

2008-2009 Annual Report

Senate Committee on the Economic Status of the Faculty

May 11, 2010

Contents

I. Introduction	II
II. Resources for Faculty Salaries and Annual Increases	II
III. Penn Faculty Salaries: External Comparisons	II
A. Comparisons with Growth in the Consumer Price Index (CPI).....	II
B. Comparisons with Peer Universities Using AAU Data.....	III
C. Comparisons with Peer Universities Using AAUP Survey Data.....	IV
IV. Penn Faculty Benefits	IV
V. Penn Faculty Salaries: Internal Comparisons.....	IV
A. Variability in Average Salary Increases by Rank and School/Area.....	IV
1. Median Increases Across Ranks and Schools in Comparison with General Guidelines.....	V
2. First Quartile Salary Increases Across Ranks and Schools in Comparison with Increases in CPI.....	V
B. Variability in Average Salary Levels by Rank.....	V
C. Variability in Average Salary Levels by School/Area.....	V
D. Variability in Salary Levels By Rank with Interquartile Data	VI
1. Measures of Variability	VI
2. Differences in Variability Across Ranks	VI
3. Trends in Variability Over Time	VI
E. Variability by Gender	VI
VI. Conclusions	VI
A. Economic Status of the Faculty	VI
1. External Competitiveness	VI
2. Internal Variability	VI
B. Conditions of Concern	VII
1. External Competitiveness	VII
2. Internal Equity	VII
VII. SCESF Communication with Provost Office.....	VII
A. SCESF Requests to Provost Office in Preparation of the 2008-2009 SCESF Report and Responses.....	VII
B. SCESF Recommendations and Questions for the Administration.....	VII
VIII. Members of the Committee.....	IX
IX. Tables.....	X
X. Appendix.....	XVII

SENATE Economic Status of the Faculty

I. Introduction

The Senate Committee on the Economic Status of the Faculty (SCESF) is charged by the “Rules of the Faculty Senate” to:

- Gather and organize data on faculty salaries and benefits;
- Issue an annual report on the economic status of the faculty; and
- Represent the faculty in the determination of University policy on salary issues.

The focus of this report is on the current economic status of the faculty as based on salary data. The report is organized in terms of three broad concerns:

- The salary setting process at Penn: the sources of funds for faculty salaries and how annual salary increase decisions are made.
- External comparisons: the competitiveness of faculty salaries at Penn in comparison with faculty salaries at other universities.
- Internal comparisons: variability of faculty salaries within Penn.

One major section of this report is devoted to each of these three topics. Section VI describes the SCESF’s overall conclusions about the economic status of the faculty. We report in Section VII the Committee’s provisional observations and recommendations.

In carrying out the SCESF’s responsibilities, the Committee has been cognizant of Penn’s salary policy for the period as stated by the President, Provost, and Executive Vice President (*Almanac* April 8, 2008). The University of Pennsylvania’s merit increase program is designed to recognize and reward faculty and staff by paying market competitive salaries in a fiscally responsible manner. The merit increase amount is based on market trends, economic conditions and fiscal responsibility. The salary guidelines have been designed to recognize and reward the valuable contributions of faculty and staff to the University’s mission and commitment to excellence.

Statistical data in this report (including Census figures in the Tables) were provided by the Office of Institutional Research and Analysis unless otherwise indicated. In studying faculty salaries for this report, the SCESF has in particular benefited greatly from access to detailed salary data (excluding, of course, any information that would make it possible to identify individual faculty salaries) that have been collected and provided by Penn’s central administration. Our understanding, both of Penn’s competitiveness with peer institutions in faculty salary levels and of faculty salary variability within Penn, has been enhanced by access to this information and by the assistance of those who produced it. The SCESF appreciates this assistance.

II. Resources for Faculty Salaries and Annual Increases

Faculty salaries are the product of a two-step process:

1. *Setting Salary Levels:* Faculty salary levels are set at the time of initial appointment by the dean of the faculty making the appointment.
2. *Annual Salary Increases:* Faculty salary levels are normally increased annually by a process described below. Such salary increases are ordinarily based on academic merit. Some annual increases are also the result of promotion in rank and equity adjustments.

Almost all funds for faculty salaries come from each school’s operating budget; there is no central fund earmarked for general faculty salaries. Most of each school’s resources are raised in accordance with the principles of Penn’s Responsibility Center Management (RCM).¹ In addition, subvention is distributed to schools by Penn’s central administration. From these resources, each school makes a certain amount available for faculty salaries for: sustaining existing faculty appointments, providing annual salary increases for continuing faculty members, and creating salary funding for new faculty positions. In addition, schools must provide funds to cover employee benefits. The sum required is approximately 30% of all such faculty salary expenditures.

Annual salary increase recommendations for continuing faculty members are made by Department Chairs (in schools with departments) and by Deans, based on merit, with general review and oversight by the Provost (see the statement of the “Salary Guidelines For 2008-09” as published in the *Almanac* April 8, 2008). Penn’s President, Provost, and Executive Vice President set an upper limit on a “pool percentage” for salary increases. For FY 2009, schools were authorized to award, as salary increases, a pool of up to 3.5% of the FY 2008 salaries of continuing faculty

¹ For a more detailed explanation of Penn’s Responsibility Center Management model, see www.budget.upenn.edu/rcm/index.shtml.

members. The recommended salary increase range was 1% to 6%, with Deans being obligated to consult with the Provost about any individual increases outside this range. To address possible inequity in faculty salaries, Deans were asked to “give careful consideration to salary adjustments for faculty members who have a strong performance record but whose salary may have lagged behind the market” and to discuss with the Provost any market conditions warranting an increase in the overall pool. Thus, Deans could propose additional salary increments to meet outside offers, reduce internal inequities, or address significant variances from prevailing markets. School resources are variable, however, and since raises are funded with school and center resources, the guidelines recognize “that some units may need to administer a smaller aggregate pool for both faculty and staff” to maintain fiscal health.

III. Penn Faculty Salaries: External Comparisons

Average Penn Faculty Salaries (i.e., academic year base salaries) are compared with three types of external indicators in the following sections: (a) growth in the Consumer Price Index (CPI), (b) average faculty salaries by rank at other universities as reported by annual surveys conducted at the school/area level, and (c) average salaries of Full Professors in the set of 19 public and private research universities identified as most comparable to Penn in the universe of those in the “Annual Report on the Economic Status of the Profession” data compendium issued by the American Association of University Professors (AAUP).

As a methodological note and unless otherwise specifically stated, all faculty salary information discussed in this report refers to the aggregated “academic year base salary” of individual faculty members whether salaries are paid from General Operating Funds and/or from Designated Funds.² In addition, all salary data exclude faculty members from the School of Medicine except for basic scientists and all clinician educators from four other schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy and Practice). Tables 1 and 2 refer to continuing Penn faculty, whether they continued in the same rank or were promoted to a higher rank. Faculty members who were, for example, promoted from Assistant Professor to Associate Professor effective 1 July 2008, are included among the Associate Professors for the 2008-9 year in Table 1—and any salary increases they received due to their promotion are included in the percentage changes in salaries reported for Associate Professors in 2008-9. The same is true for those promoted at that time from Associate to Full Professor in Table 2. In Tables 3 and 6 through 12, in contrast, the information refers only to faculty members who continued in the same rank throughout the reporting period. The inclusion of faculty who changed ranks in Tables 1 and 2 risks distorting (inflating) mean changes but not reports of median changes since those would not be affected by the presence of outliers. (Note that it is only the percentage changes in their salaries that generally are reported in Tables 1-3, 6-8 and 11; only Tables 9, 10, and 12 report actual salary levels.) Tables 4 and 5 do not report change data; they provide data regarding faculty members at Penn and the other universities surveyed who were in the designated rank on the date of the snapshot used to compile the data reported to the AAUP or AAU Data Exchange.

A. Comparisons with Growth in the Consumer Price Index (CPI)³

Mean and median salary increases for continuing faculty between fall

² Academic base year salary is that standing faculty salary that is paid for the normal academic duties of a faculty member (teaching, committee service, research). At Penn, the “academic base year salary” is a faculty member’s compensation for the nine-month academic year, although it is typically paid out in twelve, equal amounts in a monthly paycheck. The only exception occurs in the health care schools which have some or all standing faculty on a 12-month, or “annualized” base. All salaries reported on a 12-month basis have been adjusted to be comparable with the salaries reported on a 9-month basis.

³ The consumer price index (CPI) refers to prices for a basket of goods and services purchased by “average workers.” There are questions about how well this index captures quality changes in goods and services (i.e., if it understates quality improvements as suggested by some observers then it overstates price increases for goods and services of a given quality) and how well this index captures goods and services consumed by faculty (i.e., if faculty consume goods and services that have had greater quality improvements for which corrections have not been made in the CPI than do average workers then faculty salaries in purchasing power terms have increased more than would be indicated by a comparison in the reported CPI) Nevertheless, use of the CPI is widespread and helps give some perspective.

2007 and fall 2008 (i.e., FY 2008 to FY 2009), averaged over all schools, are shown in percentage terms, overall and broken out by rank, in Table 1. Table 1 also gives data for two measures of inflation (the US city average CPI and the Philadelphia CPI) for the same time period as well as the Penn budget guidelines for salary increases.⁴ It should be noted from the start that this was a somewhat unusual period in recent price history, since price levels went down rather than up.⁵ In particular, per the data provided by the Provost's Office, the US city average CPI fell 1.2% between June 2008 and June 2009 and the Philadelphia CPI fell 2.0%. (In contrast, the US city average rose 5.0% in the preceding 12 months and the Philadelphia CPI 5.1%.)

Table 1 shows that the all-ranks median salary increase was 3.8% and the all-ranks mean increase was 6.0%. The median increase was 3.7% for Full Professors, 3.9% for Associate Professors, and 4.0% for Assistant Professors. Mean increases were 6.0% for Full Professors, 6.8% for Associate Professors, and 5.0% for Assistant Professors. Thus comparisons for FY 2009 indicate that: (a) for all ranks combined, the mean FY 2009 percentage salary increase was considerably in excess of the percentage changes in the US city-average CPI and Philadelphia CPI, (b) the all-ranks median figure was also considerably in excess of the changes, and (c) for each rank taken alone, the median and mean FY 2009 percentage salary increases were again in excess of the percentage increases in the US city average CPI and the Philadelphia CPI.

Over this period Penn's budget guideline for mean percentage increases in faculty salaries was 3.5%. The budget guideline was therefore well in excess of the realized percentage growth in the US city average CPI and the Philadelphia CPI. If the CPI accurately captures inflation in the typical goods and services purchased by faculty, this means that a faculty member who received the recommended percentage increase in salaries for FY 2008 would have experienced a non-trivial (and presumably unplanned) increase in real purchasing power.

The mean growth in faculty salaries over this period exceeded Penn's budget guidelines for percentage increases in faculty salaries by 2.5 percentage points for Full Professors, 3.3 percentage points for Associate Professors, and 1.5 percentage points for Assistant Professors. The Penn budget guidelines refer to the centrally recommended salary pool percentage for faculty continuing in rank. There are at least two reasons why the actual salary percentage increases on average for continuing faculty exceeded guidelines for percentage increases in faculty salaries. First, a number of faculty members may have received additional salary increments due to promotion. Second, a number of faculty members may have received additional salary increments to meet actual or potential higher outside offers, to address perceived previous inadequate salary levels, or to reward particularly meritorious behavior. Apparently many (perhaps all) of the Deans of Penn's schools have added additional school resources to the recommended cumulative base pool for salary increases. Thus, it is apparent that Penn's administrators have made efforts to permit percentage increases in the average level of faculty salaries that exceed the University guidelines.

The increases in salary of continuing faculty in comparison with CPI growth for FY 2009 are reported by school (with SAS disaggregated to three disciplinary groupings) in Table 2. Table 2 is, this year, not very informative. It shows that, in FY 2009, all faculty in all schools and areas combined received percentage salary increases that exceeded the two price index changes. Presumably this is at least to some extent due to the unexpectedly low inflation figure. This Table has shown much more heterogeneity in past years. The absence this year is surely due to the benchmark actual deflation.

Table 3 provides parallel information about trends for Full Professors continuing in rank (i.e., excluding promotion increases). Again, the Table is not very informative this year. Between fall 2007 and fall 2008, across

⁴ The fiscal year refers to the year starting on 1 July and continuing through 30 June of the next calendar year. This report refers to the second of the two calendar years covered in a fiscal year. That is, the FY 2009 refers to the fiscal year (or academic year) starting on 1 July 2008 and continuing through 30 June 2009.

⁵ Appendix 1 below gives monthly and fiscal year average details from the US Department of Labor Bureau of Labor Statistics website for the national figure. It also gives the calendar-year averages which are widely reported in the newspapers (and in this case significantly different due to intra-year price-level movements).

all schools/areas, 100% of all Full Professors continuing in rank received cumulative percentage salary increases above the changes in the two CPI measures. This Table also usually shows much more heterogeneity, for the same reason.

The SCESF recognizes that there are legitimate reasons for individual faculty members to be awarded increments less than the growth in the CPI. For example, in a particular year (e.g., FY 2009), the salary increment pool might have only approximated, or even been less than, the rate of growth in the CPI. Furthermore, in a small department or school, a few promotions or market adjustments needed to retain a valued faculty member could obligate a disproportionate share of an existing increment pool, thereby leaving little to award to other faculty members in the unit. Finally, some faculty members may be sufficiently lacking in merit to justify an increment exceeding the CPI growth.

Nonetheless, to the extent possible, individual faculty members should receive cumulative salary increases equal to, or exceeding, growth in the CPI when considered over any extended period unless their performance has been unsatisfactory over a substantial portion of that period. If they do not, as is often the case, it seems possible that the increment was inequitably low. If so, and particularly when there is a striking or persistent pattern of such outcomes, the issue merits further exploration. (This is of course so not only for Full Professors continuing in rank but also for others.)

B. Comparisons with Peer Universities Using AAU Data

The Association of American Universities (AAU) Data Exchange is one source of faculty salaries at peer universities. The AAU is comprised of 60 public and private research universities in the United States and two in Canada. The AAU includes several Ivy League institutions (e.g., Penn, Brown, Harvard, Princeton, Cornell, and Yale), other private universities (e.g., Brandeis, Rice, Emory, Vanderbilt), public flagship universities (e.g., Penn State and the Universities of Michigan, Virginia, and Maryland), and other public universities (e.g., Michigan State, University of California-Davis, and University of California-Irvine). Please refer to the AAU website for a complete list of member institutions: www.aau.edu/about/article.aspx?id=5476.

Data from the AAU member institutions provide comparisons for mean faculty salaries by rank and school/area. Table 4 provides comparisons by rank for each of the following schools/areas: Annenberg, Dental Medicine, Design, Engineering & Applied Science, Graduate Education, Humanities (SAS), Law, Natural Science (SAS), Nursing, Social Science (SAS), Social Policy & Practice, Veterinary Medicine, Wharton-Statistics, Wharton-Public Policy, Wharton-exclusive of Public Policy and Statistics, and Medicine-Basic Science. The data in Table 4 cover the academic years from fall 2004 through fall 2008.

Table 4 situates each school/area relative to a comparison set. Data for the Table were supplied by the Office for Institutional Study and Analysis. It will be observed that the individual comparison sets sometimes change over time. Relatively robust measures of position changes are therefore in order. We add one below.

For almost all the 16 schools/areas, Penn's mean faculty salaries for all ranks in 2008-09 are in the upper third of the AAU institutions. The only exceptions are Associate Professors in the Dental School (who are just at the boundary) and Associate and Assistant Professors in the Veterinary School (both of which are squarely in the middle third). Mean faculty salaries are at least in (or at the boundary of) the top quartile of AAU institutions for all three ranks in all schools/areas except Full Professors in Engineering and Applied Science (14th out of 53) and Wharton-Public Policy (15th out of 50), Associate Professors in Dental Medicine (14th out of 41), Nursing (7th out of 24), and Veterinary Medicine (8th out of 14), and Assistant Professors in Humanities (SAS) (17th out of 53) and Veterinary Medicine (6th out of 14). This might be seen as comforting.

A more disturbing pattern emerges when comparing the 2008 salary data with the 2004 data in Table 4, however. Penn is gaining in some of these school/area rank comparisons, but it is falling behind in many more; and this is particularly so for Associate and Assistant Professors.

For Full Professors there are 15 sub-groupings for which there are data both in 2004 and in 2008 and a constant comparison group. For each sub-grouping, percentile rank (dividing rank by number of cases) can be calculated and compared. Of those comparisons, Penn has fallen in 9 and

SENATE Economic Status of the Faculty

gained in 6 areas. However many of these changes in position are minor; when we focus on more substantial changes (more than 5% change in percentile rank) Penn has fallen in 2 areas (Dental Medicine [-14%] and Veterinary Medicine [-14.3%]) and gained in 1 area (Engineering and Applied Science [+9.3%]).

There are 11 available sub-groupings among Associate Professors; Penn fell in relative salary in 9 and gained only in 2. Focusing on larger changes, Penn showed substantial declines in 4 areas (Dental Medicine [-30.8%], Veterinary Medicine [-42.9%], Graduate Education [-7.1%], and in Natural Science (SAS) [-9.8%]), while gaining substantially in only one area (Design [+6.2%]).

Among the 10 Assistant Professor sub-groupings the picture was particularly problematic: Penn lost in 7 of 10 areas, and lost substantially in 6 of those (Design [-10.3%], Wharton-exclusive of Public Policy and Statistics [-14%], the three SAS divisions of Humanities [-7.1%], Natural Science [-10.2%], and Social Science [-8.0%], and, once again, in Veterinary Medicine), while gaining substantially only in 2 areas (Graduate Education [+14.6%] and Nursing [+6.0%]). Dental Medicine, which showed sharp percentile losses for Associate and full Professors, was omitted from the Assistant Professor comparison since it included too few faculty at that rank in 2004 to permit calculations. (The situation in Dental Medicine may in fact thus be even worse than it appears.)

Being above average in this comparison group, of course, is good. But, it may be necessary to increase faculty salaries relative to these competitors if Penn has aspirations of being in the top part of this comparison group. Penn may experience challenges attracting and retaining enough of the best and the brightest faculty if faculty salaries remain at the current levels or continue to lose standing relative to this comparison group. This concern is sharpest in Dental and Veterinary Medicine, and among Assistant Professors, and of concern among Associate Professors as well. How much improvement should be expected is a matter of assessing how relative faculty salaries affect attainment of the University's long-run objectives. But it is clear that more improvement is required if Penn is to move further up in the ranks of the nation's research universities, much less remain there.

C. Comparisons with Peer Universities Using AAUP Survey Data

Table 5 presents a comparison of the mean salaries of all Full Professors at Penn with those at a small select group of research universities based on data obtained by the Penn administration from annual salary surveys conducted by the American Association of University Professors (AAUP) and published in *The Chronicle of Higher Education*. To make meaningful and fair comparisons of Penn salaries with those at other universities, the following five criteria were used to select comparison universities: (a) be included in the Research I category of the Carnegie Classification System, (b) offer a broad array of PhD programs in arts and sciences disciplines, (c) include at least two of three major professional schools (law, business, engineering), (d) not include a school of agriculture, and (e) have a composite academic reputation rating greater than 4.0 (on a five point scale) in a rating system reported by *U.S. News and World Report*.⁶ The 17 research universities meeting all five of these criteria are identified in the first column of Table 5. In addition, as Princeton and NYU are considered by the SCESF as main competitors of Penn for faculty, we included these two schools as well.

The relative standings of mean salaries of Penn Full Professors are presented for five years in Table 5. Universities are listed in Table 5 in order of the level of mean salaries of Full Professors (from high to low) for the most recent academic year (2008-09). Each row (except for Penn) gives the difference between a comparison university's mean salary and Penn's mean salary as a percentage of Penn's mean salary. For example, Table 5 shows that, in 2008-09, the mean salary of Full Professors was 13.7% higher at Harvard than at Penn (\$169,400), but 4.5% lower at Northwestern than at Penn.

It is entirely possible that the reported data do not reflect extra-salary compensation and subsidies (for example, to housing expenditure) in the cross-section. The Committee is not aware of differential trends in such matters over time that would undermine the analysis of trends given below.

The data in Table 5 show that, during the past five-year period, mean salaries for Full Professors at Penn became more competitive with some few institutions in the comparison set but became less competitive with by far the greater part of the panel. For example, the salary disadvantages of

UCLA and UC Berkeley relative to Penn increased slightly between 2004-05 and 2008-09, from -14% to -14.7% and -15.1% to -15.3% respectively. Carnegie Mellon went from -17.4% to -19.4%. The University of Virginia went from -17.6% to -21.9%. But there is no further comfort to be taken from the Table. These instances are only 4 out of 17. Those universities that were above Penn in 2004-2005 (Harvard, Stanford, Princeton, Chicago, and Yale) are still above; the margins have in all but one instance grown; and in that one exception, the gap lessened in our favor by an interval that might just be rounding error. Two universities that were below Penn then (Columbia and NYU) are above Penn now. With only the four exceptions noted above, those that were and remain below Penn are gaining on us. The weight of numbers is 13 against 4; and half of the 4 are state schools in a state in long-term fiscal crisis. Moving the starting point of the comparison forward a year changes the numbers in only a very minor way; and even that change is not favorable to Penn. The data in Table 5 raise very serious questions about trends in Penn's competitiveness for Full Professors.

It may be helpful to focus in on the institutions ranked higher than Penn in the Table. Between 2004-05 and 2008-09, the gap between the average salaries of Full Professors at Penn and Full Professors at Harvard, Stanford, Princeton, and Chicago remained substantial. In the final year of the comparison, average salaries were 13.7% higher at Harvard, 7.4% higher at Stanford, 6.4% higher at Princeton, and 6% higher at Chicago than at Penn. The gaps with Columbia and Yale were both in excess of 3% (3.4% and 3.1%, respectively). The SCESF emphasizes that it is important to monitor the average salaries of faculty at Penn relative to the universities with the highest Full Professor salaries if Penn continues to become increasingly competitive. At present, our position is weakening rather than strengthening.

Even though the SCESF was careful to select universities for overall mean salary comparisons that are similar to Penn on several important criteria and made comparisons at the Full Professor rank (i.e., we did not aggregate across the three professorial ranks), AAUP salary data did not appear to permit the SCESF to control for the specific schools sponsored by each university and the number of Full Professors appointed in each school. Such controls would be desirable because mean salary levels vary by school, as do the number of professors appointed to the faculty of each school on which the means are based. Therefore, the relative standing of Penn mean salaries shown in Table 5 might be misleading in understanding what has been happening in particular schools or departments. Nonetheless, the general pattern between 2004-05 and 2008-09 in Penn's relative standing seems to be sufficiently pronounced and significant in itself to include in this report. While Table 4 made it clear that Penn may be losing position relative to the larger grouping of universities at the assistant and associate professor levels, Table 5 makes it clear that compared to our most direct competitors, those concerns reach full professors as well.

IV. Penn Faculty Benefits

The 1998-99 SCESF Annual Report included a section with comparative faculty benefits data. More recent cross-university benefits data are of insufficient precision to permit meaningful quantitative comparisons. Accordingly, no such comparisons are made in this report.

V. Penn Faculty Salaries: Internal Comparisons

As previous reports of the SCESF have highlighted, there is a great deal of variability in faculty salaries at Penn attributable to several recognized factors: differences in individual merit, rank, time in rank, external labor market forces, the relative wealth of schools, and perhaps differences among schools in principles and practices for allocating salary increments.

One of the SCESF's concerns has been that existing variability in faculty salaries might include some significant element of inequity (e.g., salary setting based on incomplete or inaccurate information about merit, or bias that could be involved in the process of deciding salary increments). However, it is not possible for the SCESF to pinpoint any instance of individual or group inequity without individual faculty salaries and associated information about individual merit, labor market forces, etc. What we can do is review some facets of salary variability and raise questions about the possibility that inequity might be responsible for some degree of the observed variation. These questions might lead to further review and action by senior academic administrators (Department Chairs, Deans, and the Provost) with a view to correcting any inequities that might be identified.

This section describes several dimensions of faculty salary variability within Penn. As with the external salary comparisons above, the salary data reviewed in this section exclude all standing faculty members who

⁶ A composite rating was constructed by computing the mean of three separate academic reputation ratings: a general rating, a mean rating of key PhD programs, and a mean rating of key professional schools.

are appointed as Clinician Educators from Dental Medicine, Veterinary Medicine, Nursing, and Social Policy and Practice and include only basic science faculty in the School of Medicine.

A. Variability in Average Salary Increases by Rank and School/Area

As reported in Table 1, median faculty salary increases by rank, both overall and for each rank, in FY 2009 were above the rate of growth in the US average CPI and the rate of growth in the Philadelphia CPI, and, for all academic ranks, equaled or exceeded Penn's "budget guidelines" mean of 3.5% (i.e., the "pool percentage" that the President, Provost, and Executive Vice President established for salary increases, discussed in section II of this report). (The means were higher still.) These median salary increases are broken out by school and rank in Tables 6, 7, and 8. These tables show considerable variability in median salary increases across schools, as well as among the first and third quartile increases (Q1 and Q₃, respectively).

Before reviewing these salary increases, it should be recognized that the salary increase guideline of 3.5% for FY 2009 was no more than a guideline, and pertained to an aggregate of all increases for all ranks combined for each of Penn's schools (i.e., merit increases for continuing faculty members, special increases for faculty members who have been promoted in rank, and market adjustments for faculty members with competitive salary offers from other institutions). As a general matter, Schools may allocate more, or fewer, resources to faculty salary increases than the guideline, depending upon each school's financial circumstances. Therefore, a comparison of the median increase awarded to faculty members of a particular rank and school with the salary guideline only gives an indication of the extent to which the guideline was implemented in that particular category. Accordingly, a median increment of less than 3% should not be regarded as a specific failure of salary policy, since there is no policy for each rank and each school to be awarded at least that much on average. Furthermore, the 3% guideline pertains to the mean increase, a measure of central tendency that is usually higher than the median salary increases as shown in Table 1. These data indicate that the majority of salary increases are bunched toward the low end, with a small or modest percentage of faculty members benefiting from relatively large increases.

Nonetheless, the overall mean salary increase for all continuing faculty members for FY 2009 was 6.0% (see Table 1), an increase well above the guideline of 3.5%. Even so, this substantial mean salary increase was not distributed sufficiently widely to lift the median salaries of all ranks in all schools/areas by at least the guideline amount—a phenomenon that may be attributable to differences in wealth, competitive pressures, and budget priorities among the various schools as permitted under RCM as well as to extraordinary retention efforts pre-empting more broadly-based compensation measures. The rank-School/Areas with medians below the target were not many in number. None were more than half a percentage point below. But there were some in that interval.

1. Median Increases Across Ranks and Schools/Areas in Comparison with General Guidelines

With respect to Full Professors (see Table 6), in 9 of the 14 schools/areas (Dental Medicine, Engineering and Applied Science, Graduate Education, Humanities (SAS), Medicine-Basic Science, Natural Science (SAS), Social Policy & Practice, Social Science (SAS), and Veterinary Medicine, the median salary increases for FY 2008 were within half a percentage point of the general guideline of 3.5% (i.e., between 3% and 4%). No school/area was below the guideline. The remaining five (Annenberg, Design, Law, Nursing, and Wharton) were above 4%.

With respect to Associate Professors (see Table 7), in 11 (Dental Medicine, Design, Engineering & Applied Science, Graduate Education, Humanities (SAS), Medicine-Basic Science, Natural Science (SAS), Nursing, Social Policy and Practice, Social Science (SAS), and Veterinary Medicine) of the 12 reporting schools/areas, the median salary increase for FY 2008 was within half a percentage point of the general guideline of 3.5% (i.e., between 3% and 4%), and none were lower than 3%. The other reporting school (Wharton) was above 4% by the narrowest possible margin. (Data describing Annenberg and Law are not published because the numbers of faculty at this rank were small and nil respectively.)

With respect to Assistant Professors (see Table 8), in 9 (Dental Medicine, Design, Engineering and Applied Science, Humanities (SAS), Medicine-Basic Science, Natural Science (SAS), Nursing, Social Science (SAS), and Veterinary Medicine) of the 11 reporting schools/areas, the median salary increases for FY 2008 were within half a percentage point of the general guideline of 3.5% (i.e., between 3% and 4%). Not only were none lower than the lower end of this range, none were lower than the

guideline mean. The remaining two (Graduate Education and Wharton) were above 4%. (Data describing Annenberg, Law, and Social Policy and Practice are not published because of the small numbers of faculty at this rank were small.)

2. First Quartile Salary Increases Across Ranks and Schools/Areas in Comparison with Increases in CPI

The SCESF has regularly questioned the principles by which salary increases are awarded in relation to increases in the CPI (the US city average and the Philadelphia CPI from Table 1). Therefore, we routinely compare the salary increases in FY 2009 at the 25th percentile for schools with data at the different ranks in Tables 6, 7, and 8 relative to the analogous change in the US city CPI of -1.2% and the Philadelphia CPI of -2.0%. This comparison shows that, at the Full Professor, Associate Professor, and Assistant Professor ranks, all schools/areas had a 25th percentile salary increase in excess of the changes in both price levels in the same period. This is not the usual pattern in either levels or uniformity. (This means, higher up in the distribution, that of necessity all schools/areas had salary increases at the 75th percentile for all ranks exceeding the increase in the US city and Philadelphia CPI for the fiscal year.)

B. Variability in Average Salary Levels by Rank

Five-year data on mean and median faculty salaries by rank are shown in Table 9 for all schools combined.⁷ The second-to-last column gives ratios for these values relative to the values for Assistant Professors. These ratios suggest that, in FY 2009, mean salaries were 78% higher for Full Professors than for Assistant Professors and 16% higher for Associate Professors than for Assistant Professors. Median salaries were 95% higher for full than for Assistant Professors, and 23% higher for Associate than for Assistant Professors. Between 2004-05 and 2008-09, the ratio of median salaries has increased somewhat for Full Professors to Assistant Professors (from 1.82 to 1.95) and for Associate Professors to Assistant Professors (from 1.17 to 1.23).

Such ratios give a crude perspective on rank differences in salary because of aggregation biases across schools, so interpretation must be made with care. For example, one might expect a considerably larger difference between Assistant and Associate Professor mean salaries. The modest difference might occur if the Design School has a considerably lower percentage of Associate Professors than other schools, a difference that could reduce the observed mean salary for Associate Professors, or if the Wharton School has a considerably higher percentage of Assistant Professors than other schools, a difference that could increase the observed mean salary for Assistant Professors.

A more meaningful comparison of variation in faculty salaries by rank can be made by computing the ratios for continuing faculty members for each school and then computing a mean weighted ratio, weighting for the number of continuing faculty members at each rank in each school.⁸ Thus, Table 9 also gives the weighted ratios. Using the weighted ratios generally increases the spread in salary levels by rank, though there are exceptions to this pattern. The weighted ratios show that in fiscal 2009, mean (median) salaries of Full Professors were 85% (85%) higher than Assistant Professors and mean (median) salaries of Associate Professors were 25% (23%) higher than Assistant Professors. The weighting attenuates slightly the rise in ratios within ranks over the period of the Table.

C. Variability of Average Salary Levels by School/Area

In previous reports, the SCESF observed considerable variability in median faculty salaries across Penn's 14 schools/areas. The Committee no longer receives data on the basis of which it can assess cross-sectional variation or change over time and therefore cannot comment on conditions in FY 2009 or recent trends.

D. Variability of Salary Level by Rank with Interquartile Data

Variability in salary level by rank might also be investigated with more distribution-sensitive statistics than just averages. The committee

⁷ The mean salary figures for Full Professors recorded in Table 9 are higher than those recorded in Table 5, which are drawn from AAUP reports. Table 5 includes all faculty members at the rank of Full Professor (including those newly appointed to a rank) whereas Table 9 is limited to faculty members who continued in the same rank from the prior year (a difference—generally an addition to the left-hand end of the distribution—that reduces the AAUP mean). Moreover, data in this Table 9 differ from data in Table 9 in the 2006-07 report describing some of the same time periods. The differences reflect errors in the calculation of academic base salary in the 2006-07 report.

⁸ Exceptions are made for schools/areas in which there are no Assistant Professors or only an extremely small number.

SENATE Economic Status of the Faculty

has obtained suitable data. Three facets the data are considered below: measures of salary variability, differences in variability across ranks, and trends in variability over time.

Measures of Variability

The measure of variability of median salaries across schools/areas of continuing faculty members selected here is the interquartile range (IQR) (i.e., the third quartile salary in the distribution minus the first quartile). However, the IQR can be expected to be larger when the general salary level is relatively high (such as for Full Professors) than when the general salary level is much lower (such as for Assistant Professors). To compensate for such differences in the general level of salaries, we have divided the IQR by the median of the distribution (i.e., the second quartile: Q2), thereby computing a ratio of the IQR to the median (as reported in the next to last column of Table 10 labeled “IQR to Median”).⁹ This ratio provides an index of the amount of variability in relation to the general level of the salary distributions, and has utility when comparing variability across ranks and trends over time.

Differences in Variability Across Ranks

As seen in Table 10, the ratio of the IQR to the median varies across rank and year with no particular pattern. In FY 2009, the ratio of the IQR to the median was 0.44 for Full Professors, 0.32 for Associate Professors, and 0.38 for Assistant Professors. Variations in this ratio may be a consequence (at least in part) of the variations in external competitiveness for faculty of different ranks and in the extent to which Penn is matching the highest-end salaries of its competitors. Ongoing monitoring of this parameter is warranted.

Trends in Variability Over Time

The most striking feature of Table 10 seems to the Committee to be the third Quartile, and so the interquartile range and the IQR to Median ratio, for Assistant Professors. Perhaps the decline in the Q3 figure for Assistant Professors reflects the promotion of a small number of relatively highly-paid Assistant Professors. The IQR to Median ratios for Full and Associate Professors appear to be relatively stable (and at different levels). Their future development bears watching.

E. Variability by Gender

In response to recommendations in previous reports, this report includes two tables describing gender differences in faculty salaries. Table 11 provides the percentage increases in salaries for faculty continuing in rank by rank and gender for the first, second, and third quartiles for FY 2009.¹⁰ For Full Professors, the figures for women are above those for men at all reported quartiles. For Associate Professors, Q1 and Q2 are higher but Q3 is not. For Assistant Professors, Q1 is identical and the women’s figures are below the men’s for both Q2 and Q3. The number of cells for which the women’s figures are below the men’s is the same as last year. The alarming pattern for last year in which all three exceptional cells were for Assistant Professors is thus somewhat muted.

Table 12 reports the observed mean and median salaries for men and women continuing in rank by rank. These data show that both mean and median salaries were in almost all cases higher for men than women at all ranks for each year from FY 2005 to FY 2008 when the data are taken as is. The magnitude of the percentage difference in salary was generally smaller for Full Professors than for Associate and Assistant Professors in the unweighted comparisons. For example, Table 12 shows that, in FY 2009, (unweighted) mean salaries were 12.3% higher for men than for women among Assistant Professors, 9.6% higher for men than for women among Associate Professors, and 7.2% higher for men than women among Full Professors.

An important limitation of the average salary data shown in the first two columns of Table 12 is that they do not control for differences in the distribution of faculty by gender or differences in average salaries across schools/areas. The small numbers of men and women at some ranks in some schools/areas limit further disaggregation of the data. Nonetheless, to address these issues, Table 12 also provides “weighted” salary data to reflect differences in the distribution of women across schools/areas. Male weights were calculated as the ratio of male faculty in each school/area to the total number of male faculty at Penn. Salaries for women faculty were weighted by male weights.

⁹ The statistically inclined reader will recognize this ratio as similar to the coefficient of variation (i.e., the ratio of the standard deviation to the mean of a distribution).

¹⁰ This information is presented only at the aggregate level because, for a number of school/areas-rank cells, the number of one gender (generally female) is fairly low.

Table 12 shows that gender differences in salaries are substantially reduced after correcting for gender differences in the distribution of faculty across schools/areas. After applying the weight, median and mean salaries for women and men Assistant Professors differ by no more than 2.4% from FY 2005 to FY 2009, with differences less than 1% in FY 2009. Among Associate Professors, mean weighted salaries were 3.5% higher for men than for women and median salaries were 2.8% lower for men than for women in FY 2009. Among Full Professors, both mean and median weighted salaries were substantially higher for men than for women in FY 2009 (6.9% and 7.3%).

VI. Conclusions

A. Economic Status of the Faculty

1. External Competitiveness.

Comparisons of Penn faculty salary percentage increases with percentage increases in the CPI: The mean percentage salary increases for continuing faculty at Penn exceeded the increases in the US city and Philadelphia CPI in FY 2009 for all faculty members, so there is, strictly speaking, nothing to discuss in this section.

Comparisons with other universities: The comparisons of salaries for Full Professors at Penn with salaries at other AAU institutions in this year’s report raise concerns that have been noted in prior reports. The concerns are now, frankly, worrying. While in most cases faculty areas at Penn are absolutely advantaged compared to faculty at many other universities, there are abundant instances of Penn losing its advantage and comparatively few instances of it gaining in position. The comparison with the larger university set showed an overall pattern of lost ground between 2004 and 2008 for assistant and associate professors; the comparison with peer universities showed the same pattern for full professors. There were 36 2004–2008 potential comparisons across the three ranks in the larger comparison set; of those Penn had lost some ground in 25, and lost ground more substantially (a percentile loss of 5% or more) in 12 of those, while gaining ground substantially in only 4 areas.

The results of the annual AAUP (nominal) salary survey for a group of 19 “peer” research universities places the mean salary of Penn Full Professors in rank order eight as of academic year 2008–09, a decline of two places from the position it had held for the several previous years. Of the 18 other universities, 13 have had relatively greater increases in mean salaries over the 2004–2008 period. Among the 5 which did not outpace Penn, 3 were state universities. Of the six other Ivies in the comparison group, only Harvard has not increased its relative lead. (At 13.8% ahead of Penn in 2004 and 13.7% ahead in 2008, it has merely retained its dominant position.) The changes in standing do vary by school or area within school. Veterinary Medicine and Dental Medicine are losing ground most briskly.

It is not entirely clear how much of the observed variation from one year to the next in Table 5 should be thought of as normal churning and how much a pronounced development that ought to command attention. But our focus on the pattern between 2004 and 2008 pointed to in the preceding paragraph suggests a robust pattern. We have several general indications that the University’s position is eroding; and our position relative to the universities to which Penn most often compares itself, and to which it most often loses honored faculty colleagues if and when they do leave, is unambiguous. The SCESF emphasizes that it is important for Penn to continue to monitor the level of salaries for Full Professors relative to salaries at the leading universities so that Penn is in a position to become, and remain, increasingly competitive. Becoming decreasingly competitive is a distinct alternative possibility.

2. Internal Variability.

There is great variability in the distribution of faculty salary resources among and within the three professorial ranks (Tables 9 and 10) and among percentage salary increases by rank within schools (Tables 6, 7, and 8) although not among percentage salary increases by rank and gender (Table 11) or average salary levels by rank and gender after weighting salaries to reflect the gender distribution of faculty across schools/areas—except for Full Professors (Table 12). Tables 6 to 8 show few patterns in the schools/areas across ranks though—again—this may be an artifact of the peculiar behavior of the price level in this reporting period. The within-rank variation relative to median salaries in Fiscal Year 2009 was relatively high for Assistant Professors and Full Professors (Table 10). Some level of variability in average faculty salaries among schools/areas

is likely required to maintain Penn's competitive standings within different academic fields. Nonetheless, the SCESF believes that this variability should continue to be monitored to be sure that these differences are warranted by factors such as competitive pressures.

B. Conditions of Concern

1. External Competitiveness.

Although Penn faculty salaries are generally competitive with those in the comparison set of universities (as noted above), the following particular conditions are of concern about the external competitiveness of faculty salaries at Penn:

- In order to recruit and retain a superior faculty, Penn's salaries must be competitive with those of peer institutions. For academic fields for which data are available from the AAU Data Exchange, it appears that Penn has strengthened somewhat its competitive position between fall 2004 and fall 2008 for Associate Professors in Design and for Assistant Professors in Engineering and Applied Science, Graduate Education, and Nursing; and it has strengthened its competitive position markedly for Full Professors in Engineering and Applied Science and Assistant Professors in the Graduate School of Education. However, between FY 2005 and FY 2009, Penn's competitive position, as measured by mean faculty salaries, declined somewhat in Graduate Education, Humanities (SAS), Medicine-Basic Science, Natural Science (SAS), Veterinary Medicine, and Wharton-exclusive of Public Policy and Statistics, for Associate Professors of Dental, Graduate Education, and Medicine-Basic Science, and for Assistant Professors of Humanities (SAS), and Medicine-Basic Sciences. Penn's competitive position declined markedly for Full Professors of Dental Medicine, for Associate Professors of Dental Medicine, Natural Science (SAS), and Veterinary Medicine, and for Assistant Professors of Design, Natural Science (SAS), Social Science (SAS), Veterinary Medicine, and Wharton-exclusive of Public Policy and Statistics. Accordingly, the SCESF suggests that salaries in these areas be reviewed to ensure that salary increases are sufficient.
- Compared with mean salaries for faculty at other AAU institutions, mean salaries at Penn appear particularly low for Full Professors in a number of school/area categories. Such findings plainly raise the question of whether such salaries are likely to attract and to keep faculty of the caliber necessary for Penn's longer-run aspirations to be in the top end of these comparison groups.
- Compared with mean salaries at 19 leading research universities, mean salaries for Full Professors at Penn became somewhat less competitive between 2004-05 and 2008-09. The salary advantage of Full Professors at Harvard over Penn in nominal dollars stayed roughly constant at well in excess of 13%. But over this same period the salary advantage for Full Professors over Penn increased at Stanford, Princeton, Chicago, and Yale; and Columbia and NYU began to pay better.

2. Internal Equity.

In the absence of data on individual faculty merit to compare with data on individual faculty salaries, the SCESF is not able to identify any specific instance of inequity among the dimensions of salary variability included in this report. The SCESF has over the years been concerned that some of the wide variability in individual faculty salaries may entail more than a trivial element of inequity. Although we are not ever able to report specific instances of salary inequity among individual faculty members, ranks, departments, or schools, we have often identified conditions of average real wage declines that may give rise to equity concerns. As stated above, there are no such cases this year. It remains a situation worth watching in the future, both in terms of the percentage of all continuing standing faculty (Table 2) and continuing Full Professors (Table 3) receiving percentage increases in salary below the cumulative percentage increases in the Philadelphia CPI and in terms of the share of faculty receiving percentage salary increases above the rate of inflation over this period varying across schools.

We note that such data may reflect changing competitive markets across schools/areas and differing shares of faculty across schools/areas that are not performing adequately. But, these aspects of the distribution of Penn faculty salaries also may reflect growing inequities. The SCESF emphasizes that these developments should be monitored in an attempt to understand whether they are warranted or reflect, even in part, undesired inequities.

VII. SCESF Communication with Provost's Office

A. SCESF Requests in Preparation of the 2008-09 SCESF Report and Responses

In September 2008, then-Provost Ronald Daniels, then-Associate Provost Vincent Price, and Assistant Vice President for Institutional Research and Analysis Stacey Lopez met with the SCESF. Provost Daniels and Associate Provost Price addressed questions about the salary-setting process, including processes for setting faculty salary guidelines and communicating with faculty about salary increases. Then-Associate Provost Price addressed questions about the timeline for acquiring the data needed to produce the tables for the annual SCESF report. The SCESF considered this information, along with the trade-offs associated with having timely versus complete data. Based on this information, the SCESF requested that, from this point forward, the Office of Institutional Research and Analysis will provide a complete set of tables for a given academic year by the end of the following December (e.g., tables describing the 2008-09 academic year will be provided to the SCESF by December 2009). The idea was to allow the SCESF to produce a draft report in January and discuss it with the Provost before the parameters for salary increases for the coming year were set.

In the event, the Provost proved to be Dr. Price, the data were provided promptly on the earlier schedule, and the meeting took place in what the Committee understood to be a timely fashion (for all of which the Committee wishes to thank all concerned).

B. SCESF Recommendations and Questions for the Administration for 2008-09

In accordance with Faculty Senate policy, following are recommendations and questions for the administration that arose in the SCESF discussions, including some updates on the status of recommendations made in previous SCESF reports.

1. Accuracy and Timeliness of Information

We begin with a remark. As indicated in prior reports and in conversations with the Provost's Office, the SCESF has in the past had concerns about the accuracy of data and information in the tables produced by the Office of Institutional Research and Analysis. The Office has been responsive (and, indeed, some historical data have been revised in ways that make them inconsistent with, but more reliable than, previously published data).

The Office of Institutional Research & Analysis (IR&A) has worked effectively to insure the accuracy of faculty salary data. The Provost's Office is committed to the provision of accurate data in a timely fashion, and we will continue to work with SCESF and IR&A to ensure timely consultation, as well as comparability and reliability of information.

2. Salary Competitiveness

To provide high-quality instruction, research, and service, the University must maintain and attain faculty salaries at levels that are highly competitive with salaries provided by peer universities, while simultaneously sustaining other components of university operations.

SCESF Recommendations

a. Mean salaries at Penn have fallen behind the comparison groups in the AAU Data Exchange in a number of areas (e.g., compare first and last columns in Table 4). The SCESF recommends that priority be placed on increasing mean salaries to competitive levels for the faculty groups that have fallen behind.

Comparisons over time using AAUDE data are problematic because of changing numbers of participating schools and shifting composition of the disciplinary categories. Several peer institutions did not submit data in 2004. Nevertheless, the Provost agrees to explore reasons for the competitive standing of Penn's salaries in particular fields identified by the Committee, and to work with the school deans to take corrective actions that may be justified and financially feasible.

b. We note that there is room for improvement for faculty in many of the rank by school/area comparisons (Table 4). Moreover, the gaps in mean salaries between Full Professors at Penn and Full Professors at Stanford, Princeton, Chicago, and Yale increased between 2004-05 and 2007-08 (Table 5), other potentially competitive universities in fact overtook Penn, and most of the universities below Penn gained on Penn. The question arises whether the University can keep and attract the highest-quality faculty members unless faculty salaries are in the top group.

The President and Provost remain committed to further enhancing

SENATE Economic Status of the Faculty

Penn's ability to offer highly competitive faculty salaries, while recognizing that some of our peers enjoy greater financial resources than Penn, and may also have more developed faculties in some fields of study. We seek, through strategic investments in faculty recruiting and compensation, to consolidate our competitive strengths and to address our competitive shortcomings.

c. Even though priority should be placed on regaining Penn's competitive level in the academic fields identified above, the SCESF recommends that equal priority be given to recognizing and rewarding with salary increases distinguished performance of faculty members who choose not to seek, or use, attractive offers of external appointment to negotiate salary increases. This is in part an issue of equity, in part an issue of morale, and in part an issue of not creating problems for the university in the future. The SCESF recognizes that these are decisions taken at the Dean- and Department Chair levels but observes that decision-makers at those levels are often keenly aware of budget constraint issues. The Committee feels that explicit guidance from the Provost would be very helpful in this matter.

The process of yearly evaluation of faculty is designed to reward distinguished performance and University guidelines for salary increases are explicit on this point, as outlined in the response to 3a.

3. Salary Equity

Inequity among individual faculty salaries by rank within departments (and schools that are organized as single departments) must be identified and eliminated.

SCESF Recommendations

a. The SCESF continues to recommend that the Provost and Deans give further consideration to decreasing instances in which faculty members who have performed at least at a satisfactory level are awarded salary increases that are below the annual growth in the CPI (Phil.). This issue did not arise in the year studied in the present report; but past history suggests that this fact came as a surprise to all concerned. In making this recommendation, we realize that the feasibility of awarding increases to faculty members with satisfactory performance at least as great as growth in the CPI depends on the difference between funds available for salary increases and the CPI growth percentage—with the larger the positive difference, the greater the feasibility of providing salary increases of at least the CPI growth percentage.

The pool of funds available for faculty salary increases is awarded according to merit, not as a cost-of-living adjustment. During years of financial stringency when the salary pool is relatively small, it is difficult to recognize promotions, as well as outstanding productivity, teaching, and service, while giving all faculty increases above the CPI. We are delighted that during this past year the growth in all faculty salaries outpaced changes in the cost of living.

b. Tables 2 and 3 give information about the percentage of faculty members receiving increases less than the rise in the cost of living, but they give data only for a single academic year. The real cost to the faculty member of a series of increases each of which is only slightly below the CPI growth percentages could be significant. In general, it would be useful to supplement Tables 2 and 3 with information cumulating increases and changes in the cost of living over a longer time interval. The Committee does not currently see such data and therefore cannot currently comment on whether or not this is a problem and, if it is, what the extent of the problem might be. The Committee would like to see such data in the future. The Committee would first like to discuss with the Provost what an appropriate measurement frame might be.

The Provost's Office agrees to explore this request with the Office of Institutional Research and Analysis.

c. In previous reports, the SCESF observed considerable variability in median faculty salaries across Penn's 14 schools/areas. The Committee understands that both school/area finances and external conditions will inevitably influence such figures. Information about the extent of this variability and its course over time is nonetheless of ongoing interest. The Committee would like to receive and analyze this data again in the future.

The Provost's Office reviews salary increases submitted by the deans and chairs and will continue to examine the rationale for giving low increases to individual faculty members. Differences in school budgets will continue to shape the percentage of faculty whose salary increases are at the high end of the suggested range.

d. The SCESF also requests support from the Provost to meet with Deans of particular schools to further understand processes for determining salary increases and communicating salary increases to faculty, as well as the forces that contribute to low percentage increases for faculty in the school.

(We have received such offers of support in the past. Our experience in the fall of 2009 was limited but also fruitless.) The committee is especially interested in understanding forces that contribute to differences across schools over time in the percentage of faculty who receive salary increases at or above the rate of inflation.

The Provost's Office agrees to work with SCESF to explain the processes that shape the levels of salary increases at the School level and account for differences over time. Competitiveness of salaries in the top ranks and retention are central factors driving increases at or above the rate of inflation.

4. Gender Equity

Data in Table 12 show that average salaries are lower for women than for men faculty, especially for Full Professors, even after weighting the data to reflect differences in the gender distribution of faculty by school and area. This pattern for full professors has been unchanging since FY 2005. The suggestion of gender inequity in faculty salaries is troubling. For assistant professors there is close equality, while for associate professors median salaries are similar, but men have an advantage in mean salaries.

SCESF Recommendation

The SCESF recommends that the Provost's Office place priority on identifying the causes of observed gender differences in salaries and addressing any inequities that are not attributable to legitimate forces.

The Provost's Office is committed to the principle of gender equity in salaries. We note however that the 2009 Gender Equity Report found relatively few significant differences by gender when years of experience, department, and school are considered. This issue will require further study.

5. Completeness of Data

Previous SCESF reports requested that Tables 6, 7, and 8, which provide percentage salary increases by rank, school, and quartile, be adapted to show a two- or three-year average for cases in which the number of faculty is 10 or fewer (as quartiles would be based on two people). This recommendation has not yet been implemented. The SCESF also requests that future reports show not only percentage salary increases by rank and school, but also actual average salary levels by rank and school.

SCESF Recommendation

Implement the procedure for providing information for small cells in Tables 6, 7 and 8 by averaging data over two or three years for the 2008-09 report. Provide an additional table to the SCESF for the 2008-09 report that summarizes average salary levels by rank and school.

The Office of Institutional Research and Analysis does not provide data on cells with fewer than ten cases in order to protect the privacy of individual faculty members. Averaging the data for a two or three year period would not solve this problem.

6. Faculty Benefits

As faculty benefits at Penn compared with peer institutions have not been examined since the 1998-99 report, the SCESF requests that the Provost's Office provide this information for next year in accordance with what was done in 1998-99. Furthermore, going forward, we believe that, as recommended in prior reports, benefits should be looked at roughly every five years. Although the Provost indicated in previous SCESF reports that this was a timely request, we believe that this process has not yet been initiated.

SCESF Recommendation

Undertake the report on faculty benefits in the next SCESF report. *The request for a report on faculty benefits every five years is a reasonable one, and the Provost agrees to work with the Vice President for Human Resources to undertake such a study next academic year and every five years thereafter.*

7. Competitiveness of Salaries in Senior Ranks

The SCESF has previously expressed concern about the relative spread in salaries at the Full Professor level. A low spread may correspond to a problem in attracting faculty at the upper end of the scale. In previous reports, the SCESF requested that the Provost continue monitoring this situation and advise the committee as to what efforts are being made to allow Penn's "top end" to stay competitive.

SCESF Recommendation

As in previous reports, we emphasize that ongoing monitoring of the competitiveness of “top end” salaries is important and should be continued.

In its yearly review of proposed salaries, the Provost’s Office will continue to monitor increases in compensation for full professors, keeping in mind the desirability of maintaining competitive salaries in senior ranks. In times of financial stringency, however, the University has to recognize many competing needs, such as staff salaries and student financial aid, when determining the amount of the faculty salary pool.

8. Further Information for Analysis

The SCSF would like some more information.

The Provost’s Office agrees to explore these requests with the Office of Institutional Research and Analysis, while keeping in mind the need for long term stability in the tables to ensure comparability from year to year.

a. Table 1 gives mean and median academic base salary percentage increases of continuing Penn faculty members by rank and compares these to the Budget Guidelines (a mean), US City average CPI growth, and Philadelphia CPI growth. The mean figures in Table 1 are consistently significantly larger than the medians. To some extent this phenomenon represents genuine inequality in what the Table is designed to measure. But to an extent we cannot judge from the data as presented, it is also an artifact of promotion raises i.e. category transitions for individuals, since the population characterized for the table is all members of the Standing Faculty in the autumn of the years in question and not just those continuing in rank. The Committee would like to see what happens to the median-mean gaps if the sample is standing faculty members who were on the faculty and in the rank in question in the years in question.

SCSF Recommendation

The Committee requests that in future years it be given for examination, and possible publication, two companion Tables to the current Table 1. One of these would cover only the faculty ongoing in rank, as suggested above. The other would give the figures for faculty making rank transitions (by transition).

b. Table 3 gives the percentage of continuing Penn Full Professors awarded percentage increases exceeding the percentage growth in the Philadelphia CPI. The rationale for disaggregating the figures of Table 2 but publishing only the disaggregands for the Full Professors may lie in the idea that essentially all other members of the Standing Faculty are progressing towards Full Professor status and that any who are not, Associate Professors especially, should somehow expect their pay to lag. There are facts in the background here that are not obvious and that the Committee would like to explore.

SCSF Recommendation

The Committee would like, at least for the purposes of its own background, to be supplied with the tenure-in-rank distribution of the Standing Faculty’s Associate Professors as part of the preparation of next year’s report. The Committee would also like to see the correlation between years-in-rank and the difference between salary and median salary for individual Associate Professors.

c. Table 4 gives the rank of mean salaries by School (and occasionally sub-School category) relative to comparable units in the AAUDE survey. The Table is grouped by Penn faculty rank i.e. the Full Professors in each of the many groups, then the Associate Professors in each group, then the Assistant Professors. Five columns of annual figures present a history for each row’s relative pay. The layout of the Table encourages the reader to compare how well given rank faculty are paid (relative to other universities) across Schools (etc.). Changes in position in this Table may to some extent represent redistribution across ranks within Schools. They may, however, to some extent represent policies or resource constraints within individual Schools. It seems to the Committee very likely the case that whatever causes there are lie within Schools.

SCSF Recommendation

The Committee thinks it might promote discussion of these causes, and more generally greater transparency in the resource allocation process, by reorganizing Table 4. Instead of grouping the lines by rank, they could be grouped by administrative units: first the Annenberg Full, Associate, and Assistant Professors, then the Dental Medicine Full, Associate, and Assistant Professors, then all the ranks for the Design School, and so forth and would like to discuss with the Provost his views on the pro’s and con’s of doing this going forward.

The Committee is also concerned that the shifts in comparison set sizes over time in the individual lines of Table 4 may obscure larger patterns. The Committee is contemplating creating an additional table giving explicitly percentiles, deciles, or some other such aggregation as another way of making the trends in this Table more transparent.

d. Table 5 presents percentage differences in mean academic base salary levels for Full Professors at a sample of major research universities over a five-year history. Each column is calculated relative to the Penn absolute figure that year. Trends in these figures are not as easy to pick out as they might be.

SCSF Recommendation

The Committee would like to explore possible forms for a supplementary Table, to be routinely published going forward, highlighting changes in these positions over time.

e. Tables 6, 7, and 8 give first, second, and third quartile increase percentages for Full Professors continuing in rank, Associate Professors continuing in rank, and Assistant Professors continuing in rank, by School and sub-school unit. These figures would be much more meaningful compared to something.

SCSF Recommendation

The Committee requests that going forward, a column be routinely added to each of these three Tables giving the inter-quartile range for each row as a percentage of the median. The Committee would also like to publish the means for in these Tables (purposes of convenient comparison to the guidelines).

f. As noted in previous reports, Tables 6, 7, and 8 also do not report quartiles for schools/areas by rank when the number of faculty is 10 or fewer (as quartiles would be based on two people). While the Committee agrees wholeheartedly with this protection of information about individuals, it would still like to see and be able to monitor over time some measure of dispersion for these schools by rank.

SCSF Recommendation

The Committee repeats its recommendation from previous reports that, going forward, the Committee be provided a two or three year average of those quartiles for those schools/areas in which we otherwise would not be able to report a first or third quartile.

VIII. Members of the 2009-10 Senate Committee on the Economic Status of the Faculty

Daniel Raff (Wharton), *Chair*
William Dailey (Chemistry/Arts & Sciences)
Anne O’Sullivan (Nursing)
David Pope (SEAS)
Sarah Kagan (Nursing)
Tim Rebbeck (Epidemiology/Medicine)
Robert Hornik (Annenberg), *ex-officio*
Sherrill Adams (Dental), *ex-officio*
Harvey Rubin (Infectious Diseases/Medicine), *ex-officio*

The Committee would like to acknowledge explicitly the very valuable assistance of Sue White of the Office of the Faculty Senate.

Tables begin on next page

SENATE Economic Status of the Faculty

Table 1

Average academic base salary percentage increases of continuing Penn standing faculty members by rank in comparison with the Consumer Price Index (CPI) and Penn Budget Guidelines

Group/Condition	Average	FYs 2008-2009
Professor	Median	3.7%
	Mean	6.0%
Associate Professor	Median	3.9%
	Mean	6.8%
Assistant Professor	Median	4.0%
	Mean	5.0%
All Three Ranks	Median	3.8%
	Mean	6.0%
US City Average CPI Growth	Mean	-1.2%
Phil. CPI Growth	Mean	-2.0%
Budget Guidelines	Mean	3.5%

Notes: Academic base salary increases pertain to all Penn standing faculty members who were faculty at the fall census of both years (or three years for cumulative increases) for which percentage increase are calculated. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

FYs 2008-2009 CPI growth for the US and for Philadelphia are based on a change in CPI from June 2008 to June 2009

Table 2

Percentage of continuing Penn standing faculty members awarded percentage salary increases exceeding the percentage growth the in consumer price index (CPI) for Philadelphia

Schools and Disciplinary Areas	Percentage of all Standing Faculty with Salary Increases Exceeding Growth in the CPI (Phil.) FY 2008 to 2009
Annenberg	100.0%
Dental Medicine	100.0%
Design	100.0%
Engineering & Applied Science	100.0%
Graduate Education	100.0%
Humanities (A&S)	100.0%
Law	100.0%
Medicine-Basic Science	100.0%
Natural Science (A&S)	100.0%
Nursing	100.0%
Social Policy & Practice	100.0%
Social Science (A&S)	100.0%
Veterinary Medicine	100.0%
Wharton	100.0%
All Schools/Areas	100.0%
US City Average CPI Growth	-1.2%
Phil. CPI Growth	-2.0%
Budget Guidelines	3.5%

Notes: Academic base salary increases pertain to all Penn standing faculty members who were faculty at the fall census of both years (or three years for cumulative increases) for which percentage increase are calculated. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

FYs 2008-2009 CPI growth for the US and for Philadelphia are based on a change in CPI from June 2008 to 2009.

Table 3

Percentage of continuing Penn Full Professors awarded percentage salary increases exceeding the percentage growth the in consumer price index (CPI) for Philadelphia

Schools and Disciplinary Areas	Percentage of all Full Professors with Salary Increases Exceeding Growth in the CPI (Phil.) FY 2008 to 2009
Annenberg	100.0%
Dental Medicine	100.0%
Design	100.0%
Engineering & Applied Science	100.0%
Graduate Education	100.0%
Humanities (A&S)	100.0%
Law	100.0%
Medicine-Basic Science	100.0%
Natural Science (A&S)	100.0%
Nursing	100.0%
Social Policy & Practice	100.0%
Social Science (A&S)	100.0%
Veterinary Medicine	100.0%
Wharton	100.0%
All Schools/Areas	100.0%
US City Average CPI Growth	-1.2%
Phil. CPI Growth	-2.0%
Budget Guidelines	3.5%

Notes: Academic base salary increases pertain to all Penn full professors who were faculty at the fall census of both years (or three years for cumulative increases) for which percentage increases are calculated. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

FYs 2008-2009 CPI growth for the US and for Philadelphia are based on a change in CPI from June 2008 to 2009

Tables continue on next page

Table 4

Rank of mean salaries of Penn faculty by academic fields as compared to 60 selected universities participating in the American Association of Universities Data Exchange (AAUDE) survey.

	Academic Field	Fall 2004	Fall 2005	Fall 2006	Fall 2007	Fall 2008
Full Professor:	Annenberg	1/34	2/35	2/36	1/38	1/38
	Dental Medicine	4/34	6/34	8/35	10/38	11/43
	Design	9/52	7/51	3/53	9/53	8/51
	Engineering & Applied Science	20/56	14/55	14/56	14/56	14/53
	Graduate Education	2/44	3/43	4/45	4/48	4/45
	Humanities (A&S)	6/56	5/55	5/56	10/56	8/53
	Law	6/36	6/36	7/36	10/41	7/39
	Medicine-Basic Science	2/34	3/35	3/37	3/37	5/53
	Natural Science (A&S)	11/57	12/56	11/57	15/57	13/54
	Nursing	2/23	2/24	2/24	2/26	2/25
	Social Policy & Practice	5/22	4/22	6/24	6/25	5/23
	Social Science (A&S)	10/56	9/55	9/56	9/57	9/54
	Veterinary Medicine	1/14	1/14	1/13	4/17	3/14
	Wharton-Business & Management	3/52	2/52	3/53	7/53	5/50
	Wharton-Public Policy	3/19	3/19	3/18	--	15/50
	Wharton-Statistics	1/35	1/34	1/35	1/34	1/34
	Associate Professor:	Annenberg	--	--	--	--
Dental Medicine		1/30	--	--	8/35	14/41
Design		9/50	7/50	1/51	7/53	6/51
Engineering & Applied Science		11/56	9/55	7/55	10/56	9/53
Graduate Education		2/47	2/46	3/46	4/48	5/44
Humanities (A&S)		6/56	8/55	6/56	10/56	6/53
Law		n/a	n/a	n/a	n/a	n/a
Medicine-Basic Science		2/31	4/34	2/36	3/37	5/53
Natural Science (A&S)		6/57	11/56	9/57	11/57	11/54
Nursing		7/26	3/26	3/26	5/26	7/24
Social Policy & Practice			5/22	5/24	--	3/24
Social Science (A&S)		11/56	11/55	9/56	11/57	11/54
Veterinary Medicine		2/14	2/14	1/13	3/17	8/14
Wharton-Business & Management		1/51	1/52	1/53	2/53	1/50
Wharton-Public Policy		--	--	--	--	--
Wharton-Statistics		--	--	--	--	2/27
Assistant Professor:		Annenberg	--	--	--	--
	Dental Medicine	--	--	4/34	11/36	8/42
	Design	2/50	4/49	--	5/52	7/49
	Engineering & Applied Science	12/56	11/55	6/56	13/56	10/53
	Graduate Education	12/43	7/43	6/45	6/47	6/45
	Humanities (A&S)	14/56	13/55	14/56	19/56	17/53
	Law	3/23	5/28	--	--	--
	Medicine-Basic Science	4/33	5/34	9/38	6/37	7/53
	Natural Science (A&S)	10/57	7/56	8/57	18/57	15/54
	Nursing	5/27	6/27	4/26	5/26	3/24
	Social Policy & Practice	--	--	--	--	6/24
	Social Science (A&S)	9/56	8/55	15/56	10/57	13/54
	Veterinary Medicine	1/14	1/14	1/13	1/17	6/14
	Wharton-Business & Management	3/50	7/52	3/53	6/53	10/50
	Wharton-Public Policy	--	--	--	--	--
	Wharton-Statistics	--	--	--	1/33	1/33

Median salary data from this particular data source is not complete, and therefore, the more complete average salary data set is used. The AAUDE survey instructions request academic base salaries and this was the metric used for submitting Penn faculty salaries

Using the federal CIP (Classification of Instructional Programs) codes for 2000, departments at comparable universities were mapped to Penn Schools.

** Between Fall 2007 and Fall 2008, several modifications were made to CIP Code classifications for medical sciences. In Fall 2009, at the schools request, Wharton-Public Policy began being compared to Economics rather than Policy programs.

Calculations of rank only include those universities that have relevant departments. Therefore, the number of universities among which Penn is ranked varies by field.

Rank is suppressed for all cells which contain fewer than five Penn faculty members.

Tables continue on next page

SENATE Economic Status of the Faculty

Table 5

Percentage differences in mean academic base salary levels of full professors at a sample of comparable research universities for Academic Year 2008-2009

Full Professor Salaries: Percentage Differences*					
	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009
Harvard	+13.8%	+12.5%	+13.4%	+11.7%	+13.7%
Stanford	+3.6%	+4.2%	+0.7%	+6.0%	+7.4%
Princeton	+5.4%	+4.6%	+4.6%	+5.2%	+6.4%
Chicago	+3.5%	+3.5%	+3.8%	+4.4%	+6.0%
Columbia	-2.1%	N/A	N/A	-0.4%	+3.4%
Yale	+1.5%	+0.9%	+0.7%	+1.1%	+3.1%
NYU	-3.7%	-3.9%	-4.5%	-0.5%	+0.8%
Penn	\$143.4K	\$149.9K	\$156.5K	\$163.3K	\$169.4K
Northwestern	-5.0%	-6.1%	-5.9%	-6.3%	-4.5%
Duke	-8.4%	-9.0%	-9.3%	-7.0%	-4.8%
MIT	-5.9%	-6.4%	-6.8%	-7.7%	-5.4%
UCLA	-14%	-14.3%	-14.9%	N/A	-14.7%
UC Berkeley	-15.1%	-15.8%	-16.1%	N/A	-15.3%
N.C. (Chapel Hill)	-21.4%	-23.1%	-19%	-17.9%	-15.8%
Michigan	-16.2%	-16.2%	-16.7%	-19.1%	-16.1%
Carnegie-Mellon	-17.4%	-17.4%	-18.8%	-23.5%	-19.4%
Virginia	-17.6%	-17.9%	-18.2%	-23.1%	-21.3%
Texas (Austin)	-23.4%	-22.8%	-22.6%	-29.6%	-21.9%
MN (Twin Cities)	-26.5%	-26.4%	-25.5%	-34.6%	-24.8%

Notes: Penn academic base mean salaries are based on standing faculty members at the rank of professor. Excluded are all members of the Faculty of Medicine except basic scientists, and all standing faculty members who are appointed as Clinician Educators from four other schools that have such positions (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice). Data Source: AAUP Salary Surveys.

*Universities are ordered from highest to lowest mean salaries for full professors as of 2008-2009.

For each year reported, the difference between the Penn mean salary and the mean salary for a comparison university was computed as a percentage of the Penn salary.

Table 6

Full Professors: Median academic base salary percentage increases of faculty continuing in rank who were Penn full professors for FY 2009, along with the first and third quartile salary increases

School/Area	First Quartile (Q1), Median (Md.), and Third Quartile (Q3) Percentage Salary Increases by Year FYs 2008-2009		
	Q1	Md.	Q3
All Schools	3.0%	3.6%	5.0%
Annenberg	3.7%	4.5%	6.2%
Dental Medicine	3.5%	3.5%	3.5%
Design	3.5%	5.3%	10.2%
Engineering	3.0%	4.0%	5.0%
Graduate Education	3.5%	4.0%	4.5%
Humanities (A&S)	3.0%	3.5%	3.8%
Law	5.4%	6.9%	11.1%
Medicine-Basic Science	2.7%	3.0%	4.3%
Natural Science (A&S)	3.2%	3.7%	5.0%
Nursing	4.0%	4.5%	9.0%
Social Policy & Practice	3.0%	3.0%	3.5%
Social Science (A&S)	3.2%	3.6%	4.3%
Veterinary Medicine	2.5%	3.0%	3.5%
Wharton	3.4%	4.1%	5.0%
Budget Guideline	-	3.5%	-

Notes: Academic base salary increases pertain to all Penn standing faculty members who were faculty at the fall census of both years (or three years for cumulative increases) for which percentage increase are calculated. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

Salary increases include increases from all sources (e.g. merit, market, retention).

A median (Md.) percentage salary increase is the mid-point of the increase within each school/are and rank (i.e., half of all increases were below the median and half were above).

Variability of salary increase percentages is indicated by the first quartile (Q1) and third (Q3) percentage increases.

At the lower end of the salary increase percentages, 25% of the all increase were below the Q1, while 25% were above.

Median increases are reported only if the number of faculty members is four or more. The quartile increases are reported only if the number of faculty members is more than ten.

Tables continue on next page

Table 7

Associate Professors: Median academic base salary percentage increases of faculty continuing in rank who were Penn associate professors for FY 2009, along with the first and third quartile salary increases

School/Area	First Quartile (Q1), Median (Md.), and Third Quartile (Q3) Percentage Salary Increases by Year FYs 2008-2009		
	Q1	Md.	Q3
All Schools	3.2%	3.7%	4.6%
Annenberg	-	-	-
Dental Medicine	-	3.5%	-
Design	3.5%	3.5%	5.0%
Engineering	3.3%	3.8%	4.3%
Graduate Education	2.0%	3.7%	5.5%
Humanities (A&S)	3.5%	3.6%	4.6%
Law	n/a	n/a	n/a
Medicine-Basic Science	2.2%	3.0%	5.0%
Natural Science (A&S)	3.5%	3.5%	4.4%
Nursing	3.0%	4.0%	4.0%
Social Policy & Practice	2.9%	4.0%	10.0%
Social Science (A&S)	3.4%	3.8%	4.3%
Veterinary Medicine	3.2%	3.5%	4.0%
Wharton	3.5%	4.1%	5.5%
Budget Guideline		3.5%	

Notes: Academic base salary increases pertain to all Penn standing faculty members who were faculty at the fall census of both years (or three years for cumulative increases) for which percentage increase are calculated. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

Salary increases include increases from all sources (e.g. merit, market, retention).

A median (Md.) percentage salary increase is the mid-point of the increase within each school/area and rank (i.e., half of all increases were below the median and half were above).

Variability of salary increase percentages is indicated by the first quartile (Q1) and third (Q3) percentage increases.

At the lower end of the salary increase percentages, 25% of the all increase were below the Q1, while 25% were above.

Median increases are reported only if the number of faculty members is four or more. The quartile increases are reported only if the number of faculty members is more than ten.

Table 8

Assistant Professors: Median academic base salary percentage increases of faculty continuing in rank who were Penn assistant professors for FY 2009, along with the first and third quartile salary increases

School/Area	First Quartile (Q1), Median (Md.), and Third Quartile (Q3) Percentage Salary Increases by Year FYs 2008-2009		
	Q1	Md.	Q3
All Schools	3.5%	4.0%	5.7%
Annenberg	-	-	-
Dental Medicine	3.5%	3.5%	4.5%
Design	3.5%	3.5%	3.5%
Engineering	4.0%	4.0%	6.0%
Graduate Education	4.0%	4.3%	4.5%
Humanities (A&S)	3.5%	3.5%	3.6%
Law	-	-	-
Medicine-Basic Science	3.5%	4.0%	6.0%
Natural Science (A&S)	3.6%	3.9%	4.4%
Nursing	4.0%	4.0%	4.0%
Social Policy & Practice	-	-	-
Social Science (A&S)	3.5%	3.9%	4.3%
Veterinary Medicine	3.5%	3.5%	4.0%
Wharton	4.7%	6.3%	8.1%
Budget Guideline		3.5%	

Notes: Academic base salary increases pertain to all Penn standing faculty members who were faculty at the fall census of both years (or three years for cumulative increases) for which percentage increase are calculated. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

Salary increases include increases from all sources (e.g. merit, market, retention).

A median (Md.) percentage salary increase is the mid-point of the increase within each school/area and rank (i.e., half of all increases were below the median and half were above).

Variability of salary increase percentages is indicated by the first quartile (Q1) and third (Q3) percentage increases.

At the lower end of the salary increase percentages, 25% of the all increase were below the Q1, while 25% were above.

Median increase are reported only if the number of faculty members is four or more. The quartile increase are reported only if the number of faculty members is more than ten.

Tables continue on next page

SENATE Economic Status of the Faculty

Table 9

Mean academic base salary levels of Penn standing faculty members who continued in rank by rank

Rank	Academic Year	Average	Amount	Not Weighted	Weighted	
Professor	2004-2005	Mean	\$141,545	1.71	1.79	
		Median	\$130,050	1.82	1.77	
	2005-2006	Mean	\$147,815	1.69	1.82	
		Median	\$137,000	1.87	1.81	
	2006-2007	Mean	\$154,627	1.71	1.82	
		Median	\$143,000	1.90	1.83	
	2007-2008	Mean	\$160,803	1.72	1.85	
		Median	\$147,875	1.94	1.84	
	2008-2009	Mean	\$170,077	1.78	1.85	
		Median	\$156,077	1.95	1.85	
	Associate Prof.	2004-2005	Mean	\$93,090	1.12	1.22
			Median	\$83,650	1.17	1.22
2005-2006		Mean	\$98,542	1.13	1.25	
		Median	\$87,500	1.20	1.26	
2006-2007		Mean	\$103,378	1.14	1.25	
		Median	\$91,900	1.22	1.26	
2007-2008		Mean	\$106,061	1.13	1.26	
		Median	\$94,172	1.23	1.26	
2008-2009		Mean	\$110,913	1.16	1.25	
		Median	\$98,206	1.23	1.23	
Assistant Prof.		2004-2005	Mean	\$82,922	1.00	1.00
			Median	\$71,400	1.00	1.00
	2005-2006	Mean	\$87,268	1.00	1.00	
		Median	\$73,132	1.00	1.00	
	2006-2007	Mean	\$90,513	1.00	1.00	
		Median	\$75,136	1.00	1.00	
	2007-2008	Mean	\$93,547	1.00	1.00	
		Median	\$76,421	1.00	1.00	
	2008-2009	Mean	\$95,382	1.00	1.00	
		Median	\$80,030	1.00	1.00	

Notes: Mean academic base salary levels are based on all Penn standing faculty members who continued in rank in FY 2009 from their respective prior years. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

The data are weighted by the number of continuing faculty members at each rank in each school.

Tables continue on next page

Table 10
Variability of academic base salary levels for faculty who continued in rank:
first, second and third quartile median salary levels by rank and year

Rank	Academic Year	Q1	Median	Q3	IQR	IQR to Median Ratio	# of Areas
Professor	2004-2005	\$109,440	\$130,050	\$164,377	\$54,937	0.42	14
	2005-2006	\$115,500	\$137,000	\$171,916	\$56,416	0.41	14
	2006-2007	\$120,500	\$143,000	\$180,400	\$59,900	0.42	14
	2007-2008	\$125,970	\$147,875	\$187,000	\$61,030	0.41	14
	2008-2009	\$130,831	\$156,077	\$200,000	\$69,169	0.44	14
Associate Professor	2004-2005	\$75,000	\$83,650	\$98,182	\$23,182	0.28	12
	2005-2006	\$77,600	\$87,500	\$105,075	\$27,475	0.31	12
	2006-2007	\$81,025	\$91,900	\$107,400	\$26,375	0.29	12
	2007-2008	\$83,455	\$94,172	\$111,000	\$27,545	0.29	13
	2008-2009	\$86,376	\$98,206	\$117,700	\$31,324	0.32	13
Assistant Professor	2004-2005	\$62,400	\$71,400	\$90,000	\$27,600	0.39	13
	2005-2006	\$65,241	\$73,132	\$103,125	\$37,885	0.52	14
	2006-2007	\$67,909	\$75,136	\$104,500	\$36,591	0.49	14
	2007-2008	\$69,922	\$76,421	\$110,000	\$40,078	0.52	14
	2008-2009	\$72,568	\$80,030	\$103,293	\$30,725	0.38	14

Note: Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools. All salaries are converted to a nine-month base.

Table 11
Percentage Salary Increase Distribution of Faculty Who Continued
in Rank by Gender and Rank

		First Quartile (Q1), Median (Md.), and Third Quartile (Q3) Percentage Salary Increases by Year, FY 2008-2009		
		Q1	Md.	Q3
Professor	Men	3.0%	3.5%	4.8%
	Women	3.2%	3.9%	5.5%
Associate Professor	Men	3.2%	3.6%	4.9%
	Women	3.5%	3.7%	4.5%
Assistant Professor	Men	3.5%	4.0%	6.0%
	Women	3.5%	3.6%	4.7%

Note: Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools. All salaries are converted to a nine-month base.

Tables continue on next page

SENATE Economic Status of the Faculty

Table 12
Mean academic base salary levels of Penn standing faculty members who continued in rank by gender and rank

Rank	Academic Year	Average	Unweighted			Weighted		
			Women	Men	% Difference	Women	Men	% Difference
Professor	2004-2005	Mean	\$132,002	\$143,533	8.7%	\$133,999	\$143,534	7.1%
		Median	\$121,800	\$131,300	7.8%	\$131,044	\$139,834	6.7%
	2005-2006	Mean	\$139,706	\$149,558	7.1%	\$140,778	\$149,256	6.0%
		Median	\$126,935	\$138,450	9.1%	\$137,379	\$146,120	6.4%
	2006-2007	Mean	\$147,006	\$156,267	6.3%	\$145,892	\$155,924	6.9%
		Median	\$132,800	\$144,350	8.7%	\$142,866	\$151,937	6.3%
	2007-2008	Mean	\$150,286	\$163,176	8.6%	\$151,196	\$163,176	7.9%
		Median	\$137,013	\$149,623	9.2%	\$148,819	\$159,494	7.2%
2008-2009	Mean	\$160,576	\$172,192	7.2%	\$161,153	\$172,192	6.9%	
	Median	\$143,983	\$157,625	9.5%	\$155,980	\$167,437	7.3%	
Associate Professor	2004-2005	Mean	\$87,707	\$95,943	9.4%	\$94,129	\$95,421	1.4%
		Median	\$78,307	\$88,056	12.4%	\$94,140	\$93,594	-0.6%
	2005-2006	Mean	\$92,807	\$101,484	9.3%	\$92,395	\$100,972	9.3%
		Median	\$82,750	\$93,500	13.0%	\$92,849	\$99,583	7.3%
	2006-2007	Mean	\$94,765	\$107,547	13.5%	\$95,196	\$107,045	12.4%
		Median	\$87,263	\$95,000	8.9%	\$97,470	\$103,697	6.4%
	2007-2008	Mean	\$96,729	\$110,812	14.6%	\$106,225	\$110,812	4.3%
		Median	\$89,972	\$98,170	9.1%	\$110,306	\$107,276	-2.7%
2008-2009	Mean	\$104,061	\$114,076	9.6%	\$110,244	\$114,076	3.5%	
	Median	\$93,636	\$101,900	8.8%	\$110,470	\$107,352	-2.8%	
Assistant Professor	2004-2005	Mean	\$77,677	\$85,672	10.3%	\$85,579	\$85,672	0.1%
		Median	\$65,300	\$74,807	14.6%	\$82,754	\$84,704	2.4%
	2005-2006	Mean	\$80,757	\$91,374	13.1%	\$90,681	\$91,374	0.8%
		Median	\$68,190	\$78,500	15.1%	\$87,917	\$89,163	1.4%
	2006-2007	Mean	\$83,738	\$95,015	13.5%	\$93,783	\$95,015	1.3%
		Median	\$70,950	\$84,000	18.4%	\$90,765	\$92,079	1.4%
	2007-2008	Mean	\$88,223	\$97,907	11.0%	\$97,840	\$97,907	0.1%
		Median	\$72,641	\$82,900	14.1%	\$95,495	\$94,331	-1.2%
2008-2009	Mean	\$89,046	\$100,012	12.3%	\$99,900	\$100,012	0.1%	
	Median	\$76,400	\$84,615	10.8%	\$97,667	\$96,777	-0.9%	

Notes: Mean academic base salary levels are based on all Penn standing faculty members who continued in rank in FY 2009 from their respective prior years. All salaries are converted to a nine-month base.

Excluded were all members of the Faculty of Medicine except basic scientists, all Clinician Educators from four schools (Dental Medicine, Veterinary Medicine, Nursing, and Social Policy & Practice), faculty members who were on unpaid leave of absence, faculty who had chosen phased retirement, and Deans of all Schools.

Female faculty members are weighted using male weights. Male weights are calculated as a ratio of male faculty in each school/area to the total number of male faculty at Penn. Percent difference is calculated as the difference between male and female salaries divided by the female salary. Negative percent differences occur when the female salary exceeds the male salary.

Appendix

Patterns in the national Consumer Price Index for all urban consumers in 2008 and 2009

<u>Month</u>	<u>2008 Level</u>	<u>2009 Level</u>	<u>June-June Change</u>
January	211.080	211.143	
February	211.693	212.193	
March	213.528	212.709	
April	214.823	213.240	
May	216.632	213.856	
June	218.815	215.693	-1.4%
July	219.964	215.351	
August	219.086	215.834	
September	218.783	215.969	
October	216.573	216.177	
November	212.425	216.330	
December	210.228	215.949	
Annual mean	215.303	214.537	
Change in mean			-0.4%
December-December change			+2.7%

Price movements in both years had several patterns, some common in the historical data and some not. The deflation was unusual. It is much more pronounced in the June-June comparison than in the comparison of annual levels. Note also that the December-December change actually has the opposite sign

Data source: "Consumer Price Index: All Urban Consumers: US City Average: All Items" (1982-84=100), table giving data from 1913-2009 dated 01-15-2010 retrieved on 1/29/10 from <ftp://ftp.bls.gov/pub/special.requests/cpi/cpiat.txt>