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# **Human Resources and Undergraduate Agricultural Economics: A Preliminary Report**

by

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**Abstract:** This paper focuses on determining the core of undergraduate human resource economics and evaluating the coverage of these topics in undergraduate agricultural economics texts and curricula. We include survey results which provide information on undergraduate students' exposure to and their preparation regarding human resource issues in their chosen careers.

**Key Words:** Human resources, labor economics, management, undergraduate curriculum, undergraduate teaching

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# **Human Resources in Undergraduate Agricultural Economics:**

## **A Preliminary Assessment**

Michael Oldfather and Bryan Schurle

This paper's theme can be captured in two questions. First, can one make the case that undergraduate students in agricultural and applied economics need a firm grounding in human resource and labor economics? Second, to what extent are they currently receiving an adequate background in the topics generally considered to comprise the core of that branch of economics?

Our approach to answering the two questions begins with a presentation of what we believe to be the core of labor and human resource economics and a little history of how that core has evolved over the past 40 years or so. The following section of the paper presents evidence of increasing interest of agricultural economists in the subject. The next section of the paper presents the results of our preliminary sampling of agricultural economists with responsibility for developing and guiding undergraduate curricula on several campuses. This section is followed by a sampling of textbooks widely used by undergraduates in agricultural economics and agribusiness, general management, and intermediate microeconomics, courses where the concepts of modern labor economics might be found.

## **MODERN LABOR AND HUMAN RESOURCE ECONOMICS**

Few branches of economics have changed as much as labor economics has over the past four decades. Economists whose last exposure to study in this area occurred 30 years ago would not recognize the subject today. While many changes could be cited, three may best capture the dramatic break with the past that we have in mind. First, the emphasis on organized labor has been dramatically reduced. Given the decline of union membership both absolutely and as a portion of the labor force,

this result is not surprising. As Gallaway and Vedder note, this change in emphasis reflects a sea change in perspective, as labor economists moved away from missionary zeal in behalf of organized labor toward much more objective treatment of unions.

The second change is a rather sudden and dramatic shift towards greater emphasis on empirical research, made possible by the rise of computers, the production of new data sets, and advances in econometrics. Textbooks published in the early 1970s (e.g., Fleisher, Gallaway, and Rees) reflect this approach. The influence of Rees's text was probably the greatest in this regard. Only 239 pages long, *The Economics of Work and Pay* includes far more references to empirical research than either of the much longer works by Reynolds and Bloom and Northrup, the leaders in the 1960s. Eventually going through 6 editions, this text truly set the pattern for today's crop of labor textbooks.

A third distinctive characteristic of the "new" labor economics involves subject matter. No economist has been more important in expanding the borders of labor economics than Gary Becker, the 1992 Nobel Laureate in Economics. Beginning with the publication of *The Economics of Discrimination* in 1957, Becker began the process of "intellectual imperialism" that included human capital (1964), the economics of marriage and the family (1991), and a host of other topics (see Fuchs for a fuller listing of Becker's wide ranging contributions to the standard fare in labor economics).

#### *Leading Labor and Human Resource Texts*

Table 1 presents our sense of what students are likely to study in a labor/human resource economics course on most college and university campuses today. The weighting of particular topics varies in the four texts discussed below, and would certainly be different in the courses students might take. Still, the outline does include most (if not all) the topics we found in the four texts. What follows

is a somewhat more detailed sketch of those texts, listed in order of difficulty.

While the prefaces of all four texts state that their books are designed to be accessible to students who have taken only principles of microeconomics and macroeconomics, students with such limited background in economics (and those of us who regularly teach them) might disagree. Of the four, *Contemporary Labor Economics*, by Campbell McConnell, *et al.*, arguably comes closest to delivering on its authors' promise. While indifference curves are used extensively, less technical approaches can readily replace their contributions to understanding the subject. The text includes more descriptive material than the others; it is especially strong in the area of the relationship between government and labor markets.

*Labor Economics*, by George Borjas, like the other three, reports on labor market statistics and evidence from research, but "...data and empirical findings are not the heart of the book." Instead, the objective "...is to survey the field of labor economics with an emphasis on *both* theory and facts...relying much more heavily on 'the economic way of thinking'" than alternative texts. One important feature of both this text and the Ehrenberg and Smith book is an appendix to the first chapter on multiple regression analysis. This is really valuable given that empirical work in the field relies so heavily on statistical models in this family. Students will be exposed to this essential tool frequently as they review at least some the relevant research in labor economics.

*Modern Labor Economics, Theory and Public Policy*, by Ronald Ehrenberg and Robert Smith, is reputed to be the best-selling text in the field. It takes a somewhat more sophisticated approach to the subject than the first two. While it may well be possible for students who have taken only principles of microeconomics to handle this text comfortably, we recommend an intermediate

microeconomics background for all but the most gifted undergraduates before taking a course using this text, the Borjas book, or Kaufman and Hotchkiss. For well prepared undergraduates, this book certainly deserves its status as the industry standard.

*The Economics of Labor Markets*, by Bruce Kaufman and Julie Hotchkiss, is distinguished from the other three in several important ways. First, it is somewhat longer than the others; not surprisingly, it goes into several issues in much greater depth. Second, it is the only text in the group to include calculus to any degree; because it is in appendices, it can be omitted easily. Third, it presents more evidence from research outside of the neoclassical model than the other three. Finally, its chapter, “The Economics of Human Resource Management,” is unique. All the others certainly touch on much that appears in the chapter, but none of the others includes a thorough review of relevant literature produced from management and other fields who have an interest in this topic. We believe that other economists will join us in praising the chapter for introducing a fascinating subject in a way that our discipline prepares us to appreciate.

## AGRICULTURAL ECONOMISTS REFLECT ON HUMAN RESOURCES

### *The Presidents’ Addresses*

The presidential address at the annual meeting of the American Agricultural Economics Association often provides an assessment of the state of the profession. Reviewing recent addresses of AAEA leadership for interest in *human resources*, we found that five of the last eight addresses (1996-2003) devoted at least some attention to human resource issues.

Christy (1996) presents an interesting scheme for visualizing the “Agri-Food System,” in which human resources – together with technology, institutions, and physical resources – describe both limits

and possibilities for improving the health and vitality of the food and fiber sector of the economy. All four elements are crucial to the industry, but it is clear that Christy places a particularly strong emphasis on the role of human resources.

The addresses of Antle (1999) and Gardner (2000) both focus on economic growth and emphasize the role of investment in human capital as an important driver for expanding per capita output. Antle provides an excellent framework for conceptualizing agriculture as a part of the larger economy and helps one consider human resources both within agriculture and elsewhere. Gardner's approach includes a great deal of factual information about the relationship between incomes in agriculture and the rest of the economy and trends in that relationship. He also provides an excellent historical review of some of the best efforts of agricultural economists to understand and explain the relationship between agricultural and nonagricultural incomes.

Kinsey (2001) argues that production agriculture is just one of many components involved in getting food from the field to its ultimate consumer and presents an interesting grid for conceptualizing the new food economy as a web with food consumption at its center. At the perimeter of her web are 12 "activities," two of which – "Managing and training labor" and "Overseeing and facilitating . . . the welfare of . . . workers" – speak explicitly of the role of human resources, but most of the others involve people working together.

Offutt (2002) writes very much in the tradition of the "new" labor economics. As her title, "The Future of Farm Policy Analysis: A Household Perspective," suggests (and as she notes explicitly), Offutt's thesis flows logically from the work of Gary Becker, who is one of the scholars most responsible for the modernization of labor economics (*vide supra*). More specifically, she argues that

thinking about farm policy ought to begin with an appreciation of households as both producers and consumers, challenged to find the best use of its members' time for each activity. Indeed, the previous year, Kinsey made much the same argument in her description of how “. . . in the pursuit of freedom from cooking and washing dishes, [we] scan and bag our own groceries [and] fill our plates in buffet lines.” Insights drawn directly from “The ‘New’ Home Economics” (“new,” that is, in the 1960s) inform both Kinsey and Offutt and encourage the rest of us to think of how changing household dynamics lead families to consume different kinds of food (and other agricultural) products.

#### *Recent AJAE Human Resource Articles*

Within the profession, trends in scholarly output provide supporting evidence of the discipline's interest in any topic. Reviewing the last seven years of the *AJAE*, we were surprised to discover how many articles – well over 40 – dealt in a significant way with topics studied in contemporary labor economics texts and scholarly journals in the field. Titles of these articles include “human capital,” “labor,” “migration,” “efficiency wages,” “fringe benefits,” “principal-agent theory,” “piece-rates,” “labor force participation,” and many others found in table 1. Citations in these articles include references to research by agricultural economists, some of it 50 years old, suggesting that at least some members of the profession have been interested in human resources for a very long time.

#### *The “Lincoln Report”*

The *Report of the National Agribusiness Education Commission* (1989), the “Lincoln Report,” provides additional pressure for more emphasis on studying human resources in agricultural economics. While it emphasized the need for *graduate* training in agribusiness, its recommendations have also influenced *undergraduate* curricula in the discipline. The Report includes the results of two



large surveys. The first, the Agribusiness Management Aptitude and Skill Survey, was returned by 534 representatives of agribusiness. Respondents were asked to indicate the importance of 72 different employee characteristics that might be desired by firms in their industry. Of special interest to us here is that 6 skills clearly related to understanding and managing human resources – “Work with others,” “Delegate responsibility and authority,” etc. – were ranked in positions 4, 10, 12, 16, 24, and 32.

A second survey asked agribusiness leaders for their evaluation of agribusiness education programs and their insights into where changes were needed. The survey listed 14 areas traditionally part of the conventional undergraduate preparation of the young men and women whom they interviewed for positions in their firms or other organizations. Of the more than 1,100 industry representatives who responded, relatively few thought students needed more background in production agriculture (28 percent) and agricultural and life sciences (22 percent). “Human relations” was, in the opinion of the respondents, in greatest need of more attention; fully 63 percent thought agribusiness education needed to put more emphasis on the human side of business operation. The fourth position went to “General business, management” (50 percent). Since so much of management in most organizations is related in one way or another to human resource issues, the survey results clearly suggest the need for more emphasis on preparing students to interact with fellow employees.

Four papers presented at a “Principal Paper Session” at the 1999 American Agricultural Economics Association’s annual meetings looked at the extent to which the profession had adopted recommendations from the Lincoln Report. Summarizing the survey results and personal reflections reported there, one can say that agribusiness may be receiving a little more attention at the graduate level – the focus of the Report – but it is clearly becoming the dominant area of concentration in

agricultural and applied economics at the undergraduate level.

## SURVEY RESULTS

We surveyed agricultural economics and agribusiness programs in the U. S. and received 33 useable responses. The first question asked faculty members to estimate what percentage of their students came from a family background in production agriculture (defined broadly enough to include forestry, aquiculture, etc., as well as farming and ranching). The average estimate was 39.7 percent. According to respondents' estimates of where graduates from their programs find employment upon graduation, only 11.4 percent go into production agriculture. The information, summarized in Table 2, helps answer the question raised in the introduction regarding whether undergraduate agricultural and applied economics students could benefit from understanding the economics of human resources.

Some of the students who go into production agriculture will operate single proprietorships with few if any employees other than family members, and the same will be true for some graduates who work in other areas listed in table 2. Most – including some in production agriculture – however, will work in enterprises that hire anywhere from a few workers to thousands of them. In the early stages of their careers, most college graduates, whether in these fields or elsewhere, will be interacting with co-workers and their own supervisors. As time passes, more and more of them will themselves become supervisors with responsibility for monitoring and motivating other employees.

A second component of our survey asked respondents to rate the importance of each of the 11 broad areas (described in detail in Table 1) that constitute the core of contemporary labor and human resources and then to provide information about the extent to which their programs stressed these areas. The results of our survey are presented in Table 3. Given the emphasis on agribusiness management

among the programs surveyed, it is not surprising that “Human Resource Management” and “Monitoring and Motivating Employees” receive the highest marks. Consistent with this ranking, the two areas receive the highest estimates of coverage in courses taken by students in the surveyed programs at 76 and 70 percent, respectively.

Somewhat puzzling is the result that “Public Policy” (3.58) landed in third place in terms of both importance and coverage. We hypothesize that the inclusion of the Occupational Safety and Health Administration (OSHA) in the detailed version of the core of modern labor economics that we included in the survey may have elicited this response from instructors. The inclusion of minimum wage legislation and workers compensation may provide a part of the explanation for this unexpected response. While “Investment in Human Capital” finished a respectable fourth place, admirers of Theodore Schultz, who was largely responsible for popularizing the concept, might feel at least a twinge of disappointment in this modest showing.

Three others score better than 3.00 (which implies indifference) – “Supply of Labor,” “Demand for Labor,” and “Employment and Unemployment.” The first two were estimated (at 64 percent and 58 percent, respectively) to be stressed in undergraduate programs. The 42 percent coverage for “Employment and Unemployment” is consistent with the results we found in our earlier survey of the place of macroeconomics in the same programs: The topic is important, but, to the extent that it is covered in macroeconomics, students who are exposed to it are most likely to see it there rather than in courses offered in agricultural and applied economics.

Finally, four topics scored 3.00 or less – “Nondiscriminatory Explanations for Earnings Differentials,” “Discrimination and Earnings Differentials,” “Organized Labor,” and “Labor Mobility.”

Consistent with this appraisal, respondents indicated that these topics are stressed in 33-39 percent of their programs. The lack of interest in organized labor is easy to understand; except for a few farm laborers and packing house workers, very few workers in agriculture are unionized. The low level of interest in earnings differentials is, perhaps, a bit more troubling since so many graduates of the programs involved in this study will be employed in firms and industries where earnings differentials may be significant interest. Finally, one wonders why “Labor Mobility” struck our respondents as so unimportant. The movement of labor out of agriculture is surely one of the biggest stories in U.S. economic history. The depopulation of rural communities, the reliance on migratory workers in the production of many crops, and the prevalence of foreign-born workers in food processing plants suggests to us that migration and immigration might logically warrant a place at the table.

We asked respondents for information about courses taken, for the most part, outside their departments. This information, together with the foregoing data on importance and coverage of the elements of a modern labor and human resource economics course, helps us move towards an answer to the second question we raised in the introduction, namely, how well are undergraduate students in agricultural and applied economics prepared to deal with the human resource issues that they will confront in their careers.

The results, which are very similar to those found in earlier surveys by Boland, *et al.*, and Oldfather and Schurle, suggest that very few students (12%) in our population of interest take a course in labor and human resource economics. On the other hand, 37% take a course in human resource management, and even more take intermediate microeconomics (68%) and general management (52%), courses which provide students with significant exposure to the core of a class in labor economics.

## HUMAN RESOURCES IN AGRICULTURAL ECONOMICS STUDENTS' COURSES

### *Agricultural Economics*

We reviewed four texts aimed at students taking their first course in agricultural economics. Casavant, *et al.*, make almost no reference to labor, teaching isoquants with milk as the output and grain and hay as the inputs. Cramer, *et al.*, define the food and fiber industry the most broadly of the four; their references to unemployment, human capital, and rural poverty reflect considerable emphasis on human resource issues. Penson, *et al.*, differentiate their text by emphasizing macroeconomics more than the other three texts. As a result, they allot much more attention to employment and unemployment and the macroeconomics of labor than the others; in addition, they make explicit references to labor in the microeconomics section of the text. Drummond and Goodwin provide examples using labor as an input and refer at least briefly to farm labor. All but the first text on the list provide at least some background in the importance of labor to the broader definitions of the food and fiber industries.

We reviewed three texts designed for use in agribusiness management courses – Beierlein, *et al.*, Baker, *et al.*, and Erickson, *et al.* All three texts devote two chapters to human resource management and mimic, to a certain degree, at least, the typical introductory general business management texts. The first two seem oriented more to practical considerations, hiring and evaluating employees, writing job descriptions, etc., than to the more abstract aspects of human resource management. Erickson, *et al.*, is written at a somewhat more rigorous level; it is more nearly comparable to the sophistication of introductory business management than the other two. In sum, all three provide basic coverage of human resource management issues.

### *Intermediate Microeconomics Texts*

We concentrated on two very widely used intermediate microeconomics texts, Perloff (2004) and Browning and Zupan. Both provide excellent coverage of the Neoclassical models that dominate this market; the same could be said for many of the unreviewed options from which instructors can choose. Courses built around either text will cover all the basics very well. Examples which involve choosing from various resource mixes invariably include labor as one of the inputs. Both texts add at least one chapter to enrich students' appreciation of some of the peculiarities of labor markets as compared to the markets for products and for other inputs and prepare students for application of microeconomic theory to a more intensive examination of labor and human resource economics. Since this study and two others (Boland, *et al.*, and Oldfather and Schurle) suggest that at least two-thirds of the students of interest to us take intermediate microeconomics, and most of the rest cover the same material in agricultural economics courses (as is the case here at Kansas State University), the contribution of intermediate microeconomics texts is especially significant.

#### *General Management Texts*

We looked at four popular general management texts – Dessler (2004), Griffin, Robbins and Coulter, and Schermerhorn. All of them have one chapter devoted specifically to human resource management. In addition, somewhere between a little less than half to somewhat more than half the chapters of the four texts include significant attention to understanding the challenges of dealing effectively with co-workers and employees. We thought that Schermerhorn emphasized human resource issues somewhat more extensively than the others, but the difference was at the margin. All the books cover virtually everything normally assumed to be a part of a basic understanding of management principles; their similarities in both approach and format are far more apparent than any differences that

may exist among the texts.

## SUMMARY AND RECOMMENDATIONS

Regarding the first question posed in the introduction – should agricultural and applied economics students acquire an understanding of human resources? – readers will not be surprised to learn that we believe the answer is yes. Whether readers are persuaded by the information we have presented remains to be seen. With regard to the second question – what are these students learning about the subject? – we believe that the evidence suggests a passing grade for the programs we looked at, but with a note attached to the effect that there is room for improvement.

Depending a bit on textbook selection and instructor emphasis, many of the students in the surveyed programs, are getting a decent foundation for understanding human resource issues they are likely to face in their careers. This knowledge will develop in beginning and intermediate level courses in economics, agricultural economics, and agribusiness management. This assessment is reinforced by our survey's respondents' answers to this question: "In your opinion, how well are your graduates prepared for dealing with human resource questions they're likely to face in their careers?" Some 45 percent of those surveyed graded their programs as "satisfactory," 16 percent gave their program high praise, while 39 percent assigned very low marks to their programs. Perhaps the glass is 61 percent full.

In summary, first, we hope that more attention to human resource issues will find its way into the core courses in economics and agricultural economics courses taken by students in agricultural and applied economics. Second, general management courses, which invariably include a heavy dose of the study of human resources ought to be more commonly a part of the preparation of students with majors or concentrations in agribusiness. A reasonable division of labor might give the general background to

the college of business, while agricultural economists teach management courses that focus on the peculiarities and unique features of firms in the food and fiber sector of the economy.

Finally, we are both economists. We continue to believe that a solid background in economic theory is essential to understanding the workings of businesses and virtually all other enterprises, no matter whether they are connected to agriculture or not. We think the modern core of labor and human resource economics provides valuable insights into issues of great importance, and we would like to see more agricultural and applied economics students take coursework in this area. The curriculum is, of course, already crowded. At the very least, we wonder whether those 37 percent of the students represented in our sample who take human resource management might not be better served by a course in labor and human resource economics.

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**Table 1: The Core of a Modern Course in Labor Economics**

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- A. *Demand for Labor*: derived demand; wage elasticity of demand; competitive and monopsonistic labor markets; capital and other inputs as labor substitutes and complements.
  - B. *Supply of Labor*: work/leisure trade-offs; reservation wage; income and substitution effects; household production and joint labor supply decisions; labor force participation rates.
  - C. *Investment in Human Capital*: private returns to education; social returns to education; education as a screening device; estimating effects of ability differences.
  - D. *Human Resource Management*: screening and hiring applicants; supervising, evaluating and terminating employees; fringe benefits administration; on-the-job training.
  - E. *Motivating and Monitoring Employees*: principal-agent problem; efficiency wages; pay-for-performance, profit-sharing, and other pay schemes to influence productivity.
  - F. *Nondiscriminatory Explanations for Earnings Differentials*: patterns in earnings differentials; productivity; compensating wage differentials; hedonic wage theory.
  - G. *Discrimination and Earnings Differentials*: discrimination based on gender, race, and age; costs of discrimination; models to explain discrimination.
  - H. *Labor Mobility*: geographic, occupational, and industrial mobility; costs and benefits of interregional and international migration; legal impediments to immigration.
  - I. *Organized Labor*: relevant labor legislation; collective bargaining; union membership trends; union wage advantage; social costs and benefits of unions.
  - J. *Public Policy and Labor Markets*: minimum wage laws; unemployment compensation; workers compensation; OSHA; Social Security; welfare; affirmative action.
  - K. *Employment and Unemployment*: unemployment statistics; natural rate of unemployment; internal labor markets; job search; causes of unemployment and policies.
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**Table 2: Agricultural and Applied Economics Undergraduates' Employment?**

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Production Agriculture	11.4%
Agricultural Finance	12.1%
Producing and Marketing Goods for Production Agriculture	16.7%
Processing, Distributing, and Selling Food and Fiber	14.8%
USDA, Extension, and Other Government Agencies	10.9%
Businesses Unrelated to Agriculture	26.5%
Others (including Graduate School)	15.5%

Note: The total is slightly greater than 100 percent because some graduates fall into more than one category.

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**Table 3: Respondents' Assessment of Importance of Elements of Modern Labor Economics and Extent of Core's Coverage in Agricultural and Applied Economics Courses**

	Importance	Coverage
A. Demand for Labor	3.24 (1.09)	58%
B. Supply of Labor	3.27 (0.98)	64%
C. Investment in Human Capital	3.52 (0.87)	61%
D. Human Resource Management	4.15 (1.09)	76%
E. Monitoring and Motivating Employees	3.88 (1.14)	70%
F. <i>Nondiscriminatory</i> Explanations for Earnings Differentials	3.00 (1.19)	39%
G. <i>Discrimination</i> and Earnings Differentials	2.85 (1.06)	33%
H. Labor Mobility	2.97 (1.02)	39%
I. Organized Labor	2.92 (0.95)	39%
J. Public Policy	3.58 (0.90)	67%
K. Employment and Unemployment	3.21 (1.14)	42%
Likert scale: 1 = Unimportant, 5 = Important; standard deviations in parentheses.		