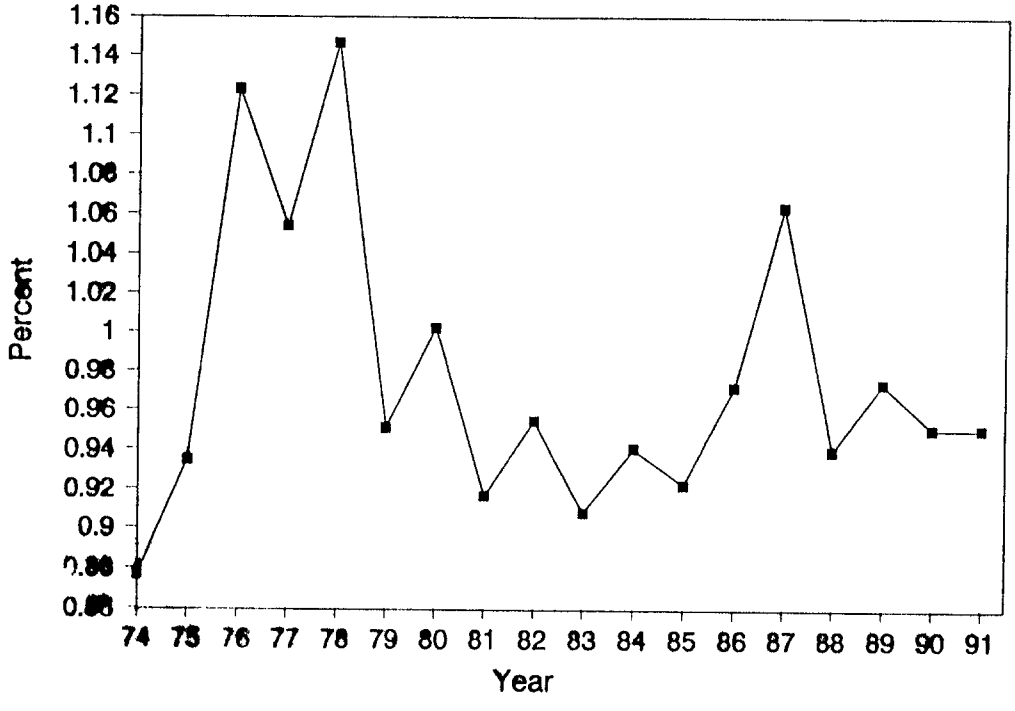


Figure 12. Agricultural Economics Faculty as a Percentage of College of Agriculture Faculty, 1974-91

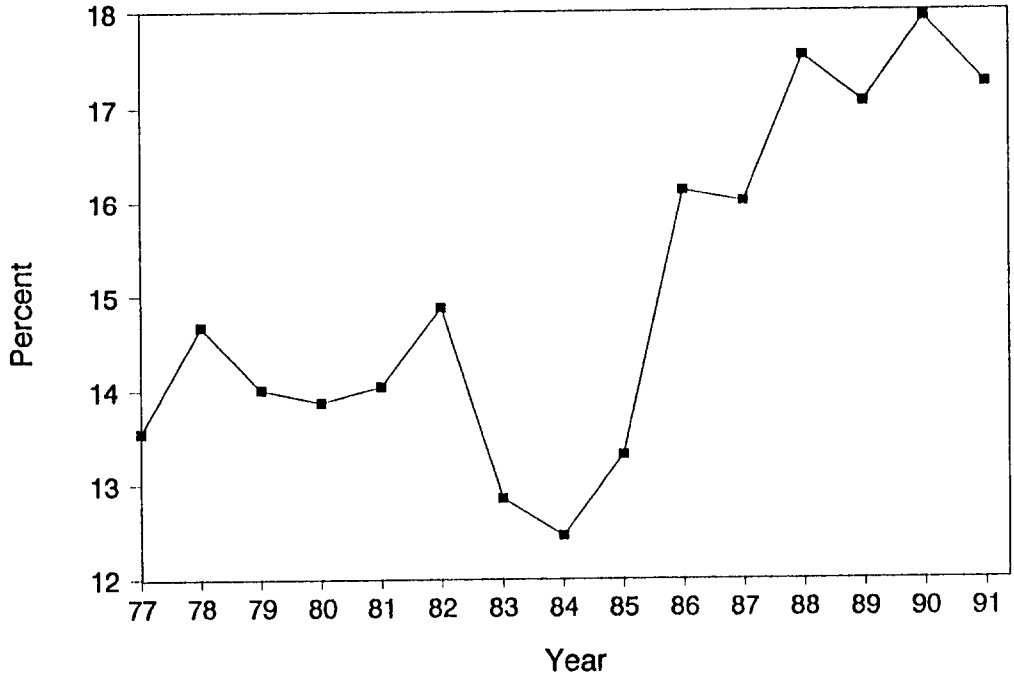


Figure 13. New Assistant Professor as a Percentage of Faculty, 1974-91

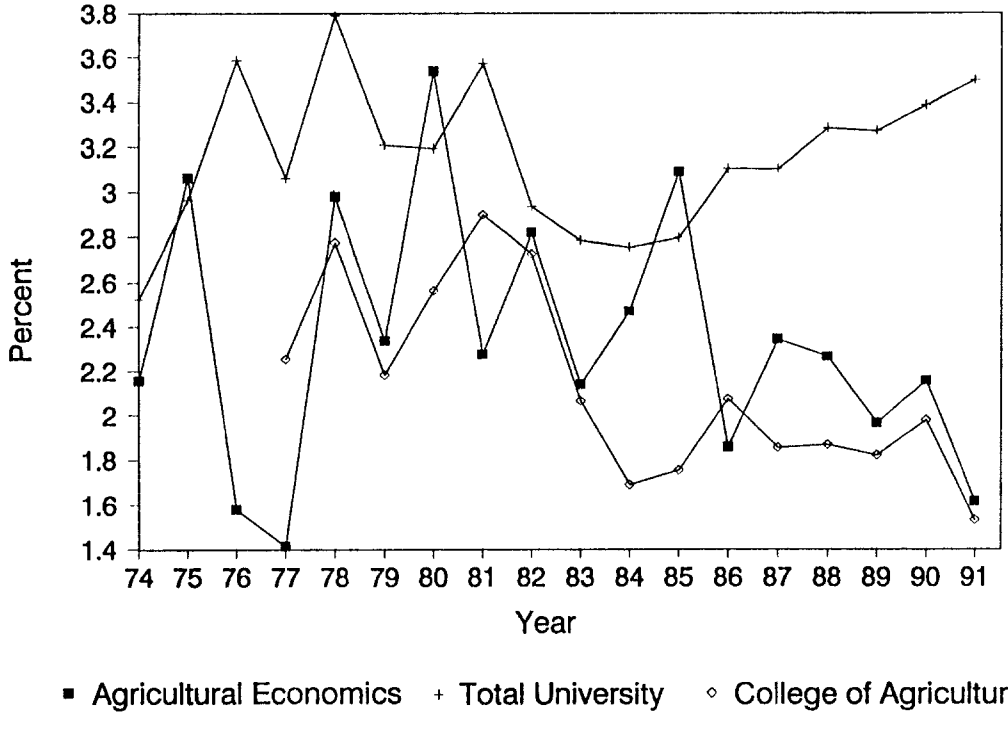
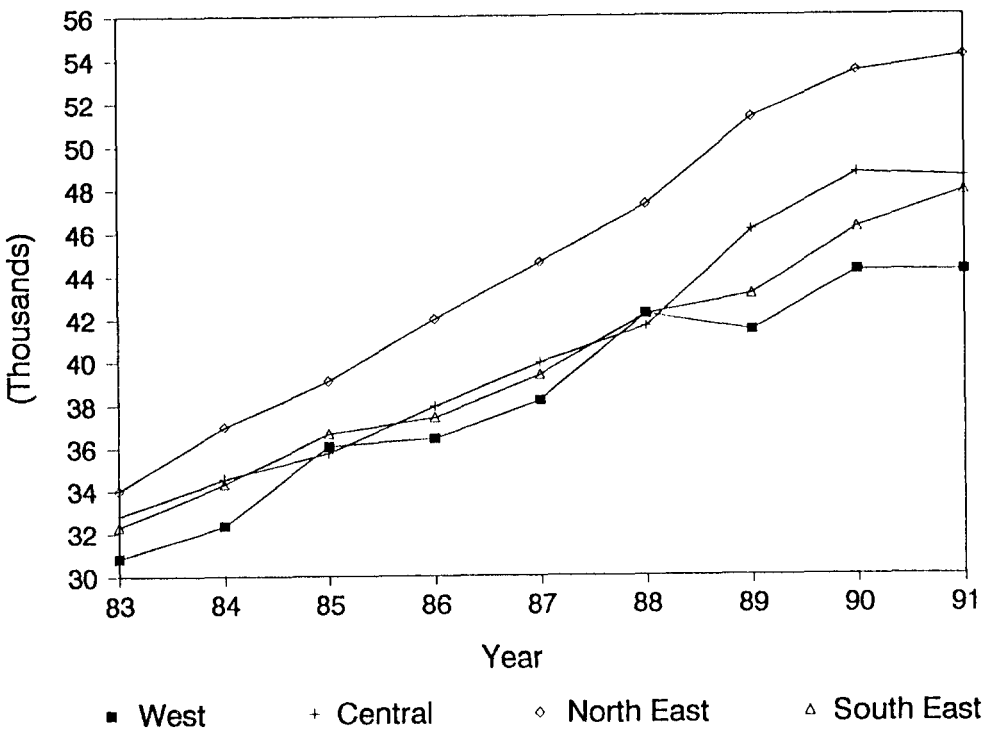
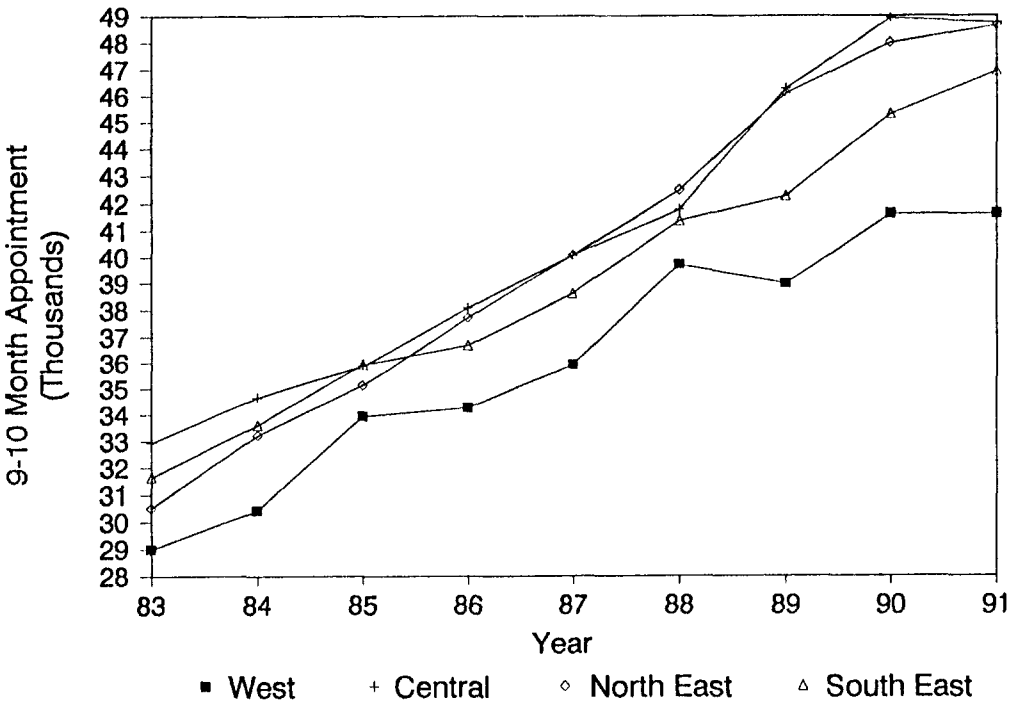


Figure 14. Agricultural Economists Salaries by Region, 1983-91



the higher cost of living generally believed to exist in the Northeast. Keister and Keister present data in a 1989 *Journal of Higher Education* for cost of living differences between 388 universities located in Standard Metropolitan Statistical Areas (SMSAs). They point out that many universities are located in smaller cities for which comparable cost-of-living data are not available. This is the case for approximately 56 percent of the universities reporting to the NASULGC. In an attempt to adjust the regional salaries reported by NASULGC for cost-of-living differences by region, the cost-of-living index for all NASULGC reporting universities that were included in Keister and Keister's study were collected. This included six of the twenty-four universities reporting in the Western region (25 percent), thirteen of the nineteen universities reporting in the Central region (68 percent), thirteen of the thirty-one universities reporting in the Northeastern region (32 percent), and ten of the twenty-one universities reporting in the Southeastern region (45 percent). The cost-of-living indices collected in each region were then averaged together to find a composite average regional cost-of-living index. The results were as follows: Western region -- 106; Central region -- 100; Northeast -- 113; and Southeast -- 102. This method of determining a regional cost of living index is not without fault. First, it is based upon indices for a single year only, i.e. 1986. Secondly, it is rather random since all universities are not represented. With respect to this point it appears that the Western index may be biased upward due to the low number of universities for which indices were available, and the dominance of high cost-of-living west coast city locations among those indices available. Despite these faults the derived indices are felt to have general validity. Thus, they were used to adjust the salary values displayed in figure 14 to form figure 15. In viewing figure 15, the distinct salary advantage previously displayed for the Northeast is no longer present. The Central and Northeast regions now compete very closely for the highest salary levels, followed rather closely, at least until 1988 by the Southeast. The Western region, which appeared to have the lowest salaries

Figure 15. Agricultural Economists Salaries by Region Adjusted for Cost of Living, 1983-91



even before cost-of-living adjustments were made, now clearly has the lowest salaries. However, as previously noted it is felt that the cost-of-living index for the western region may be biased upward somewhat, thus, making their adjusted salaries slightly lower than warranted.

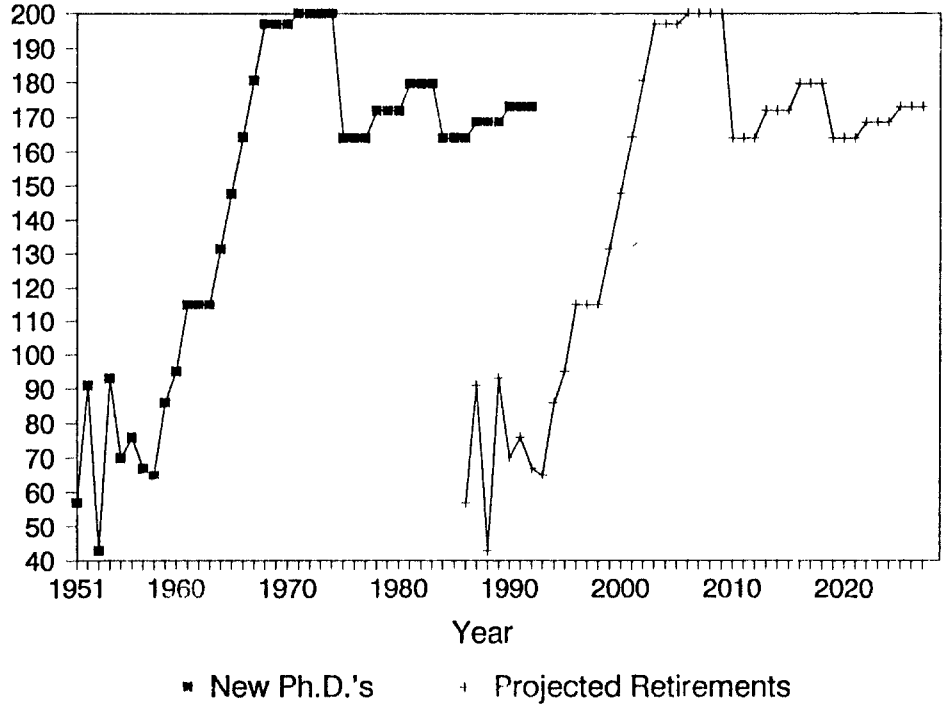
In conclusion, it appears that any regional differences in salary seem to favor the Central and Northeastern regions, and that if low salaries exist in any region, it is likely in the West. Salaries in the Southeast, and to a lesser degree in the West, appeared to be quite competitive until 1988. After 1988, salaries in the Central and Northeastern regions improved relative to the Southeast, while salaries in the West fell relative to the Southeast and the profession in general. 1991 was a good year for salaries in the Southeast as the region regained a significant part of its post-1988 losses relative to the Central and Northeastern regions.

Selected Demographic Factors Affecting University Salaries

Sharp changes appear to be forthcoming near the end of this decade in two demographic trends that may have significant, and fortunately favorable, affects upon the salaries of agricultural economists. These are the trend in the number of high school graduates and the trend in the ratio of new agricultural economics Ph.D.s to retiring agricultural economists.

Figure 16 shows the relationship between new agricultural economics Ph.D.s and the projected number of retirements of agricultural economists. Estimates of the annual number of new Ph.D.s were taken from Nelson for the years 1961 through 1991, and Schotzko for the years 1951 through 1960. Projections of retirements were made by simply shifting the new Ph.D. curve thirty-five years to the right, i.e. thirty-five years is assumed to be the

Figure 16. Historical Number of New Ph.D.s and Projected Number of Retirements



typical career length of a Ph.D. agricultural economist. This approach to projecting retirements is obviously simplistic and others, including Schotzko and Schrimper, have described more sophisticated methods. However, this simple method does not distort the main point to be made here. For the past decade or so it is clear that the number of new Ph.D.s in the profession has exceeded the number of retirements. However, starting almost immediately, the ratio of new Ph.D.s to retirements will begin to fall, given that the current number of Ph.D. graduates remains stable. Likewise, if the number of new Ph.D.s remains stable the number of retirements may actually exceed the number of new Ph.D.s for about a decade beginning around the year 2000. Thus, sometime around the turn of the century our profession may very well reach its peak in terms of numbers and begin to decline in size. This should help tip the balance of supply and demand in favor of higher compensations for agricultural economists in general and university agricultural economists in specific.

Figure 17 shows the past and projected number of high school graduates in the United States over the period 1986 to 2004. The main point to note in figure 17 is that starting in 1994 the number of high school graduates will begin to rise rapidly and continue to rise for at least eleven years to the year 2004. This sharp increase is the result of the "second ripple" of the post-war "baby boom." The youth generating the sharp increase in high school graduates from 1994 to 2004 are the children of the post war baby boomers. These high school graduates are the potential college students of tomorrow and the pool from which we will compete for undergraduates. Thus, the potential for growth in undergraduate agricultural economics enrollments would appear to be improving. This in turn should be a factor in tipping the balance of supply and demand for university agricultural economists in favor of higher compensations. Exactly the opposite impact has been occurring over the last five years.

The projected growth in high school graduate numbers is not uniform across the nation.

Figure 17. Past and Projected Number of High School Graduates

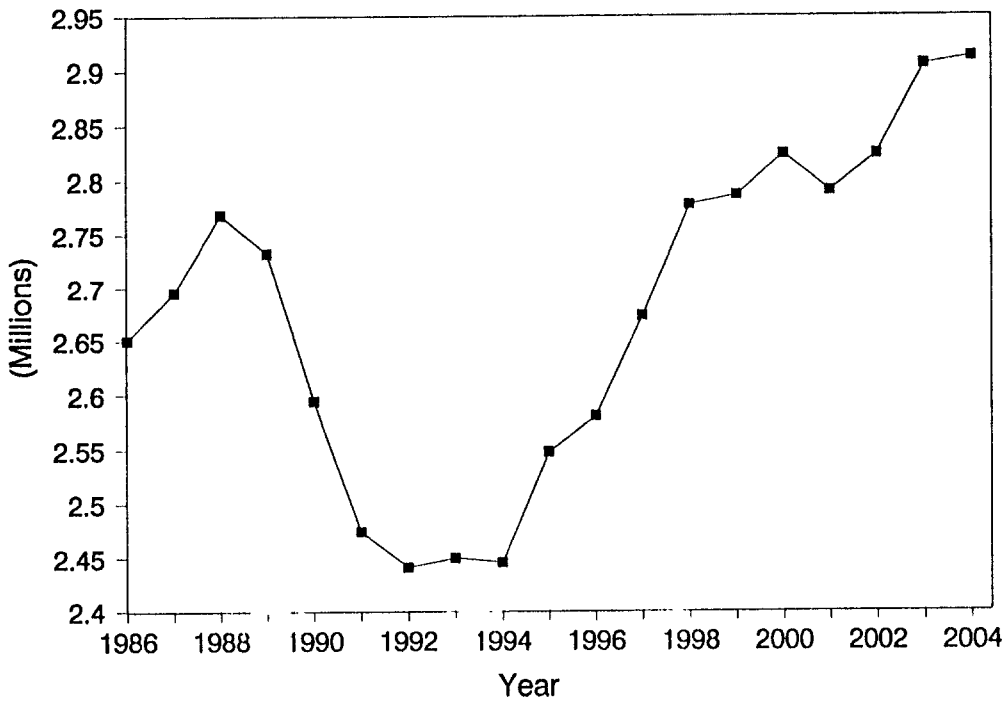


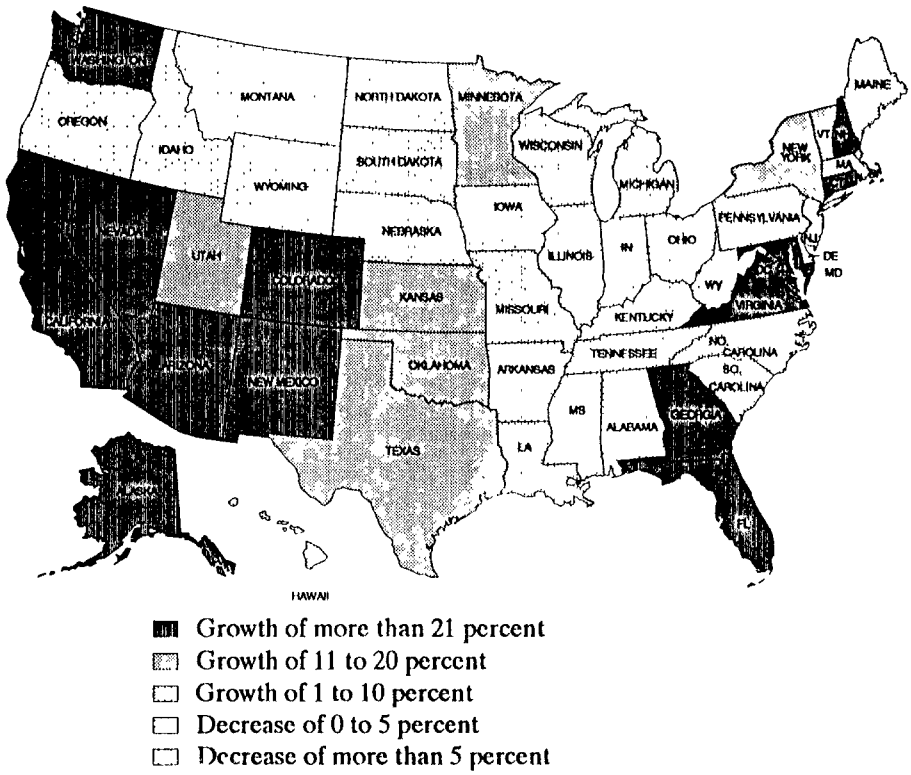
Figure 18 shows the expected percentage increase in high school graduates by state from 1992-93 to 2003-04. The West is expected to have the most rapid growth. The top five growth states in the nation are projected to be in order Nevada -- 83 percent; Alaska -- 69 percent; Arizona -- 61 percent; and California -- 60 percent. By comparison the national average growth rate for the same period is expected to be 18.9 percent. Following the West, the South (as traditionally defined by the Mason-Dixon line) is projected to have the largest expansion in high school graduates of any region. Five of the fourteen traditional southern states are projected to have above average growth. They are Florida -- 58 percent; Virginia -- 43 percent; Maryland -- 27 percent; Georgia -- 26 percent; and Oklahoma -- 20 percent.

In all regions great diversity appears in the projected growth rates. For example the worst growth rate in the nation is projected for West Virginia (-24 percent) versus Virginia which is seventh in the nation at 43 percent. Likewise Alabama ranks forty-third at a -4 percent while its neighbor Georgia ranks eleventh. Likewise Oregon, Wyoming and Idaho rank forty-seventh, forty-ninth, and fiftieth respectively (note fifty-one states are present counting the District of Columbia) while the top five states are all western states.

Agricultural Economics Salary Outlook in the Future

What will the future hold for agricultural economists salaries? I am guardedly optimistic, but see several troublesome issues. My optimism comes from the strong correlation exhibited between agricultural economics salaries and nominal per capita income growth. The current outlook for the economy appears to improving, and with it comes hope for higher salaries. Hope for real as opposed to nominal salary growth would appear to key upon keeping inflation rates low and regaining the salary growth situation of the late 1980s. In addition, the turn around in numbers of high school graduates offers some hope for increasing the demand for university faculty in general and agricultural economics faculty in specific. However, since we

Figure 18. Percentage Change by State in Annual Number of High School Graduates from 1992-93 to 2003-04



are a heavily research/extension based discipline, the impact of growth in student numbers upon the demand for our services will likely not be as great as for other departments which are more teaching oriented. Lastly, although more distant, is the hope that an improving balance between numbers new Ph.D.s and retiring agricultural economist will reduce the pressure upon the new Ph.D. job market.

A major problem appears to be that colleges of agriculture are in a distinct declining trend across the nation relative to university disciplines in general. College of agriculture salary levels as well as faculty numbers appear to be declining relative to the rest of academia. Others have alluded to the fact that college of agriculture student numbers are declining and that the number of farm families has fallen to an all time low. As a department within the college of agriculture, agricultural economics will be directly effected by the competitiveness of the college in general. Many of our examinations of the viability of our profession have tended to focus only upon the market for our own profession's services. I would contend that in order to clearly see the future of our profession (university agricultural economists) we must also see the future of the college of agriculture. The parable that "a rising (falling) tide carries all ships" would appear to hold to some degree for all departments in the college of agriculture. Thus I believe that as we consider how to make our profession more competitive, a part of that consideration must include how to restore recent losses in the competitiveness of the college of agriculture in general.

To date, agricultural economists appear to be weathering the storm in the college of agriculture reasonably well. We (along with the agricultural engineers) are the best paid faculty within the college and are growing in numbers as a percentage of the college of agriculture faculty. I attribute part of this strength to the fact that the university salary structure currently appears to be skewed in favor of rewarding faculty with business and engineering skills, relative to those with life science, liberal arts

and education skills. Our counterparts in the college of business are among the best paid faculty in academia. I would also point out that while we are among the highest paid faculty in the college of agriculture, we appear not to be an "overpaid" department. We are not overpaid in the sense that our salaries are as low, if not lower, relative to our closest non-college of agriculture counterpart department as most departments in the college of agriculture. If the nine month versus twelve month equivalent appointment salary issue is ignored, most college of agriculture departments appear to be paid ten to twenty-five percent below their non-college of agriculture counterpart departments. Stated alternatively, most college of agriculture departments (and specifically agricultural economics departments) are paid about as much in twelve months as their non-college of agriculture counterpart departments are paid in nine months.

REFERENCES

AAEA Employment Service Committee. "1990 Survey Results." American Agricultural Economics Association, Ames, Iowa, no date.

Brandt, J. A. "Market Situation for Graduate Students in Agricultural Economics." Paper presented at the AAEA Symposium on Graduate Programs, Vancouver, British Columbia, 1990.

Huffman, W. E. and P. Orazem. "An Econometric Model of the Market for New Ph.D.'s in Agricultural Economics in the United States." *Amer. J. of Econ.*, 67(1985):1207-14.

Hamermesh, Daniel S. "Diversity Within Adversity: The Annual Report on the Economic Status of the Profession, 1991-92." *Academe: Bulletin of the American Association of University Professors*, (March-April, 1992):7-14.

Keister, Stephen D. and Lekha G. Keister. "Faculty Compensation and the Cost of Living in American Higher Education." *Journal of Higher Education*, 60(July/August 1989):458-474.

Nelson, A. Gene. "Graduate Programs in Agricultural Economics: Are We at a Crossroads, Or Is the Road Just Getting Wider?" Invited paper at the annual Western Agricultural Economics Association Meetings, Colorado Springs, Colorado, July, 1992.

Office of Institutional Research. *Annual Faculty Salary Survey by Discipline*. Oklahoma State University, Stillwater, Oklahoma, 1974 through 1991.

Peterson, Willis. "Is the Demand for Experiment Station Personnel Declining?" *Rev. of Agri. Econ.*, 14(1992):55-64.

Schweikhardt, David and Lynn Reinschmiedt. "Current Status and Future Prospects for Doctoral Programs in Departments of Agricultural Economics in the Southern Region: Results of a Survey." Paper presented at the Southern Agricultural Economics Association meetings, Lexington, Kentucky, February, 1992.

Schotzko, Ralph T. "Projected Replacement Needs for Agricultural Economist." *Amer. J. of Agri. Econ.*, 62(1980):525-529.

Western Interstate Commission for Higher Education. *High School Graduates: Projections by State, 1986 to 2004*. Western Interstate Commission for Higher Education, Boulder, Colorado, March 1988.