FACULTY UNIONISM IN THE 1990s: A COMPARISON OF PUBLIC AND PRIVATE UNIVERSITIES

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ABSTRACT

Relatively few studies have examined the wage effect of faculty unionism using microlevel data. The most comprehensive of them used data between 1969 and 1988. The recent availability of the U.S. Department of Education's *1993 National Study of Postsecondary Faculty* allows an extension and updating of those results. This study was limited to two-year colleges, and its results indicated that unions increased the salaries of faculty at junior colleges by as much as 8 percent. This study found that the wage benefit attributable to unions is far less at comprehensive and public universities and is in fact *negative* for most of them.

This brief article updates earlier estimates of the union–nonunion wage differential at colleges in the United States. Few studies have attempted to examine the wage effects of faculty unionism using microlevel data.[1] The most comprehensive and recent of these is Ashraf which used data from three different national data sets for 1969, 1977, and 1988 [2]. The U.S. Department of Education has recently made available the *1993 National Study of Postsecondary Faculty* [9]. This has made it possible to update and extend results reported by earlier researchers. In another study published recently in this journal, Ashraf focused exclusively on two-year colleges and estimated the union wage effect at public junior colleges to be approximately 8 percent [10]. This study uses the same data but examines comprehensive and research universities. This allows determination of whether the impact of faculty unionism varies across different kinds of colleges.

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[1] The only such studies appear to be Ashraf [1, 2] and Barbezat [3]. However, a number of other studies have used aggregated data. These include Birnbaum [4], Morgan and Kearney [5], Brown and Stone [6], Marshall [7], and Hu and Leslie [8].

DATA AND METHODOLOGY

The data used for this study were drawn from the *1993 National Study of Postsecondary Faculty.* These data were recently made available by the U.S. Department of Education for use by academic researchers. The study was designed to provide a national profile of faculty in two-year, four-year, doctoral-granting, public, and private nonproprietary institutions, and to gather information on the backgrounds, responsibilities, workloads, salaries, benefits, and attitudes of full- and part-time faculty. The study was conducted by the *National Opinion Research Center,* a social science research center at the University of Chicago, and sponsored by the *National Center for Education Statistics,* with additional support from two cosponsoring agencies, the *National Endowment for the Humanities (NEH)* and the *National Science Foundation (NSF).* The *NEH* and *NSF* sponsored sample augmentations for both the field test and full-scale study and provided support for the study in its entirety [9]. Although the study included 31,354 faculty at 974 institutions,[2] for this study, the data were restricted to comprehensive and research/doctoral universities.

The methodology and variables used to conduct the analysis of this study are quite standard. A semilogarithmic model was specified in which the log of monthly earnings was the dependent variable. The wage equation used for this study was:

$$\text{Log Salary} = \alpha + \overset{i=1}{\underset{10}{\sum}} X_i + \overset{1=1}{\underset{9}{\sum}} D_i$$

where the X_i represents various productivity-affecting characteristics of faculty. These include dummy variables for tenured, the three faculty ranks of assistant professor, associate professor, and full professor (with all other ranks being the missing base variables), doctorate (representing respondents holding a doctoral degree), married, white, and male. The variable experience was defined as the number of years since each respondent had completed his/her highest degree. The square of that variable was intended to capture the concavity of the experience-earning profile. Articles was defined as the number of articles published by each faculty member as reported by themselves. Some earlier studies on college faculty have expressed unhappiness with this variable in its raw form, since the quality of such articles is more important than mere quantity in influencing faculty salaries. Unfortunately, it was not possible to make any determination of article quality from the data. This shortcoming is recognized, although virtually all previous studies suffer from the same problem.

The model included nine broad disciplines that each faculty member reported association with. These were agriculture, business, engineering, fine arts, health

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[2] This description of the data is drawn from the Methodology Report of the NSOPF_93 [9].

sciences, humanities, natural sciences, social sciences, and other disciplines. The missing discipline in the regression equation was education.

EMPIRICAL RESULTS

Table 1 provides the coefficient estimates of variables in the earnings equation for union and nonunion faculty at public and private universities as well as at the two combined. Not surprisingly, salary rises monotonically with academic rank. Experience and its square were highly significant in explaining faculty earnings. Publishing performance has long been held to be important in the determination of salary levels in academe. The variable articles bore this out, being highly significant across all institutional groupings. The disciplines that were consistently significant and positive were business, engineering, and health sciences. This implies that faculty associated with these disciplines had higher salaries than those teaching in education. On the other hand, the coefficient estimate for humanities was negative for all categories reported in Table 1. However, the absolute magnitude of the estimate was relatively small and not statistically significant in some of the cells. It was notable that the white variable was significant in only one of the six groupings (unionized faculty at private universities). However, male appeared to be a much more important variable in determining faculty salaries: it was significant at least at a 90 percent level of confidence in all groups. The male–female earnings gap appeared to be highest among faculty members at nonunionized public universities. Thus, the data suggest that while gender continues to be instrumental in determining faculty salaries, this is not the case with race.

UNION–NONUNION EARNING DIFFERENCES

The effects of unions on faculty salaries at research/doctoral and comprehensive universities is the main focus of this study. As in Ashraf [10], the procedure used is a modified version of a methodology outlined by Cotton [11] to estimate male–female earnings differentials. The procedure allows for the gender wage gap to be expressed as the sum of a) the skill or productivity advantage of males over females; b) the so called "male advantage" or the degree by which all males are overcompensated relative to a discrimination-free environment; c) the "female disadvantage" or the amount by which female wages trail the levels that their marginal product suggests (see [11] and [12] for details). Modifying this approach, the union–nonunion wage gap for faulty was computed as the sum of the skill difference, the union advantage, and the nonunion disadvantage.[3]

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[3] The union advantage constitutes the amount by which unionized faculty salaries exceed their marginal product, while the nonunion disadvantage is the degree to which nonunion faculty salaries trail levels that would prevail in the absence of unions.

Table 1. Coefficient Estimates of Wage Equation for Faculty
at Different Institutions

Variable	All Institutions		Public Universities		Private Universities	
	Union Faculty	Nonunion Faculty	Union Faculty	Nonunion Faculty	Union Faculty	Nonunion Faculty
Intercept	10.02***	10.21***	10.07***	10.11***	10.10***	10.27***
Tenured	0.005**	0.01	0.04	0.01	0.06	0.02
Professor	0.08	0.02	0.29*	0.08	–0.07	–0.01
Associate Professor	–0.08	–0.10	0.11	–0.03	–0.16	–0.14
Assistant Professor	–0.15	–0.14**	0.04	–0.05	–0.23*	–0.18**
High Degree	0.20***	0.25***	0.17***	0.26***	0.27***	0.24***
Experience	1.39***	1.63***	1.37***	1.95***	1.49**	1.43***
Experience Squared	–1.71**	–2.39***	–1.64**	–3.28***	–1.94*	–1.85**
Articles	0.16***	0.24***	0.00***	0.01***	0.00***	0.00***
White	0.01	0.00	–0.01	0.03	0.08*	–0.03
Agriculture/Home Econ.	0.14**	0.03	0.13**	0.05	0.20	–0.08
Business	0.20***	0.14***	0.17***	0.13***	0.36***	0.16***
Engineering	0.18***	0.14***	0.18***	0.16***	0.24**	0.11**
Fine Arts	0.02	–0.04	0.00	–0.08	0.15*	–0.01
Health Sciences	0.28***	0.29***	0.27***	0.30***	0.38***	0.29***
Humanities	–0.04	–0.10***	–0.06*	–0.14***	–0.06	–0.06*
Natural Sciences	0.04	–0.04*	0.01	–0.06*	0.22***	–0.02
Social Sciences	0.07**	–0.02	0.06*	–0.03	0.17**	–0.00
Others	0.07**	0.08***	0.05	0.06	0.19**	0.10**
Married	0.03*	0.03*	0.05*	0.00	–0.02	0.05**
Male	0.04*	0.09***	0.04*	0.12***	0.04*	0.08***
N	3,856	6,884	3,114	3,541	741	3,342
R^2	0.17	0.18	0.17	0.17	0.23	0.20

*Significant at the 0.90 level of confidence.
**Significant at the 0.95 level of confidence.
***Significant at the 0.99 level of confidence.

In Table 2, the union–nonunion earnings differentials for different institutional categories are presented. No computations were made for liberal-arts colleges, since very few of them have faculty unions.

The most eye-catching results in Table 2 is that the union–nonunion wage gap is negative for most academic institutions. In fact, the only group in this study for which a positive union wage premium was found is that of public comprehensive universities. As to whether this represents a secular decline in the strength of unions or whether subtler influences are at work is beyond the focus of this article. This result is especially noteworthy given that using the same data Ashraf reported a positive 8 percent union wage premium for faculty at public junior colleges [10]. What is one to make of such results? I offer some of my own conjectures on this below.

Table 2. Union–Nonunion Wage Differences for Different Public
and Private Colleges

	Union–Nonunion Wage Differential	Number of Observations	
		Union	Nonunion
All Institutions	–0.44%	3,901	6,964
Public Universities	–1.36%	3,148	3,572
Private Universities	–2.40%	753	3,392
Public Research/Doctoral Universities	–0.34%	1,296	2,170
Private Research/Doctoral Universities	–5.19%	97	485
Public Comprehensive Universities	5.67%	1,852	1,402
Private Comprehensive Universities	–2.28%	292	1,006

Possible Answers

A comparison of these results with those from Ashraf helps in establishing trends in the union earnings premium. As in this study, Ashraf also found the union wage premium to be negative for research and doctoral universities in both 1977 and 1988 [2]. In fact, he reported the union premium to be –8.21 percent and –7.92 percent for research and doctoral universities, respectively, in 1988. Thus, union strength at such schools appears to have increased, given that the premium—while still negative—has a smaller magnitude. On the other hand, Ashraf found comprehensive universities enjoyed a 14.36 percent positive union earnings premium in 1988 [2] (Ashraf combined private and public universities [2]) which is higher than the 5.67 percent premium estimated for public comprehensive universities in this article. It would appear the union premium across research/doctoral universities on the one hand and comprehensive universities on the other has come closer together between 1988 and 1993. However, given that we have only two sample points, making assertions about any kind of trend would be unwise.

A reason for the much smaller union wage premium at research/doctoral and comprehensive schools compared to junior colleges may have been implied by Freeman [13], among others. Freeman referred to the propensity of unions to reduce the dispersion of wages [13]. This tends to mostly benefit those at the bottom of the wage structure. Thus, in an academic setting, one would expect the brightest faculty to hold a dim view of unions. "Superstars" at the top research institutions earn much more in a nonunionized environment than they do at a

college with a union, since the latter often imposes strict rules that obstruct the award of higher (than average) salaries to faculty members.

There is yet another possible explanation for the negative union wage premium. Astute unions are aware of legislative difficulties in seeking higher salaries for their members. It is much easier and more politically expedient to raise fringe benefits and improve the work environment, which less easily captures the wary eyes of a taxpaying electorate. Thus some unions have won lower teaching loads, more generous terms for sabbatical leaves, higher summer compensation, higher levels of travel budgets for attendance at conferences, better retirement benefits, etc. Such benefits improve the total compensation package for faculty without showing up as a part of salary. Thus, the observed union–nonunion earnings differential for faculty may be an underestimate of the true effect, and might in fact reverse its sign if these factors could be controlled for (Table 3).

SUMMARY AND CONCLUSIONS

This article estimated the union earnings effect for faculty at comprehensive and research/doctoral universities. It complements a study by Ashraf in which the

Table 3. Means of Variables

Variable Name	All		Public Universities		Private Universities	
	Union	Nonunion	Union	Nonunion	Union	Nonunion
Tenured	0.64	0.57	0.66	0.61	0.55	0.54
Professor	0.36	0.35	0.38	0.34	0.28	0.35
Associate Professor	0.30	0.30	0.30	0.30	0.32	0.29
Assistant Professor	0.32	0.34	0.31	0.34	0.36	0.35
Doctorate	0.81	0.82	0.82	0.84	0.77	0.80
Experience	15.07	15.19	15.11	15.09	14.89	15.30
Experience Squared	319.11	326.78	319.17	316.45	318.86	333.56
Articles	11.50	12.34	11.89	14.06	9.87	10.52
White	0.79	0.83	0.78	0.78	0.81	0.87
Agriculture/Home Econ.	0.02	0.02	0.03	0.03	0.00	0.01
Business	0.07	0.07	0.07	0.07	0.08	0.06
Engineering	0.04	0.05	0.04	0.05	0.03	0.04
Fine Arts	0.08	0.06	0.07	0.04	0.12	0.07
Health Sciences	0.09	0.14	0.10	0.17	0.08	0.11
Humanities	0.17	0.17	0.16	0.14	0.18	0.21
Natural Sciences	0.17	0.18	0.17	0.18	0.18	0.18
Social Sciences	0.13	0.12	0.13	0.11	0.14	0.13
Others	0.10	0.09	0.10	0.09	0.11	0.10
Married	0.75	0.78	0.76	0.78	0.73	0.77
Male	0.65	0.66	0.66	0.67	0.61	0.64

same data were used, but the union premium was estimated only for junior college faculty [10]. Union wage premiums are found to be negative for all categories of schools except public comprehensive universities. The negative union premium parallels the findings in Ashraf [2] but the magnitude of the premium appears to have become smaller. In agreement with the two previous Ashraf studies, the major finding of this article is that unions primarily benefit junior college faculty.

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Javed Ashraf is professor of economics at the University of West Florida. He has published extensively in the area of labor economics and union wage effects. In addition to having published in earlier issues of this journal, some of Dr. Ashraf's articles have appeared in *Industrial and Labor Relations Review, Economic Letters, Applied Economics, Journal of Labor Research, Labor Studies Journal, Journal of Development Studies, American Journal of Economics and Sociology, Economics of Education Review, Eastern Economic Journal, Atlantic Economic Journal*, and *Journal of Economics and Finance*.

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