JOURNAL OF EDUCATION FOR BUSINESS, 85: 284–291, 2010

ISSN: 0883-2323
DOI: 10.1080/08832320903449543

Routledge
Taylor & Francis Group

The Effects of AACSB Accreditation on Faculty Salaries and Productivity

David W. Hedrick
Central Washington University, Ellensburg, Washington, USA

Steven E. Henson and John M. Krieg
Western Washington University, Bellingham, Washington, USA

Charles S. Wassell, Jr.
Central Washington University, Ellensburg, Washington, USA

The authors explored differences between salaries and productivity of business faculty in Association to Advance Collegiate Schools of Business (AACSB)-accredited business programs and those without AACSB accreditation. Empirical evidence is scarce regarding these differences, yet understanding the impact of AACSB accreditation on salaries and productivity is important when university administrators assess the costs and benefits of AACSB accreditation. The authors found that faculty in accredited business schools are paid more, publish more, and teach less than their peers at nonaccredited schools. These differences exist between faculty who are otherwise similar, and are not simply due to nonrandom selection of faculty into accredited and nonaccredited institutions.

Keywords: AACSB, accreditation, salary

Accreditation is a mark of distinction for academic programs. Collegiate business schools may strive over the tenure of multiple administrators to obtain or retain accreditation by the Association to Advance Collegiate Schools of Business (AACSB). The stated goal of accreditation is to improve business program quality, yet skeptics contend that the aim is to increase business faculty salaries, perhaps at the expense of other academic programs. In choosing to dedicate considerable resources to this pursuit, school administrators may act with incomplete knowledge of how accreditation impacts various dimensions of a business program, particularly in regard to input costs and faculty productivity.

Tensions may exist between business school deans and other senior administrators who, although supportive of accreditation, are concerned about its costs. Therefore, the expense of pursuing accreditation justifies a detailed investigation of how accreditation impacts the explicit and implicit costs, as well as the quality, of a business education. However, analysis of these costs is sparse. Although descriptive statistics, such as those provided by AACSB annual salary surveys, indicate upward movement in salaries paid to accredited business faculty, empirical research linking AACSB accreditation to faculty salaries and productivity is practically nonexistent. To our knowledge, only one study has attempted to determine if salaries are different between AACSB-accredited and non-AACSB-accredited programs. Using sign tests, Levernier and Miles (1992) found that faculty at AACSB-accredited institutions earn higher salaries. These results, however, are qualitative and do not estimate a salary premium for faculty in accredited business programs. Using data from a survey mailed to business school deans, Yunker (1998) reported that faculty at accredited institutions teach on average about 8–9 hr per week and publish slightly over three refereed articles and over a 5-year period, whereas faculty at nonaccredited schools teach just over 11 hr per week and publish about two articles over 5 years. These results suggest that accredited institutions are more research- and less teaching-oriented than nonaccredited schools; however, due to the small sample size and lack of reported standard errors, the statistical validity of these findings cannot be determined.

Correspondence should be addressed to David W. Hedrick, Central Washington University, Department of Economics, 400 E. University Way, Ellensburg, WA 98926, USA. E-mail: dhedrick@cwu.edu

Other analyses of the impacts of accreditation have focused primarily on how deans weigh research productivity, teaching performance, and service in their evaluations of faculty, rather than measuring the effects of accreditation on these metrics. Early research by Lein and Merz (1977) and Tong and Bures (1987) demonstrated that deans at AACSB accredited institutions placed research productivity ahead of teaching and service in assessing faculty performance. In 1991, AACSB adopted "mission-driven" standards, under which institutions may designate the relative importance of research, teaching and service to their missions and develop standards for faculty evaluation that reflect these relative priorities.[1] Ehie and Karathanos (1994) suggest that under these new standards, deans appear to place the same emphasis on research as before, but evaluations of teaching have become more important relative to service. None of these studies attempted to estimate the direct effects of accreditation on these performance measures themselves.

In this article, we provide the first quantitative examination of the impacts of AACSB accreditation on faculty salaries, teaching loads, and research productivity that makes use of data drawn from a nationally representative survey of individual faculty. We began by adopting a standard regression methodology (Mincer, 1974) that explored the differences in salary, teaching load, and research productivity between AACSB-accredited and non-AACSB-accredited business programs. We found that faculty at accredited institutions earn more, teach less, and produce more research. However, the regression approach ignores the possibility that faculty select into accredited and nonaccredited schools nonrandomly. We controlled for this potential selection bias using a nonparametric matching model, subsequently described in detail. Our results show that these differences in salary, teaching loads, and research exist even between faculty who are observationally similar, and do not arise from differences between accredited and nonaccredited institutions in the types of individuals employed. That is, these differences can be attributed to accreditation itself, and are not due to accredited institutions hiring individuals with different characteristics. We conclude by discussing the impact of these findings on the value of accreditation.

METHOD

Data

We drew data from the National Study of Post-Secondary Faculty (NSOPF) conducted by the U.S. Department of Education's National Center for Education Statistics (NCES). The NSOPF provides a national snapshot of higher education faculty and has been administered in 1988, 1993, 1998, and 2004. Each survey cycle has used a two-stage stratified random sampling process. The first stage draws a sample of institutions to be surveyed and in the second stage faculty members are sampled from the selected institutions.[2] Faculty members responded to a questionnaire that inquires about their professional experience and background, responsibilities and workload, compensation, demographic characteristics, and opinions. In a separate institutional questionnaire, a representative of the school's administration was asked about institutional characteristics, policies, faculty benefits, total number of full-time and part-time faculty, and the presence or absence of collective bargaining. Over all four cycles, a total of 78,310 faculty and 1,900 institutional questionnaires were returned.[3] We matched the NSOPF data with a list of AACSB-accredited schools obtained from AACSB International. As of April 2008, there were 459 institutions in the United States that were AACSB-accredited.

From the original 78,310 NSOPF observations, we deleted faculty members not teaching in a business program (72,830), part-time faculty (1,850), observations for which NCES calculates imputed values for some of the variables used in this analysis (2,290), and faculty members in institutions not designated by the Carnegie Foundation as doctoral, comprehensive, or liberal arts (40).[4] The final sample contained 1,300 faculty observations from 540 institutions. Of these, 880 faculty members were at 320 institutions that were AACSB-accredited, and 420 faculty were at 220 nonaccredited schools.[5]

Measures

We first performed a series of *t* tests to compare average salaries, teaching loads, and research output stratified by the type of institution: doctoral, comprehensive, or liberal arts. We found support for Levernier and Miles's (1992) sign tests that AACSB accreditation appears associated with statistical differences in these measures. We then estimated regression models to assess the impact of AACSB accreditation on faculty salaries, research productivity, and instructional load. Finally, in order to deal with potential selection bias we (semi-) nonparametrically controlled for faculty characteristics through propensity score (*p* score) matching.

RESULTS

Comparison of Means

The means of the variables used in our analysis are compared in Table 1, conditioned on AACSB-accreditation status. A simple comparison of means by accreditation status provides support for past research and often-cited anecdotal evidence that faculty in accredited institutions receive higher pay, produce more refereed articles, and teach less. Compared to faculty at nonaccredited schools, AACSB-accredited faculty appear to earn approximately 50% more as measured by basic salary and about twice as much when measured by pay per course taught.[6] Accredited faculty teach one less course

TABLE 1
Sample Means and Standard Deviations by AACSB Accreditation Status

	AACSB ($n = 880$)		Non-AACSB ($n = 410$)		Difference	
Variable	*M*	*SD*	*Mean*	*SD*	*M*	*t*
Basic salary	$76,695	$27,289	$53,238	$16,837	$23,457	16.143**
Pay per course	$31,399	$21,506	$15,877	$9,896	$15,521	4.035**
Courses taught	2.943	1.309	3.865	1.341	–0.922	–11.752**
Career articles	12.411	18.381	3.313	7.230	9.099	9.746**
Articles per year	1.164	1.748	0.414	1.554	0.749	7.463**
Union	0.224	0.417	0.156	0.364	0.068	2.852**
Rent index	0.991	0.064	0.976	0.074	0.015	3.699**
Nine-month contract	0.789	0.408	0.644	0.479	0.145	5.648**
Twelve-month contract	0.084	0.277	0.190	0.393	–0.106	–5.597**
Experience at institution	9.404	8.328	8.517	7.571	0.887	1.844
Experience since degree	13.730	9.680	14.313	9.682	–0.582	–1.011
Female	0.297	0.457	0.349	0.477	–0.052	–1.881
Married	0.795	0.404	0.764	0.425	0.031	1.253
Previously married	0.080	0.272	0.101	0.302	–0.021	–1.226
Hispanic	0.023	0.149	0.017	0.129	0.006	0.686
Indian	0.015	0.121	0.024	0.153	–0.009	–1.188
Asian	0.113	0.317	0.058	0.233	0.056	3.189**
Black	0.057	0.231	0.058	0.233	–0.001	–0.077
Pacific Islander	0.005	0.067	0.000	0.000	0.005	1.375
Professor	0.277	0.448	0.185	0.389	0.092	3.613**
Associate professor	0.282	0.450	0.300	0.459	–0.018	–0.686
Assistant professor	0.319	0.466	0.394	0.489	–0.075	–2.657**
Lecturer	0.049	0.215	0.017	0.129	0.032	2.792**
Instructor	0.062	0.242	0.089	0.285	–0.027	–1.748
Tenured	0.528	0.500	0.438	0.497	0.090	3.044**
Tenure track	0.314	0.464	0.303	0.460	0.011	0.393
No tenure system	0.142	0.349	0.127	0.334	0.014	0.692
Doctoral degree	0.809	0.394	0.435	0.496	0.374	14.635**
Professional degree	0.033	0.178	0.043	0.204	–0.010	–0.938
Master's degree	0.154	0.361	0.500	0.501	–0.346	–14.157**
Bachelor's degree	0.005	0.067	0.022	0.146	–0.017	–2.897**
First job	0.390	0.488	0.341	0.475	0.048	1.677
Public institution	0.777	0.417	0.310	0.463	0.467	18.171**
U.S. citizen	0.895	0.307	0.945	0.229	–0.050	–2.958**
Funded scholarly activity	0.217	0.413	0.118	0.323	0.100	4.339**
Data from 1993	0.319	0.466	0.399	0.490	—	—
Data From 1999	0.257	0.437	0.209	0.407	—	—

Note. Sample sizes were rounded to the nearest 10 to comply with National Center for Education Statistics disclosure requirements. AACSB = Association to Advance Collegiate Schools of Business.
*$p < .05$.
**$p < .01$.

per semester or quarter and have published nine more articles during their careers, or about three quarters of an article more per year of postterminal degree experience. This is consistent with the summary statistics presented by Yunker (1998).

Table 2 compares the means of salaries, teaching loads, and research productivity stratified by accreditation status and broad Carnegie classification. Among doctoral institutions, business faculty in accredited schools averaged $84,729 in basic salary (in 2004 constant dollars) over the sample period, whereas their counterparts in nonaccredited institutions averaged $68,016. The difference in their earnings of $16,713 (21% of the full-sample mean) was significant at the 99% confidence level. Average salaries are also significantly higher in accredited programs in both comprehensive and liberal arts institutions; the difference is 25% for the combined category. In all types of institutions the pay per course was greater in accredited programs, with the difference ranging from $6,479 (38%) per course in comprehensive institutions to $13,967 (57%) per course in doctoral institutions.

Teaching loads, measured as the number of courses assigned in fall semester or quarter of each survey year, were also lower for business faculty in accredited schools. Faculty

TABLE 2
Sample Means and Standard Deviations by AACSB Accreditation Status and Carnegie Classification

	AACSB		Non-AACSB		Difference	
Variable	*M*	*SD*	*M*	*SD*	*M*	*t*
Doctoral	$n = 470$		$n = 20$			
Basic salary	$84,729	$31,438	$68,016	$21,720	$16,713	2.572*
Pay per course	$38,399	$25,578	$24,432	$18,609	$13,967	2.639**
Courses taught	2.63	0.92	3.58	1.50	−0.95	−4.754**
Career articles	14.55	20.57	9.25	15.52	5.30	1.243
Articles per year	1.25	1.34	0.63	0.90	0.61	2.211*
Comprehensive	$n = 390$		$n = 230$			
Basic salary	$67,608	$17,625	$56,350	$15,772	$1,259	7.958**
Pay per course	$23,520	$11,329	$17,042	$9,881	$6,479	7.181**
Courses taught	3.30	1.61	3.80	1.37	–0.50	–3.929**
Career articles	10.08	15.41	3.38	6.72	6.70	6.213**
Articles per year	1.09	2.16	0.42	1.20	0.67	4.288**
Liberal arts	$n = 20$		$n = 170$			
Basic salary	$66,467	$18,665	$46,809	$14,882	$19,658	5.420**
Pay per course	$21,723	$8,922	$13,031	$6,634	$8,692	5.315**
Courses taught	3.25	0.64	3.99	1.27	–0.74	–2.562*
Career articles	8.00	9.50	2.35	5.49	5.65	3.956**
Articles per year	0.71	0.82	0.37	2.00	0.34	0.744

Note. Sample sizes were rounded to the nearest 10 to comply with National Center for Education Statistics disclosure requirements. AACSB = Association to Advance Collegiate Schools of Business.
*$p < .05$.
**$p < .01$.

were assigned, on average, 0.95 fewer courses in doctoral institutions, 0.50 fewer courses in comprehensive institutions, and 0.74 fewer courses in liberal arts institutions than their peers in nonaccredited programs.

Accreditation also appeared to be associated with higher research output, measured by refereed articles. Faculty in accredited comprehensive and liberal arts institutions averaged approximately three times as many refereed articles as those in nonaccredited institutions. No significant differences were found in career research output for doctoral institutions, but faculty in AACSB-accredited doctoral institutions do produce significantly more articles per year than their non-AACSB-accredited colleagues. This difference in annual productivity also holds for faculty in comprehensive institutions, but not for those in liberal arts institutions.

Such simple comparisons of means, although suggestive, did not adequately control for other differences between institutions and faculty members that may explain differences in pay, teaching assignments, and research productivity. For example, according to Table 1, faculty at nonaccredited institutions tended to have less experience at that institution but more in the profession, were less likely to be tenured, were less likely to hold the rank of full professor, were less likely to receive external funding, and were more likely to be at a private university. We subsequently turn to a more systematic exploration of these differences that controls for these and other factors.

Regression Model Incorporating Multiple Influences

Faculty salaries, teaching loads, and research productivity were likely to be affected by a wide range of influences, particularly individual faculty characteristics and the nature of their respective institutions. To control for these factors and to quantify the impacts of AACSB accreditation, we estimated a regression model of the following basic form:

$$Y_{ijt} = \beta \cdot AACSB_{jt} + \delta \mathbf{X}_{ijt} + \gamma \mathbf{Z}_{jt} + \varepsilon_{ijt} \quad (1)$$

The dependent variable Y constitutes different measures of pay, teaching load, and research productivity, for the ith faculty member at institution j during time t. The variable *AACSB* is an indicator variable for the presence of AACSB accreditation, $\mathbf{X}$ is a matrix of individual-specific characteristics, and $\mathbf{Z}$ is a matrix of institutional and regional variables. The error term in this equation, ε_{ijt}, is a random variable associated with a particular faculty member i at institution j at time t. The coefficient of interest in Equation 1 is β, which measures the change in the dependent variable when faculty are members of an accredited business school. For regressions in which a measure of pay is the dependent variable, we used a log-level specification, and (exp[β]–1) measures the percentage change in pay associated with a change in accreditation status.

The NSOPF has a rich set of faculty and institutional variables. In our analysis we incorporate all variables listed

TABLE 3
Impacts of AACSB Accreditation: Regression Results

Dependent variable	Coefficient on the AACSB variable	*SE*	*t*	R^2
ln(Basic salary)	0.117	0.029	4.09**	.592
ln(Pay per course)	0.235	0.044	5.34**	.479
Courses taught	–0.325	0.122	–2.67**	.154
Career articles	4.518	0.919	4.91**	.304
Articles per year	0.370	0.157	2.36*	.186

Note. All regressions include all of the explanatory variables listed in Table 1. Full results are available on request. Total observations = 810. AACSB = Association to Advance Collegiate Schools of Business.
*$p < .05$.
**$p < .01$.

in Table 1, including measures of a faculty member's experience (both at the institution and over their career), terminal degree, tenure status, funding for scholarly activity, rank, marital status, gender, ethnicity, and citizenship. At the institutional level, we added measures of public or private control and the presence of a faculty union, and we used a gross rent index to proxy the cost of living at the county level. Given the lower teaching loads and the relatively greater emphasis on research productivity in the reward structure at doctoral schools, for these regressions we limited our sample to the 4-year comprehensive and liberal arts institutions.[7]

Table 3 presents the estimated impacts of AACSB accreditation from the regression model for log of real basic salary (2004 dollars), the log of real basic salary per course taught during fall quarter, the number of courses taught in fall quarter, the total number of refereed articles the faculty member has published during his or her career, and the average number of articles a faculty member has published per year since receiving the terminal degree.[8,9] The regression results are qualitatively similar to those from the comparisons of means: faculty in accredited schools, controlling for other influences, received higher pay, taught fewer courses, and published more articles than their counterparts in nonaccredited business schools. However, in contrast to a simple comparison of means, the regression estimate of the salary gap between accredited and nonaccredited faculty was only about half as large—approximately 11.7% across all faculty in comprehensive and liberal arts institutions—but still statistically significant. The estimated accreditation premium measured on a per-course basis was 23.5%, again a large decrease from the differences in means but still a substantial amount. In the fall quarter or semester (for which we had data) faculty taught about 0.33 fewer courses. Faculty in AACSB-accredited programs published greater than 4.5 more career articles and about 0.37 more articles per year than did those in nonaccredited programs.

It is important to note that although the paired *t* tests and the regression analysis suggest significant faculty differences between accredited and nonaccredited schools, neither should be interpreted as causal effects. It is possible that these differences arose because accredited schools employ a different type of individual than a nonaccredited institution would. Exploring this possibility is the purpose of the subsequent section.

Propensity Score Matching

The preceding regression results capture the salary, teaching, and research differences between accredited and nonaccredited faculty far better than simple comparisons of means. However, it is difficult to infer causality due to strong potential for selection bias. Does the difference in publication rates arise from differences in productivity between similar individuals at accredited and nonaccredited institutions? Or, is it the result of accredited institutions preferentially hiring faculty who are more research-oriented?

The method of propensity score matching has been developed to account for this type of nonrandom selection. This technique has been used in a growing number of econometric studies (e.g., Dehejia & Wahba, 2002; Eren, 2007; Fryer & Greenstone, 2007; Heckman, Ichimura, & Todd, 1997, 1998). Propensity score matching provides two benefits that linear regression models do not: It is a nonparametric estimation approach, so results are not influenced by functional form assumptions; and more importantly, it generates estimates that control for nonrandom selection into treatment (AACSB-accredited) and control (nonaccredited) groups. The purpose of this technique is to eliminate biases in nonexperimental studies that arise because individuals are not assigned randomly to treatment and control groups. These biases can be reduced by matching treatment and control participants based on observables that predict whether a participant is employed at an AACSB-accredited institution. If two individuals have identical characteristics other than salary and accreditation status, then the assignment of one of them to the AACSB group can be considered a random event and the observed salary difference can be attributed to accreditation status. The difficulty lies in identifying individuals who are sufficiently similar when the number of observed characteristics is large. Rosenbaum and Rubin (1983, 1984) showed that this problem can be overcome by matching individuals on the basis of their propensity score, which is the predicted probability of treatment status given observables. Under certain conditions this method provides an unbiased estimate of the average treatment effect on the treated (ATT). The ATT is the mean difference in the outcome measure (salary, research output, or teaching load) for faculty members at AACSB-accredited schools compared to what the measure would have been had those individuals not been at accredited institutions. A necessary condition for this estimate to be unbiased is that the distribution of observed characteristics be similar for

TABLE 4
Impacts of AACSB Accreditation: *p* Score Matching Results

Dependent variable	Coefficient on the AACSB variable	*SE*	*t*
ln(Basic salary)	0.151	0.019	7.771**
ln(Pay per course)	0.285	0.040	7.147**
Courses taught	–0.389	0.111	–3.492**
Career articles	5.519	1.130	4.885**
Articles per year	0.486	0.134	3.638**

Note. All matching models include all of the explanatory variables listed in Table 1. Full results are available on request. Total observations = 810. Standard errors were calculated by bootstrapping. AACSB = Association to Advance Collegiate Schools of Business.
**$p < .01$.

individuals with similar propensity scores. This is referred to as the balancing hypothesis.[10]

Following the guidelines provided by Becker and Ichino (2002), we implemented the matching procedure in the following steps. First, using the explanatory variables employed in our regression models, we estimated a logit model to predict the probability of being at an accredited institution. We then dropped variables for which the balancing property fails and re-estimated the logit until we arrived at a specification for which the balancing property is satisfied.[11] The propensity scores from this final logit were saved. For each member of the treatment group, we then calculated a weighted average of the difference between that individual's outcome measure and the outcome measures for individuals in the control group, where the weights vary inversely with the difference between the propensity scores of the treated and control observations.[12] We computed the ATT by averaging this mean difference across all individuals in the treatment group. Finally, we estimated standard errors by bootstrapping, with 50 replications.

The ATT estimates are presented in Table 4. The results are quite close to the regression results of Table 3, suggesting that the latter are not subject to selection bias. We conclude that these estimates reflect differences between faculty with similar characteristics other than accreditation status, and does not merely reflect selection of higher paid or more productive faculty into accredited institutions. Together, the regression and matching results suggest an accreditation salary premium of about 12–15%. This is consistent with the results of Levernier and Miles (1992), who found a positive effect but did not estimate its magnitude.

DISCUSSION

The present study documented two findings. First, faculty compensation, research productivity, and teaching loads are significantly different at accredited schools than at nonaccredited schools. Second, these represent differences in the circumstances of individual faculty members attributable to accreditation, rather than differences in the types of faculty at accredited versus nonaccredited schools. The latter result is not evident from simple comparisons of means, or even from regression analysis that corrects for a large number of faculty and institutional characteristics. Rather, it emerges only after adequately correcting for the possibility of nonrandom selection of faculty between accredited and nonaccredited business schools.

It may be argued that differences in salaries, scholarly output, and teaching loads between accredited and nonaccredited schools are simply a consequence of hiring practices by schools seeking accreditation. According to this claim, schools attempting to meet AACSB scholarship standards may recruit more productive faculty with the lure of higher compensation and reduced teaching responsibilities. Our results strongly suggest that this is at best only a partial explanation of the observed differences. Indeed, the coefficient estimates from the regression and matching models are statistically equivalent, suggesting that the magnitude of any such selectivity effect is likely to be small.

Unfortunately, the data do not allow us to identify whether these differences are a consequence of accreditation, or a cause of it. Most likely causality runs in both directions. Certainly, schools seeking accreditation are likely to put greater pressure on faculty to publish, perhaps facilitating those efforts by reducing teaching loads. This may result in higher salaries, perhaps through faster promotion. On the other hand, accreditation itself increases publication pressure for existing faculty, while simultaneously strengthening the case of deans who lobby administration for more resources. Those lobbying efforts may result in greater faculty compensation through both higher salaries and lower course loads. Regardless of the direction of causality, it is evident that higher salaries, greater research productivity, and lower teaching loads at accredited institutions are not merely the result of changes in the composition of the faculty. For these reasons, we believe that our estimates provide upper bounds on the causal effects of accreditation.

There is another reason to believe that we have overestimated accreditation's impacts: We have not accounted for nonrandom selection of business schools themselves into accredited or nonaccredited status. Because accreditation is costly, requiring the recruiting and retention of more productive (and hence more costly) faculty, universities with more resources are more likely to seek and obtain accreditation. Because these schools have the ability to pay higher salaries and offer lower teaching loads, it would be likely to see significant differences between accredited and nonaccredited schools even if accreditation itself had no impact. Because we did not account for this, even the matching model that controls for nonrandom faculty selection is likely to overestimate the effects of accreditation.

One of the goals of AACSB accreditation is to advance business and management knowledge through faculty

scholarship (AACSB, 2009). We found that faculty in accredited institutions publish more refereed articles than their nonaccredited brethren, on an annual and career basis; hence, this objective appears to be met. On the other hand, two other accreditation goals are to provide high-caliber teaching of quality and current curricula and cultivate meaningful interaction between students and a qualified faculty (AACSB). We lacked the data to determine whether these teaching-related goals were being met; however, our findings that faculty in accredited institutions teach fewer courses, and do so at a higher cost per course, suggest that conflicts over resource allocation between teaching and research objectives are likely to be heightened by accreditation. That being said, additional research is necessary to analyze the impacts of these higher instructional costs on such metrics as class size, student performance and retention, and the satisfaction of those who employ business graduates.

In deciding whether to obtain or maintain AACSB accreditation, university administrators should consider its full cost—which includes the cost of higher paid instructors teaching fewer courses. These costs may be especially significant for comprehensive institutions and liberal arts colleges whose primary mission is instruction, rather than research, and particularly in difficult budgetary times. Importantly, these are exactly the schools that are most likely to be seeking accreditation in the future. A dramatic shift in the types of institutions being accredited occurred in the late 1970s. Of approximately 180 institutions in the NSOPF that were AACSB-accredited before 1980, about 80% are doctoral institutions. In contrast, of the roughly 150 accredited since 1980, about the same percentage are comprehensive and liberal arts schools. As more and more of these institutions become accredited, there will be increasing pressure on others to join the club. As Corcoran (2006) pointed out, "At the current pace of accrediting new programs, it's become less an issue of the credibility conferred by accreditation and more an issue of why an institution is not accredited" (p. 41). Whether those institutions find succumbing to this pressure to be worth the costs remains to be seen. The question of what factors determine a business school's decision to seek accreditation is one that deserves further research.

NOTES

1. The standards are available at http://www.aacsb.edu/accreditation/standards.asp. The AACSB revised the standards following criticism that they had been too stringent. For background on the mission-linked standards, see Yunker (2000) and Francisco, Noland, and Sinclair (2008).
2. At the first stage, doctoral institutions were oversampled relative to comprehensive and liberal arts institutions. At the second stage, women and minorities were oversampled. All statistical results presented in this article are based on methods that are robust with respect to sampling methods. Estimates that use sampling weights explicitly are numerically similar and produce the same conclusions, and are available on request.
3. Response rates ranged from 76% in the 2004 faculty survey to 84.4% in the 1993 survey. Nonresponse bias does not appear to be a significant issue. For example, based on data provided by their institutions, response rates were similar across gender and ethnic groups. As noted previously, statistical results reported in this article are similar to those based on sampling weights (which explicitly accounted for nonresponse). For a complete description of the NSOPF and the sampling methodology, see NCES (1997, 2002, 2006).
4. Carnegie classification data were drawn from the U.S. Department of Education Integrated Postsecondary Education Data System, a division of the NCES (nces.ed.gov/IPEDS/). Further information about the classifications can be found at the Web site of the Carnegie Foundation for the Advancement of Teaching (www.carnegiefoundation.org/classifications/).
5. NSOPF sample sizes were rounded to the nearest 10 to comply with NCES disclosure requirements.
6. Simply examining basic real salaries may mask the cost-of-living differences between accredited and nonaccredited campuses. Accordingly, following Dumond, Hirsch, and Macpherson (1999), in our subsequent regression analysis we included on the right-hand side a county-level median gross rent index to control for cost-of-living differences.
7. Our results are qualitatively similar for doctoral institutions, albeit of (predictably) greater magnitude. Results disaggregated by Carnegie classification are available on request, as are results from the combined doctoral/comprehensive/liberal arts data.
8. Because information on contract length was not collected in the 1988 NSOPF survey, these observations were dropped in the regression analysis.
9. Full regression results are available on request. In addition to an AACSB dummy variable, the independent variables include those reported in Table 1, as well as squared terms for the two experience variables.
10. In practice, this condition is tested by subclassifying observations into blocks defined by intervals of the propensity score such that the mean propensity score is not statistically different between treated and control groups, and then testing whether the mean value of each explanatory variable is the same for treatment and control observations within each block.
11. We deviated slightly from Becker and Ichino's recommendation at this step. Becker and Ichino suggested first estimating a logit model including just the explanatory variables, and then adding interactions and higher order terms. We took the opposite approach,

estimating at the first round a fully specified model that included all of the explanatory variables in the salary equation, their squares (for the continuous variables), and their cross-products, and then testing down to a more parsimonious model that satisfied the balancing condition.

12. This weighted average is a kernel estimator. We use a Gaussian kernel with a bandwidth of 0.06.

REFERENCES

Association to Advance Collegiate Schools of Business. (2009). *Accreditation*. Retrieved March 2, 2009, from http://www.aacsb.edu/accreditation/

Becker, S. O., & Ichino, A. (2002). Estimation of average treatment effects based on propensity scores [Electronic version]. *The Stata Journal*, *2*, 358–377.

Corcoran, C. P. (2006). AACSB accredited business programs: Differences and similarities. *Journal of Business & Economics Research*, *4*, 41–48.

Dehejia, R. H., & Wahba, S. (2002). Propensity score-matching methods for nonexperimental causal studies. *Review of Economics and Statistics*, *84*(1), 151–161.

Dumond, J. M., Hirsch, B. T., & Macpherson, D. A. (1999). Wage differentials across labor markets and workers: Does cost of living matter? *Economic Inquiry*, *37*, 577–598.

Ehie, I. C., & Karathanos, D. (1994). Business faculty performance evaluation based on the new AACSB accreditation standards. *Journal of Education for Business*, *69*, 257–262.

Eren, O. (2007). Measuring the union-nonunion wage gap using propensity score matching. *Industrial Relations*, *46*, 766–780.

Francisco, W., Noland, T. G., & Sinclair, D. (2008). AACSB accreditation: Symbol of excellence or march toward mediocrity? *Journal of College Teaching & Learning*, *5*, 25–30.

Fryer, R. G., Jr., & Greenstone, M. (2007). *The causes and consequences of attending historically Black colleges and universities*. Washington, DC: National Bureau of Economic Research.

Heckman, J. J., Ichimura, H., & Todd, P. E. (1997). Matching as an econometric evaluation estimator: Evidence from evaluating a job training program. *Review of Economic Studies*, *64*, 605–654.

Heckman, J. J., Ichimura, H., & Todd, P. E. (1998). Matching as an econometric evaluation estimator. *Review of Economic Studies*, *65*, 261–294.

Jantzen, R. H. (2000). AACSB mission-linked standards: Effects on the accreditation process. *Journal of Education for Business*, *75*, 343–347.

Lein, C. D., & Merz, C. M. (1977). Faculty evaluation in schools of business: The impact of AACSB accreditation on promotion and tenure decisions. *Collegiate News and Views*, Winter, 21–24.

Levernier, W., & Miles, M. P. (1992). Effects of AACSB accreditation on academic salaries. *Journal of Education for Business*, *68*, 55–61.

Mincer, J. (1974). *Schooling, experience, and earnings*. New York: National Bureau of Economic Research and Columbia University Press.

National Center for Education Statistics. (1997). 1993 National Study of Postsecondary Faculty methodology repor*t*. Washington, DC: Author. Retrieved March 30, 2010, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=97467.

National Center for Education Statistics. (2002). 1999 National Study of Postsecondary Faculty methodology report. Washington, DC: Author. Retrieved March 30, 2010, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2002154.

National Center for Education Statistics. (2006). 2004 National Study of Postsecondary Faculty methodology report. Washington, DC: Author. Retrieved March 30, 2010, from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2006179.

Rosenbaum, P. R., & Rubin, D. B. (1983). The central role of the propensity score in observational studies for causal effects. *Biometrika*, *70*(1), 41–55.

Rosenbaum, P. R., & Rubin, D. B. (1984). Reducing bias in observational studies using subclassification on the propensity score. *Journal of the American Statistical Association*, *79*, 516–524.

Tong, H. M., & Bures, A. L. (1987). An empirical study of faculty evaluation systems: Business faculty perceptions. *Journal of Education for Business*, *62*, 320–322.

Yunker, J. A. (2000). Doing things the hard way—problems with mission-linked AACSB accreditation standards and suggestions for improvement. *Journal of Education for Business*, *75*, 348–353.

Yunker, P. J. (1998). A survey of business school heads on mission-linked AACSB accreditation standards. *Journal of Education for Business*, *73*, 137–143.