

ADMINISTRATIVE STAFF: SALARIES AND ISSUES

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The external and internal pressures that affect the makeup and compensation of the professoriate also affect the administrative staff of a college or university. The salaries of both administrators and faculty members, for example, vary by type of institution: public vs. independent or two-year vs. four-year colleges. Institutional values and environmental constraints affect salaries and conditions of administrative work; they also affect the relationship between administrators and faculty members. This chapter addresses the following questions:

What kind of administrative growth is occurring?

What are the recent trends for administrative salaries?

How do administrative salaries differ by the type of institution, the level of the position, and its function?

What are the distinguishing characteristics of administrators?

CATEGORIES OF EMPLOYMENT

Colleges and universities file annual reports with the National Center for Educational Statistics of the U. S. Department of Education. These reports—a major source of data on employment in higher education—use seven job categories established by the Equal Employment Opportunity Commission (EEOC). Abbreviated definitions of the seven categories follow.¹

Professional Positions

Administrative, executive, and managerial: Persons with primary and major responsibility for management of the institution or a customarily recognized subdivision. This chapter abbreviates the category as “executive.”

Faculty: Persons conducting instruction, research, or public service as a principal activity and who hold academic-rank titles.

Support professional: Persons employed primarily to perform academic and institutional support and student service activities, whose assignments require college graduation or comparable experience.

All executive and support professional positions are commonly referred to as administrators. But most administrators are not man-

agers; that is, they do not supervise other positions or, if they do, the supervision is incidental to the tasks that categorize them as administrators.

Nonprofessional Positions

Technical and paraprofessional: Persons whose assignments require specialized knowledge or skills, acquired through experience, on-the-job training, or academic work, often offered in two-year institutions.

Clerical and secretarial: Persons whose assignments are clerical or secretarial.

Skilled crafts: Persons whose assignments typically require special manual skills and a thorough, comprehensive knowledge of the processes involved in the work.

Service/maintenance: Persons whose assignments require limited skills and knowledge, and workers who contribute to the welfare of personnel and students or to the care of institutional property.

THE CHANGING ACADEMIC WORKFORCE

The 1994 *Almanac* described changes in the occupational structure of higher education that had occurred between 1977 and 1981.² The number of support professionals had increased much faster than the total work force. In the four-year period 1987 to 1991 alone, the full-time support professional group grew by 21.6 percent while the total number of full-time higher education employees increased by only 5.8 percent.

The Education Department's survey of staff in postsecondary institutions conducted in fall 1993 provides the most recent picture of the national employment structure. The available data are still preliminary. Because the types of institutions surveyed in 1993 differed from 1991, our analysis of the latest shifts in employment uses 1991 data that were reconstructed to be consistent with 1993.³

Between 1991 and 1993, as shown in Table 1, there was a decrease of 2.0 percent in the total number of full-time employees. The number of support professionals decreased slightly (0.5 percent) at the same time. Hence, although the presence of support professionals as a *fraction* of the full-time workforce continued to increase, the attention-drawing growth in that professional category seems to have stopped.

However, the change in survey administration between the two years reduces confidence in any statement that the previous trend has been broken.

A different trend noted in previous years was the growth in the number of women executives compared to men.⁴ Between 1989 and 1991, for example, the number of women in executive positions increased by 2.7 percent while the number of men decreased by 3.5 percent. That trend continued between 1991 and 1993 with an increase in women of 2.4 percent although men in the executive category declined by 3.5 percent. A similar, but more dramatic, gender difference occurred in the growth of full-time faculty.

Part-time employment increased sufficiently between 1991 and 1993 to make *total* employment in higher education increase from 2,545,235 to 2,590,936 (1.8 percent). The substantial increase (10.1 percent) in faculty resulted in a 5.2 percent increase in all professionals, even though the numbers of executives and support professionals each fell. With totals that include both full- and part-time staff, women also showed gains relative to men during this two-year interval in the executive and faculty categories.

Changes in the overall number of job holders in the public and private (not-for-profit) sector institutions were similar; the 1991-to-1993 increases in total employment were 1.3 and 2.5 percent for public and private, respectively. The private institutions produced larger gains than did the public in all professional categories except faculty. Total executive and support professional employment at private institutions increased by 3.2 and 3.9 percent, respectively; the comparable changes in the public sector were *decreases* of 4.1 and 2.0 percent.

SALARIES

Annual Salaries of Administrators

The College and University Personnel Association (CUPA) annually issues comprehensive reports of administrative salaries. CUPA's 1994-95 report includes the salaries of 168 administrative titles in 1,509 institutions, by institutional category.⁵

The median salary for all administrative positions increased 4.4 percent between 1993-

TABLE 1

NUMBER OF FULL-TIME STAFF IN AMERICAN HIGHER EDUCATION FOR FALL 1991 AND FALL 1993 (IN THOUSANDS)

EEO Category	Employees								
	1991			1993			Percent increase		
	Men	Women	Both	Men	Women	Both	Men	Women	Both
Professional	591	440	1032	583	451	1034	-1.4%	2.3%	0.2%
Executive	83	56	139	80	58	138	-3.5%	2.4%	-1.1%
Faculty	366	169	536	361	180	541	-1.5%	6.4%	1.0%
Support prof.	142	215	357	143	213	355	0.2%	-1.0%	-0.5%
Nonprof.	277	504	781	268	475	743	-3.6%	-5.6%	-4.9%
Tec. & parapro.	61	84	145	59	84	142	-3.6%	-0.4%	-1.8%
Sec and cler.	32	339	371	33	319	352	2.9%	-5.9%	-5.2%
Skilled craft	60	3	63	58	3	61	-3.7%	-8.4%	-4.0%
Ser./maint.	125	77	202	118	70	188	-5.0%	-9.5%	-6.7%
Total	869	944	1813	851	926	1777	-2.1%	-1.9%	-2.0%

NOTES:

(1) In 1991, 408 "nonprofessional" employees were not coded in any one of the four categories given. They are included in the total and nonprofessional subtotal.

(2) Percentage changes were calculated before rounding to the nearest thousand employees.

(3) 1993 data were provided from preliminary tabulations.

(4) 1991 data were reconstructed to make institutional coverage consistent with 1993.

SOURCES: U. S. Department of Education, National Center for Education Statistics, IPEDS, 1991 and 1993, and Equal Employment Opportunity Commission, Higher Education Staff Information (EEO-6) survey 1991.

94 and 1994-95, the largest increase since the 5.9 percent increase recorded in 1990-91. Salaries increased by 3.2 percent in 1993-94 and by 3.3 percent in 1992-93. Salary increases at public institutions, 4.2 percent overall, were only slightly larger than last year's 3.9 percent, but the identical 4.2 percent increase at independent institutions was a marked rise from last year's 2.3 percent.⁶

The positions and institutions showing the largest increases changed completely between 1993-94 and 1994-95. Positions in administrative affairs showed the top average salary increase—5.9 percent, whereas external affairs positions showed the largest increases in the two prior years. Executive positions—CEOs, their assistants, and executive vice presidents—and positions in external affairs and in student affairs showed *decreases* in 1994-95 after adjusting for inflation. Salaries at two-year colleges showed the largest change by institution—5.4 percent, up from last year's 1.1 percent. Baccalaureate institutions went from the highest to the lowest (except for "other" institutions)

average increase: 2.6 percent in 1994-95, down from 3.6 percent in 1993-94 and 3.0 percent in 1992-93.

The rank order of the five senior positions by their median salaries has remained relatively constant over time and across institutional type, public or independent (both religious and without religious affiliation) and at doctoral and comprehensive institutions.⁷ In 1994-95, the median salary for the chief executive officer, normally the president, was \$107,180. The vice presidents of the traditional divisions drew: \$81,445—academic affairs, \$77,150—business, \$71,500—development, and \$67,680—student affairs. Overall, the dean of medicine position once again had the highest median salary, \$199,500, a 7.0 percent increase.⁸

Tables 2, 3, and 4 compare median salaries of selected administrative positions for 1981-82, 1991-92, 1993-94, and 1994-95 in the public, private-independent, and private-religious sectors, respectively.⁹ The first group of positions for each sector includes the five senior officers, as above. The second group includes eight

deans for whom data were available, and for whom—save for the dean of arts and sciences—faculty disciplines correspond. The final group—support professionals who are heads of units—was selected for representation across the academic, business, external, and student areas, and allows a consistent comparison of positions over the years. The average salary across the positions for senior officers, deans, and support professionals is a summary index.

The absolute values of this index for deans and support professionals do not typify all positions in the respective categories since they are derived from a sample. But *changes* in each average are meaningful.

This choice of positions reveals similarities across institutional sectors. The rank order of the salaries remains the same at public and independent institutions. The salary of the engineering dean, for example, is consistently

TABLE 2

**MEDIAN SALARIES FOR SELECTED ADMINISTRATIVE POSITIONS—PUBLIC INSTITUTIONS,
1981-1982 THROUGH 1994-95 (DOLLARS IN THOUSANDS)**

	Salary				Percent increase		
	1981-82	1991-92	1993-94	1994-95	1982-92	1992-94	1994-95
Senior							
CEO	52.0	93.5	99.6	103.0	79.8	6.5	3.4
Chief Academic	43.0	76.2	83.2	85.5	77.2	9.2	2.8
Chief Business	40.5	71.6	77.1	78.9	76.8	7.7	2.3
Chief Development	36.5	65.0	69.4	72.5	78.1	6.8	4.5
Chief Student Affairs	37.8	66.2	70.0	72.9	75.1	5.7	4.1
Average 5 Senior	42.0	74.5	79.9	82.6	77.6	7.2	3.4
Deans							
Arts and Sciences	42.2	72.4	76.5	79.5	71.6	5.7	3.9
Business	39.2	71.6	76.4	78.6	82.7	6.7	2.9
Education	44.0	74.4	79.1	82.4	69.1	6.3	4.2
Engineering	48.1	90.2	99.5	101.5	87.5	10.3	2.0
Fine Arts	40.7	70.8	77.0	76.5	74.0	8.8	-0.6
Nursing	37.5	68.9	71.8	75.0	83.7	4.2	4.5
Sciences	37.3	65.7	70.4	74.4	76.1	7.2	5.7
Social Work	46.6	87.4	86.7	92.2	87.6	-0.8	6.3
Avg. 8 Deans	41.9	75.6	80.1	82.9	80.3	6.0	3.5
Support							
Dir., Ed. Media Srv.	27.2	43.3	45.7	47.9	59.2	5.5	4.8
Dir., Personnel ¹	32.2	54.6	57.2	59.6	69.6	4.8	4.2
Dir., Physical Plant ¹	30.0	53.1	56.9	57.0	77.0	7.2	0.2
Bursar	23.9	40.1	43.2	45.2	67.8	7.7	4.6
Dir., Publications	25.6	39.3	42.0	44.1	53.5	6.9	5.0
Dir., Admissions ¹	31.1	47.8	49.9	51.2	53.7	4.4	2.6
Registrar	28.7	46.5	49.2	49.2	62.0	5.8	0.0
Dir., Foreign Student	24.8	38.2	38.9	40.2	54.0	1.8	3.3
Dir., Alumni Affairs	24.5	41.4	43.3	44.7	69.0	4.6	3.2
Average 9 Support	27.6	44.9	47.4	48.8	63.0	5.4	3.0

¹Title was Director in 1981-82; Chief officer, afterwards. NOTE: Data for 1991-92 and following years include only those institutions reporting their total budget.

SOURCES: College and University Personnel Association, Administrative Compensation Surveys of respective years.

TABLE 3

**MEDIAN SALARIES FOR SELECTED ADMINISTRATIVE POSITIONS—INDEPENDENT INSTITUTIONS,
1981-82 THROUGH 1994-95 (DOLLARS IN THOUSANDS)**

	Salary				Percent increase		
	1981-82	1991-92	1993-94	1994-95	1982-92	1992-94	1994-95
Senior							
CEO	57.5	113.6	129.8	140.0	97.6%	14.3%	7.9%
Chief Academic	42.5	77.9	88.3	90.0	83.3	13.4	1.9
Chief Business	40.0	76.1	86.0	89.4	90.2	13.0	4.0
Chief Development	37.1	71.6	80.6	82.8	93.0	12.6	2.7
Chief Student Affairs	33.4	59.8	67.2	71.5	79.0	12.4	6.4
Average 5 Senior	42.1	79.8	90.4	94.7	89.5	13.3	4.8
Deans							
Arts and Sciences	45.0	73.7	83.2	85.1	63.8	12.9	2.3
Business	47.5	80.6	90.0	89.6	69.7	11.7	-0.4
Education	40.7	54.4	62.4	70.1	33.7	14.7	12.3
Engineering	52.0	93.0	109.3	109.0	78.8	17.5	-0.3
Fine Arts	40.0	59.3	67.7	69.4	48.2	14.2	2.5
Nursing	35.0	65.0	59.4	72.1	85.7	-8.6	21.4
Sciences	29.2	56.9	60.8	65.5	94.9	6.9	7.7
Social Work	50.7	78.5	99.5	100.0	54.8	26.8	0.5
Average 8 Deans	42.5	70.2	79.0	82.6	65.1	12.6	4.5
Support							
Dir., Educ. Media Srv.	21.0	32.6	34.4	36.1	55.2	5.5	4.9
Dir., Personnel ¹	26.4	48.0	52.1	54.1	81.8	8.5	3.8
Dir., Physical Plant ¹	27.8	49.4	56.0	59.2	77.7	13.4	5.7
Bursar	20.0	34.9	36.4	38.2	74.5	4.3	4.9
Dir., Publications	21.0	37.1	39.8	40.1	76.7	7.3	0.8
Dir., Admissions ¹	27.5	50.5	54.9	55.6	83.6	8.7	1.3
Registrar	23.6	38.6	42.1	42.9	63.6	9.1	1.9
Dir., Foreign Student	21.4	32.6	32.6	36.2	52.3	0.0	11.0
Dir., Alumni Affairs	21.7	36.1	40.9	41.7	66.4	13.3	3.8
Average 9 Support	23.4	40.0	43.2	44.9	71.0	8.2	3.8

¹Title was Director in 1981-82; Chief officer, afterwards.

Note: Data for 1991-92 and following years include only those institutions reporting their total budget.

SOURCES: College and University Personnel Association, Administrative Compensation Surveys of respective years.

the highest among the deans and uniformly exceeds the salaries of all senior officers in the sector, except for the CEO. The chief officers for personnel, plant, and admissions lead other support professionals in salary. The rank order in private-independent and private-religious institutions is: physical plant, admissions, and personnel. But the personnel officer has the highest salary in the public sector.

Increases Over Time

The "salary spread" between the five senior positions and support positions for each institutional type increased consistently until this year. Between 1982-83 and 1991-92, the respective increases for the average of the senior positions and the average for the support professionals were: public, 78 vs. 63 percent; private-independent, 90 vs. 71 percent, and private-religious, 86 vs. 61 percent. This

TABLE 4

**MEDIAN SALARIES FOR SELECTED ADMINISTRATIVE POSITIONS-INDEPENDENT RELIGIOUS INSTITUTIONS,
1981-82 THROUGH 1994-95 (DOLLARS IN THOUSANDS)**

	Salary				Percent increase		
	1981-82	1991-92	1993-94	1994-95	1982-92	1992-94	1994-95
Senior							
CEO	45.0	88.3	96.5	98.0	96.2	9.3	1.6
Chief Academic	33.0	60.0	66.5	68.0	81.8	10.8	2.3
Chief Business	31.4	58.2	63.0	66.5	85.4	8.2	5.6
Chief Develop.	31.2	55.3	61.5	62.5	77.2	11.2	1.6
Chief Student Affairs	26.1	48.1	52.5	54.1	84.3	9.1	3.0
Average 5 Senior	33.3	62.0	68.0	69.8	85.9	9.7	2.7
Deans							
Arts and Sciences	36.6	66.4	67.4	70.0	81.4	1.5	3.9
Business	36.2	63.2	65.8	72.6	74.6	4.1	10.3
Education	30.6	45.0	48.2	50.7	47.1	7.1	5.2
Engineering	42.4	69.0	78.8	74.4	62.7	14.2	-5.6
Fine Arts	29.2	36.2	42.2	48.4	24.0	16.6	14.7
Nursing	33.0	49.4	55.6	58.7	49.7	12.6	5.6
Sciences	28.1	40.3	46.3	47.7	43.4	14.9	3.0
Social Work	25.4	60.9	51.4	47.7	139.8	-15.6	-7.2
Avg. 8 Deans	32.7	53.8	57.0	58.8	64.6	5.9	3.2
Support							
Dir., Educ. Media Srv.	17.7	27.8	30.4	32.1	57.1	9.4	5.6
Dir., Personnel ¹	22.5	38.0	41.1	41.7	68.9	8.2	1.5
Dir., Physical Plant ¹	21.8	39.9	44.3	45.0	83.0	11.0	1.6
Bursar	19.9	28.6	29.5	30.5	43.7	3.1	3.4
Dir., Publications	18.8	29.7	32.0	33.0	58.0	7.7	3.1
Dir., Admissions ¹	23.5	37.6	41.0	42.0	60.0	9.0	2.4
Registrar	19.8	33.2	35.3	36.4	67.7	6.3	3.1
Dir., Foreign Student	20.0	28.0	30.9	31.7	40.0	10.4	2.6
Dir., Alumni Affairs	18.0	30.5	33.0	34.8	69.4	8.2	5.5
Average 9 Support.	20.2	32.6	35.3	36.4	61.2	8.3	3.1

¹Title was Director in 1981-82; Chief officer, afterwards. Note: Data for 1991-92 and following years include only those institutions reporting total budget.

SOURCES: College and University Personnel Association, Administrative Compensation Surveys of respective years.

pattern of marked differential increases continued between 1991-92 and 1993-94, when the respective increases for seniors and support-professionals were: public, 7.2 vs. 5.4 percent, private-independent, 13.3 vs. 8.2 percent, and private-religious, 9.7 vs. 8.3 percent. The pattern continued in two sectors in 1994-95: public, 3.4 vs. 3.0 percent, and private-independent, 4.8 vs. 3.8 percent. But private-religious institutions broke the trend with a smaller increase for senior officials: 2.7 vs. 3.1 percent.

Over past years, salary increases for deans have both lagged and led the other two indices. This year, the deans index shows the largest annual increase in public and private-religious institutions. But the increase in salary of deans in independent institutions lags the senior officers, while leading the administrative-support positions—a continuation of a trend begun in 1992.

TABLE 5

**MEDIAN SALARIES OF SELECTED SUPPORT POSITIONS, PUBLIC INSTITUTIONS,
1991-92 THROUGH 1994-95 (DOLLARS IN THOUSANDS)**

	Salary		Percent Increase
	1991-92	1994-95	
Chief/Directors			
Director, Educational Media Services	43.3	47.9	10.6
Chief, Personnel	54.6	59.6	9.2
Chief, Physical Plant	53.1	57.0	7.3
Bursar	40.1	45.2	12.7
Director, Publications	39.3	44.1	12.2
Chief, Admissions	47.8	51.2	7.1
Registrar	46.5	49.2	5.8
Director, Foreign Students	38.2	40.2	5.2
Director, Alumni Affairs	41.4	44.7	8.0
Average: 9 Chief	44.9	48.8	8.6
"Less Managerial"			
Assistant to CEO	53.9	58.7	8.9
Associate Director Personnel	43.9	47.3	7.7
Database Administrator	45.7	48.1	5.3
Manager, Landscape/Grounds	32.9	35.3	7.3
Staff Accountant-High	31.1	34.4	10.6
Associate Bursar	33.0	37.3	13.0
Associate Director, Admissions	35.8	38.0	6.1
Academic Advisor	28.4	29.9	5.3
Assistant Registrar	30.2	32.1	6.3
Average: 9 Less Managerial"	37.2	40.1	7.8

NOTE: Data include only institutions reporting their total budget

SOURCES: CUPA Administrative Compensation Surveys of respective years.

Comparisons Across Institutional Sectors

Salaries at private-religious institutions remain the lowest of the three sectors by wide margins. The gap is growing, since this year's increases for senior officers and deans are lower in this sector than in the other two sectors.

Differences between the public and private-independent sectors depend on the position. The average median salary for deans, for example, is slightly higher at public than at private-independent institutions. But, dean by dean, the higher salary varies by institutional

sector. Public institutions show higher salary levels for all support professionals except the physical plant officer and the admissions officer. The median salary of each senior position, except for the chief of student affairs, is higher at private-independent than at public institutions. The 1994-95 median salary for CEOs is 36 percent higher at private-independent institutions than at public institutions; the gap was 30 percent in 1993-94.

Salary increases were uniformly higher in the private-independent than in the public sector over each time interval through 1994-95—governmental budget constraints may

TABLE 6

**MEDIAN SALARIES OF SELECTED SUPPORT POSITIONS, INDEPENDENT INSTITUTIONS,
1991-92 THROUGH 1994-95 (DOLLARS IN THOUSANDS)**

	Salary		Percent Increase
	1991-92	1994-95	
Chief/Directors			
Director, Educational Media Services	32.6	36.1	10.7
Chief, Personnel	48.0	54.1	12.7
Chief, Physical Plant	49.4	59.2	19.8
Bursar	34.9	38.2	9.5
Director, Publications	37.1	40.1	8.1
Chief, Admissions	50.5	55.6	10.1
Registrar	38.6	42.9	11.1
Director, Foreign students	32.6	36.2	11.0
Director, Alumni Affairs	36.1	41.7	15.5
Average: 9 Chief	40.0	44.9	12.3
"Less Managerial"			
Assistant to CEO	42.7	45.1	5.6
Associate Dir. Personnel	36.7	41.5	13.1
Database Administrator	44.5	45.4	2.0
Manager, Landscape/Grounds	32.9	36.6	11.2
Staff Accountant-High	30.1	32.2	7.0
Associate Bursar	27.2	31.2	14.7
Associate Director, Admissions	32.7	36.7	12.2
Academic Advisor	26.2	28.7	9.5
Assistant Registrar	25.0	27.0	8.0
Average: 9 Less Managerial"	33.1	36.0	8.9

NOTE: Data include only institutions reporting their total budget.

SOURCES: CUPA Administrative Compensation Surveys of respective years.

explain the disparity.¹⁰ The disparities are sizeable for the senior positions—the respective 13-year median salary increases in the private-independent and public sectors were 125 percent and 97 percent. The two groups of senior officers started at the same level in 1981-82, but in 1994-95 private-independent senior officers had an average median salary of \$94,700, \$12,100 higher than their public sector counterparts. The median salary increase for CEOs was particularly remarkable at 7.9 percent, down only slightly from last year's 8.2 percent.

The Increasing Gap

The tendency for the highest salaries to increase faster than the lowest resulted in an increased range of salaries, in terms of dollars and percentage differences, at all types of institutions. Observers justify differential increases as recognition of the difficulties senior officers experience in managing during hard times. But does a similar pattern of differential recognition occur at lower levels; specifically, within support units?

Tables 5, 6, and 7 present the respective three-year salary increases in an expanded list

TABLE 7

**MEDIAN SALARIES OF SELECTED SUPPORT POSITIONS—PRIVATE, RELIGIOUS INSTITUTIONS,
1991-92 THROUGH 1994-95 (DOLLARS IN THOUSANDS)**

	Salary		Percent increase
	1991-92	1994-95	
Chief/Directors			
Director, Educational Media Services	27.8	32.1	15.5%
Chief, Personnel	38.0	41.7	9.7
Chief, Physical Plant	39.9	45.0	12.8
Bursar	28.6	30.5	6.6
Director of Publications	29.7	33.0	11.1
Chief, Admissions	37.6	42.0	11.7
Registrar	33.2	36.4	9.6
Director, Foreign Students	28.0	31.7	13.2
Dir. Alumni Affairs	30.5	34.8	14.1
Average: 9 Chief	32.6	36.4	11.6
"Less Managerial"			
Assistant to CEO	39.4	38.4	-2.5
Associate Director, Personnel	31.0	36.0	16.1
Database Administrator	30.3	33.8	11.6
Manager, Landscape/Grounds	26.9	29.3	8.9
Staff Accountant-High	24.8	29.1	17.3
Associate Bursar	29.1	27.4	-5.8
Associate Director, Admissions	27.8	30.0	7.9
Academic Advisor	25.8	29.3	13.6
Assistant Registrar	21.5	24.6	14.4
Average: 9 "Less Managerial"	28.5	30.9	8.3

NOTE: Data include only institutions reporting their total budget

SOURCES: CUPA Administrative Compensation Surveys of respective years.

of support positions for each sector. The averages imply differential recognition *within* the support positions; that is, the average salaries of chief officers and directors within the support professional category show higher growth rates than the average salary of non-managers. But in the 15 cases—five cases in each of the three sectors—for which supervisor and subordinate salaries are directly comparable, subordinate and supervisor salary increases are equally likely to exceed each other. Our analysis has not shown any conclusive effects among support professionals.

Public Community Colleges

Standard CUPA reports present position salaries for three categories of institutions—public, private-independent, and private-religious. But how does the presence of community colleges—a large part of the public sector—affect conclusions about this sector? Table 8 separates 1994-95 public sector salaries into two groups—community colleges, including 252 institutions and 96 systems, and four-year colleges, including 349 institutions and 81 systems.¹¹

Table 8 also shows, for each position, the

TABLE 8

MEDIAN SALARIES OF SELECTED ADMINISTRATIVE POSITIONS: COMPARISONS OF PUBLIC COMMUNITY COLLEGES ('2-YEAR') AND OTHER PUBLIC INSTITUTIONS ('4-YEAR'), 1994-95 (DOLLARS IN THOUSANDS)

	2 Year	4 Year	% Differ- ence
Senior			
CEO, Institution	92.3	115.2	24.8%
Chief Academic	69.8	98.3	40.8
Chief Business	67.5	89.6	32.7
Chief Development	55.5	80.5	45.0
Chief Student Affairs	61.8	82.3	33.2
Average: 5 Senior	69.4	93.2	34.3
Deans			
Arts and Sciences	56.9	85.8	50.8
Business	55.2	90.0	63.0
Education	64.6	82.9	28.3
Engineering	58.6	116.1	98.1
Fine Arts	57.9	81.1	40.1
Nursing	52.3	92.2	75.9
Sciences	58.1	82.2	41.5
Social Work	-	95.2	-
Average: 7 Deans*	57.7	90.0	56.1
Support-Chief/Dir.			
Dir., Ed. Med. Ser.	41.2	49.6	20.4
Chief, Personnel	52.2	61.0	16.9
Chief, Physical Plant	48.1	64.3	33.7
Bursar	41.8	46.6	11.5
Dir., Publications	43.4	44.2	1.8
Chief, Admissions	45.2	53.9	19.2
Registrar	43.0	53.2	23.7
Dir., Foreign Students	37.6	40.5	7.7
Dir., Alumni Affairs	32.5	45.0	38.5
Avg: 9 Support Dir.	42.8	50.9	19.0
Sup.—"Less Man."			
Assistant to CEO	46.2	63.8	38.1
Asoc. Dir., Prsnl.	46.7	47.4	1.5
Database Adm.	47.3	48.7	3.0
Mger, Landsc/Grds	29.6	36.5	23.3
Staff Acct-High	34.5	33.9	-1.7
Associate Bursar	34.4	37.5	9.0
Assoc. Dir., Adm.	32.9	38.4	16.7
Academic Advisor	33.9	28.6	-15.6
Assistant Registrar	31.4	32.1	2.2
Avg: 9 Sup "Less"	37.4	40.8	8.9

* Averages exclude Dean, Social Work. CUPA did not report the data since only three two-year institutions had Social Work deans.

NOTE: Each sector includes system offices and individual institutions for that group.

SOURCES: Special reports from the CUPA Administrative Compensation Survey, 1994-95. Data include only those institutions reporting their total budget.

difference between the median salaries of the four-year and the two-year groups, expressed as a percentage of the salary in the two-year group. The percentage difference tends to decrease as the median salary decreases, except for the CEO. The average of the salaries of the senior officers, except the CEO, for two-year and four-year colleges, is \$63,700 and \$87,700 respectively, a 38 percent difference. In contrast, the averages for the nine support-professional directors differ by 19 percent. Salaries in the "less managerial" support group show little difference between the two-year and four-year institutions; the staff accountant and academic advisor positions have higher median salaries in the two-year group. The salary difference may reflect a difference in the position. Engineering deans—the position with the largest difference—in a community college might show a greater emphasis on engineering technology than counterparts in a four-year institution. Academic advisors in community colleges may have more responsibilities than counterparts in four-year institutions, where the faculty presumably performs the principal advising role.

The median-salary *range* of two-year and four-year college deans is \$12,300 and \$35,000, respectively. Also, the median salary of the chief academic officer exceeds the salaries of all two-year college deans, including deans not shown in Table 8. In contrast, deans of professional schools tend to draw higher salaries than the chief academic officers of four-year colleges, as noted above. These observations suggest closer adherence to a pay scale in the two-year group.

The median salary for two-year college CEOs exceeds the salary of the four other senior officers by 45 percent; the differences in the four-year and independent sectors are 31 percent and 68 percent, respectively. The "capping" of salaries at an absolute level in the public sector may explain these findings. The salaries of public officials may be carefully scrutinized, and maximum salaries are affected by the salaries of elected officials.

What comparisons then can we make between the four-year public sector and the independent sector? After removing data for the two-year public institutions, the CEO in the independent sector remains the administrator with the highest median salary (\$140,000)—21 percent ahead of the CEO

TABLE 9

**PRESIDENTS AND CHIEF ACADEMIC OFFICERS RECEIVING SELECTED FRINGE BENEFITS
AS A PERCENTAGE OF THOSE REPORTING**

	Two-year colleges			Four-year colleges		
	N*	Car	Housing	N*	Car	Housing
Presidents						
1992-93	52	44%	17%	108	77%	66%
1993-94	44	61	25	82	79	72
Chief Academic Officers						
1992-93	52	6	0	105	10	4
1993-94	43	12	0	81	17	4

* N is the number of those reporting.

SOURCES: AS&U, January, 1993 and January, 1994.

median for the four-year public group. The public sector “cap” appears at work.

But removing data for the two-year institutions changes our conclusions about salaries of the four other “senior officers.” The \$83,400 median salary found in the independent sector is greater than the median salary in the entire public sector (\$77,500), but less than the median in four-year public colleges (\$87,700). Public four-year institution salaries for other positions are even higher than corresponding salaries in the independent sector.

Total Compensation

American School & University (AS&U) has gathered data on administrative compensation for “schools”—primarily public school districts and colleges for ten years ending in 1993-94.¹² The reports combined public and independent institutions, but separated community colleges from “four-year” colleges and universities. A low rate of return—about 16 percent of the surveyed 1,000 college business officials respond each year—makes the survey less dependable than CUPA’s compilation of administrative salaries. But *AS&U* provides information on benefits.

Is the *AS&U* sample representative? We compared salaries for all institutions that reported on two positions according to *AS&U* and to CUPA. The 1993-94 average (presumably the mean) salaries in the *AS&U* report and

the median salary in the CUPA report were: president, \$104,100 and \$102,300, respectively; for academic vice presidents, \$79,100 vs. \$79,800, respectively.¹³ These data provide no evidence of institutional self-selection into the survey based on compensation.

AS&U provides information for a “professor” category and for seven administrative positions: president; the chief academic, business, development, facilities, and purchasing officers; and the director of data processing. The survey reported average salary increases for 1993-94 of 3.6 and 3.7 percent for four-year and two-year colleges, respectively. Approximately 26 and 22 percent of the four-year and two-year colleges, respectively, reported no salary increase for these eight positions in 1993-94.¹⁴ CUPA reported 1.1 percent increases in all administrative salaries in the community colleges in 1993-94, and 3.6, 2.5, and 3.3 percent increases in the baccalaureate, comprehensive, and doctoral institutions, respectively.¹⁵

Providing professional development and association or club membership were reported most frequently as benefits for the eight positions. Many institutions gave a standard benefits package to employees in these eight positions—dependents’ tuition, financial planning, supplemental retirement, supplemental health, supplemental life, and an annual physical examination.¹⁶ The *AS&U* benefits list in-

cluded deferred compensation plans and the ability to earn outside income—some employees in each position were eligible for these benefits.

The greatest surprise: automobile and housing benefits, most prevalent for presidents and chief academic officers, were provided to some business officers and development officers, as well. In 1993-94, 17 percent of the four-year academic officers received a car benefit and 4 percent received a housing perquisite (Table 9). Not unexpectedly, institutions with relatively high budgets were more likely to offer these perquisites.¹⁷

SPECIFIC CASES

Deans

Several reports on the career paths of deans permit us to compare deans of different divisions and to describe the characteristics of the office, even though “there is no such thing as a standardized dean.”¹⁸ A survey of 135 deans of business schools and colleges accredited by the American Assembly of Collegiate Schools of Business (AACSB) yields a composite image. The typical dean is male, is between 48 and 49 years old, has an MBA and a Ph.D. in business, is a tenured professor, and has held the deanship for about 5.5 years.¹⁹ This dean works in a doctoral-granting public university with 5,000 to 29,999 students and in a division that enrolls approximately 2,400 students and offers a master’s in business as the highest degree.

Respondents typically moved from faculty member to department chair to dean. Almost two-thirds had no full-time experience in business or industry. More than three times as many changed institutions as stayed in a single institution. Many deans continued to perform as faculty: almost half taught and 57 percent conducted research at the time of the survey. But these deans spent a quarter of their working time with external groups or at professionally related social activities—more time than they spent on scholarly work.²⁰

A contemporaneous survey of 158 law school deans, approved by the American Bar Association, showed a modal age of 48, and an average age of 50.5.²¹ Five law schools—Harvard, Yale, Columbia, Michigan, and Northwestern—educated 36 percent of the surveyed deans.²² Mean and median tenure in the deanship were about 4.5 years. Almost all the law

deans worked in higher education before assuming their position and continued to teach after assuming their administrative posts. Twenty percent gained some academic experience outside a law school. In contrast to the business deans, only 18 percent of the law school deans never worked outside academe; 57 percent worked in private-law practices and 49 percent worked in government, including judicial clerkships. Law school deans showed lower mobility in becoming deans than business school deans did generally: 47 percent served at another school immediately before their current deanship; 41 percent were already on board.

A survey of deans of pharmacy in the 72 schools accredited by the American Council on Pharmaceutical Education shows similar results.²³ All 54 respondents were male, 48 were white, and the mean age was 51.3. The majority of the respondents served at a public school with graduate programs. A quarter of the deans dealt with a unionized faculty. Only 9.3 percent held the Pharm.D. degree, but 92.1 percent received their undergraduate degrees in pharmacy. Another 89.0 percent had a Ph.D. or other doctorate, usually in a basic science, and 83.5 percent were licensed to practice pharmacy in the U.S. These deans, in contrast to law school deans, received their highest degree from many schools, even though 24.1 percent came from Purdue. All deans held academic rank, and 90.7 percent were tenured.

The career paths of the pharmacy deans fit the general pattern. Most deans were faculty members in pharmacy (mean=17.2 years) with long publication records; about half had been department heads (mean=4.5 years); 72.2 percent had worked for more than one pharmacy school (mode=2). No predominant managerial style emerged from this study—53.7 percent preferred either “high people—high task” or “medium people/medium task” styles.

The three studies suggest reluctance to show enthusiasm about an administrative career, although “Business deans derive their satisfactions from their abilities to get a difficult job done well.”²⁴ The law deans were equally ambivalent about the pleasures of the job.²⁵ Only 14.8 percent of the pharmacy deans said they would become an administrator again; 70.4 percent responded “Maybe.”²⁶

The deans differed in their intent to use the deanship as a stepping stone to another posi-

tion.²⁷ A quarter of the business deans reported aspiration to a college presidency; the remainder expected to stay in another academic position. Among the previous law school deans, 54 percent returned to the faculty after administrative service, 45 percent in the same law school. Only 11 percent became dean of another law school, while another six percent continued in other university administration.²⁸

One curious difference among these deans is the propensity to have been a practitioner. Business experience was not necessary in business schools, but practical experience was part of the pattern in law and pharmacy schools. However, similarities outweighed differences among these deans. Most deans retained faculty characteristics; few wanted to appear committed to a career in administration. But these deans, self-portraits aside, looked like slightly younger versions of college presidents; a 1993 survey of 2,423 presidents found the typical president to be white, male, and 54 years old.²⁹ The traditional path to the presidency is through the deanship.³⁰

A study of U.S. medical school deans found increased turnover during the past five decades.³¹ The average tenure of medical deans declined from 6.7 years for deanships starting in the period 1940-59 to 3.5 years for those in 1980-92. The percentage of deans who served for four years or less increased from 44 percent to 73 percent comparing the same periods. Length of tenure was unevenly distributed across the schools—deans in public medical schools showed significantly shorter tenures, for example. The environment or structure of the schools, rather than characteristics of the deans, may therefore explain the increased turnover. Deans, the researchers speculate, may be leaving their positions more quickly because of increased opportunities for advancement.³²

Middle Managers

Several authors apply the concept and theories of middle management to university and college support professionals to gain greater understanding of the changing nature of careers and of career progression. One study

TABLE 10

MEDIAN SALARIES OF PH.D.S IN CHEMISTRY EMPLOYED FULL-TIME IN ACADEME AND THEIR PERCENTAGE BY FUNCTION BY NUMBER OF YEARS SINCE THE DEGREE AND PRIMARY FUNCTION

Years Since Ph.D.	Primary Work Function					
	Teaching		Research		Administration	
	Percent	Salary	Percent	Salary	Percent	Salary
0-1	63.7	38,828	36.3	29,000	0.0	---
2-4	57.8	40,333	40.5	37,700	1.7	48,194
5-9	56.4	43,829	42.1	48,889	1.5	40,000
10-14	49.4	48,889	45.0	57,175	5.6	58,056
15-19	53.1	52,628	39.8	66,750	7.1	72,767
20-24	57.7	57,444	28.2	76,000	14.1	74,500
25-29	58.6	63,556	22.5	86,000	18.9	83,014
30-34	57.8	69,056	24.0	86,900	18.2	94,067
35-39	55.0	73,333	32.7	95,000	12.3	88,823
40+	38.2	70,889	51.2	110,000	10.6	105,000
Total	55.8	55,000	33.8	61,233	10.4	80,000

NOTES: All nine- and ten-month salaries are multiplied by 11/9. Data exclude postdocs and respondents whose salary work function was 'other.'

SOURCE: Data obtained by American Chemical Society (ACS), in its 1995 Salary Survey.

outlined the major problem for these middle managers: making progress in their careers in an organization created for and by faculty.³³

Did middle managers in higher education realize the opportunities for growth and change perceived for middle managers generally in the early 1980s? Contemporary analysts portrayed higher education as offering shrinking opportunities, cost cutting, and condensed functions—an environment that accorded the most opportunity to top administrators—especially presidencies for financial officers.³⁴ Reductions in the need for faculty, these analysts predicted, would lead to their movement into middle management in academic affairs, and perhaps elsewhere, but not to service areas requiring specialized expertise. Performance evaluations would result in expanded rewards that included title changes and pseudo-promotions.

Obtaining advanced education, one study predicted, would not increase the attractiveness of a middle manager, except for the MBA for jobs in financial affairs and the doctorate for student affairs. But earning these degrees at mid-career meant a loss of time and potentially of position; earning the degree might mean starting over. Internal internships, professional association activities, and consulting that expanded the skills, interests, and abilities of middle managers might prove beneficial, assuming that superordinates and subordinates did not resist new ideas. Opportunities on the open job market were considered limited. Only 20 percent of advertised positions, according to one estimate, were open to outside candidates, and hence competition for the positions was high. The same study characterized a move to industry or business as a “flight of fantasy,” though it did not discuss government job prospects. Persistence and determination, the study concluded, were the key characteristics for success in higher education middle management careers.³⁵

Did these predictions come true? One study examined how the pressures toward reducing hierarchy in organizations affected middle managers in research libraries.³⁶ The need for middle managers had not declined, the study concluded, but their roles were transformed. Middle managers, the study found, now administer by consensus because of a growing gap between the characteristics of top managers and themselves and because of reduced

authority to make decisions in their areas of responsibility. Line staff, who translate their specialized skills into autonomy, are partners, not subordinates. Middle managers nurture the ability of staff to share in management, that is, become facilitators to “provide a structure for solving problems and [to] assure that the appropriate staff are involved” as increasingly complex problems require the skills of several library staff.³⁷

What job competencies do high-ranking administrators desire in their middle managers? A survey of chief student affairs officers (CSAOs) at four-year institutions determined the skills sought in their mid-level managers.³⁸ The highest-ranking functional categories, on average, were: leadership (1.80), student contact (2.64), and communication (2.78). Categories ranked lower were personnel management (3.79), fiscal management (4.81), professional development (5.48), and research and evaluation (6.62).

The survey then ranked desired competencies within these categories. The highest ranked competencies: “accepts responsibility or delegates as appropriate” (leadership); the ability to “develop mutual understanding and trust with students” (student contact); “maintaining confidentiality” (communication), and “dealing effectively with interpersonal problems” (personnel management). CSAOs viewed personal characteristics—especially integrity and interest in students—as critically important in making middle managerial appointments.

CSAOs judged that upward career mobility is difficult in all types of institutions, and were concerned about the high cost of replacing mid-managers in large institutions. These findings on student affairs officers are suggestive for other occupational areas in colleges and universities.

Administrators and Faculty in Chemistry

Many administrators come from the faculty, but the diverse academic origins of the administrators obscure most comparisons of faculty and administrators. A 1995 salary and employment survey of members of the American Chemical Society (ACS) clarifies the relationships among length of service, primary responsibility—teaching, research, or administration—and compensation of academic Ph.Ds.

The ACS survey, with a 54 percent response rate, included data on 5,714 doctorate-level chemists and chemical engineers who were employed full-time in colleges and universities and whose primary work function was teaching, research, or administration (excluding postdoctoral appointees). The results must be generalized with caution, but the uniformity in qualifications of the respondents increases the value of the key conclusion of the study—the major difference among these ACS members is simply their work assignment.

Table 10 shows for respondents grouped by the number of years since they earned the doctorate (1) the percentage who reported that their primary function was, respectively, teaching, research, or administration and (2) the median salary of those so categorized.³⁹ The median salary of all administrators exceeded the salary of faculty in both teaching and research by about 40 percent before controlling for any group characteristics. The longer experience of administrators accounts for much of the difference—median salaries of administrators and researchers with equivalent years of experience did not consistently favor one group. Administration salaries exceeded research salaries by five percent, after controlling for rank, experience and other characteristics. In turn, research salaries were 25 percent larger than teaching salaries.⁴⁰

Research salaries increased with experience without exception. So did teaching salaries, except for faculty members still working 40 or more years after receiving the degree. But administration salaries were more varied. Combined with the percentages of the survey respondents in the three functions, they suggest trade-offs and shifting between administration and research, but not teaching. Table 10 shows a net shift from research into administration until the 35th year after the Ph.D. when most respondents would be age 60 or older. At that time, these scientists and engineers are likely to give up administrative posts, some to retire and others to pursue faculty activities. Research offers lucrative financial rewards for chemists who can maintain their scholarship, but this is a very select group. The percentage of research chemists grows slightly—in contrast to shrinking numbers in administration and teaching—among respondents working full-time 35-39 years beyond the Ph.D., and grows substantially for chemists 40 years and

beyond. The reduced numbers in the two other groups implies that researchers are less likely to retire than chemists devoted primarily to teaching or administration.

Librarians

The annual survey of placements of M.L.S. recipients from all 50 accredited U.S. library schools, conducted for *Library Journal*, provides a consistent, sensitive measure of change in the labor market. Libraries hired 2,536 of the 4,754 graduates of the class of 1993 by the time of the 1994 survey, an increase over the 1993 figure. But an unusually high 19.8 percent of these graduates obtained temporary or non-professional positions—an increase from 9.6 percent last year.⁴¹ This year's graduates—20 percent male—were reluctant or unable to move to regions with good job prospects, according to placement officers. The 1994 “average” beginning salary for librarians for full-time placements in all types of libraries was \$27,116—\$27,454 for men and \$27,031 for women. The 1.7 percent increase over 1993 marks the fourth time in the last five years that the inflation rate exceeded the average beginning salary increase.

Colleges and universities hired 24.7 percent of the graduates in 1994, up slightly from last year. The “average” beginning salary in academe declined 2.9 percent to \$25,727.⁴² Colleges and universities employed 31 percent of all male hires—a higher percentage than any other sector, and a seven percent increase over 1993. These men earned higher starting salaries (\$26,792) than women (\$25,253).

TRENDS⁴³

The Association of Governing Boards of Universities and Colleges (AGB) has organized an independent Commission on the Academic Presidency. Its primary goal is to develop a clearer understanding of the presidency among federal and state leaders. The commission is expected to issue a report in 1996 that necessarily will address the future of higher education.⁴³

Clearly the issue of “doing more with less” will dominate higher education concerns for the foreseeable future. Somehow, higher education must increase its productivity. (Productivity is generally defined as the ratio of output to input.

Who within higher education will deter-

mine the strategies for increasing productivity? Recent faculty interviews imply that faculty as a group appreciate the need to increase *output* (particularly in research).⁴⁴ However, their focus on output neglects the input (or cost) side of the productivity ratio. Although the faculty are responsible for the core activities that define higher education, if this focus on increasing output continues, the job of initiating and implementing strategies for decreasing costs to increase productivity may fall by default on administrative staff.

If it becomes the job of administrators to increase productivity by decreasing inputs and thus to be more managerial, two potential results are particularly troubling in the current climate. One is that the division between faculty members and administrators may widen. If administrative perspectives and roles diverge from those of the faculty, even short of confrontation, it may be more difficult for an administrator to act like a faculty member who temporarily has accepted additional duties. The reluctance of faculty to step across the line into administrative positions may increase. Current administrators who feel ambivalent about abandoning the faculty may become increasingly uncomfortable in their roles. The consequences then may be increased difficulty in attracting talented people into administration and a reduction in the number of administrators who are both willing to act in these managerial roles and able to perform such roles well.

The diverging perspectives and roles may also affect administrative salaries. The market forces of supply and demand may provide leverage in salary negotiations for the shrinking group of willing and able administrators. If this occurs, the trend noted above for highly paid administrators to receive large salary increases may continue, and the difference between the highest and the lowest salaries of academic administrators may continue to increase.

NOTES

¹ Definitions are paraphrased from *The Condition of Education*, 1992, 353.

² Montgomery and Lewis, 1994.

³ Through 1991, the fall staff survey was conducted by EEOC. Beginning in 1993, the survey became

part of the IPEDS (Integrated Postsecondary Education Data System) series conducted by NCES (the National Center for Education Statistics). EEOC and NCES included a somewhat different set of institutions in their surveys. EEOC excluded institutions with fewer than 15 full-time staff while NCES included them. However, EEOC included staff of research laboratories and hospitals if the employer was an educational institution whereas NCES excluded units from its survey if their *function* was not education. The total number of 1991 full-time staff in higher education reported by EEOC was 1,786,369, but the reconstructed 1991 data resulted in a total of 1,812,912 full-time employees.

⁴ Montgomery and Lewis, *op cit*.

⁵ CUPA, 1995a. The report fine-tunes the selection and definition of positions each year, but consistency in most titles allows analyses of trends. This year's 46 percent response rate in the CUPA survey represents a slight increase from last year's 43 percent. CUPA provides information on salaries, but not benefits, for 12-month positions that exist in the fall of the year. The reports cover only cash earnings paid from institutional funds, thus excluding external sources such as foundations.

⁶ *Ibid.*, 1995a.

⁷ *Ibid.* A few exceptions: The salary of the chief student affairs officer exceeded the salary of the chief development officer at all public and at two-year institutions, a repetition of last year's pattern. The salary of the chief business officer (\$93,450) pulled ahead of the chief academic officer (\$92,108) at baccalaureate institutions—a significant shift from prior years.

⁸ Beginning in 1991-92, CUPA's aggregations across all categories of institution require institutions to have reported enrollment for one aggregation or budget for another. The all-institution data presented here use the institutions reporting a budget level.

⁹ CUPA changed the label of private-independent institutions to private-nonreligious in 1992-93, but this chapter retains the older designation.

¹⁰ The exception: deans before 1991-92.

¹¹ CUPA, 1995b. Each group includes system offices and individual institutions. The number of institutions is measured by the number of CEOs. Two-year colleges are far less common in the other sectors. The independent sector had only 21 two-year colleges out of 320 institutions and systems; the religious sector reported 20 two-year colleges out of 361.

¹² AS&U skipped the survey for 1994-95.

¹³ Agron, 1994; and CUPA, 1994.

¹⁴ Agron, *op. cit.*

¹⁵ CUPA, *op. cit.*

¹⁶ One two-year college provided financial planning, the most infrequently offered benefit, to a director of data processing.

¹⁷ Agron, *op. cit.* and Agron, 1993.

¹⁸ Hawkes, 1930, 245, quoted in Miller, 1989.

¹⁹ Miller, 1989.

²⁰ *Ibid.*

²¹ Phillips, 1988.

²² *Ibid.* This concentration surpassed that of a somewhat earlier survey that found nearly one-third of all law professors held degrees from just five schools: Harvard, Yale, Columbia, Michigan, and Chicago (Larry Tell, 1980 quoted here.)

²³ Vanderveen, 1988.

²⁴ Miller, 113.

²⁵ Phillips, *op. cit.*

²⁶ Vanderveen, *op. cit.*

²⁷ Miller, *op. cit.*

²⁸ Phillips, *op. cit.*

²⁹ Leatherman, 1993.

³⁰ Montgomery and Lewis, 1994.

³¹ Banaszak-Holl and Greer, 1994.

³² *Ibid.*

³³ Kraus, 1983.

³⁴ Analysts saw student financial aid, in particular, as entering a retrenchment period, after sustained growth.

³⁵ *Ibid.*

³⁶ Sullivan, 1992.

³⁷ *Ibid.*, 277.

³⁸ Gordon, *et al.*, 1993.

³⁹ A description of the salary survey and presentation of related data are scheduled for publication by the American Chemical Society (ACS) in 1995. Figures given in this chapter were drawn from the survey data by the authors through the courtesy of ACS. Interpretations are those of the authors, not of ACS.

⁴⁰ ACS, *loc cit.*

⁴¹ Zipkowitz, 1994.

⁴² The medians: \$25,300 for new academic librarians; \$26,000 for all full-time placements.

⁴³ Association of Governing Boards, 1995.

⁴⁴ Massy and Wilger, 1995.

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