

An Examination of AACSB Accreditation Status as an Accounting Program Quality Indicator

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AACSB accreditation status is often seen as an indicator of program quality. This study uses accounting programs to examine the factors which may be determinants of AACSB accreditation. An accounting faculty's publication rate and size and the mean ACT scores of a school's students were associated with accreditation while low student/faculty ratios, tuition rates and faculty salary levels were not. Differences between the determinants of accounting and of overall business accreditation are discussed.

INTRODUCTION

In the search for conveniently accessible accountability indicators of the quality and performance of higher education programs, many have suggested the use of program graduates' scores or pass rates on professional examinations (Bragg, 1995). In previous work with a sample of 153 accounting programs, we attempted to provide support for the use of CPA scores as an institutional-level indicator of learning outcomes. We did find an association between the average number of publications per faculty member of a school, and that institution's CPA pass rates. This relationship was found to hold true, even when the model included, as a confounding variable, the mean ACT score of incoming freshmen.

We had used faculty publications as an institutional-level measure although teaching effectiveness is commonly measured using student evaluations. Based on the individual professor, student evaluations are subjective and tend to be affected by the teacher's personality traits (Naflulin, Ware, & Donnelly, 1973; Friedrich & Michalak, 1983). A statistical association between measures of teaching effectiveness and measures of research productivity has been demonstrated often in other educational areas (Feldman, 1987).

We therefore anticipated that AACSB accreditation status would act as a summary measure of teaching quality and research productivity and thus would be statistically associated with CPA exam pass rates. We were surprised to note that, within our data set, AACSB accreditation status did not appear to work as a predictor of a school's CPA exam pass rates whether the model included an additional research measure or not (See Appendix).

The quality of teaching performance and the adequacy of research productivity, termed "intellectual contributions," of candidate schools are certainly examined seriously in the evaluation process leading to AACSB accreditation. We believe AACSB accreditation status is widely viewed as a comprehensive measure of the quality of a business program. AACSB International, once called the American Assembly of Collegiate Schools of Business, asserts that accreditation "assures quality" in business administration and accounting education.

The AACSB website explains that “[a]ccreditation is a process of voluntary, non-governmental review of educational institutions and programs.” The website further points out “[i]nstitutions that earned accreditation confirm their commitment to quality and continuous improvement...”

One purpose of accreditation is to encourage the matching of higher quality students to higher quality programs as students and their parents are making the college choice (Pearson, 1979). Discipline-specific accreditation is intended to provide various assurances to stakeholders who are likely to view accreditation as a summary measure of program quality. This raises the empirical question whether AACSB accreditation status acts as a summary quality measure of an accounting program. To explore this question, the data set earlier used to examine CPA pass rates was expanded to allow the testing of seven new hypotheses. (See Appendix.)

Hypothesis Development

AACSB International is the only recognized accrediting agency for bachelor’s and master’s degree programs in accounting and business administration (Journal of Accountancy, 1992). An examination of the differences between accounting and business administration programs with and without disciplinary accreditation is therefore, by definition, an examination of AACSB accreditation. The AACSB accreditation process evaluates an overall program. To be accredited, a school is expected to employ a faculty composed of a sufficient number of adequately prepared individuals teaching well and actively making intellectual contributions. This faculty should be delivering a strong, well-structured curriculum using adequate institutional resources to benefit students who have been attracted to the school’s specific mission. Specific characteristics are examined in the subsequent hypotheses.

“The current mission-linked accreditation standards and peer review process were approved by AACSB International members in 1991” (AACSB website). Under the mission-linked accrediting process, schools themselves determine the relative emphasis to place on teaching and research and which resulting types of research are appropriate (basic, applied, pedagogical). The accreditation materials and literature use the term “intellectual contributions” rather than the term “research.” Items considered to be intellectual contributions are predominantly the publication and presentation outcomes from research activity. Measuring the achievement of these mission-linked research criteria is an example of the use of a quality performance measure in the academic environment (Mergen, 2000).

Many suggest these mission-linked standards force faculties to make a stark choice between teaching and intellectual contributions activities (Ehie, 1994). In fact, achieving AACSB accreditation requires substantial intellectual contributions across the faculty whether or not a school has chosen teaching as its primary mission (Jantzen & Yunker, 2000). It is the subject area of the research and intellectual contributions that can be expected to vary as to an individual school’s mission, not whether demonstrable intellectual contributions are achieved. This leads to the first hypothesis:

***H1:** There is a positive association between the average number of publications per accounting faculty member of a school and the school’s accreditation status.*

It seems reasonable to expect a direct positive relationship between the academic potential of the students a school attracts and its accreditation status. A proxy for the academic potential of a student body is the average ACT score for incoming freshmen. This leads to the second hypothesis:

H2: There is a positive association between the average ACT score of a school's incoming freshmen and the school's accreditation status.

If faculty are economically rational, better faculty will gravitate to schools paying higher salaries. If accreditation is a measure of quality, a school with a better faculty will be more likely to be accredited. We have previously found a positive association between a campus' overall salary level and CPA pass rates. An association between business faculty salaries and accreditation status has also been previously noted (Levermier, 1992). This leads to the third hypothesis:

H3: There is a positive association between a school's mean faculty salary and the accreditation status of that school.

A large faculty affords a school the ability to offer more specialized programs. A larger faculty will encompass a greater range of skill and expertise and it will be easier to assure competent faculty coverage whenever a specific course is offered. This leads to the fourth hypothesis:

H4: There is a positive association between the size of a school's faculty and the accreditation status of that school.

It is reasonable to expect that a faculty member with a terminal degree will be more knowledgeable of her (his) area of expertise than a faculty member lacking the terminal degree. Further, those possessing doctoral degrees are trained in conducting research and generating intellectual contributions. Both these factors impact the quality of a school's program. This leads to the fifth hypothesis:

H5: There is a positive association between the percent of a school's faculty holding the Ph.D. degree and the accreditation status of a school.

Small class size is viewed by many as a measure of school quality. This leads to the next new hypothesis:

H6: There is a negative association between the student faculty ratio of a school and the accreditation status of a school.

If students and parents are economically rational, they would be willing to pay a higher tuition only if they perceived that they were receiving a higher quality education. This leads to the last new hypothesis.

H7: There is a positive association between the level of in-state tuition and the accreditation status of a school.

The first hypothesis involves faculty performance. The second measures student potential. The next four hypotheses measure, sometimes indirectly, the level of resources devoted to faculty employment. The last hypothesis is a fiscal measure showing which resources are provided specifically by students and their parents.

Sample

The data set used in this study is an expanded version of the one initially developed to examine the determinants of CPA exam performance (see Appendix.) The sample included both public and private schools nationwide. Schools reporting CPA exam results for the 1997 year were cross-matched with those listed in the 1998 edition of *Profiles of American Colleges* published by Barron's to obtain average ACT scores. *Barron's Profiles of American Colleges* was used to identify other widely recognized measures of institutional quality including number of faculty, percent of faculty holding a Ph.D. degree, in-state tuition, and student faculty ratio. The members of the accounting faculty were then identified by using the *Accounting Faculty Directory*, 1998 Edition. The accreditation status of each sampled school was also obtained from this source.

The number of lifetime publications per identified faculty member was obtained from the *Accounting Literature Index (ALI)*, 1998 edition, and was used to calculate the average number of publications per accounting faculty member by school. There are a number of business as well as accounting-specific databases and indices available, each listing a somewhat different selection of journals. *ALI*, at that time listing only 33 journals, was used as the single source of publications data in the Zivney, Bertin, and Gavin (1995) study of accounting research productivity. It was augmented by a largely duplicative database in a similar study by Hasselback and Reinstein (1995). By 1996 *ALI* contained listings from the 44 larger circulation accounting-specific scholarly titles. While the *ALI* list is not exhaustive, it is a reasonable source for measurements of faculty research productivity. Clearly, some accounting faculty research, especially that appearing in business journals from related business disciplines, will be missed in this study (Hagerman & Hagerman, 1989).

One other variable was also considered, mean faculty salary (obtained from the NEA, National Education Association). The data from the May and November CPA exam sittings were pooled yielding a final set of 363 cases. NASBA does not report an individual school's CPA exam results in any year in which five or fewer students take the exam. Therefore, the very smallest colleges and universities were unlikely to be part of the sample.

Methodology

SPSS 9.0 was used to conduct two multiple regression analyses. The faculty publication variable measures only accounting program participants. The other variables, given the data available, measure from the perspective of the entire institution. In the first regression model, the dependent variable was the accreditation status of the entire business program. Of the 363 observations, 277 had business program accreditation. In a second model, the dependent variable was the accreditation status of the accounting program. Only schools already holding accreditation of the entire business program may apply for additional, accounting-specific accreditation. Of the 277 observations with business program accreditation, 140 also held

accounting program accreditation. The second model contrasted these doubly accredited observations against all other cases.

Both models used available, potentially useful measures of accounting program quality that mirrored the items evaluated in the accreditation process for both accounting accreditation and overall business administration accreditation. Teaching quality was not directly measured.

Results

Table 1 shows the results of regressing the seven above-mentioned independent variables upon the dependent variable, AACSB Business Accreditation. The coefficient of the publications variable was positive and significant at the .05 level. The coefficient of the ACT variable was positive and significant at the 0.1 level. The coefficient of the salary variable was not significant. The coefficient of the faculty variable was significant at the .01 level. The coefficient of the Ph.D. percent variable was positive and significant at the 0.05 level. The coefficient of the student-faculty ratio variable was not significant, nor was the coefficient of the in-state tuition variable.

TABLE 1
Determinants of Business Accreditation Status

Model: $BA = \beta_0 + \beta_1ACT + \beta_2PUBS + \beta_3SAL + \beta_4FAC + \beta_5PHD + \beta_6SFR + \beta_7IS +$

β_1	0.02195 (1.837*)
β_2	0.02316 (2.013**)
β_3	-0.000244 (-0.081)
β_4	0.0001986 (3.064****)
β_5	0.005158 (2.402**)
β_6	0.003302 (0.540)
β_7	-0.000005552 (-1.004)
R^2	0.164
F	9.946****

- BA a categorical variable indicating whether a school holds AACSB business accreditation
- ACT the mean ACT score of income freshmen
- PUBS mean publications per accounting faculty member
- SAL mean salary per faculty member
- FAC number of faculty members
- PHD percent of faculty possessing the Ph.D. Degree
- SFR student faculty ratio
- IS in-state tuition rate
- * indicates significance at the .10 level
- ** indicates significance at the .05 level
- *** indicates significance at the .01 level
- **** indicates significance at the .001 level

Table 2 shows the results of regressing the seven independent variables upon the dependent variable, Accounting AACSB Accreditation. The coefficient of the publications variable was positive and significant at the .001 level. The coefficient of the ACT variable was positive and significant at the 0.05 level. The coefficient of the salary variable was *negative* and significant at the 0.1 level. The coefficient of the faculty variable was positive and significant at the .01 level. The coefficient of the Ph.D. percent variable was positive and significant at the 0.1 level. The coefficient of the student-faculty ratio variable was not significant. The coefficient of the in-state tuition variable was *negative* and significant at the .01 level.

TABLE 2
Determinants of Accounting Accreditation Status

Model: $AA = \beta_0 + \beta_1ACT + \beta_2PUBS + \beta_3SAL + \beta_4FAC + \beta_5PHD + \beta_6SFR + \beta_7IS +$

β_1 0.02647 (2.014**)

β_2 0.05343 (4.222****)

β_3 -0.006244 (-1.872*)

β_4 0.0001962 (2.751****)

β_5 0.00457 (1.935*)

β_6 -0.00942 (-1.401)

β_7 -0.00001791 (-2.943****)

R^2 0.225

F 14.711****

AA a categorical variable indicating whether a school holds AACSB accounting accreditation

ACT the mean ACT score of income freshmen

PUBS mean publications per accounting faculty member

SAL mean salary per faculty member

FAC number of faculty members

PHD percent of faculty possessing the Ph.D. Degree

SFR student faculty ratio

IS in-state tuition rate

* indicates significance at the .10 level

** indicates significance at the .05 level

*** indicates significance at the .01 level

**** indicates significance at the .001 level

These results suggest that the intellectual contributions level or quality of a faculty is indeed a primary determinant of accreditation status and that accreditation status is also strongly related to the quality of a school's student body. Further, accreditation status appears to require an adequate number of faculty who are adequately prepared.

Three variables were not found to be positively associated with accreditation status in either model: mean salary, student faculty ratio and in-state tuition. This may reflect the wide variation of resource allocation choices across the schools in the sample. It is not necessarily the case, for example, that a larger faculty is automatically directly deployed to enhance teaching. Class sizes may remain large in order to free faculty time to engage in intellectual contributions activity or to assure classes are taught by accomplished lecturers. Further, higher in-state tuition may not directly indicate higher resource availability. It may, in contrast, reflect the absence of generous state or endowment support of a program.

Viewed jointly, Tables 1 and 2 reveal some interesting differences between the determinants of business accreditation and those of accounting accreditation. If the required level of significance to accept or reject a hypothesis is raised to .05, it becomes clear that all of the significant determinants of business accreditation are faculty- or resource- related. These determinants include faculty publications, the percent of faculty holding a Ph.D. degree, and the total number of faculty.

By contrast, the determinants of accounting accreditation are broader. They include faculty- and resource-related factors, faculty publications and size of faculty; but they also include the student related factor, mean ACT score of incoming freshmen and the fiscal factor, in-state tuition. The negative association between this last factor and accounting accreditation is consistent with the notion that low in-state tuition is an indicator of strong state or endowed support of the institution.

Further study will be required to understand whether the accreditation process is influencing the continuous improvement of accounting education as it is intended to do. If the public, the legislature and the profession continue to use accreditation as an accountability indicator, the determinants of accreditation and other measures of inputs to and outcomes of the educational process need to be understood.

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APPENDIX

The Preliminary Study

CPA exam results can be considered an outcomes measure of an institution's overall teaching effectiveness in its undergraduate accounting program. The results of licensure exams are often used to assess programs in a number of fields (Bragg, 1995; Burke, 1997). Using an institution's CPA exam pass rate recognizes that students learn accounting throughout an entire program and that many of a program's graduates also take the uniform CPA exam.

Many object to using the CPA exam as an outcomes measure specifically because not all graduates take the exam. Others caution that faculty ought not teach to the exam. We suggest that, if an accounting program has adequate instruction on the body of accounting knowledge, its students can be expected to meet the requirements of many endeavors in the field, including CPA candidacy. We note that the exam is used by many as a de facto outcomes measure. Further, we remind the reader that the CPA exam is designed simply to measure the basic preparation of an entry-level accountant.

In order to use a more objective measure of faculty contributions to student learning than teaching evaluations, we have used faculty scholarly work. In the general education literature, Friedrich and Michalak (1983) argue: "Engaging in scholarly research has long been thought to improve the quality of a faculty member's teaching." Quality teaching should lead to quality outcomes. This leads to the first hypothesis of the appendix:

AH1: There is a positive association between the average number of publications per accounting faculty member of a school and the CPA exam performance of that school.

One possible proxy for the academic potential of a student body is the average ACT score for incoming freshmen. This leads to the second appendix hypothesis:

AH2: There is a positive association between the average ACT score of a school's incoming freshmen and the CPA exam performance of that school.

A priori it seems reasonable to argue that there exists a direct positive relationship between the quality of a school and the teaching outcomes of that school's accounting program. One widely accepted indicator of the quality of a business school is whether or not the school has been granted AACSB accreditation. AACSB accreditation is widely perceived to be an important indicator of the quality of an institution's business program.

AH3: There is a positive association between the school's accreditation status and the CPA exam performance of that school.

The CPA exam performance of first-time candidates without advanced degrees as reported in the *Candidate Performance on the Uniform CPA Examination*, 1998 Edition, published by the National Association of State Boards of Accountancy for each sampled school in the two exam sittings in 1997 was used as the dependent variable in a multiple regression to test three hypotheses. The independent variables were the mean ACT score of incoming freshmen,

the mean number of publications per accounting faculty member, and a 0,1 categorical variable indicating whether or not the school had been granted AACSB Business Accreditation. Four regressions were run, one for each section of the CPA exam.

Results of the Preliminary Study

The results of the four regressions are presented in Table A1. The ACT variable was significant at the 0.001 level for each of the four sections of the exam. The publications variable was significant at the 0.1 level for both the Law and Professional Responsibilities section of the exam and the Accounting and Reporting section of the exam. This variable was significant at the 0.05 level for the Financial Accounting and Reporting section of the exam. The accreditation variable was not significant for any of the sections of the exam.

TABLE A1
Business Accreditation Status as a Determinant of
CPA Exam Pass Rates

Model: Pass Rate = $\beta_0 + \beta_1 \text{ACT} + \beta_2 \text{PUBS} + \beta_3 \text{BA} +$					
Exam Section	β_1	β_2	β_3	R ²	F
Auditing	1.738 (4.832****)	0.257 (0.631)	2.308 (1.174)	0.083	10.958****
LPR	1.107 (3.490****)	0.586 (1.631*)	1.346 (0.777)	0.059	7.530****
ARE	1.324 (4.225****)	0.613 (1.727*)	0.730 (0.426)	0.075	9.651****
FARE	1.398 (4.026****)	0.805 (2.046**)	1.106 (0.583)	0.077	9.919****

ACT the mean ACT score of income freshmen

PUBS mean publications per accounting faculty member

BA a categorical variable indicating whether a school holds AACSB business accreditation

* indicates significance at the .10 level

** indicates significance at the .05 level

*** indicates significance at the .01 level

**** indicates significance at the .001 level

A major factor in earning AACSB accreditation status is the existence of adequate intellectual contributions on the part of a school’s faculty. It is possible that the AACSB accreditation variable failed to achieve significance in this model because its variation was accounted for by the publications variable. To look at this possibility, a second model was tested with the publications variable deleted. As the results in Table A2 indicate, the AACSB variable still failed to explain the CPA exam pass rate.

TABLE A2
Business Accreditation Status as a Determinant of
CPA Exam Pass Rates - Small Model

Model: Pass Rate = $\beta_0 + \beta_1 \text{ACT} + \beta_2 \text{BA} +$				
Exam Section	β_1	β_2	R ²	F
Auditing	1.788 (5.098****)	2.569 (1.338)	0.083	16.266****
LPR	1.221 (3.935****)	1.942 (1.143)	0.052	9.919****
ARE	1.554 (4.566****)	1.924 (1.032)	0.066	12.672****
FARE	1.443 (4.706****)	1.353 (0.806)	0.062	12.915****

- ACT the mean ACT score of income freshmen
- BA a categorical variable indicating whether a school holds AACSB business accreditation
- * indicates significance at the .10 level
- ** indicates significance at the .05 level
- *** indicates significance at the .01 level
- **** indicates significance at the .001 level