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Integrated Postsecondary Education Data System Human Resources Data Quality Study

Methodology Report



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May 2008

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Executive Summary

Background

The goal of this study was to assess the reliability and quality of human resources (HR) data collected through the Integrated Postsecondary Education Data System (IPEDS) from postsecondary institutions in the academic year 2004-2005.

An assessment of the quality of the 2004-05 IPEDS Salaries (SA) and Employees by Assigned Position (EAP) component data was made by comparing HR data from several external sources. The following external sources and associated surveys were included in this study:

- 2004-05 American Association of University Professors (AAUP): Faculty Compensation Survey (FCS)
- 2004-05 College and University Professional Association (CUPA): Administrative Compensation Survey (AdComp) and National Faculty Salary Survey (NFSS)
- 2005-06 College Board: Annual Survey of Colleges (ASC)¹
- 2004-05 Oklahoma State University (OSU): Faculty Salary Survey (FSS)

Descriptions of surveys included in this study, along with all other surveys considered for the study, are listed in appendix B.

An assessment of the quality of the 2004-05 IPEDS Fall Staff component data was also made. The assessment involving the Fall Staff component differed from the assessment involving the IPEDS SA and EAP components, because the reporting of Fall Staff data was optional in 2004-05, while the reporting of SA and EAP data was required in 2004-05 for Title IV institutions that met the minimum criteria for applicability.

A summary of the methodology used for the IPEDS SA, EAP, and Fall Staff components is provided in the next section.

¹ Despite the “2005-06” reference to the Annual Survey of Colleges (ASC), the faculty data collected for this survey are from Fall 2004.

Methodology

IPEDS SA and EAP Components

For the IPEDS SA and EAP components, the initial step was to establish the comparability of the IPEDS data with the external sources. None of the external sources included as many postsecondary institutions as IPEDS. Further, reporting categories were not always consistent across data sources. Before any analytic work could be done, it was necessary to solve these matching problems.

The study began by comparing the data definitions and available data elements in each of the external surveys to identify those that were compatible with IPEDS. In cases where definitions or elements were incompatible, the potential effect of the dissimilarity was evaluated and an adjustment was made to either the IPEDS data or the external source data. In some cases, the magnitude of the differences precluded a correction, and the element or external source was eliminated from the study. Once the data definitions and elements were evaluated, a comparison of institutions across data sources was conducted. Institutions were divided into analysis groups, which were formed using a combination of institutional type and control and Carnegie Classification. The IPEDS SA study was conducted using the following seven analysis groups:²

1. Public research institutions
2. Public other 4-year institutions
3. Public 2-year institutions
4. Private not-for-profit research institutions
5. Private not-for-profit other 4-year institutions
6. Private not-for-profit 2-year institutions
7. Private for-profit 4- and 2-year institutions

The EAP study was conducted using the following eight analysis groups:³

1. Public research institutions
2. Public other 4-year institutions
3. Public 2-year institutions

² Since the IPEDS SA component is applicable to degree-granting institutions only, less-than-2-year institutions were not considered as an analysis group.

³ The external surveys did not include any public less-than-2-year institutions or private for-profit less-than 2-year institutions; therefore, comparisons involving these two groups of institutions could not be made.

4. Private not-for-profit research institutions
5. Private not-for-profit other 4-year institutions
6. Private not-for-profit 2-year institutions
7. Private not-for-profit less-than-2-year institutions
8. Private for-profit 4- and 2-year institutions

Frequencies, descriptive statistics, scatter plots and correlation coefficients between IPEDS and the external sources were computed and reported. Where individual institutional records were provided, the number of faculty and the average salaries (where applicable) for each institution were computed for IPEDS and the appropriate external source. Institutional results were aggregated by analysis group. The distribution of differences between each external source and IPEDS was computed on each measure by analysis group. For each subgroup (e.g., male professors on 9/10-month contracts), the average was provided for each respective data element. The percent difference between the IPEDS data and the external source data was then computed. The magnitude of the percent differences was considered very small to large, based on the following definition:

- | | |
|-------------------------|------------|
| • Less than 5.0 percent | Very small |
| • 5.0 to 9.9 percent | Small |
| • 10.0 to 19.9 percent | Moderate |
| • 20.0 percent or more | Large |

IPEDS Fall Staff Component

The methodology used for the 2004-05 IPEDS Fall Staff component differed from the methodology used for the 2004-05 IPEDS SA and EAP components for a few reasons. For one, the 2004-05 academic year was an optional reporting year for the Fall Staff component, and many institutions elected not to report Fall Staff data in 2004-05.⁴ Of the institutions required to respond to the Fall Staff component during 2003-04, nearly one-half (45 percent) responded to the Fall Staff component in 2004-05. Secondly, the IPEDS Fall Staff data collected in even-numbered reporting years does not undergo the same extensive data review and cleaning as in odd-numbered reporting years. And lastly, one part of the Fall Staff component did not include the necessary edits in detail in the data collection system during the time the data were collected.

⁴ The Fall Staff component is optional in even-numbered years (2004-05, 2006-07, etc.) and required in odd-numbered years (2003-04, 2005-06, etc.).

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The analysis of the IPEDS Fall Staff data focused primarily on two consecutive reporting years (2003-04 and 2004-05). One of the objectives of the Fall Staff assessment was to determine the reliability of the optional year data compared with the previous required year data, since the Fall Staff data reported in optional reporting years did not undergo the same rigorous data review and cleaning as data collected in required reporting years. The results of this study will aid in deciding if more rigorous data review and cleaning should be performed on Fall Staff component data reported in optional years. Another objective of the Fall Staff assessment was to determine if the current year and prior year (CYPY) edit checks for the Fall Staff component should be adjusted. The Fall Staff analysis also included an evaluation of the data for a single reporting year (2004) to determine the quality of the data reported on newly hired permanent employees (part G), since some edits in the data collection system were not functioning properly during the actual data collection.

For degree-granting institutions responding to the Fall Staff component, the analysis was conducted using the following seven analysis groups:

1. Public research institutions
2. Public other 4-year institutions
3. Public 2-year institutions
4. Private not-for-profit research institutions
5. Private not-for-profit other 4-year institutions
6. Private not-for-profit 2-year institutions
7. Private for-profit (includes 4-year and 2-year institutions combined)

For non-degree-granting institutions responding to the Fall Staff component, the analysis was conducted using the following three analysis groups:

1. Public institutions
2. Private not-for-profit institutions
3. Private for-profit institutions

Analysis and Results

IPEDS SA Component

After the comparison of the data definitions and data elements was conducted, and determination of the institutions reporting to each survey was made, the following external data sources were judged to be comparable with the IPEDS SA component.

- CUPA NFSS
- OSU FSS
- AAUP FCS
- College Board ASC

The differences and similarities among the four above external data sources are summarized in table A.

CUPA NFSS

CUPA NFSS provided data by analysis group (e.g., public research institution, public other 4-year institution). Establishing comparability required the identification of differences between the IPEDS SA component and CUPA NFSS reporting categories. CUPA NFSS excluded the following three faculty member groups that the IPEDS SA component included: full-time adjunct faculty members, visiting faculty members, and replacement faculty members for those on sabbatical leave. While there was no method of identifying these faculty members on the IPEDS SA component database in order to exclude them and create a comparative set to CUPA, these three types of faculty members tend to be a relatively small portion of institutional staff. In all cases, the IPEDS SA component included a larger number of full-time faculty members than did CUPA NFSS, which could be due to the previously mentioned exclusions. Discrepancies in the number of full-time faculty members reported were larger for assistant professor and instructor than for professor and associate professor.

Institutions combined 9/10- and 11/12-month full-time faculty members in CUPA NFSS, after reducing the 11/12-month salaries by 0.818 (9 divided by 11); this adjustment was also made to the IPEDS SA component data. The magnitude of the salary difference between the IPEDS SA component and CUPA NFSS was less than 3 percent in all cases, with the exception

Table A. Summary of survey characteristics for CUPA NFSS, OSU FSS, AAUP FCS, and College Board ASC: 2004-05

Survey characteristic	CUPA NFSS	OSU FSS	AAUP FCS	College Board ASC
Aggregate or institutional data	Aggregate	Aggregate	Institutional	Institutional
Number of matching institutions	812	93	1,431	3,098
Institutional types	Public 4-year	Land-grant public 4-year	Public 4-year	Public 4-year
	Private not-for-profit 4-year		Public 2-year	Public 2-year
	Private for-profit 4-year		Private not-for-profit 4-year	Private not-for-profit 4-year
			Private not-for-profit 2-year	Private not-for-profit 2-year
Contract length	9/10- and 11/12-month combined	9/10- and 11/12-month combined	Private for profit 4- and 2-year	Private for-profit 4- and 2-year
			9/10- and 11/12-month separately	9/10- and 11/12-month combined
Academic ranks	Professor	Professor	Professor	Total faculty
	Associate professor	Associate professor	Associate professor	
	Assistant professor	Assistant professor	Assistant professor	
	Instructor	Instructor	Instructor	
			Lecturer	
Data	Number of faculty	Number of faculty	Faculty without rank	Number of faculty
	Average salaries	Average salaries	Number of faculty Average salaries	

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component; College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS); Oklahoma State University (OSU), 2004-05 Faculty Salary Survey (FSS); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

of instructors at private not-for-profit research institutions, where CUPA NFSS reported an average salary 10 percent greater than the IPEDS SA component.

OSU FSS

OSU FSS provided data by analysis group (public research institution and public other 4-year institution). The instructions for the IPEDS SA component contained detailed information about reporting certain faculty members; however, the instructions for the OSU FSS were not as detailed. Consequently, it was unclear how some faculty members reported to OSU FSS were handled. Another issue that may have contributed to the differences between the IPEDS SA component data and the OSU FSS data involved the possible double counting of full-time faculty members that held split appointments (those who worked in more than one academic department simultaneously; for example, the mathematics and science departments). According to OSU FSS definitions, the faculty member should be reported on OSU FSS in only one Classification of Instructional Programs (CIP) code, by choosing either the department that funded more of the faculty member's salary, or the department in which the faculty member had tenure (if applicable). Unfortunately, survey respondents were not always able to use only one CIP code to report faculty members that had split appointments. Consequently, these respondents chose to count the faculty member and the corresponding salary in more than one discipline, leading to double counting.

The OSU FSS data consisted of the number of 9/10- and 11/12-month full-time faculty members combined. The salaries of 11/12-month faculty members were adjusted by a factor of 0.818 (9 divided by 11). Consequently, the number and salaries of full-time faculty members were also adjusted for the IPEDS SA component data, for comparative purposes. Between the two sources, the difference in the number of full-time faculty members varied by academic rank and analysis group. Average salaries were in close proximity between the two sources, with the largest difference being 4 percent for instructors in both public research and public other 4-year institutions.

AAUP FCS

AAUP FCS provided individual institution data. There was only one potential definitional question between the IPEDS SA component and AAUP FCS: while the IPEDS SA component instructed institutions not to include faculty on leave without pay, it was unclear how these faculty members were handled on the AAUP FCS.

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The AAUP FCS data included the number of, and salary data for, 9/10- and 11/12-month full-time faculty members separately, by academic rank. Marginal differences were found between the number of full-time faculty members reported on AAUP FCS and the IPEDS SA component; large percent differences tended to be in areas reflecting small numbers of faculty members, such as the ranks of instructor, lecturer, and faculty with no rank, and faculty members on 11/12-month contracts.

Correlation analysis indicated that the relationship between the number of 9/10-month full-time faculty members reported on the IPEDS SA component and AAUP FCS was stronger than that reported for the number of 11/12-month full-time faculty members.

Overall, the percent differences in the reported average salaries between the IPEDS SA component and AAUP FCS were very small to moderate.

While the majority of the data elements for 11/12-month full-time faculty members had strong correlations between the IPEDS SA component and AAUP FCS, the relationship between the two data sources for the 9/10-month salary data was even stronger.

College Board ASC

The College Board ASC provided the number of full-time faculty members at the institution level. The College Board ASC does not collect salary data on full-time faculty members. There were a few definitional differences between the IPEDS SA component and College Board ASC. For example, College Board ASC did not clearly state which faculty members should be reported by contract length. Since the instructions for College Board ASC reference the AAUP FCS definition, it was highly likely that respondents to ASC followed the AAUP reporting guidelines on contract length, which stated to include faculty members on 9/10- and 11/12-month contracts.

The percent difference in the average number of full-time faculty members reported on the IPEDS SA component and the College Board ASC varied, with public research and 2-year institutions having small differences and private not-for-profit 2-year and private for-profit 4- and 2-year institutions having large differences.

Conclusions from the IPEDS SA Component Study

Two conclusions were drawn from the IPEDS SA component analysis. First, after taking into consideration definitional differences, data elements, and comparable institutions, the data

reported to the IPEDS SA component and to the external sources were fairly consistent with one another. Where data for 9/10- and 11/12-month full-time faculty members could be separated, data for 9/10-month faculty were more consistent between the data sources. Results were strong, but less consistent, for 11/12-month faculty. Second, the academic ranks of professor, associate professor, and assistant professor showed more consistency than instructor, lecturer, and faculty with no rank.

IPEDS EAP Component

The evaluation of data on the IPEDS EAP component was more limited because of the limited number of organizations that collect data on non-instructional higher education staff. After the comparison of the data definitions and data elements was conducted and determination of the institutions reporting to each survey was made, the following external data sources were judged to be comparable with the IPEDS EAP component.

- CUPA AdComp
- AAUP FCS
- College Board ASC

The differences and similarities among the three above external data sources are summarized in table B.

Table B. Summary of survey characteristics for CUPA AdComp, AAUP FCS, and College Board ASC: 2004-05

Survey characteristic	CUPA AdComp	AAUP FCS	College Board ASC
Aggregate or institutional data	Aggregate	Institutional	Institutional
Number of matching institutions	1,270	1,433	3,168
Institutional types	Public 4-year	Public 4-year	Public 4-year
	Public 2-year	Public 2-year	Public 2-year
	Private not-for-profit 4-year	Private not-for-profit 4-year	Private for-profit 4-year
	Private not-for-profit 2-year	Private not-for-profit 2-year	Private for-profit 2-year
	Private for-profit 4- and 2-year	Private for-profit 2- and 4-year	Private not-for-profit less-than-2-year Private for-profit 4- and 2-year
Employment categories	Full-time administrative positions	Full-time faculty, by faculty status	Full- and part-time faculty

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component; College and University Professional Association for Human Resources (CUPA), 2004-05 Administrative Compensation Survey (AdComp); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

CUPA AdComp

CUPA AdComp data were provided in aggregate form by analysis group. The CUPA AdComp to IPEDS EAP comparison involved full-time administrative staff. An attempt was made to align the job titles between CUPA AdComp and the IPEDS EAP component, but it was found that CUPA AdComp included detailed staff categories, while the IPEDS EAP component included broad staff categories, within the executive/administrative/managerial primary function. For example, the instructions for CUPA AdComp ask institutions to report the number of “deans” by department (Dean of Education, Dean of Engineering, Dean of Fine Arts, etc.) while the instructions for the IPEDS EAP component simply instruct institutions to report deans in the executive/administrative/managerial category “if their principal activity is administrative and not primarily instruction, research, or public service.” (A detailed list of the job titles and corresponding numeric codes for CUPA AdComp and the IPEDS EAP component can be found in appendix C. The numeric codes listed for CUPA AdComp are unique to that particular survey, while the numeric codes listed for the IPEDS EAP component are based on the Standard Occupational Classification (SOC)¹ codes.) The IPEDS EAP component data that were compared against the CUPA AdComp data revealed large differences in the numbers of executive/administrative/managerial staff at public and private not-for-profit research institutions (61 and 77 percent, respectively); these differences did seem to be large enough to indicate that the data were not consistent between the two sources. The differences in the numbers of executive/administrative/managerial staff at public 2-year institutions, private not-for-profit other 4-year institutions, and public other 4-year institutions ranged from small to moderate (3 to 15 percent). The dissimilarity in staffing categories could account for the observed differences.

AAUP FCS

The comparison of the number of full-time faculty members reported on the IPEDS EAP component and AAUP FCS indicated that nearly one-half (47 percent) of institutions reported identical numbers of total full-time faculty members. Another 30 percent reported differences of less than 5 percent. Further, 1 percent of institutions reported data that differed by 20 percent or greater between the two sources. By analysis group and data element, the larger differences between the two data sources were in the not on tenure track/no tenure system category.² For

¹ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers in occupational categories for the purpose of collecting, calculating, or disseminating data.

² Faculty reported in the not on tenure track/no tenure system category in the IPEDS EAP component were combined with faculty reported in the without faculty status category.

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full-time faculty members in the not on tenure track/no tenure system category, the percent difference ranged from 12 to 26 percent by analysis group. With the exception of public 2-year institutions, the number of full-time tenured faculty members for each analysis group differed between the IPEDS EAP component and AAUP FCS by 3 to 4 percent. The number of full-time on tenure track faculty members for each analysis group differed between the IPEDS EAP component and AAUP FCS by 4 to 13 percent.

College Board ASC

The comparison of the number of full- and part-time faculty members indicated small to large differences between the IPEDS EAP component and College Board ASC, and the two data sources did not correspond as closely as the IPEDS EAP component to AAUP FCS match. Fourteen percent of institutions included in the IPEDS EAP component to College Board ASC comparison reported identical data, while 22 percent of institutions reported differences of less than 5 percent. The correlation analysis for full-time faculty members between the IPEDS EAP component and College Board ASC showed higher correlation than for part-time faculty members in the following analysis groups: public research institutions, public 2-year institutions, private not-for-profit research institutions, and private not-for-profit other 4-year institutions. The reverse was true for the remaining analysis groups (public other 4-year, private not-for-profit 2-year, and private for-profit institutions).

Conclusions from the IPEDS EAP Component Study

In summary, the IPEDS EAP component data that were compared against the CUPA AdComp data revealed differences in the number of executive/administrative/managerial staff, ranging from 3 percent in public 2-year institutions to 77 percent in private not-for-profit research institutions, with the IPEDS EAP component number consistently larger than CUPA AdComp. The dissimilarity in staffing categories could account for the observed differences.

The IPEDS EAP component data that were compared against the AAUP FCS data were consistent for full-time tenured and on tenure track faculty members, with a few exceptions. When results differed between the IPEDS EAP component and AAUP FCS, or correlations were not as strong, it was in the not on tenure track/no tenure system category for full-time faculty members. The difference may be partly due to the combination of the not on tenure track/no tenure system category and the without faculty status category on the IPEDS EAP component. When results differed between the IPEDS EAP component and College Board ASC, or correlations were not as strong, it was in the part-time faculty category.

IPEDS Fall Staff Component

This portion of the study provided information on the quality of the 2004-05 Fall Staff component data, since the Fall Staff data reported in optional reporting years did not undergo the same rigorous data review and cleaning as data collected in required reporting years.

The 2004-05 Fall Staff component data contained 1,864 public, private not-for-profit, and private for-profit institutions—1,612 degree-granting, and 252 non-degree-granting. For this study, several quality checks were conducted on the 2004-05 Fall Staff data.

First, a current year to prior year (CYPY) ratio analysis³ was conducted to determine the number of out-of-range data cells. Out of a possible 26 data elements checked for degree-granting institutions, 27 percent of institutions had zero data elements that failed the CYPY analysis, while another 22 percent of institutions had only one data element that failed. Eight percent of institutions had more than five data elements that failed the CYPY ratio analysis. For non-degree-granting institutions, CYPY ratio analysis was conducted on four data elements. Seventy-four percent of non-degree-granting institutions had zero data elements that failed the CYPY ratio analysis, while another 19 percent of institutions had only one data element that failed the CYPY ratio analysis.

NCES provided an edit file containing changes made to the 2003-04 Fall Staff component data submission. The edit file was used to identify the number of survey elements that were out of range based on the CYPY ratio analysis. Ratio analysis was then conducted on the final 2003-04 Fall Staff component file to determine the number of survey elements that were still out of range, but were accepted based on explanations reported by institutions. Subtracting the number of out-of-range cells after the institutions edited their data from the original number of flags on the edit file allowed an estimation of the number of survey elements that were changed due to the ratio analysis flag.

A comparison was made between the number of data elements that were out of range on the 2003-04 and 2004-05 Fall Staff components. This analysis indicated that the frequencies of out-of-range data elements on the optional year data submission were not higher than those reported in the 2003-04 required year data submission. Out-of-range survey elements were less frequent among 2004-05 optional survey responses than on the original report in 2003-04 for

³ CYPY ratio analysis indicates if the current report on a data element is outside of a predetermined range based on the institution's prior year report. If the data element is determined to be out of range, the institution must either provide an explanation or correct the report.

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degree-granting institutions. However, the average number of out-of-range survey elements per institution was higher for the 2004-05 optional year when compared with the corrected 2003-04 data. For non-degree granting institutions, the average number of out-of-range survey elements per institution on the 2004-05 data submission was similar to that of the 2003-04 submission once institutions corrected the required-year data submission.

The analysis of the data on newly-hired staff revealed that only a handful of institutions reported a number of newly-hired staff by primary function/occupational activity, gender, and race/ethnicity that was greater than the number of total staff by primary function/occupational activity, gender, and race/ethnicity.

Conclusions from the IPEDS Fall Staff Component Study

The results suggest that, overall, the 2004-05 optional year Fall Staff component data are at least as accurate as the original 2003-04 required year data submissions for both degree- and non-degree-granting institutions.

Summary and Conclusion

For the IPEDS SA component, where data for 9/10- and 11/12-month full-time faculty members could be separated, data for 9/10-month faculty were more consistent between the data sources. Results were strong, but less consistent, for 11/12-month faculty. In general, the academic ranks of professor, associate professor, and assistant professor showed more consistency than instructor, lecturer, and faculty with no rank. Data provided to IPEDS on 9/10-month full-time faculty members with the academic ranks of professor, associate professor, and assistant professor indicated high correlations to external data sources for both the numbers of full-time faculty members and average salaries. The academic ranks of instructor, lecturer, and faculty with no rank on 9/10-month contracts, and instructors on 11/12-month contracts, displayed weaker correlations between IPEDS data and data from the various external sources. This may reflect the lack of agreement as to what these categories mean in the different external data sources.

The IPEDS EAP component data on non-instructional staff were more difficult to evaluate due to the limited number of organizations that collect data on non-instructional higher education staff. For example, aligning the full-time executive/managerial/administrative staffing categories within the IPEDS EAP component with the full-time administrator staff categories within CUPA AdComp closely enough to be confident that both reporting systems included the

same categories of occupations was difficult. The comparison of the number of full-time faculty members reported on the IPEDS EAP component and AAUP FCS indicated that approximately 77 percent of institutions reported either identical numbers of total full-time faculty members or differences in the number of full-time faculty members of less than 5 percent. The comparison of the number of faculty members reported on the IPEDS EAP component and College Board ASC indicated that approximately 36 percent of institutions reported either identical numbers of total faculty members or differences in the number of faculty members of less than 5 percent.

Regarding the IPEDS Fall Staff component, analysis of the 2004-05 optional year data revealed that frequencies of out-of-range data elements were not higher than those reported in the 2003-04 required year data submission.

While this study provided insight on HR data reported on IPEDS versus HR data reported to the external sources for 4- and 2-year institutions, the study does not include analysis of less-than-2-year institutions because only one of the external sources was able to include information on one less-than-2-year institution. Also, while this study provided insight on HR data reported on IPEDS versus HR data reported to the external sources for full-time faculty members on 9/10- and 11/12-month contracts, the study does not include analysis of faculty on less-than-9-month contracts because none of the external sources collected information on these faculty members.

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Chapter 1: Study Background and Methodology

This report is the result of a study for the United States Department of Education (ED) to conduct an evaluation of human resources (HR) data collected from approximately 6,800 postsecondary institutions. This evaluation assessed the reliability and quality of human resources data collected through the Integrated Postsecondary Education Data System (IPEDS), a large, complex web-based data collection, which was designed as a series of cross-sectional data collections mandated by the Higher Education Act of 1965 (as amended). The evaluation culminated in this report, which describes the reliability and quality of the HR data collected from postsecondary institutions in academic year 2004-05 via the IPEDS Web-based data collection system.

The Postsecondary Institutional Studies Program at the National Center for Education Statistics (NCES) is authorized by law under the Education Sciences Reform Act of 2002 (H.R. 3801), Part C, section 153(a) General Duties:

The Statistics Center shall collect, report, analyze, and disseminate statistical data related to education in the United States and in other nations, including...collecting, acquiring, compiling...and disseminating full and complete statistics...on the condition and progress of education, at the preschool, elementary, secondary, postsecondary, and adult levels in the United States....

In 1985, NCES established IPEDS as its core postsecondary education data collection program. IPEDS consists of institution-level data that describe trends in postsecondary education at the institution, state and/or national levels in enrollments, program completions, faculty, staff, finance, and financial aid.

Following the redesign of the IPEDS system in 2000, the group of postsecondary institutions with Title IV Program Participation Agreements became the primary universe for the full set of data collected by IPEDS. Institutions that do not participate in Title IV programs may participate in the IPEDS data collection on a voluntary basis. Title IV and non-Title IV institutions that responded to the 2004-05 IPEDS data collection were included in this data quality study.

This evaluation was tasked to undertake the following analyses:

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1. Compare HR data reported by survey respondents during the Winter 2004-05 data collection period using the IPEDS Salaries (SA) component and the IPEDS Employees by Assigned Position (EAP) component to comparable data from external sources.
2. Compare HR data reported by survey respondents using the IPEDS Fall Staff component during the Winter 2004-05 data collection period with IPEDS Fall Staff component data collected during the Winter 2003-04 data collection period.

Brief descriptions of the three IPEDS HR components—Salaries (SA), Employees by Assigned Position (EAP), and Fall Staff—follow:

- The SA component collects headcount information for full-time instructional faculty by contract length/teaching period, gender, and academic rank. The SA component also collects total salary outlays and fringe benefits for full-time instructional faculty. The SA component is required annually from all Title IV degree-granting institutions unless one or more of the following are true: all instructional faculty members are employed on a part-time basis; all instructional faculty members are military personnel; all instructional faculty members contribute their services (e.g., are members of a religious order); or all instructional faculty teach pre-clinical or clinical medicine.
- The EAP component collects headcount information for employees by full- and part-time status; by primary function/occupational category; and by faculty status and tenure status (if applicable). Institutions with medical schools (those that have M.D. programs) are required to report their medical school employees separately. The EAP component is required annually from all Title IV institutions.
- The Fall Staff component collects headcount information for employees by full- and part-time status; number of full-time faculty by race/ethnicity and gender, contract length/teaching period, and salary class intervals; number of other full-time persons by race/ethnicity, gender, primary function/occupational activity, and salary class intervals; number of part-time employees by race/ethnicity, gender, and primary function/occupational activity; faculty status and tenure status of full-time faculty by race/ethnicity, gender, and academic rank; and new hires (full-time permanent) by race/ethnicity, gender, primary function/occupational activity, and faculty status and tenure status of full-time faculty. The Fall Staff component is required biennially in odd-

numbered years (e.g., 2003-04) from all Title IV institutions and administrative offices with 15 or more full-time employees. The Fall Staff component is optional in even-numbered years (e.g., 2004-05).

Methodology

This section describes the methodology used for each of the three components of the study: SA, EAP and Fall Staff. The section also includes basic definitions used throughout the study.

Analysis Groups

Analyses were conducted by analysis groups. The analysis groups were defined by institutional level and control, and additionally, for the 4-year institutions, by Carnegie classification.¹ The analysis groups are listed below; however, not all analysis groups were applicable to every part of the study. The individual chapters on the IPEDS SA, EAP, and Fall Staff components list detailed information about which analysis groups were used.

- Public 4-year
 - Public research institutions
 - Public other 4-year institutions
- Public 2-year institutions
- Public less-than-2-year institutions
- Private not-for-profit 4-year
 - Private not-for-profit research institutions
 - Private not-for-profit other 4-year institutions
- Private not-for-profit 2-year institutions
- Private not-for-profit less-than-2-year institutions
- Private for-profit 4-year and 2-year institutions²

¹ The 2000 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2000 edition classifies institutions based on their degree-granting activities from 1995-96 through 1997-98. Institutions classified as “research institutions” fall into 1 of 2 categories: (1) Doctoral/Research institutions, extensive: institutions that typically offer a wide range of baccalaureate programs and are committed to graduate education through the doctorate. They award 50 or more doctoral degrees per year across at least 15 disciplines; (2) Doctoral/Research institutions, intensive: institutions that typically offer a wide range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least ten doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall.

² None of the external sources contained data reflecting private for-profit less-than-2-year institutions; therefore, this group of institutions was not included in the analysis involving the external data sources.

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Perturbation

In order to preserve the confidentiality of individuals' salaries, data collected in the IPEDS SA and Fall Staff components were subject to perturbation. Perturbation of the salaries data was performed in such a manner that the average salaries by institutional level were not affected. For purposes of conducting this analysis, the IPEDS SA component unperturbed data file for 2004-05 was provided by NCES.³ The Fall Staff component data included in this study that were collected in 2004-05 and 2003-04 were perturbed; the Fall Staff component data collected in 2001-02 were not. The expectation was that the effects of the perturbation did not cause statistical differences between the years. Further, the overall effects of perturbation were designed to be neutral in the aggregate. Also, the data cells that were most likely affected during perturbation were small, and therefore did not require explanations under the range-edit rules. For these reasons, the expectation was that data perturbation would not affect this study.

IPEDS SA and EAP Components

The IPEDS SA component and EAP component shared similar methodologies; therefore, the following description of their methodologies is combined. The few instances where their methodologies differed are indicated.

Several steps were taken to analyze the quality of the IPEDS SA component and the EAP component data. First, data definitions from the various external data sources were reviewed to determine which definitions corresponded to the IPEDS SA component and the EAP component definitions. Second, an evaluation of the extent of the differences in data elements between IPEDS and the external data sources was conducted. Next, institutions in the IPEDS SA component and the EAP component databases were compared with institutions in each external source. One problem that was anticipated was the handling of branch and main campuses by the various data sources. Finally, the differences by analysis groups were aggregated, and the frequencies and descriptive statistics on the differences were computed. Details of each of the analytical steps are discussed in turn.

Definitional Differences

When differences were discovered in survey definitions between the IPEDS SA component or EAP component and the external data sources, the potential effect the differences

³ In order to maintain the confidentiality of individuals in this report, a determination was made as to whether there were any data cells contained within this report in which the salaries of fewer than three people were displayed. There was no such occurrence. This was verified for both the IPEDS SA component and AAUP FCS.

would have on the analysis was evaluated. Where possible, adjustments were made to arrive at more congruent definitions. In some cases, however, the definitions were too disparate to include the data element or external source in the analysis. During the review of the data definitions, an evaluation of the magnitude of the definitional differences between the IPEDS SA component or the EAP component data and the external source data was conducted. This analysis resulted in one of the following outcomes:

1. The external source definition was the same as that on the IPEDS SA component or the EAP component.

2. The external source definition was different from that on the IPEDS SA component or the EAP component, but a correction was made to make it more similar to the IPEDS SA component or the EAP component.

3. The external source definition was different from that on the IPEDS SA component or the EAP component, but a correction could not be made. However, the effect of the difference on the outcome of the study was not considered large enough to cause exclusion from the study.

4. The external source definition was different from that on the IPEDS SA component or the EAP component, but a correction could not be made. The definitional difference was deemed to have a significant enough effect on the study results to exclude the element.

Data Elements

Details regarding the handling of data elements are provided in the respective analysis sections for the IPEDS SA and EAP components.

Comparable Institutions

The next step of this analysis involved matching institutions that reported data separately on the IPEDS SA and EAP components to institutions that reported corresponding data to each external source. The institutions included in each source's database were assessed to determine the common institutions between the IPEDS SA component or the EAP component and the external data sources. Institutions were matched on IPEDS UNITID, when available. If the

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IPEDS UNITID was not available, variables such as FICE code,⁴ institution name, city, state, and Carnegie classification were used.

Once the data definitions and elements across the data sources were reconciled and the set of institutions to be analyzed was determined for each data source, detailed analysis was performed on comparable data elements between the IPEDS SA component or the EAP component and each applicable external source.

Data Comparison to External Source by Institution and Analysis Group

To begin the data analysis, at the institutional level, for each corresponding subgroup from each source, total headcounts were computed on the IPEDS SA and EAP components and external source data. Average salaries were also computed on the IPEDS SA component and each external source, where salary data were available. The headcounts and average salaries (where applicable) for the external data sources were compared with the corresponding data element on the IPEDS datasets.

Data from the external sources were provided in one of two ways: individual institutional records, or aggregated by analysis group (e.g., public 2-year institutions). The type of analysis conducted differed slightly depending on the type of data provided; each type is described below.

Where data were aggregated and provided by analysis group, the total number of faculty and the corresponding average salaries for comparable subgroups (e.g., professors) were computed. The magnitude and percent difference between the IPEDS data and the external source data were then computed.

Where individual institutional records were provided, the following computations were conducted for the analysis:

1. The number of faculty and the average salaries (where applicable) for each institution were computed for IPEDS and the appropriate external source.
2. The absolute value of the difference between IPEDS and the external source was then computed.

⁴ The FICE code is a 6-digit identification code originally created by the Federal Interagency Committee on Education (FICE). The code was used to identify all schools doing business with the Office of Education during the early 1960s. While this code is no longer used as the main institutional identifier in IPEDS, several organizations continue to use the FICE code as their institutional identifier.

3. Institutional results were aggregated by analysis group: The average of the data element studied, for both data sources, along with the average of the absolute value of the difference was computed on each measure between each external source and IPEDS, by analysis group.
4. The percent difference between the IPEDS data and the external source data was computed by dividing the average absolute difference for the institutions in the subgroup by the average value of the respective IPEDS data element for institutions in the subgroup. The magnitude of the percent differences was considered very small to large, based on the following definition:
 - Less than 5.0 percent Very small
 - 5.0 to 9.9 percent Small
 - 10.0 to 19.9 percent Moderate
 - 20.0 percent or more Large

Scatter Plots

Scatter plots displaying each analysis group and each studied data element were then created for analyses involving individual institutional data. The scatter plots visually demonstrate the degree of similarity or difference between the IPEDS SA component or the EAP component and the external sources. Correlation coefficients were computed for each comparison. The correlation coefficients indicate the strength of the relationship between the data provided on the IPEDS SA component or the EAP component, as compared with the data from the external sources. For purposes of this analysis, the strength of the correlation coefficients is defined as follows:

- 0.90 to 1.00 Very strong
- 0.80 to 0.89 Strong
- 0.60 to 0.79 Moderate
- Less than 0.60 Weak

IPEDS Fall Staff Component

For the IPEDS Fall Staff data collected in even-numbered reporting years, NCES data review and cleaning were not as extensive as in odd-numbered reporting years. This analysis helped determine if Fall Staff data reported in optional years should undergo more rigorous data review and cleaning. This analysis also helped determine if the edit checks that compare current

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year data to prior year data should be adjusted, in addition to determining the quality of the data reported on newly hired permanent employees (part G).

Data Elements

For the long version⁵ of the Fall Staff component, a total of 26 data elements were analyzed. The data elements included were full-time faculty (survey part A), other full-time employees (survey part B), part-time employees (survey part D), and full-time faculty by faculty status and tenure status (survey part F). Data elements in part G (full-time permanent new hires) were also analyzed, but are described separately from the analysis involving parts A, B, D, and F of the long version. For the short version⁶ of the Fall Staff component, the following four data elements were analyzed: full-time men and women (survey part A) and part-time men and women (survey part B).

Comparable Institutions

The analysis of the IPEDS Fall Staff component was conducted by comparing the data collected during two consecutive data collection periods. To complete this task, institutional data submissions on the 2004-05 optional Fall Staff component were compared with the submissions on the 2003-04 required Fall Staff component. To ensure that comparisons were conducted across the same set of institutions for each year, all analyses on the Fall Staff data, with the exception of analysis on new hires (survey part G) data, were limited to institutions reporting on the Fall Staff component in the 2004-05 optional year, as well as both the 2003-04 and 2001-02 required years.

Current Year to Prior Year (CYPY) Ratio Analysis

To determine the quality of the optional year data, institutional data submissions from the 2004-05 optional Fall Staff component were compared with submissions from the 2003-04 required Fall Staff component. The number of data elements that were deemed out of range on the 2003-04 submission (where CYPY ratio analysis was required) was also compared with those on the 2004-05 optional year submission. These analyses are described in further detail below.

First, CYPY ratios were computed on the 2004-05 data based on the following NCES range-edit rules that were also included in the IPEDS data collection system. The rules help

⁵ This version is applicable to degree-granting institutions that have 15 or more full-time staff.

⁶ This version is applicable to non-degree-granting institutions that have 15 or more full-time staff.

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identify reported data that appear suspiciously large or small when compared with corresponding data from a prior year. Table 1.1 lists the CYPY range-edit rules for the 2004-05 Fall Staff component.

Table 1.1. Current year to prior year range-edit rules for the Fall Staff component: 2004-05

	Number reported		Expected current year range is:	Action required:
	If current year value is:	And prior year value is:		
1	<25	<25	No current year/prior year edits performed	None
2	>=25	>0 and <25	Between 0.75 and 1.30 of prior year value	Explanation required
3	Any value	>=25 and <=150	Between 0.75 and 1.30 of prior year value	Explanation required
4	Any value	>150	Between 0.85 and 1.20 of prior year value	Explanation required

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff edit specifications.

CYPY edits were implemented separately for full-time men and full-time women in each of the primary function/occupational activity categories in parts A, B, and F of the Fall Staff component that were applicable to degree-granting institutions. For part-time employees at degree-granting institutions, CYPY edits were implemented separately for total part-time men and total part-time women (part D), but not separately by primary function/occupational activity. Institutions were required to provide explanations to NCES in instances where the CYPY ratio of employees as indicated previously was greater or less than the acceptable ranges defined in table 1.1. For example, if a degree-granting institution reported 30 employees in the current year and 24 employees in the prior year, the range edit rule in row number 2 of table 1.1 would apply and the CYPY ratio would be 30/24, or 1.25. Consequently, the institution would not be required to offer an explanation, because the ratio value was in the expected range between 0.75 and 1.30. However, if the institution reported 50 employees in the current year and 25 employees in the prior year, the range edit rule in row number 3 of table 1.1 would apply, and the CYPY ratio of 2.00 would not be in the expected range of 0.75 to 1.30. Therefore, the institution would be required to provide an explanation as to why the change in the number of employees was larger than expected.

For non-degree-granting institutions, CYPY edits were implemented separately for total full-time men, total full-time women, total part-time men, and total part-time women, but not separately by primary function/occupational activity.

Since counts of employees over two years (2001-02 versus 2003-04) are more variable than counts over one year (2003-04 versus 2004-05), the acceptable range of the CYPY ratio for

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the optional to required year analysis was adjusted. Operating under the assumption that staff changes over one year are approximately one-half of those over two years, the acceptable edit ranges for the optional to required year analysis were reduced to one-half of the above ranges.

The range-edit rules as revised for the optional to required year analysis are listed in table 1.2.

Table 1.2. Revised current year to prior year range-edit rules for the Fall Staff component: 2004-05

	Number reported		Expected current year range is:	Action required:
	If current year value is:	And prior year value is:		
1	<25	<25	No current year/prior year edits performed	None
2	>=25	>0 and <25	Between 0.8875 and 1.1625 of prior year value	Explanation required
3	Any value	>=25 and <=150	Between 0.8875 and 1.1625 of prior year value	Explanation required
4	Any value	>150	Between 0.9385 and 1.1125 of prior year value	Explanation required

SOURCE: Revision of current year to prior year range-edit rules as defined by U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05.

Two main reports resulted from the CYPY ratio analyses:

1. A summary report on the analyses for the optional to required and required to required year comparisons, by institutional group.
2. A report displaying selected characteristics of institutions that submitted data, including a comparison of institutions with and without flags based on the CYPY ratio analysis.

Institutional Analysis

For each institution, the optional to required year analysis began with a computation of the ratio of the current year reported value (2004-05) to the prior year reported value (2003-04) separately by employment status (full-time and part-time) and gender (men and women) on the Fall Staff component, using the revised CYPY range-edit rules. In addition to the previously mentioned data elements (employment status and gender), parts A, B, and F of the long version of the Fall Staff component also included computations at the primary function/occupational activity level. For example, the number of women reported in the clerical/secretarial category in 2004-05 was compared with the corresponding number reported in 2003-04 in order to determine when survey elements required an explanation according to the revised CYPY range-edit rules. The results of the computations were used in the next stage of the analysis.

Edit File Analysis

An edit file provided by NCES, containing 2003-04 Fall Staff component elements that required explanation based on a ratio analysis of the 2001-02 and 2003-04 data, was analyzed. The number of survey elements requiring explanation in 2003-04 was compared with the number in 2004-05. Also, the number of 2003-04 survey elements in which institutions changed their data so that the resulting data report did not fall outside the CYPY ratio range-edit check was identified. These results were compared with the number of survey elements flagged on the 2004-05 data submission file.

The analysis included:

- Each group's number of changed survey elements on the 2003-04 Fall Staff component submission due to the CYPY ratio analysis.
- The number that still fell out of range (where the data were accepted as out of range).
- The number of out-of-range survey elements on the 2004-05 Fall Staff component submission.

This analysis compared the number and percentage of survey elements that required explanation on the optional year survey with the corresponding number and percentage in the previous required year, and the number and percentage that were changed. For example, an institution may have had an average of four flagged elements resulting from the required year to required year comparison—three being valid submissions and one requiring an edit explanation. Therefore, if the optional to required year ratio analysis flagged an average of two elements, this would be judged as insignificant, and would be considered as reliable as the 2003-04 required data submission.

A couple of notes associated with this analysis follow:

1. The Fall Staff component data for 2003 and 2004 were perturbed; the Fall Staff component data for 2001 were not. The expectation was that the effects of the perturbation did not cause statistical differences between the years. Further, the overall effects of perturbation were designed to be neutral in the aggregate. Also, the data cells that were most likely affected during perturbation were small, and therefore did not require explanations under the range-edit rules. For these reasons, the expectation was that data perturbation would not affect this part of the analysis.

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2. For the 2001-02 data collection period, a new category called "other administrative" (OA) was included on the Fall Staff component. The OA category was removed for the subsequent data collection period (2002-03). While many institutions most likely moved some of their employees from the executive/administrative/managerial and other professional (support/service) categories to the OA category in 2001, IPEDS instructions did not specify which employees to include in the new OA category. Institutions were, however, instructed to classify their employees in the appropriate categories based on job functions. Further, when the OA category was removed in 2002, institutions once again were not instructed in which employment category to place their previously reported OA employees. Instead, institutions were simply instructed to classify their employees in the appropriate categories based on job functions. This issue affects parts of this analysis, and the handling of these employment categories differed depending on the type of analysis. Details of the handling of these specific employment categories are provided in the appropriate sections of the analysis.

Analysis of Full-time Permanent New Hires

The number of full-time permanent new hires by primary function/occupational activity, gender, and race/ethnicity (part G) was compared with the number of full-time employees by primary function/occupational activity, gender, and race/ethnicity (part A and B) to identify the frequency of institutions that reported greater numbers of newly hired staff by primary function/occupational activity, gender, and race/ethnicity than corresponding staff by primary function/occupational activity, gender, and race/ethnicity. The results of this analysis indicated how many institutions reported more new hires in part G than the corresponding data element in either parts A or B, and the magnitude of the difference.

Limitations and Exclusions

A ratio analysis of the magnitude of the change in the required year (2003-04) survey elements, along with a comparison of the variance in CYPY ratios between the 2004-05 data submission and the original 2003-04 data submission, would have been beneficial. However, when an institution submits its data and the ratio analysis indicates that the institution must either provide an explanation or change an out-of-range response, the corrected data overwrite the original responses. Therefore, it was not possible to determine the magnitude of the changes made by institutions on out-of-range data, or to analyze the variance between the values reported on the 2003-04 and 2004-05 data submissions.

Chapter 2: IPEDS 2004-05 Salaries Component Study

Overview

This chapter assesses the quality of the 2004-05 IPEDS SA component data by evaluating survey elements against comparable data from external sources. The IPEDS SA component collects the number of, and salary outlays for, full-time instructional faculty members by contract length/teaching period, gender, and academic rank. The IPEDS SA component also collects data on fringe benefits of full-time instructional faculty members. This chapter includes an analysis of the number of full-time instructional faculty members and the related salary data reported on the IPEDS SA component and several external sources. Fringe benefit data are not analyzed in this study.

Several factors may reduce the potential matching across datasets. Differences in data definitions and elements, in addition to non-corresponding institutions, all have the potential to limit the comparisons. The methodologies used to match the IPEDS SA component data to the external datasets are described below, followed by the results and implications of the analyses.

Introduction

The IPEDS SA component is applicable to degree-granting institutions unless one or more of the following are true: (1) all instructional faculty members are employed on a part-time basis, (2) all instructional faculty members are military personnel, (3) all instructional faculty members contribute their services (e.g., are members of a religious order), or (4) all instructional faculty members teach pre-clinical or clinical medicine. While the IPEDS SA component collects the number of, and salary outlays for, full-time instructional faculty members by contract length/teaching period, gender, and academic rank, and data on fringe benefits of full-time instructional faculty members, this chapter focuses on the number and salary of full-time instructional faculty members. For the remainder of this chapter, the term “faculty” will be used to refer to “full-time instructional faculty,” except in cases where clarification is needed.

To attempt to determine the quality of the IPEDS SA component data, the following external data sources were investigated as potential comparable sources:

1. 2004-05 College and University Professional Association (CUPA): National Faculty Salary Survey (NFSS)

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2. 2004-05 CUPA: Community College Faculty Salary Survey (CCFSS)
3. 2004-05 Oklahoma State University (OSU): Faculty Salary Survey (FSS)
4. 2004-05 American Association of University Professors (AAUP): Faculty Compensation Survey (FCS)
5. 2005-06 College Board: Annual Survey of Colleges (ASC)⁷

All of the above external sources include full-time faculty member headcounts. With the exception of the College Board ASC, the above external sources also include salary data.

When differences in survey definitions between the IPEDS SA component and the external data sources were discovered, the potential effect the differences would have on the analysis was evaluated. Where possible, adjustments were made to arrive at more congruent definitions. In some cases, however, the definitions were too dissimilar to include the data element or external source in the analysis. During the review of the data definitions, an evaluation of the magnitude of the definitional differences between the IPEDS SA component and external sources was conducted. Table 2.1 provides information on each definition compared across the data sources.

⁷ Despite the “2005-06” reference to the Annual Survey of Colleges (ASC), the faculty data collected for this survey are from Fall 2004.

Table 2.1. Comparison of faculty definition and survey characteristics between the IPEDS SA component and CUPA NFSS and CCFSS, OSU FSS, AAUP FCS, and College Board ASC: 2004-05

Faculty definition and survey Characteristic	IPEDS SA component	CUPA: NFSS and CCFSS	OSU FSS ¹	AAUP FCS	College Board ASC ²
Full-time faculty definition	Instructional faculty employed full-time and classified as either primarily instruction or instruction combined with research and/or public service.	Faculty on annual contracts of at least nine months and whose teaching/research represented more than half of their duties.	Faculty in which at least 50 percent of salary came from instruction, research, or some combination.	Instructional/research staff employed full-time and whose major (at least 50 percent) regular assignment was instruction, regardless of whether they were formally designated "faculty."	Instructional/research staff employed on a full-time basis and whose major regular assignment was instruction, including those with released time for research.
Base salary only	Yes	Yes	Yes	Yes	†
Other pay included	No	No	No	No	†
Less-than-9-month faculty data provided separately	Yes	No	No	No	No
Faculty data provided by contract length	Yes	No	No	Yes	No
11/12-month faculty salaries adjusted to equated 9-month data	No	Yes ³	Yes ³	Yes ⁴	†
Academic ranks included	Professor, Associate professor, Assistant professor, Instructor, Lecturer, and No academic rank	Professor, Associate professor, Assistant professor, New assistant professor, and Instructor	Professor, Associate professor, Assistant professor, and Instructor	Professor, Associate professor, Assistant professor, Instructor, Lecturer, and No academic rank	Unknown
Data provided by gender	Yes	No	No	Yes	Yes ⁵
Data provided by race/ethnicity	No	No	No	No	Yes ⁶
Included faculty on leave without pay	No	No	Unknown	Unknown	No
Included faculty on sabbatical leave	Yes	Yes	Yes ⁷	Yes	Yes
Included department chairs (if their principal activity was instruction)	Yes	Yes	Yes	Yes ⁸	Unknown

See notes at end of table.

Table 2.1. Comparison of faculty definition and survey characteristics between the IPEDS SA component and CUPA NFSS and CCFSS, OSU FSS, AAUP FCS, and College Board ASC: 2004-05—Continued

Faculty definition and survey Characteristic	IPEDS SA component	CUPA: NFSS and CCFSS	OSU FSS ¹	AAUP FCS	College Board ASC ²
Included adjunct faculty employed full-time	Yes	No	Yes	Yes	No
Included administrative officers with titles such as dean of instruction, dean of students, etc.; librarian; registrar, coach, etc.; even though they may have devoted part of their time to classroom instruction	No	Yes (partially) ⁹	Unknown	No	No
Included visiting faculty paid by host institution	Yes	No	Unknown	Yes	Unknown
Included full-time faculty in medical schools	No	Unknown	No	No	No
Included faculty in the military or religious orders who were not paid by institution, faculty whose services were contracted by or donated to the institution	No	No	Unknown	No	No
Handling of low n records on database provided for the study and the study report	Institutional records provided; small cells suppressed on study report where necessary.	Summary data provided; salaries for small cells suppressed on provided database.	Summary data provided; salaries for small cells suppressed on provided database.	Institutional records provided; small cells suppressed on study report where necessary.	Institutional records provided; small cells suppressed on study report where necessary.

See notes at end of table.

Table 2.1. Comparison of faculty definition and survey characteristics between the IPEDS SA component and CUPA NFSS and CCFSS, OSU FSS, AAUP FCS, and College Board ASC: 2004-05—Continued

Faculty definition and survey Characteristic	IPEDS SA component	CUPA: NFSS and CCFSS	OSU FSS ¹	AAUP FCS	College Board ASC ²
Individual institutional records or summary data provided for the study	Individual institutional records	Summary data	Summary data	Individual institutional records	Individual institutional records

†Not applicable.

¹According to OSU FSS definitions, the faculty member should be reported on OSU FSS in only one Classification of Instructional Programs (CIP) code by choosing either the department that funded more of the faculty member's salary, or the department in which the faculty member had tenure (if applicable). Unfortunately, survey respondents were not always able to use only one CIP code to report faculty members that had split appointments.

²The instructions for College Board ASC did not include reporting requirements for several items that were addressed in the instructions for reporting faculty in the IPEDS SA component. Since the instructions for College Board ASC referenced the AAUP FCS instructions, it was highly likely that survey respondents to College Board ASC followed the AAUP FCS reporting guidelines.

³Survey participants that had full-time faculty members on 11/12-month contracts were instructed to combine the number of full-time faculty members on 11/12-month contracts with the number of full-time faculty members on 9/10-month contracts. The resulting sum was then reported on the survey. Survey participants were also instructed to reduce salaries for full-time faculty on 11/12-month contracts by a factor of 0.818 and then combine the adjusted salary with the salary outlays for full-time faculty on 9/10-month contracts.

⁴Some survey participants voluntarily elected to convert data for full-time faculty on 11/12-month contracts to equated 9-month data. For example, the number of full-time faculty on 11/12-month contracts was combined with the number of full-time faculty on 9/10-month contracts and the resulting sum (number of equated 9-month faculty) was then reported on the survey. Some survey participants also reduced salaries for full-time faculty members on 11/12-month contracts by a factor of 0.818 or by a factor provided by the institution, then combined the adjusted salary with the salary outlays for full-time faculty members on 9/10-month contracts.

⁵Although the number of faculty members by gender was requested for this survey, the majority of institutions that responded to the survey chose to report faculty member totals (men and women combined) instead of faculty members by gender.

⁶The race/ethnicity data collected by College Board ASC included a broad, combined "minority faculty" category that included faculty members designating themselves as Black, non-Hispanic; American Indian or Alaska Native; Asian or Pacific Islander; or Hispanic.

⁷The description of full-time faculty members, which stated "50 percent of salary must come from instruction, research, or some combination," should have allowed faculty on sabbaticals to be included; however, some sabbaticals were 0.50 FTE for a full year, which disqualified them as "full-time" faculty members. Institutions decided whether to include sabbaticals; however, OSU FSS suggested institutions include them.

⁸Included department heads with faculty rank and no other administrative title. Institutions are asked not to include administrative stipends from the reported salary.

⁹Included coaches if more than one-half of their time was spent on instruction independent of their coaching, but did not include administrative officers such as deans, librarians and registrars.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component; College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS) and Community College Faculty Salary Survey (CCFSS); Oklahoma State University (OSU), 2004-05 Faculty Salary Survey (FSS); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

External Data Sources

External Data Sources Eliminated from this Analysis

CUPA CCFSS

The CUPA CCFSS was slated for inclusion in this analysis; however, the CCFSS data were not included in the database originally provided for the purposes of this study, and the results of a special study could not be provided by CUPA in time to be included in this analysis. Therefore, CUPA CCFSS was eliminated from this analysis.

External Data Sources Included in this Analysis

Upon completion of the examination of definitions, the following four data sources were determined to contain data elements that corresponded closely enough to be compared with the IPEDS SA component data: CUPA NFSS, OSU FSS, AAUP FCS and College Board ASC. Details of the four external sources follow.

CUPA NFSS

1. Provided data for 338 public 4-year and 485 private not-for-profit and for-profit 4-year identifiable institutions.
2. Collected data for professors, associate professors, assistant professors, and instructors, but did not collect data for faculty members who were lecturers or had no academic rank.
3. Collected actual salaries for faculty members on 9/10-month contracts and instructed responding institutions to reduce salaries for 11/12-month faculty members by 9/11, or a factor of 0.818.
4. Did not collect data for faculty members on less-than-9-month contracts.
5. Did not collect data for faculty members by gender.
6. Did not collect data by faculty status (e.g., tenure, on tenure track, etc).

OSU FSS

1. Provided data for 94 public land-grant universities.⁸
2. Collected data for professors, associate professors, assistant professors, and instructors, but did not collect data for faculty members who were lecturers or had no academic rank.
3. Collected actual salaries for faculty members on 9/10-month contracts and instructed responding institutions to reduce salaries for 11/12-month faculty members by 9/11, or a factor of 0.818.
4. Did not collect data for faculty members on less-than-9-month contracts.
5. Did not collect data for faculty members by gender.
6. Did not collect data by faculty status.

AAUP FCS

1. Provided data for approximately 1,400 institutions.
2. Collected data for professors, associate professors, assistant professors, instructors, lecturers, and faculty members with no academic rank.
3. Collected data for faculty members on 9/10- and 11/12-month contracts separately and combined. Also, allowed institutions to adjust salary data for faculty members on 11/12-month contracts by a factor of 0.818, or by a factor provided by institutions.
4. Did not collect data for faculty members on less-than-9-month contracts.
5. Collected data for faculty members by gender.
6. Collected data by faculty status separately for faculty classified as tenured, on tenure track, or not on tenure track, but not for faculty members without faculty status. (Institutions that did not have a tenure system were instructed to report their faculty members in the not on tenure track category.) The AAUP FCS instructions state to

⁸ A land-grant university is defined by the National Association of State Universities and Land-Grant Colleges (NASULGC) as “an institution that has been designated by its state legislature or Congress to receive the benefits of the Morrill Acts of 1862 and 1890. The original mission of these institutions, as set forth in the first Morrill Act, was to teach agriculture, military tactics, and the mechanic arts as well as classical studies so that members of the working classes could obtain a liberal, practical education.”

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include instructional staff regardless of whether they were formally designated as “faculty.”

College Board ASC

1. Provided data for approximately 3,400 institutions.
2. Did not collect data separately by academic rank.
3. Did not collect any data on salaries.
4. Did not clearly state which faculty members should be reported by contract length; however, since the instructions for ASC reference the AAUP FCS definition, it was highly likely that respondents to ASC followed the AAUP reporting guidelines on contract length, which state that institutions should include faculty members on 9/10- and 11/12-month contracts. Also, preliminary analysis revealed that the faculty member counts in ASC aligned closely with the sum of the 9/10-month faculty members and 11/12-month faculty members on the IPEDS SA component, rather than just 9/10-month or 11/12-month faculty members separately.
5. Collected data for faculty members by gender; however, the majority of institutions responding to ASC provided the total number of faculty members rather than the number by gender.
6. Did not collect data by faculty status.

Definitional Differences

Although data providers were contacted throughout the analysis period to clarify data interpretations, a few important differences between the IPEDS SA component data and the external data could not be resolved. These differences are listed below:

- While the IPEDS SA component and AAUP FCS collected data separately for all six academic ranks (professor, associate professor, assistant professor, instructor, lecturer, and no academic rank), CUPA NFSS and OSU FSS collected data separately for the first four previously mentioned ranks, but not for the last two previously mentioned ranks. College Board ASC did not collect any data separately by rank.

- The IPEDS SA component and AAUP FCS collected data separately for faculty members on 9/10- and 11/12-month contracts. AAUP FCS also allowed institutions to adjust salary data for faculty members on 11/12-month contracts by a factor of 0.818, or by a factor provided by institutions. CUPA NFSS and OSU FSS collected the number of faculty members on 9/10- and 11/12-month contracts in aggregate form and instructed responding institutions to reduce salaries for 11/12-month faculty members by 9/11, or a factor of 0.818. College Board ASC did not clearly state which faculty members should be reported by contract length; however, the instructions for ASC reference the AAUP FCS definition, so it was highly likely that respondents to ASC followed the AAUP reporting guidelines on contract length, which stated to include faculty members on 9/10- and 11/12-month contracts.
- Although the IPEDS SA component collected the number of faculty members on less-than-9-month contracts, none of the external sources collected data on these faculty members. Therefore, this analysis does not include faculty members on less-than-9-month contracts.
- The IPEDS SA component, AAUP FCS and College Board ASC collected faculty member data by gender; however, CUPA NFSS and OSU FSS did not collect faculty member data by gender. While the College Board ASC collected the data by gender, many institutions chose not to report data by gender. Therefore, the analysis between the IPEDS SA component and the College Board ASC included the total number of faculty members, but not the number of faculty members by gender.
- Although data on faculty members with faculty status (tenured, on tenure track, and not on tenure track⁹) and faculty members without faculty status were not collected separately in the IPEDS SA component, data on these faculty members were included in aggregate form in the IPEDS SA component. AAUP FCS collected data separately on faculty members who were tenured, on tenure track, and not on tenure track. AAUP FCS was the only external survey that collected faculty status data on faculty members. The AAUP FCS instructions state to include instructional staff regardless of whether they were formally designated as “faculty.”

⁹ Includes institutions that do not have a tenure system.

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- The reporting of the following personnel categories also varied among sources: department chairs (if their principal activity was instruction), adjunct and visiting faculty members, and administrative officers with titles such as dean of instruction or dean of students. While the documentation for some of the external surveys clearly stated which of the previously mentioned staff members to include or exclude, some of the documentation did not include specific instructions for reporting the previously mentioned staff members.

The following definitions were determined to be the same across the data sources:

- Of the surveys that collect salary information, base salary was collected.
- The definition of full-time faculty member was basically consistent across the data sources.

Data Elements

The external data sources were examined in detail to determine which data elements could be compared with the IPEDS SA component. Table 2.2 indicates which data elements were determined to be comparable between the IPEDS SA component and the external data sources.

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Table 2.2. Data elements matched from IPEDS SA component to CUPA NFSS, OSU FSS, AAUP FCS, and College Board ASC, by data element: 2004-05

Data element	CUPA NFSS	OSU FSS	AAUP FCS	College Board ASC
	Number of faculty			
All faculty				
Professor	Yes	Yes	Yes	†
Associate	Yes	Yes	Yes	†
Assistant	Yes	Yes	Yes	†
Instructor	Yes	Yes	Yes	†
Lecturer	†	†	Yes	†
No Rank	†	†	Yes	†
Total	†	†	Yes	Yes
Men				
Professor	†	†	Yes	†
Associate	†	†	Yes	†
Assistant	†	†	Yes	†
Instructor	†	†	Yes	†
Lecturer	†	†	Yes	†
No Rank	†	†	Yes	†
Total	†	†	Yes	Yes ¹
Women				
Professor	†	†	Yes	†
Associate	†	†	Yes	†
Assistant	†	†	Yes	†
Instructor	†	†	Yes	†
Lecturer	†	†	Yes	†
No Rank	†	†	Yes	†
Total	†	†	Yes	Yes ¹
	Salary data			
All faculty				
Professor	Yes	Yes	Yes	†
Associate	Yes	Yes	Yes	†
Assistant	Yes	Yes	Yes	†
Instructor	Yes	Yes	Yes	†
Lecturer	†	†	Yes	†
No Rank	†	†	Yes	†
Total	†	†	Yes	†

See notes at end of table.

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Table 2.2. Data elements matched from IPEDS SA component to CUPA NFSS, OSU FSS, AAUP FCS, and College Board ASC, by data element: 2004-05—Continued

Data element	CUPA NFSS	OSU FSS	AAUP FCS	College Board ASC
Salary data—Continued				
Men				
Professor	†	†	Yes	†
Associate	†	†	Yes	†
Assistant	†	†	Yes	†
Instructor	†	†	Yes	†
Lecturer	†	†	Yes	†
No Rank	†	†	Yes	†
Total	†	†	Yes	†
Women				
Professor	†	†	Yes	†
Associate	†	†	Yes	†
Assistant	†	†	Yes	†
Instructor	†	†	Yes	†
Lecturer	†	†	Yes	†
No Rank	†	†	Yes	†
Total	†	†	Yes	†
Number of faculty and/or faculty salary				
Less than 9-month faculty	†	†	†	†
9/10-month alone	†	Yes	Yes ²	†
11/12-month alone	†	†	Yes ²	†
9/10- and 11/12-month combined	Yes ³	Yes ³	†	Yes ⁴

†Not applicable.

¹Only some institutions provided the data by gender; the majority provided data for total full-time or total part-time faculty only. Analysis was conducted on total full-time faculty only.

²AAUP provided data for 9/10- and 11/12-month faculty, along with the correction factor used by the institution.

³CUPA and OSU reported 9/10- and 11/12-month faculty together, with the 11/12 month faculty salaries corrected to reflect a 9/10-month equivalent.

⁴The College Board reported the number of faculty only; salary data were not collected.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component; College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS); Oklahoma State University (OSU), 2004-05 Faculty Salary Survey (FSS); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Comparable Institutions

The next step of this analysis involved matching institutions that reported the IPEDS SA component data to each external source. The institutions included in each database were assessed to determine common institutions on the IPEDS SA component and external data sources. Institutions were matched on IPEDS UNITID, when available. If the IPEDS UNITID was not available, variables such as FICE code, institution name, city, state and Carnegie

classification were used. The following data elements were utilized to match the institutions by data source:

1. CUPA NFSS: Institution FICE code, institution name, city, state.
2. OSU FSS: Institution name, Carnegie classification.
3. AAUP FCS: IPEDS UNITID.
4. College Board ASC: Institution name, city, state.

Parent/Child Relationships

On the IPEDS SA component, institutions occasionally reported data as a parent institution, with no data reported separately for an institution considered a child, or vice versa; however, institutions did not necessarily use the same method when reporting to other organizations. For the 2004-05 IPEDS SA component, the parent/child reporting issue affected 0.93 percent of reporting institutions, with 29 parents and 35 children. The IPEDS SA component database included flags to denote if institutions were reported as parents or children.

When comparing the IPEDS SA component data with the other datasets, parent and child institutions were identified in order to determine if their data were reported in the same manner on the external data sources. For purposes of this analysis, institutions for which valid comparisons could be made were retained; all other institutions were eliminated. Given the small percentage of institutions in this group, the results were not appreciably affected. The following parent/child issues were noted.

1. CUPA NFSS: Four institutions included on CUPA NFSS were identified as either a parent or child record on IPEDS; however, it was not clear how these records were handled on the CUPA NFSS database. Given the late date at which the CUPA NFSS data were obtained, and the relatively few records this phenomenon affected, the four records with unclear parent/child reporting were eliminated from the IPEDS SA component to CUPA NFSS analysis.
2. OSU FSS: None of the institutions were affected by parent/child relationships.
3. AAUP FCS: Approximately 10 institutions on AAUP FCS were combined in order to agree with parent/child relationships on the IPEDS SA component.

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4. College Board ASC: None of the institutions were affected by parent/child relationships.

For purposes of conducting this analysis, a 2004-05 IPEDS SA component unperturbed data file containing 4,116 records was provided by NCES. An additional 23 institutions in the IPEDS SA component database that reported only less-than-9-month faculty members were excluded from this analysis because none of the external data sources collected data on less-than-9-month faculty members. (The 23 institutions that were deleted from this analysis reported a total of 555 faculty members on less-than-9-month contracts only.)

Table 2.3 provides the number of institutional matches made between the IPEDS SA component and each external data source by analysis group. Also reported is the number of institutions (918, or 22 percent) in the IPEDS SA component that did not match any of the external databases. Thus, this analysis matched over three-quarters of the institutions responding to the 2004-05 IPEDS SA component to at least one external source. All public research institutions on the IPEDS SA component were matched to at least one external source. All but 2 percent of private not-for-profit research institutions were matched, and for public other 4-year institutions, all but 5 percent were matched. Although three of the four external sources (CUPA NFSS, AAUP FCS, and College Board ASC) include private for-profit institutions in their survey population, one source (AAUP FCS) did not receive any data from private for-profit institutions for 2004-05, and another source (CUPA NFSS) received data from only one private for-profit institution. Of the 786 private for-profit institutions that responded to the IPEDS SA component, forty-seven percent were matched to the College Board ASC.

Table 2.3. Summary of institutional matching between IPEDS SA component and CUPA NFSS, OSU FSS, AAUP FCS, and College Board ASC, by external source and analysis group: 2004-05

Analysis group	Number of institutions responding to IPEDS SA component	Number of institutions responding to IPEDS SA component that were matched to an external source				Number of institutions responding to IPEDS SA component that were not matched to an external source	
		CUPA NFSS ¹	OSU FSS ²	AAUP FCS	College Board ASC	Number	Percent
Total	4,116	812	93	1,431	3,098	918	22.3
Public research institutions	166	92	72	158	162	0	0.0
Public other 4-year institutions	473	238	21	328	436	22	4.7
Public 2-year institutions	1,064	0	0	267	912	127	11.9
Private not-for-profit research institutions	90	41	0	76	85	2	2.2
Private not-for-profit other 4-year institutions	1,426	440	0	598	1,049	327	22.9
Private not-for-profit 2-year institutions	111	0	0	4 ³	81	28	25.2
Private for-profit 4- and 2-year institutions	786	1 ³	0	0 ⁴	373	412	52.4

¹CUPA data were provided in the aggregate by analysis group; only summary data were compared with IPEDS.

²OSU data were provided in the aggregate by analysis group; only summary data were compared with IPEDS. OSU only provided data on public 4-year institutions.

³Reporting standards not met. The number of institutions in the external data source was too small to yield reliable analysis; therefore, data analysis between the external source and IPEDS SA component could not be conducted.

⁴Although AAUP FCS collected data from private for-profit 4- and 2-year institutions, none of the private for-profit 4- and 2-year institutions that reported to AAUP FCS for the 2004-05 academic year matched those on the IPEDS SA component.

NOTE: The IPEDS SA component is applicable to degree-granting institutions only.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component; College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS); Oklahoma State University (OSU), 2004-05 Faculty Salary Survey (FSS); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Data Analysis

The results of the analysis measuring the differences between each external data source and the related IPEDS SA component within analysis group follow. The analysis groups¹⁰ utilized in this part of the study were:

1. Public research institutions
2. Public other 4-year institutions
3. Public 2-year institutions
4. Private not-for-profit research institutions
5. Private not-for-profit other 4-year institutions
6. Private not-for-profit 2-year institutions
7. Private for-profit 4- and 2-year institutions

Where only external summary data were provided (CUPA NFSS and OSU FSS), the total number of faculty members and the average salary for each analysis group were computed for the IPEDS SA component and the external data sources. The data were then analyzed to determine the magnitude of the difference between that reported on the IPEDS SA component and the external sources. Where individual institutional records were provided for the analysis (AAUP FCS and College Board ASC), the average number of faculty members and the average salary (where applicable) for each subgroup (e.g., full-time faculty) within each analysis group were determined. The average for the analysis group, the average absolute difference, and the percent difference between the IPEDS SA component and the external sources were computed. These analyses provided the ability to identify the magnitude and percent of the difference between the IPEDS SA component data and the data from the external datasets for each analysis group.

CUPA NFSS Analysis

For purposes of this analysis, CUPA NFSS provided summary data by analysis group and academic rank. Of the 4,116 four-year and two-year degree-granting institutions that responded to the IPEDS SA component, 812 four-year degree-granting institutions were matched to CUPA NFSS. CUPA NFSS excluded the following three faculty member groups that the IPEDS SA component included: full-time adjunct faculty members, visiting faculty members, and replacement faculty members for those on sabbatical leave. There was no method of identifying

¹⁰ Since the IPEDS SA component is applicable to degree-granting institutions only, less-than-2-year institutions were not considered as an analysis group.

these faculty members on the IPEDS SA component database in order to exclude them and create a comparative set to CUPA. Therefore, it was hypothesized that the number of faculty members reported on the IPEDS SA component would be slightly more than CUPA NFSS, and that the exclusion of the three previously mentioned types of faculty members would cause inconsequential variation in the average salaries, especially since the excluded faculty members tend to be a relatively small portion of institutional staff.

Tables 2.4a and 2.4b compare the total number of faculty members and the average salary on the IPEDS SA component to CUPA NFSS, by analysis group and academic rank. CUPA NFSS provided data on 9/10-month faculty and 11/12-month faculty, in aggregate, by academic rank. To compare the number of faculty members reported on the IPEDS SA component and CUPA NFSS, the numbers of 9/10- and 11/12-month faculty members reported on the IPEDS SA component were summed to create a comparative group to CUPA NFSS. The salaries data provided by CUPA NFSS included data for faculty members on 9/10-month contracts in addition to data for faculty members on 11/12-month contracts; however, the 11/12-month salary data were adjusted by 9/11, or a factor of 0.818. Therefore, to conduct this analysis, the salaries of 11/12-month faculty members on the IPEDS SA component were also adjusted by a factor of 0.818.

As table 2.4a displays, the IPEDS SA component included a larger number of full-time faculty members than did CUPA NFSS for all analysis groups and academic ranks; the majority of the differences were small to moderate. The largest percent difference between the two sources occurred in the instructor rank at private not-for-profit research institutions: CUPA NFSS reported 28 percent fewer instructors in this category than the IPEDS SA component (defined as a large difference). This was followed by instructors at private not-for-profit other 4-year institutions and public other 4-year institutions (24 percent and 22 percent fewer, respectively, reported by CUPA NFSS, also defined as large differences). Following instructors, assistant professors had the next largest discrepancy in numbers reported between the two sources, again with larger numbers reported by the IPEDS SA component: a 20 percent difference at private not-for-profit research institutions, and 17 percent each at public other 4-year institutions and private not-for-profit other 4-year institutions. The differences in the previously mentioned excluded categories (e.g., adjunct faculty members, etc.) between the two data sources could account for the differences in the numbers of faculty reported.

In terms of average salaries, the magnitude of the differences was very small (less than 3 percent) in all cases, with the exception of instructors at private not-for-profit research

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institutions, where CUPA NFSS reported an average salary that was \$4,728 greater than the IPEDS SA component—a 10 percent, or moderate, difference (table 2.4b).

Table 2.4a. Total number of full-time faculty members reported on IPEDS SA component and CUPA NFSS, and the magnitude and percentage of the difference, by analysis group and academic rank: 2004-05

Analysis group and academic rank	Number of faculty		Difference	
	IPEDS SA component	CUPA NFSS	Magnitude of difference ¹	Percent difference ²
Public research institutions				
Professor	23,574	21,439	-2,135	-9.1
Associate professor	19,333	17,740	-1,593	-8.2
Assistant professor	18,509	16,088	-2,421	-13.1
Instructor	4,735	4,022	-713	-15.1
Public other 4-year institutions				
Professor	18,020	16,389	-1,631	-9.1
Associate professor	16,688	14,837	-1,851	-11.1
Assistant professor	19,770	16,430	-3,340	-16.9
Instructor	5,900	4,601	-1,299	-22.0
Private not-for-profit research institutions				
Professor	6,289	5,867	-422	-6.7
Associate professor	5,341	4,600	-741	-13.9
Assistant professor	4,607	3,690	-917	-19.9
Instructor	754	543	-211	-28.0
Private not-for-profit other 4-year institutions				
Professor	13,920	13,148	-772	-5.5
Associate professor	14,611	13,242	-1,369	-9.4
Assistant professor	16,156	13,440	-2,716	-16.8
Instructor	3,163	2,393	-770	-24.3

¹The computation for the magnitude of the difference between CUPA NFSS and IPEDS SA component is: CUPA NFSS – IPEDS SA component.

²The computation for the percent difference between CUPA NFSS and IPEDS SA component is: (CUPA NFSS – IPEDS SA component) / IPEDS SA component.

NOTE: Data in this table represent 811 institutions matching between IPEDS SA component and CUPA NFSS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS), Data on Demand data file.

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Table 2.4b. Average salaries reported for full-time faculty members on IPEDS SA component and CUPA NFSS, and the magnitude and percentage of the difference, by analysis group and academic rank: 2004-05

Analysis group and academic rank	Average salary		Difference	
	IPEDS SA component	CUPA NFSS	Magnitude of difference ¹	Percent difference ²
Public research institutions				
Professor	\$93,846	\$94,655	\$809	0.9
Associate professor	67,210	67,415	205	0.3
Assistant professor	56,345	56,889	544	1.0
Instructor	38,801	38,924	123	0.3
Public other 4-year institutions				
Professor	72,616	72,919	303	0.4
Associate professor	58,618	58,614	-4	0.0
Assistant professor	49,406	49,703	297	0.6
Instructor	38,268	37,997	-272	-0.7
Private not-for-profit research institutions				
Professor	102,709	103,108	398	0.4
Associate professor	72,763	72,703	-60	-0.1
Assistant professor	61,153	61,337	185	0.3
Instructor	46,238	50,966	4,728	10.2
Private not-for-profit other 4-year institutions				
Professor	75,522	75,851	328	0.4
Associate professor	59,143	59,647	503	0.9
Assistant professor	49,012	49,357	345	0.7
Instructor	40,042	41,057	1,015	2.5

¹The computation for the magnitude of the difference between CUPA NFSS and IPEDS SA component is: CUPA NFSS – IPEDS SA component.

²The computation for the percent difference between CUPA NFSS and IPEDS SA component is: (CUPA NFSS – IPEDS SA component) / IPEDS SA component.

NOTE: Data in this table reflect 811 institutions matching between IPEDS SA component and CUPA NFSS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS), Data on Demand data file.

OSU FSS Analysis

For purposes of this analysis, OSU FSS provided summary data by analysis group and academic rank. OSU FSS collected data from public land-grant institutions only—public research institutions and other 4-year institutions. The OSU FSS database included 94 public land-grant institutions; 93 institutions were matched to institutions in the IPEDS SA database. OSU FSS provided data on 9/10-month faculty and 11/12-month faculty, in aggregate, by academic rank. To compare the number of faculty members on the IPEDS SA component and OSU FSS, the numbers of 9/10- and 11/12-month faculty members reported on the IPEDS SA

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component were summed to create a group of faculty members comparable to that reported on OSU FSS. OSU FSS handled 11/12-month faculty salaries using the same method as CUPA NFSS—adjusting the salaries of 11/12-month faculty members by a factor of 0.818. Therefore, to conduct this analysis, the salaries of 11/12-month faculty members on the IPEDS SA component were also adjusted by a factor of 0.818.

The instructions for OSU FSS were not as detailed as the instructions for the IPEDS SA component. Therefore, it was unclear how the reporting of some faculty members on OSU FSS was handled. Also, while the instructions for completing OSU FSS contained detailed information for reporting employees on split appointments, the IPEDS SA component did not include such instructions. For example, OSU FSS encouraged institutions to report split appointments in only one Classification of Instructional Programs (CIP) code, by choosing either the department that funded more of a faculty member's salary, or perhaps the department in which he/she had tenure. Unfortunately, survey respondents were not always able to use only one CIP code to report faculty members that had split appointments. Consequently, these respondents chose to count the same faculty member and corresponding salary in more than one discipline, leading to double counting in some instances. There was no way to identify cases where double counting existed.

Tables 2.5a and 2.5b display the results of the comparison of the IPEDS SA component data to the OSU FSS data. The differences in the number of faculty members reported on the IPEDS SA component and OSU FSS varied by analysis group and academic rank. For example, the number of associate and assistant professors in public research institutions and public other 4-year institutions was greater in IPEDS than in OSU, while the opposite was true for professors in both of these sectors. In the public other 4-year institution category, there were approximately 21 percent more instructors reported by IPEDS than by OSU, a large difference; however, in public research institutions, there was a very small difference, with approximately 3 percent more instructors reported by OSU than by IPEDS (table 2.5a).

Albeit a very small difference, the largest difference reported for average salaries between the two data sources was for instructors in both sectors, where the average salary reported by OSU FSS was 4 percent higher than that reported on the IPEDS SA component (table 2.5b). For public research institutions, the average salaries for professors, associate professors and assistant professors differed between the two data sources by 1 percent or less. In public other 4-year institutions, the average salaries for professors, associate professors and

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assistant professors differed by 3 percent or less. In all cases, OSU reported higher average salaries than IPEDS.

The definitional difference previously explained may account for some of the differences in the number of faculty members seen in this analysis. The average salary data appeared to show little variation between the two data sources, despite the difference in the number of faculty members reported.

Table 2.5a. Total number of full-time faculty members reported on IPEDS SA component and OSU FSS, and the magnitude and percentage of the difference, by analysis group and academic rank: 2004-05

Analysis group and academic rank	Number of faculty		Difference	
	IPEDS SA component	OSU FSS	Magnitude of difference ¹	Percent difference ²
Public research institutions				
Professor	32,931	32,962	31	0.1
Associate professor	21,424	20,268	-1,156	-5.4
Assistant professor	19,518	18,218	-1,300	-6.7
Instructor	3,014	3,105	91	3.0
Public other 4-year institutions				
Professor	3,662	3,859	197	5.4
Associate professor	3,494	3,442	-52	-1.5
Assistant professor	3,661	3,345	-316	-8.6
Instructor	925	734	191	-20.6

¹The computation for the magnitude of the difference between OSU FSS and IPEDS SA component is: OSU FSS – IPEDS SA component.

²The computation for the percent difference between OSU FSS and IPEDS SA component is: (OSU FSS – IPEDS SA component) / IPEDS SA component.

NOTE: Data in this table reflect 93 institutions matching between IPEDS SA component and OSU FSS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and Oklahoma State University (OSU), 2004-05 Faculty Salary Survey (FSS) data file.

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Table 2.5b. Average salaries of full-time faculty members reported on IPEDS SA component and OSU FSS, and the magnitude and percentage of the difference, by analysis group and academic rank: 2004-05

Analysis group and academic rank	Average salary		Difference	
	IPEDS SA component	OSU FSS	Magnitude of difference ¹	Percent difference ²
Public research institutions				
Professor	\$99,823	\$100,789	\$966	1.0
Associate professor	69,008	69,140	132	0.2
Assistant professor	59,717	60,171	455	0.8
Instructor	39,449	40,934	1,485	3.8
Public other 4-year institutions				
Professor	85,459	87,171	1,712	2.0
Associate professor	63,942	65,118	1,176	1.8
Assistant professor	52,851	54,390	1,539	2.9
Instructor	37,778	39,261	1,483	3.9

¹The computation for the magnitude of the difference between OSU FSS and IPEDS SA component is: OSU FSS – IPEDS SA component.

²The computation for the percent difference between OSU FSS and IPEDS SA component is: (OSU FSS – IPEDS SA component) / IPEDS SA component.

NOTE: Data in this table reflect 93 institutions matching between IPEDS SA component and OSU FSS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and Oklahoma State University (OSU), 2004-05 Faculty Salary Survey (FSS) data file.

AAUP FCS Analysis

AAUP FCS provided data by institution; data were provided for 1,431 institutions that matched to the IPEDS SA component. AAUP FCS provided data by gender and contract length separately; therefore, a much more in-depth analysis of the IPEDS SA component to AAUP FCS comparison was conducted. The only potential definitional difference between the IPEDS SA component and AAUP FCS was the handling of faculty members on leave without pay: they were not collected on the IPEDS SA component, and it is unknown how they were handled on AAUP FCS.

In this analysis, the number of faculty members and the average salary in each subgroup (for example, men professors) for each institution were compared. These results were aggregated for each analysis group, in order to compare the averages, the average absolute difference, and the percent difference between the IPEDS SA component and AAUP FCS. The correlation coefficient between the IPEDS SA component and AAUP FCS was computed to determine the strength of the relationship between the data provided on the IPEDS SA component and AAUP FCS.

Descriptive Statistics

Tables 2.6a1 through 2.6e2 provide the results of the comparison of the number of faculty members reported on the IPEDS SA component and AAUP FCS; tables 2.7a1 through 2.7e2 provide the results for the reported faculty salaries.

Of the 210 data elements compared for the number of faculty, 57 of the percent differences were very small, and an additional 18 were small; therefore, 36 percent of the comparisons (75 of the 210 comparisons made) resulted in very small or small percent differences. Ninety-one of the percent differences were large (43 percent of the comparisons made), and the balance, 44 (21 percent of the comparisons made), were moderate.

In all but three cases, where the percent differences were large, the data differed by less than ten faculty members, and the average number of faculty members were relatively small—usually ten or less. A difference of one faculty member in a group that only has three faculty members results in a large percent difference. Of the 91 data elements resulting in large percent difference, 63 data elements had an average absolute difference of two or less, and 28 of the data elements had an average absolute difference of zero. Thus, although the percent differences may be large in these cases, they often reflect reports differing by one or two faculty members. Differences in data reported to the IPEDS SA component as compared to AAUP FCS were more often large in the faculty ranks where there were fewer faculty members, such as lecturer and no rank, especially for faculty members on 11/12-month contracts. The details for each analysis group follow:

- Public research institutions: For faculty members on 9/10-month contracts with faculty ranks of professor, and associate and assistant professor, the percent differences between the two sources were very small, with average absolute differences of 3 or fewer (table 2.6a1). The percent differences between the two sources for instructors and lecturers on 9/10-month contracts were small or moderate; faculty members with no rank contained large differences between the two sources. Data for faculty members on 11/12-month contracts contained more variability between the data reports than did the data reports for 9/10-month faculty, again largely due to the fact that the analysis groups contained fewer observations (table 2.6a2).
- Public other 4-year institutions: Percent differences in data reported to the IPEDS SA component and AAUP FCS follow the same trend as that for the public

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research universities: 9/10-month faculty members with ranks of professor, and associate and assistant professor contained very small differences; here the average absolute difference was 2 or less (table 2.6b1). Data reported to the IPEDS SA component and AAUP FCS for lecturers and faculty members with no rank on 9/10-month contracts (table 2.6b1), and faculty on 11/12-month contracts (table 2.6b2), regardless of rank, all contained more variability, with small, moderate and large differences between the reports. However, with two exceptions (9/10-month lecturer total and 11/12-month faculty total), all of these comparisons contained an average of ten or fewer faculty members; as such, a slight difference in the report can result in large percent differences.

- Public 2-year institutions: Table 2.6c1 displays small percent differences between the average numbers of faculty members on 9/10-month contracts with faculty ranks of professor, and associate and assistant professor reported to the IPEDS SA component and AAUP FCS. The average number of faculty reported for instructors and lecturers contained percent differences that were small to large. The average number of faculty with no rank on 9/10-month contracts, which is the faculty classification used by a relatively large number of public 2-year institutions, contained large differences between the IPEDS SA component and AAUP FCS. Although few faculty members were employed at public 2-year institutions on an 11/12-month basis, data reported to the IPEDS SA component and AAUP FCS for professors, associate professors, and assistant professors contained very small or small percent differences (table 2.6c2). The reported differences in the average number of faculty members for the remaining comparisons made between the IPEDS SA component and the AAUP FCS, although often falling in the large range, had relatively small average absolute differences.
- Private not-for-profit research institutions: As displayed in table 2.6d1, as with the previously discussed analysis groups, very small percent differences existed between the average number of faculty members on 9/10-month contracts reported on the IPEDS SA component and AAUP FCS for the ranks of professor, and associate and assistant professor. The percent differences in the majority of the reports for instructor, lecturer and faculty members with no rank were moderate or large. The percent differences in the data reported for 11/12-month

faculty members in private not-for-profit research institutions were all large, yet these comparisons contained relatively few numbers of faculty members; by rank, the average absolute difference was ten faculty members or less (table 2.6d2).

- Private not-for-profit other 4-year institutions: The number of faculty members reported to the IPEDS SA component and AAUP FCS in the private not-for-profit other 4-year institutions followed the same pattern as the previously discussed analysis groups: percent differences in the data reported for 9/10-month faculty members in the professor, and associate and assistant professor ranks were smaller than the other ranks in the 9/10-month category and all the ranks in the 11/12-month category (table 2.6e1 and 2.6e2). Although the percent differences for the 9/10-month professor, associate and assistant professor were very small and small, in each of these cases, the average absolute difference was two or less. The majority of the remaining comparisons contained large differences, but again, these reflect relatively small numbers of faculty members.

Linear correlation analysis indicated that the relationship between the number of 9/10-month full-time faculty members reported on the IPEDS SA component and AAUP FCS was stronger than that reported for the number of 11/12-month full-time faculty members. Further, nearly all of the computed correlation coefficients for the number of 9/10-month faculty between the IPEDS SA component and AAUP FCS were 0.80 or greater (for 92 out of 105 data elements), with many of the data elements having correlation coefficients of 0.90 or greater (78 data elements). Also, 18 data elements achieved correlation coefficients of 1.00 between the IPEDS SA component and AAUP FCS. These high correlation coefficients indicated a strong relationship between the IPEDS SA component and AAUP FCS for the number of 9/10-month faculty members reported. The following 9/10-month categories resulted in the weakest correlation coefficients: faculty with no rank in public research institutions, and instructors in public 2-year institutions.

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Table 2.6a1. Summary statistics for average number of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public research institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	499	497	7	1.4	1.00
Academic rank					
Professor	216	217	1	0.7	1.00
Associate professor	130	131	1	0.8	1.00
Assistant professor	111	110	2	1.6	0.99
Instructor	15	15	1	6.8	0.98
Lecturer	24	23	3	12.3	0.92
No rank	3	1	1	55.5	0.60
			Women		
Total	265	261	6	2.3	0.99
Academic rank					
Professor	52	52	0	0.8	1.00
Associate professor	75	75	1	0.7	1.00
Assistant professor	83	83	1	1.4	0.99
Instructor	23	22	1	5.8	0.98
Lecturer	28	28	3	11.3	0.94
No rank	4	2	2	54.9	0.57
			Total		
Total	764	758	13	1.7	1.00
Academic rank					
Professor	268	269	2	0.7	1.00
Associate professor	205	205	1	0.7	1.00
Assistant professor	194	193	3	1.5	0.99
Instructor	38	37	2	6.1	0.99
Lecturer	52	50	6	11.7	0.93
No rank	6	3	3	54.5	0.58

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 158 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6a2. Summary statistics for average number of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public research institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	99	96	14	14.4	0.92
Academic rank					
Professor	48	51	4	9.0	0.97
Associate professor	22	22	2	10.0	0.96
Assistant professor	15	15	3	18.6	0.89
Instructor	3	3	1	19.8	0.92
Lecturer	5	3	2	37.4	0.42
No rank	5	2	2	45.5	0.34
			Women		
Total	47	43	10	21.3	0.81
Academic rank					
Professor	10	10	1	13.6	0.93
Associate professor	11	11	2	16.8	0.85
Assistant professor	13	13	3	21.0	0.84
Instructor	5	4	1	18.7	0.90
Lecturer	4	3	1	31.1	0.53
No rank	4	2	1	34.2	0.50
			Total		
Total	146	138	24	16.4	0.88
Academic rank					
Professor	58	61	6	9.7	0.97
Associate professor	33	33	4	12.0	0.93
Assistant professor	28	28	6	19.6	0.86
Instructor	8	7	2	18.8	0.90
Lecturer	9	7	3	34.3	0.46
No rank	9	3	4	40.7	0.40

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 158 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6b1. Summary statistics for average number of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public other 4-year institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	143	142	3	1.8	1.00
Academic rank					
Professor	52	52	1	1.9	1.00
Associate professor	37	37	0	1.1	1.00
Assistant professor	39	38	1	2.3	1.00
Instructor	7	7	1	7.1	0.99
Lecturer	7	7	1	11.7	0.93
No rank	1	1	1	46.3	0.69
			Women		
Total	103	102	2	2.2	0.99
Academic rank					
Professor	21	21	1	2.9	0.98
Associate professor	26	26	0	1.6	1.00
Assistant professor	36	35	1	1.9	1.00
Instructor	11	11	1	6.1	0.99
Lecturer	9	8	1	10.6	0.93
No rank	1	1	1	42.0	0.74
			Total		
Total	246	244	5	1.9	1.00
Academic rank					
Professor	73	72	2	2.2	0.99
Associate professor	62	63	1	1.1	1.00
Assistant professor	74	74	2	2.0	1.00
Instructor	18	18	1	6.1	0.99
Lecturer	16	15	2	10.6	0.93
No rank	3	3	1	43.8	0.73

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 328 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6b2. Summary statistics for average number of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public other 4-year institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
Men					
Total	10	10	1	11.6	0.95
Academic rank					
Professor	5	5	0	9.4	0.96
Associate professor	2	2	0	12.5	0.95
Assistant professor	2	1	0	20.1	0.93
Instructor	1	1	0	29.6	0.72
Lecturer	1	1	0	29.2	0.59
No rank	0	0	0	105.3	0.18
Women					
Total	7	7	1	11.6	0.98
Academic rank					
Professor	2	2	0	10.4	0.97
Associate professor	2	2	0	16.2	0.96
Assistant professor	2	2	0	15.4	0.98
Instructor	1	1	0	13.0	0.97
Lecturer	1	1	0	25.2	0.76
No rank	0	0	0	86.9	0.36
Total					
Total	18	17	2	10.9	0.97
Academic rank					
Professor	7	6	1	9.6	0.97
Associate professor	4	4	1	13.6	0.96
Assistant professor	4	3	1	16.5	0.97
Instructor	1	1	0	20.6	0.89
Lecturer	1	1	0	26.2	0.69
No rank	1	1	1	96.6	0.23

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 328 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6c1. Summary statistics for average number of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public 2-year institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	50	49	2	3.1	0.99
Academic rank					
Professor	10	10	0	3.7	0.98
Associate professor	8	8	0	3.2	0.99
Assistant professor	8	8	0	2.6	1.00
Instructor	8	5	3	41.8	0.50
Lecturer	1	1	0	14.6	0.95
No rank	15	17	4	27.5	0.83
			Women		
Total	53	52	2	4.0	0.99
Academic rank					
Professor	8	9	0	3.6	0.99
Associate professor	8	8	0	3.3	0.99
Assistant professor	10	10	0	3.0	0.99
Instructor	10	6	4	40.7	0.50
Lecturer	1	1	0	8.3	0.99
No rank	16	19	5	31.7	0.79
			Total		
Total	103	101	4	3.4	0.99
Academic rank					
Professor	18	19	1	3.6	0.99
Associate professor	15	16	0	3.2	0.99
Assistant professor	18	18	0	2.8	0.99
Instructor	18	11	8	41.1	0.50
Lecturer	2	2	0	11.1	0.98
No rank	32	36	9	29.6	0.80

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 267 institutions matching between IPEDS SA component and AAUP FCS.

Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6c2. Summary statistics for average number of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public 2-year institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
Men					
Total	4	5	1	18.3	0.97
Academic rank					
Professor	1	1	0	3.6	1.00
Associate professor	1	1	0	6.1	1.00
Assistant professor	1	1	0	8.5	0.99
Instructor	2	1	1	65.7	0.24
Lecturer	0	0	0	77.8	0.56
No rank	0	2	1	417.0	0.18
Women					
Total	4	5	1	18.8	0.97
Academic rank					
Professor	1	1	0	3.4	1.00
Associate professor	1	1	0	4.2	1.00
Assistant professor	1	1	0	6.2	0.99
Instructor	2	1	1	64.6	0.17
Lecturer	0	0	0	73.3	0.32
No rank	0	2	1	343.7	0.19
Total					
Total	9	9	2	18.4	0.97
Academic rank					
Professor	2	2	0	3.5	1.00
Associate professor	1	1	0	5.1	1.00
Assistant professor	1	1	0	7.2	0.99
Instructor	3	1	2	65.2	0.17
Lecturer	0	0	0	75.8	0.34
No rank	1	4	3	378.7	0.18

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 267 institutions matching between IPEDS SA component and AAUP FCS.

Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6d1. Summary statistics for average number of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit research institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	375	368	14	3.8	0.99
Academic rank					
Professor	180	179	5	2.5	0.99
Associate professor	88	88	3	3.1	0.99
Assistant professor	75	74	2	3.0	0.99
Instructor	8	7	1	15.8	0.87
Lecturer	18	15	3	17.5	0.94
No rank	6	5	2	36.2	0.86
			Women		
Total	179	174	10	5.8	0.97
Academic rank					
Professor	42	42	1	2.8	0.99
Associate professor	47	47	2	3.3	0.99
Assistant professor	55	54	2	3.7	0.98
Instructor	10	9	2	20.6	0.77
Lecturer	20	18	3	13.0	0.96
No rank	5	4	2	35.8	0.88
			Total		
Total	555	542	25	4.4	0.98
Academic rank					
Professor	223	221	6	2.6	0.99
Associate professor	135	135	4	3.1	0.99
Assistant professor	130	128	4	3.2	0.98
Instructor	18	17	3	18.5	0.81
Lecturer	38	33	6	15.1	0.95
No rank	11	9	4	36.0	0.87

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 76 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6d2. Summary statistics for average number of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit research institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	45	34	22	49.6	0.45
Academic rank					
Professor	16	14	7	43.2	0.66
Associate professor	9	8	4	45.4	0.50
Assistant professor	8	7	4	47.3	0.54
Instructor	3	3	2	58.3	0.78
Lecturer	2	1	1	45.3	0.83
No rank	8	1	7	86.2	0.05
			Women		
Total	28	20	14	49.4	0.54
Academic rank					
Professor	4	3	2	47.7	0.55
Associate professor	6	5	2	38.2	0.70
Assistant professor	9	7	4	43.8	0.59
Instructor	3	3	2	56.4	0.75
Lecturer	2	1	1	53.4	0.61
No rank	5	1	3	77.0	0.07
			Total		
Total	73	54	36	49.4	0.47
Academic rank					
Professor	20	17	9	43.9	0.63
Associate professor	15	13	7	42.4	0.58
Assistant professor	17	14	7	45.1	0.55
Instructor	6	6	3	57.3	0.76
Lecturer	4	2	2	49.3	0.75
No rank	12	2	10	82.8	0.05

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 76 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6e1. Summary statistics for average number of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit other 4-year institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	62	63	3	4.8	0.98
Academic rank					
Professor	23	23	1	4.2	0.98
Associate professor	18	18	1	4.4	0.98
Assistant professor	17	17	1	6.0	0.97
Instructor	2	2	0	20.7	0.80
Lecturer	1	1	0	30.6	0.81
No rank	1	1	0	43.9	0.82
			Women		
Total	45	45	3	5.9	0.97
Academic rank					
Professor	9	9	0	5.0	0.98
Associate professor	13	13	1	4.6	0.98
Assistant professor	17	17	1	6.7	0.96
Instructor	4	4	1	15.8	0.88
Lecturer	1	1	0	26.2	0.85
No rank	1	1	0	49.1	0.79
			Total		
Total	107	107	5	5.1	0.97
Academic rank					
Professor	32	33	1	4.3	0.98
Associate professor	31	32	1	4.4	0.98
Assistant professor	34	34	2	6.2	0.97
Instructor	6	6	1	17.2	0.83
Lecturer	2	2	1	28.0	0.83
No rank	2	1	1	45.6	0.82

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 598 institutions matching between IPEDS SA component and AAUP FCS.

Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.6e2. Summary statistics for average number of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit other 4-year institutions, 2004-05

Academic rank	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
Men					
Total	4	4	2	43.3	0.66
Academic rank					
Professor	1	1	1	56.4	0.43
Associate professor	1	1	1	39.3	0.76
Assistant professor	1	1	0	39.1	0.70
Instructor	0	0	0	67.1	0.67
Lecturer	0	0	0	37.8	0.77
No rank	0	0	0	128.0	0.11
Women					
Total	4	3	2	39.7	0.71
Academic rank					
Professor	1	1	0	56.8	0.44
Associate professor	1	1	0	41.5	0.75
Assistant professor	2	1	1	35.2	0.78
Instructor	0	0	0	44.5	0.74
Lecturer	0	0	0	33.6	0.91
No rank	0	0	0	101.5	0.16
Total					
Total	8	7	3	40.5	0.68
Academic rank					
Professor	2	2	1	52.6	0.44
Associate professor	2	2	1	40.0	0.75
Assistant professor	3	2	1	35.8	0.74
Instructor	1	1	0	48.5	0.71
Lecturer	0	0	0	35.5	0.90
No rank	0	0	0	114.8	0.12

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 598 institutions matching between IPEDS SA component and AAUP FCS.

Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

The salary data for faculty members on 9/10-month contracts reported on the IPEDS SA component and AAUP FCS contained a higher portion of data elements that had small or very small percent differences than did the number of faculty data: 65 data elements had very small differences and 26 had small, for a total of 91, or 43 percent, of the 210 data elements studied. An additional 36, or 17 percent, of the comparisons between data reported on the IPEDS SA component and AAUP FCS resulted in moderate percent differences, and 83 data elements, or 40 percent, resulted in large percent differences.

The patterns are similar to those displayed by the average number of faculty members data: average salary data reported to the IPEDS SA components and AAUP FCS for 9/10-month professors, and associate and assistant professors, had very small percent differences in each analysis group. The percent differences for the 9/10-month instructors in all analysis groups were small to moderate, while the percent differences for the 9/10-month lecturers varied from very small to large. Faculty members with no rank on 9/10-month contracts, and faculty members on 11/12-month contracts, regardless of rank, had for the most part moderate or large percent differences between the two sources. Highlights of the exceptions follow:

- Public research institutions: While most of the percent differences in this analysis group for 11/12-month faculty members were moderate to large, the ranks of professor and assistant professor had very small to small percent differences for average salaries (table 2.7a2).
- Public other 4-year institutions: Average salaries for 9/10-month lecturers in this analysis group had very small percent differences between the two sources, while average salaries for 9/10-month lecturers in the other analysis groups had moderate to large differences (table 2.7b1). Small differences in average salaries were also seen for men professors, women instructors, and professors overall for 11/12-month faculty members (table 2.7b2).
- Public 2-year institutions: While most of the percent differences in this analysis group for 11/12-month faculty members were large, the ranks of professor and assistant professor had small to moderate percent differences for average salaries (table 2.7c2).
- Private not-for-profit research institutions: In addition to the very small differences observed for average salary data reported to the IPEDS SA component and AAUP

FCS for 9/10-month faculty members in the ranks of professor, and associate and assistant professor, small differences also existed between the data reported for 9/10-month instructors, regardless of gender (table 2.7d1).

- Private not-for-profit other 4-year institutions: For this analysis group, there were 7 out of 42 comparisons resulting in very small percent differences for the average number of faculty reports (tables 2.6e1 and 2.6e2). However, the average salary data for the same analysis group resulted in 12 comparisons that were very small; these comparisons were for the 9/10-month faculty members total and the ranks of professor, and associate and assistant professor (tables 2.7e1 and 2.7e2). With one exception (total 9/10-month instructors), all other comparisons were either moderate or large for this analysis group.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7a1. Summary statistics for average salaries of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public research institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$78,057	\$78,417	\$425	0.6	1.00
Academic rank					
Professor	98,882	98,987	222	0.2	1.00
Associate professor	69,573	69,644	135	0.2	1.00
Assistant professor	60,181	60,299	152	0.3	1.00
Instructor	39,662	39,972	2,797	8.2	0.89
Lecturer	46,547	47,245	3,271	10.1	0.88
No rank	45,610	51,161	3,351	33.9	0.77
			Women		
Total	61,236	61,594	562	0.9	0.99
Academic rank					
Professor	89,165	89,215	310	0.4	1.00
Associate professor	64,447	64,483	116	0.2	1.00
Assistant professor	54,691	54,729	166	0.3	1.00
Instructor	37,812	37,871	1,802	5.7	0.89
Lecturer	41,961	42,496	3,295	11.5	0.86
No rank	43,072	45,688	3,664	35.6	0.78
			Total		
Total	72,231	72,625	487	0.7	0.98
Academic rank					
Professor	96,999	97,098	219	0.2	1.00
Associate professor	67,709	67,768	119	0.2	1.00
Assistant professor	57,829	57,910	148	0.3	1.00
Instructor	38,551	38,709	2,460	6.9	0.85
Lecturer	44,039	44,650	3,313	10.4	0.86
No rank	44,168	48,163	4,367	37.8	0.74

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 158 institutions matching between IPEDS SA component and AAUP FCS.

Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7a2. Summary statistics for average salaries of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public research institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$95,150	\$98,511	\$4,254	5.2	0.92
Academic rank					
Professor	117,881	118,529	2,544	2.6	0.96
Associate professor	86,225	86,285	26,251	37.0	0.94
Assistant professor	71,777	71,622	3,794	7.4	0.90
Instructor	49,559	50,104	4,033	16.3	0.86
Lecturer	54,841	61,388	3,231	11.7	0.93
No rank	55,643	61,050	5,160	45.3	0.71
			Women		
Total	74,588	78,034	3,968	6.1	0.93
Academic rank					
Professor	108,763	109,166	6,382	7.4	0.86
Associate professor	81,531	82,117	28,252	43.4	0.93
Assistant professor	67,038	67,839	2,596	5.2	0.94
Instructor	48,613	49,662	3,338	12.1	0.89
Lecturer	51,267	55,467	3,796	15.6	0.88
No rank	52,134	54,098	4,352	41.0	0.75
			Total		
Total	88,485	92,200	4,342	5.7	0.90
Academic rank					
Professor	116,349	116,955	2,665	2.7	0.96
Associate professor	84,637	84,913	3,184	4.4	0.91
Assistant professor	69,529	69,914	3,463	6.3	0.89
Instructor	48,997	49,846	3,681	12.3	0.87
Lecturer	53,184	58,460	3,756	13.1	0.91
No rank	54,153	57,647	5,748	46.4	0.69

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 158 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7b1. Summary statistics for average salaries of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public other 4-year institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$61,935	\$62,110	\$383	0.7	1.00
Academic rank					
Professor	76,490	76,519	571	0.8	0.97
Associate professor	61,048	61,056	227	0.4	1.00
Assistant professor	51,487	51,568	216	0.4	1.00
Instructor	38,949	39,046	1,499	5.3	0.92
Lecturer	43,042	43,338	539	2.7	0.99
No rank	44,375	47,601	1,930	39.3	0.78
			Women		
Total	54,413	54,704	494	1.0	0.99
Academic rank					
Professor	73,303	73,348	591	0.9	0.98
Associate professor	58,610	58,678	429	0.8	0.97
Assistant professor	49,442	49,543	211	0.5	1.00
Instructor	37,865	37,966	1,719	6.3	0.92
Lecturer	40,589	41,161	913	4.9	0.97
No rank	39,971	44,035	1,541	31.1	0.83
			Total		
Total	58,785	59,022	390	0.7	0.96
Academic rank					
Professor	75,584	75,622	540	0.8	0.97
Associate professor	60,045	60,077	380	0.7	0.98
Assistant professor	50,505	50,598	178	0.4	1.00
Instructor	38,294	38,395	1,746	5.8	0.91
Lecturer	41,701	42,138	644	3.1	0.98
No rank	42,042	45,804	2,154	38.6	0.79

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 328 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7b2. Summary statistics for average salaries of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public other 4-year institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$79,061	\$80,399	\$5,607	11.0	0.89
Academic rank					
Professor	95,026	94,650	3,108	6.7	0.95
Associate professor	77,040	77,958	40,482	104.3	0.90
Assistant professor	61,342	62,788	5,742	24.6	0.81
Instructor	47,387	48,123	1,527	14.3	0.92
Lecturer	58,360	62,191	1,312	10.7	0.95
No rank	55,979	55,697	1,513	37.6	0.80
			Women		
Total	67,006	68,357	5,480	12.4	0.89
Academic rank					
Professor	88,423	88,647	3,788	10.7	0.93
Associate professor	72,738	74,047	41,860	121.6	0.90
Assistant professor	57,807	60,016	4,900	21.5	0.85
Instructor	48,035	48,094	997	9.3	0.95
Lecturer	52,136	53,322	1,867	19.3	0.89
No rank	46,932	50,449	1,269	34.4	0.84
			Total		
Total	74,032	75,445	5,947	11.7	0.86
Academic rank					
Professor	93,229	93,055	3,735	7.7	0.94
Associate professor	75,142	76,269	5,213	11.5	0.89
Assistant professor	59,368	61,219	6,354	21.0	0.83
Instructor	47,722	48,107	1,595	11.0	0.93
Lecturer	55,094	57,490	1,954	13.9	0.93
No rank	51,710	53,288	1,675	33.8	0.84

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 328 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7c1. Summary statistics for average salaries of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public 2-year institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$53,520	\$53,933	\$594	1.2	0.96
Academic rank					
Professor	68,544	68,636	898	2.5	0.97
Associate professor	54,665	54,650	784	2.6	0.97
Assistant professor	48,199	48,330	646	2.4	0.97
Instructor	45,521	40,778	3,986	17.0	0.77
Lecturer	44,740	45,501	464	11.3	0.95
No rank	50,958	51,835	4,437	25.6	0.83
			Women		
Total	50,572	50,714	479	1.0	0.98
Academic rank					
Professor	64,473	64,342	954	3.1	0.97
Associate professor	52,749	52,808	715	2.4	0.97
Assistant professor	47,210	47,025	694	2.7	0.97
Instructor	44,172	40,115	3,729	16.6	0.79
Lecturer	45,877	45,747	567	12.1	0.94
No rank	48,659	49,347	4,327	25.7	0.83
			Total		
Total	52,008	52,277	410	0.8	0.95
Academic rank					
Professor	66,690	66,685	921	2.6	0.97
Associate professor	53,684	53,706	745	2.4	0.97
Assistant professor	47,670	47,626	663	2.5	0.97
Instructor	44,783	40,412	3,920	16.3	0.78
Lecturer	45,378	45,647	516	10.5	0.95
No rank	49,783	50,545	4,424	25.4	0.83

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 267 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7c2. Summary statistics for average salaries of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Public 2-year institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$58,571	\$58,024	\$3,957	16.9	0.88
Academic rank					
Professor	72,902	73,444	1,379	10.4	0.94
Associate professor	60,584	60,590	24,290	244.1	0.94
Assistant professor	53,118	53,278	817	9.1	0.95
Instructor	50,911	45,748	4,250	42.0	0.69
Lecturer	50,389	51,102	194	25.1	0.89
No rank	57,938	53,670	4,057	111.3	0.65
			Women		
Total	58,066	57,568	3,259	16.3	0.89
Academic rank					
Professor	72,177	72,204	1,030	9.6	0.94
Associate professor	60,268	60,280	24,329	273.7	0.97
Assistant professor	52,606	52,958	650	7.1	0.96
Instructor	49,939	46,126	3,541	37.0	0.75
Lecturer	42,457	39,476	511	63.1	0.58
No rank	60,958	53,436	4,497	146.2	0.57
			Total		
Total	58,319	57,798	3,342	13.3	0.85
Academic rank					
Professor	72,550	72,838	1,129	7.4	0.96
Associate professor	60,422	60,432	1,225	9.8	0.94
Assistant professor	52,834	53,099	1,191	10.6	0.94
Instructor	50,449	45,929	4,430	38.4	0.71
Lecturer	46,784	45,289	349	28.4	0.86
No rank	59,517	53,558	4,851	113.7	0.63

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 267 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7d1. Summary statistics for average salaries of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit research institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
Total	\$96,786	\$97,539	\$2,031	2.3	0.92
Men					
Academic rank					
Professor	123,605	123,691	2,004	1.8	0.90
Associate professor	80,626	80,658	1,489	1.9	0.87
Assistant professor	70,058	70,298	1,471	2.3	0.86
Instructor	47,959	48,022	3,245	8.5	0.88
Lecturer	54,666	54,961	3,259	10.8	0.92
No rank	55,135	57,043	5,793	35.5	0.75
Total	74,883	75,593	2,270	3.2	0.88
Women					
Academic rank					
Professor	113,007	113,006	2,566	2.6	0.83
Associate professor	74,779	74,861	1,510	2.1	0.88
Assistant professor	63,224	63,437	1,576	2.6	0.85
Instructor	45,101	44,283	1,810	5.5	0.95
Lecturer	47,113	47,887	3,887	14.0	0.86
No rank	52,402	52,567	5,200	34.8	0.72
Total	89,706	90,489	2,107	2.6	0.97
Total					
Academic rank					
Professor	121,590	121,665	2,143	2.0	0.88
Associate professor	78,583	78,632	1,505	2.0	0.87
Assistant professor	67,184	67,411	1,511	2.4	0.86
Instructor	46,358	45,929	2,491	6.8	0.92
Lecturer	50,708	51,147	4,031	13.4	0.87
No rank	53,882	54,858	6,014	36.1	0.72

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 76 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7d2. Summary statistics for average salaries of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit research institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$104,035	\$109,784	\$16,585	26.5	0.73
Academic rank					
Professor	141,954	147,341	19,043	24.5	0.77
Associate professor	93,882	94,601	52,818	99.4	0.71
Assistant professor	78,662	79,990	9,536	24.8	0.79
Instructor	55,706	58,599	4,654	29.4	0.83
Lecturer	71,511	72,660	8,606	55.3	0.55
No rank	88,775	95,899	7,308	53.5	0.62
			Women		
Total	79,664	83,249	14,249	30.8	0.73
Academic rank					
Professor	126,904	129,303	18,082	29.8	0.74
Associate professor	88,980	91,295	54,201	123.0	0.68
Assistant professor	72,527	73,072	9,718	28.5	0.73
Instructor	57,635	58,453	4,781	27.1	0.81
Lecturer	57,345	54,270	7,818	53.8	0.59
No rank	66,197	87,060	4,331	42.1	0.74
			Total		
Total	94,621	100,092	15,676	26.9	0.73
Academic rank					
Professor	138,994	144,058	20,040	25.8	0.76
Associate professor	91,968	93,407	15,245	28.7	0.70
Assistant professor	75,389	76,594	9,536	22.7	0.78
Instructor	56,775	58,519	4,697	22.2	0.84
Lecturer	64,522	63,992	9,978	58.3	0.56
No rank	80,388	92,269	7,264	52.5	0.61

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 76 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7e1. Summary statistics for average salaries of full-time 9/10-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit other 4-year institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$63,655	\$63,776	\$2,414	4.4	0.84
Academic rank					
Professor	78,813	79,042	2,605	4.0	0.88
Associate professor	60,909	60,910	2,070	4.0	0.85
Assistant professor	50,316	50,429	1,976	4.5	0.83
Instructor	40,956	40,634	3,281	12.5	0.84
Lecturer	47,548	48,452	1,546	20.0	0.89
No rank	53,950	51,202	2,445	45.8	0.68
			Women		
Total	56,076	56,386	2,378	4.8	0.81
Academic rank					
Professor	74,588	74,870	2,676	4.4	0.88
Associate professor	58,807	58,836	2,013	4.0	0.85
Assistant professor	48,567	48,735	1,932	4.6	0.82
Instructor	40,232	40,189	2,835	10.1	0.87
Lecturer	43,817	44,456	1,387	20.7	0.88
No rank	50,835	50,524	2,232	48.4	0.72
			Total		
Total	60,489	60,696	2,419	4.6	0.92
Academic rank					
Professor	77,633	77,866	2,628	4.1	0.86
Associate professor	60,017	60,028	1,993	3.9	0.84
Assistant professor	49,444	49,586	1,957	4.5	0.82
Instructor	40,519	40,367	2,796	9.1	0.85
Lecturer	45,475	46,245	1,818	21.3	0.88
No rank	52,396	50,891	2,885	45.8	0.70

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 598 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

Table 2.7e2. Summary statistics for average salaries of full-time 11/12-month faculty members reported on IPEDS SA component and AAUP FCS, by gender, contract length and academic rank: Private not-for-profit other 4-year institutions, 2004-05

Academic rank	Average salary		Difference		Correlation coefficient
	IPEDS SA component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
			Men		
Total	\$65,169	\$65,313	\$5,198	20.4	0.87
Academic rank					
Professor	78,982	78,595	4,737	23.9	0.87
Associate professor	66,440	66,552	45,375	231.4	0.87
Assistant professor	55,838	56,409	3,681	24.3	0.85
Instructor	42,665	42,404	2,202	51.9	0.71
Lecturer	48,189	51,051	280	29.8	0.87
No rank	51,633	55,013	1,410	82.5	0.52
			Women		
Total	59,659	59,763	5,128	22.5	0.85
Academic rank					
Professor	75,796	75,986	4,411	27.9	0.85
Associate professor	63,189	64,503	44,617	287.9	0.85
Assistant professor	56,196	56,826	3,791	25.0	0.85
Instructor	45,108	44,084	2,090	32.2	0.83
Lecturer	49,610	49,933	297	32.1	0.85
No rank	49,722	46,480	1,492	77.2	0.61
			Total		
Total	62,590	62,826	5,217	19.3	0.92
Academic rank					
Professor	77,960	77,852	4,866	20.0	0.89
Associate professor	65,066	65,715	4,376	20.0	0.88
Assistant professor	56,039	56,641	3,909	21.6	0.87
Instructor	44,247	43,414	2,537	32.0	0.82
Lecturer	48,941	50,412	415	35.1	0.85
No rank	50,678	51,440	1,836	86.3	0.52

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 598 institutions matching between IPEDS SA component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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The salary data reported on the IPEDS SA component and AAUP FCS for 11/12-month faculty members contained more data elements with higher percentage differences than did the salary data for the 9/10-month faculty members. Percent differences that were other than very small typically occurred in the faculty ranks of lecturer, instructor, and those with no rank, or as was seen in the data for number of faculty, those with relatively few faculty members. Again, due to the low number of faculty members these data reflect, relatively small differences in the reported data can result in large percent differences.

Details of the correlation analysis follow.

- Public research institutions: The number of 9/10- and 11/12-month faculty members reported for all faculty members by gender, for the ranks of professor, associate and assistant professor, and instructor by gender, and for total number of faculty, all had strong or very strong correlation coefficients of 0.80 or higher (tables 2.6a1 and 2.6a2). The number of 11/12-month faculty members reported for lecturers and faculty with no rank, regardless of gender, had weak correlation coefficients of less than 0.60.
- Public other 4-year institutions: The majority of the correlations were very strong for 9/10-month faculty members (table 2.6b1). Further, although 11/12-month faculty members in the ranks of professor, and associate and assistant professor had very strong correlation coefficients (0.90 or above), 11/12-month faculty members with no rank had weak correlation coefficients (less than 0.60) (table 2.6b2).
- Public 2-year institutions: The correlation coefficients for the number of 9/10- and 11/12-month faculty members for professor, and associate and assistant professor, were very strong. Reported data varied more for the remaining ranks (instructor, lecturer and faculty with no rank) (tables 2.6c1 and 2.6c2).
- Private not-for-profit research institutions: The majority of the correlations for the number of 9/10-month faculty members were strong or very strong; however, correlations for the number of 11/12-month faculty members were not as strong (tables 2.6d1 and 2.6d2). Only one data element (number of 11/12-month men lecturers) had a strong relationship, with a coefficient of 0.83; all other coefficients for 11/12-month faculty in this analysis group were moderate or weak.
- Private not-for-profit other 4-year institutions: The majority of the correlations for the number of 9/10-month faculty members were strong or very strong (table 2.6e1).

Although the majority of the correlations for the number of 11/12-month faculty members were moderate or weak, the average number of faculty members was very small (table 2.6e2).

Tables 2.7a1 through 2.7e2 provide the results for the reported salaries of faculty members. Analysis of the average salaries indicated many of the correlation coefficients were very strong between the two data sources, more so in the public sector than in the private not-for-profit sector. Highlights of the details follow:

- Public research institutions: Overall, the correlations between the average salaries reported on IPEDS SA and AAUP FCS for both 9/10- and 11/12-month faculty members by academic rank were very strong or strong; the exception was for faculty members with no rank, where the average salaries had moderate correlations (table 2.7a1 and 2.7a2).
- Public other 4-year institutions: The correlations between the IPEDS SA component and AAUP FCS average salary reports for 9/10-month faculty members overall were very strong, as were most of the 9/10-month data by rank, with the exception of faculty with no rank (table 2.7b1). The correlation coefficients for the 11/12-month average salary data for the two sources ranged from strong to very strong (table 2.7b2).
- Public 2-year institutions: For 9/10-month faculty member data, the average salaries reported on the IPEDS SA component and AAUP FCS were all very strongly related, with the exception of instructors (moderately related), and faculty members with no rank (strongly related) (table 2.7c1). For 11/12-month faculty member data, the average salaries for professors, associate professors and assistant professors were all strongly related. The relationship between the two sources, however, was not as strong for the other ranks (table 2.7c2).
- Private not-for-profit research institutions: Overall, the average salary data were strongly or very strongly related for 9/10-month faculty members, and moderately related for 11/12-month faculty members in this analysis group (tables 2.7d1 and 2.7d2).
- Private not-for-profit other 4-year institutions: The average salary data for faculty members on 9/10-month contracts by gender reported on the IPEDS SA component and AAUP FCS were not as strongly correlated as in the other analysis groups; however, the coefficients were still in the strong range, with an overall very strong coefficient of 0.92 (table 2.7e1). The 11/12-month average salary data for private not-for-profit other 4-year

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institutions resulted in correlation coefficients indicating a slightly stronger relationship than in other analysis groups, with a very strong overall coefficient of 0.92 (other analysis groups had correlation coefficients of 0.90 or less) (table 2.7e2).

Scatter Plots

Scatter plots were created to provide a visual illustration of the extent of the difference between the IPEDS SA data and the AAUP FCS data for the following data elements:

1. Total number of 9/10-month faculty members.
2. Average salary for faculty members on 9/10-month contracts.
3. Total number of 11/12-month faculty members.
4. Average salary for faculty members on 11/12-month contracts.

The scatter plots reinforced the findings from the analysis of the descriptive statistics. Generally, the data reported on the IPEDS SA component and AAUP FCS for 9/10-month faculty were consistent with one another, while the data reported for 11/12-month faculty were reasonably consistent, but contained more variability than the data reported for 9/10-month faculty.

Figure 2.1a1 represents the number of full-time faculty members reported on the IPEDS SA component and AAUP FCS for public research institutions. The plot depicting the reported number of 9/10-month faculty members showed a strong linear relationship between sources. This was supported by the correlation coefficient displayed on table 2.6a1. The plot depicting the number of 11/12-month faculty members displayed more variation between the two sources (figure 2.1a1); the correlation coefficient between the two reports was 0.88 (table 2.6a2).

Figure 2.1a2 displays the average faculty salaries reported on the IPEDS SA component and AAUP FCS for public research institutions. The plots indicated that data did not vary widely between the sources on the 9/10-month salary measure; furthermore, as table 2.7a1 displayed, the correlation coefficient between the two data sources was a very strong 0.98. However, the plot displayed greater deviation between the two sources for the average salaries of faculty on 11/12-month contracts (figure 2.1a2), as the scatter points were less contained, and the associated correlation coefficient (0.90, table 2.7a2) was not as high.

Figures 2.1b1 and 2.1b2 depict the number of full-time faculty members and the average salaries reported on the IPEDS SA component and AAUP FCS for public other 4-year

institutions. As seen on these plots, the patterns were consistent with those of public research institutions by category: data for 9/10-month faculty members showed a strong relationship (correlation coefficients of 0.96 and 1.00 for average salaries and number of faculty, respectively; tables 2.7b1 and 2.6b1), while the plot for 11/12-month faculty salary data displayed more scattered points (correlation coefficient of 0.86).

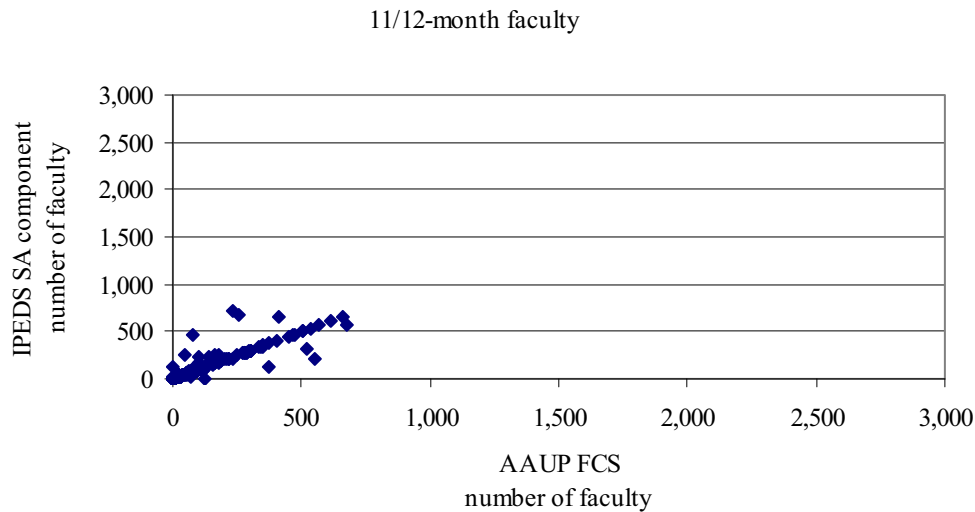
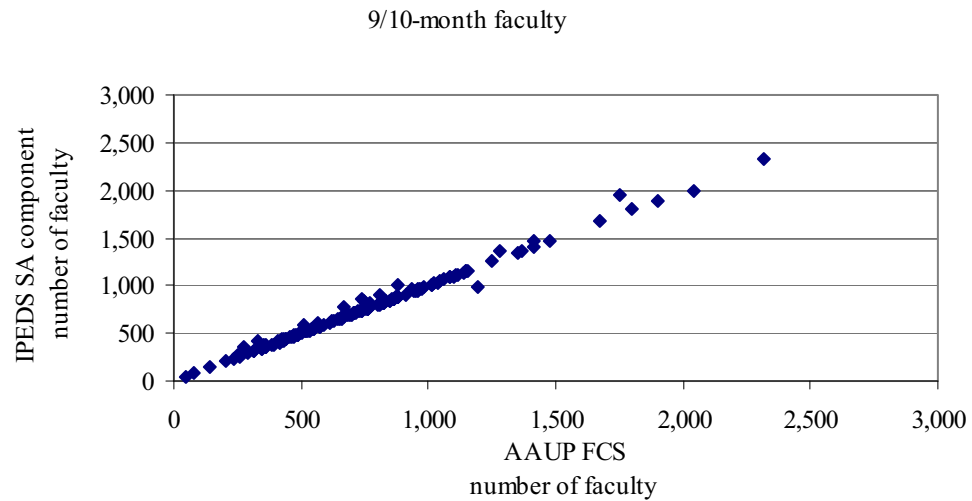
Figures 2.1c1 and 2.1c2 display the scatter plots for the number of full-time faculty members and the average salaries reported for public 2-year institutions. Once again, the 11/12-month faculty data in the IPEDS SA component and AAUP FCS showed more variation than the 9/10-month faculty data. In public 2-year institutions, the correlation for the average salary reported for 9/10-month faculty by the two data sources was very strong, but varied a little more than in the other public sectors, with a correlation coefficient of 0.95 (table 2.7c1). The correlation coefficient for the number of 9/10-month faculty remained high at 0.99 (table 2.6c1).

Figures 2.1d1 and 2.1d2 display the scatter plots of the number of full-time faculty members and the average salaries reported for private not-for-profit research institutions. Once again, the data reports were less consistent for 11/12-month faculty than for 9/10-month faculty. In this sector, the scatter plots for 11/12-month faculty were much more diverse than in any of the public sectors, and the correlation coefficients were not as strong: 0.73 for the average salary reports and 0.47 for the number of faculty members (tables 2.7d2 and 2.6d2). The correlation coefficients for the 9/10-month faculty member data were much more in line with those in the public sectors: 0.97 for average salaries and 0.98 for the number of faculty members (tables 2.7d1 and 2.6d1).

Figures 2.1e1 and 2.1e2 represent the number of full-time faculty members and average salaries reported on the IPEDS SA component and AAUP FCS data for private not-for-profit other 4-year institutions. Here, the average salaries for 9/10-month faculty were not as consistent as those seen in other comparisons, as there was more dispersion from the line (the correlation coefficient is 0.92, table 2.7e1). However, the data for the number of faculty members on 9/10-month contracts were consistent between the two data sources, as the dispersion of the data points did not deviate a great deal from the line (the correlation coefficient is 0.97, table 2.6e1). Again, the 11/12-month faculty member data were less reliable than the 9/10-month faculty member data, and the data points show more dispersion: the correlation coefficient is 0.92 for average salaries (table 2.7e2), and 0.68 for number of faculty members (table 2.6e2).

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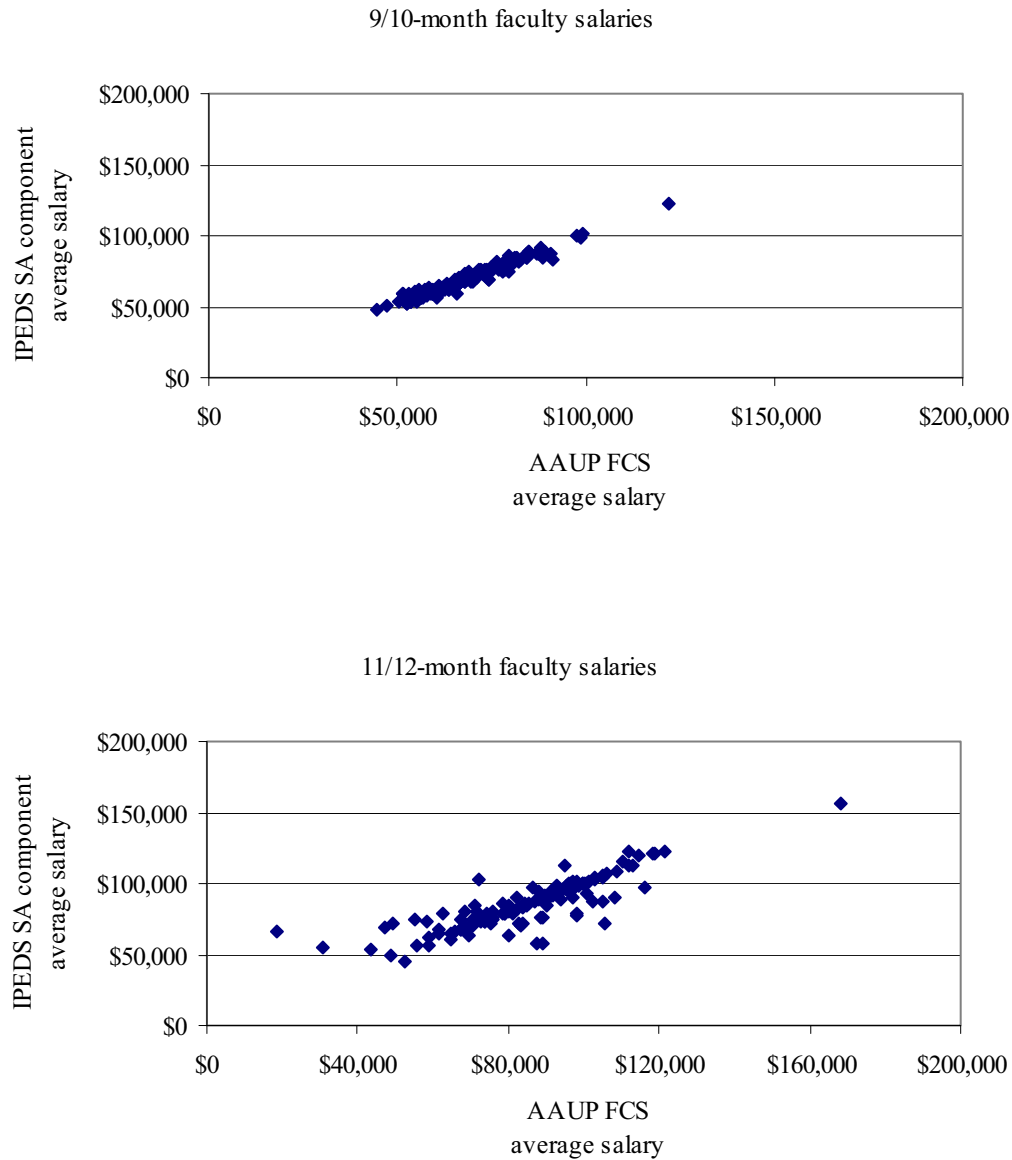
Figure 2.1a1. Number of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Public research institutions, 2004-05



NOTE: Data in this figure reflect 158 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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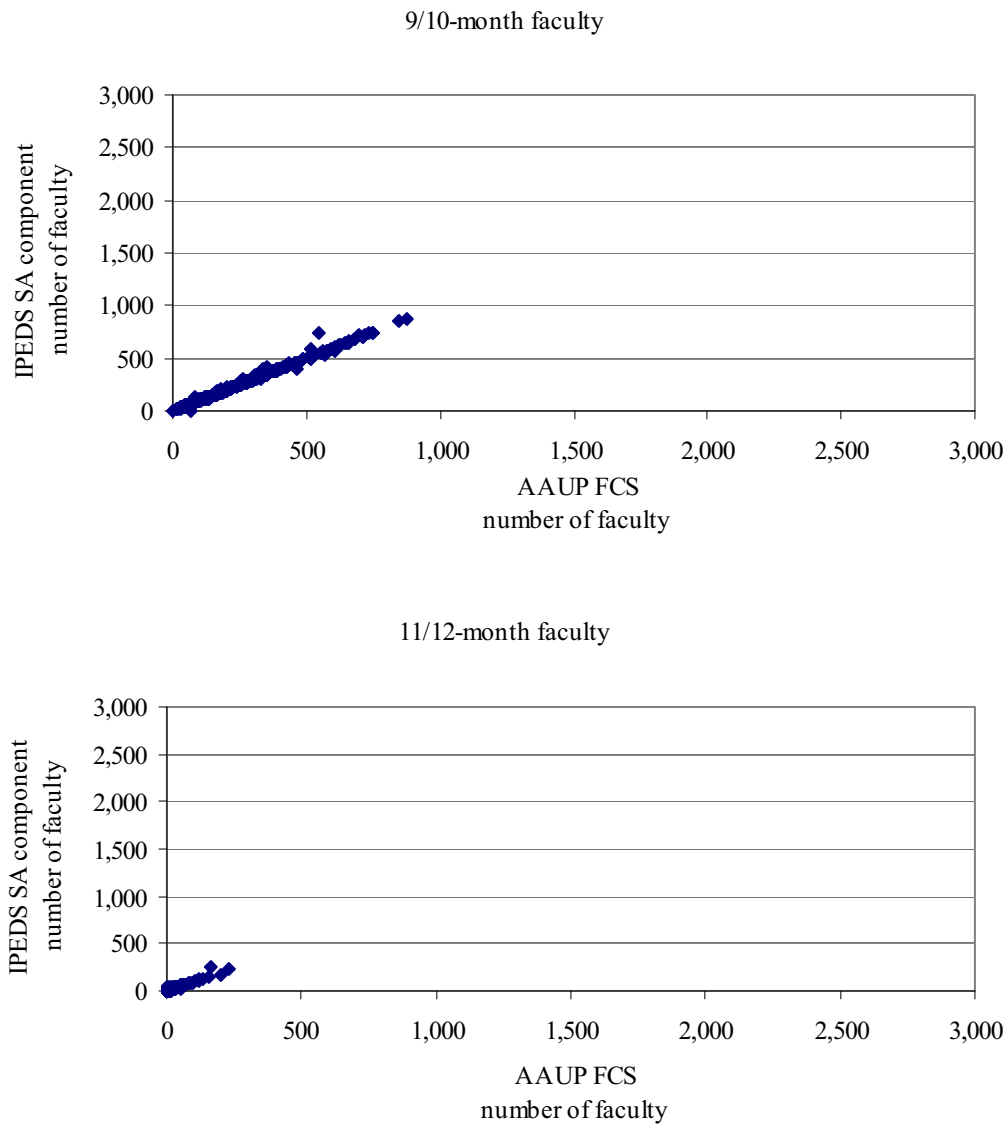
Figure 2.1a2. Average salaries of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Public research institutions, 2004-05



NOTE: Data in this figure reflect 158 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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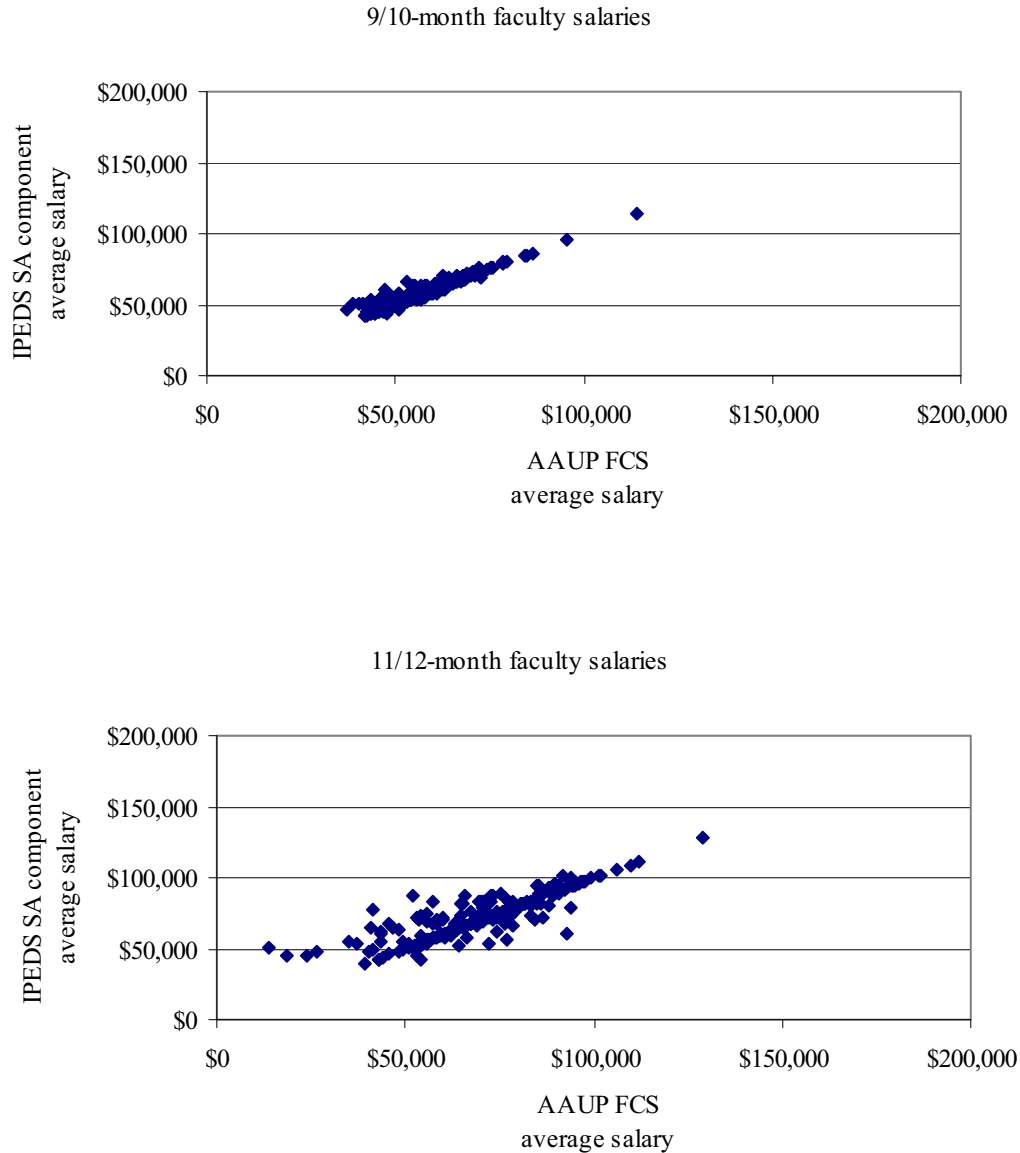
Figure 2.1b1. Number of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Public other 4-year institutions, 2004-05



NOTE: Data in this figure reflect 328 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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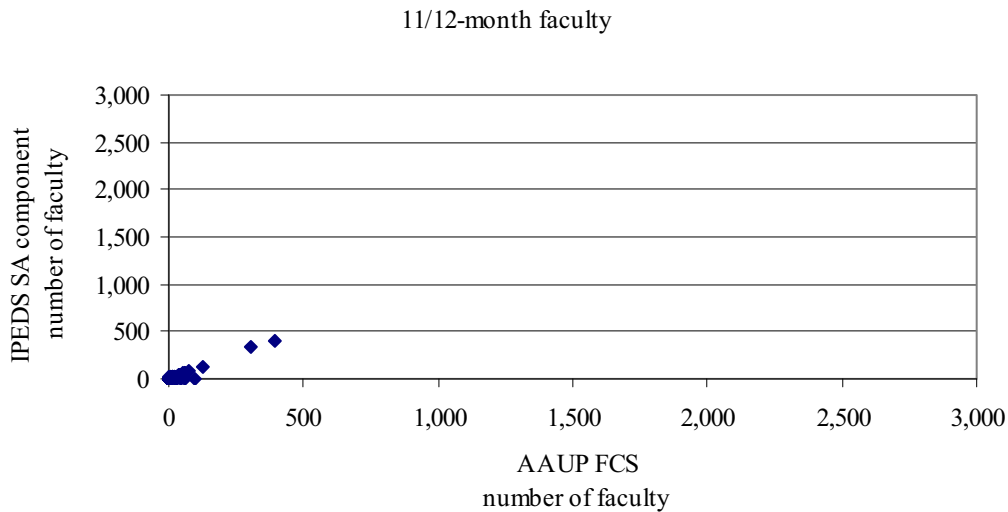
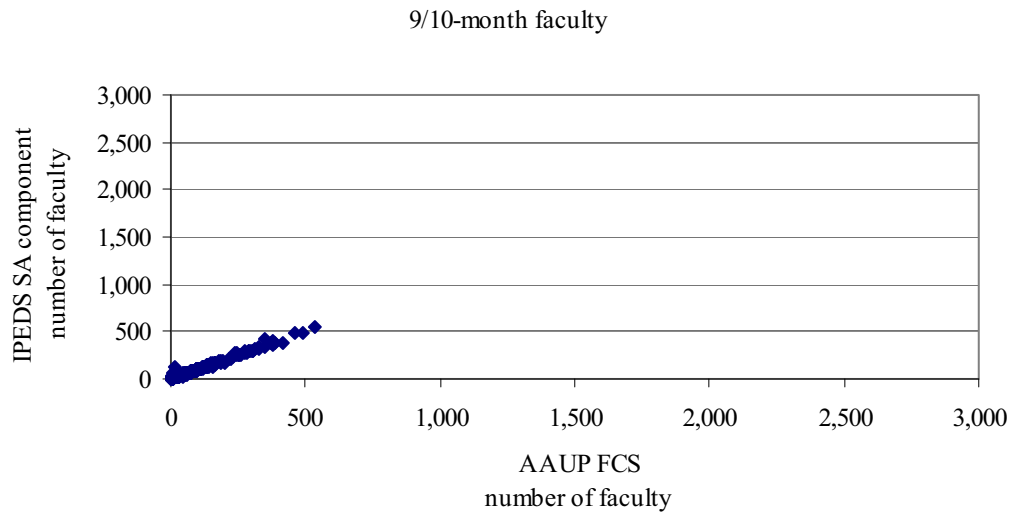
Figure 2.1b2. Average salaries of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Public other 4-year institutions, 2004-05



NOTE: Data in this figure reflect 328 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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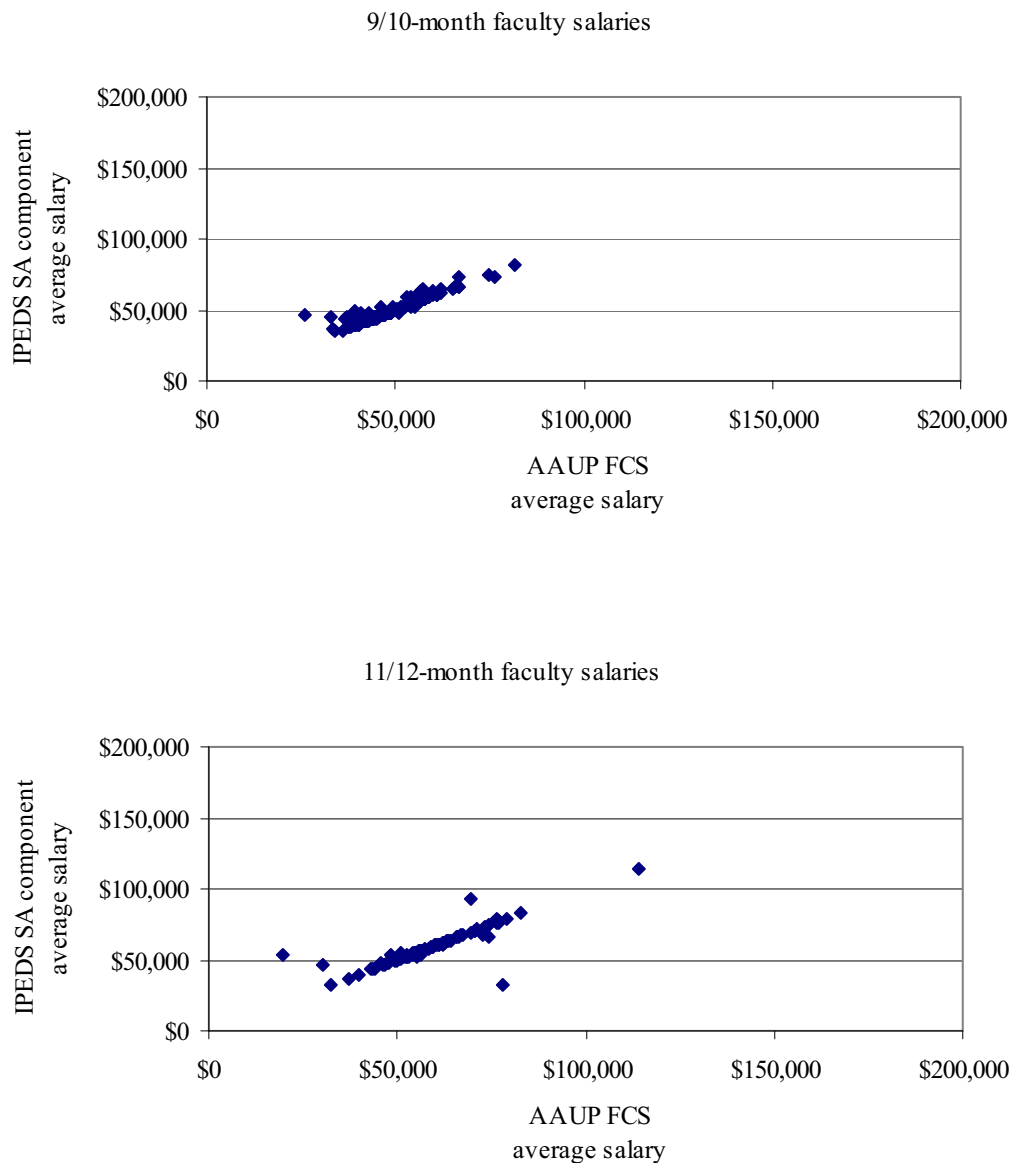
Figure 2.1c1. Number of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Public 2-year institutions, 2004-05



NOTE: Data in this figure reflect 267 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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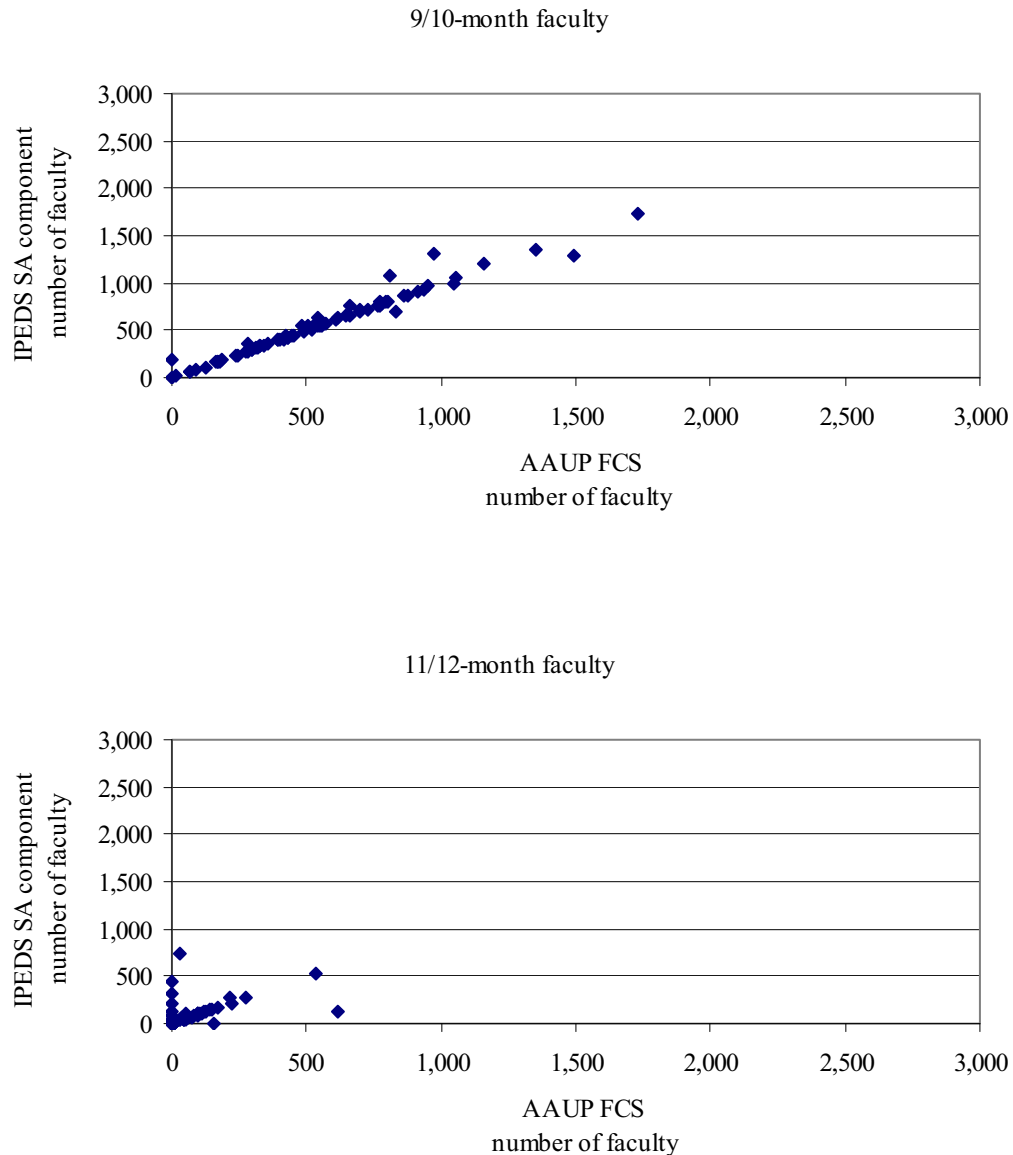
Figure 2.1c2. Average salaries of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Public 2-year institutions, 2004-05



NOTE: Data in this figure reflect 267 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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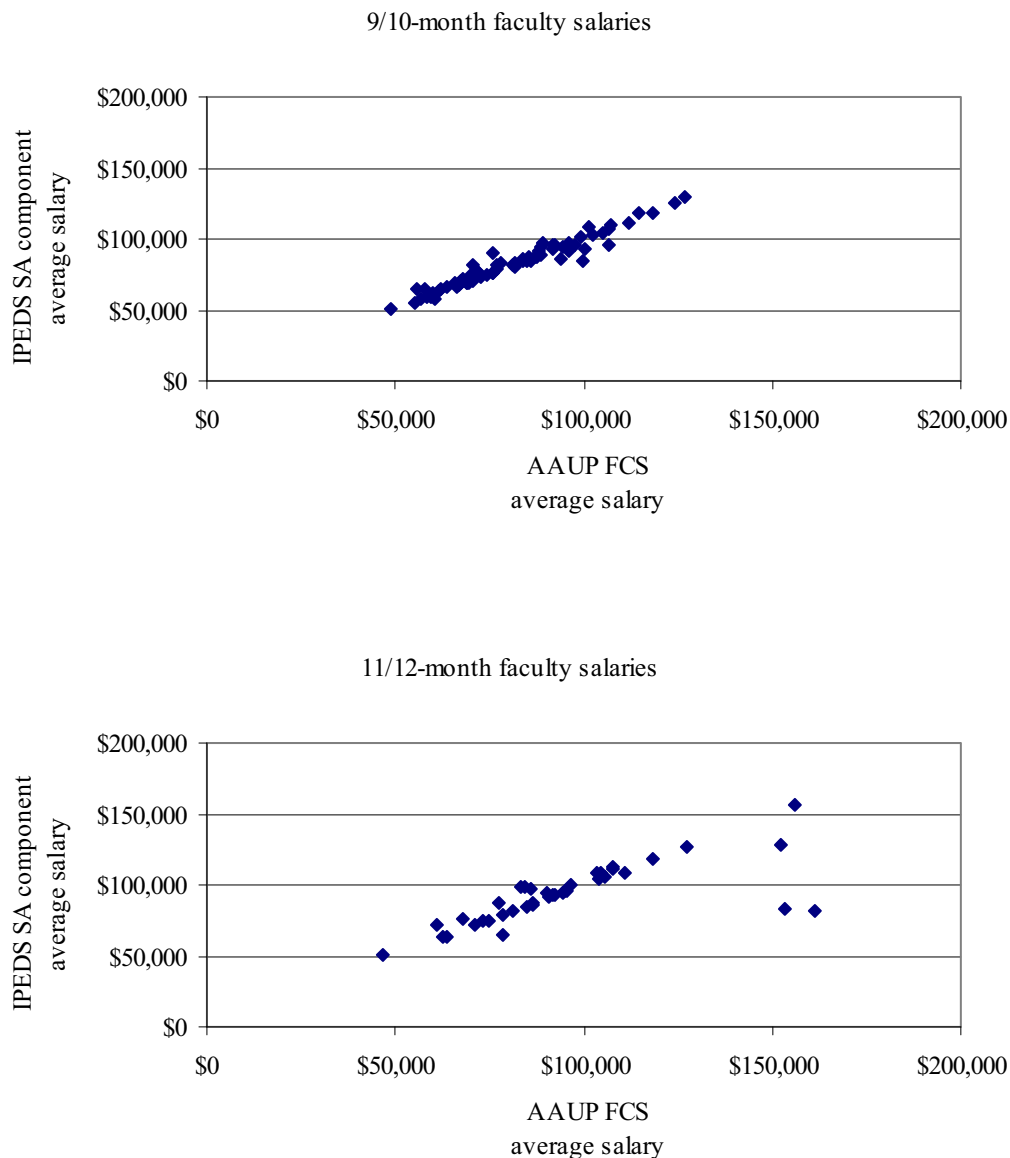
Figure 2.1d1. Number of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Private not-for-profit research institutions, 2004-05



NOTE: Data in this figure reflect 76 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

IPEDS 2004-05 SALARIES COMPONENT STUDY

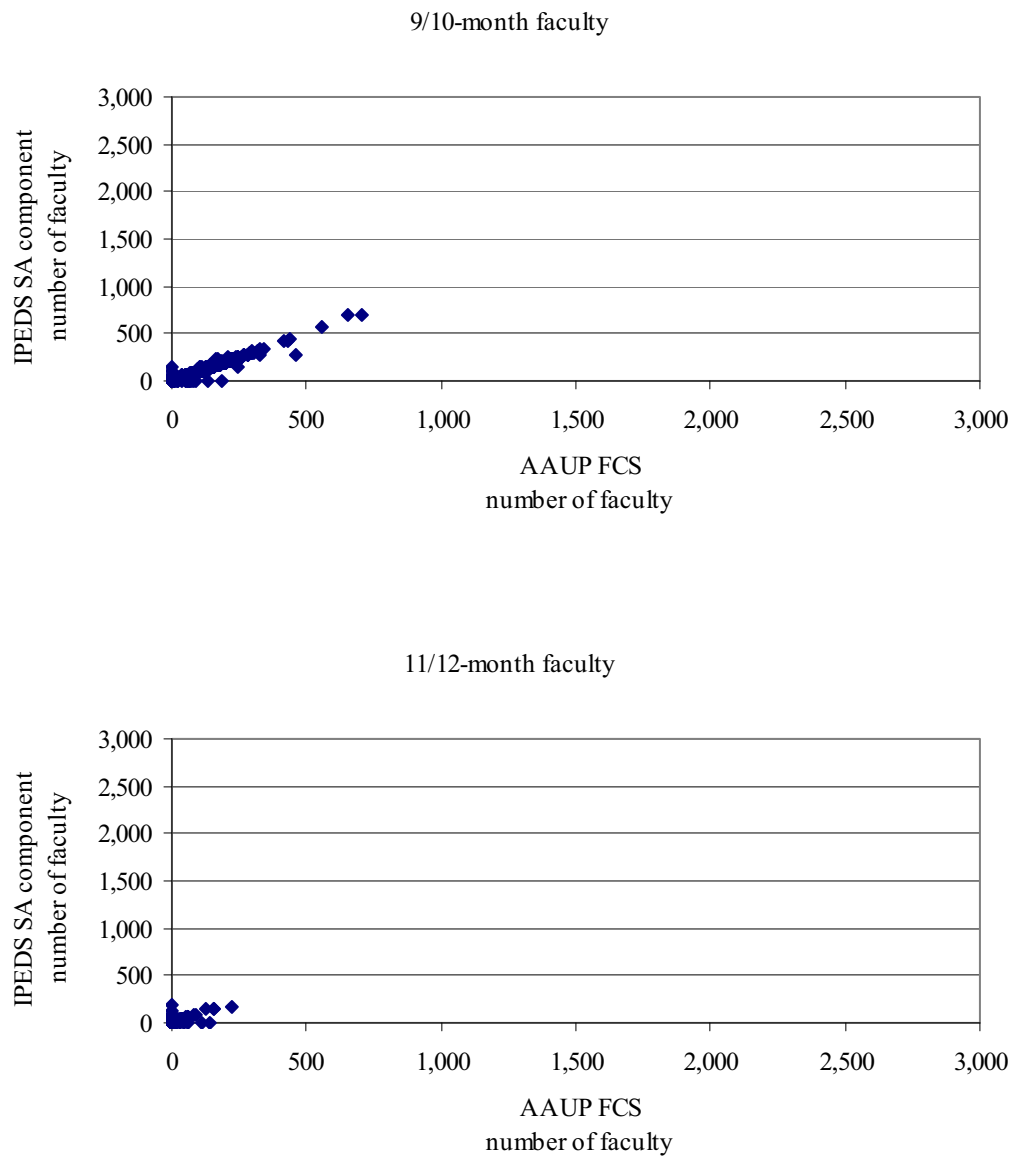
Figure 2.1d2. Average salaries of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Private not-for-profit research institutions, 2004-05



NOTE: Data in this figure reflect 76 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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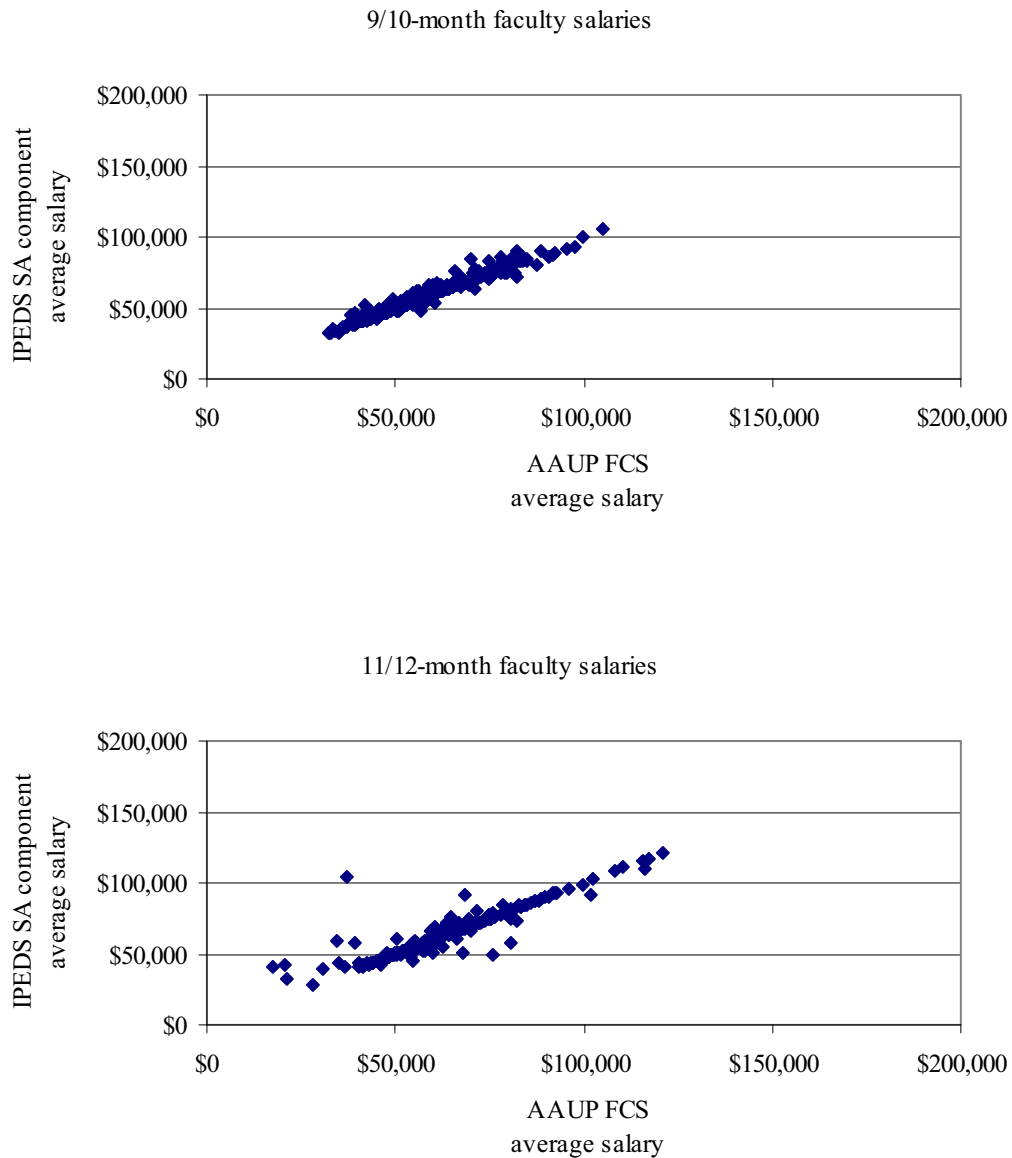
Figure 2.1e1. Number of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Private not-for-profit other 4-year institutions, 2004-05



NOTE: Data in this figure reflect 598 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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Figure 2.1e2. Average salaries of full-time faculty members on IPEDS SA component compared with AAUP FCS, by contract length: Private not-for-profit other 4-year institutions, 2004-05



NOTE: Data in this figure reflect 598 institutions matching between IPEDS SA component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

College Board ASC Analysis

The College Board ASC collected data on the number of faculty members, but did not collect salary data on faculty members. The instructions for ASC did not include several reporting guidelines that were specifically mentioned in the instructions for the IPEDS SA component. For example, it was unclear if ASC included 9/10-month faculty only, 11/12-month faculty only, or a combination of 9/10-month and 11/12-month faculty. Detailed analysis of the ASC data, along with comparisons of the ASC and IPEDS SA component faculty member counts, revealed that the ASC data aligned closely with the IPEDS SA component data for 9/10- and 11/12-month faculty combined. Therefore, it was presumed that the total faculty numbers reported on ASC reflected the total of 9/10- and 11/12-month faculty members,¹² and this analysis included the sum of 9/10- and 11/12-month faculty reported on the IPEDS SA component compared with the number of faculty reported on College Board ASC. Table 2.8 compares the total number of faculty members reported by the IPEDS SA component and the College Board ASC by analysis group.

Descriptive Statistics

For public research and 2-year institutions, the percent differences between the number of faculty members reported on the IPEDS SA component and the College Board ASC were small, with average absolute differences of 63 and 10, respectively. For public other 4-year, and private not-for-profit research, and other 4-year institutions, the comparisons resulted in moderate percent differences, with average absolute differences ranging from 11 to 106. For private not-for-profit 2-year and private for-profit 4- and 2-year institutions, the percent differences between the number of faculty members reported on the IPEDS SA component and the College Board ASC were large; however, the average absolute differences were 6 and 9, respectively. Given the relative small average number of faculty members reported by these two analysis groups, differences in reports of one or two faculty members can result in large percent differences.

In public research and public 2-year institutions, the numbers of faculty members reported on the IPEDS SA component and College Board ASC had very strong correlations (coefficients of 0.96 and 0.97, respectively). In private not-for-profit research and other 4-year institutions, and private for-profit institutions, the numbers of faculty members reported on the two data sources had strong correlations. The numbers of faculty members reported on the

¹² The College Board ASC collected the number of faculty by gender as well; however, the majority of institutions reported only the total number of faculty. Therefore, the total number of faculty was used in this analysis.

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IPEDS SA component and College Board ASC for public other 4-year institutions and private not-for-profit 2-year institutions resulted in a moderate relationship.

Table 2.8. Summary statistics for average number of full-time faculty members reported on IPEDS SA component and College Board ASC, by analysis group: 2004-05

Analysis group	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS SA component	College Board ASC	Average absolute difference ¹	Percent difference ²	
Public research institutions	895	926	63	7.0	0.96
Public other 4-year institutions	234	255	31	13.2	0.76
Public 2-year institutions	112	112	10	8.7	0.97
Private not-for-profit research institutions	622	655	106	17.1	0.84
Private not-for-profit other 4-year institutions	87	92	11	12.5	0.83
Private not-for-profit 2-year institutions	20	22	6	28.9	0.64
Private for-profit 4- and 2-year institutions	24	27	9	35.8	0.84

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{College Board ASC}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between College Board ASC and the IPEDS SA component was computed for each subgroup as follows: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 3,098 institutions matching between IPEDS SA component and College Board ASC. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Scatter Plots

Figures 2.2a through 2.2g display scatter plots of the total number of faculty members reported on the IPEDS SA component as compared with the number reported on the College Board ASC, by analysis group.

Figure 2.2a displays that in public research institutions, the discrepancy in the data report appeared to increase with the number of faculty: the data points were more broadly distributed around the line for universities reporting more than 1,000 faculty members. However, a strong linear relationship existed between the two sources, with a correlation coefficient of 0.96 (table 2.8).

At public other 4-year institutions (figure 2.2b), institutions reporting fewer than 400 faculty members showed fewer discrepancies in reporting by data source. This sector had a lower correlation between the two sources, with a coefficient of 0.76 (table 2.8).

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In public 2-year institutions, there was high agreement between the two sources, with the greatest discrepancies occurring in the middle of the scatter plot, where the reported number of faculty members ranged from approximately 350 to 500 (figure 2.2c) (correlation coefficient of 0.97, table 2.8).

When comparing the data reported on College Board ASC with that reported on the IPEDS SA component, the private not-for-profit sector data were less consistent than the data for public research institutions and public 2-year institutions. At private not-for-profit research institutions, more variance existed between sources for those institutions reporting large numbers of faculty members (figure 2.2d). The overall correlation coefficient was 0.84 (table 2.8).

In private not-for-profit other 4-year institutions, the scatter plot displayed a relatively straight line (figure 2.2e); however, the line is “thick” as many points deviate slightly above or below the line, indicating that reports between the two data sources are close, but not identical. Private not-for-profit other 4-year institutions had a correlation coefficient of 0.83 (table 2.8).

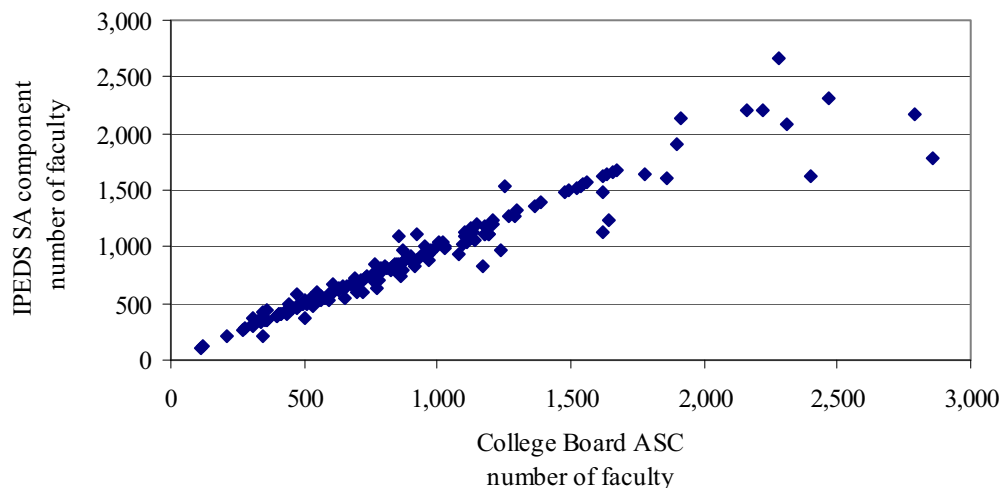
Private not-for-profit 2-year institutions reported the smallest numbers of faculty members among all the institution types and showed more variation (figure 2.2f) between sources (correlation coefficient of 0.64).

Private for-profit¹³ institutions showed more variance between data sources (figure 2.2g) (correlation coefficient of 0.84, table 2.8).

¹³ Included 4- and 2-year institutions.

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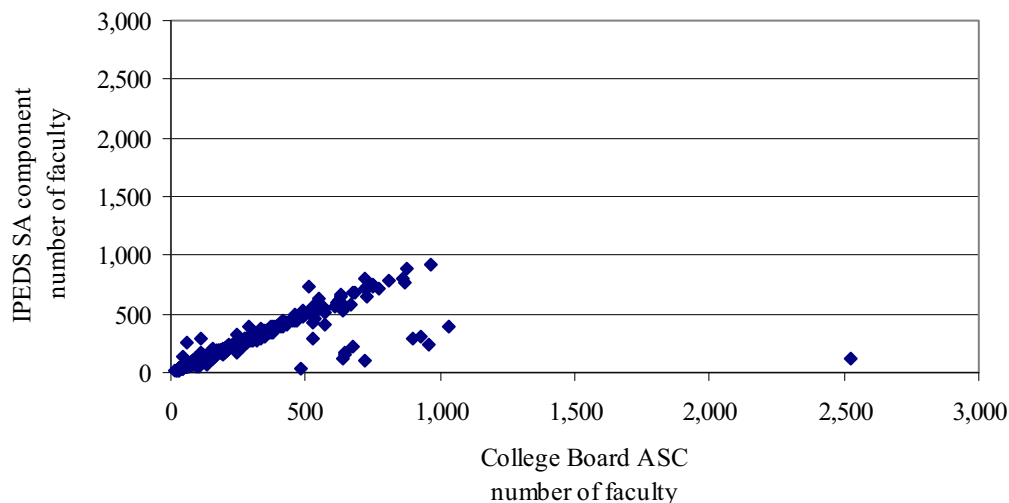
Figure 2.2a. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Public research institutions, 2004-05



NOTE: Data in this figure reflect 162 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Figure 2.2b. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Public other 4-year institutions, 2004-05

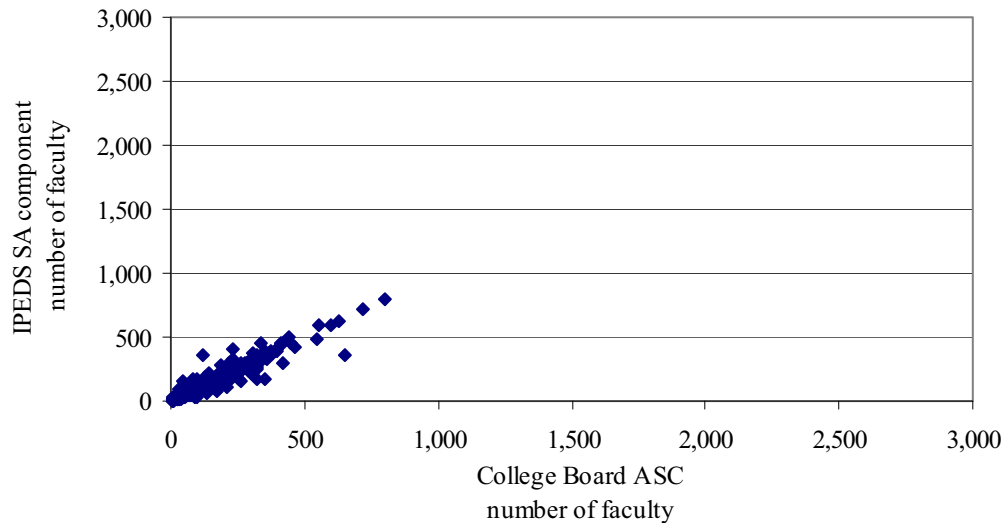


NOTE: Data in this figure reflect 436 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

IPEDS 2004-05 SALARIES COMPONENT STUDY

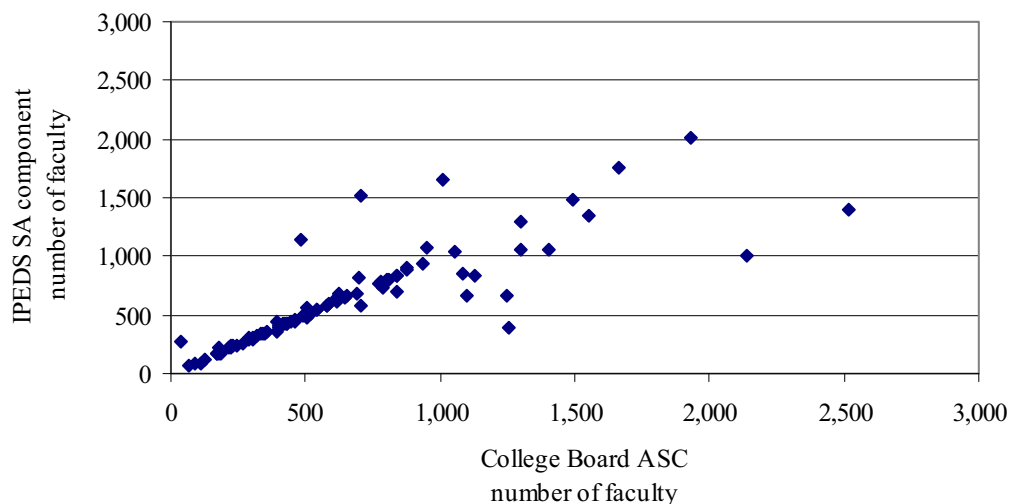
Figure 2.2c. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Public 2-year institutions, 2004-05



NOTE: Data in this figure reflect 912 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Figure 2.2d. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Private not-for-profit research institutions, 2004-05

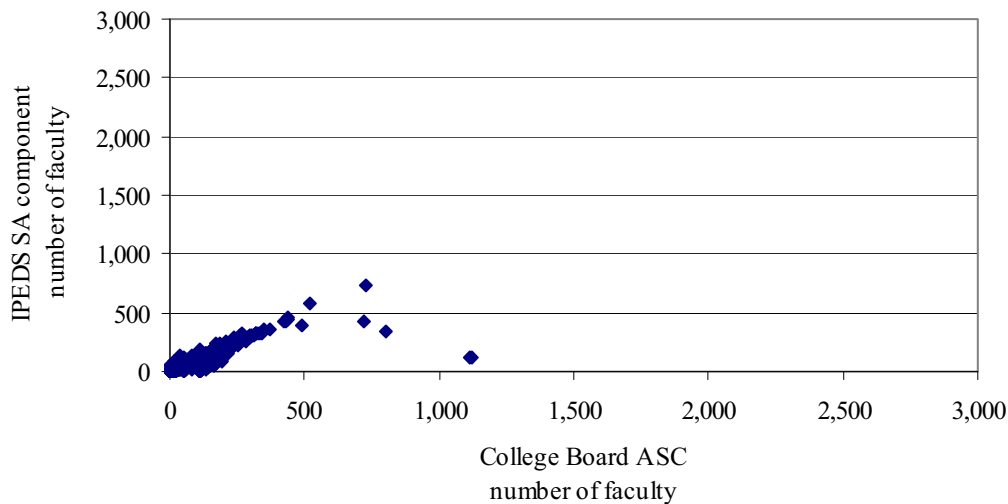


NOTE: Data in this figure reflect 85 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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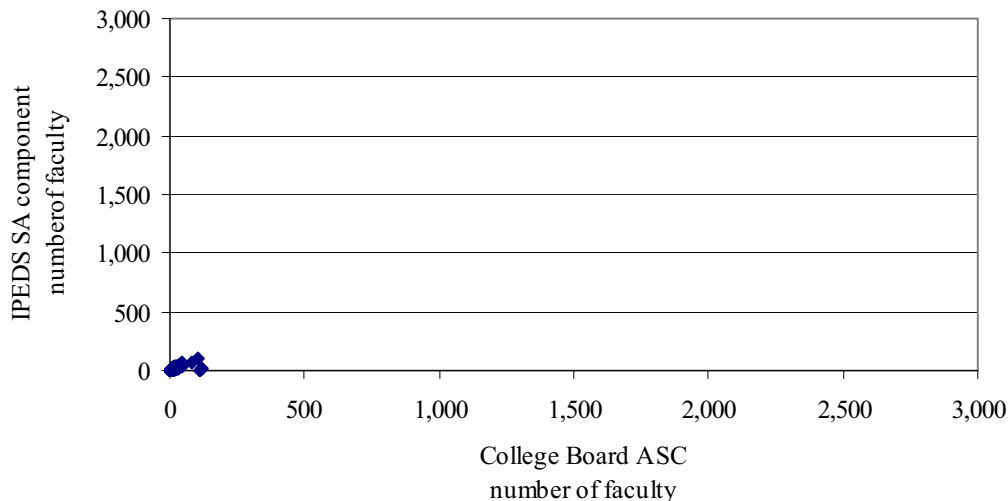
Figure 2.2e. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Private not-for-profit other 4-year institutions, 2004-05



NOTE: Data in this figure reflect 1,049 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Figure 2.2f. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Private not-for-profit 2-year institutions, 2004-05

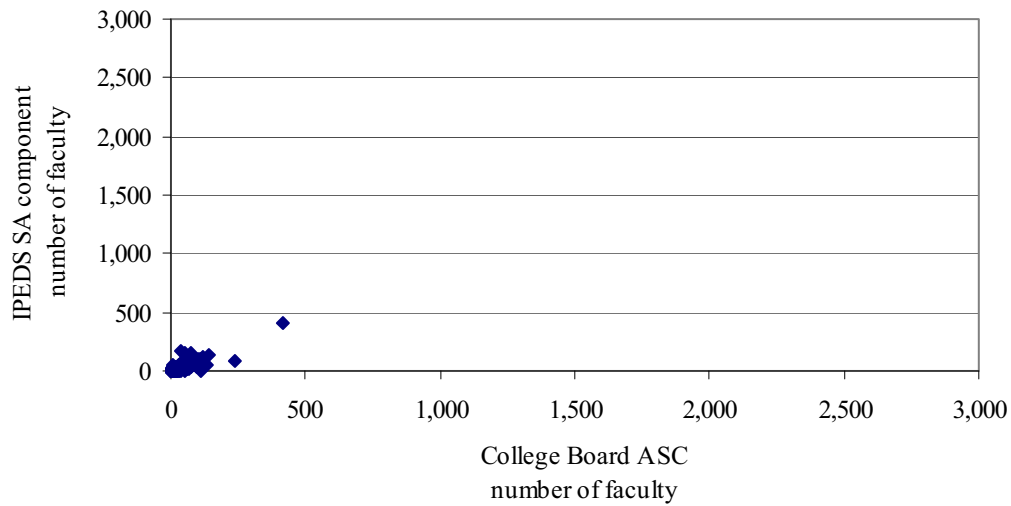


NOTE: Data in this figure reflect 81 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 2.2g. Number of full-time faculty members on IPEDS SA component compared with College Board ASC: Private for-profit 4- and 2-year institutions 2004-05



NOTE: Data in this figure reflect 373 institutions matching between IPEDS SA component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Salaries (SA) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Chapter 3: IPEDS 2004-05 Employees by Assigned Position Component Study

Overview

This chapter describes the assessment of the quality of the 2004-05 IPEDS Employees by Assigned Position (EAP) component data by evaluating survey elements against comparable data from external sources. The 2004-05 IPEDS EAP component collected data on the number of employees by employment status (full- or part-time), primary function/occupation category, and faculty status.¹⁴ The EAP component also collected data separately for medical schools, which in IPEDS refers to schools that offered M.D. programs.

Several factors may reduce the potential matching across datasets. Differences in data definitions and elements, in addition to non-corresponding institutions, have the potential to limit the comparisons. The methodologies used to match data, along with the analysis results, are described below.

Introduction

The IPEDS EAP component collected data on all staff members in postsecondary institutions based on the following categories: full-time non-medical staff members, full-time medical staff members, part-time non-medical staff members, and part-time medical staff members, regardless of contract length. The data were collected separately for non-medical employees and employees working in medical programs at postsecondary institutions.

To attempt to determine the quality of the IPEDS EAP component data, the following external data sources were investigated as potential comparative sources for the IPEDS EAP component:

Full-time Faculty Members:

- 2004-05 College and University Professional Association (CUPA): National Faculty Salary Survey (NFSS)
- 2004-05 CUPA: Community College Faculty Salary Survey (CCFSS)

¹⁴ Some organizations refer to “tenure status” while others refer to “faculty status”; these terms are synonymous.

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- 2004-05 Oklahoma State University (OSU): Faculty Salary Survey (FSS)
- 2004-05 American Association of University Professors (AAUP): Faculty Compensation Survey (FCS)
- 2005-06 College Board: Annual Survey of Colleges (ASC)¹⁵
- 2004-05 Association of American Medical Colleges (AAMC): Medical School Profile System (MSPS)

Part-time Faculty Members:

- 2004-05 CUPA: CCFSS
- 2005-06 College Board: ASC
- 2004-05 AAMC: MSPS

Full-time Administrative and Professional Staff:

- 2004-05 CUPA Administrative Compensation Survey (AdComp)
- 2004-05 CUPA Mid-Level Administrative and Professional Salary Survey (Mid-Level)

When differences in survey definitions between the IPEDS EAP component and the external data sources were discovered, the potential effect the differences would have on the analysis was evaluated. Where possible, adjustments were made to arrive at more congruent definitions. In some cases, however, the definitions were too dissimilar to include the data element or external source in the analysis. During the review of the data definitions, an evaluation of the magnitude of the definitional differences between the IPEDS EAP component and each external source was conducted. Tables 3.1a, 3.1b, and 3.1c provide information on each definition compared across the data sources.

¹⁵ Despite the “2005-06” reference to the Annual Survey of Colleges (ASC), the faculty data collected for this survey are based on Fall 2004.

Table 3.1a. Comparison of full-time faculty definition and survey characteristics between IPEDS EAP component and CUPA NFSS and CCFSS, OSU FSS, AAUP FCS, College Board ASC, and AAMC MSPS: 2004-05

Faculty definition and survey characteristic	IPEDS EAP component	CUPA: NFSS and CCFSS	OSU FSS ¹	AAUP FCS	College Board ASC ²	AAMC MSPS
Full-time faculty definition	Instructional faculty employed full-time and classified as either primarily instruction or instruction combined with research and/or public service.	Faculty on annual contracts of at least nine months and whose teaching/research represents more than half of their duties.	Faculty in which at least 50 percent of salary must come from instruction, research, or some combination.	Instructional/research staff employed full-time and whose major (at least 50 percent) regular assignment was instruction, regardless of whether they were formally designated "faculty."	Instructional/research staff employed on a full-time basis and whose major regular assignment was instruction, including those with released time for research.	Paid individuals considered by the medical school to be full-time medical school faculty whether supported by the medical school directly or supported by affiliated organizations. Included full-time faculty in basic science and clinical departments, in schools of basic health sciences, and in affiliated hospitals. Research faculty were also included; residents and fellows were excluded.
Faculty data provided by contract length	No	No	No ³	Yes ⁴	No	No
Data provided by faculty status ⁵	Tenured, on tenure track, not on tenure track/no tenure system, and without faculty status	No	No	Tenured, on tenure track, and not on tenure track/no tenure system	No	No
Included less-than-9-month faculty members	Yes	No	No	No	No	No

See notes at end of table.

Table 3.1a. Comparison of full-time faculty definition and survey characteristics between IPEDS EAP component and CUPA NFSS and CCFSS, OSU FSS, AAUP FCS, College Board ASC, and AAMC MSPS: 2004-05—Continued

Faculty definition and survey characteristic	IPEDS EAP component	CUPA: NFSS and CCFSS	OSU FSS ¹	AAUP FCS	College Board ASC ²	AAMC MSPS
Included data by academic rank ⁶	No	Yes	Yes	Yes	No	Yes
Included faculty on leave without pay	No	No	Unknown	Unknown	No	Unknown
Included faculty on sabbatical leave	Yes	Yes	Yes ⁷	Yes	Yes	Unknown
Included department chairs (if their principal activity is instruction)	Yes	Yes	Yes	Yes ⁸	Unknown	Unknown
Included adjunct faculty employed full-time	Yes	No	Yes	Yes	No	Unknown
Included administrative officers (e.g., dean of instruction, dean of students, etc.; librarian, registrar, coach, etc.) even though they may devote part of their time to classroom instruction	No	Yes (partially) ⁹	Unknown	No	Yes ¹⁰	Unknown
Included visiting faculty paid by host institution	Yes	No	Unknown	Yes	Unknown	Unknown
Included faculty in medical schools	Yes - separately	Unknown	No	No	No	Yes - separately
Included faculty in the military or religious orders who were not paid by institution, faculty whose services were contracted by or donated to the institution	No	No	Unknown	No	No	Unknown

See notes at end of table.

Table 3.1a. Comparison of full-time faculty definition and survey characteristics between IPEDS EAP component and CUPA NFSS and CCFSS, OSU FSS, AAUP FCS, College Board ASC, and AAMC MSPS: 2004-05—Continued

Faculty definition and survey characteristic	IPEDS EAP component	CUPA: NFSS and CCFSS	OSU FSS ¹	AAUP FCS	College Board ASC ²	AAMC MSPS
Individual records or summary data provided for the study	Individual institutional data provided	Summary data provided by analysis group	Summary data provided by analysis group	Individual institutional data provided	Individual institutional data provided	Individual institutional data provided

¹According to OSU FSS definitions, the faculty member should be reported on OSU FSS in only one Classification of Instructional Programs (CIP) code by choosing either the department that funded more of the faculty member’s salary, or the department in which the faculty member had tenure (if applicable). Unfortunately, survey respondents were not always able to use only one CIP code to report faculty members that had split appointments.

²The instructions for College Board ASC did not include reporting requirements for several items that are addressed in the instructions for reporting faculty in IPEDS EAP. Since the instructions for College Board ASC referenced the AAUP FCS instructions, it was highly likely that survey respondents to College Board ASC followed the AAUP FCS reporting guidelines.

³Survey participants that had full-time faculty on 11/12-month contracts were instructed to combine the number of full-time faculty on 11/12-month contracts with the number of full-time faculty on 9/10-month contracts. The resulting sum (number of equated 9-month faculty) was then reported on the survey.

⁴Some survey participants voluntarily elected to convert data for full-time faculty on 11/12-month contracts to equated 9-month data. For example, the number of full-time faculty on 11/12-month contracts was combined with the number of full-time faculty on 9/10-month contracts and the resulting sum (number of equated 9-month faculty) was then reported on the survey.

⁵Faculty members included in the data report for IPEDS EAP were those with tenure, on tenure track, not on tenure track/no tenure system, and without faculty status; CUPA NFSS and CCFSS included faculty members with tenure, those on tenure track, and those not on tenure track; AAUP FCS included faculty members with tenure, on tenure track, and not on tenure track or with no tenure system; OSU FSS, College Board ASC and AAMC MSPS did not state which faculty members were included by faculty status.

⁶IPEDS EAP collected data in aggregate form for the following six academic ranks, while AAUP FCS collected data separately for the same six academic ranks: professor, associate professor, assistant professor, instructor, lecturer, and no academic rank. CUPA NFSS and CCFSS, OSU FSS, and AAMC MSPS collected data on the following four academic ranks: professor, associate professor, assistant professor, and instructor. CUPA CCFSS also collected data on lecturers.

⁷The description of full-time faculty, which stated "50 percent of salary must come from instruction, research, or some combination," should have allowed faculty on sabbaticals to be included; however, some sabbaticals were 0.50 FTE for a full year, which disqualified them as “full-time” faculty. Institutions decided whether to include sabbaticals; however, OSU FSS suggested institutions include them.

⁸Included department heads with faculty rank and no other administrative title.

⁹Included coaches if more than one-half of their time was spent on instruction independent of their coaching, but did not include administrative officers such as deans, librarians and registrars.

¹⁰Administrative officers were reported if they taught one or more non-clinical credit course.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component; College and University Professional Association for Human Resources (CUPA), 2004-05 National Faculty Salary Survey (NFSS) and Community College Faculty Salary Survey (CCFSS); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); 2004-05 Oklahoma State University (OSU) Faculty Salary Survey (FSS); the Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board); and Association of American Medical Colleges (AAMC) 2004-05 Medical School Profile System (MSPS).

Table 3.1b. Comparison of part-time faculty definition and survey characteristics between IPEDS EAP component and CUPA CCFSS, College Board ASC, and AAMC MSPS: 2004-05

Faculty definition and survey characteristic	IPEDS EAP component	CUPA CCFSS	College Board ASC	AAMC MSPS
Part-time faculty definition	Instructional faculty employed part-time and classified as either primarily instruction or instruction combined with research and/or public service.	Faculty on annual contracts of at least nine months and whose teaching/research represented more than half of their duties.	Instructional/research staff employed on a part-time basis and whose major regular assignment was instruction, including those with released time for research.	Paid individuals considered by the medical school to be part-time medical school faculty whether supported by the medical school directly or supported by affiliated organizations. Included part-time faculty in basic science and clinical departments, in schools of basic health sciences, and in affiliated hospitals. Research faculty were also included; however, residents and fellows were excluded.
Faculty data provided by contract length	Yes	No ¹	No	No
Data provided by faculty status ²	Tenured, on tenure track, not on tenure track/no tenure system, and without faculty status	No	No	No
Data provided by academic rank ³	No	Yes	No	No
Included faculty on leave without pay	No	No	No	Unknown
Included faculty on sabbatical leave	Yes	Yes	Yes	Unknown
Included chairs of departments (if their principal activity is instruction)	Yes	Yes	Unknown	Unknown
Included adjunct faculty employed part-time	Yes	No	No	Unknown
Included administrative officers (e.g., dean of instruction, dean of students, etc.; librarian, registrar, coach, etc.) even though they may devote part of their time to classroom instruction	No	Yes (partially) ⁴	Yes ⁵	Unknown

See notes at end of table.

Table 3.1b. Comparison of part-time faculty definition and survey characteristics between IPEDS EAP component and CUPA CCFSS, College Board ASC, and AAMC MSPS: 2004-05—Continued

Faculty definition and survey characteristic	IPEDS EAP component	CUPA CCFSS	College Board ASC	AAMC MSPS
Included visiting faculty paid by host institution	Yes	No	Unknown	Unknown
Included graduate assistants	Yes	No	No	Unknown
Included faculty in medical schools	Yes - separately	Unknown	No	Yes - separately
Included faculty in the military or religious orders who were not paid by institution, faculty whose services were contracted by or donated to the institution	No	No	No	Unknown
Individual records or summary data provided for the study	Individual institutional data provided	Summary data provided by analysis group	Individual institutional data provided	Individual institutional data provided

¹Survey participants that had full-time faculty on 11/12-month contracts were instructed to combine the number of full-time faculty on 11/12-month contracts with the number of full-time faculty on 9/10-month contracts. The resulting sum (number of equated 9-month faculty) was then reported on the survey. Survey participants were also instructed to reduce salaries for full-time faculty on 11/12-month contracts by a factor of 0.818 and then combine the adjusted salary with the salary outlays for full-time faculty on 9/10-month contracts.

²Faculty members included in the data report for IPEDS EAP component were those with tenure, on tenure track, not on tenure track/no tenure system, and without faculty status; CUPA NFSS and CCFSS included faculty members with tenure, those on tenure track, and those not on tenure track; OSU FSS, College Board ASC and AAMC MSPS did not state which faculty members were included by faculty status.

³The IPEDS EAP component collected data in aggregate form for the following six academic ranks: professor, associate professor, assistant professor, instructor, lecturer, and no academic rank. CUPA CCFSS and AAMC MSPS collected data on the following four academic ranks: professor, associate professor, assistant professor, and instructor. CUPA CCFSS also collected data on lecturers.

⁴Included coaches if more than one-half of their time was spent on instruction independent of their coaching, but did not include administrative officers such as deans, librarians and registrars.

⁵Administrative officers were to be reported if they taught one or more non-clinical credit course.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component; College and University Professional Association for Human Resources (CUPA), 2004-05 Community College Faculty Salary Survey (CCFSS); the Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board); and Association of American Medical Colleges (AAMC), 2004-05 Medical School Profile System (MSPS).

Table 3.1c. Comparison of administrator definition and survey characteristics between IPEDS EAP component and CUPA AdComp and Mid-Level: 2004-05

Administrator definition and survey characteristic	IPEDS EAP component	CUPA AdComp	CUPA Mid-Level
Full-time administrators	<p>Full-time executive/administrative/managerial: Staff whose assignments required management of the institution, or a customarily recognized department or subdivision thereof. Assignments required the performance of work directly related to management policies or general business operations of the institution, department or subdivision. Assignments in this category customarily and regularly required the incumbent to exercise discretion and independent judgment.</p>	<p>Full-time administrators: Positions were generally at or above the Director level and were based on an analysis conducted by CUPA regarding the positions found at most institutions of higher education.</p>	<p>Full-time mid-level administrative and professional: Positions were based on an analysis conducted by CUPA on the mid-level administrative and professional positions found at most colleges and universities.</p>
Part-time administrators	<p>Part-time executive/administrative/managerial: Staff whose assignments required management of the institution, or a customarily recognized department or subdivision thereof. Assignments required the performance of work directly related to management policies or general business operations of the institution, department or subdivision. Assignments in this category customarily and regularly required the incumbent to exercise discretion and independent judgment.</p>	<p>Only full-time staff were included in the survey</p>	<p>Only full-time staff were included in the survey</p>

See notes at end of table.

Table 3.1c. Comparison of administrator definition and survey characteristics between IPEDS EAP component and CUPA AdComp and Mid-Level: 2004-05—Continued

Administrator definition and survey characteristic	IPEDS EAP component	CUPA AdComp	CUPA Mid-Level
Determination of functional category	Institutions were instructed to assign employees in one category based on job title, work performed, skills, education, training and credentials. If an employee performed in more than one occupation, they should have been classified in the occupation that required the highest level of skill. If there was no measurable difference in skill, employees should have been included in the functional category (occupation) in which they spent the most time.	Institutions were asked to make the best match and report individuals only once.	Institutions were asked to make the best match and report individuals only once.
Job classification system	Standard Occupational Classification (SOC) codes	CUPA-created classification system	CUPA-created classification system
Data provided by faculty status	Tenured, on tenure track, not on tenure track/no tenure system, and without faculty status	No	No
Included faculty in medical schools	Yes - separately	Unknown	Unknown
Individual records or summary data provided for the study	Individual institutional data provided	Summary data provided by analysis group	Summary data provided by analysis group

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component; College and University Professional Association for Human Resources (CUPA), 2004-05 Administrative Compensation Survey (AdComp) and Mid-Level Administrative and Professional Survey (Mid-Level).

External Data Sources

External Data Sources Eliminated from this Analysis

Due to irreconcilable definitional differences with the IPEDS EAP component, some of the external sources that were originally slated for inclusion had to be eliminated. The details regarding these differences follow.

CUPA Mid-Level

It was hoped that the professional job categories in CUPA Mid-Level would align closely with the professional job categories in the IPEDS EAP component; however, after analyzing the job categories from both sources, the categories were determined not to be comparable. Therefore, the CUPA Mid-Level data were not used in this study.

CUPA NFSS and CCFSS, OSU FSS and AAMC MSPS

CUPA NFSS and CCFSS, OSU FSS and AAMC MSPS collected data only for the following four academic ranks: professor, associate professor, assistant professor and instructor. The IPEDS EAP component data included these academic ranks, as well as lecturers and faculty who have no rank; however, the data were collected in aggregate form, not by rank. Because specific ranks could not be separated out for the IPEDS EAP component, this difference was deemed significant enough to render the datasets unusable for the analysis between the IPEDS EAP component and these four external sources.

External Data Sources Included in this Analysis

Upon completion of the examination of definitions, the following data sources were determined to contain data elements that corresponded closely enough to be compared with the IPEDS EAP component data: CUPA AdComp, AAUP FCS and College Board ASC. Details of the three external sources follow.

CUPA AdComp

1. The 2004-05 CUPA AdComp provided data for 1,387 institutions.
2. CUPA AdComp collected data for “selected administrative positions.”
3. CUPA AdComp data were collected for full-time administrative staff only.

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4. CUPA AdComp included not only selected full-time administrative positions, but also specific job titles, along with detailed definitions. While CUPA AdComp collected information on the number of “deans” by department (Dean of Education, Dean of Engineering, Dean of Fine Arts, etc.), the IPEDS EAP component collected information on deans in the broad executive/administrative/managerial category. For example, the instruction for reporting deans in the executive/administrative/managerial category of the IPEDS EAP component simply stated to include deans “if their principal activity was administrative and not primarily instruction, research, or public service.” Based on a comparison of the administrative positions in the IPEDS EAP component and CUPA AdComp, it was felt that there were enough similarities between the two sources to proceed with this analysis. (A detailed list of the staffing categories for CUPA AdComp and IPEDS EAP can be found in appendix C.)
5. CUPA AdComp included a few positions (e.g., database administrator, systems analyst) that were more accurately defined as mid-level or “other professional” positions. Consequently, these positions were removed from the CUPA AdComp data for this analysis.
6. CUPA AdComp did not collect data by faculty status.

AAUP FCS

1. The 2004-05 AAUP FCS provided data for approximately 1,400 institutions.
2. AAUP FCS collected data only for full-time faculty.
3. The full-time faculty definition for AAUP FCS was basically synonymous with the IPEDS EAP component “primarily instruction” and “instruction/research/public service” definitions, with a few exceptions.
4. AAUP FCS collected data separately by faculty status (e.g., tenured, on tenure track, and not on tenure track/no tenure system). (Institutions that did not have a tenure system were instructed to report their faculty members in the not on tenure track category.) The AAUP FCS instructions state to include instructional staff regardless of whether they were formally designated as “faculty.” The IPEDS EAP component collected data on the previously mentioned faculty status categories separately, and also collected data separately on faculty members without faculty status. For purposes of this study, the

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EAP component categories “not on tenure track/no tenure system” and “without faculty status” were combined.

5. AAUP FCS collected data on faculty members who were on 9/10- and 11/12-month contracts, but did not collect data for faculty members who were on less-than-9-month contracts. The IPEDS EAP component also collected data on faculty who were on 9/10- and 11/12-month contracts, in addition to faculty who were on less-than-9-month contracts; however, the data were not collected separately by contract length. Therefore, the IPEDS EAP component data for faculty members included three contract lengths, while AAUP FCS data included only two contract lengths.

College Board ASC

1. The 2005-06 College Board ASC provided data for approximately 3,400 institutions.
2. College Board ASC collected data separately on the number of full- and part-time faculty.
3. The full-time faculty member definition for College Board ASC is basically synonymous with the IPEDS EAP component “primarily instruction” and “instruction/research/public service” definitions, with a few exceptions.
4. Documentation for the College Board ASC did not clearly state which faculty members should be reported by contract length and by faculty status. Since the College Board ASC instructions reference the AAUP FCS definitions, it is highly likely that respondents to ASC followed the AAUP guidelines on contract length and faculty status.

Definitional Differences

When comparing the number of full-time faculty members on the IPEDS EAP component to the external sources, the EAP categories of “primarily instruction” and “instruction/research/public service” were summed to produce a number of full-time faculty members that was comparable to the external sources. The sum of these two primary functions was reported by institutions to the IPEDS SA component, and created the group of “full-time faculty members” to be compared with the external data sources.

Although data providers were contacted throughout the analysis period to clarify data interpretations, a few important differences between the IPEDS EAP component data and the external source data could not be resolved. These differences are listed below:

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- Since AAUP FCS collected data separately for the six academic ranks (professor, associate professor, assistant professor, instructor, lecturer, and no academic rank), the data reported by rank for AAUP FCS were combined in order to be comparable with IPEDS EAP. Although the instructions for the College Board ASC did not state which faculty member ranks to report, the general instructions for reporting the College Board ASC data reference the AAUP FCS reporting requirements; therefore, the College Board ASC data as reported were compared with the IPEDS EAP data.
- While the IPEDS EAP component collected data on full-time faculty members in aggregate form for faculty on less-than-9-month, 9/10-month and 11/12-month contracts, none of the external sources collected data for faculty on less-than-9-month contracts. Despite the fact that faculty members on less-than-9-month contracts could not be excluded from the IPEDS EAP data, a decision was made to compare the IPEDS EAP data with the AAUP FCS and College Board ASC data. Although data for full-time faculty members are reported in aggregate form in IPEDS EAP, historically, in IPEDS SA, full-time faculty members on less-than-9-month contracts accounted for approximately 0.5 percent of the total number of full-time faculty.
- Both the IPEDS EAP component and AAUP FCS collected data on full-time faculty members by faculty status; however, the IPEDS EAP component included four faculty status categories (tenured, on tenure track, not on tenure track/no tenure system, and without faculty status) while AAUP FCS included three categories (tenured, on tenure track, and not on tenure track/no tenure system). However, the instructions for reporting AAUP FCS data did state that institutions were to include instructional staff, regardless of whether they were formally designated as “faculty.” The data reported in the not on tenure track/no tenure system category and the without faculty status category were combined for IPEDS EAP and compared with the data reported in the not on tenure track/no tenure system category for AAUP FCS. This aggregation was conducted for IPEDS EAP because institutions likely reported faculty without faculty status in the not on tenure track/no tenure system category on AAUP FCS.
- The reporting of the following personnel categories also varied among sources: department chairs (if their principal activity is instruction), adjunct and visiting faculty members, replacements for faculty members on sabbatical leave, and administrative officers with titles such as dean of instruction or dean of students. While the documentation for some of the sources clearly stated which of the previously mentioned

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staff categories to include or exclude, some of the documentation did not include specific instructions for reporting the previously mentioned staff.

Data Elements

The external data sources were examined in detail to determine which data elements could be compared with the IPEDS EAP component. Table 3.2 indicates which data elements were determined to be comparable between the IPEDS EAP component and the external data sources.

Table 3.2. Data elements matched from IPEDS EAP component to CUPA AdComp, AAUP FCS, and College Board ASC, by non-medical employment category: 2004-05

Non-medical employment category	CUPA AdComp	AAUP FCS ¹	College Board ASC ²
Full-time executive/administrative/managerial	Yes	†	†
Full-time faculty ³	†	Yes	Yes
With faculty status	†	Yes	†
Tenured	†	Yes	†
On tenure track	†	Yes	†
Not on tenure track	†	Yes	†
Without faculty status	†	Yes	†
Part-time faculty ³	†	†	Yes

†Not applicable.

¹The IPEDS EAP component included four faculty status categories (tenured, on tenure track, not on tenure track/no tenure system, and without faculty status) while AAUP FCS included three faculty status categories (tenured, on tenure track, and not on tenure track/no tenure system). The instructions for reporting AAUP FCS data did not indicate how to report faculty without faculty status; therefore, the data reported in the not on tenure track/no tenure system category and the without faculty status category were combined for the IPEDS EAP component and compared with the data reported in the not on tenure track/no tenure system category by AAUP FCS.

²College Board ASC did not collect faculty data separately by faculty status, but did collect faculty data in aggregate form by employment status. The instructions for reporting College Board ASC data did not indicate whether or not to include faculty in all or some of the faculty status categories (tenured, on tenure track, not on tenure track/no tenure system, and without faculty status) used by the EAP component. For purposes of this analysis, the data reported in the four faculty status categories were combined for the IPEDS EAP component and compared with the aggregate data reported by College Board ASC.

³Faculty in the IPEDS EAP component are those persons reported in the "Primarily instruction" and "Instruction/research/public service" categories; to conduct the comparative analysis, the "Primarily instruction" and "Instruction/research/public service" categories on IPEDS EAP component were combined into one.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component; College and University Professional Association for Human Resources (CUPA), 2004-05 Administrative Compensation Survey (AdComp); American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Comparable Institutions

The next step of this analysis involved matching institutions that reported the IPEDS EAP component data to each external source. The institutions included in each database were assessed to determine common institutions on the IPEDS EAP component and the external data sources. Institutions were matched on IPEDS UNITID, when available. If the IPEDS UNITID was not available, variables such as FICE code, institution name, and city and state were used. The following data elements were utilized to match the institutions by data source:

1. CUPA AdComp: Institution FICE code, institution name, city, state.
2. AAUP FCS: IPEDS UNITID.
3. College Board ASC: Institution name, city, state.

Parent/Child Relationships

How the different databases aggregated or disaggregated branch campuses and institutions in multi-campus systems was also explored. This revealed whether institutions included branch campuses or reported them separately. On the IPEDS EAP component, institutions occasionally reported data as a parent institution, with no data reported separately for the child institutions, or vice versa. Institutions may not necessarily have used the same method when reporting to other organizations. On the 2004-05 IPEDS EAP component, the parent/child reporting issue affected 1.24 percent of reporting institutions, with 39 parents and 47 children. The IPEDS EAP component flags the institutions that were reported as either parents or children.

When comparing the IPEDS EAP component data with the other datasets, parent and child institutions were identified in order to determine if their data were reported in the same manner on the external data sources. For purposes of this analysis, institutions for which valid comparisons could be made were retained; all other institutions were eliminated. Given the small percentage of institutions in this group, the results were not appreciably affected. The following parent/child issues were noted:

1. CUPA AdComp: Twelve of the IPEDS EAP component parent institutions were included on the CUPA AdComp data file without any child institutions; they were eliminated from the analysis.

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2. AAUP FCS: Two institutions were combined in AAUP FCS to match parent institutions in the IPEDS EAP component, while three institutions were combined in the IPEDS EAP component to match parent institutions in AAUP FCS.
3. College Board ASC: None of the institutions in this comparison were affected by the parent/child relationship.

For purposes of conducting this analysis, a 2004-05 IPEDS EAP component data file containing 6,605 records was used. Table 3.3 provides the number of institutional matches made between the IPEDS EAP component data and each external data source, by analysis group. Also reported is the number of institutions (3,315 institutions, or 50 percent) that did not match any of the external databases. Thus, this analysis matched 3,290 institutions responding to the 2004-05 IPEDS EAP component to at least one external source. Research institutions, both public and private not-for-profit, had the most matches from the IPEDS EAP component to an external data source: all of the public research institutions matched to at least one data source, and 98 percent of private not-for-profit research institutions had matches in an external data source. Public less-than-2-year institutions did not match to any external data source, and only one private not-for-profit less-than-2-year institution matched to an external data source. Analysis groups containing a small number of matches (less than 30) between the IPEDS EAP component and the external data source were not included in this analysis, as the results would be considered unreliable.

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Table 3.3. Summary of institutional matching between IPEDS EAP component and CUPA AdComp, AAUP FCS, and College Board ASC, by external source and analysis group: 2004-05

Analysis group	Number of institutions responding to IPEDS EAP component	Number of institutions responding to IPEDS EAP component that were matched to an external source			Number of institutions responding to IPEDS EAP component that were not matched to an external source	
		CUPA AdComp	AAUP FCS	College Board ASC	Number	Percent
		Total	6,605	1,270	1,433	3,168
Public research institutions	166	144	158	162	0	0.0
Public other 4-year institutions	485	258	330	438	28	5.8
Public 2-year institutions	1,156	234	267	915	218	18.9
Public less-than-2-year institutions	268	0	0	0	268	100.0
Private not-for-profit research institutions	91	68	76	85	2	2.2
Private not-for-profit other 4-year institutions	1,520	553	598	1,069	381	25.1
Private not-for-profit 2-year institutions	232	10 ¹	4 ¹	84	146	62.9
Private not-for-profit less-than-2-year institutions	121	0	0	1 ¹	120	99.2
Private for-profit 4- and 2-year institutions	2,566	3 ¹	0 ²	414	2,152	83.9

¹Reporting standards not met. The number of institutions in the external data source was too small to yield reliable analysis; therefore, data analysis between the external source and IPEDS EAP component could not be conducted.

²Although AAUP FCS collected data from private for-profit 4- and 2-year institutions, none of the private for-profit 4- and 2-year institutions that reported to AAUP FCS for the 2004-05 academic year matched those on the IPEDS EAP component.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component; College and University Professional Association for Human Resources (CUPA), 2004-05 Administrative Compensation Survey (AdComp) Data on Demand data file; American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS); and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Data Analysis

The following tables provide the results of the analysis measuring the differences for each studied data element between each external data source and the IPEDS EAP component for each analysis group. The analysis groups used in this part of the study are:

1. Public research institutions
2. Public other 4-year institutions
3. Public 2-year institutions

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4. Private not-for-profit research institutions
5. Private not-for-profit other 4-year institutions
6. Private not-for-profit 2-year institutions
7. Private not-for-profit less-than-2-year institutions
8. Private for-profit 4- and 2-year institutions

The external surveys did not include any public less-than-2-year institutions or private for-profit less-than 2-year institutions; therefore, comparisons involving these two groups of institutions could not be made.

For the CUPA AdComp data, the average number of full-time administrative staff members for each analysis group was computed for both the IPEDS EAP component and CUPA AdComp, and then compared to determine the magnitude of the difference between the two data sources.

Where individual institutional records were provided for the analysis (AAUP FCS and College Board ASC), the total number of faculty members within each analysis group for each subgroup (e.g., tenured faculty) was determined. The total number of faculty members was computed on the IPEDS EAP component and the external sources. These analyses provide the ability to identify the direction and magnitude of differences between the IPEDS EAP component data and the external datasets for each analysis group.

CUPA AdComp Analysis

CUPA AdComp data were provided in aggregate form by analysis group. Of the institutions that responded to the IPEDS EAP component, 1,270 were matched to institutions that responded to CUPA AdComp. Table 3.4 provides the number of full-time administrative staff members reported on CUPA AdComp as compared with the number of full-time executive/administrative/managerial staff members in the IPEDS EAP component. Although an attempt was made to align the job titles between CUPA AdComp and the IPEDS EAP component, it was suspected that CUPA AdComp did not capture all staff members that were included in the IPEDS EAP component executive/administrative/managerial primary function category. In addition to the fact that the CUPA AdComp survey states that it collects data for “selected administrative positions,” this conjecture was further substantiated by the fact that the CUPA AdComp survey provided much more detailed definitions about very specific job titles, while the IPEDS EAP component job titles were more general and inclusive. The fact that the CUPA AdComp survey included specific job titles, rather than the more generic job titles

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included on the IPEDS EAP component, may have resulted in the CUPA AdComp data not including as many staff members as were included in the executive/administrative/managerial primary function category of the IPEDS EAP component. For example, a specific dean may not have a category defined on CUPA AdComp, and would therefore not have been included in the CUPA AdComp number of staff members. Under the IPEDS EAP component category of “dean,” all deans were included if their principal activity was administrative and not primarily instruction, research, or public service, regardless of type or name. Unfortunately, there was no method of creating an exact crosswalk between the CUPA AdComp and the IPEDS EAP component administrative positions. A detailed list of the job titles and corresponding numeric codes for CUPA AdComp and the IPEDS EAP component can be found in appendix C. The numeric codes listed for CUPA AdComp are unique to that particular survey, while the numeric codes listed for the IPEDS EAP component are based on the Standard Occupational Classification (SOC)¹⁶ codes.)

As table 3.4 displays, the CUPA AdComp data appeared to vary widely from the IPEDS EAP component data. As hypothesized, CUPA AdComp contained data reflecting a smaller number of staff members than the IPEDS EAP component executive/administrative/managerial primary function. The largest differences were seen in the research institutions, both public and private not-for-profit, where CUPA reported 61 and 77 percent fewer staff members, respectively, than the IPEDS EAP component. The difference was smaller in the other-4-year institutions: 15 and 9 percent for public and private not-for-profit institutions, respectively. The smallest difference, 3 percent, was seen in the public 2-year institutions.

¹⁶ The Standard Occupational Classification (SOC) system is used by federal statistical agencies to classify workers in occupational categories for the purpose of collecting, calculating, or disseminating data.

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Table 3.4. Total number of full-time non-medical executive/administrative/managerial staff members reported on IPEDS EAP component and CUPA AdComp, and the magnitude and percentage of the difference, by analysis group: 2004-05

Analysis group	Number of staff		Difference	
	IPEDS EAP component	CUPA AdComp	Magnitude of difference ¹	Percent difference ²
Public research institutions	33,642	12,973	-20,669	-61.4
Public other 4-year institutions	16,142	13,656	-2,486	-15.4
Public 2-year institutions	8,131	7,861	-270	-3.3
Private not-for-profit research institutions	21,963	5,025	-16,938	-77.1
Private not-for-profit other 4-year institutions	26,675	24,171	-2,504	-9.4

¹The computation for the magnitude of the difference between CUPA AdComp and IPEDS EAP component is: CUPA AdComp – IPEDS EAP component.

²The computation for the percent difference between CUPA AdComp and IPEDS EAP component is: (CUPA AdComp – IPEDS EAP component) / IPEDS EAP component.

NOTE: Data in this table reflect 1,257 institutions matching between IPEDS EAP component and CUPA AdComp. SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and College and University Professional Association for Human Resources (CUPA), 2004-05 Administrative Compensation Survey (AdComp) Data on Demand data file.

The differences between the two data sources could have been a function of two things. First, as described above, CUPA AdComp may not have captured as many staff members as the IPEDS EAP component, due to definitional differences. Second, larger institutions with more complex staffing structures may have had a more difficult time reporting their data within defined structures.

AAUP FCS Analysis

Descriptive Statistics

Table 3.5 provides the distribution of institutions according to the percent difference in the total number of full-time faculty members (primarily instruction plus instruction/research/public service primary functions) reported on the IPEDS EAP component and AAUP FCS. Nearly one-half (47 percent) of institutions reported identical numbers of total full-time faculty members on the IPEDS EAP component and AAUP FCS. Another 30 percent reported differences of less than five percent. Thus, more than three-quarters (77 percent) of the institutions studied reported a difference of between 0 and 5 percent in the number of total full-time faculty members between the two data sources. Further, 1 percent of institutions reported data that differed by 20 percent or greater between the two sources.

Table 3.6 displays the comparison of the average number of full-time faculty members (primarily instruction plus instruction/research/public service primary functions) reported on the IPEDS EAP component non-medical section with the number of full-time faculty members

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reported on the AAUP FCS survey. The average number of full-time faculty members studied was reported by analysis group and faculty status. The average number of faculty members by analysis group was also compared between the two data sources.

By analysis group, the overall percent difference reported for the average number of full-time faculty members on the two sources was very small for public other 4-year and 2-year, and private not-for-profit other 4-year institutions, while small differences were seen in the remaining two analysis groups—public and private not-for-profit research institutions—those groups with the largest average number of full-time faculty members. Where the percent differences were very small for the total number of full-time faculty, the average absolute difference ranged from a low of 3 to a high of 9. For analysis groups where the percent differences were small for the total number of full-time faculty, the average absolute differences were 57 and 66.

By analysis group and data element, the larger differences between the two data sources were in the not on tenure track/no tenure system category where the percent differences were moderate or large for each analysis group.¹⁷ For the average number of full-time faculty members in the not on tenure track/no tenure system category, the percent difference ranged from 12 to 26 percent by analysis group, with the average absolute difference ranging from 4 to 51. For all analysis groups, the average numbers of faculty members in the not on tenure track/no tenure system category reported on the IPEDS EAP component were greater than those reported on the AAUP FCS.

In all but public 2-year institutions, the percent difference in the average number of full-time tenured faculty members differed between the IPEDS EAP component and AAUP FCS by less than 5 percent, or was very small. In public 2-year institutions, the percent difference was 8 percent, or small. Further, very small differences were observed for the average number of faculty members on tenure track reported on the IPEDS EAP component and the AAUP FCS for public research and other 4-year institutions and for private not-for-profit other 4-year institutions. The percent difference for on tenure track faculty members was small in private not-for-profit research institutions and moderate in public 2-year institutions.

¹⁷ Faculty reported in the not on tenure track/no tenure system category in the IPEDS EAP component were combined with faculty reported in the without faculty status category.

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Table 3.5. Percentage distribution of institutions according to the percent difference in the number of full-time faculty members between IPEDS EAP component and AAUP FCS: 2004-05

Percent difference	Number of institutions	Percent of institutions	Cumulative frequency	Cumulative percent
No difference	669	46.7	669	46.7
0.1 to 4.9	431	30.1	1,100	76.8
5.0 to 9.9	171	11.9	1,271	88.7
10.0 to 19.9	102	7.1	1,373	95.8
20.0 to 49.9	47	3.3	1,420	99.1
50.0 to 74.9	7	0.5	1,427	99.6
75.0 to 99.9	2	0.1	1,429	99.7
100.0 or more	4	0.3	1,433	100.0

NOTE: The percent difference between AAUP FCS and the IPEDS EAP component was computed for each subgroup: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS EAP}_{\text{institutions in subgroup}}$. Data in this table reflect 1,433 institutions matching between IPEDS EAP component and AAUP FCS.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

Table 3.6. Summary statistics for average number of full-time faculty members reported on IPEDS EAP component and AAUP FCS, by analysis group and faculty status: 2004-05

Analysis group and faculty status	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS EAP component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
	Public research institutions				
Total	933	894	66	7.0	0.94
Faculty status					
Tenured	536	539	23	4.2	0.99
On tenure track	201	201	9	4.3	0.98
Not on tenure track ³	195	155	51	26.0	0.65
	Public other 4-year institutions				
Total	266	260	9	3.2	0.99
Faculty status					
Tenured	144	145	4	2.8	1.00
On tenure track	73	71	3	4.4	0.99
Not on tenure track ³	49	44	6	12.9	0.94
	Public 2-year institutions				
Total	112	111	3	2.7	1.00
Faculty status					
Tenured	50	49	4	8.4	0.95
On tenure track	19	18	2	13.2	0.95
Not on tenure track ³	44	43	5	12.2	0.93

See notes at end of table.

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Table 3.6. Summary statistics for average number of full-time faculty members reported on IPEDS EAP component and AAUP FCS, by analysis group and faculty status: 2004-05—Continued

Analysis group and faculty status	Average number of full-time faculty		Difference		Correlation coefficient
	IPEDS EAP component	AAUP FCS	Average absolute difference ¹	Percent difference ²	
	Private not-for-profit research institutions				
Total	637	596	57	9.0	0.94
Faculty status					
Tenured	349	344	14	4.1	0.96
On tenure track	138	140	13	9.4	0.90
Not on tenure track ³	150	112	39	25.8	0.73
	Private not-for-profit other 4-year institutions				
Total	115	113	4	3.8	0.99
Faculty status					
Tenured	57	57	2	3.2	0.99
On tenure track	30	30	1	4.7	0.99
Not on tenure track ³	29	26	4	13.3	0.94

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS EAP}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS EAP component was computed for each subgroup: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS EAP}_{\text{institutions in subgroup}}$.

³Not on tenure track faculty were combined with faculty without faculty status on the IPEDS EAP component database to create a comparable category to AAUP FCS.

NOTE: Full-time faculty members denoted in this table for IPEDS EAP component represent faculty members from the EAP full-time non-medical section who were classified as "primarily instruction" and "instruction/research public service". Data in this table reflect 1,429 institutions matching between IPEDS EAP component and AAUP FCS. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

Scatter Plots

Figures 3.1a through 3.1e contain the scatter plots for the data reported on the IPEDS EAP component against AAUP FCS. The plots reinforced the findings from table 3.6.

In public research institutions, the IPEDS EAP component and AAUP FCS data closely corresponded to one another, with the exception of not on tenure track faculty members (figure 3.1a). Figure 3.1a indicated a relatively weak correlation coefficient of 0.65 between the IPEDS EAP component and AAUP FCS for not on tenure track faculty members. The correlations between the two data sources for the other faculty status groups were very strong, with coefficients ranging from 0.94 to 0.98. The correlation coefficient for the total number of faculty members between the two data sources was a very strong 0.94.

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In public other 4-year institutions, table 3.6 indicated very small to moderate percent differences between the IPEDS EAP component and AAUP FCS for each of the faculty status groups. Further, the scatter plots and correlation coefficients indicated strong associations between the data sources for each faculty status group (figure 3.1b).

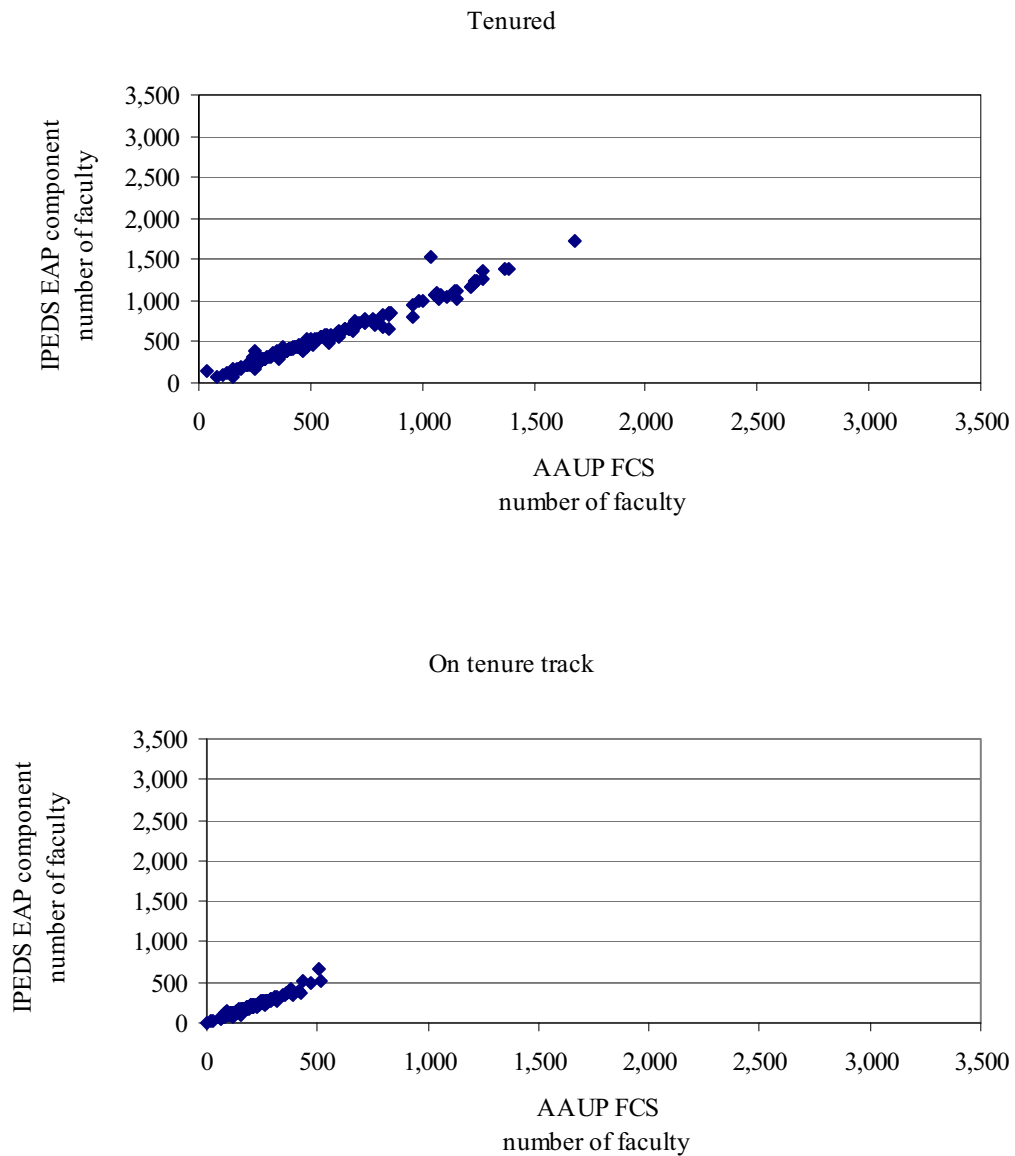
Very small to moderate percent differences were also found between the IPEDS EAP component and AAUP FCS data for public 2-year institutions (table 3.6). Overall, the scatter plots and correlation coefficients indicated a very strong correlation between the data sources, regardless of faculty status group; correlation coefficients ranged from 0.93 to 0.99 (figure 3.1c).

Very small and small percent differences were found between the IPEDS EAP component and AAUP FCS data for private not-for-profit research institutions for tenured and on tenure track faculty members, while a large percent difference was found for faculty members not on tenure track (table 3.6). The scatter plots and correlation coefficients indicated the same, with the data reflecting faculty members not on tenure track displaying large differences and a correlation coefficient of 0.73 (figure 3.1d).

Very small to moderate percent differences were found between the IPEDS EAP component and AAUP FCS data for private not-for-profit other 4 institutions, regardless of faculty status group (table 3.6). The scatter plots and correlation coefficients indicated a very strong correlation between the two data sources; correlation coefficients ranged from 0.94 to 0.99 (table 3.6, figure 3.1e).

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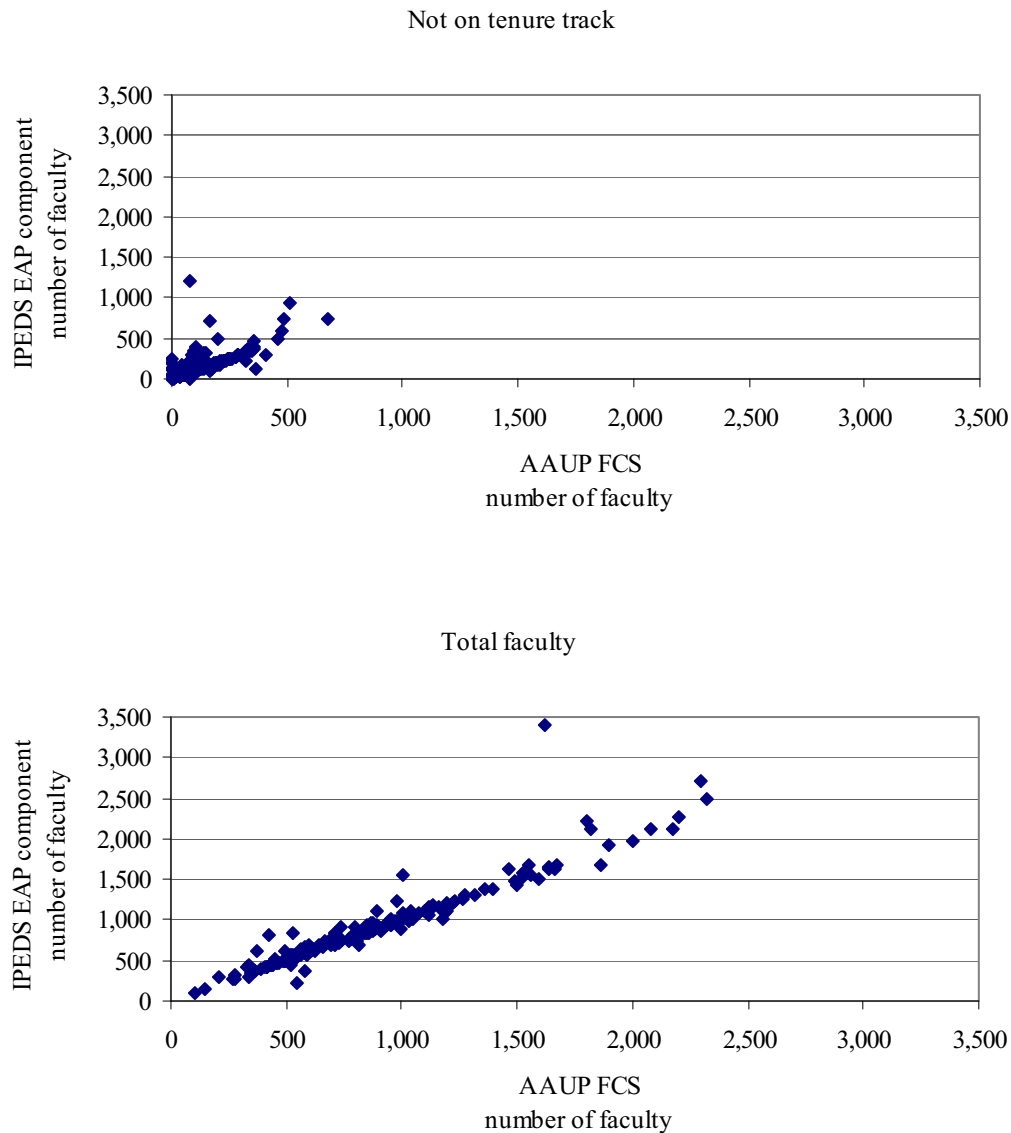
Figure 3.1a. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Public research institutions, 2004-05



See notes at end of table.

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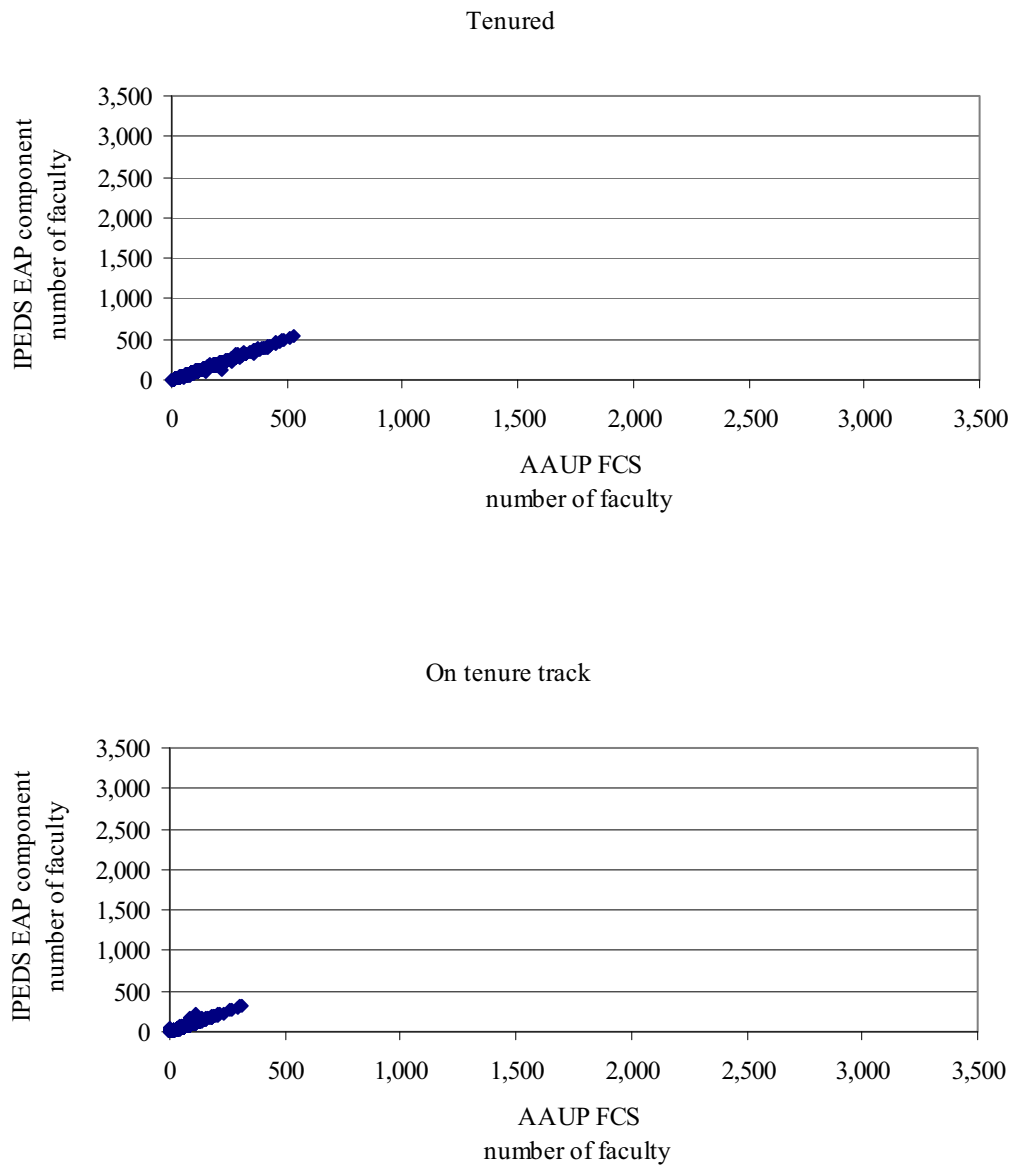
Figure 3.1a. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS, by faculty status: Public research institutions, 2004-05—Continued



NOTE: Data in this figure reflect 158 institutions matching between IPEDS EAP component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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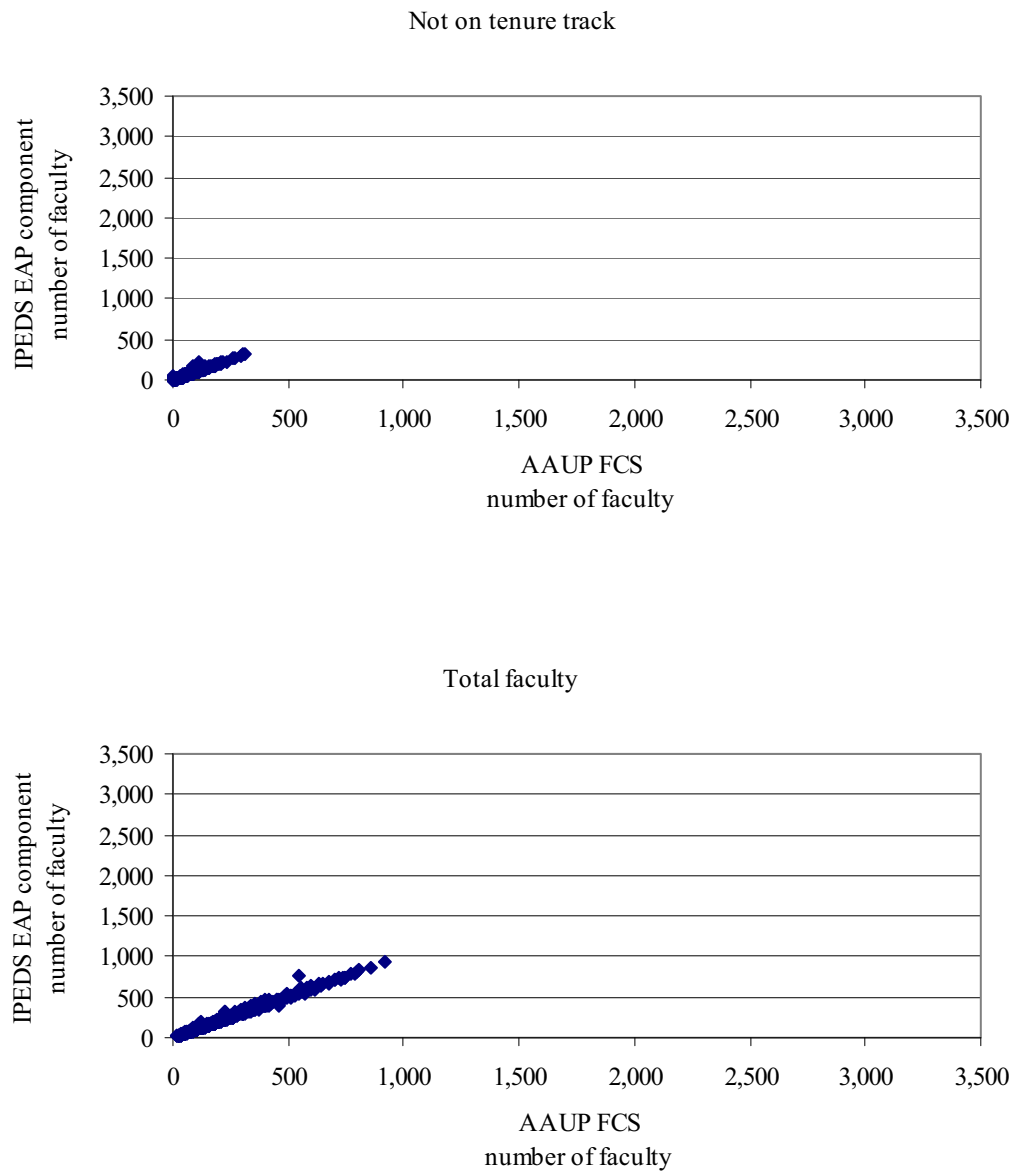
Figure 3.1b. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Public other 4-year institutions, 2004-05



See notes at end of table.

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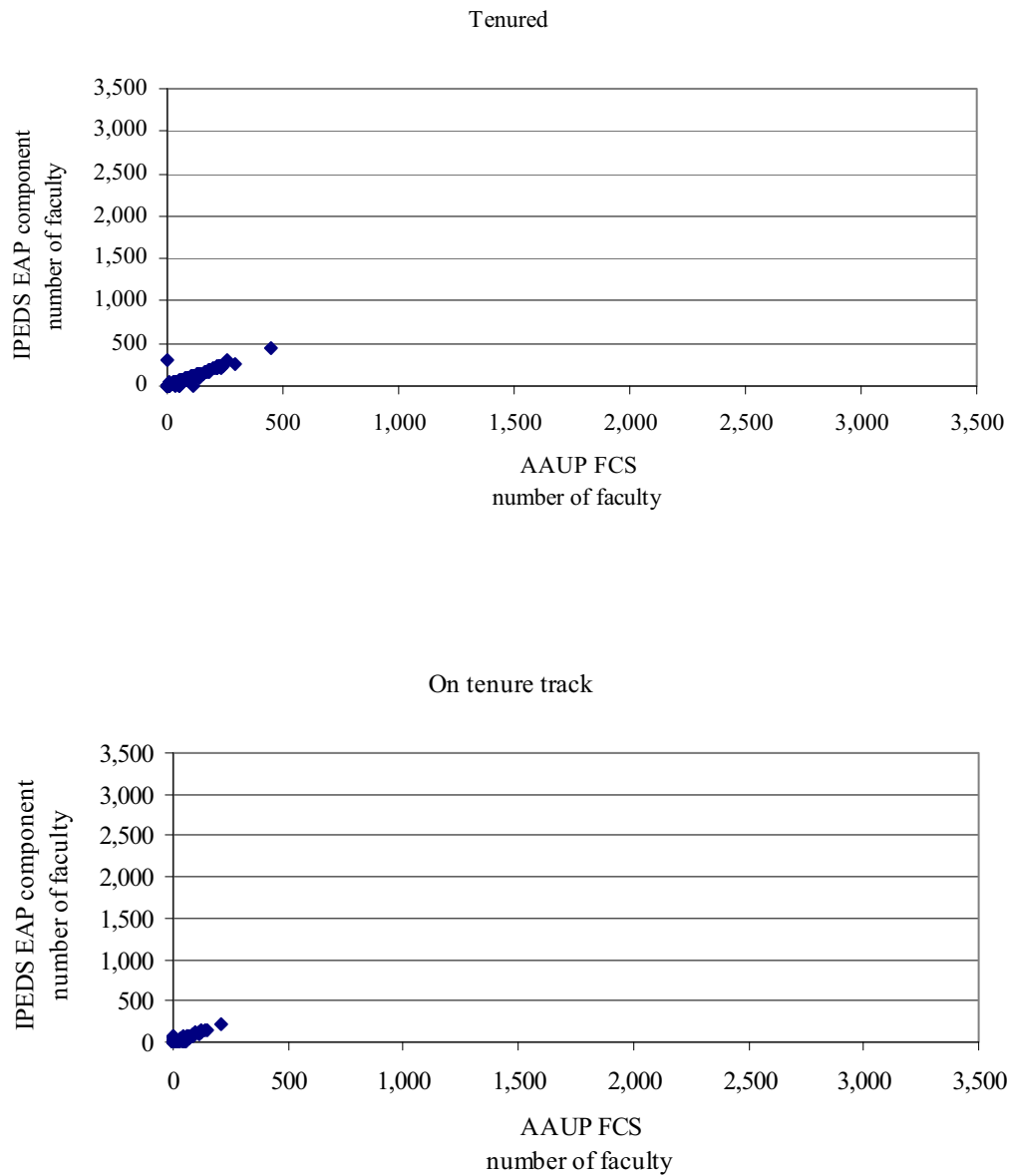
Figure 3.1b. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Public other 4-year institutions, 2004-05—Continued



NOTE: Data in this figure reflect 330 institutions matching between IPEDS EAP component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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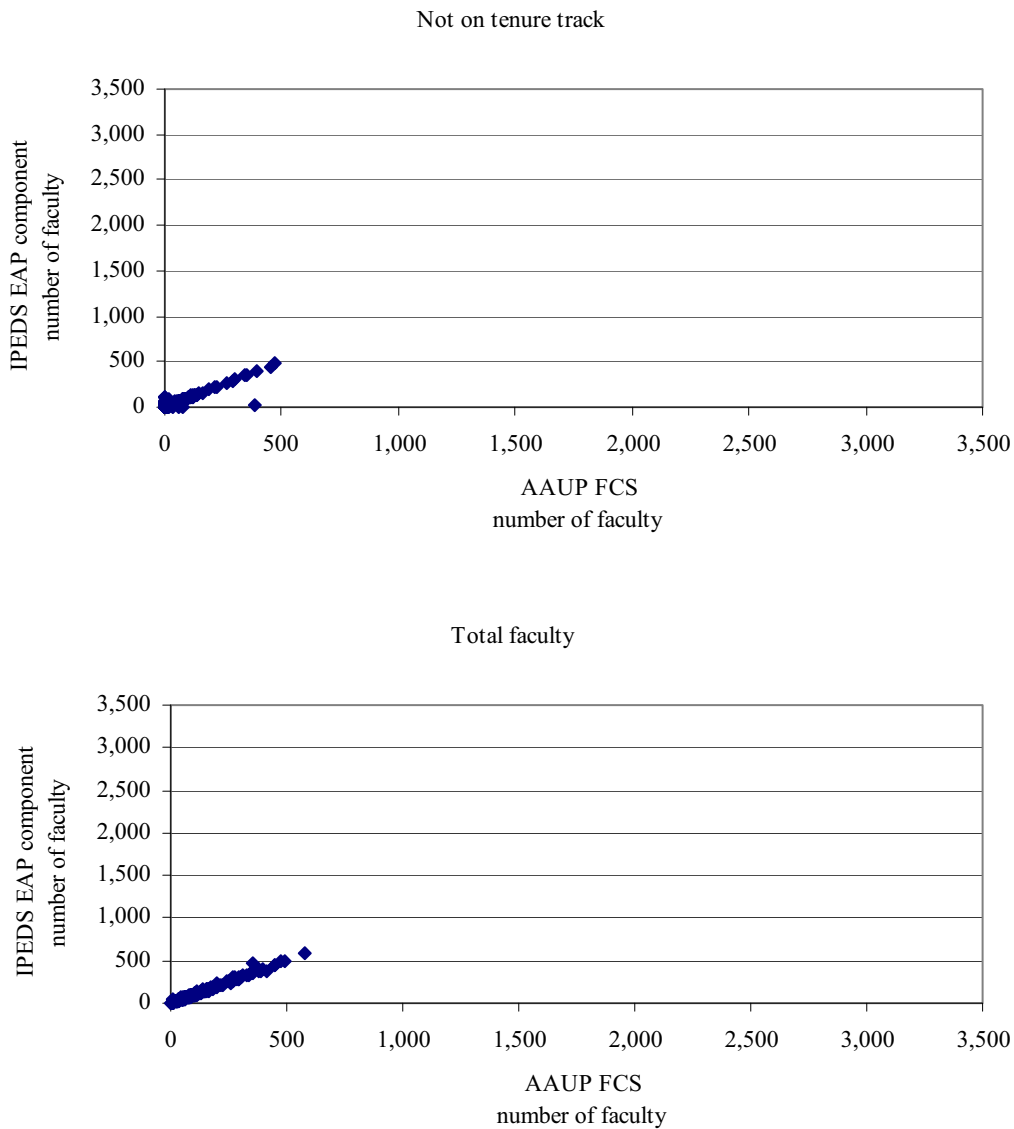
Figure 3.1c. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Public 2-year institutions, 2004-05



See notes at end of table.

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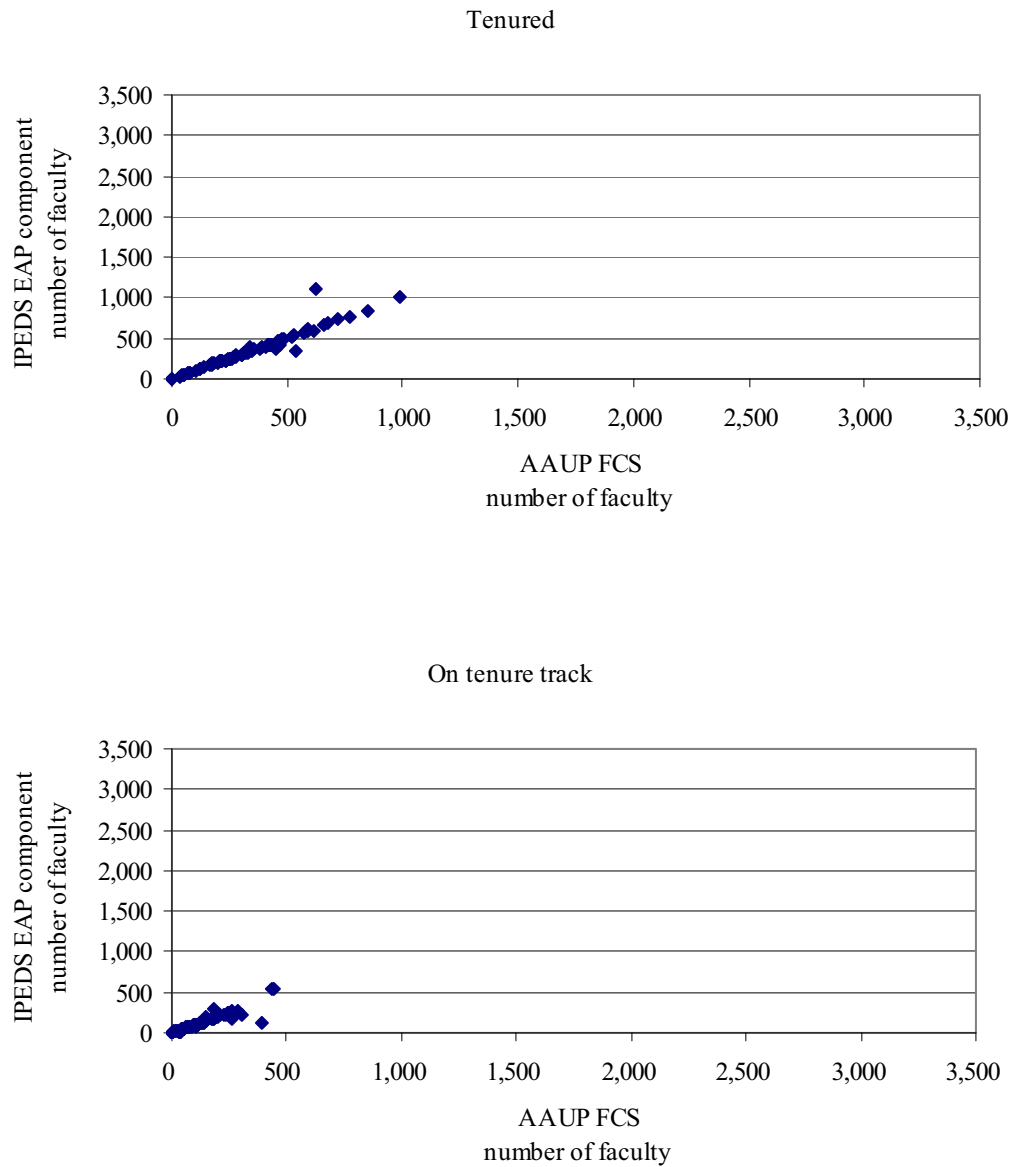
Figure 3.1c. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Public 2-year institutions, 2004-05—Continued



NOTE: Data in this figure reflect 267 institutions matching between IPEDS EAP component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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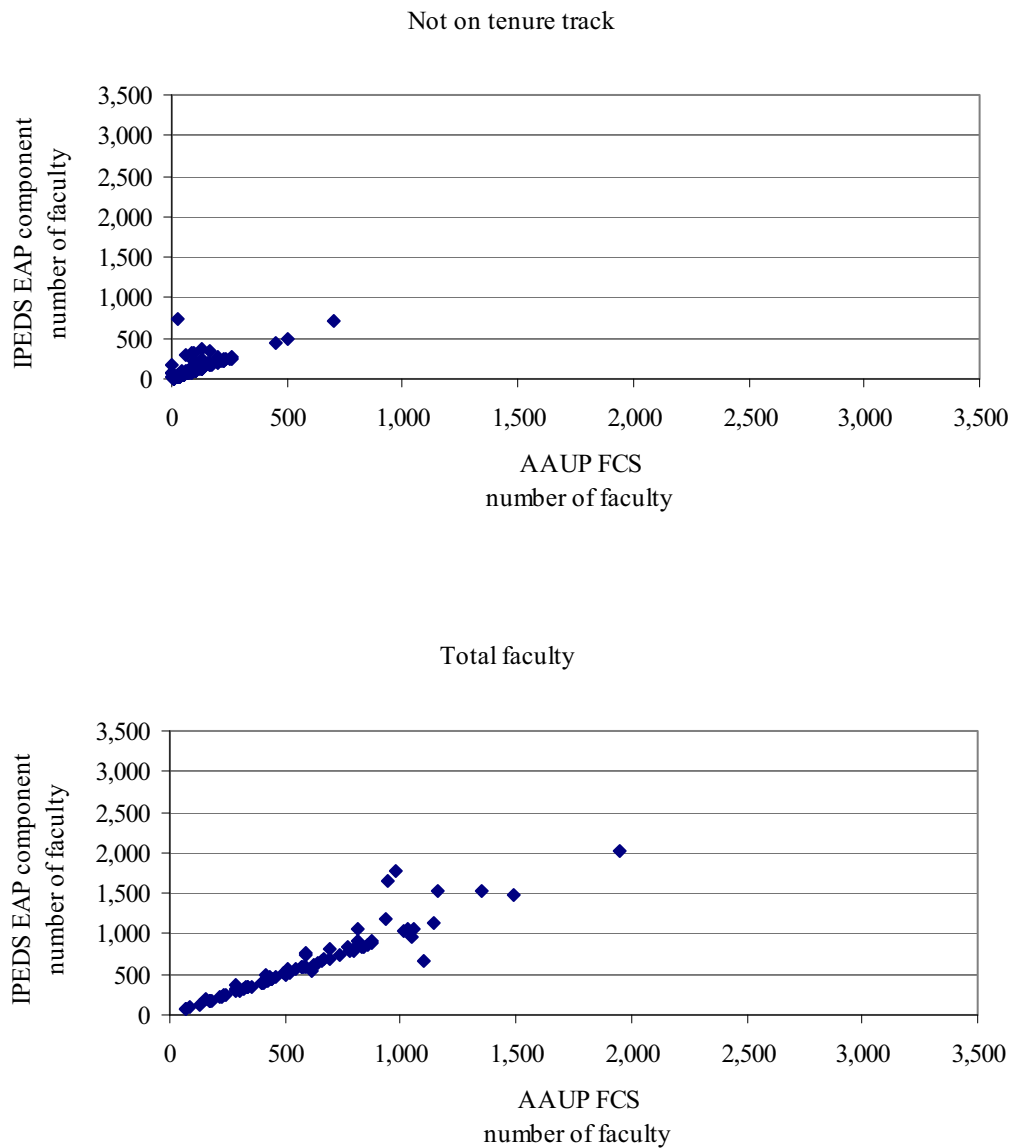
Figure 3.1d. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Private not-for-profit research institutions, 2004-05



See notes at end of table.

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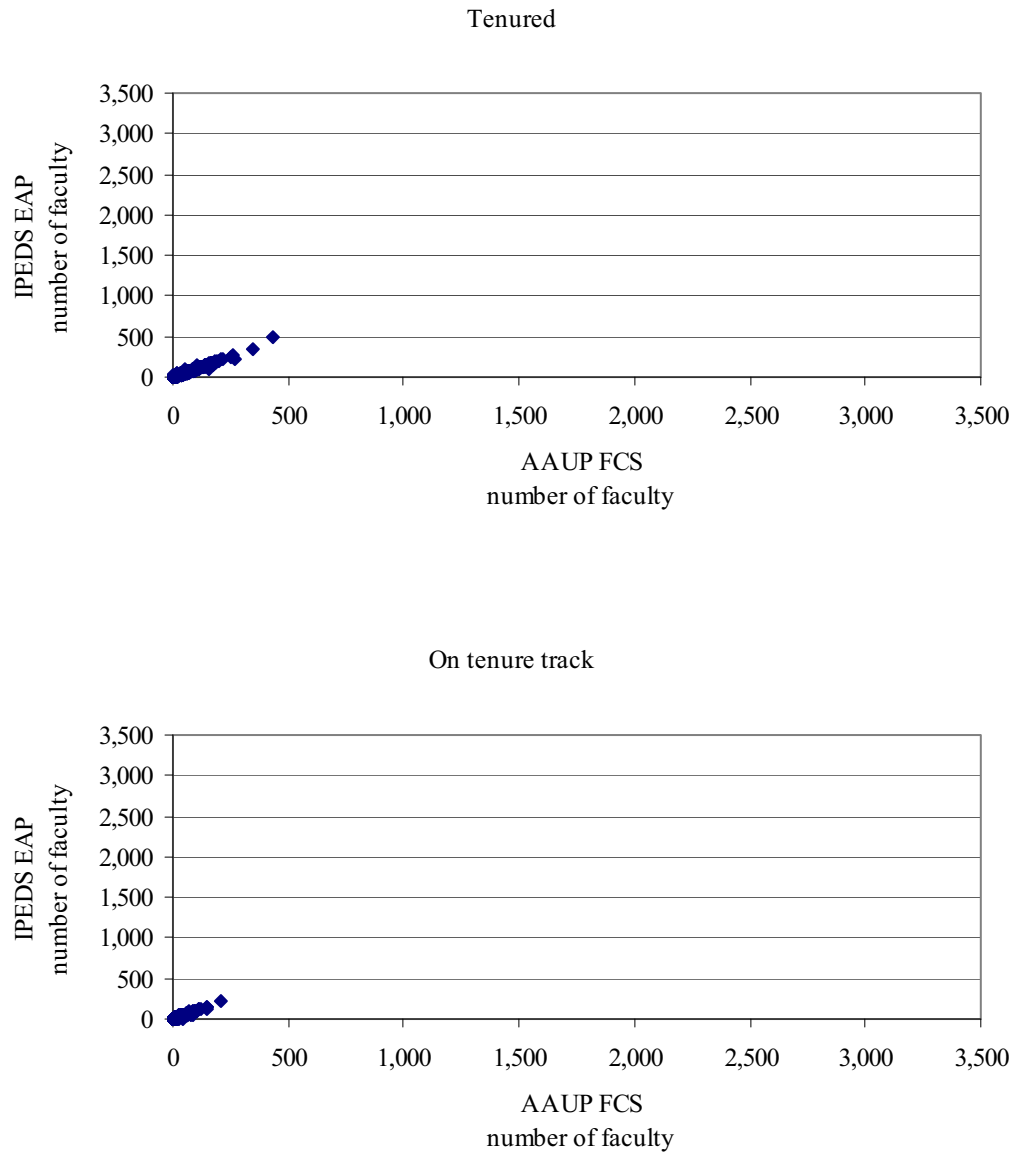
Figure 3.1d. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Private not-for-profit research institutions, 2004-05—Continued



NOTE: Data in this figure reflect 76 institutions matching between IPEDS EAP component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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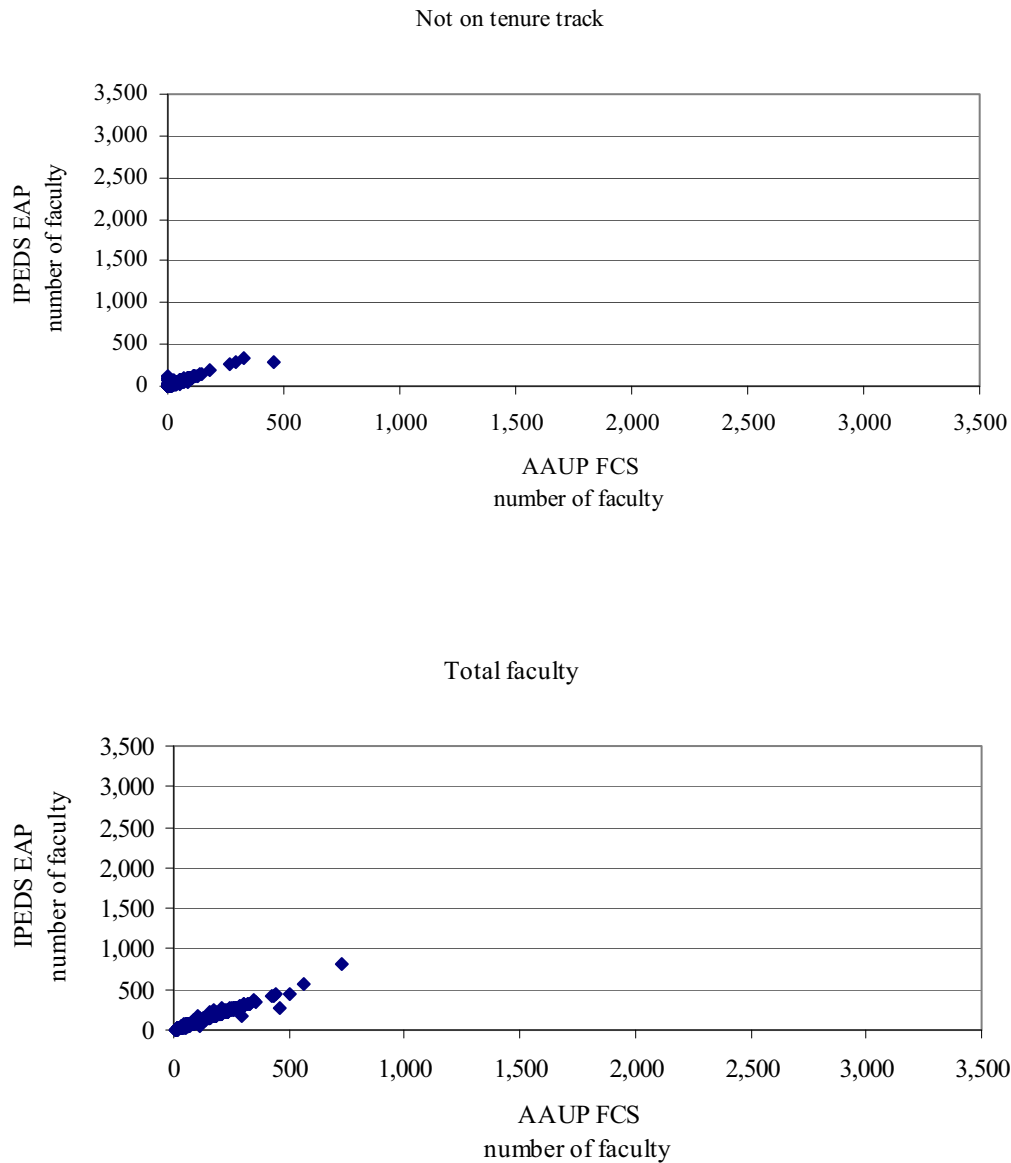
Figure 3.1e. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Private not-for-profit other 4-year institutions, 2004-05



See notes at end of table.

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Figure 3.1e. Number of full-time faculty members on IPEDS EAP component compared with AAUP FCS by faculty status: Private not-for-profit other 4-year institutions, 2004-05—Continued



NOTE: Data in this figure reflect 598 institutions matching between IPEDS EAP component and AAUP FCS.
SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and American Association of University Professors (AAUP), 2004-05 Faculty Compensation Survey (FCS) data file.

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College Board ASC Analysis

Descriptive Statistics

Table 3.7 displays the distribution of institutions according to the percent difference in the total number of faculty members (full-time and part-time) reported on the IPEDS EAP component and College Board ASC. Fourteen percent of institutions included in the comparison reported identical data to both the IPEDS EAP component and College Board ASC. Twenty-two percent reported data that differed by less than 5 percent, and an additional 15 percent reported data that differed by between 5.0 and 9.9 percent. Thus, one-half of the institutions reported differences of less than 10 percent in the total number of faculty members reported on the IPEDS EAP component and College Board ASC. Six percent of the institutions reported to the IPEDS EAP component and College Board ASC data that differed by 100 percent or more.

Table 3.8 displays the comparison of the IPEDS EAP component full-time and part-time¹⁸ primarily instruction and instruction/research/public service staff members (faculty members) to the number of full- and part-time faculty members reported on College Board ASC. The number of faculty members was reported by analysis group and employment status; the total number of faculty members by analysis group was compared between the two data sources as well.

Table 3.7. Percentage distribution of institutions according to the percent difference in the number of faculty members between IPEDS EAP component and College Board ASC, by difference range: 2004-05

Percent difference	Frequency	Percent	Cumulative frequency	Cumulative percent
No difference	438	13.8	438	13.8
0.1 to 4.9	689	21.8	1,127	35.6
5.0 to 9.9	458	14.5	1,585	50.0
10.0 to 19.9	504	15.9	2,089	65.9
20.0 to 49.9	622	19.6	2,711	85.6
50.0 to 74.9	202	6.4	2,913	92.0
75.0 to 99.9	72	2.3	2,985	94.2
100.0 or more	183	5.8	3,168	100.0

NOTE: The percent difference between College Board ASC and the IPEDS EAP component was computed for each subgroup: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS EAP}_{\text{institutions in subgroup}}$. Data in this table reflect 3,168 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

¹⁸ Does not include graduate assistants.

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Table 3.8. Summary statistics for average number of faculty members reported on IPEDS EAP component and College Board ASC, by analysis group and employment status: 2004-05

Analysis group and employment status	Average number of faculty members		Difference		Correlation coefficient
	IPEDS EAP component	College Board ASC	Average absolute difference ¹	Percent difference ²	
Public research institutions					
Total	1,226	1,220	167	13.6	0.81
Employment status					
Full-time	918	926	78	8.5	0.93
Part-time	309	294	107	34.7	0.66
Public other 4-year institutions					
Total	397	424	66	16.6	0.83
Employment status					
Full-time	237	256	32	13.5	0.76
Part-time	161	168	42	26.3	0.85
Public 2-year institutions					
Total	356	345	66	18.5	0.89
Employment status					
Full-time	113	112	10	8.8	0.97
Part-time	243	233	63	26.0	0.84
Private not-for-profit research institutions					
Total	1,004	998	224	22.3	0.42
Full-time	629	655	110	17.5	0.83
Part-time	375	342	126	33.6	0.41
Private not-for-profit other 4-year institutions					
Total	177	187	48	26.8	0.60
Employment status					
Full-time	86	91	12	13.5	0.83
Part-time	91	96	40	44.0	0.48
Private not-for-profit 2-year institutions					
Total	40	42	10	25.5	0.78
Employment status					
Full-time	20	22	6	30.1	0.64
Part-time	20	21	7	33.3	0.89

See notes at end of table.

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Table 3.8. Summary statistics for average number of faculty members reported on IPEDS EAP component and College Board ASC, by analysis group and employment status: 2004-05—Continued

Analysis group and employment status	Average number of faculty members		Difference		Correlation coefficient
	IPEDS EAP component	College Board ASC	Average absolute difference ¹	Percent difference ²	
Total	69	68	21	30.1	0.87
Employment status					
Full-time	23	26	9	37.6	0.84
Part-time	46	42	16	34.3	0.89

¹The average absolute difference was computed for each institution as follows: $\text{average}_{\text{institutions in subgroup}} (\text{absolute value}(\text{AAUP FCS}_{\text{institution}} - \text{IPEDS SA}_{\text{institution}}))$.

²The percent difference between AAUP FCS and the IPEDS SA component was computed for each subgroup: $\text{average absolute difference}_{\text{institutions in subgroup}} / \text{average value of IPEDS SA}_{\text{institutions in subgroup}}$.

NOTE: Data in this table reflect 3,168 institutions matching between IPEDS EAP component and College Board ASC. Percent differences may not appear to compute correctly due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Generally, the percent differences between the IPEDS EAP component number of faculty members and those reported on College Board ASC were relatively large. Of the 21 comparisons conducted, 13 (62 percent) were large, and an additional 6 (29 percent) were moderate. Two comparisons were small—full-time faculty members reported in public research and 2-year institutions. There were no comparisons conducted between the IPEDS EAP component number of faculty members and those reported on College Board ASC that were very small. In all but private for-profit 4- and 2-year institutions, the percent difference between the IPEDS EAP component and the College Board ASC reports for full-time faculty members was smaller for full-time faculty than part-time faculty, and, the average absolute difference was smaller as well.

Scatter Plots

Figures 3.2a through 3.2g contain the scatter plots of the IPEDS EAP component against College Board ASC. Table 3.8 indicated some disagreement in the number of faculty members by employment status reported on the IPEDS EAP component and College Board ASC. Figures 3.2a through 3.2g, for the most part, reinforced these findings and indicated that, although a linear relationship existed between data reported to the two sources, there were points that “fell off the line”. Further, as indicated in table 3.8 and by a visual examination of the scatter plots,

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the strengths of the correlations did vary. A summary of the relationships between the IPEDS EAP component and College Board ASC data follows.

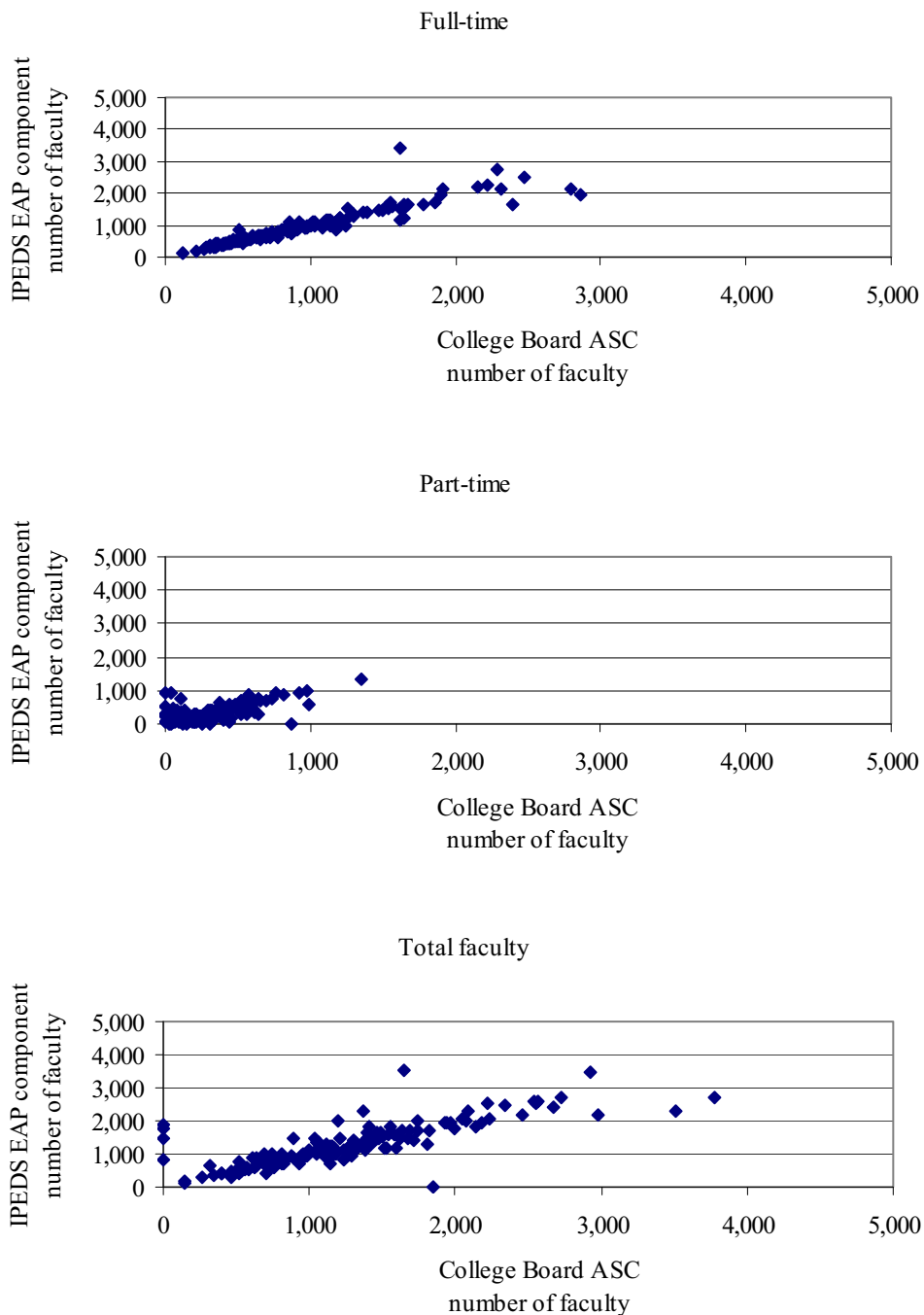
- Public research institutions: A strong relationship was indicated for the number of full-time faculty members on the IPEDS EAP component and College Board ASC (0.93, table 3.8), but the relationship was not as strong for part-time and all faculty data (0.66 and 0.81, respectively). Examining the scatter plots led to the same conclusion, as the points on the scatter plot for the full-time faculty form a fairly concise line, with some dispersion at the top end, while the part-time and total faculty member scatter plots were more dispersed away from the line (figure 3.2a).
- Public other 4-year institutions: Consistent with the findings in table 3.8 where moderate to large percent differences were found between the two sources, the linear relationship between the IPEDS EAP component and College Board ASC data by employment status was moderate to strong, ranging from 0.76 to 0.85, depending on employment status (figure 3.2b).
- Public 2-year institutions: As in the public research institutions, a very strong relationship was indicated for the number of full-time faculty members on the IPEDS EAP component and College Board ASC (0.97, table 3.8); the relationship was strong for the number of part-time and total faculty members (0.84 and 0.89, respectively). Examination of figure 3.2c reinforces these findings, as the plot for the number of full-time faculty members was strong and tight, while the scatter about the line for the number of part-time and all faculty was more apparent.
- Private not-for-profit research institutions: The percent differences between the IPEDS EAP component and College Board ASC data for the numbers of part-time and all faculty members were large; the scatter plots and the correlation coefficients reinforced this finding by displaying a fair amount of variability between the two data sources. The data for full-time faculty members had a strong coefficient of 0.83; however, the correlation coefficients for part-time and all faculty members were weak (0.41 and 0.42, respectively). Figure 3.2d displays the dispersion of the data sources.

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- Private not-for-profit other-4-year institutions: The same was true here as for private not-for-profit research institutions: the percent differences were moderate to large and the scatter plots and correlation coefficients indicated variability between the two sources. Again, the variability was seen in the number of part-time faculty members on the two data sources, with a correlation coefficient of 0.48. The coefficient was 0.83 for the number of full-time faculty members. The correlation coefficient for the number of all faculty members in private not-for-profit other-4-year institutions was 0.60 (table 3.8 and figure 3.2e).
- Private not-for-profit 2-year institutions: In these institutions, the number of part-time faculty members had a stronger correlation between the IPEDS EAP component and College Board ASC than did the number of full-time faculty members, with coefficients of 0.89 and 0.64, respectively (table 3.8). Examination of figure 3.2f indicated that there was dispersion between the IPEDS EAP component and College Board ASC at the higher ends of the numbers reported for full-time faculty. The differences in these few data points could have contributed to weak correlation for full-time faculty overall, as the scatter plot showed much less dispersion when fewer faculty members were reported.
- Private for-profit 4- and 2-year institutions: The correlations between the IPEDS EAP component and College Board ASC data for private for-profit 4- and 2-year institutions were relatively similar by employment status, and were strong. They ranged from 0.84 to 0.89 (table 3.8). Figure 3.2g reinforced this finding, as the IPEDS EAP component and College Board ASC data reports fell on the same line, with a few exceptions.

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Figure 3.2a. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Public research institutions, 2004-05

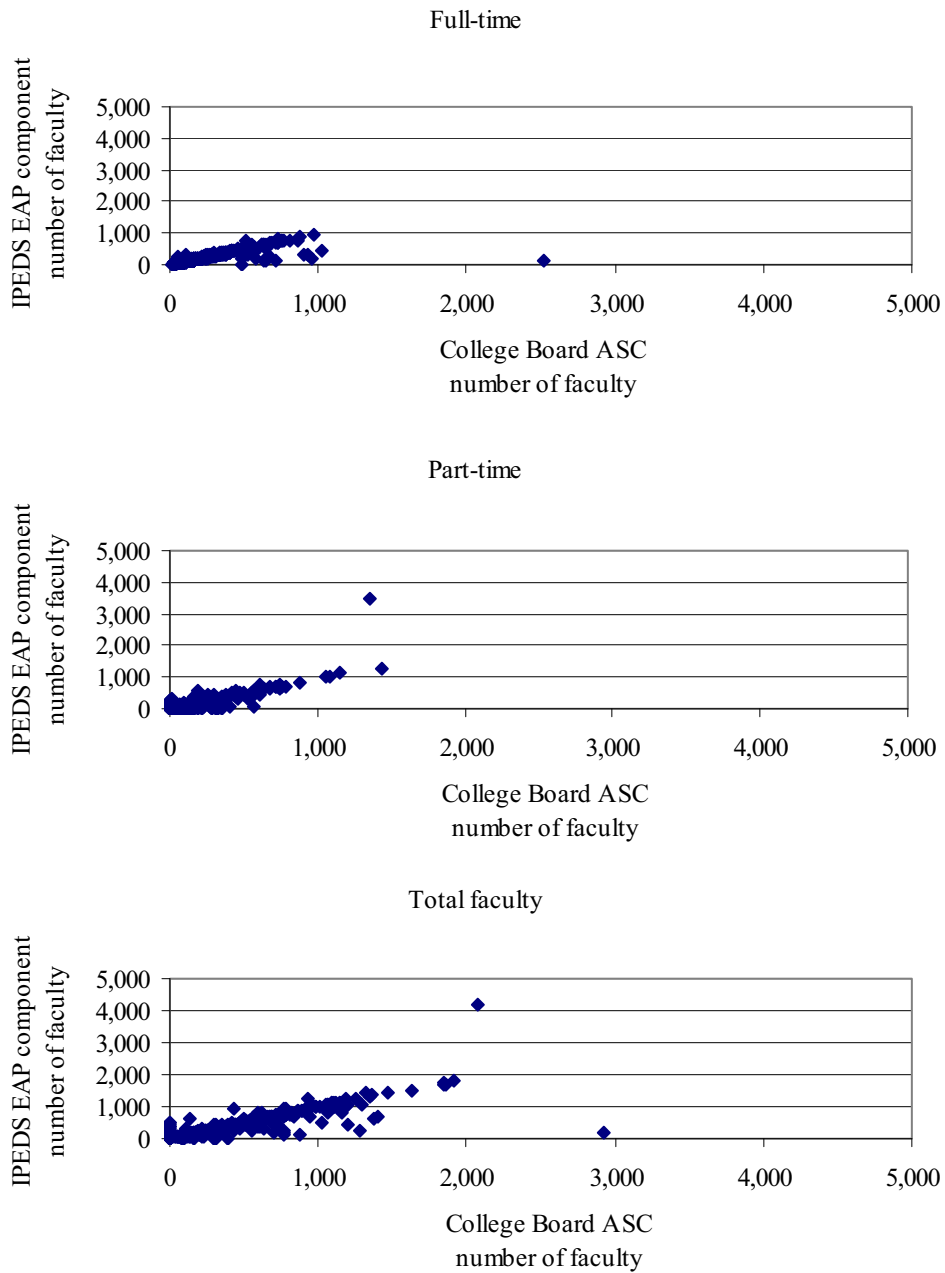


NOTE: Data in this figure reflect 162 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 3.2b. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Public other 4-year institutions, 2004-05

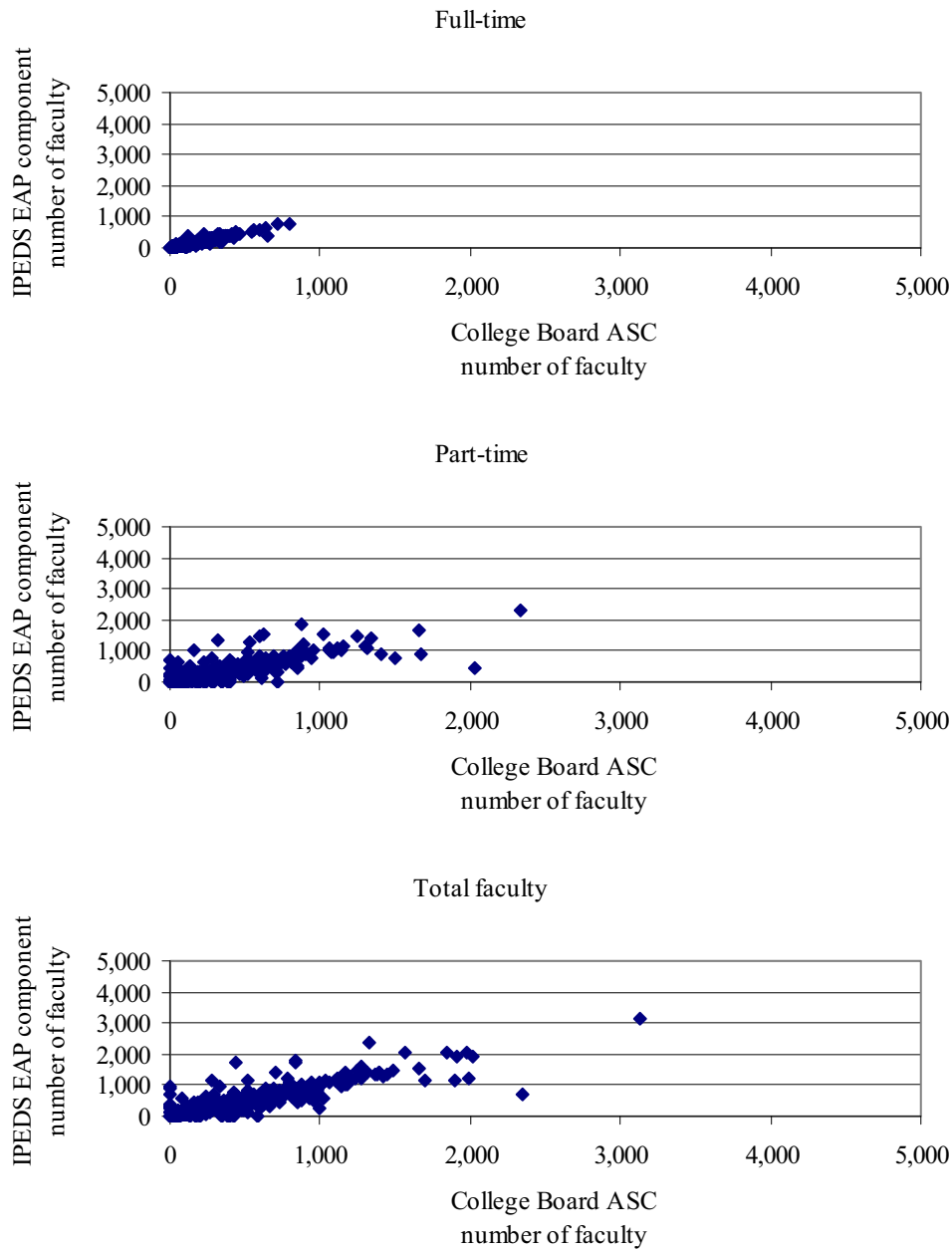


NOTE: Data in this figure reflect 438 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 3.2c. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Public 2-year institutions, 2004-05

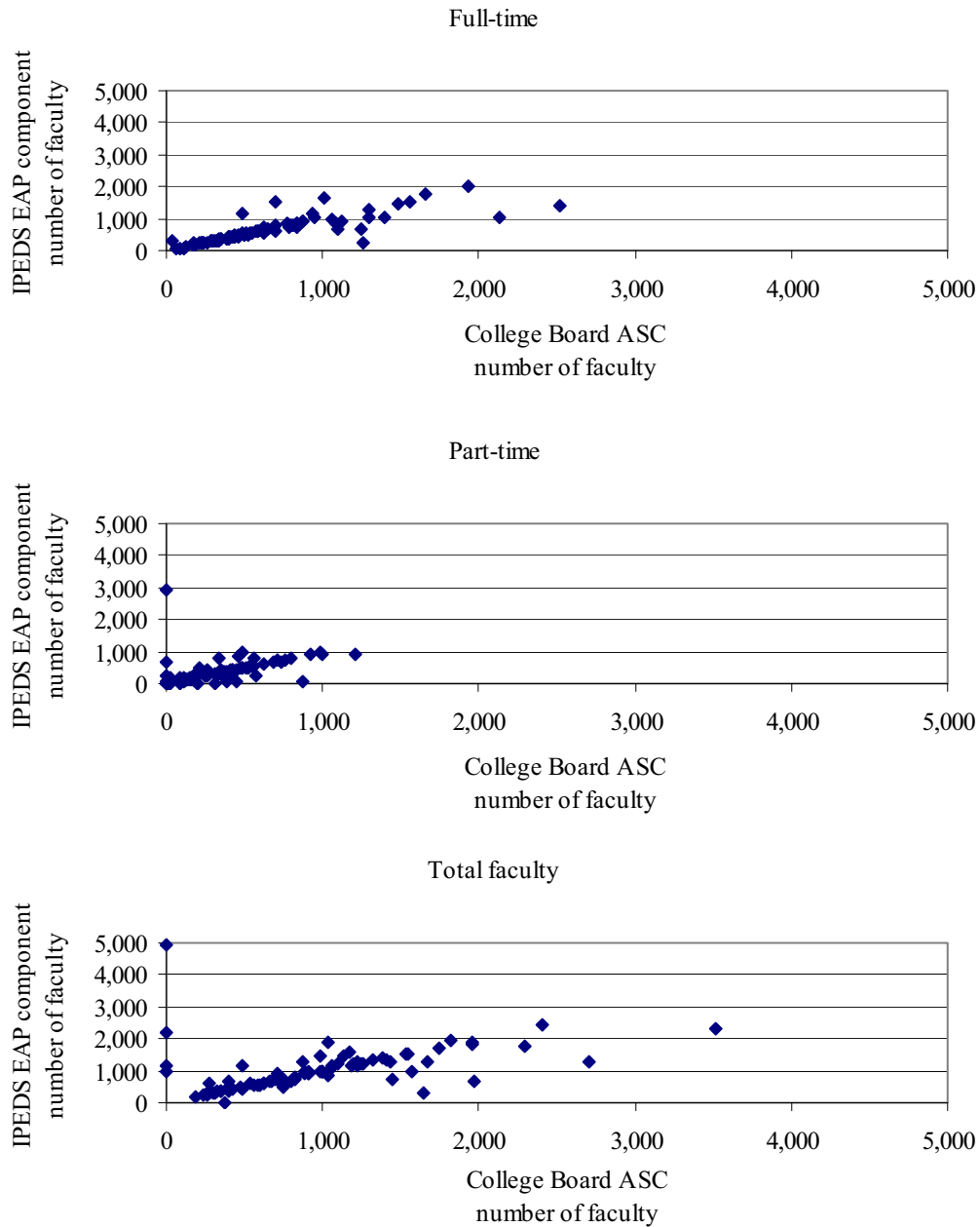


NOTE: Data in this figure reflect 915 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 3.2d. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Private not-for-profit research institutions, 2004-05

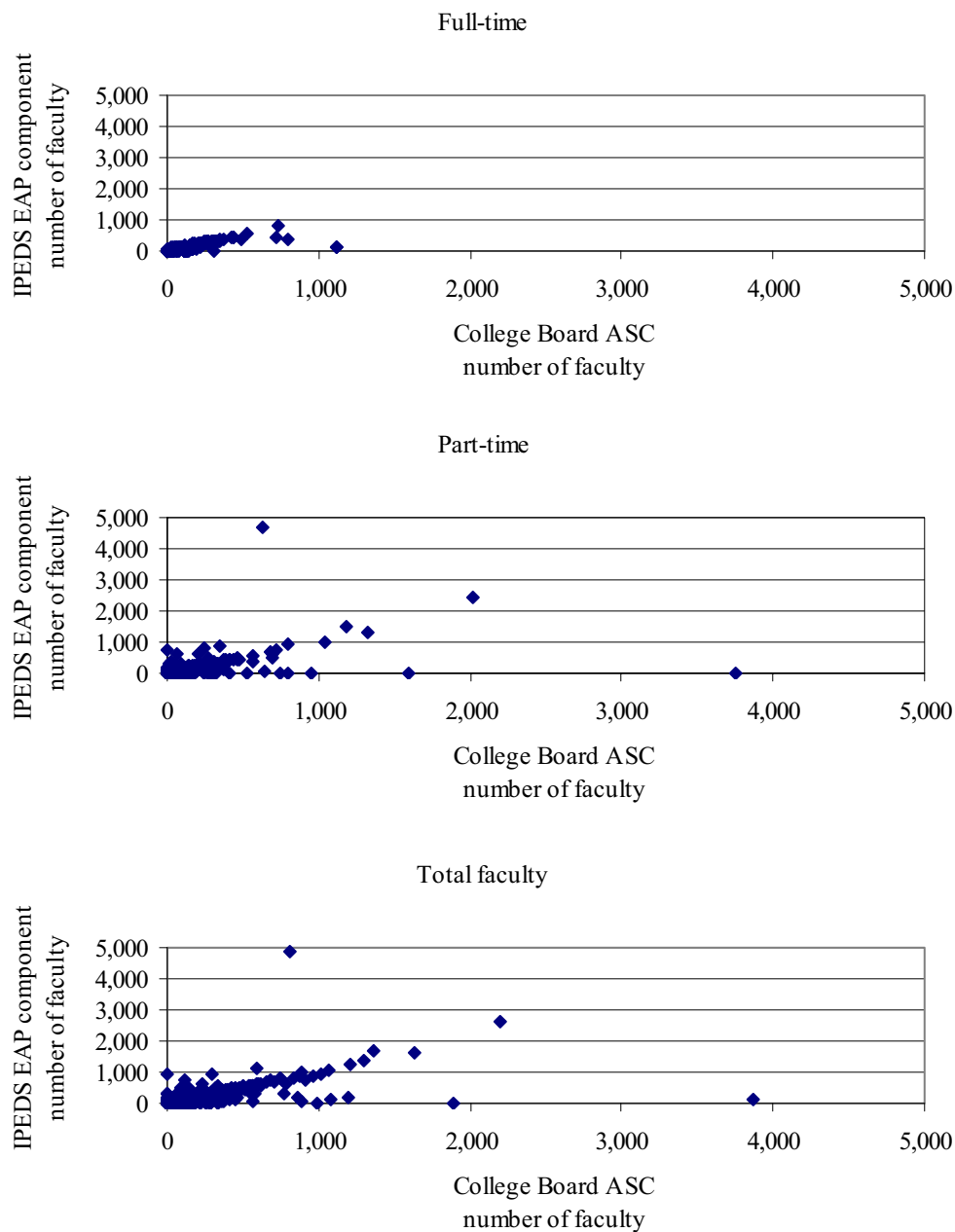


NOTE: Data in this figure reflect 85 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 3.2e. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Private not-for-profit other 4-year institutions, 2004-05

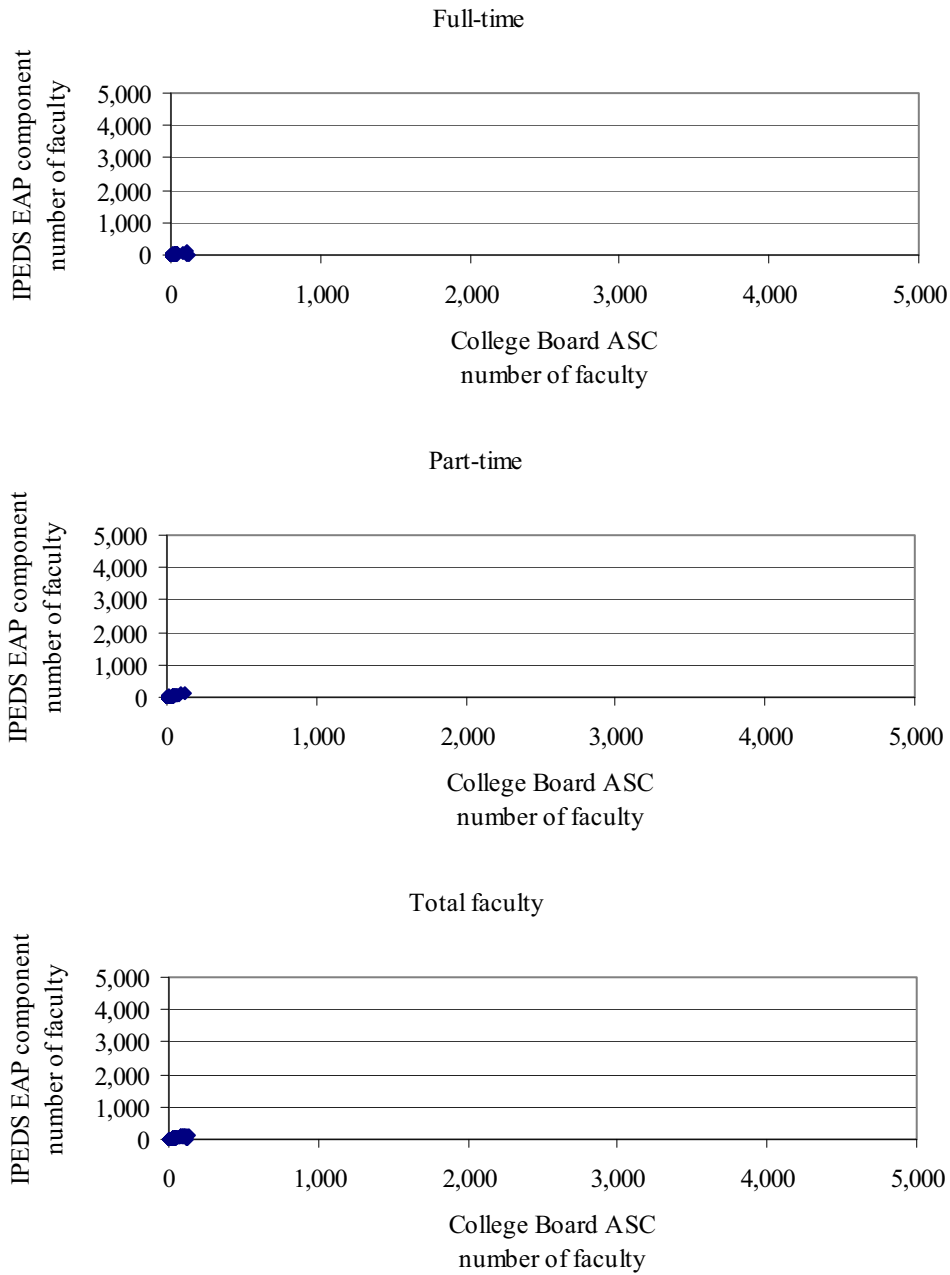


NOTE: Data in this figure reflect 1,069 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 3.2f. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Private not-for-profit 2-year institutions, 2004-05

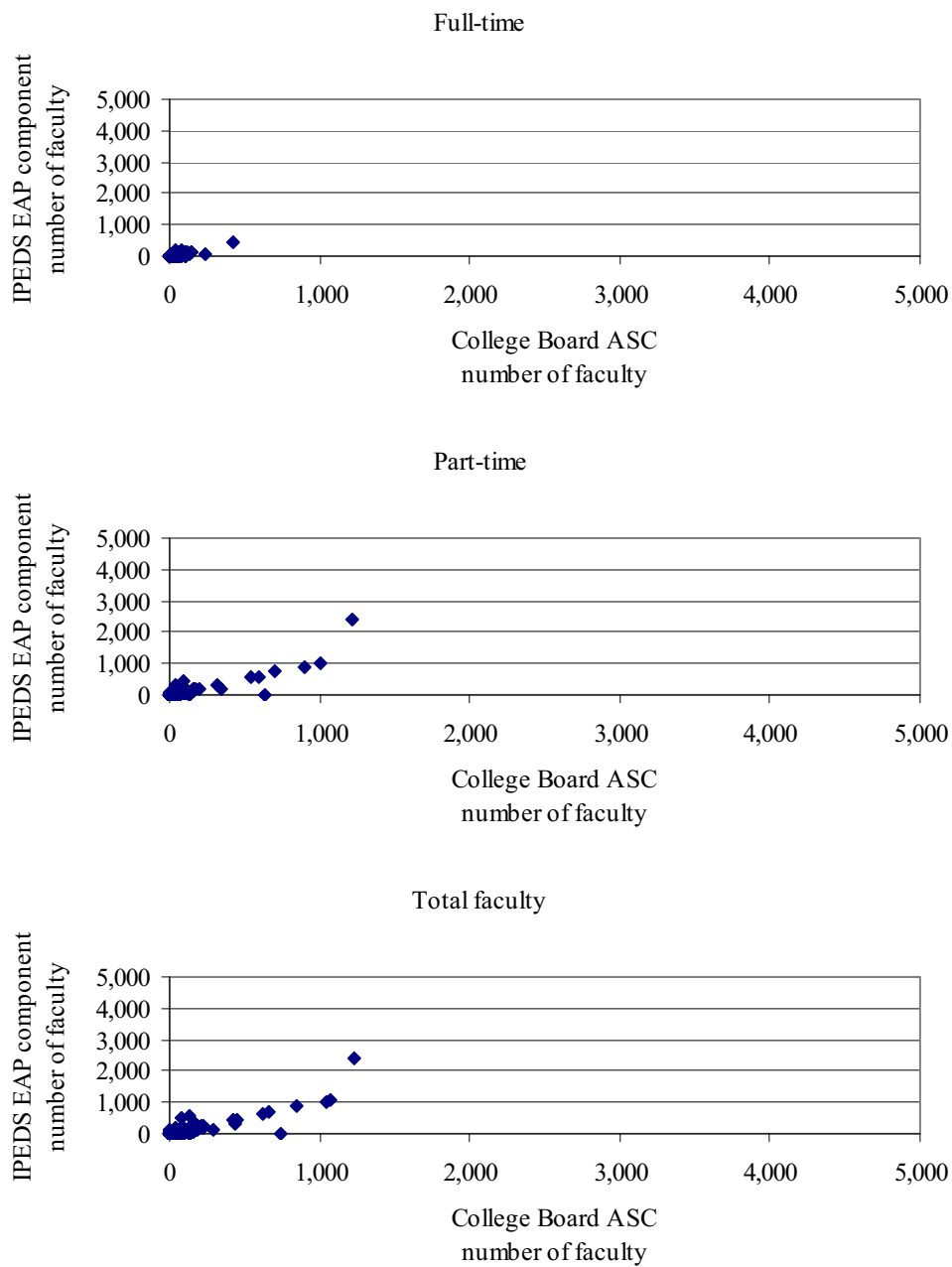


NOTE: Data in this figure reflect 84 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

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Figure 3.2g. Number of faculty members on IPEDS EAP component compared with College Board ASC by employment status: Private for-profit 4- and 2-year institutions, 2004-05



NOTE: Data in this figure reflect 414 institutions matching between IPEDS EAP component and College Board ASC.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Employees by Assigned Position (EAP) component data file; and The Annual Survey of Colleges (ASC) of the College Board and Data Base, 2004-05 (Copyright © 2005 The College Board).

Chapter 4: IPEDS 2004-05 Fall Staff Component Study

Overview

Beginning with the Winter 2002-03 data collection period, the reporting of Fall Staff data by Title IV institutions that had 15 or more full-time employees was optional in even-numbered years (e.g., 2002-03, 2004-05, etc.) and required in odd-numbered years (e.g., 2003-04, 2005-06, etc.). For the IPEDS Fall Staff data collected in even-numbered reporting years, NCES data review and cleaning were not as extensive as in odd-numbered reporting years. This analysis will help determine if Fall Staff data reported in optional years should undergo more rigorous data review and cleaning. This analysis will also help determine if the edit checks that compare current year data to prior year data (CYPY) should be adjusted, in addition to determining the quality of the data reported for newly hired permanent employees (part G).

This chapter also reports on the findings as to whether institutions reported Fall Staff component data that were reasonably consistent over different years.

Degree-granting institutions that had 15 or more full-time employees responded to the long version of the Fall Staff component, while non-degree-granting institutions that had 15 or more full-time employees responded to the short version of the Fall Staff component. The long version of the Fall Staff component collected data on the number of employees by employment status (full- or part-time), primary function/occupational activity, race/ethnicity, gender, salary class intervals, contract length, and faculty status.¹⁹ The long version of the Fall Staff component also collected information on full-time permanent new hires²⁰ by primary function/occupational activity, race/ethnicity, gender, and faculty status. The short version of the Fall Staff component collected data on the number of employees by employment status (full- or part-time), primary function/occupational activity, race/ethnicity, and gender.

¹⁹ Some organizations refer to “tenure status” while others refer to “faculty status”; these terms are synonymous. “Faculty status” will be used to refer to both terms throughout this chapter.

²⁰ Persons who were hired for full-time permanent employment for the first time, or after a break in service, between July 1st and October 31st of the survey year. The new hires category did not include persons who had returned from sabbatical leave or full-time faculty with less-than-9-month contracts.

IPEDS 2004-05 FALL STAFF COMPONENT STUDY

Introduction

The 2004-05 IPEDS Fall Staff component collected data on the number of employees at institutions, including both faculty and other staff. Of the institutions required to respond to the Fall Staff component during 2003-04, nearly one-half (45 percent) of institutions responded to the IPEDS Fall Staff component in the optional reporting year 2004-05.

Listed below are the part names and data items collected in each version of the Fall Staff component.

Fall Staff component—long version: applicable to degree-granting institutions that had 15 or more full-time employees

- Part A: Full-time faculty members by racial/ethnic category, gender, contract length, and salary class intervals;
- Part B: All other full-time employees by racial/ethnic category, gender, primary function/occupational activity, and salary class intervals;
- Part D: Part-time employees by racial/ethnic category, gender, and primary function/occupational activity;
- Part E: Summary of full-time and part-time employees by racial/ethnic category and gender;
- Part F: Faculty status of full-time faculty members by racial/ethnic category, gender, and academic rank; and
- Part G: Full-time permanent new hires by racial/ethnic category, gender, and primary function/occupational activity.

Fall Staff component—short version: applicable to non-degree-granting institutions that had 15 or more full-time employees:

- Part A: Full-time employees by racial/ethnic category, gender, and primary function/occupational activity;
- Part B: Part-time employees by racial/ethnic category, gender, and primary function/occupational activity; and

- Part C: Summary of full-time and part-time employees by racial/ethnic category and gender.

This chapter includes an analysis of the number of employees (headcounts) based on parts A, B, D, F, and G of the Fall Staff component long version and parts A and B of the Fall Staff component short version. An analysis of the salary class intervals was not included in this chapter because the IPEDS data collection system did not include CYPY edit checks at the salary level.

Table 4.1 displays the number and percent of institutions that were included in this chapter, by degree-granting status and analysis group.

Table 4.1. Distribution of institutions included in the IPEDS Fall Staff component data quality study: 2004-05

Degree-granting status and analysis group	Frequency	Percent
Degree-granting institutions	1,612	100.0
Public research institutions	97	6.0
Public other 4-year institutions	251	15.6
Public 2-year institutions	608	37.7
Private not-for-profit research institutions	45	2.8
Private not-for-profit other 4-year institutions	466	28.9
Private not-for-profit 2-year institutions	32	2.0
Private for-profit institutions	113	7.0
Non-degree-granting institutions	252	100.0
Public institutions	96	38.1
Private not-for-profit institutions	31	12.3
Private for-profit institutions	125	49.6

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Analytic Results

Institution Level Analysis

An analysis of CYPY ratios using the revised, more restricted CYPY ranges was conducted for each institution and survey element. An analysis was also conducted to determine the number and percent of survey elements that would have been out of range for each institution if the revised, more restricted CYPY ranges had been used during the actual collection of the 2004-05 Fall Staff component data. Lastly, an analysis was conducted to determine the average

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magnitude of the difference in the cells that would have been out of range for each institution if the revised, more restricted CYPY ranges had been used during the actual data collection. The results of these analyses are discussed below.

Current Year Prior Year Ratio Analysis

For the long version of the Fall Staff component, which is applicable to degree-granting institutions, 26 survey elements were analyzed for parts A, B, D and F. Table 4.2 lists the number of data elements that were out of range based on the revised, more restricted CYPY ratio range-edit rules. Of the 1,612 degree-granting institutions:

- One institution reported 20 of the 26 survey elements, or just over three-quarters, out of range.
- Three additional institutions had 50 percent or more of their survey elements (13 or 14) out of range.
- Fifty-two institutions, or 3 percent, reported 8 to 12 of the 26 data elements out of range.
- At the other end of the spectrum, 436 institutions (27 percent) reported all of the survey elements within range.
- An additional 347 institutions, or 22 percent, reported only one survey element outside of the range-edit rules.
- Seventy-three percent of degree-granting institutions reported at least one survey element that was out of range.

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Table 4.2. Percentage distribution of IPEDS Fall Staff component data submissions by number of cells with current year to prior year (CYPY) ratio falling outside of edit range: Degree-granting institutions, 2004-05

Number of cells	Frequency	Percent	Cumulative frequency	Cumulative percent
0	436	27.1	436	27.1
1	347	21.5	783	48.6
2	301	18.7	1,084	67.3
3	199	12.3	1,283	79.6
4	126	7.8	1,409	87.4
5	69	4.3	1,478	91.7
6	47	2.9	1,525	94.6
7	31	1.9	1,556	96.5
8	19	1.2	1,575	97.7
9	14	0.9	1,589	98.6
10	8	0.5	1,597	99.1
11	7	0.4	1,604	99.5
12	4	0.3	1,608	99.8
13	1	0.1	1,609	99.8
14	2	0.1	1,611	99.9
15	0	0.0	1,611	99.9
16	0	0.0	1,611	99.9
17	0	0.0	1,611	99.9
18	0	0.0	1,611	99.9
19	0	0.0	1,611	99.9
20	1	0.1	1,612	100.0
21	0	0.0	1,612	100.0
22	0	0.0	1,612	100.0
23	0	0.0	1,612	100.0
24	0	0.0	1,612	100.0
25	0	0.0	1,612	100.0
26	0	0.0	1,612	100.0

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, 2003-04 and 2004-05 Fall Staff component data files.

The short version of the Fall Staff component, which was applicable to non-degree-granting institutions, did not collect as much detailed data as the Fall Staff component that was applicable to degree-granting institutions (long version). Consequently, CYPY edits for the Fall Staff component short version included only the following four survey elements: full-time men, full-time women, part-time men, and part-time women. Table 4.3, which is based on the Fall Staff component short version, lists the number of data cells that would have been out of range based on the revised, more restricted CYPY ratio range-edit rules. In summary, of the 252 non-degree-granting institutions included in this chapter, 4 institutions, or 2 percent, had all data elements out of range based on the more restricted CYPY ranges. On the other hand, nearly three-quarters (74 percent) of institutions did not report any data elements out of range.

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Table 4.3. Percentage distribution of IPEDS Fall Staff component data submissions by number of cells with current year to prior year (CYPY) ratio falling outside of edit range: Non-degree-granting institutions, 2004-05

Number of cells	Frequency	Percent	Cumulative frequency	Cumulative percent
0	186	73.8	186	73.8
1	47	18.7	233	92.5
2	12	4.8	245	97.2
3	3	1.2	248	98.4
4	4	1.6	252	100.0

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2003-04 and 2004-05 Fall Staff component data files.

Edit File Results

NCES provided the data file containing changes that were made to the 2003-04 Fall Staff data as institutions were submitting their data; if a change was made due to the ratio analysis, this data file carried elements indicating a submission was flagged. This file—the edit file—was used in the analysis to identify the number of survey elements that were flagged as out of range based on the CYPY ratio analysis. Ratio analysis was then conducted on the final 2003-04 Fall Staff component file. The final file contains the final data submitted by institutions, after all changes were made due to the ratio analysis. Ratio analysis was conducted to determine the number of survey elements that were still out of range, but were accepted based on the institutions’ explanations. By subtracting the number of cells that were still out of range after institutions edited their data from the original number of flags on the edit file, an estimation of the number of survey elements that were changed due to the ratio analysis flag was made. This estimation was not completely accurate because there was a chance that institutions could have corrected flagged survey elements with data that were still out of range based on the ratio analysis.

Table 4.4 (degree-granting institutions) includes a summary of the results of the analysis described above; however, due to the issues discussed previously in the methodology involving the “other administrative” (OA) category and how the category most likely affected the “executive/administrative/managerial” (Exec) and “other professional (support/service)” (OP) categories, the OA, Exec, and OP categories were eliminated from this part of the analysis.

Table 4.4 also includes the following information:

- “Total number” columns (3, 6, 9 and 12). These columns reflect the total number of cells with the following criteria:

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- Total number of flagged cells on the 2003-04 edit file for the analysis group (column 3).
- Total number of cells with out-of-range CYPY ratio on the 2003-04 final file for the analysis group (column 6).
- Total number of corrected cells on the 2003-04 final file for the analysis group (column 9).
- Total number of cells requiring explanation on the 2004-05 data file for the analysis group (column 12).
- “Average number” columns (4, 7, 10 and 13). The average numbers were computed by dividing the respective “total number” column by the number of institutions in the analysis group. The columns are as follows:
 - Average number of flagged cells on the 2003-04 edit file, per institution (column 4).
 - Average number of cells with out-of-range CYPY ratios on the 2003-04 final file, per institution (column 7).
 - Average number of cells corrected on the 2003-04 final file, per institution (column 10).
 - Average number of cells requiring explanation on the 2004-05 data file, per institution (column 13).
- “Average percent of cells” columns (5, 8, 11 and 14). The “average percent of cells” columns were computed by dividing the “average number” (for the respective column) by 22,²¹ where 22 is the maximum number of survey elements studied. The columns are as follows:
 - Average percent of cells flagged on the 2003-04 edit file, per institution (column 5; computation = column 4 divided by 22).

²¹ This was less than the 26 previously used due to the fact that the other administrative, executive/administrative/managerial, and other professional (support/service) categories were eliminated from this part of the analysis.

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Table 4.4. Summary of the current year to prior year (CYPY) ratio analysis results for IPEDS Fall Staff 2003-04 and 2004-05 components by analysis group: Degree-granting institutions

Analysis group	Number of institutions	Cells with CYPY ratio edit flags on edit file, 2003-04 Fall Staff component			Cells with out-of-range CYPY ratios, final 2003-04 Fall Staff submission		
		Total	Average	Average	Total	Average	Average
		number of cells, all institutions	number of cells per institution	percent of cells per institution	number of cells, all institutions	number of cells per institution	percent of cells per institution
1	2	3	4	5	6	7	8
Total	1,612	2,399	1.5	6.8	1,760	1.1	5.0
Public research institutions	97	326	3.4	15.3	166	1.7	7.8
Public other 4-year institutions	251	536	2.1	9.7	383	1.5	6.9
Public 2-year institutions	608	814	1.3	6.1	651	1.1	4.9
Private not-for-profit research institutions	45	161	3.6	16.3	88	2.0	8.9
Private not-for-profit other 4-year institutions	466	471	1.0	4.6	388	0.8	3.8
Private not-for-profit 2-year institutions	32	22	0.7	3.1	17	0.5	2.4
Private for-profit institutions	113	69	0.6	2.8	67	0.6	2.7

See notes at end of table.

- Average percent of out-of-range CYPY ratio cells on the 2003-04 final file, per institution (column 8; computation = column 7 divided by 22).
- Average percent of cells corrected on the 2003-04 final data file, per institution (column 11; computation = column 10 divided by 22).
- Average percent of cells requiring explanation on the 2004-05 data file, per institution (column 14; computation = column 13 divided by 22).

As depicted in table 4.4, for the 1,612 degree-granting institutions included in this chapter, 2,399 survey elements out of 35,464, an average of 1.5 survey elements per institution, were flagged as a result of the CYPY ratio analysis on the required 2003-04 Fall Staff component data submission. By analysis group, the average number of flags varies from 0.6

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Table 4.4. Summary of the current year to prior year (CYPY) ratio analysis results for IPEDS Fall Staff 2003-04 and 2004-05 components by analysis group: Degree-granting institutions—Continued

	Correct cells, 2003-04 Fall Staff component			Cells requiring explanation, 2004-05 Fall Staff component		
	Total number of cells, all institutions	Average number of cells per institution	Average percent of cells per institution	Total number of cells, all institutions	Average number of cells per institution	Average percent of cells per institution
1	9	10	11	12	13	14
Total	639	0.4	1.8	2,139	1.3	6.0
Public research institutions	160	1.6	7.5	194	2.0	9.1
Public other 4-year institutions	153	0.6	2.8	495	2.0	9.0
Public 2-year institutions	163	0.3	1.2	781	1.3	5.8
Private not-for-profit research institutions	73	1.6	7.4	90	2.0	9.1
Private not-for-profit other 4-year institutions	83	0.2	0.8	494	1.1	4.8
Private not-for-profit 2-year institutions	5	0.2	0.7	14	0.4	2.0
Private for-profit institutions	2	0.0	0.1	71	0.6	2.9

NOTE: This analysis eliminated the Executive/administrative/managerial, Other professional and Other administrative categories, due to reporting differences in these categories over the years.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2001-02, 2003-04 and 2004-05 Fall Staff component data files, 2003-04 Fall Staff component edit file.

flags per institution in private for-profit institutions to 3.6 in private not-for-profit research institutions. Public research institutions had the second highest average, with 3.4 survey elements flagged. However, once institutions corrected their original submissions, or provided explanations, the average number of acceptable out-of-range responses on the 2003-04 data submission decreased to 1.1 survey elements per institution, with a high of 2.0 survey elements in private not-for-profit research institutions and a low of 0.5 survey elements in private not-for-profit 2-year institutions. Perhaps of most interest is the number of survey elements that were changed once the institutions were asked to validate their data: the research institutions, both public and private not-for-profit, changed an average of 1.6 survey elements, while private for-profit institutions changed an average of 0.0 survey elements per institution. The average number of survey elements corrected for all institutions was 0.4.

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Table 4.5. Summary of the current year to prior year (CYPY) ratio analysis results for the IPEDS Fall Staff 2003-04 and 2004-05 components by analysis group: Non-degree-granting institutions

Analysis group	Number of institutions	Cells with CYPY ratio edit flags on edit file, 2003-04 Fall Staff component			Cells with out-of-range CYPY ratios, final 2003-04 Fall Staff submission		
		Total number of cells, all institutions	Average number of cells per institution	Average percent of cells per institution	Total number of cells, all institutions	Average number of cells, per institution	Average percent of cells per institution
		1	2	3	4	5	6
Total	252	149	0.6	14.8	101	0.4	10.0
Public institutions	96	58	0.6	15.1	30	0.3	7.8
Private not-for-profit institutions	31	17	0.5	13.7	14	0.5	11.3
Private for-profit institutions	125	74	0.6	14.8	57	0.5	11.4

See notes at end of table.

For the same 1,612 degree-granting institutions, 2,139 survey elements on the 2004-05 data submission were flagged using the revised range-edit rules. The average number of survey elements flagged on the 2004-05 submission was 1.3, compared with 1.5 in 2003-04. This was slightly fewer than the *original* 2003-04 data submission, but slightly higher than the average number of *accepted* out-of-range survey elements on the 2003-04 submission—1.1 per institution. The two analysis groups with the highest number of out-of-range survey elements in 2003-04—public and private not-for-profit research institutions—were still among the highest in 2004-05, but their average number of flagged survey elements declined to 2.0 per institution. There were no large changes in the number of flagged cells among the other analysis groups, and the private for-profit institutions continued to have the lowest average number of flags per institution—0.6.

Table 4.5 includes a summary comparable to that in table 4.4; however, table 4.5 reflects data for non-degree-granting institutions. Of the 252 non-degree-granting institutions studied, a total of 149 survey elements were deemed out of range as a result of the CYPY ratio analysis on the 2003-04 Fall Staff component data submission, with an average of 0.6 survey elements per institution (out of a maximum of 4). The average number of out-of-range survey elements did not vary much by analysis group, ranging from 0.5 to 0.6 per institution. After institutions made

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Table 4.5. Summary of the current year to prior year (CYPY) ratio analysis results for the IPEDS Fall Staff 2003-04 and 2004-05 components by analysis group: Non-degree-granting institutions—Continued

Analysis group	Corrected cells, 2003-04 Fall Staff component			Cells requiring explanation, 2004-05 Fall Staff submission		
	Total number of cells, all institutions	Average number of cells per institution	Average percent of cells per institution	Total number of cells all institutions	Average number of cells, per institution	Average percent of cells per institution
1	9	10	11	12	13	14
Total	48	0.2	4.8	96	0.4	9.5
Public institutions	28	0.3	7.3	38	0.4	9.9
Private not-for-profit institutions	3	0.1	2.4	6	0.2	4.8
Private for-profit institutions	17	0.1	3.4	52	0.4	10.4

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2001-02, 2003-04 and 2004-05 Fall Staff component data files, 2003-04 Fall Staff component edit file.

corrections, the average number of acceptable out-of-range survey elements ranged from 0.3 to 0.4, with an overall average of 0.4. The estimated number of changes per institution ranged from 0.1 to 0.3, for an average of 0.2 per institution. The average number of flagged survey elements on the optional 2004-05 Fall Staff component data submission was the same as that on the *corrected* version of the 2003-04 submission—0.4. The average by analysis group varied from 0.2 to 0.4 per institution.

Analysis of Full-time Permanent New Hire Data

This section explores the data submissions for newly-hired staff. NCES conducted edit checks to ensure that the numbers of newly-hired male, female, and total staff by primary function/occupational activity (part G) were not greater than the numbers of male, female, and total staff by primary function/occupational activity (parts A and B); however, these edit checks were not conducted at the race/ethnicity level. This analysis examined the frequency of submissions where the reported number of newly-hired staff by primary function/occupational activity, gender, and race/ethnicity was greater than the total number of staff by primary function/occupational activity, gender, and race/ethnicity. Tables 4.6 through 4.19 present reported discrepancies in the number of new staff compared with the total number of staff by primary function/occupational activity, gender and race/ethnicity. Each table details the reported

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numbers by institution and primary function/occupational activity. Since this analysis did not include a comparison of 2004-05 data to those of other years, all institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

Tables 4.6 through 4.19 indicate that only a handful of institutions reported discrepancies between part G and parts A and B. The private not-for-profit other 4-year analysis group frequently had the largest number of institutions where the number of newly-hired staff was greater than the total number of staff reported on parts A and B; however, this occurred in, at most, 12 institutions (for White, non-Hispanic female staff) where 13 more staff were reported as newly-hired female staff. In terms of the number of staff reported, two public research institutions reported a total of 24 more Hispanic female faculty members on part G than part A, while one public research institutions reported 49 more Hispanic male faculty members. For all other data elements (data elements reported by gender and race/ethnicity) and institutions that reported more staff in part G than parts A and B, the total over-report for all institutions in all analysis groups was 13 or less.

Table 4.6. Number of non-resident alien male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	1,257	316	46	674	86	0	1
Primary function/occupational activity							
Faculty	827	169	19	289	61	0	0
Executive/administrative/managerial	5	1	0	8	2	0	0
Other professional (support/service)	368	126	2	350	13	0	1
Technical and paraprofessional	17	11	7	12	3	0	0
Clerical and secretarial	8	2	9	8	4	0	0
Skilled crafts	2	1	0	0	0	0	0
Service/maintenance	30	6	9	7	3	0	0
	Number of staff reported on Part A or B						
Total	9,286	1,948	526	5,256	591	1	9
Primary function/occupational activity							
Faculty	5,659	957	206	1,873	368	0	4
Executive/administrative/managerial	86	31	26	78	27	0	3
Other professional (support/service)	3,180	748	27	2,996	109	1	1
Technical and paraprofessional	198	107	87	167	14	0	0
Clerical and secretarial	25	37	45	47	34	0	0
Skilled crafts	14	26	13	17	2	0	0
Service/maintenance	124	42	122	78	37	0	1

See notes at end of table.

Table 4.6. Number of non-resident alien male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	1	1	2	1	2	0	0
Primary function/occupational activity							
Faculty	0	0	0	1	0	0	0
Executive/administrative/managerial	0	0	0	0	0	0	0
Other professional (support/service)	0	0	0	0	1	0	0
Technical and paraprofessional	0	0	1	0	0	0	0
Clerical and secretarial	0	0	1	0	1	0	0
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	1	1	0	0	0	0	0
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	1	1	4	1	2	†	†
Primary function/occupational activity							
Faculty	†	†	†	1	†	†	†
Executive/administrative/managerial	†	†	†	†	†	†	†
Other professional (support/service)	†	†	†	†	1	†	†
Technical and paraprofessional	†	†	1	†	†	†	†
Clerical and secretarial	†	†	3	†	1	†	†
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	1	1	†	†	†	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.7. Number of non-resident alien female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	666	281	49	411	83	0	0
Primary function/occupational activity							
Faculty	345	115	26	130	49	0	0
Executive/administrative/managerial	4	3	2	4	1	0	0
Other professional (support/service)	246	137	3	205	15	0	0
Technical and paraprofessional	33	16	5	51	1	0	0
Clerical and secretarial	10	6	9	19	11	0	0
Skilled crafts	0	1	0	0	0	0	0
Service/maintenance	28	3	4	2	6	0	0
	Number of staff reported on Part A or B						
Total	4,449	1,798	617	2,952	495	1	4
Primary function/occupational activity							
Faculty	2,152	498	206	730	261	1	4
Executive/administrative/managerial	25	31	29	55	28	0	0
Other professional (support/service)	1,787	882	46	1,678	115	0	0
Technical and paraprofessional	255	189	90	287	7	0	0
Clerical and secretarial	76	121	198	133	59	0	0
Skilled crafts	1	18	0	1	0	0	0
Service/maintenance	153	59	48	68	25	0	0

See notes at end of table.

Table 4.7. Number of non-resident alien female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of institutions reporting Part G > Part A or B							
Total	0	1	1	0	2	0	0
Primary function/occupational activity							
Faculty	0	1	1	0	0	0	0
Executive/administrative/managerial	0	0	0	0	0	0	0
Other professional (support/service)	0	0	0	0	0	0	0
Technical and paraprofessional	0	0	0	0	0	0	0
Clerical and secretarial	0	0	0	0	1	0	0
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	0	0	0	1	0	0
Magnitude of the difference for institutions reporting Part G > Part A or B							
Total	†	1	1	†	9	†	†
Primary function/occupational activity							
Faculty	†	1	1	†	†	†	†
Executive/administrative/managerial	†	†	†	†	†	†	†
Other professional (support/service)	†	†	†	†	†	†	†
Technical and paraprofessional	†	†	†	†	†	†	†
Clerical and secretarial	†	†	†	†	†	†	†
Skilled crafts	†	†	†	†	8	†	†
Service/maintenance	†	†	†	†	1	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.8. Number of Black, non-Hispanic male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	994	791	428	382	419	14	132
Primary function/occupational activity							
Faculty	195	207	123	61	88	0	13
Executive/administrative/managerial	31	50	40	22	23	1	10
Other professional (support/service)	237	204	57	109	124	5	42
Technical and paraprofessional	75	48	49	36	22	0	45
Clerical and secretarial	73	36	13	50	30	0	13
Skilled crafts	30	27	6	9	7	0	0
Service/maintenance	353	219	140	95	125	8	9
	Number of staff reported on Part A or B						
Total	15,933	12,871	7,848	7,174	5,169	51	634
Primary function/occupational activity							
Faculty	2,383	2,709	1,996	1,099	985	18	162
Executive/administrative/managerial	831	1,033	655	588	511	4	102
Other professional (support/service)	3,258	2,457	1,035	1,298	1,053	11	183
Technical and paraprofessional	1,232	898	656	581	338	3	94
Clerical and secretarial	1,018	711	408	893	310	1	42
Skilled crafts	1,511	1,036	257	469	185	0	4
Service/maintenance	5,700	4,027	2,841	2,246	1,787	14	47

See notes at end of table.

Table 4.8. Number of Black, non-Hispanic male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	0	2	2	0	8	1	5
Primary function/occupational activity							
Faculty	0	0	0	0	0	0	3
Executive/administrative/managerial	0	0	1	0	2	0	0
Other professional (support/service)	0	0	1	0	3	1	1
Technical and paraprofessional	0	1	0	0	0	0	0
Clerical and secretarial	0	0	0	0	2	0	0
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	1	0	0	1	0	1
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	†	3	2	†	9	2	5
Primary function/occupational activity							
Faculty	†	†	†	†	†	†	3
Executive/administrative/managerial	†	†	1	†	2	†	†
Other professional (support/service)	†	†	1	†	3	2	1
Technical and paraprofessional	†	2	†	†	†	†	†
Clerical and secretarial	†	†	†	†	2	†	†
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	†	1	†	†	2	†	1

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.9. Number of Black, non-Hispanic female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	1,470	1,172	761	675	715	5	246
Primary function/occupational activity							
Faculty	230	292	223	77	145	0	40
Executive/administrative/managerial	36	69	56	58	54	0	23
Other professional (support/service)	465	344	160	210	208	2	50
Technical and paraprofessional	147	67	78	86	27	0	71
Clerical and secretarial	373	262	181	195	209	1	59
Skilled crafts	2	7	0	1	1	0	2
Service/maintenance	217	131	63	48	71	2	1
	Number of staff reported on Part A or B						
Total	25,766	19,811	12,638	12,234	9,795	72	1,153
Primary function/occupational activity							
Faculty	2,189	2,743	2,853	1,000	1,201	13	159
Executive/administrative/managerial	1,099	1,362	972	1,107	895	18	202
Other professional (support/service)	6,510	4,778	2,350	2,985	2,361	24	333
Technical and paraprofessional	2,578	1,834	1,306	834	841	0	146
Clerical and secretarial	8,268	6,342	4,040	4,997	3,205	15	298
Skilled crafts	99	67	13	25	15	0	5
Service/maintenance	5,023	2,685	1,104	1,286	1,277	2	10

See notes at end of table.

Table 4.9. Number of Black, non-Hispanic female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	0	1	4	0	8	0	8
Primary function/occupational activity							
Faculty	0	0	0	0	0	0	3
Executive/administrative/managerial	0	0	1	0	2	0	2
Other professional (support/service)	0	0	0	0	1	0	1
Technical and paraprofessional	0	0	0	0	1	0	1
Clerical and secretarial	0	1	3	0	4	0	1
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	0	0	0	0	0	0
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	†	1	5	†	8	†	11
Primary function/occupational activity							
Faculty	†	†	†	†	†	†	6
Executive/administrative/managerial	†	†	†	†	2	†	2
Other professional (support/service)	†	†	†	†	1	†	1
Technical and paraprofessional	†	†	†	†	1	†	1
Clerical and secretarial	†	1	4	†	4	†	1
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	†	1	†	†	2	†	1

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.10. Number of Native American/Alaskan Native male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of staff reported on Part G							
Total	83	48	43	13	20	0	1
Primary function/occupational activity							
Faculty	43	18	17	1	8	0	0
Executive/administrative/managerial	1	4	6	1	3	0	1
Other professional (support/service)	17	11	5	4	1	0	0
Technical and paraprofessional	5	2	1	1	0	0	0
Clerical and secretarial	2	1	4	3	1	0	0
Skilled crafts	6	3	0	0	1	0	0
Service/maintenance	9	9	10	3	6	0	0
Number of staff reported on Part A or B							
Total	1,256	671	686	209	234	47	19
Primary function/occupational activity							
Faculty	295	197	277	51	73	16	11
Executive/administrative/managerial	74	46	73	26	34	9	3
Other professional (support/service)	315	118	66	51	38	8	4
Technical and paraprofessional	107	53	62	14	23	1	0
Clerical and secretarial	56	21	31	14	9	3	1
Skilled crafts	193	81	34	24	8	0	0
Service/maintenance	216	155	143	29	49	10	0

See notes at end of table.

Table 4.10. Number of Native American/Alaskan Native male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of institutions reporting Part G > Part A or B							
Total	3	1	5	0	1	0	0
Primary function/occupational activity							
Faculty	2	0	1	0	0	0	0
Executive/administrative/managerial	0	1	0	0	0	0	0
Other professional (support/service)	1	0	1	0	0	0	0
Technical and paraprofessional	0	0	0	0	0	0	0
Clerical and secretarial	0	0	2	0	0	0	0
Skilled crafts	0	0	0	0	1	0	0
Service/maintenance	0	0	1	0	0	0	0
Magnitude of the difference for institutions reporting Part G > Part A or B							
Total	7	1	5	†	1	2	5
Primary function/occupational activity							
Faculty	6	†	1	†	†	†	3
Executive/administrative/managerial	†	1	†	†	†	†	†
Other professional (support/service)	1	†	1	†	†	2	1
Technical and paraprofessional	†	†	†	†	†	†	†
Clerical and secretarial	†	†	2	†	†	†	†
Skilled crafts	†	†	†	†	1	†	†
Service/maintenance	†	†	1	†	†	†	1

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.11. Number of Native American/Alaskan Native female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	104	81	63	23	27	1	4
Primary function/occupational activity							
Faculty	28	28	18	3	12	0	1
Executive/administrative/managerial	2	1	10	5	4	0	0
Other professional (support/service)	30	17	11	4	7	0	0
Technical and paraprofessional	6	8	3	1	0	0	2
Clerical and secretarial	24	20	18	6	4	1	1
Skilled crafts	1	1	0	0	0	0	0
Service/maintenance	13	6	3	4	0	0	0
	Number of staff reported on Part A or B						
Total	1,574	977	1,071	226	301	95	18
Primary function/occupational activity							
Faculty	250	191	258	27	77	16	4
Executive/administrative/managerial	57	66	107	29	39	13	2
Other professional (support/service)	475	207	170	57	62	19	5
Technical and paraprofessional	147	120	133	16	22	7	2
Clerical and secretarial	457	277	339	77	76	39	4
Skilled crafts	14	17	6	0	0	0	0
Service/maintenance	174	99	58	20	25	1	1

See notes at end of table.

Table 4.11. Number of Native American/Alaskan Native female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of institutions reporting Part G > Part A or B							
Total	2	3	3	1	1	0	1
Primary function/occupational activity							
Faculty	1	2	0	0	0	0	1
Executive/administrative/managerial	0	0	0	1	0	0	0
Other professional (support/service)	0	0	0	0	0	0	0
Technical and paraprofessional	1	0	0	0	0	0	0
Clerical and secretarial	0	1	1	0	1	0	0
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	0	2	0	0	0	0
Magnitude of the difference for institutions reporting Part G > Part A or B							
Total	5	4	3	1	1	†	1
Primary function/occupational activity							
Faculty	4	2	†	†	†	†	1
Executive/administrative/managerial	†	†	†	1	†	†	†
Other professional (support/service)	†	†	†	†	†	†	†
Technical and paraprofessional	1	†	†	†	†	†	†
Clerical and secretarial	†	2	1	†	1	†	†
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	†	†	2	†	†	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.12. Number of Asian/Pacific Islander male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	733	446	228	357	246	0	40
Primary function/occupational activity							
Faculty	426	219	103	179	119	0	9
Executive/administrative/managerial	16	10	20	18	15	0	5
Other professional (support/service)	198	174	31	100	53	0	12
Technical and paraprofessional	32	23	33	35	26	0	11
Clerical and secretarial	15	9	18	15	18	0	3
Skilled crafts	4	5	3	1	3	0	0
Service/maintenance	42	6	20	9	12	0	0
	Number of staff reported on Part A or B						
Total	11,124	4,966	3,245	5,248	2,758	38	262
Primary function/occupational activity							
Faculty	6,468	2,835	1,301	2,473	1,410	17	97
Executive/administrative/managerial	317	199	258	210	208	10	39
Other professional (support/service)	2,872	1,302	329	1,603	518	7	64
Technical and paraprofessional	497	257	512	353	254	2	32
Clerical and secretarial	232	87	255	305	119	0	24
Skilled crafts	143	74	82	83	33	0	1
Service/maintenance	595	212	508	221	216	2	5

See notes at end of table.

Table 4.12. Number of Asian/Pacific Islander male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of institutions reporting Part G > Part A or B							
Total	1	1	4	0	2	0	1
Primary function/occupational activity							
Faculty	0	1	2	0	1	0	1
Executive/administrative/managerial	0	0	0	0	0	0	0
Other professional (support/service)	0	0	1	0	0	0	0
Technical and paraprofessional	0	0	0	0	0	0	0
Clerical and secretarial	1	0	1	0	0	0	0
Skilled crafts	0	0	0	0	1	0	0
Service/maintenance	0	0	0	0	0	0	0
Magnitude of the difference for institutions reporting Part G > Part A or B							
Total	1	1	4	†	2	†	2
Primary function/occupational activity							
Faculty	†	1	2	†	1	†	2
Executive/administrative/managerial	†	†	†	†	†	†	†
Other professional (support/service)	†	†	1	†	†	†	†
Technical and paraprofessional	†	†	†	†	†	†	†
Clerical and secretarial	1	†	1	†	†	†	†
Skilled crafts	†	†	†	†	1	†	†
Service/maintenance	†	†	†	†	†	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.13. Number of Asian/Pacific Islander female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of staff reported on Part G							
Total	639	428	307	434	295	0	48
Primary function/occupational activity							
Faculty	223	179	130	141	112	0	7
Executive/administrative/managerial	6	5	11	32	14	0	8
Other professional (support/service)	246	182	32	146	83	0	16
Technical and paraprofessional	58	28	38	53	30	0	6
Clerical and secretarial	87	24	91	54	51	0	11
Skilled crafts	0	2	0	0	0	0	0
Service/maintenance	19	8	5	8	5	0	0
Number of staff reported on Part A or B							
Total	8,695	3,925	4,183	5,062	2,907	60	334
Primary function/occupational activity							
Faculty	2,400	1,440	1,493	1,184	900	15	56
Executive/administrative/managerial	237	131	220	353	236	18	54
Other professional (support/service)	3,544	1,434	545	1,944	821	17	106
Technical and paraprofessional	762	362	607	534	389	1	35
Clerical and secretarial	1,140	427	1,209	954	467	9	80
Skilled crafts	19	8	13	2	4	0	1
Service/maintenance	593	123	96	91	90	0	2

See notes at end of table.

Table 4.13. Number of Asian/Pacific Islander female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of institutions reporting Part G > Part A or B							
Total	0	3	1	0	7	0	2
Primary function/occupational activity							
Faculty	0	1	1	0	2	0	1
Executive/administrative/managerial	0	1	0	0	0	0	0
Other professional (support/service)	0	0	0	0	2	0	1
Technical and paraprofessional	0	0	0	0	0	0	0
Clerical and secretarial	0	1	0	0	3	0	0
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	0	0	0	0	0	0
Magnitude of the difference for institutions reporting Part G > Part A or B							
Total	†	3	1	†	7	†	3
Primary function/occupational activity							
Faculty	†	1	1	†	2	†	2
Executive/administrative/managerial	†	1	†	†	†	†	†
Other professional (support/service)	†	†	†	†	2	†	1
Technical and paraprofessional	†	†	†	†	†	†	†
Clerical and secretarial	†	1	†	†	3	†	†
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	†	†	†	†	†	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.14. Number of Hispanic male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	630	287	433	299	308	4	92
Primary function/occupational activity							
Faculty	230	114	117	57	72	0	26
Executive/administrative/managerial	31	9	45	20	23	1	13
Other professional (support/service)	127	79	36	57	62	1	18
Technical and paraprofessional	46	20	45	36	11	0	21
Clerical and secretarial	42	11	47	34	35	0	7
Skilled crafts	31	2	18	11	9	0	0
Service/maintenance	123	52	125	84	96	2	7
	Number of staff reported on Part A or B						
Total	9,240	6,974	6,366	5,182	4,243	67	619
Primary function/occupational activity							
Faculty	2,234	1,936	1,823	823	1,181	26	166
Executive/administrative/managerial	396	452	461	344	439	11	99
Other professional (support/service)	1,758	1,059	580	956	587	11	140
Technical and paraprofessional	674	623	720	425	284	7	107
Clerical and secretarial	590	450	555	723	366	0	41
Skilled crafts	971	532	315	364	231	0	2
Service/maintenance	2,617	1,922	1,912	1,547	1,155	12	64

See notes at end of table.

Table 4.14. Number of Hispanic male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	2	2	2	1	8	1	4
Primary function/occupational activity							
Faculty	1	2	1	0	1	0	2
Executive/administrative/managerial	1	0	0	0	0	0	1
Other professional (support/service)	0	0	0	0	0	1	1
Technical and paraprofessional	0	0	0	0	0	0	0
Clerical and secretarial	0	0	0	0	1	0	0
Skilled crafts	0	0	0	1	0	0	0
Service/maintenance	0	0	1	0	6	0	0
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	57	7	2	1	9	1	4
Primary function/occupational activity							
Faculty	49	7	1	†	1	†	2
Executive/administrative/managerial	8	†	†	†	†	†	1
Other professional (support/service)	†	†	†	†	†	1	1
Technical and paraprofessional	†	†	†	†	†	†	†
Clerical and secretarial	†	†	†	†	1	†	†
Skilled crafts	†	†	†	1	†	†	†
Service/maintenance	†	†	1	†	7	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.15. Number of Hispanic female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	695	417	577	495	377	6	143
Primary function/occupational activity							
Faculty	171	98	136	51	74	1	24
Executive/administrative/managerial	29	8	23	49	31	0	26
Other professional (support/service)	166	108	61	112	97	2	41
Technical and paraprofessional	75	66	87	66	16	0	22
Clerical and secretarial	171	106	228	190	138	3	30
Skilled crafts	2	2	3	0	0	0	0
Service/maintenance	81	29	39	27	21	0	0
	Number of staff reported on Part A or B						
Total	10,745	9,182	8,596	7,356	6,202	103	915
Primary function/occupational activity							
Faculty	1,829	1,823	1,860	559	1,182	24	135
Faculty	403	502	443	798	697	25	161
Executive/administrative/managerial	2,775	1,882	999	1,595	1,149	25	291
Other professional (support/service)	674	761	1,211	599	383	1	95
Technical and paraprofessional	2,924	3,404	3,498	3,040	2,237	27	217
Clerical and secretarial	30	23	18	6	26	0	1
Skilled crafts	2,110	787	567	759	528	1	15
Service/maintenance	2,617	1,922	1,912	1,547	1,155	12	64

See notes at end of table.

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Table 4.15. Number of Hispanic female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	3	1	5	2	9	1	8
Primary function/occupational activity							
Faculty	2	0	2	0	1	1	4
Executive/administrative/managerial	1	0	0	0	3	0	0
Other professional (support/service)	0	0	1	1	2	0	3
Technical and paraprofessional	0	0	1	0	0	0	0
Clerical and secretarial	0	1	1	1	3	0	1
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	0	0	0	0	0	0
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	33	1	7	2	12	1	10
Primary function/occupational activity							
Faculty	24	†	2	†	1	1	6
Executive/administrative/managerial	9	†	†	†	3	†	†
Other professional (support/service)	†	†	2	1	2	†	3
Technical and paraprofessional	†	†	2	†	†	†	†
Clerical and secretarial	†	1	1	1	6	†	1
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	†	†	†	†	†	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.16. Number of White, non-Hispanic male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	7,512	4,074	2,861	2,657	3,445	55	474
Primary function/occupational activity							
Faculty	2,888	1,944	1,456	998	1,411	18	139
Executive/administrative/managerial	370	240	267	222	393	11	65
Other professional (support/service)	2,240	1,026	373	808	878	21	157
Technical and paraprofessional	652	167	256	246	140	0	70
Clerical and secretarial	347	91	102	167	137	1	16
Skilled crafts	354	185	70	55	64	0	1
Service/maintenance	661	421	337	161	422	4	26
	Number of staff reported on Part A or B						
Total	159,981	66,424	56,377	48,887	47,780	676	4,340
Primary function/occupational activity							
Faculty	59,384	30,420	27,626	20,620	20,830	340	1,824
Executive/administrative/managerial	11,838	6,087	6,249	5,513	7,431	125	978
Other professional (support/service)	44,387	12,752	6,974	12,542	8,877	119	910
Technical and paraprofessional	11,873	3,748	4,697	2,636	1,878	37	274
Clerical and secretarial	5,051	1,398	1,674	2,103	1,166	2	144
Skilled crafts	12,938	5,067	2,181	2,241	2,010	11	28
Service/maintenance	14,510	6,952	6,976	3,232	5,588	42	182

See notes at end of table.

Table 4.16. Number of White, non-Hispanic male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	0	1	5	2	3	1	3
Primary function/occupational activity							
Faculty	0	0	0	0	0	0	1
Executive/administrative/managerial	0	0	0	0	1	0	1
Other professional (support/service)	0	0	1	1	0	0	1
Technical and paraprofessional	0	0	1	0	1	0	0
Clerical and secretarial	0	1	2	1	0	0	0
Skilled crafts	0	0	0	0	0	0	0
Service/maintenance	0	0	1	0	1	1	0
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	†	1	7	9	3	1	6
Primary function/occupational activity							
Faculty	†	†	†	†	†	†	1
Executive/administrative/managerial	†	†	†	†	1	†	1
Other professional (support/service)	†	†	1	8	†	†	4
Technical and paraprofessional	†	†	2	†	1	†	†
Clerical and secretarial	†	1	3	1	†	†	†
Skilled crafts	†	†	†	†	†	†	†
Service/maintenance	†	†	1	†	1	1	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.17. Number of White, non-Hispanic female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of staff reported on Part G						
Total	9,188	5,218	4,328	3,406	4,391	58	729
Primary function/occupational activity							
Faculty	2,386	2,030	1,890	743	1,352	8	162
Executive/administrative/managerial	294	222	300	329	354	8	77
Other professional (support/service)	3,223	1,384	663	1,130	1,270	24	275
Technical and paraprofessional	886	313	432	361	147	1	92
Clerical and secretarial	2,017	1,043	938	734	1,007	16	118
Skilled crafts	15	14	5	4	11	0	2
Service/maintenance	367	212	100	105	250	1	3
	Number of staff reported on Part A or B						
Total	166,635	75,188	80,141	49,350	57,061	889	5,571
Primary function/occupational activity							
Faculty	31,619	22,289	29,440	9,898	14,950	311	1,357
Executive/administrative/managerial	9,494	5,192	6,695	6,780	7,633	163	1,272
Other professional (support/service)	58,958	18,701	12,713	15,988	13,812	204	1,665
Technical and paraprofessional	13,831	5,343	7,008	2,891	2,015	26	349
Clerical and secretarial	43,909	19,529	22,034	12,325	15,472	149	858
Skilled crafts	635	235	180	54	78	32	15
Service/maintenance	8,189	3,899	2,071	1,414	3,101	4	55

See notes at end of table.

Table 4.17. Number of White, non-Hispanic female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	0	2	4	1	12	0	2
Primary function/occupational activity							
Faculty	0	0	0	0	1	0	1
Executive/administrative/managerial	0	0	1	0	2	0	0
Other professional (support/service)	0	1	1	0	1	0	0
Technical and paraprofessional	0	0	2	1	0	0	0
Clerical and secretarial	0	1	0	0	2	0	1
Skilled crafts	0	0	0	0	3	0	0
Service/maintenance	0	0	0	0	3	0	0
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	†	6	11	8	13	†	2
Primary function/occupational activity							
Faculty	†	†	†	†	1	†	1
Executive/administrative/managerial	†	†	3	†	2	†	†
Other professional (support/service)	†	5	3	†	1	†	†
Technical and paraprofessional	†	†	5	8	†	†	†
Clerical and secretarial	†	1	†	†	3	†	1
Skilled crafts	†	†	†	†	3	†	†
Service/maintenance	†	†	†	†	3	†	†

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.18. Number of race/ethnicity unknown male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of staff reported on Part G							
Total	366	148	119	359	98	7	22
Primary function/occupational activity							
Faculty	151	66	69	107	28	5	3
Executive/administrative/managerial	15	4	6	16	18	0	0
Other professional (support/service)	117	53	8	181	29	2	10
Technical and paraprofessional	30	7	12	24	2	0	1
Clerical and secretarial	12	0	11	19	8	0	4
Skilled crafts	9	4	2	4	0	0	2
Service/maintenance	32	14	11	8	13	0	2
Number of staff reported on Part A or B							
Total	2,177	806	1,609	1,362	673	82	58
Primary function/occupational activity							
Faculty	594	380	914	405	232	39	18
Executive/administrative/managerial	89	39	107	74	84	11	6
Other professional (support/service)	862	184	290	557	147	23	20
Technical and paraprofessional	185	52	97	97	21	6	1
Clerical and secretarial	79	20	66	114	29	0	6
Skilled crafts	125	47	23	24	21	1	0
Service/maintenance	243	84	112	91	139	2	7

See notes at end of table.

Table 4.18. Number of race/ethnicity unknown male staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	4	0	5	3	6	0	8
Primary function/occupational activity							
Faculty	2	0	1	1	2	0	2
Executive/administrative/managerial	0	0	1	0	0	0	0
Other professional (support/service)	0	0	1	2	2	0	2
Technical and paraprofessional	0	0	0	0	0	0	1
Clerical and secretarial	0	0	0	0	2	0	1
Skilled crafts	1	0	1	0	0	0	1
Service/maintenance	1	0	1	0	0	0	1
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	11	†	5	12	11	†	10
Primary function/occupational activity							
Faculty	7	†	1	5	4	†	3
Executive/administrative/managerial	†	†	1	†	†	†	†
Other professional (support/service)	†	†	1	7	5	†	2
Technical and paraprofessional	†	†	†	†	†	†	1
Clerical and secretarial	†	†	†	†	2	†	1
Skilled crafts	1	†	1	†	†	†	2
Service/maintenance	3	†	1	†	†	†	1

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Table 4.19. Number of race/ethnicity unknown female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
Number of staff reported on Part G							
Total	377	153	147	317	111	34	13
Primary function/occupational activity							
Faculty	89	50	71	65	36	6	1
Executive/administrative/managerial	12	4	6	17	13	7	3
Other professional (support/service)	144	63	16	135	22	20	6
Technical and paraprofessional	54	1	14	24	2	0	1
Clerical and secretarial	64	31	37	65	26	0	0
Skilled crafts	1	0	0	3	0	0	1
Service/maintenance	13	4	3	8	12	1	1
Number of staff reported on Part A or B							
Total	2,150	859	1,837	1,351	817	154	45
Primary function/occupational activity							
Faculty	313	406	901	218	185	35	9
Executive/administrative/managerial	67	34	164	89	115	38	9
Other professional (support/service)	905	192	280	571	177	76	15
Technical and paraprofessional	306	49	219	105	36	3	3
Clerical and secretarial	422	153	242	320	241	1	9
Skilled crafts	7	3	5	4	1	0	0
Service/maintenance	130	22	26	44	62	1	0

See notes at end of table.

Table 4.19. Number of race/ethnicity unknown female staff reported on the IPEDS Fall Staff component, Parts A and B compared with Part G, by analysis group and primary function/occupational activity: 2004-05—Continued

Primary function/occupational activity	Public research institutions	Public other 4-year institutions	Public 2-year institutions	Private not-for-profit research institutions	Private not-for-profit other 4-year institutions	Private not-for-profit 2-year institutions	Private for-profit institutions
	Number of institutions reporting Part G > Part A or B						
Total	4	4	5	6	9	0	2
Primary function/occupational activity							
Faculty	3	1	1	2	3	0	0
Executive/administrative/managerial	0	1	2	0	1	0	0
Other professional (support/service)	0	0	0	2	3	0	0
Technical and paraprofessional	1	0	0	1	0	0	0
Clerical and secretarial	0	2	1	0	1	0	0
Skilled crafts	0	0	0	0	0	0	1
Service/maintenance	0	0	1	1	1	0	1
	Magnitude of the difference for institutions reporting Part G > Part A or B						
Total	10	4	6	17	14	†	2
Primary function/occupational activity							
Faculty	9	1	1	6	7	†	†
Executive/administrative/managerial	†	1	2	†	1	†	†
Other professional (support/service)	†	†	†	8	3	†	†
Technical and paraprofessional	1	†	†	1	†	†	†
Clerical and secretarial	†	2	1	†	2	†	†
Skilled crafts	†	†	†	†	†	†	1
Service/maintenance	†	†	2	2	1	†	1

†Not applicable.

NOTE: All institutions included on the 2004-05 Fall Staff component data file were included in this portion of the analysis.

SOURCE: U.S. Department of Education, National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2004-05 Fall Staff component data file.

Chapter 5: Summary of Overall Activity and Implications for the Future

Several conclusions can be drawn from this analysis. A summary of each of the components follows.

SA Component

Several general conclusions can be drawn from the IPEDS SA component analysis. First, especially after taking definitional differences, data elements, and comparable institutions into consideration, the IPEDS data and the data from the external sources included in this analysis generally were fairly consistent with one another. Where data for 9/10- and 11/12-month full-time faculty members could be separated, data for 9/10-month faculty members were more consistent between the data sources. Detailed data (by gender and academic rank) were less likely to be consistent from one report to another than were overall totals or averages.

CUPA NFSS data consistently included fewer full-time faculty members than the IPEDS SA component; however, this was thought to be due primarily to definitional differences. The differences in the numbers of faculty members reported by the IPEDS SA component and CUPA NFSS ranged from 6 to 28 percent, with more faculty members reported by the IPEDS SA component. The differences in reported salaries between CUPA NFSS and the IPEDS SA component were generally smaller than the differences in the reported number of faculty members. Further, for the most part, the average salaries reported on CUPA NFSS were a bit higher than those reported on IPEDS, but only by a very small percentage. The one exception to this was instructors at private not-for-profit research institutions, where CUPA NFSS reported an average salary approximately \$4,728 higher than the IPEDS SA component (a 10 percent difference). The majority of the other analysis groups and ranks showed a difference of less than \$1,000 in average salaries.

OSU FSS reported different numbers of full-time faculty than the IPEDS SA component, depending on analysis group and rank. For example, the number of associate and assistant professors in public research institutions and public other 4-year institutions was greater in IPEDS than in OSU, while the opposite was true for professors in both of these sectors. In the public other 4-year institution category, there were approximately 21 percent more instructors reported by IPEDS than OSU; however, in public research institutions, there were approximately 3 percent more instructors reported by OSU than IPEDS. Overall, the difference in the numbers

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of faculty members between IPEDS and OSU ranged from 0 to 21 percent, depending on analysis group and rank. Although the number of faculty members varied somewhat between the two data sources, the average salary data between the two sources were reasonably congruent. Overall, the salary data had very small differences between IPEDS and OSU, with OSU reporting slightly higher salaries than IPEDS for all ranks. The largest difference reported for average salaries between the two data sources was for instructors in both the public research and public other 4-year sectors, where the average salary reported by OSU was 4 percent higher than that reported by IPEDS. Overall, the difference in the average salary between IPEDS and OSU ranged from 0 to 4 percent.

AAUP FCS data provided the most detailed comparisons. Given that the AAUP FCS definitions were, with a few minor exceptions, the same as the IPEDS SA component definitions, AAUP FCS data provided the best basis of comparison for the IPEDS SA component. The analysis indicated that the data reported for 9/10-month full-time faculty members were strongly correlated for most academic ranks, by gender, and by analysis groups between AAUP FCS and the IPEDS SA component. However, the data reports for 11/12-month full-time faculty members had weaker correlations between the two data sources (although they were still, for the most part, relatively strong). There were a few other differences between AAUP and IPEDS, which varied from small to large, depending on the data element.

Overall, College Board ASC data and the IPEDS SA component data were somewhat consistent with one another for all analysis groups. The greatest discrepancy between the two sources occurred in private not-for-profit 2-year and private for-profit 4- and 2-year institutions.

EAP Component

The IPEDS EAP component data on the full-time executive/administrative/managerial primary function, when compared with the CUPA AdComp, revealed large differences between the reports of the number of staff members. The differences were large enough to indicate that the data were not consistent between the two sources. However, in conducting the analysis, differences in the comparability of the staff members included in the two data sources were evident. The lack of common staffing categories between the two data sources accounted for the considerable differences observed in the data.

The EAP component analysis revealed that the IPEDS EAP component data that were compared against the AAUP FCS data were fairly consistent, with a handful of exceptions; however, the percent difference between the two sources in the majority (70 percent) of the

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comparisons made were very small or small, and all but 2 (out of 20) of the correlation coefficients were very strong. This analysis included a comparison of the number of faculty members reported on the external data sources with the IPEDS EAP component's primarily instruction and instruction/research/public service primary function—the group of faculty members comparable to external sources. When results did differ between the IPEDS EAP component and AAUP FCS, or correlations were not as strong, it tended to be for the not on tenure track/no tenure system category for full-time faculty. The comparison of full- and part-time faculty members between the IPEDS EAP component and College Board ASC indicated small to large differences. When results did differ between the IPEDS EAP component and College Board ASC, or correlations were not as strong, it tended to be in the part-time faculty category. Two possible reasons may contribute to the differences in the not on tenure track/no tenure system category between the IPEDS EAP component and AAUP FCS and in the part-time faculty category between the IPEDS EAP component and College Board ASC. First, the two groups of faculty members tend to be more transient in postsecondary institutions, making it more difficult for institutions to conduct a census of them. Secondly, these groups tend to be small and, thus, any difference between the reports resulted in larger percent differences than if the groups had been larger.

Fall Staff Component

Each piece of the analysis of the 2004-05 Fall Staff component optional year data allowed examination of the quality of the data in a different light. First and foremost, the frequencies of out-of-range data elements on the optional year data submission were not higher than those reported in the 2003-04 required year data submission (one-half of the NCES defined acceptable range was used for the CYPY ratio test for the 2004-05 to 2003-04 data comparison). Out-of-range survey elements were less frequent among 2004-05 optional survey responses than on the original report in 2003-04 for degree-granting institutions. However, the average number of out-of-range survey elements per institution was higher for the 2004-05 optional year when compared with the *corrected* 2003-04 data. For non-degree-granting institutions, the average number of out-of-range survey elements per institution on the 2004-05 data submission was comparable to that of the 2003-04 submission once institutions corrected the required-year data submission.

Finally, only a few institutions reported data in part G by primary function/occupational activity, gender, and race/ethnicity that were greater than that in parts A or B by primary function/occupational activity, gender, and race/ethnicity.

Implications

SA Component

This analysis indicated that the IPEDS SA component, when compared with external data sources—CUPA NFSS, OSU FSS, AAUP FCS, and College Board ASC—contained data that were comparatively consistent. Where data for 9/10- and 11/12-month full-time faculty members could be separated, data for 9/10-month faculty were more consistent between the data sources while data for 11/12-month faculty were somewhat less consistent.

EAP Component

The IPEDS EAP component included faculty members on less-than-9-month contracts, which were not included on AAUP FCS and College Board ASC; however, this group of faculty members was small enough that it was hoped that the results would not be affected appreciably. Analysis conducted on the numbers of non-medical faculty reported on the external data sources and the IPEDS EAP component revealed that many data elements were consistently reported between the IPEDS EAP component and the AAUP FCS; where there were moderate to large percent differences, the IPEDS EAP report was larger than that on AAUP FCS. There was less consistency between the IPEDS EAP component and the College Board ASC.

Fall Staff Component

These results suggest that, overall, the 2004-05 optional year Fall Staff component data were at least as accurate as the *original* 2003-04 required year data submissions. Further, it was observed that research institutions – public and private – had more occasions to change their data for the 2003-04 required year than did other types of institutions. On the 2004-05 data submission, research institutions also had more survey elements requiring explanation than did other types of institutions. Therefore, research institutions may be the focus of increased CYPY ratio analysis if selected types of institutions are to have their optional year data analyzed.

The analysis of part G data revealed that only a few institutions incorrectly reported data. Despite the small number of cases with part G discrepancies, NCES should ensure that the necessary edits comparing part G data with parts A and B data are functioning correctly in future data collections.

Appendix A—Glossary

9/10-month salary contract/teaching period: The contracted teaching period of faculty employed for 2 semesters, 3 quarters, 2 trimesters, 2 four-month sessions, or the equivalent.

11/12-month salary contract/teaching period: The contracted teaching period of faculty employed for the entire year, usually for a period of 11 or 12 months.

Carnegie Classification: The 2000 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2000 edition classifies institutions based on their degree-granting activities from 1995-96 through 1997-98. Institutions classified as “research institutions” fall into one of two categories: (1) Doctoral/Research institutions, extensive: institutions that typically offer a wide range of baccalaureate programs and are committed to graduate education through the doctorate. They award 50 or more doctoral degrees per year across at least 15 disciplines; (2) Doctoral/Research institutions, intensive: institutions that typically offer a wide range of baccalaureate programs and are committed to graduate education through the doctorate. They award at least ten doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall.

Child institution: An institution that has its data reported by another institution, known as the parent institution.

Clerical and secretarial: A primary function or occupational activity category used to classify persons whose assignments typically are associated with clerical activities or are specifically of a secretarial nature; includes personnel who are responsible for internal and external communications, recording and retrieval of data (other than computer programmer) and/or information and other paperwork required in an office. Also includes such occupational titles as switchboard operators, including answering service; telephone operators; bill and account collectors; billing and posting clerks and machine operators; bookkeeping, accounting, and auditing clerks; payroll and timekeeping clerks; procurement clerks; file clerks; clerical library assistants; human resources assistants, except payroll and timekeeping; shipping, receiving, and traffic clerks; secretaries and administrative assistants; computer operators; data entry and information processing workers; desktop publishers; mail clerks and mail machine operators (except postal service); office clerks (general); office machine operators (except computer); and proofreaders and copy markers.

APPENDIX A

Control (of institution): A classification of whether an institution is operated by publicly elected or appointed officials (public control) or by privately elected or appointed officials and derives its major source of funds from private sources (private, not-for-profit or private, for-profit control).

Degree-granting institution: An institution offering an associate's, bachelor's, master's, doctor's, or first-professional degree.

Executive, administrative, and managerial: A primary function or occupational activity category used to classify persons whose assignments require management of the institution, or a customarily recognized department or subdivision thereof. Assignments require the performance of work directly related to management policies or general business operations of the institution, department, or subdivision. Assignments in this category customarily and regularly require the incumbent to exercise discretion and independent judgment. Included in this category are employees holding titles such as top executives; chief executives; general and operations managers; advertising, marketing, promotions, public relations, and sales managers; operations specialties managers; administrative services managers; computer and information systems managers; financial managers; human resources managers; purchasing managers; postsecondary education administrators, such as presidents, vice presidents (including assistants and associates), deans (including assistants and associates) if their principal activity is administrative and not primarily instruction, research, or public service, directors (including assistants and associates), department heads (including assistants and associates) if their principal activity is administrative and not primarily instruction, research, or public service, and assistant and associate managers (including first-line managers of service, production, and sales workers who spend more than 80 percent of their time performing supervisory activities); engineering managers; food service managers; lodging managers; and medical and health services managers.

Faculty: Persons identified by the institution as such and typically those whose initial assignments are made for the purpose of conducting instruction, research, or public service as a principal activity (or activities). They may hold academic rank titles of professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of those academic ranks. Faculty may also include the chancellor/president, provost, vice provosts, deans, directors, or the equivalent, as well as associate deans, assistant deans, and executive officers of academic departments (chairpersons, heads, or the equivalent) if their principal activity is instruction combined with research and/or public service. The designation as "faculty" is separate from the activities to which they may be currently assigned. For example, a newly appointed president of

an institution may also be appointed as a faculty member. Graduate, instruction, and research assistants are not included in this category.

FICE Code: A 6-digit identification code originally created by the Federal Interagency Committee on Education (FICE). The code was used to identify all schools doing business with the Office of Education during the early sixties. This code is no longer used in IPEDS; it has been replaced by the Office of Postsecondary Education (OPE) ID code.

Four-year institution: A postsecondary institution that offers programs of at least 4 years' duration or one that offers programs at or above the baccalaureate level. Includes schools that offer postbaccalaureate certificates only or those that offer graduate programs only. Also includes free-standing medical, law, or other first-professional schools.

Full-time instructional faculty: Those members of the instruction/research staff who are employed full time and whose major regular assignment is instruction, including those with released time for research. Also includes full-time faculty for whom it is not possible to differentiate among teaching, research, and public service because each of these functions is an integral component of their regular assignment.

Graduate assistants: Graduate-level students who are employed on a part-time basis for the primary purpose of assisting in classroom or laboratory instruction or in the conduct of research. Graduate students having titles such as graduate assistant, teaching assistant, teaching associate, teaching fellow, or research assistant, typically hold these positions.

Institutional affiliation: A classification that indicates whether a private not-for-profit institution is associated with a religious group or denomination. Private not-for-profit institutions may be either independent or religiously affiliated.

Instruction combined with research and/or public service: A primary function or occupational activity category used to classify persons for whom it is not possible to differentiate among teaching, research, and public service because each of these functions is an integral component of their regular assignment. These employees may hold academic rank titles of professor, associate professor, assistant professor, instructor, lecturer, or the equivalent. This category includes all officers holding titles such as associate deans, assistant deans, and executive officers of academic departments (chairpersons, heads, or equivalent) if their principal activity is instruction combined with research and/or public service.

APPENDIX A

Less-than-2-year institution: A postsecondary institution that offers programs of less than 2 years' duration below the baccalaureate level; includes occupational and vocational schools with programs that do not exceed 1,800 contact hours.

Less-than-9-month salary contract/teaching period: The contracted teaching period of faculty employed for less than 2 semesters, 3 quarters, 2 trimesters, or 2 four-month sessions.

Level (of institution): A classification of whether an institution's programs are 4-year or higher (4-year), 2-but- less-than-4-year (2-year), or less-than-2-year.

Medical school staff (employees): Staff employed by or employees working in the medical school component of a postsecondary institution or in a freestanding medical school; does not include staff employed by or employees working strictly in a hospital associated with a medical school or those who work in health or allied health schools or departments such as dentistry, veterinary medicine, nursing, or dental hygiene.

Non-degree-granting institution: An institution offering only postbaccalaureate, post-master's, or first-professional certificates, or certificates or diplomas of 4 years or less.

Nonprofessional staff: Employees of an institution whose primary function or occupational activity is classified as one of the following: technical and paraprofessional; clerical and secretarial; skilled crafts; or service/maintenance.

OPE: Office of Postsecondary Education.

Other professional (support/service): A primary function or occupational activity category used to classify persons employed for the primary purpose of performing academic support, student service, and institutional support, whose assignments would require either a baccalaureate degree or higher or experience of such kind and amount as to provide a comparable background. Included in this category are all employees holding titles such as business operations specialists; buyers and purchasing agents; human resources, training, and labor relations specialists; management analysts; meeting and convention planners; miscellaneous business operations specialists; financial specialists; accountants and auditors; budget analysts; financial analysts and advisors; financial examiners; loan counselors and officers; computer specialists; computer and information scientists, research; computer programmers; computer software engineers; computer support specialists; computer systems analysts; database administrators; network and computer systems administrators; network

systems and data communication analysts; counselors, social workers, and other community and social service specialists; counselors; social workers; health educators; clergy; directors, religious activities and education; lawyers; librarians, curators, and archivists; museum technicians and conservators; librarians; artists and related workers; designers; athletes, coaches, and umpires; dancers and choreographers; music directors and composers; chiropractors; dentists; dietitians and nutritionists; optometrists; pharmacists; physicians and surgeons; podiatrists; registered nurses; therapists; and veterinarians.

Parent institution: An institution that reports data for another institution, known as the child institution.

PEPS: Postsecondary Education Participation System (database used by OPE to track all institutions eligible for Title IV federal student financial aid programs).

Postsecondary institution: An institution that has as its sole purpose, or one of its primary missions, the provision of postsecondary education. Postsecondary education is the provision of a formal instructional program whose curriculum is designed primarily for students beyond the compulsory age for high school. This includes programs whose purpose is academic, vocational, and continuing professional education, and excludes avocational and adult basic education programs. For IPEDS, these institutions must be open to the public.

Primarily instruction: A primary function or occupational activity category used to classify persons whose specific assignments are customarily made for the purpose of conducting instruction or teaching and who hold academic titles of professor, associate professor, assistant professor, instructor, lecturer, or the equivalent. Includes deans, directors, or the equivalent, as well as associate deans, assistant deans, and executive officers of academic departments (chairpersons, heads, or equivalent) if their principal activity is instruction.

Primarily public service: A primary function or occupational activity category used to classify persons whose specific assignments customarily are made for the purpose of carrying out public service activities such as agricultural extension services, clinical services, or continuing education and who may hold academic titles of professor, associate professor, or assistant professor. Includes deans, directors, or the equivalent, as well as associate deans, assistant deans, or executive officers of academic departments (chairpersons, heads, or equivalent) if their principal activity is public service.

APPENDIX A

Primarily research: A primary function or occupational activity category used to classify persons whose specific assignments are customarily made for the purpose of conducting research and who hold academic titles of professor, associate professor, or assistant professor or titles such as research associate or postdoctoral fellow. Includes deans, directors, or the equivalent, as well as associate deans, assistant deans, and executive officers of academic departments (chairpersons, heads, or equivalent) if their principal activity is research.

Primary function/occupational activity: The principal activity of a staff member as determined by the institution. If an individual participates in two or more activities, the primary activity is normally determined by the amount of time spent in each activity. Occupational activities are designated as follows: faculty (instruction/research/public service); executive, administrative, and managerial; graduate assistants; other professional (support/service); technical and paraprofessional; clerical and secretarial; skilled crafts; and service/maintenance (see separate definitions).

Private for-profit institution: A private institution in which the individual(s) or agency in control receives compensation other than wages, rent, or other expenses for the assumption of risk.

Private institution: An educational institution controlled by a private individual(s) or by a non-governmental agency, usually supported primarily by other than public funds, and operated by other than publicly elected or appointed officials. These institutions may be either for-profit or not-for-profit.

Private not-for-profit institution: A private institution in which the individual(s) or agency in control receives no compensation, other than wages, rent, or other expenses for the assumption of risk. These include both independent not-for-profit schools and those affiliated with a religious organization.

Professional staff: Employees of an institution whose primary function or occupational activity is classified as one of the following: faculty; executive, administrative, managerial; or other professional.

Program Participation Agreement (PPA): A written agreement between a postsecondary institution and the Secretary of Education. This agreement allows institutions to participate in any of the Title IV student assistance programs other than the State Student Incentive Grant (SSIG) and the National Early Intervention Scholarship and Partnership (NEISP) programs. The

PPA conditions the initial and continued participation of an eligible institution in any Title IV program upon compliance with the General Provisions regulations, the individual program regulations, and any additional conditions specified in the program participation agreement that the Department of Education requires the institution to meet. Institutions with such an agreement are referred to as Title IV institutions.

Public institution: An educational institution whose programs and activities are operated by publicly elected or appointed school officials and which is supported largely by public funds.

Race/ethnicity: Categories used to describe groups to which individuals belong, identify with, or belong in the eyes of the community. The categories do not denote scientific definitions of anthropological origins. A person may be counted in only one group. The groups used to categorize U.S. citizens, resident aliens, and other eligible non-citizens are as follows: American Indian/Alaska Native; Asian/Pacific Islander; Black, non-Hispanic; Hispanic; White, non-Hispanic.

Sector: One of nine institutional categories resulting from dividing the universe according to control and level. Control categories are public, private not-for-profit, and private for-profit. Level categories are 4 years and higher (4-year institutions), at least 2 but less than 4 years (2-year institutions), and less than 2 years (less-than-2-year institutions). For example: sector 1 = public 4-year institutions; sector 2 = private not-for-profit 4-year institutions.

Title IV institution: An institution that has a written agreement with the Secretary of Education that allows the institution to participate in any of the Title IV federal student financial assistance programs (other than the State Student Incentive Grant (SSIG) and the National Early Intervention Scholarship and Partnership [NEISP] programs).

UNITID: Unique identification number assigned to postsecondary institutions surveyed through the Integrated Postsecondary Education Data System (IPEDS). Also referred to as IPEDS ID.

UserID: A series of numbers possibly with an alpha prefix that is created for a specific user to be able to access a system. Each user is required to have a UserID and a password in order to access the Integrated Postsecondary Education Data System (IPEDS) data collection system for security purposes.

Appendix B—Brief Description of Surveys Considered for the Human Resources Data Quality Study

Integrated Postsecondary Education Data System (IPEDS) Components

Overview

The Integrated Postsecondary Education Data System (IPEDS) is designed to collect data from postsecondary institutions in the United States (50 states and the District of Columbia) and other jurisdictions, such as Puerto Rico.²² For IPEDS, a postsecondary institution is defined as an organization that is open to the public and has a primary mission of providing education or training beyond the high school level. IPEDS defines postsecondary education as formal instructional programs with a curriculum designed primarily for students who are beyond the compulsory age for high school. This includes academic, vocational, and continuing professional education programs and excludes institutions that offer only avocational (leisure) and adult basic education programs.

The primary focus of the IPEDS winter 2004-05 data collection was to collect data from Title IV institutions. These institutions have Program Participation Agreements (PPAs) with the Office of Postsecondary Education (OPE) within the U.S. Department of Education, and thus are eligible to participate in Title IV student financial aid programs. There were 6,631 Title IV entities²³ located in the United States and in jurisdictions of the United States at the beginning of the 2004-05 academic year. Nine institutions lost Title IV eligibility before the winter 2004-05 data collection began, leaving 6,539 institutions and 83 administrative offices.

The three IPEDS components that collected data on postsecondary faculty and staff during the 2004-05 data collection period were: Salaries (SA), Employees by Assigned Position (EAP), and Fall Staff. Each of the components are described separately below.

²² The other jurisdictions surveyed in IPEDS are American Samoa, the Federated States of Micronesia, Guam, the Marshall Islands, the Northern Marianas, Palau, Puerto Rico, and the Virgin Islands.

²³ Includes 6,548 institutions and 83 administrative offices (central or system offices). The administrative offices are required to complete the Institutional Characteristics component in the fall and the Finance component in the spring (if they have their own separate budget). Also includes the U.S. service academies.

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IPEDS Components

SA Component

The Salaries (SA) component collects headcount information on full-time instructional faculty by contract length/teaching period (less-than-9-month, 9/10-month, and 11/12-month), gender, and academic rank (professor, associate professor, assistant professor, instructor, lecturer, and no academic rank). This component also collects total salary outlays and fringe benefits of full-time instructional faculty. The types of fringe benefits are: retirement plans, medical/dental plans, group life insurance, other insurance benefits, guaranteed disability income protection, tuition plan (dependents only), housing plan, employer portion of Social Security taxes, unemployment compensation, worker's compensation, and other benefits in kind with cash options. The number of full-time instructional faculty reported in the SA component must equal the number of faculty classified as either primarily instruction and/or instruction combined with research and/or public service in the full-time non-medical school section of the Employees by Assigned Position (EAP) component. The SA component is required annually by Title IV degree-granting institutions except for those institutions at which all instructional faculty are part time, contribute their services, are in the military, or teach preclinical or clinical medicine.

EAP Component

The Employees by Assigned Position (EAP) component collects headcount information for employees by full- and part-time status; by primary function/occupational activity; and by faculty status and tenure status (if applicable). The primary functions/occupational activities are faculty (primarily instruction, instruction combined with research and/or public service, primarily research, and primarily public service), executive/administrative/managerial, other professionals (support/service), graduate assistants, technical and paraprofessionals, clerical and secretarial, skilled crafts, and service/maintenance. Institutions with medical schools (those that have M.D. programs) are required to report their medical school employees separately. All full-time instructional faculty classified in the EAP, full time non-medical, section as either (1) primarily instruction or (2) instruction combined with research and/or public service are included in the SA component, unless the faculty are exempted because of one of the exclusions noted in the description of the Salaries section. The EAP component is required annually from all Title IV institutions.

Fall Staff Component

The Fall Staff component collects headcount information for employees by full- and part-time status. There are two versions (long and short) of the Fall Staff component.

The long version of Fall Staff is applicable to degree-granting institutions and related administrative offices that have 15 or more full-time employees and collects the following information:

- Part A: Full-time faculty by racial/ethnic category, gender, contract length/teaching period, and salary class intervals;
- Part B: All other full-time staff by racial/ethnic category, gender, primary function/occupational activity, and salary class intervals;
- Part D: Part-time staff by racial/ethnic category, gender, and primary function/occupational activity;
- Part E: Summary of full-time and part-time staff by racial/ethnic category and gender;
- Part F: Faculty status and tenure status of full-time faculty by racial/ethnic category, gender, and academic rank; and
- Part G: Full-time permanent new hires by racial/ethnic category, gender, and primary function/occupational activity.

The short version of Fall Staff is applicable to non-degree-granting institutions and related administrative offices that have 15 or more full-time staff and collects the following information:

- Part A: Full-time staff by racial/ethnic category, gender, and primary function/occupational activity;
- Part B: Part-time staff by racial/ethnic category, gender, and primary function/occupational activity; and
- Part C: Summary of full-time and part-time staff by racial/ethnic category and gender.

Most of the primary functions/occupational activities in the Fall Staff component are the same as the primary functions/occupational activities in the EAP component. The only difference includes the descriptions of “faculty” for both components. The “faculty” reported in the Fall Staff component is equivalent to the same group of people reported in the EAP component section as primarily instruction, instruction combined with research and/or public service, primarily research, and primarily public service. While the Fall Staff component is required in odd-numbered years (e.g., 2003-04) from all Title IV institutions and administrative offices that have 15 or more full-time employees, the component is optional for all institutions and administrative offices in even-numbered years (e.g., 2004-05).

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External Data Sources

The external sources considered for inclusion in this study are briefly described below. They appear in alphabetical order, by organization and survey.

American Association of University Professors

Faculty Compensation Survey

The Faculty Compensation Survey (FCS) is conducted by the American Association of University Professors (AAUP). FCS collects salary data for full-time faculty at public 4- and 2-year institutions, private not-for-profit 4- and 2-year institutions, and private for-profit 4- and 2-year institutions by academic rank (professors, associate professors, assistant professors, instructors, lecturers, and faculty with no rank), gender, and faculty status. The survey collects data on the number of full-time faculty members on 9/10- and 11/12-month contracts separately and combined. Institutions that elect to combine their 9/10- and 11/12-month data are asked to adjust salary data for faculty members on 11/12-month contracts by a factor of 0.818, or by a factor provided by institutions. The 2004-05 FCS included 1,454 respondents. FCS was included as a comparative source for the IPEDS SA and EAP components.

Association of American Medical Colleges

Medical School Profile System

The Medical School Profile System (MSPS) is conducted by the Association of American Medical Colleges (AAMC). MSPS collects data for medical school faculty members; it gathers the number of medical school faculty members in basic science and clinical departments—those considered by the medical school to be full-time medical school faculty whether supported by the medical school directly or supported by affiliated organizations. Full-time faculty based in affiliated hospitals and in schools of basic health sciences, and research faculty, are included; residents and fellows are not. MSPS collects data on full-time faculty for the following four academic ranks: professor, associate professor, assistant professor and instructor. MSPS also collects data on the total number of part-time faculty. Because of irreconcilable definitional differences, AAMC MSPS was not included as a comparative source for the IPEDS EAP component. For example, MSPS collects data on full-time faculty separately in four academic ranks (professor, associate professor, assistant professor, and instructor) while EAP collects data on full-time faculty in aggregate form in six academic ranks (professor, associate professor, assistant professor, instructor, lecturer, and faculty with no academic rank).

MSPS was not compared with the IPEDS SA component because the SA component does not include information on medical school faculty.

College and University Professional Association

The following four surveys are conducted by the College and University Professional Association (CUPA) and were considered for this study:

- Administrative Compensation Survey (AdComp)
- Community College Faculty Salary Survey (CCFSS)
- Mid-Level Administrative and Professional Salary Survey (Mid-Level)
- National Faculty Salary Survey (NFSS)

Detailed information on the four CUPA surveys is listed below.

Administrative Compensation Survey

The Administrative Compensation Survey (AdComp) collects salary and demographic data for college and university administrators. The 2004-05 survey collected data reflecting 175 positions. The positions selected for inclusion in this survey are based on an analysis conducted by CUPA regarding the positions found at most institutions of higher education. Generally, the positions are at or above the Director level. The survey collects both institution- and position-specific data. The 2004-05 AdComp included 1,387 institutions. AdComp was included as a comparative source for the IPEDS EAP component, but not as a comparative source for the IPEDS SA component because AdComp includes information on administrators while the IPEDS SA component includes information on full-time faculty only.

Community College Faculty Salary Survey

The Community College Faculty Salary Survey (CCFSS) collects salary data for full-time teaching faculty at two-year institutions and allows institutions to report data using any one of the following four options: (1) pay structure based on level of education/discipline; (2) pay structure based on academic rank; (3) pay structure based on discipline (faculty unranked); and (4) pay structure based on discipline (faculty ranked). The survey also collects data on pay practices for full-time, part-time, and adjunct teaching faculty members. The 2004-05 CCFSS included 240 community colleges. The CUPA CCFSS was slated for inclusion in this analysis; however, the CCFSS data were not included in the database originally provided for the purposes

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of this study, and the results of a special study could not be provided by CUPA in time to be included in this analysis. Therefore, CUPA CCFSS was eliminated from this analysis.

Mid-Level Administrative and Professional Salary Survey

The Mid-Level Administrative and Professional Salary Survey (Mid-Level) collects salary data for mid-level administrative and professional positions at colleges and universities. The 2004-05 survey collected data reflecting 146 mid-level administrative and professional positions. The positions selected for inclusion in this survey are based on an analysis conducted by CUPA on the mid-level administrative and professional positions found at most colleges and universities. Mid-Level collects salary and rate-structure data, as well as data regarding pay practices. The survey collects both institution-specific and discipline-specific data. Positions covered in this survey are complementary to those covered in CUPA ASC. Because of irreconcilable definitional differences, Mid-Level was not included as a comparative source for this study. For example, CUPA Mid-Level collects data specifically on “mid-level” administrative and professional positions while the IPEDS EAP component does not collect data based on levels.

National Faculty Salary Survey

The National Faculty Salary Survey (NFSS) collects salary data for full-time faculty at public, private not-for-profit, and private for-profit 4-year institutions, by discipline and academic rank. (For purposes of this study, CUPA provided NFSS summary data by analysis group for 9/10-month faculty and 11/12-month faculty in aggregate form by academic rank.) The 2004-05 survey collected data reflecting 244 disciplines at colleges and universities. The survey collects both institution-specific and discipline-specific data. The 2004-05 NFSS included 823 institutions. NFSS was included as a comparative source for the IPEDS SA component, but not for the IPEDS EAP component. One of the primary reasons NFSS was not included as a comparative source for the EAP component was because NFSS collects data on full-time faculty separately in four academic ranks (professor, associate professor, assistant professor, and instructor) while EAP collects data on full-time faculty in aggregate form in six academic ranks (professor, associate professor, assistant professor, instructor, lecturer, and faculty with no academic rank).

College Board

Annual Survey of Colleges

The Annual Survey of Colleges (ASC) data is conducted by the College Board. ASC is a collaborative effort among data providers in the higher education community and publishers. The combined goal of this collaboration is to improve data quality and accuracy, as well as to reduce the reporting burden on data providers. Among other data elements, the number of full-time and part-time faculty by gender at institutions is gathered by ASC. Although ASC collects data on faculty by gender, the majority of institutions responding to ASC provide faculty totals, but not by gender. Therefore, the ASC analysis in this study includes the total number of full-time and part-time faculty members, but not by gender. Although reporting faculty data to ASC is optional, approximately 3,400 of the 3,800 higher education institutions in the 2005-06 ASC database provided faculty data. ASC was included as a comparative source for the IPEDS SA and EAP components.

Oklahoma State University

Faculty Salary Survey

The Faculty Salary Survey (FSS) is conducted by Oklahoma State University (OSU). FSS data are collected from public land-grant institutions in the United States. In the FSS, a select group of doctoral degree-granting institutions from each state in the United States was asked to provide low, high, and average salaries for each academic discipline and faculty rank represented on their campus. These institutions annually award doctorates in at least five different discipline areas and would generally be counted among the "flagship" institutions in their respective states. An effort was made to include institutions from each state so that a national sample of average faculty salaries by discipline would be produced. (For purposes of this study, OSU provided FSS summary data by analysis group for 9/10-month faculty and 11/12-month faculty in aggregate form by academic rank.) The 2004-05 FSS included 94 institutions. FSS was included as a comparative source for the IPEDS SA component, but not for the IPEDS EAP component. One of the primary reasons FSS was not included as a comparative source for the EAP component was because FSS collects data on full-time faculty separately in four academic ranks (professor, associate professor, assistant professor, and instructor) while EAP collects data on full-time faculty in aggregate form in six academic ranks (professor, associate professor, assistant professor, instructor, lecturer, and faculty with no academic rank).

Appendix C—College and University Professional Association (CUPA) and Integrated Postsecondary Education Data System (IPEDS): Administrative Employee Classifications

College and University Professional Association (CUPA) - Administrative Compensation Survey (AdComp) Classifications

Executive

- 101.00 CEO of System or District
- 101.10 Assistant to CEO of System or District
- 102.00 CEO of Single Institution
- 102.10 Assistant to CEO of Single Institution
- 103.00 Executive Vice President

Academic I

- 201.00 Chief Academic Officer or Provost
- 201.10 Associate Chief Academic Officer
- 202.00 Chief Health Professions Officer
- 203.00 Director, Library Services
- 203.20 Acquisitions Librarian
- 203.30 Chief Technical Services Librarian
- 203.40 Chief Public Services Librarian
- 204.00 Director, Institutional Research
- 204.10 Associate Director, Institutional Research
- 205.00 Director, Educational Media Services
- 206.00 Director, Learning Resources Center
- 207.00 Director, International Education
- 207.10 Director, International Studies Ed
- 208.00 Director, Academic Computing
- 208.10 Associate Director, Academic Computing
- 244.00 Chief Research Officer
- 245.00 Chief Technology Transfer Officer
- 245.10 Senior Technology Licensing Officer
- 209.00 Director, Sponsored Research and Programs
- 210.00 Dean, Architecture
- 211.00 Dean, Agriculture
- 212.00 Dean, Arts and Letters
- 213.00 Dean, Arts and Sciences
- 214.00 Dean, Business
- 215.00 Dean, Communications
- 216.00 Dean, Continuing Education
- 251.00 Dean, Cooperative Extension

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217.00 Dean, Dentistry
218.00 Dean, Education
219.00 Dean, Engineering
221.00 Dean, External Degree Programs
222.00 Dean, Fine Arts
223.00 Dean, Graduate Programs
224.00 Dean, Health-Related Professions
225.00 Dean, Home Economics
226.00 Dean, Humanities
227.00 Dean, Instruction
228.00 Dean, Law
229.00 Dean, Library and Information Sciences
230.00 Dean, Mathematics
232.00 Dean, Music
233.00 Dean, Nursing
234.00 Dean, Occupational Studies/Voc Ed/Tech
235.00 Dean, Pharmacy
236.00 Dean, Public Health
237.00 Dean, Sciences
238.00 Dean, Social Sciences
239.00 Dean, Social Work
240.00 Dean, Special Programs
241.00 Dean, Undergraduate Programs
242.00 Dean, Veterinary Medicine
250.00 Dean, Honors Program
243.00 Director, Continuing Education
260.00 Director, Distance Learning
261.00 Director of Teaching Center
262.00 Dean, Public Affairs

Academic II

210.10 Assoc/Asst Dean, Architecture
211.10 Assoc/Asst Dean, Agriculture
212.10 Assoc/Asst Dean, Arts and Letters
213.10 Assoc/Asst Dean, Arts and Sciences
214.10 Assoc/Asst Dean, Business
215.10 Assoc/Asst Dean, Communications
216.10 Assoc/Asst Dean, Continuing Education
217.10 Assoc/Asst Dean, Dentistry
218.10 Assoc/Asst Dean, Education
219.10 Assoc/Asst Dean, Engineering
221.10 Assoc/Asst Dean, External Degree Programs
222.10 Assoc/Asst Dean, Fine Arts
223.10 Assoc/Asst Dean, Graduate Programs
224.10 Assoc/Asst Dean, Health-Related Professions
225.10 Assoc/Asst Dean, Family/Consumer Sciences (formerly Home Economics)
226.10 Assoc/Asst Dean, Humanities

- 227.10 Assoc/Asst Dean, Instruction
- 228.10 Assoc/Asst Dean, Law
- 229.10 Assoc/Asst Dean, Library and Information Sciences
- 230.10 Assoc/Asst Dean, Mathematics
- 232.10 Assoc/Asst Dean, Music
- 233.10 Assoc/Asst Dean, Nursing
- 234.10 Assoc/Asst Dean, Occupational Studies/Voc Ed/Tech
- 235.10 Assoc/Asst Dean, Pharmacy
- 236.10 Assoc/Asst Dean, Public Health
- 237.10 Assoc/Asst Dean, Sciences
- 238.10 Assoc/Asst Dean, Social Sciences
- 239.10 Assoc/Asst Dean, Social Work
- 240.10 Assoc/Asst Dean, Special Programs
- 241.10 Assoc/Asst Dean, Undergraduate Programs
- 242.10 Assoc/Asst Dean, Veterinary Medicine
- 250.10 Assoc/Asst Dean, Honors Program
- 251.10 Assoc/Asst Dean, Cooperative Extension
- 262.10 Assoc/Asst Dean, Public Affairs

Administrative

- 301.00 Chief Business Officer
- 301.01 Chief Administration Officer
- 301.02 Chief Financial Officer
- 301.03 Chief Investment Officer
- 301.10 Director, Environ Health and Safety
- 301.20 Director, Telecommunications/Networking
- 302.00 Chief Planning Officer
- 303.00 Chief Budgeting Officer
- 303.10 Associate Budget Director
- 304.00 Chief Planning and Budget Officer
- 305.00 General Counsel
- 306.00 Chief Personnel/HR Officer
- 306.10 Associate Director, Personnel/HR
- 306.20 Manager, Benefits
- 306.30 Manager, Training and Development
- 306.40 Manager, Employee Relations
- 306.50 Manager, Labor Relations
- 306.60 Manager, Employment
- 306.70 Manager, Wage and Salary/Comp
- 306.80 Manager, Personnel Information Systems
- 307.00 Director, AA/Equal Employment
- 307.10 Associate Director, AA/Equal Employment
- 308.00 Director, Personnel and AA
- 309.00 Chief Information Systems Officer
- 309.10 Associate Director, Information Systems
- 309.20 Database Administrator
- 309.30 Systems Analyst (Highest Level)

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310.00 Director, Administrative Computing
310.10 Associate Director, Admin Computing
312.00 Chief Phys Plant/Facilities Management Officer
312.10 Associate Director, Phys Plant/Facilities Management
312.20 Manager, Landscape and Grounds
312.30 Manager, Building Maintenance Trades
312.40 Manager, Technical Trades
312.50 Manager, Custodial Services
312.60 Manager, Power Plant
313.00 Comptroller
313.10 Manager, Payroll
313.20 Asst Comptroller
313.30 Restricted Funds Accountant
314.00 Director, Accounting
315.00 Bursar
315.10 Associate Bursar
316.00 Director, Purchasing/Materials Management
316.10 Associate Dir, Purchas/Materials Management
317.00 Director, Bookstore
317.10 Associate Director, Bookstore
318.00 Director, Internal Audit
319.00 Director, Auxiliary Services
320.00 Director, Campus Security
321.00 Director, Risk Management and Insurance

External Affairs

401.00 Chief Development Officer
401.10 Director, Annual Giving
401.20 Director, Corporate/Foundation Relations
401.40 Director, Planned Giving
402.00 Chief Public Relations Officer
402.10 Director, Governmental/Legislative Relations
403.00 Chief Development and PR Officer
404.00 Director, Alumni Affairs
405.00 Director, Development and Alumni Affairs
406.00 Director, Major Gifts
407.00 Director, Church Relations
408.00 Director, Community Services
409.00 Director, Publications
409.10 Associate Director, Publications
409.20 Manager, Printing Services
410.00 Director, Information Office
411.00 Director, News Bureau
412.00 Director of Marketing

Student Services

501.00 Chief Student Affairs Officer
501.10 Associate Chief Student Affairs Officer

501.50 Dean of Students
502.00 Chief Admissions Officer
502.10 Associate Director, Admissions
502.15 Director, Academic Advising
503.00 Director, Admissions and Registrar
504.00 Registrar
504.10 Associate Registrar
504.20 Assistant Registrar
505.00 Director, Admissions and Financial Aid
506.00 Director, Student Financial Aid
506.10 Associate Director, Student Financial Aid
507.00 Director, Food Services
507.10 Associate Director, Food Services
508.00 Director, Student Housing
508.10 Associate Director, Student Housing
508.20 Housing Officer/Administrative Operations
508.30 Housing Officer/Residence Life
509.00 Director of Union and Student Activities
510.00 Director, Foreign Students
511.00 Director, Student Union
511.10 Associate Director, Student Union
512.00 Director, Student Activities
512.10 Asst Dir Student Activities
513.00 Director, Career Develop and Placement
514.00 Director, Student Counseling
514.10 Associate Director, Student Counseling
515.00 Director, Student Health Services (MD)
516.00 Director, Student Health Services (Nurse)
516.10 Director Student Health Services (Non Med Admin)
517.00 Director, Campus Ministries
518.00 Director, Athletics
519.00 Director, Sports Information
520.00 Director, Men's Athletic Programs
521.00 Director, Women's Athletic Programs
522.00 Director, Campus Recreation/Intramurals
522.10 Asst Dir Campus Recreation/Intramurals
523.00 Chief, Enrollment Management
524.00 Director, Minority Affairs
525.00 Director, Conferences
526.00 Dir Woman's Center

**Integrated Postsecondary Education Data System (IPEDS) -
Employees by Assigned Position (EAP) component,
Executive/administrative/managerial Classifications**

- 11-1000 Top Executives
- 11-1010 Chief Executives
- 11-1020 General and Operations Managers
- 11-2000 Advertising, Marketing, Promotions, Public Relations, and Sales Managers
- 11-3000 Operations Specialties Managers
- 11-3010 Administrative Services Managers
- 11-3020 Computer and Information Systems Managers
- 11-3030 Financial Managers
- 11-3040 Human Resources Managers
- 11-3060 Purchasing Managers
- 11-9033 Education Administrators, Postsecondary - includes
 - presidents
 - vice presidents (including assistants and associates)
 - deans (including assistants and associates) - if their principal activity is administrative and not primarily instruction, research or public service
 - directors (including assistants and associates)
 - department heads (including assistants and associates) - if their principal activity is administrative and not primarily instruction, research or public service
 - assistant, associate managers (including first-line managers of service, production and sales workers who spend more than 80 percent of their time performing supervisory activities)
- 11-9040 Engineering Managers
- 11-9050 Food Service Managers
- 11-9080 Lodging Managers
- 11-9112 Medical and Health Services Managers

Appendix D—Statistical Procedures

Descriptive Statistics

The tables reporting average salaries in this analysis report average values for groups of institutions. The variables were calculated as averages at the individual institutional level; averages were then calculated across the institutional averages. One should keep in mind that the average values reported are aggregates, and therefore do not necessarily reflect the circumstances of an individual institution. Rather, they reflect the circumstances of the “average” institution in a particular analysis group.

The percent difference of the data elements reported on the external databases as compared to the respective IPEDS database was computed. For purposes of this analysis, the amount of the percent difference was defined as follows:

- Less than 5.0 percent Very small
- 5.0 to 9.9 percent Small
- 10.0 to 19.9 percent Moderate
- 20.0 or more Large

Correlation

Some comparisons between IPEDS reports and that from the external sources involved a test of linear correlation between the reports to determine the relationship between two properties. In this report, to test the strength and direction of the correlation between the reports, the following formula was used:

$$\text{Corr}(X, Y) = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sqrt{\sum (x - \bar{x})^2 (y - \bar{y})^2}}$$

where \bar{x} and \bar{y} are the averages of the respective data array, i.e. number of faculty members reported on the IPEDS SA.

For purposes of this analysis, the strength categories of the correlation coefficients were defined as follows:

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- 0.90 to 1.00 Very strong
- 0.80 to 0.89 Strong
- 0.60 to 0.79 Moderate
- Less than 0.60 Weak