Time Allocations and Reward Structures for Academic Economists from 1995-2005: Evidence from Three National Surveys

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Abstract: Using survey data collected in 1995 and 2000, we reported that academic economists were allocating more time to teaching even though departmental and school incentives (promotion and tenure as well as annual raises) provided a clear premium for research. Revisiting this issue using 2005 survey data collected by Watts and Becker (2006), we find that the research premium persists and has become even stronger at Ph.D.-granting institutions. Although the overall samples of academic economists have not made major changes in their allocation of work time over the past decade in response to the incentives, there have been different responses at different types of schools. At doctoral schools more time is being spent on research, while at master's and baccalaureate schools more time is being devoted to teaching.

Keywords: teaching, research, service, tenure, annual raises, time allocation

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In this paper we combine 2005 survey data with data collected in 1995 and 2000 by Becker and Watts (1996, 2001) and Watts and Becker (2006) to determine teaching methods in undergraduate economics courses at national samples of U.S. colleges and universities. Our focus here is on the section of these surveys in which respondents were asked to indicate the percentage of time they allocate to teaching, research, and service, and also to indicate the weightings they felt their own departments assigned to these activities in making decisions about annual raises and, separately, for promotion and tenure.

The 1995, 2000, and 2005 surveys were all five-page questionnaires, with only a few changes in items across the different years. In 1995, 2,947 economists were selected either as academic members of the American Economic Association (AEA) or as college/university teachers of economics listed by College Marketing Guide (CMG), a private company that offered mailing lists of U.S. college and university instructors. Unfortunately, for the 2000 and 2005 surveys mailing lists of AEA members by employee type were no longer available. Instead, in 2000 a sample of 3,103 economists was drawn entirely from CMG lists. In 2005 the CMG lists were no longer available, so lists of economics instructors were purchased from Market Data Retrieval (MDR), a private company that offers mailings lists of various groups, including college teachers in different disciplines. The 2005 survey was mailed to 3,711 academic economists.

In all three surveys – 1995, 2000, and 2005 – fixed-interval sampling was used to identify the questionnaire recipients from the respective source lists. In 1995 the response rate was 21 percent, in 2000 it was 19 percent, and in 2005 it was 13 percent. Results from all three surveys are based on opportunistic samples and self-reported data. There is no way of knowing whether respondents are representative of all U.S. teachers of undergraduate economics courses, but our intuition is that those with greater interest in teaching were more likely to complete and return the questionnaire. Even if this is the case, it is not clear that would lead to a predictable bias in responses to the questions of most interest in this paper. For example, instructors who are more interested in teaching might be likely to report higher percentages of time spent on teaching and higher weights on teaching for annual raise and promotion/tenure decisions because they have

found positions that reward their interest in teaching, either at departments and schools that emphasize good teaching or working as "teaching specialists" in more research-oriented departments. On the other hand, they might report higher percentages and weights on research if they feel that the research demands they face at their schools are excessive. Consequently, we have not attempted to adjust or control for any possible bias resulting from sample selection issues. Our major interest here is in comparing responses from the three different years in which the surveys were conducted.

FACULTY TIME ALLOCATIONS AND DEPARTMENTAL INCENTIVES

Definitions for variables – indicating the percentage of time instructors report spending in teaching, research, and service, and the weightings these same respondents feel their institutions assign to these activities in awarding annual raises or promotion and tenure – are reported in Table 1. Mean responses and standard deviations for these variables are also provided for 1995, 2000, and 2005.[1] Percentages do not sum to 100 because some respondents could view their time allocation as including activities other than teaching, research, and service, including administration. For descriptive purposes only we also provide *z*-statistics for the differences in means for the three survey periods in the appendix, but we make no attempt to draw statistical inferences because of the nature of the data.

[Insert Table 1 about here.]

In terms of overall faculty time allocations, we see almost no change from 2000 to 2005. Academic economists still spend a little over half of their time on teaching, a little over 20% on research, and about 9% on service activities. As in the earlier surveys, in 2005 academic economists report devoting more time to their teaching and less time to their research activities, on average, than the relative weightings they feel their departments and schools assign to these activities, both for annual raises and for promotion and tenure decisions.

Other than a slight decrease in the weightings assigned to research, the relative weightings on teaching, research and service for promotion and tenure decisions changed very

[1] The mean values are lower and the numbers of observations are higher here than the basic results reported in Watts and Becker (2006), because we are focusing on this sub-section of the survey and made some minor adjustments. Specifically, if a respondent reported percentages for the weights on promotion and tenure decisions that totaled 100 but left some of the entries for those variables blank, it seemed clear that the blanks represented a zero response so we replaced the blanks with zeros. We did this same thing for the variables on department weights for annual raise decisions and faculty time allocation percentages. For some variables this increased the number of observations and lowered mean values.

little from 2000 to 2005 in the overall sample. In terms of annual raises, the importance of both teaching and research decreased slightly from 2000 to 2005, perhaps reflecting a general funding environment over that period in which most departments and schools were, in practice if not in word, giving across-the-board raises more often than differentiating on merit. But in general there was very little change in the structure of incentives from 2000 to 2005, and there is still a disproportionate amount of time devoted to teaching as opposed to research and service. As we suggested before (Harter, Becker and Watts 2004), there are several possible explanations for this pattern: teaching loads and large class sizes (both in absolute terms, and compared to class sizes in other disciplines) may require more time than the mix of time reflected in departmental or school incentives; or additional time spent on research may not reliably lead to more publications, and so have a lower expected return than additional time spent on teaching; or economics instructors at most schools may simply prefer to spend more time on their teaching, rather than doing more research.

Comparing the 1995 and 2000 data, we observed some interesting differences in time allocation and incentive structures for baccalaureate and doctoral institutions. To determine whether these differences still exist, in Table 2 we break down the time allocation and incentive results across different types of institutions using three Carnegie classifications – bachelor's, master's, and doctoral institutions. There were insufficient responses from associate-degree-granting institutions in the 2005 survey to include that as a separate fourth group. Once again, for descriptive purposes only we provide *z*-statistics for the differences in means for the three survey periods in the appendix, but we make no attempt to draw statistical inferences because of the nature of the data.

[Insert Table 2 about here.]

There are only very small changes in time allocations for any of the individual types of schools. At bachelor's and master's institutions, however, there is a small increase in time devoted to teaching, and at bachelor's institutions there is a small decrease in time devoted to research. Conversely, at doctoral institutions we see a small decrease in time spent on teaching and a small increase in time spent on research.

Comparing changes in incentives structures, a decrease in the relative importance of teaching in determining annual raises is seen at bachelor's institutions. At master's institutions there is an increase in the importance of teaching for both promotion/tenure decisions and for

annual raises. At doctoral institutions the relative weighting for teaching declined from 2000 to 2005, while the importance of research increased. Even at these schools, however, we still see economists spending more time on teaching than the perceived weights for teaching in departmental and school incentive structures.

Salary differentials for economists at research versus teaching institutions have increased sharply over the past decade, as reflected in annual reports that appear in the *American Economic Review: Papers and Proceedings* issues. Combined with our survey data, that raises and highlights an interesting and provocative question: Could we be witnessing the evolution of "two nations" among economics departments, based largely on which departments have faculty who regularly publish in established economics journals, and which do not? At a minimum, it appears that economists at different kinds of schools perceive these kinds of differences emerging in the incentive structures they face, and are changing how they allocate their time in different ways, in response to those incentives.

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TABLE 1 – Variable Definitions and Mean Values

(standard deviations in parentheses)

	1995		2000		2005	
Variable Definition	**n**	**Mean**	**n**	**Mean**	**n**	**Mean**
Proteach—weight in percentage that teaching has in school decisions about promotion and tenure	556	44.13 (25.95)	534	49.00 (24.31)	401	49.85 (22.59)
Proresearch—weight in percentage that research has in school decisions about promotion and tenure	557	43.68 (27.90)	531	37.52 (25.74)	400	35.42 (24.06)
Proservice—weight in percentage that service has in school decisions about promotion and tenure	555	11.94 (9.77)	529	13.15 (10.34)	401	13.89 (9.89)
Annteach—weight in percentage that teaching has in school decisions about annual raises	478	37.53 (27.32)	420	41.02 (26.71)	297	38.09 (26.18)
Annresearch—weight in percentage that research has in school decisions about annual raises	480	40.49 (28.57)	415	36.86 (26.48)	295	35.84 (27.47)
Annservice—weight in percentage that service has in school decisions about annual raises	478	12.19 (12.75)	414	12.36 (11.28)	295	13.16 (12.10)
Teach—percentage of work time devoted to teaching	588	51.96 (22.96)	567	55.85 (21.92)	455	56.45 (23.60)
Research—percentage of work time devoted to research	587	29.54 (22.06)	564	22.82 (18.88)	450	22.52 (20.77)
Service—percentage of work time devoted to service activities	na	na	562	9.09 (8.57)	451	9.32 (8.95)

TABLE 2 – Means of Percentages of Faculty Time Allocations and Departmental Incentives by Carnegie Classification of Institution
(standard deviations in parentheses)

TABLE 2A – Faculty Time Allocations

Faculty Time Variables (Percentages)	1995 Values	2000 Values	2005 Values
Baccalaureate Institutions			
Teach	47.08 (19.19) n=98	61.13 (17.79) n=113	64.29 (19.82) n=101
Research	32.65 (19.89) n=98	17.22 (14.50) n=112	14.60 (12.43) n=100
Service	na	10.00 (9.26) n=112	9.76 (7.86) n=100
Masters Institutions			
Teach	56.03 (20.16) n=134	57.60 (19.83) n=193	59.97 (21.32) n=157
Research	24.63 (16.93) n=134	19.80 (14.14) n=190	19.87 (17.45) n=157
Service	na	9.60 (8.34) n=191	9.80 (8.01) n=157
Doctoral Institutions			
Teach	64.70 (20.95) n=99	48.51 (19.02) n=72	45.69 (23.57) n=162
Research	16.48 (15.40) n=98	29.01 (18.85) n=72	33.38 (24.06) n=159
Service	na	9.98 (8.11) n=72	8.71 (10.36) n=160

TABLE 2B – Departmental Incentives

Departmental Incentives Variables	1995 Values	2000 Values	2005 Values
Baccalaureate Institutions			
Proteach	34.02 (16.48) n=96	59.81 (17.69) n=110	59.43 (16.31) n=100
Proresearch	54.91 (19.25) n=96	25.75 (16.30) n=109	24.87 (14.74) n=99
Proservice	10.92 (6.90) n=96	15.93 (11.43) n=108	15.64 (8.74) n=99
Annteach	31.92 (15.92) n=83	49.58 (26.91) n=77	42.06 (28.21) n=71
Annresearch	52.60 (20.87) n=83	24.59 (19.25) n=76	21.72 (20.57) n=70
Annservice	11.72 (8.94) n=83	14.49 (10.81) n=76	16.06 (13.18) n=70
Masters Institutions			
Proteach	50.78 (17.23) n=131	50.23 (17.48) n=179	54.84 (16.06) n=137
Proresearch	33.32 (16.97) n=131	32.81 (17.84) n=179	29.93 (16.11) n=136
Proservice	15.69 (9.16) n=131	16.02 (8.89) n=178	15.34 (7.91) n=137
Annteach	40.09 (26.26) n=110	41.40 (25.16) n=142	44.49 (24.43) n=90
Annresearch	28.77 (22.32) n=110	30.57 (21.82) n=142	30.04 (21.68) n=89
Annservice	13.94 (13.55) n=110	13.34 (11.95) n=141	14.03 (10.11) n=89
Doctoral Institutions			
Proteach	61.08 (18.93) n=96	39.71 (15.04) n=68	30.56 (16.23) n=130

Proresearch	22.52 (15.90) n=96	49.29 (18.41) n=68	57.57 (21.07) n=131
Proservice	16.35 (11.57) n=96	11.28 (7.32) n=68	10.52 (8.46) n=131
Annteach	53.44 (27.62) n=77	40.98 (16.97) n=58	28.56 (17.04) n=113
Annresearch	21.91 (18.30) n=77	45.31 (19.86) n=58	56.09 (23.24) n=113
Annservice	16.53 (14.79) n=77	12.31 (7.15) n=58	11.06 (9.04) n=113

APPENDIX

APPENDIX TABLE 1 – Differences in Mean Values and *z*-statistics for Institutions of All Types

Variable Name	1995 and 2000		2000 and 2005		1995 and 2005	
	2000 – 1995 Difference	**95/00 *z*-statistic**	**2005 – 2000 Difference**	**00/05 *z*-statistic**	**2005 – 1995 Difference**	**95/05 *z*-statistic**
Proteach	4.87	3.20	0.85	0.55	5.72	3.63
Proresearch	-6.16	-3.79	-2.10	-1.28	-8.26	-4.90
Proservice	1.21	1.98	0.74	1.11	1.95	3.02
Annteach	3.49	1.93	-2.93	-1.46	0.56	0.28
Annresearch	-3.63	-1.97	-1.02	-0.49	-4.65	-2.25
Annservice	0.17	0.21	0.80	0.89	0.97	1.06
Teach	3.89	2.95	0.60	0.42	4.49	3.08
Research	-6.72	-5.56	-0.30	-0.24	-7.02	-5.25
Service	na	na	0.23	0.41	na	na

APPENDIX TABLE 2 – Differences in Means of Percentages of Faculty Time Allocations and Departmental Incentives and *z*-Statistics by Carnegie Classification of Institution

APPENDIX TABLE 2A – Faculty Time Allocations

Faculty Time Variables (Percentages)	1995 and 2000		2000 and 2005		1995 and 2005	
	2000 – 1995	95/00 *z*-statistic	2005 – 2000	00/05 *z*-statistic	2005 – 1995	95/05 *z*-statistic
Baccalaureate Institutions						
Teach	14.05	5.49	3.16	1.22	17.21	6.22
Research	-15.43	-6.34	-2.62	-1.42	-18.05	-7.64
Service	na	na	-0.24	-0.20	na	na
Masters Institutions						
Teach	1.57	0.70	2.37	1.07	3.94	1.62
Research	-4.94	-2.77	2.92	1.65	-2.02	-0.99
Service	na	na	2.05	2.33	na	na
Doctoral Institutions						
Teach	-16.19	-5.26	-2.82	-0.97	-19.01	-6.78
Research	12.53	4.62	4.37	1.49	16.90	6.86
Service	na	na	-1.27	-1.01	na	na

APPENDIX TABLE 2B – Departmental Incentives

Departmental Incentives Variables	1995 and 2000		2000 and 2005		1995 and 2005	
	2000 – 1995	95/00 *z*-statistic	2005 – 2000	00/05 *z*-statistic	2005 – 1995	95/05 *z*-statistic
Baccalaureate Institutions						
Proteach	25.79	10.83	-0.38	-0.16	25.41	10.84
Proresearch	-29.16	-11.62	-0.88	-0.41	-30.04	-12.21
Proservice	5.01	3.84	-0.29	-0.21	4.72	4.19
Annteach	17.66	5.00	-7.52	-1.66	10.14	2.68
Annresearch	-28.01	-8.80	-2.87	-0.87	-30.88	-9.19
Annservice	2.77	1.70	1.57	0.79	4.34	2.29
Masters Institutions						
Proteach	-0.55	-0.28	4.61	2.43	4.06	1.99
Proresearch	-0.51	-0.26	-2.66	-1.39	-3.17	-1.57
Proservice	0.33	0.32	-0.68	-0.72	-0.35	-0.33
Annteach	1.31	0.40	3.59	1.08	4.90	1.37
Annresearch	1.80	0.64	0.52	0.18	2.32	0.74
Annservice	-0.60	-0.37	1.18	0.81	0.58	0.35

Doctoral Institutions						
Proteach	-21.37	-8.04	-9.15	-3.95	-30.52	-12.72
Proresearch	26.77	9.70	8.28	2.86	35.05	14.28
Proservice	-5.07	-3.43	-0.76	-0.66	-5.83	-4.18
Annteach	-12.46	-3.23	-12.42	-4.52	-24.88	-7.04
Annresearch	23.40	7.01	10.78	3.17	34.18	11.31
Annservice	-4.22	-2.19	-1.25	-0.99	-5.47	-2.90