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THE EFFECT OF JOURNAL QUALITY ON ACCOUNTING FACULTY REMUNERATION: DOES UNIVERSITY RESEARCH EMPHASIS MATTER?

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INTRODUCTION: Journal article publications play an important role in the reward structure of faculty members in academic institutions. Many studies document a positive relationship between number of publications and faculty salaries (e.g., Zivney and Bertin 1992; DeLorme et al. 1979). A smaller number of studies investigate the impact of journal quality on faculty salaries (e.g., Tuckman and Leahey 1975; Swidler and Goldreyer 1998). Despite its importance, only Gomez-Mejia and Balkin (1992) address the notion that the research emphasis of institutions affects the valuation of journal article publications. Our study investigates an issue similar to that of Gomez-Mejia and Balkin, focusing on accounting academics.

In the context of agency theory, Gomez-Mejia and Balkin (1992) argue that organizational objectives should influence the emphasis that principals place on particular performance dimensions in determining pay. They hypothesize that institutions that grant doctoral degrees are more likely to reward faculty members for research productivity than are non-doctoral granting institutions. For a sample of 353 professors of management, they use surveys to collect salary information and other data. The results indicate that while both doctoral and non-doctoral granting institutions reward professors for publishing in high-tier journals equally, only the non-doctoral granting institutions reward professors for publishing in low-tier journals.

We investigate whether faculty pay varies as a joint function of university research emphasis and the publication journal quality. We find that only those institutions with high, rather than low, research emphasis, show significant differences in pay between high and low journal quality publications. In addition, we find that both types of institutions consider the quantity of publication in determining faculty pay. These findings empirically support the commonly heard phrases in high-tier institutions such as, "Three or more publications in top-tier journals are needed for tenure," as well as in low-tier institutions such as, "The quantity of publications is more important than their quality."

Our study improves on similar studies that investigate the relationship between publications and salary in several respects. First, earlier studies report results from very small samples, which were collected from only a handful of institutions. In contrast, our sample consists of 910 accounting professors from

126 institutions. Second, Gomez-Mejia and Balkin (1992), the study most similar to this paper, used surveys to collect salary information and other data. Although the surveys provided for a large sample, concerns arise regarding the accuracy of the data. For example, a sampling bias would result if the professors who were proud of their publication records or salaries were more inclined to complete the survey. To avoid such problems, we collected the salary information for our sample from the annual budgets of universities.

RESEARCH METHOD: We requested the 1995 academic year budgets for the accounting departments of every public U.S. four-year academic institution listed in Hasselback's Accounting Faculty Directory (1996). A total of 126 schools provided us with usable budgets. Candidates for our study were restricted to individuals included in the 1995 academic year budget who 1) held PhD's or DBA's as of 1995 according to Hasselback's Accounting Faculty Directory (1995); and, 2) held the rank of professor, associate professor, or assistant professor in 1995 according to the budget. Department heads and deans were excluded. The final sample totaled 910 accounting professors.

For each faculty member we collected (1) the nine-month pay for the 1995 academic year, (2) the rank achieved for the 1995 academic year (e.g., assistant professor), (3) the number of years employed in an academic accounting department after receiving the terminal degree, and (4) information pertaining to the quantity and quality of journal articles published through 1995.

The budgets typically listed the pay for each faculty member and the number of months for which the pay applied (e.g., nine months). We clarified any uncertainties regarding the budget information by calling the appropriate institutional budget department. To insure the integrity of the budget information, one author made all the necessary calls.

For several reasons, we decided that the dependent variable reported in our results should exclude summer support and stipends and thus reflect only nine-month pay. First, many budgets include neither summer support nor stipends. Second, summer support and stipends typically fluctuate from year to year based on variables exogenous to our model (e.g., signing bonuses for new faculty). Finally, unless the independent variables vary systematically with summer support and/or stipends, considering only nine-month salaries should not bias our results.

We limited our sample to the professorial ranks of full professor, associate professor, and assistant professor. Department heads and deans were eliminated since we had no control variables related to the additional pay for such administrative jobs. The categories denoted in departmental budgets were used when given; otherwise, they were obtained from Hasselback's Accounting Faculty Directory (1995).

We determined, again from Hasselback's Accounting Faculty Directory (1995), the number of academic years each individual had been employed at an academic institution since receiving the terminal degree.[1] Both rank and years of employment data were collected since each might impact pay.

Three computerized databases were used to build the database of articles examined in this study. Pacific Research Company publishes two databases: Database of Accounting Research, which contains the listings of 47 accounting journals, and Database of Finance Research, which contains the listings of 40 finance journals. The Economic Literature Database (1996), which contains information pertaining to 300 economics, finance, accounting, real estate, and insurance journals, was utilized to collect data on articles published in 47 additional journals.

A total of 134 academic journals were examined for authored papers. None of the databases give credit for notes, letters to the editor, departmental articles, or other instances where the author's name does not appear in the listed table of contents.[2] Full credit was given, however, for co-authored works.

We separated journals into those of high and low quality. To determine the quality of the published articles, we assigned weights to the journals in our database primarily based on seven recent articles that ranked subsets of the journals in our list (i.e., Schroeder et al. 1988; Hull and Wright 1990; Hall and Ross 1991; Smith 1994; Brown and Huefner 1994; Alexander and Mabry 1994; Jolly et al. 1995). Hull and Wright (1990) ranked 39 journals by having respondents assign a rating to each journal with respect to *The Journal of Accountancy*, which previously had been assigned a rating of 1. Information contained in the six remaining studies was then used to assign ratings to 27 journals not included in the Hull and Wright study. We estimated the ratings for each of these journals based on their proximity to journals previously rated in the Hull and Wright study. This procedure resulted in ratings for 66 of the journals considered in the current study. Similar to the procedure used in Morris et al. (1990), these journals were then separated into eleven clusters, with all journals in a given cluster receiving the same rating. The resulting ratings ranged from a high of 2.25 to a low of .70. Most of the remaining journals not included in any previously cited study were assigned a weight of .70.

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[1] The Hassleback directory provides data on when an individual received his/her degree. Sometimes, this is after they were initially employed in academics. The difference is typically one year, but can be many more. Per discussions with James Hassleback, the percentage where large differences occur is small and does not appear to vary systematically with gender.

[2] We personally checked minor problems such as author misspellings, name changes, use of initials rather than full first names, and instances where more than one author shared a given name. We checked the actual articles in our university libraries and were able to resolve all differences.

Based on the quality ratings, we classified journals as either high-tier, those with ratings of 1.60 and higher, and low-tier. Table 1 contains the journals considered in our study, along with their ratings and classification.[3]

TABLE 1
RATED ACADEMIC JOURNALS CLASSIFIED AS EITHER HIGH-TIER OR LOW-TIER

Journal	Rating	Tier	Journal	Rating	Tier
Accounting Review[1]	2.25	High	Review of Financial Studies[3]	1.00	Low
Journal of Accounting Research[1]	2.25	High	Tax Adviser[1]	1.00	Low
Journal of Accounting & Economics[1]	2.00	High	Advances in Accounting[1]	0.95	Low
Journal of Finance[1]	2.00	High	International Journal of Accounting Education & Research[1]	0.95	Low
Accounting, Organizations & Society[1]	1.60	High	Journal of Accounting Education[1]	0.95	Low
Contemporary Accounting Research[2]	1.60	High	Advances in International Accounting[2]	0.90	Low
Journal of Accounting, Auditing & Finance[1]	1.60	High	Advances in Taxation[2]	0.90	Low
Journal of Business[1]	1.60	High	Critical Perspectives on Accounting[2]	0.90	Low
Journal of Financial & Quantitative Analysis[1]	1.60	High	Journal of Banking and Finance[3]	0.90	Low
Journal of Financial Economics[3]	1.60	High	Journal of Financial Research[3]	0.90	Low
Journal of the American Taxation Association[1]	1.60	High	Journal of Information Systems[1]	0.90	Low
Management Science[1]	1.60	High	Journal of Portfolio Management[3]	0.90	Low
Auditing: A Journal of Practice & Theory[1]	1.35	Low	Research in Accounting Regulation[3]	0.90	Low
Decision Sciences[1]	1.35	Low	Research in Government & Nonprofit Accounting[2]	0.90	Low
Harvard Business Review[1]	1.35	Low	Taxation for Accountants[1]	0.90	Low
Journal of Accounting & Public Policy[1]	1.35	Low	Taxes—The Tax Magazine[1]	0.90	Low
Journal of Business, Finance & Accounting[1]	1.35	Low	Accounting & Finance[5]	0.85	Low
Journal of Management Accounting Research[2]	1.35	Low	Accounting Educators Journal[2]	0.85	Low
National Tax Journal[1]	1.35	Low	Accounting Historians Journal[1]	0.85	Low
Journal of Taxation[1]	1.25	Low	Advances in Accounting Information Systems[5]	0.85	Low
Abacus[1]	1.15	Low	Advances in Public Interest Accounting[2]	0.85	Low
Accounting & Business Research[1]	1.15	Low	British Accounting Review[5]	0.85	Low
Accounting Horizons[1]	1.15	Low	Financial Management[1]	0.85	Low
Behavioral Research in Accounting[2]	1.15	Low	International Tax Journal[1]	0.85	Low
Journal of Accounting Literature[1]	1.15	Low	Management Accounting[1]	0.85	Low
Accounting, Auditing & Accountability[4]	1.00	Low	The CPA Journal[1]	0.85	Low
Financial Analysts Journal[1]	1.00	Low	Corporate Accounting/Financial Manager[4]	0.80	Low
Issues in Accounting Education[1]	1.00	Low	Georgia Journal of Accounting[1]	0.80	Low
Journal of Accountancy[1]	1.00	Low	Government Accountants Journal[4]	0.80	Low
Journal of Corporate Taxation[1]	1.00	Low	Journal of Cost Analysis[4]	0.80	Low

[3] An article co-authored by two subjects included in our sample would be denoted in Table 5 as two publications.

Table 1 Continued
Related Academic Journals Classified as either High-Tier or Low-Tier

Accounting Education: Journal of Practice, Theory, & Research	0.70	Low	Journal of Corporate Accounting & Finance	0.70	Low
Accounting Inquiries	0.70	Low	Journal of Corporate Finance	0.70	Low
Accounting Perspectives	0.70	Low	Journal of Education for Business	0.70	Low
Advances in Financial Planning & Forecasting	0.70	Low	Journal of Empirical Finance	0.70	Low
Advances in Futures & Options Research	0.70	Low	Journal of Financial Education	0.70	Low
Advances in Investment Analysis & Portfolio Management	0.70	Low	Journal of Financial Engineering	0.70	Low
Advances in Management Accounting	0.70	Low	Journal of Financial Intermediation	0.70	Low
Advances in Management Accounting	0.70	Low	Journal of Financial Planning	0.70	Low
Advances in Math Programming & Financial Plan	0.70	Low	Journal of Financial Services Research	0.70	Low
Advances in Pacific Basin Business, Economics & Finance	0.70	Low	Journal of Fixed Income	0.70	Low
Advances in Quantitative Analysis of Finance & Accounting	0.70	Low	Journal of Futures Market	0.70	Low
Advances in Quantitative Analysis of Finance & Accounting	0.70	Low	Journal of Housing Research	0.70	Low
Advances in Working Capital Management	0.70	Low	Journal of International Accounting, Auditing & Taxation	0.70	Low
American Economic Review	0.70	Low	Journal of International Financial Management[3]	0.70	Low
Applied Financial Economics	0.70	Low	Journal of International Money & Finance	0.70	Low
AREUER	0.70	Low	Journal of Investing	0.70	Low
Atlantic Economic Review	0.70	Low	Journal of Money, Credit & Banking[3]	0.70	Low
Corporate Controller	0.70	Low	Journal of Multinational Financial Management	0.70	Low
Financial Markets, Institutions & Instruments	0.70	Low	Journal of Real Estate Finance & Economics	0.70	Low
Financial Practice in Education	0.70	Low	Journal of Real Estate Literature	0.70	Low
Financial Review[3]	0.70	Low	Journal of Real Estate Research	0.70	Low
Financial Services Review	0.70	Low	Journal of Real Estate Taxation	0.70	Low
Geneva Papers on Risk & Insurance Theory	0.70	Low	Journal of Cost Management	0.70	Low
Global Finance Journal	0.70	Low	Journal of Economics and Finance	0.70	Low
Info Systems in Accounting, Finance & Management	0.70	Low	Journal of Risk & Insurance	0.70	Low
International Journal of Finance	0.70	Low	Journal of Risk & Uncertainty	0.70	Low
International Review of Economics & Finance	0.70	Low	Journal of Small Business Finance	0.70	Low
International Review of Financial Analysis	0.70	Low	Journal of Taxation of Investment[1]	0.70	Low
Journal of Cost Management[2]	0.70	Low	Mathematical Finance	0.70	Low
Journal of International Financial Management & Accounting	0.70	Low	New York CPA	0.70	Low
Journal of Applied Corporate Finance	0.70	Low	Oil & Gas Tax Quarterly[4]	0.70	Low
Journal of Bank Research	0.70	Low	Pacific Basin Finance Journal	0.70	Low
Journal of Commercial Bank Lending	0.70	Low	Perspectives on Local Public Finance & Public Policy	0.70	Low

Quarterly Review of Economics & Finance	0.70	Low	Research on Accounting Ethics	0.70	Low
Real Estate Finance	0.70	Low	Review of Accounting Studies	0.70	Low
Recent Developments in Banking & Finance	0.70	Low	Review of Financial Economics	0.70	Low
Research in 3rd World Accounting	0.70	Low	Review of Futures Market	0.70	Low
Research in Finance	0.70	Low	Review of Quantitative Finance & Accounting	0.70	Low
Research in Financial Services	0.70	Low	Review of Research in Banking & Finance	0.70	Low
Research in International Business & Finance	0.70	Low			

[1] Journal included in Hull and Wright (1990) study
[2] Journal included in Brown and Huefner (1994) study
[3] Journal included in Alexander and Mabry (1994) study
[4] Journal included in Jolly et al. (1995) study
[5] Journal included in Smith (1994) study

We also rated each doctoral program from which our sample of faculty members received their terminal degrees.

We use the six categories reported in *A Classification of Institutions of Higher Education* (Carnegie Foundation for the Advancement of Teaching, 1994) to classify the sample into high-tier and low-tier institutions. We classified the first three categories as high-tier institutions and the last three categories as low-tier institutions. Any institutions not included in the Carnegie classification were also considered low-tier institutions.

The Carnegie classification scheme categorizes institutions of higher learning based on the level of degree offered, the comprehensiveness of the espoused mission, and the level of federal support. The categories included in our sample follow:

(1) Research I Institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. These institutions receive at least $40 million in federal support and award 50 or more doctoral degrees annually.

(2) Research II Institutions offer a full range of baccalaureate programs, are committed to graduate education through the doctorate degree, and give high priority to research. These institutions receive at least $15.5 million to $40 million annually in federal support and award 50 or more doctoral degrees.

(3) Doctorate Granting I Institutions offer a full range of baccalaureate programs and offer the doctorate degree. Annually, these institutions award 40 or more doctoral degrees in at least five academic disciplines.

(4) Doctorate Granting II Institutions offer a full range of baccalaureate programs and offer the doctorate degree. Annually, these institutions award 20 or more doctoral degrees in at least one discipline or at least 10 doctoral degrees in three or more disciplines.
(5) Master's Comprehensive I Universities offer baccalaureate programs and are committed to graduate education through the master's degree. Annually, they award 40 or more masters' degrees in at least three disciplines.
(6) Master's Comprehensive Universities II offer a full range of baccalaureate programs and are committed to graduate education through the master's degree. Annually, they award 20 or more masters' degrees in at least one discipline.

Table 2 shows the institutions included in our sample and their Carnegie classification.

TABLE 2
Carnegie Classification of Institutions in our Sample

Classification	Name of Institution	Classification	Name of Institution
1	Arizona State University	1	University of Wisconsin
1	Colorado State University	1	Utah State University
1	Indiana University	1	Virginia Commonwealth University
1	Iowa State University	1	Wayne State College
1	Louisiana State University	2	Kansas State University
1	Michigan State University	2	Mississippi State University
1	Ohio State University	2	Oklahoma State University
1	Purdue University	2	Southern Illinois University
1	University of Arizona	2	University of California-Riverside
1	University of California-Berkeley	2	University of Oklahoma
1	University of California-Davis	2	University of Toledo
1	University of California-Irvine	2	University of Wyoming
1	University of California-Los Angeles	3	Ball State University
1	University of Colorado-Boulder	3	Georgia State University
1	University of Florida	3	North Carolina-Greensboro
1	University of Georgia	3	Northern Arizona University
1	University of Illinois	3	Northern Illinois University
1	University of Iowa	3	University of Missouri-Kansas City
1	University of Maryland	3	University of North Texas
1	University of Massachusetts	3	University of Southern Mississippi
1	University of Minnesota	3	University of Texas-Arlington
1	University of North Carolina	4	Cleveland State University
1	University of Texas-Austin	4	Florida Atlantic University

Table 2 Continued: Carnegie Classification of Institutions in our sample

Classification	Name of Institution	Classification	Name of Institution
4	Idaho State University	5	Southern Oregon State College
4	Indiana State University	5	Southwest Missouri State University
4	Louisiana Technical University	5	Southwest Texas State University
4	North Dakota State University	5	Stephen F Austin State University
4	University of Alaska-Fairbanks	5	Tarleton State University
4	University of Central Florida	5	Texas A&M-Corpus Christi
4	University of Colorado-Denver	5	University of Central Arkansas
4	University of Nevada-Reno	5	University of Colorado-Colorado Springs
4	University of New Hampshire	5	University of Houston-Clear Lake
4	University of South Dakota	5	University of Houston-Downtown
4	Wichita State University	5	University of Minnesota-Duluth
5	Appalachian State University	5	University of Nevada-Las Vegas
5	Arkansas State University	5	University of North Florida
5	Auburn University-Montgomery	5	University of Northern Iowa
5	Boise State University	5	University of Texas of Permian Basin
5	California State University-Long Beach	5	University of Texas-El Paso
5	Central Missouri State University	5	University of Texas-Pan American
5	Columbus College	5	University of Texas-San Antonio
5	East Carolina University	5	University of Texas-Tyler
5	East Tennessee State University	5	University of Wisconsin-Eau Claire
5	East Texas State University	5	University of Wisconsin-La Cross
5	Eastern Illinois University	5	University of Wisconsin-Oshkosh
5	Eastern Kentucky University	5	University of Wisconsin-Platteville
5	Eastern New Mexico University	5	University of Wisconsin-Stevens Point
5	Georgia College	5	University of Wisconsin-Superior
5	Georgia Southern University	5	West Georgia College
5	Henderson State University	5	West Texas A&M University
5	Lamar University	5	Western Carolina University
5	Louisiana State in Shreveport	5	Western Washington University
5	McNeese State University	5	Youngstown State University
5	Midwestern State University	6	Fort Lewis College
5	Morehead State University	6	Missouri Southern State College
5	Nicholls State University	6	Missouri Western State College
5	North Carolina-Charlotte	6	Truman State
5	Northeast Louisiana University	6	University of Illinois-Springfield
5	Northwest Missouri State	6	University of Southern Colorado
5	Pittsburg State University	6	University of Southern Indiana
5	Radford University	6	University of Texas-Dallas
5	Saginaw Valley State University	6	University of Wisconsin-Parkside
5	Southeastern Louisiana University	6	Western State College of Colorado

We used the Hasselback and Reinstein (1995) rankings of accounting doctoral programs to rate the institutions from which each faculty member had received his or her terminal degree. Hasselback and Reinstein ranked 73 doctoral programs by the number of articles per accounting graduate, weighted both for co-authorship and journal quality. Rankings were based on the articles written by the 1978-1992 graduates, which had been published in 41 major accounting journals. Journal quality was determined in a manner similar to that used in the present study. The ratings of doctoral granting institutions range from a high of .53 to a low of .01. All institutions not included in the Hasselback and Reinstein study, such as a foreign school, were assigned a rating of .01. Table 3 contains the ratings for the graduate programs related to our sample, along with the number of graduates included in our sample from each program. Note that 163 individuals (17.9% of the sample) earned their terminal degrees from one of the top 12 institutions (average rating = 38.5). In contrast, 33 individuals (3.6% of the sample) earned their doctorates from the 25 institutions that were assigned a rating of .01.

Table 3.
Quality of Graduate Program Ratings[1]

Academic Institution	Rating	Number of Graduates	Academic Institution	Rating	Number of Graduates
University of Chicago	0.53	12	University of Alabama	0.21	23
Stanford University	0.51	8	Columbia University	0.20	2
Carnegie Mellon University	0.47	6	Florida State University	0.20	8
University of California-Berkeley	0.39	8	University of Colorado-Boulder	0.20	12
University of Rochester	0.38	5	University of Maryland	0.20	2
Case Western Reserve University	0.37	2	University of Massachusetts	0.20	6
University of Michigan	0.36	20	University of Oklahoma	0.20	29
University of Kansas	0.33	10	University of California-L.A.	0.19	5
University of Oregon	0.33	10	University of North Carolina	0.19	15
University of Florida	0.32	20	University of Pennsylvania	0.19	3
University of Illinois	0.32	35	University of Wisconsin	0.19	31
Ohio State University	0.31	27	Memphis State University	0.18	7
University of Iowa	0.28	16	SUNY-Buffalo	0.18	1
University of Pittsburgh	0.28	3	University of Arizona	0.18	14
Cornell University	0.27	4	University of Southern California	0.18	10
Harvard University	0.27	2	University of Texas-Austin	0.18	53
University of Washington	0.25	13	Michigan State University	0.16	23
University of Tennessee	0.24	14	Virginia Technological	0.16	13
University of Minnesota	0.23	14	University of Utah	0.14	4
Indiana University	0.22	22	Georgia State University	0.12	15
Arizona State University	0.21	15	Texas Tech University	0.12	18
Northwestern University	0.21	5	University of Mississippi	0.12	17
Penn State University	0.21	12	George Washington University	0.11	4

Table 3.
Quality of Graduate Program Ratings[1] (continued)

Academic Institution	Rating	Number of Graduates	Academic Institution	Rating	Number of Graduates
Texas A&M University	0.11	22	University of Texas-Arlington	0.02	3
Boston University	0.10	2	Cleveland State University	0.01	1
Drexel University	0.10	1	Georgia Institute Technology	0.01	1
Syracuse University	0.10	1	Lehigh University	0.01	1
University of Houston	0.10	14	North Carolina State University	0.01	1
University of Cincinnati	0.09	4	Odense Universitet	0.01	3
University of Kentucky	0.09	21	Rensselaer Polytechnical Institute	0.01	1
University of Missouri-Columbia	0.09	35	Southern Illinois University	0.01	1
CUNY-Baruch College	0.07	1	SUNY-Albany	0.01	1
Purdue University	0.07	5	The American University	0.01	1
University of Arkansas	0.07	35	University College of Wales	0.01	1
University of North Texas	0.07	22	University of British Columbia	0.01	4
University of South Carolina	0.07	13	University of California-Irvine	0.01	1
Louisiana State University	0.06	29	University of Connecticut	0.01	1
University of Georgia	0.06	15	University of Denver	0.01	1
Virginia Commonwealth University	0.06	2	University of Hawaii-Manoa	0.01	1
Kent State University	0.05	5	University of Northern Colorado	0.01	2
Mississippi State University	0.05	10	University of South Florida	0.01	1
Saint Louis University	0.05	4	University of Texas-Dallas	0.01	1
University of Nebraska	0.04	19	Washington State University	0.01	3
Louisiana Technical University	0.02	16	Miscellaneous foreign universities (6)	0.01	6
			Total		**910**

[1] Source of ratings: Hasselback and Reinstein (1995).

RESULTS: Table 4, Panel A provides descriptive statistics of high-tier and low-tier institutions. The total sample consists of 910 faculty members from 126 institutions. The faculty averaged a 9-month salary of $68,355, high-tier publications of 1.63, and low-tier publications of 3.23. In addition, the average number of years since receiving a terminal degree was 13.21 and the average quality of graduate program was .18. Of the 910 accounting faculty comprising the sample, 475 worked at high-tier institutions while 435 worked at low-tier institutions.

Compared to those at low-tier institutions, the accounting faculty at high-tier institutions have, on average, higher salaries ($75,160 vs. $60,924), more publications in both high-tier (2.75 vs. .40) and low-tier journals (4.19 vs. 2.19), and terminal degrees from higher quality graduate programs (QGP = .21 vs. 14). Table 4 Panel B shows the results of *t*-tests on these differences between the high-

tier and low-tier institutions. The tests indicate that all of these differences are significant at the .01 level. The remaining variable, average years since being granted a doctorate, was higher for high-tier institutions (13.75 vs. 12.63), but the difference was only weakly significant (t-value = -2.7, p = .039).

Table 4 also shows averages across professorial ranks. Not unexpectedly, average pay, number of years since receiving a doctorate, and low-tier and high-tier publications all increase when moving from the assistant the full professor rank. A chi-square test of independence indicates that the proportion of faculty at the professorial ranks of assistant, associate, and full professor were not significantly different between high-tier and low-tier institutions (Chi-square = 2.68, p = .262). Moreover, Panel B indicates that, as the total sample, for each of the professorial ranks, *t*-tests for the differences in pay, quality of graduate program, and publications between high-tier and low-tier institutions are significant at the .01 level. Not surprisingly, the difference in years since receiving a doctorate is not significant for assistant and associate ranks, but is significant at the .05 level for full professors.

TABLE 4: Characteristics the Sample and Test Statistics

Panel A: Characteristics of sample[7]

Institution Type[1]	Assistant Professor						Associate Professor					
	n	Pay[2]	QGP[3]	Yrs[4]	LoPub[5]	HiPub[6]	n	Pay[2]	QGP[3]	Yrs[4]	LoPub[5]	HiPub[6]
Research 1	81	68847	0.23	4.69	1.12	1.27	100	72851	0.23	13.46	3.85	2.82
Research 2	19	60333	0.16	4.79	2.00	0.21	31	64377	0.17	11.03	0.38	0.65
Doctoral 1	30	62341	0.16	5.07	1.60	0.27	31	62422	0.15	13.87	3.07	0.61
High-tier	**130**	**66101**	**0.21**	**4.79**	**1.36**	**0.89**	**162**	**69234**	**0.20**	**13.07**	**3.69**	**1.98**
Doctoral 2	33	61405	0.17	4.45	0.70	0.45	27	64534	0.15	15.04	3.70	0.63
Master's 1	89	55021	0.13	5.01	0.83	0.15	120	58657	0.14	12.97	2.32	0.17
Master's 2	9	53672	0.16	5.11	0.11	0.00	12	53541	0.15	8.00	0.50	0.17
Low-tier	**131**	**56536**	**0.14**	**4.88**	**0.75**	**0.21**	**159**	**59269**	**0.14**	**12.94**	**2.42**	**0.25**
Total	**261**	**61301**	**0.17**	**4.84**	**1.05**	**0.55**	**321**	**64298**	**0.17**	**13.01**	**3.06**	**1.12**

Institution Type[1]	Full Professor						Total					
	n	Pay[2]	QGP[3]	Yrs[4]	LoPub[5]	HiPub[6]	n	Pay[2]	QGP[3]	Yrs[4]	LoPub[5]	HiPub[6]
Research 1	121	92066	0.25	20.95	6.71	6.21	302	79476	0.24	14.11	4.27	3.76
Research 2	18	77446	0.17	18.56	6.61	2.00	68	66706	0.17	11.28	4.03	0.88
Doctoral 1	44	76319	0.19	20.91	6.48	1.91	105	68222	0.17	14.30	4.08	1.06
High-tier	**183**	**86841**	**0.23**	**20.70**	**6.65**	**4.76**	**475**	**75160**	**0.21**	**13.75**	**4.19**	**2.75**
Doctoral 2	35	73958	0.18	20.71	5.80	2.09	95	66919	0.17	13.45	3.43	1.11
Master's 1	106	64425	0.13	18.81	2.42	0.33	315	59571	0.13	12.69	1.93	0.22
Master's 2	4	63590	0.11	19.00	2.75	0.00	25	55196	0.15	8.72	0.72	0.08
Low-tier	**145**	**66703**	**0.14**	**19.28**	**3.24**	**0.75**	**435**	**60924**	**0.14**	**12.63**	**2.19**	**0.40**
Total	**328**	**77939**	**0.19**	**20.07**	**5.14**	**2.99**	**910**	**68355**	**0.18**	**13.21**	**3.23**	**1.63**

Panel B: Statistical tests for differences between high-tier and low-tier institutions

Variable	Assistant Professors		Associate Professors		Full Professors		All Professors	
	t-value	Sig.	t-value	Sig.	t-value	Sig.	t-value	Sig.
Pay[2]	-10.58	.000	-9.96	.000	-11.69	.000	-15.52	.000
QGP[3]	-5.15	.000	-5.68	.000	-7.35	.000	-10.67	.000
Yrs[4]	.194	.846	-.191	.849	-2.12	.035	-2.7	.039
LoPub[5]	-3.21	.000	-3.81	.000	-5.57	.000	-7.19	.000
HiPub[6]	-5.26	.000	-8.52	.000	-7.32	.000	-10.37	.000

[1] Source: Carnegie Foundation for the Advancement of Teaching (1994)
[2] Average 9-month salary.
[3] Average quality of graduate program.
[4] Average number of years since being granted a doctorate.
[5] Average number of publications in the low-tier journals listed on Table 1.
[6] Average number of publications in the low-tier journals listed on Table 1.
[7] Professorial Rank chi-square statistic = 2.68, p = .262

Table 5 shows the results of the regressions for high-tier and low-tier institutions. The regressions for both high-tier and low-tier institutions indicate the coefficients for QGP, LOWJRLS, HIGHJNLS, and PROF are significant and that GEN, YEARS, and ASOC are not significant. The variance inflation factors indicate no serious multicollinearity among variables.[4] Other diagnostic tests for multicollinearity, including eigenvalues, condition indices, and variance-decomposition proportions, also indicated no serious problems.

The explanation for an insignificant GEN coefficient is discussed in Sayre et al. (2000). Briefly, they find that gender affects accounting faculty pay through differences in productivity and experience (e.g., publications, rank, and years worked), but not independently. Therefore, since on average males produced more and worked longer, their salaries were higher. The insignificant YEARS variable is consistent with Moore et al(1998) who document that when they controlled for quantity and quality of faculty productivity, seniority failed to affect pay.

Comparing the coefficients, the two types of institutions appear to pay about the same amount for a publication in a high-tier journal, but differ in what they pay for a publication in a low-tier journal. The coefficients for the HIGHJRNLS variable indicate that a publication in a high-tier journal results in $1,574 for a low-tier institution and $1,968 for a high-tier institution. Ninety-five percent confidence intervals for the coefficients imply that the coefficients do not significantly differ. The coefficients for the LOWJRNLS variable indicate that a

[4] Neter et al. (1985, p. 392) state that, "the largest variance inflation factor among all X variables is often used as an indicator of severity of multicollinearity. A maximum variance inflation factor in excess of 10 is often taken as an indication that multicollinearity may be unduly influencing the least squares estimates. The variable with the highest variance inflation factor is 4.42, which is well below this cutoff.

publication in a low-tier journal results in $892 for a low-tier institution and $292 for a high-tier institution. The 95% confidence intervals imply that the coefficients significantly differ from each other as well as from the coefficients related to HIGHJRNLS for high-tier and low-tier institutions.

These results taken together suggest that both high-tier and low-tier institutions pay more for publications in high-tier journals and that the pay is comparable; however, compared to low-tier institutions, high-tier institutions pay less for publications in low-tier journals. The coefficients indicate that as compared to a publication in a low-tier journal, high-tier institutions pay about 7 times more for a publication in a high-tier journal while low-tier institutions pay only twice as much. This difference in the amount by which high and low-tier institutions reward publications in high-tier journals combined with the average difference in publications in high-tier journals explains a large part of the difference in average pay.

TABLE 5
Regression Results

Low-tier institutions (See Table 2):

	Unstandardized Coefficients				95% Confidence Interval for B		
Model	B	Standard Error	t	Sig.	Lower Bound	Upper Bound	VIF
Constant	54,368	988	55.00	0.00	52,425	56,311	
GEN	-823	931	-0.88	0.38	-2,653	1,007	1.11
QGP	12,321	4,175	2.95	0.00	4,114	20,527	1.09
YEARS	-59	66	-0.90	0.37	-188	70	2.14
LOWJRLS	892	110	8.11	0.00	676	1,108	1.12
HIGHJNLS	1,574	277	5.68	0.00	1,030	2,118	1.12
ASOC	1,596	1,058	1.51	0.13	-483	3,674	1.95
FULL	7,775	1,343	5.79	0.00	5,135	10,415	3.01

$R^2 = .391$

High-tier institutions (see Table 2):

	Unstandardized Coefficients				95% Confidence Interval for B		
Model	B	Standard Error	t	Sig.	Lower Bound	Upper Bound	VIF
Constant	61,274	1,367	44.83	0.00	58,588	63,960	
GEN	883	1,317	0.67	0.50	-1,706	3,472	1.11
QGP	13,283	4,195	3.17	0.00	5,040	21,527	1.12
YEARS	-67	91	-0.73	0.46	-246	112	2.64
LOWJRLS	292	110	2.65	0.01	75	509	1.28
HIGHJNLS	1,968	113	17.35	0.00	1,745	2,191	1.25
ASOC	1,002	1,434	0.70	0.48	-1,815	3,819	2.18
FULL	12,569	1,988	6.32	0.00	8,664	16,475	4.42

$R^2 = .628$

Variable Definitions:
Dependent variable (PAY) = Average 9-month salary for year.
GEN = Categorical variable (1 = female; 0 = male)
QGP = Rating of doctoral granting institution
YEARS = Number of years since obtaining doctorate
LOWJNLS = number of publications in low-tier journals listed in Table 1.
HIGHJNLS = number of publications in high--tier journals listed in Table 1.
RANK = Series of two variables denoting an aspect of attained rank (1 = yes; 0 = no)
ASOC = Associate
FULL = Full
VIF = Variance inflation factor

The average number of publications in high-tier journals is 2.75 for high-tier institutions and .40 for low-tier institutions. Multiplying these averages by their coefficients yields $5,412 for high-tier institutions and $630 for low-tier institutions. The difference of $4,782 explains over 1/3 of the total $14,236 difference in average pay between high and low-tier institutions. In contrast, publications in low-tier journals add more to average pay in low-tier institutions than they add to pay in high-tier institutions. The average number of publications in low-tier journals is 4.19 for high-tier institutions and 2.19 for low-tier institutions. Multiplying these averages by their coefficients equals $1,223 for high-tier institutions and $1,953 for low-tier institutions.

Finally, the independent variables explain more of the variation in salaries for high-tier institutions than they do for low-tier institutions (R^2 = .628 vs. .391). This implies that high-tier institutions rely on performance measures included in our model to a greater degree than do low-tier institutions. This brings us to some of the shortcomings of our study.

LIMITATIONS: Many limitations are inherent in this study. The sample collected for this study only includes public institutions. Thus, no direct inference to pay for publications in private institutions can be drawn from our results. Also, we made no attempt to measure individual performance at any level other than research productivity. Boyer (1992) proposes that scholarship include four interlocking components: discovery, integration, application, and teaching. Thus, while our model explained 62.8% of all variance in pay for high-tier institutions it explained only 39.1% of all variance in pay for low-tier institutions. Including teaching evaluations in the model would probably result in greatly increasing R squared for low-tier institutions. Moreover, categorization of published research in terms of topics investigated and methodology utilized would enhance the explanatory power of the model for both types of institutions.

CONCLUSION: Although considerable research investigates the determinants of faculty pay, few consider journal quality and only one (i.e., Gomez-Mejia and Balkin 1992) considers the research emphasis of institutions. Moreover, previous

studies base their results on very small samples collected from only a handful of institutions and/or survey data (i.e., Gomez-Mejia and Balkin 1992).

We investigate the effects of high-tier and low-tier publications on the salaries of accounting faculty in institutions with high and low levels of research emphasis. Our sample consists of 910 accounting professors from 126 institutions. We collected the salary information for our sample from the annual budgets of each university. To our knowledge no earlier study uses such a large sample of objective salary data in investigating the determinants of faculty pay.

This study suggests that while both high-tier and low-tier institutions consider number of publications in determining faculty pay, only high-tier institutions account for the journal quality. In addition, while both types of institutions pay a comparable amount for a publication in a high-tier journal, high-tier institutions pay less than low-tier institutions for publication in low-tier journals. Combining the difference in pay and publications between the faculty at high-tier and low-tier institutions explains over 1/3 of the total difference between the average salaries.

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