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# Views of Teaching and Research in Economics and Other Disciplines

By WILLIAM B. WALSTAD AND SAM ALLGOOD\*

Anecdotes are often quite suggestive. A graduate student in economics who was serving as a teaching assistant once reported that his major professor came into his office and told him that he was spending too much of his time helping his undergraduate students and not enough time on his research. Was the professor expressing a preference for time spent on teaching over research? Or was the professor suggesting to the student that the academic market rewards research more than teaching? Regardless, the underlying message that gets transferred from such an experience, as early as graduate education and perhaps throughout a career, is that teaching is not as important or valuable as research.

Such strong conclusions, however, should not be based on anecdotal evidence. Whether economics professors are less interested in teaching and more interested in research is an empirical question worthy of study. Although teaching and research choices made by economics faculty members reflect both preferences and choice sets, in this study we focus on preferences and use a national survey to compare the teaching and research views of economists with faculty members in other major disciplines.

## I. Data and Sample

The data for the study were taken from the National Survey of Postsecondary Faculty (NSOPF) conducted by the National Center for Education Statistics (NCES) in 1998–1999. NCES sent surveys to over 26,000 faculty members at more than 960 postsecondary educational institutions of all types, including two-year schools but excluding private for-profit institu-

tions. The survey administered to faculty members was remarkably detailed and took almost an hour to complete. Nevertheless, a total of about 18,000 faculty members responded to the survey because of the various methods used by the NCES to ensure faculty participation. The weighted response rate was 83 percent. All documentation and a full description of the NSOPF can be found online.<sup>1</sup>

The focus of this study is on faculty preferences toward teaching and research in economics and other comparable disciplines. We restricted the data set in three ways to make meaningful comparisons among similar types of faculty members. Our analysis was first limited to faculty members in economics and seven other disciplines or fields of study that focused on science. Faculty members in the arts and humanities were excluded from our analysis. Using the NSOPF definitions, the seven other disciplines or fields of study were: (i) social sciences (e.g., political science, sociology, anthropology, history, psychology, demography); (ii) biological sciences (e.g., biology, botany); (iii) physical sciences (e.g., chemistry, physics); (iv) mathematics and statistics; (v) computer science; (vi) engineering; and (vii) business (e.g., accounting, management, marketing, and finance).

We restricted the type of institution to research I or II (doctoral-granting) as classified by the Carnegie Foundation. The reason for this second restriction was that faculty members at these types of institutions typically have responsibilities for teaching and research as a condition of their employment. As a result, these faculty members must choose between teaching

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<sup>1</sup> (<http://nces.ed.gov/surveys/nsopf>). The results reported were obtained from the NSOPF web page using the Data Analysis System. This analysis does not report the actual number of responses (to protect the confidentiality of respondents), but it does have the advantage of correctly weighting the responses to provide population estimates. No estimate is given if the number of responses is too low, and this did not occur with any of the estimates reported in this study.

TABLE 1—SAMPLE CHARACTERISTICS, 1999

Discipline/field	Male	White	Age	USA
Economics	88	90	48.9	80
Other disciplines	81	84	49.3	74
Social sciences	67	88	50.1	89
Biological sciences	77	86	49.0	69
Physical sciences	94	90	51.3	75
Mathematics/statistics	92	77	50.1	63
Computer sciences	86	84	45.1	74
Engineering	93	75	48.6	59
Business	78	88	48.3	85

Notes: The “male” and “white” columns report percentages. “Age” is the mean age in years. “USA” reports the percentage of professors born in the United States.

and research in their work allocation, and thus are likely to have opinions on this teaching and research trade-off in employment duties.<sup>2</sup>

We limited the sample in a third way to those faculty members who reported being a professor (assistant, associate, or full) because these faculty members typically both teach and do research. Faculty members with appointments as lecturer, research associate, or some other title were omitted from the analysis because they typically do not have joint responsibilities for teaching and research.<sup>3</sup>

As shown in Table 1, the basic demographic characteristics of economics professors at research universities are similar to professors in other scientific disciplines or fields. The great majority of faculty members in all disciplines are male (88 percent in economics and 81 per-

<sup>2</sup> Over half (53 percent) of economics faculty members in the NSOPF sample are at research universities as are a similar percentage of faculty members in the biological sciences (55 percent) and engineering (58 percent). Other science-oriented disciplines are characterized by smaller percentages of faculty members at research institutions: physical sciences (44), other social sciences (33), mathematics and statistics (27), business (24), and computer science (20).

<sup>3</sup> At public and private research I and II institutions, 86 percent of economics faculty members are professors of some rank (46 percent full, 27 percent associate, 13 percent assistant). The rank breakdowns for the other disciplines are: other social sciences (34, 18, 20); biological sciences (34, 20, 27); physical sciences (45, 20, 14); mathematics and statistics (43, 17, 12); computer science (19, 24, 30); engineering (36, 28, 17); and business (19, 26, 17). The lowest percentage of professors (62) is in business because business departments make greater use of instructors, lecturers, and adjuncts as faculty members.

cent in the other disciplines). Physical sciences, engineering, and mathematics and statistics have higher proportions of male professors than does economics, but social sciences, biological sciences, and business have a smaller proportion. Each discipline or field is overwhelmingly white with economics and the physical sciences topping the list at 90 percent, and mathematics/statistics and engineering setting the lower bound at about 75–77 percent. Economics professors have an average age of 49, but there is only limited variation in age across disciplines. The youngest professors are typically found in computer science (45) and the oldest in the physical sciences (51). There is substantially more variation in the percentage of professors born in the United States by discipline. About 80 percent of economics professors were born in the United States, which is above the average for the other sciences, but the economics percentage is less than the percentage for professors in the social sciences (89) or business (85), and greater than that for professors in engineering (59) or mathematics and statistics (63).

There are longevity characteristics of professors that are worth noting to describe the sample, although the data are not reported in Table 1. On average, economics professors have been teaching in higher education for 20.5 years, and they have held their current job for about 14.5 years. Economics professors have been teaching longer than professors in all other disciplines (average: 17.6) except mathematics and statistics (21.3), and they have held their current position longer than professors in other disciplines except for professors of mathematics and statistics or professors in the physical sciences.

## II. Teaching and Research Production

Table 2 reports basic measures of teaching and research output across disciplines. The average teaching load is similar across all disciplines. Economics professors in research universities teach two classes per semester on average, which is lower than the average teaching load in the biological sciences (2.2), social sciences (2.3), computer science (2.3), or business (2.5). Professors in the physical sciences and in engineering teach the same average number of classes as

TABLE 2—TEACHING AND RESEARCH OUTPUT

Discipline/field	Teaching		Research articles	
	No. classes	No. students	Total	Recent
Economics	2.0	78	26	7
Other disciplines	2.2	85	40	8
Social science	2.3	89	28	6
Biological sciences	2.2	101	50	10
Physical sciences	2.0	95	59	11
Mathematics/statistics	2.1	66	33	8
Computer sciences	2.3	75	20	6
Engineering	2.0	101	41	10
Business	2.5	97	16	4

*Notes:* The table reports the mean number of classes taught per semester in the first column, mean number of students each semester in the next column, and numbers of published research articles in the two rightmost columns. “Recent” articles are those published in the most recent two-year period.

economics professors. Although not reported in Table 2, for seven of the eight disciplines about two-thirds (65 percent) of the teaching is in undergraduate classes, and the other third is in graduate classes. The only exception is in the biological sciences, where professors provide less undergraduate instruction (41 percent) and more graduate instruction (59 percent).

Economics professors teach fewer classes, so it would be expected that they would most likely teach fewer students than most other disciplines. In fact, economics professors teach about 11 fewer students each semester on average than do professors in the other disciplines. Only professors in computer science and mathematics and statistics report teaching smaller numbers of students, but in both cases their teaching load is slightly higher. Also, in the case of engineering and the physical sciences, where professors had the exact same teaching load as economics professors, the professors in these two disciplines report teaching substantially more students on average than do economics professors (23 more in engineering and 17 more in the physical sciences). Thus, there is no basic quantitative evidence that the teaching load of economics professors is heavier than that of professors in other science disciplines at research institutions. In fact, a case can be made that the teaching load of economics professors is slightly less in terms of classes taught and the

number of students taught relative to most other science disciplines.<sup>4</sup>

One measure of research output of professors is the total number of articles published in refereed journals. On this outcome measure, economics professors are about in the middle of the distribution when compared with other professors in the sciences. The average number of refereed journal articles is much greater among professors in the physical sciences (59), the biological sciences (50), and also in engineering (41). The journal output of economics professors (26) is most similar to those professors in the other social sciences. Only professors in business and computer science report fewer journal publications (16 and 20, respectively) over a career. A similar placement in the distribution also holds when comparing economics professors with other professors based on recent output. Economics professors averaged about seven refereed journal articles over the most recent two-year period covered by the survey, which is only one more publication than that for professors in the social sciences. Professors in the physical and biological sciences and in engineering also showed the greatest rates of publication in recent-year comparisons.

Caution must be exercised in comparing the number of refereed journal articles across disciplines, whether the number of articles is over a career or in a most recent two-year period. There are differences in journal publishing across disciplines that are affected by the number of journals in a discipline, article length, the propensity to co-author, the distribution of professors by rank, and other factors. For example, professors in the physical and biological sciences, and engineering, probably produce more

<sup>4</sup> There is no evidence from this survey that the quality of instruction in undergraduate classes in economics is better than for other subjects in terms of less use of lecture or more use of active learning techniques. Economics professors at research universities report using lecture as the primary method of instruction about 72 percent of the time in all undergraduate classes. The percentage is only slightly lower than that for other disciplines and slightly higher than the social sciences (69 percent). See William E. Becker and Michael Watts (2001) for more discussion of the lack of innovation in teaching methods used by economics faculty, see Becker (1997) for examples of economists' negative reputation for teaching, and see Sam Allgood et al. (2004) for students' negative perceptions of economists' teaching.

TABLE 3—ACTUAL AND PREFERRED USE OF TOTAL WORK TIME

Discipline/field	Teaching		Research	
	Actual	Prefer	Actual	Prefer
Economics	50	41	30	43
Other disciplines	44	41	32	39
Social science	46	41	26	34
Biological sciences	34	32	46	51
Physical sciences	45	41	35	42
Mathematics/statistics	49	45	31	39
Computer sciences	49	47	25	30
Engineering	46	46	26	32
Business	48	44	24	33

Note: All numbers reported are means of response percentages.

articles because they tend to be shorter in length and the work is more likely to be conducted by research teams. Professors in business and computer science probably publish less because these two fields have a smaller fraction of fully promoted professors (19 percent for each) than does economics (46 percent) or the other disciplines (39 percent). Counts of journal articles also provide no indication of quality. Nevertheless, there is nothing in the quantitative measure of research output that suggests that economics professors are more productive than other science-oriented professors, and an argument could be made that they are less productive in research relative to some science disciplines.

### III. Actual and Preferred Uses of Time

Table 3 reports professor responses to the percentage allocation of their total work time to major duties such as teaching and research. Professors were first asked to state what percentage of their total work time they *actually* spent on teaching undergraduate or graduate students and what percentage of their total work time they *actually* spent on research. They were then asked what percentage of their total work time they *preferred* to devote to teaching and research. (It should be noted the percentages allocated to teaching and research across actual or preferred columns does not total 100 because a certain percentage of time could be allocated to other activities such as administration, service, professional growth, or outside consulting.)

The results show that economics professors say they spend a larger percentage (50) of their actual work time teaching than do most of their peers (44). The differences are slight across most of the disciplines. Only professors in the biological sciences report devoting substantially less actual time in percentage terms to teaching (34). Economics professors would prefer to spend only 41 percent of their time teaching. This preferred time allocation to teaching is the same as for professors in the social and physical sciences. Professors of business, mathematics and statistics, and computer science want to allocate a little more time to teaching than do economics professors.<sup>5</sup> Only professors in the biological sciences show less preference for teaching than professors in all other disciplines.

The response of economics professors to these actual and preferred questions related to teaching are suggestive. First, it is at odds with the teaching output of economics professors because they reported teaching slightly fewer classes and fewer students, on average, than most other professors. Second, the differences in actual and preferred time devoted to teaching is greater in economics (−11 percentage points) than in any other discipline (−5 percentage points). Most professors, with the exception of engineers, would prefer to devote less time to teaching compared to what they actually do, but economics professors want more of a change than any other group, perhaps because they think less of teaching or feel more burdened by it.

Economics professors say they spend 30 percent of their total work time on research. This percentage is at the average for other professors, but there are discipline differences. Economics professors say they spend more time doing research than professors in business, computer science, the social sciences, and engineering. Professors in the physical and biological sciences report allocating more work time to research, which may be one reason they publish more journal articles. There are also differences in preferred time allocations. Economists would

<sup>5</sup> Faculty members in all fields would prefer to spend less time teaching undergraduates, but economists are the only faculty members who also want to decrease time spent teaching graduate students.

like to spend 43 percent of the time doing research, which is about the same preference as professors in the physical sciences. Professors in the biological sciences desire more time to do research than economists. Business, engineering, and social-science professors prefer to spend only about a third of their time on research.

There is a certain amount of job dissatisfaction in the area of research because professors in all disciplines prefer to allocate more work time to research than they actually do. This result is not surprising given that these professors were trained to do research, and they are located at research universities. The differences among the disciplines, however, are striking. The gap in actual to preferred time allocation for research is  $-13$  percentage points for economics and only  $-7$  percentage points for all other disciplines. These results show that economics professors are the least satisfied with their research time even though the actual time they report doing research is quite comparable to most other disciplines. This great desire to reallocate time to research may explain the great desire to spend less time teaching.

#### IV. Reason for Leaving

Another way to gauge the commitment of economists to teaching and research is to ask a question about what reasons might motivate a professor to change jobs. One of the questions on the survey asked: "If you were to leave your current position at this institution to accept another position inside or outside academia, how important would each of the following be in your decision?" Greater opportunity to teach and greater opportunity to do research were two possible options for everyone to consider. Table 4 reports the percentage saying "not important" (NI) or "very important" (VI) to the teaching and research options. The somewhat important category was omitted for the sake of parsimony.

The results show that greater opportunity to teach was viewed by economics professors as an inconsequential reason to change a job. Almost seven in 10 economics professors rated it as not important. This response was greater than for any other group of professors. The disparity was greatest ( $29-35$  percentage points) when

TABLE 4—LEAVE FOR GREATER OPPORTUNITY TO TEACH OR DO RESEARCH

Discipline/field	Teach		Research	
	NI	VI	NI	VI
Economics	69	8	6	59
Other disciplines	47	17	16	51
Social science	50	15	15	49
Biological sciences	52	12	11	58
Physical sciences	55	9	12	53
Mathematics/statistics	51	17	19	49
Computer sciences	34	28	22	50
Engineering	38	26	18	49
Business	40	22	27	38

*Note:* The table reports the percentages of respondents saying "not important" (NI) or "very important" (VI) to the teaching and research options.

economists' responses are compared with those of professors in computer science, engineering, or business. The rating differences were less, but still substantial ( $14-19$  percentage points) when compared with professors in the social, biological, or physical sciences, or mathematics and statistics. The results from this question suggest that economics professors have the least interest in teaching among professors in all science disciplines.

By contrast, the interest of economics professors in research is substantial and greater than colleagues in other disciplines. Almost six in 10 economics professors consider greater opportunities to do research to be a very important reason to change jobs. Faculty members in other disciplines are also enthusiastic about greater research opportunities as a reason to change jobs, but to a lesser degree depending on the disciplines ( $-1$  percentage point for the biological sciences to  $-21$  percentage points for business). Only 6 percent of economists say that research opportunities are not important, by far the smallest percentage of any group, whereas large percentages of other groups gave this response.<sup>6</sup>

<sup>6</sup> Survey respondents were also asked how important would no publishing pressure be in a decision to change jobs (not reported). Seventy-seven percent of economists—by far the largest amount of any field—said that no publishing pressure is "not important." Social scientists were the second largest group with 62 percent responding "not important."

TABLE 5—WHAT SHOULD BE THE PRIMARY CRITERION FOR PROMOTION?

Discipline/field	Teaching		Research	
	A	D	A	D
Economics	17	83	78	22
Other disciplines	40	60	61	39
Social science	40	60	60	40
Biological sciences	35	65	65	35
Physical sciences	28	72	65	35
Mathematics/statistics	35	65	63	37
Computer sciences	47	53	57	43
Engineering	50	50	60	40
Business	52	48	54	46

*Note:* The table reports the percentages of respondents who agree (A) or disagree (D) that teaching or research should be the primary promotion criterion.

### V. Promotion and Research and Teaching

A third way to understand the views of economists on the trade-offs between teaching and research is to ask them how these two outputs should be used when making promotion decisions. Faculty members were asked if they agree or disagree with one teaching statement (“Teaching effectiveness should be the primary criterion for promotion of faculty/instructional staff at this institution.”) and one research statement (“Research/publications should be the primary criterion for promotion of faculty/instructional staff at this institution.”). Response choices were: strongly agree, agree, disagree, and strongly disagree. Table 5 shows the aggregation of the agreement responses (agree or strongly agree) and the disagreement responses (disagree or strongly disagree) for the teaching or research criterion.

Economists at research institutions further differentiate themselves from other professors on the issue of teaching as the primary promotion criterion. Less than two in 10 economics professors agreed or strongly agreed that teaching should be the primary criterion for promotion. The support for teaching as the primary promotion criterion rises across the other disciplines. There is agreement from about three in 10 in the physical and biological sciences or in mathematics and statistics, about four in 10 in the other social sciences, and about five in 10 in computer sciences, engineering, and business. On this question economics professors are

clearly the outlier group and show the greatest disdain for teaching.

Of course when the same issue is posed in terms of research as the primary promotion criterion, economics professors are the most enthusiastic of any group. Almost eight in 10 economists agree or strongly agree that research should be the primary promotion criterion, but only about five in 10 of the business or computer science professors responded affirmatively to this item, and only about six in 10 of professors in the other disciplines expressed agreement. There are more reservations about using research as the primary promotion criterion among professors in other scientific disciplines than there are among professors in economics.

### VI. Conclusion

The survey evidence shows that many economics professors at research universities have a low regard for teaching and high regard for research as part of the employment duties of a professor. The evidence is remarkably consistent whether the question concerns time allocation, job opportunities, or promotion decisions. The consequence of such an attitude is that teaching can be denigrated and undervalued in a profession that has much to offer to the education of undergraduate and graduate students. It may explain why there is so little investment of faculty member time in developing or using alternatives to lecture in undergraduate instruction (Becker and Watts, 2001) and why there is often limited attention paid to the teaching preparation of graduate students (Walstad and Becker, 2003).

The results for economics would also not be surprising if the same general conclusion could be drawn for the views of professors in other scientific disciplines at research universities. That conclusion, however, does not hold for professors in other social sciences, biological sciences, physical sciences, mathematics and statistics, engineering, computer science, and business. Although there is less support for teaching and more support for research among professors in the biological and physical sciences than in the other disciplines included in the study, it is surprising that physical and biological scientists are not nearly as extreme in



their views of the teaching and research trade-offs as are economics professors.

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