

Senate Committee on the Economic Status of the Faculty
Fiscal Year 2015
July 1, 2014 through June 30, 2015

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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 the current economic status of the faculty, based on salary and benefits data provided to the committee by the Provost’s Office, prepared by the Offices of Institutional Research & Analysis and Human Resources. Unless otherwise specifically stated, faculty salary information discussed in this report refers to the aggregated 9-month or “academic year” base salary of faculty members whether salaries are paid from General Operating Funds and/or from Designated Funds.¹ Deans and faculty on phased retirement were excluded. The data provided preserve anonymity and exclude any information that would make it possible to identify individual faculty salaries. Additional publicly available data on annual merit increases for senior administrators were obtained from Form 990 reporting (see <http://www.citizenaudit.org/231352685/>). Benefits data were provided by Human Resources; additional data were extracted from publicly available websites.

SCESF’s mission is to provide a complete analysis of the economic status of Standing Faculty at the University of Pennsylvania. This year, SCESF was provided Fiscal Year 2015 (FY2015) data for 1,241 members of the tenure line faculty (716 Professors, 262 Associate Professors and 263 Assistant Professors), only a subset of the 2,566 Standing Faculty.² For the Perelman School of Medicine, SCESF was provided data for only tenure line faculty in basic science departments.

Data on salaries of Clinician-Educators in the Standing Faculty from Medicine, Dental Medicine, Veterinary Medicine, Nursing, and Social Policy and Practice were not provided to the committee, nor were data provided for tenure line faculty in clinical departments. These faculty members have historically been excluded from the data provided to SCESF by the Provost’s Office, but represent over 50% of the Standing Faculty of the University. This year SCESF requested that the FY2015 adjusted academic base salary data include *all* tenure line faculty members, including those in the 18 clinical departments in PSOM (an additional 362 faculty members). Most of these individuals have some clinical responsibility, although in most instances, scholarship and teaching are their primary activities. Total base salary of tenure track faculty in clinical departments comprises two components: an academic base (typically the minimum university salary for rank) and a negotiated supplement (typically administrative supplements, and clinical or research incentives that depend on clinical specialty). Despite support from the Dean of the Perelman School of Medicine and the Medical Faculty Senate, the Provost did not provide SCESF with the academic portion of the base salaries of these Standing Faculty. SCESF will continue to request these data in the future in order to achieve its mission to report on the economic status of *all* Standing Faculty at Penn.

To provide a more comprehensive and detailed analysis of the faculty compensation beyond salary, this year’s report includes some benefits data for Penn and the Ivy Plus institutions. After meeting with the Vice Provost for Faculty and the Vice President for Human Resources, and coordinating with the University Council Committee on Personnel Benefits, SCESF reports on two benefits: tuition support for dependents and institutional contributions to retirement savings plans.

Finally, the SCESF report includes a detailed summary of the budgetary planning processes for setting the faculty salary increase targets published annually in *Almanac*, and it makes observations and recommendations.

The report focuses on four topics:

- Sources of funds for faculty salaries and how annual merit increase decisions are made.
- Merit increases compared to those at peer institutions.
- Faculty benefits for dependent tuition support and institutional contributions to retirement plans.

¹ Academic base year salary is salary that is paid for the normal academic duties of a Standing 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 12 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. “Summer money” is paid routinely, albeit at varying levels, in some parts of the University. Such “summer money” is not included in these base year salaries.

² Retrieved November 16, 2015, from <http://www.upenn.edu/about/facts>

- Gender disparity in faculty salaries within Penn.

Section VI details SCESF’s conclusions and recommendations for Fiscal Year 2017 (FY2017).

II. Merit Raises for Penn Faculty in Fiscal Year 2015 (FY2015)

A. Process for Setting and Adjusting Faculty Salaries at Penn

Faculty salaries at Penn are the product of a two-step process. First, faculty salary levels are set at the time of initial appointment by the Dean making the appointment. Second, faculty salary levels are normally increased annually through a standardized process described below, based on academic merit. Promotion in rank is usually accompanied by an increase in salary. Occasionally, equity adjustments are made to increase salary. An individual’s salary may also be increased in response to an outside offer as part of a retention strategy.

In carrying out its charge, SCESF is cognizant of Penn’s salary policy for the period as stated by the President, Provost and Executive Vice President and published in *Almanac* (<http://www.upenn.edu/almanac/volumes/v60/n29/ofrecord.html>). As published, 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, with merit increases based on market trends and economic conditions. The salary guidelines are intended to reward valuable contributions of faculty and staff to the University’s mission and excellence. The University does not provide cost-of-living increases.

Each year a target salary increase percentage for faculty and staff is published in *Almanac*, and described as merit increase based on market trends and economic conditions. This salary increase target parameter is the result of discussions of the Budget Steering Committee (including the President, Provost, President’s Chief of Staff, Executive Vice President, Vice President for Finance and Treasurer, and Vice President for Budget and Management Analysis). Using a five-year budgeting timeline, the Budget Steering Committee proposes salary increase parameters; these parameters are distributed in October to the Schools for comment, and then finalized in February and published in *Almanac* in March. The salary pool combines faculty and staff; faculty salaries comprise one-third of the total. Salary pool projections are not tied to the inflation rate or changes in the cost of living. The salary increase parameters and the salary pool projections do not take into consideration retirements, new hires or promotions.

The Budget Steering Committee aims to set competitive salary increases for faculty and staff, defined as targeting the middle of the upper half, or the 75th percentile, in rankings of comparable institutions. For staff, these comparisons involve local market data in the Greater Philadelphia area, with guidance from Human Resources. For faculty, these comparisons should be based on the salaries of faculty at peer higher education institutions, but SCESF was informed that such comparisons are not used to set the salary increase parameter. Since 2003, the salary parameters published in *Almanac* have been identical for faculty and staff, despite differences in their relevant comparison groups. Annually, SCESF is provided benchmarking data for Penn faculty relative to the Ivy Plus institutions and 62 public and private research universities in the United States and Canada. SCESF proposes that these data, provided annually by the Provost’s Office (see Tables 4 and 5), be used to estimate market trends for faculty. In Section III we report that Penn faculty salaries for Associate Professors and Full Professors lose ground with respect to our peers year after year. These historic trends underscore the need to re-examine the budgeting process for merit-based salary increases for faculty. Given that the comparison basis for staff salaries is related to local market factors, whereas the market for faculty salaries is national in scope, SCESF recommends that the budget input factors for the projected pool for faculty salaries be reviewed.

Funding for faculty salaries comes primarily from each School’s operating budget. No central fund exists for faculty salaries in general. Resources in each School are raised in accordance with the principles of Penn’s Responsibility Center Management (RCM) model.³ Additionally, subventions are distributed to Schools by central administration. Such subventions are made for a variety of reasons. For example, subvention may be made in recognition of external effects of costly actions undertaken by individual Schools to the benefit of broader University-wide interests.

Using available resources, the Dean of each School makes a certain amount available for faculty salaries. Particular aspects of faculty salaries

³ For a more detailed explanation of Penn’s Responsibility Center Management model, see http://www.budget.upenn.edu/About/RCM_at_Penn/

for which these funds are used include sustaining existing faculty appointments, providing annual salary and promotion increases for continuing faculty members, and creating salary funding for new faculty positions. Additional resources are available for faculty retentions. In addition, all Schools must provide funds to cover employee benefits. The employee benefits rate for faculty and staff is currently about 32% of salary.

B. Target Annual Salary Increases in FY 2015

As described above, an annual salary increase recommendation for continuing faculty members is made for the University by the Budget Steering Committee, followed by consultation with the Deans. For Fiscal Year 2015 (FY2015), Deans of the 12 Schools were given a recommended salary increase parameter of 3.0% for faculty members continuing in rank; this parameter was published in *Almanac* (<http://www.upenn.edu/almanac/volumes/v59/n27/salary.html>). The parameter has not been above 3% since 2006, when it was 4%; for the decade ending in 2006, prior to the recent economic downturn, the mean target was 3.28%.

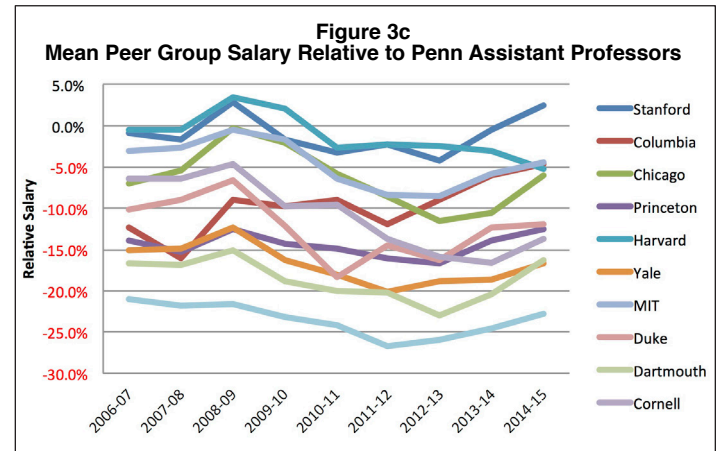
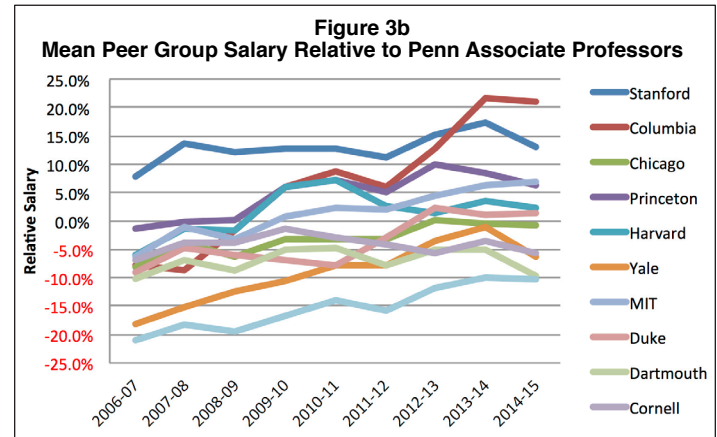
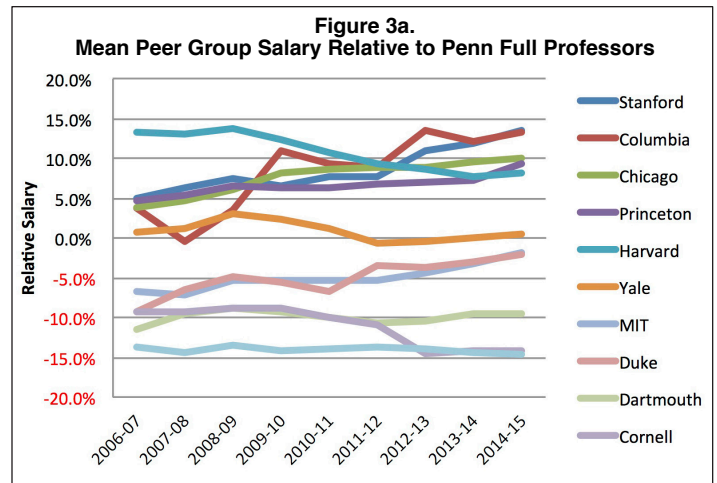
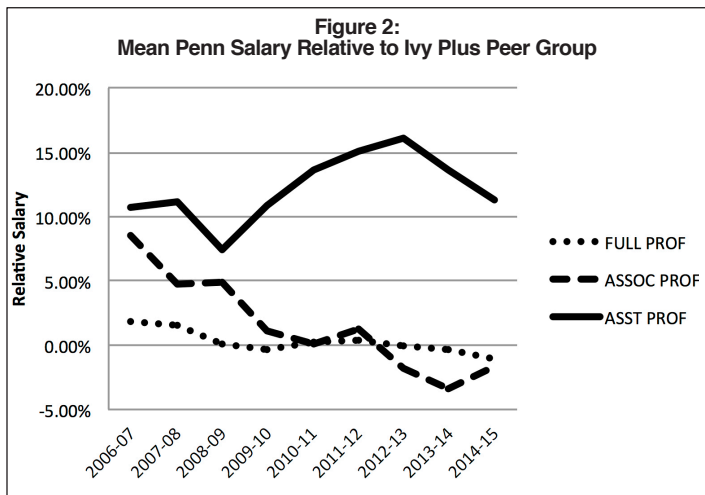
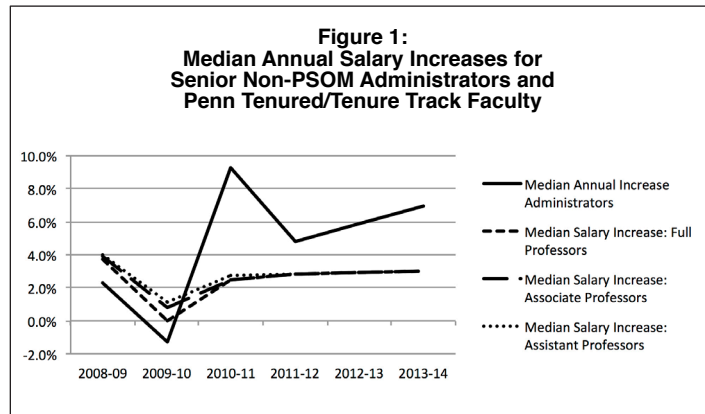
C. Actual Annual Salary Increases

Once the University-wide target has been set, annual salary increases for individual faculty members are determined by department chairs and Deans. Any increases below 1.0% or above 5.0% require review by the Provost's office.

Actual annual salary increases for Fiscal Year 2015 (FY2015) are summarized in Table 1. The median salary increase was 3.0% at all ranks. The mean and median values for Full, Associate and Assistant Professors are broken out in Table 1 (all tables referred to in this report can be found below in Section VIII). The mean increases are higher than the medians at all ranks, suggesting the presence of high salary increases at all ranks and asymmetric distributions. The Philadelphia Consumer Price Index (CPI) fell from 1.8% in July 2014, the start of FY2015, to only 0.2% in July 2015, primarily due to falling energy prices over the same period. Nearly all faculty received merit increases in excess of 0.2% (Tables 2 and 3). Faculty receiving merit increases below the CPI index of 0.2 % were concentrated in Perelman School of Medicine Basic Science departments.

Examining trends across the Schools within rank (Tables 6, 7 and 8) reveals that the median salary increase in most Schools meets or exceeds the University-wide salary increase target of 3.0%, with the exception of Design (Full Professors), Arts and Sciences (Full, Associate and Assistant Professors) and Nursing (Associate and Assistant Professors).

Table 9 reveals salary compression at the Associate Professor level. The median salary for Associate Professors is less than the mean salary for Assistant Professors. Compared to median salaries for Assistant Professors, Associate Professors earn only 11% more. When these data are weighted by School, Associate Professors earn 23% more, implying that many Associate Professors are concentrated in lower-paying Schools. Table 10 indicates that the range of Associate Professor salaries is compressed relative to Assistant and Full Professors, as revealed by the low interquartile range (IQR)-to-median ratios. Table 10 also shows variability in salaries across disciplines.



D. Widening Gap Between Faculty and Senior Administrative Salaries

In light of concerns raised in last year's SCESF Report on the widening gap between merit increases for faculty and administrators at Penn (<http://www.upenn.edu/almanac/volumes/v60/n33/esf.html>), this year's committee also reviewed publicly available data from Form 990 tax reporting (see <http://www.citizenaudit.org/231352685/>). We extracted salary data for a "typical" senior administrator at Penn, defined as individuals named in the Form 990 report, excluding those with a University of Pennsylvania Health System (UPHS) focus. The "typical" senior administrators at Penn received a median raise of 6.9% for Fiscal Year 2015 (FY2015), up from a median of 5.9% in Fiscal Year 2014. In contrast, the median salary increase for faculty continuing in rank was 3% in both years. The median salary increase trends over time are provided in Figure 1. The data suggest that since Penn tightened its belt in response to the economic downturn of 2008-2009 in Fiscal Year 2010, members of the senior administration have enjoyed sustained annual salary increases that are nearly double those of the faculty.

We identified 7 of 17 of these "typical" senior administrators continuing in position (41%) who received consecutive salary increases greater than 5% in both of the last two years. To provide a relevant comparison, we requested from the Provost's Office: the number of Standing Faculty who received salary increases above 5% in each of the past two years, excluding those with significant administrative responsibilities and in clinical departments. Those data were not provided. SCESF will request them again next year to compare the pervasiveness of repeated high salary increases for senior administrators with the frequency of high rates of increase for faculty.

III. Salary Comparisons: Penn's Competitive Standing

A. Comparisons to Ivy Plus Universities

To evaluate Penn faculty salaries to peers in the higher education market, SCESF compared academic salaries at Penn to those at a set of highly competitive private research universities, including Ivy League schools and other premier private universities (Stanford, Chicago, etc.). We provide comparisons of mean academic base salaries for Full, Associate and Assistant Professors at Penn to this peer group in Table 5. All data are reported as peer salaries relative to mean salaries at Penn. To illustrate these trends, these data are also reproduced graphically in Figure 3 (provided online in color). In addition, we show Penn faculty average salaries relative to the average salary of faculty in this premier peer group (Figure 2).

The budgeting process for salary increases strives to achieve a competitive market position for the average Penn faculty member in the top half (75th percentile) among peer institutions. Among this group of comparable private research universities, Penn Assistant Professors are generally ranked at or near the top of the group since 2006. On average, Assistant Professors at Penn now earn 11% more than their peers in the Ivy Plus group. These competitive faculty salaries are not achieved at other ranks, however. The relative ranking for mean salaries for associate professors has fallen from 2/12 to 7/12 since 2006, and full professors have remained near the middle of the group. Of concern, average salaries of associate and full professors have now fallen below the mean of our peer group (Figure 2), such that associate and full professors at Penn now earn 1-2% less than the average at peer institutions. In short, Penn is lagging in the higher education market for senior faculty.

SCESF supports the principle that both faculty and staff should be compensated for remarkable accomplishments. SCESF remains concerned about the marked discrepancies between the market-driven merit increases for senior administrators and the staff-linked merit increases for faculty. In the 2011 Faculty Climate Survey, with a 72% response rate, the majority of the Standing Faculty (64%) responded that an increase in salary was a factor in their considering leaving Penn, making it the number one reason.⁴ Some Penn faculty members seek outside offers to establish their competitive market value. While centralized budgeting delineates the wage pools for annual salary increases, alternative funding sources for faculty retentions offer Deans and department chairs flexibility for these ad hoc salary adjustments. The practice of faculty soliciting offers to leave Penn in order to establish their credible value would likely be markedly curtailed if annual faculty salary increases were linked to market trends in faculty salaries at peer institutions, just as salaries of senior administrators are linked to national market trends, and staff are linked to regional job markets.

⁴ Data on the 2011 Faculty Climate Survey may be accessed with Penn Key authentication via <https://secure.www.upenn.edu/ir/results/Faculty%20Survey%202011.pdf>

B. Comparisons to the American Association of Universities

The Association of American Universities Data Exchange (AAUDE) is a source of information about faculty salaries at an expanded group of peer universities. The Association of American Universities (AAU) comprises 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 University of Michigan) and other public universities (e.g., Michigan State, University of California-Davis and University of California-Irvine).⁵

Because of the marked variation in salaries across Schools and academic levels, comparisons to the AAU dataset are broken out by academic field and rank in Table 4. Categories with fewer than five faculty members at Penn were omitted from the table to preserve confidentiality.

While Penn strives to be an elite university, not every School is ranked in the top five nationally or compensated in the top 10 percent of its discipline. SCESF notes few significant changes in salary rank from 2013 to 2014, with one noteworthy exception: mean faculty salaries in Nursing dropped in their national peer group ranking by more than 10% in the past year, across all three professorial ranks. SCESF expresses concern and recommends further investigation into the compensation awarded to Penn's excellent faculty in Nursing to ensure their competitive position nationally.

IV. Faculty Benefits at Penn

Benefits are an important aspect of total compensation received by faculty at Penn and remain an issue of great interest to University faculty. For the first time, this report includes faculty benefits data. Benefits data will be included in the future, expanding in a stepwise manner, to provide more complete annual review of the competitive standing of faculty benefits. This year, we present data for Penn and 14 peer institutions for institutional contributions to retirement accounts and dependent tuition benefits. Next year, SCESF will add comparative data for sabbatical policy and early retirement incentives. Future additions will benchmark medical, vision and dental insurance. Taken together these benefits are important features in the total compensation package for faculty at all levels. A competitive benefits package is a key aspect of maintaining an outstanding faculty and thus maintaining Penn's standing as a top-ranked university.

Penn offers two types of retirement plans. In the Basic Plan, the University makes contributions to 403(b) tax-deferred retirement accounts on an increasing scale with faculty member age (to a maximum of 4% of base salary at age 40 and over). Contributions begin after 1 year of service, and there is a 3-year vesting period, after which the funds remain available to the faculty member, even after leaving Penn. Surprisingly, only 3,559 of the 4,555 Standing and Associated faculty (78%) participate in the free Basic Plan. In the Matching Plan, Penn matches the faculty member's contributions dollar-for-dollar in a 401(a) tax-deferred retirement account. There is no waiting period to begin the Matching Plan. The contribution limit increases with age, to reach a maximum of 5% of salary below \$265,000 (at age 40 and over). Only 3,424 of the faculty (75%) participate in the Matching retirement account program. Details are provided at <https://www.hr.upenn.edu/myhr/benefits/retirement>. Enrollment in the retirement plans is on a continuing basis, and faculty need not wait for Spring Benefits Open Enrollment period to begin saving or to change their contribution level. Penn's maximum contribution of 9% (4% to 403(b) plus 5% to 401(a)) is below the Ivy Plus group median of 10% (Table 13). SCESF recommends that participation in the Basic Plan be automatic for all employees, unless employees choose to opt out.

Penn offers tuition benefits for faculty members, their partners and their dependents. Benefits depend on whether enrollment is at Penn or another institution and are different for faculty hired before 1997. Benefits for two parent-partners employed at Penn are not summed, so when partners are both employed at Penn, only one tuition benefit can be used for each child. Currently Penn covers 75% of the tuition and technology fees (\$33,453 in FY2016) for dependents of 159 faculty who are enrolled at Penn ("home") and up to 40% of Penn's tuition fee (\$17,535 in FY2016) for dependents of 354 faculty who are enrolled at an approved school ("away"). Penn's tuition benefits are considerably more generous than the median tuition benefit offered by the Ivy Plus institutions (\$23,712 for "home" tuition and \$15,690 for "away").

⁵ For a complete list of the member institutions, see the AAU website <http://www.aau.edu/about/article.aspx?id=5476>

While individual benefits may be more or less generous at Penn, Penn strives to create a suite of benefits that, overall, rank in the top half (approximately 75th percentile) of the Ivy Plus institutions.

V. Salaries for Female Faculty Continue to Lag Behind their Male Counterparts

A. Mean Salary Increases for Men and Women

Annual percent increases in salary are generally similar for men and women faculty continuing in rank at Penn (Table 11).

B. Persistent Gender Gap in Faculty Salaries at Penn

Despite the general parity in annual salary increases (Table 11), there are striking differences in base salaries for men and women that have persisted over the years (Table 12), worsening recently for Associate and Full Professors. At the Full Professor level, comprising 23 percent women (and 46 percent of all women faculty) the mean salary for women is \$15,690 less than the mean salary for men at the same rank. At the Associate Professor level, composed of 40 percent women (and 27 percent of all women faculty), the mean salary for women is \$20,854 less than the mean for men at the same rank. Remarkably, and of great concern, there is even a significant wage gap at the entry level, as the mean salary for Assistant Professors (30 percent of whom are women) is \$11,954 less for women than for men. Importantly, this wage gap in Assistant Professors is not decreasing over time. Any wage gap occurring at the Assistant Professor level (27 percent of all women faculty) sets the stage for continuing disparities as faculty move through ranks; as a result, any comprehensive program to reduce the gender gap must include close attention to starting Assistant Professor salaries.

C. Factors Contributing to the Ongoing Disparity

Some of the disparity apparent in Table 12 results from differences in gender ratios in faculty across the different Schools, with traditionally male-dominated fields likely benefiting from higher salary levels than those found in traditionally female-dominated fields. To examine this possibility, the Vice Provost's office provides a weighted set of comparisons (Table 12). Of note, even the weighted values show a persistent gender gap, ranging up to 9.3% of adjusted mean salaries, supporting the conclusion that there are large differences in salaries between men and women even in male-dominated fields. The widening gap between weighted and unweighted values reflects that Penn is losing ground in diversifying the most highly paid fields. The gap may also indicate that women seek fewer outside offers to re-establish their competitive market value. This gender gap is ap-

parent at all ranks within the weighted data, and is largest at the Associate Professor level.

To further explicate sources of the gender salary disparity, the Vice Provost provided SCESF with an analysis conducted by Institutional Research and Analysis. This was a regression model of base salary on gender, race/ethnicity, academic discipline, experience (measured by academic rank and time in rank) and status as a department or endowed chair. The summary indicates that, without adjustment for field, rank or time in rank, there is approximately an 18% lower base salary for female faculty. Adjustment for rank reduces this gap to about 9%, consistent with the fact that there are proportionally fewer women in higher paid ranks. Time in rank is predictive of overall salary but has no significant influence on the gender gap. Further adjustment for field reduces the gap to less than 2%, indicating that there are fewer women in highly paid disciplines. The importance of discipline is consistent with the weighted analysis in Table 12, which shows a reduction in the wage gap to 2-3% with the exception of Associate Professors, where it is much larger, 6-9%. Although not statistically significant on an annual basis, SCESF finds a rank- and discipline-adjusted salary gap of even 2% distressing, given the compounding effect of this disparity over a faculty member's career. For example, an annual 2% difference in salaries would result in 22% more total earnings for a typical male faculty member over 10 years than a typical female faculty member, and a gap of 48% more total earnings over 20 years. Furthermore, the impact of gender bias in salary extends beyond a faculty member's career at Penn because institutional contributions to retirement accounts are proportional to salary.

The regression models revealed that adjusting for rank, discipline and time in rank reduced the gender gap in faculty salaries to less than 2%, indicating that these three factors explained nearly all of the gender gap in salary. SCESF will focus on the underlying mechanisms associated with these three factors in upcoming years, and identify potential interventions. A more detailed analysis of the importance of rank on the gender gap in salaries will be pursued next year. Over 40% of the Associate Professors are women. Given the significant impact of rank on salaries, it is important to ensure that women Associate Professors are being promoted to Full Professor in a timely manner. To examine the nuances of the persistent and troubling discipline-specific disparities in the weighted and unweighted data, SCESF requested gender disparity data within rank, across disciplines. These data were not available for this report and will be requested again next year.

See the next page for the SCESF 2015-2016 Recommendations and Questions for the Administration, along with the responses.

VI. SCESF 2015-2016 Recommendations and Questions for the Administration

Penn's continued prominence as an eminent university requires academic excellence in the faculty across all schools and disciplines, and this excellence is based directly on the quality of the faculty recruited to, and retained by, our University. We encourage the President, Provost, Deans and the faculty at large to continue to closely monitor faculty compensation across the entire University in order to maintain Penn's competitive position with peer institutions and eliminate salary disparities based on gender, race or ethnicity.

In accordance with Faculty Senate policy, we present the following issues of concern and our recommendations to address these issues.

A. Assessing the Economic Status of the Entire Faculty

Issue of Concern: The Committee on the Economic Status of the Faculty is charged to gather and organize data on academic base salaries and benefits for the faculty and to represent the faculty in the determination of University policy on salary issues. This year, SCESF was provided academic base salary data on 1,241 tenure line faculty, of whom 1,132 were continuing in rank. Penn is composed of 2,566 Standing Faculty in the Tenure and Clinician-Educator tracks and 1,986 Associated Faculty in the Research Faculty, Academic Clinician (health schools), Clinical Faculty (health schools), Adjunct Faculty, Visiting Faculty, Wistar appointments, and Artists in Residence.⁶ Historically, this Committee falls short of its charge because the Provost's Office provides academic base salary data for only approximately 48% of the Standing Faculty and less than 30% of the entire Faculty.

SCESF Recommendation: To provide a more complete analysis of the faculty salary and benefits, SCESF requests that data from the Provost's Office be expanded next year to include the academic base salary for all Standing Faculty, subject to the standard exclusion of Deans and faculty members in phased retirement. Future requests may extend to the Associated Faculty, currently 1,986 in number. Finally, SCESF recommends that all Deans provide every faculty member with an annual statement clarifying the amount and basis for the increase for each component of their salary.

Response: *In keeping with long-standing practices mutually established by the Senate and the Provost's Office, the Provost's Office once again this year provided SCESF with prior-year tenure-track faculty salary data and other financial information, organized in twelve standard tables. As is customary, the data included a majority of the approximately 2,566 Standing Faculty members, but excluded "all members of the Faculty of Perelman School of Medicine (PSOM) except basic scientists, all Clinician Educators (CE) from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy and Practice), faculty members on phased retirement, and Deans of all Schools." The rationale for the traditional exclusion of CE faculty and non-basic science faculty in PSOM has been, and remains, that major differences in the way compensation is structured for faculty with clinical responsibilities or housed in clinical departments renders comparisons and analyses quite complicated and potentially very misleading. The 12 salary data tables were delivered in a timely fashion at the start of the fall 2015 semester, followed by both additional information detailing faculty retirement, tuition and other benefits, and, a memorandum prepared by PSOM detailing PSOM's internal salary-setting, equity and competitiveness monitoring procedures. A majority of the approximately 974 CE track faculty belong to the PSOM, which continuously monitors compensation through the American Association of Medical Colleges, the University Health Consortium, and the Hay Group, which surveys 30 peer institutions.*

After receiving the usual categories of salary data and supplementary information on benefits and PSOM salaries, SCESF requested major new categories of data not immediately available and not customarily provided by the Provost's Office for the reasons above. A proposed revision of the scope of SCESF's annual salary review requires careful review and further consultation. Volatility and variation in salaries based in large part on clinical activity do not lend themselves to the type of analysis the Committee traditionally conducts for the majority of tenure-track faculty. Broadening the scope of SCESF's annual review to expand the categories of faculty salaries would require the Provost's Office, PSOM and the Office of Institutional Research and Analysis to undertake additional analyses and produce revised tables which would require adjustments

⁶ Retrieved November 16, 2015, from <http://www.upenn.edu/about/facts>

in work schedules for annual data provision, analysis and reporting. The Provost's Office is fully prepared to continue to work with the Senate, first to better understand the objectives behind SCESF's expanded salary data requests and second, to encourage a structured process of deliberation among the Senate, the Schools and the Provost's Office to assess the appropriate scope of SCESF's annual review.

SCESF recommends that Deans provide faculty members with an annual statement clarifying any increase in each component of their salary. Different approaches to salary communications are found among the Schools, and significant variation may be warranted by the diversity and complexity of the components of faculty compensation, particularly in STEM fields and in the health and professional schools. The Provost will charge the Vice Provost for Faculty with working with the Deans to determine the salary data that should be routinely communicated to faculty and the timing of those communications.

B. Maintaining Penn's Competitive Standing

Issue of Concern: To attract and retain an eminent faculty, the University must provide faculty salaries that are competitive with peer institutions in the top tier of American research universities. Penn's stated goal is to provide compensation, on average, in the middle of the upper half of our most relevant peer group, the Ivy Plus institutions. Comparisons of mean salaries at Penn to this peer group show that Penn Assistant Professors consistently rank at or near the top of the group since 2006. However, the relative ranking for mean salaries for Associate Professors has fallen from 2nd to 7th out of 12 over the same time period, and Full Professors have remained at or below the middle of the group. Average salaries of Associate and Full Professors have now fallen below the mean of our peer group. Taken together, these data indicate that Penn's salaries for tenured professors and the annual increases for all Penn faculty are below those of Penn's market cohort in highly competitive institutions of higher learning, eroding Penn's ability to compete with peers to retain the best talent.

Prior to the 2003-2004 academic year, faculty and staff targets for salary increases were distinct. Since that time the target has been the same for faculty continuing in rank and staff. The current staff salary increase parameter is set in the rolling 5-year budget using regional employment benchmarks, with the goal of placing Penn in the upper half of the peer comparison cohort. The SCESF supports this market-driven approach for staff increases. Similarly, competitive salary levels and annual increases for senior administrators are set using higher education market trends. As a consequence of receiving multiple offers for faculty positions, Penn Assistant Professor starting salaries are also market driven, and Penn is generally competitive at this rank, although salaries vary across discipline. Because market forces are not used for determining competitive salary increases for the faculty continuing in rank, the Associate Professors have experienced consistent and persistent erosion of the competitive standing of their salaries (Table 5, Figures 2 and 3), and Full Professor salaries have slipped over the years from barely above average to below average compared to the Ivy Plus peer group (Figure 2). Associate and Full Professors have adopted the ad hoc practice of obtaining outside offers to re-establish their market value. However, in the context of annual increases that are below those of Penn's peers, these salary adjustments provide only a temporary correction.

SCESF Recommendation: Similar to staff and senior administration, SCESF recommends that faculty salaries be set using a market-driven approach. First, SCESF recommends that available market data for our peer institutions (provided in Table 5) be used in the rolling 5-year budget to determine an appropriate parameter for annual salary increases for Penn faculty. Second, SCESF recommends these same market data also be used

to correct faculty salaries, to achieve the University's stated goal of providing Penn's faculty with compensation, on average, in middle of the upper half of the Ivy Plus group.

Response: Faculty salaries are set based on market-driven analyses. The University works assiduously to ensure that faculty salaries are competitive relative to appropriate regional, national and international markets. The limited availability of current-academic-year faculty salary data for peer institutions, and the absence of reliable relevant market survey data to inform budget projections results in five-year planning parameters that are effectively broad estimates rather than fixed pools to be strictly applied.

The annual budget-planning process assesses market data and the University's internal resources to set prudent planning parameters for merit increases. The Schools are given considerable flexibility to ensure that they can respond appropriately to highly variable market conditions across disparate fields and disciplines. The Provost's Office regularly reviews salary data to ensure reasonable consistency in practice and to support fairness and equity. While the University's published merit pool has been 3% for several consecutive years, the mean academic base salary percentage increases provided to Penn's continuing Standing Faculty members have been significantly higher. The mean FY2014-15 increase for Full Professors was 4.1%, for Associate Professors 5.1%, and for Assistant Professors 3.6%. As a result, the average increase across all ranks was 4.2%, which far outpaced the Philadelphia Region CPI of 0.2%, and the national average CPI of 0.1%.

Penn's market competitiveness is well-illustrated in this report, which shows that salaries compare favorably to those at peer institutions even though many of those universities are in locales with higher overall costs of living. Penn's Assistant Professor salaries ranked second among a dozen Ivy Plus peer research universities in 2014 and first the preceding year. Associate Professor and Full Professor salaries at Penn were within the mid-range of Penn's Ivy Plus peers. The mean salaries of faculty in several Penn Schools and/or departments rank at or near the very top of the comparison group (see Table 4). In addition, Penn offers highly competitive total compensation, including tuition and retirement benefits. Other competitive advantages include a rich research environment, faculty and student diversity, ready access to regional and international transportation, and educational and cultural amenities available to families.

C. Achieving Gender Equity at Penn

Issue of Concern: In the context of federal mandates to eliminate race and gender bias in compensation in all institutions receiving federal contracts, SCESF remains concerned about the persistent gender inequity in faculty salaries observed at all ranks at Penn. SCESF notes that this continued inequity is inconsistent with the aims of the Action Plan for Faculty Diversity (http://www.upenn.edu/almanac/volumes/v58/n02/diversity_plan.html). The wage gap occurring at the Assistant Professor level sets the stage for continuing disparities as faculty move through ranks; as a result, any comprehensive program to reduce the gender gap must include close attention to starting Assistant Professor salaries. A regression analysis reveals that the salary gap is explained by the influences of rank, time in rank, and discipline. In the context of 3% annual salary increases for the faculty overall, SCESF finds even a 2-3% salary gap after correcting for rank and discipline distressing. The compounding effect of this disparity over a faculty member's career widens the total earnings gap over time between men and women faculty. Equally disturbing, the impact of gender bias in salary extends beyond a faculty member's career at Penn, because retirement benefits are linked to salary.

SCESF Recommendation: We urge the President, Provost and the Deans to focus on eliminating gender inequities in faculty salaries within disciplines across the University. The Perelman School of Medicine does annual assessments of internal and external salary equity of the School's faculty by department and discipline for setting salaries and determining annual salary increases and recently assessed gender equity in basic science faculty salaries. Given the significant impact of rank and time in rank on salaries, SCESF recommends attention, oversight and mentoring to ensure that women Associate Professors are being promoted to Full Professor in a timely manner. SCESF applauds the introduction of a separate systematic salary review process by the Provost's Office for FY2016 to highlight individual salary disparities associated with race, ethnicity and gender. The current SCESF report on FY2015 will serve as a comparative baseline, and next year SCESF will evaluate the impact of this additional salary review process on reducing salary inequities within discipline. To examine and monitor progress in discipline-specific disparities in the weighted and unweighted data, SCESF requests that data regarding gender disparity within rank and across disciplines be provided next year and on a continuing basis.

Response: Ensuring pay equity among Penn's faculty is a top priority for the President, the Provost and the Deans. The Provost and the Vice Provost for Faculty will continue their regular annual spring reviews of faculty salaries to monitor fairness and address unexplained differences between men's and women's salaries.

To assess institutional progress, the Provost's Office and the Office of Institutional Research and Analysis regularly analyze gender equity in compensation. The latest regression analysis of faculty salaries by gender in 2015, which SCESF describes in detail in its report, found that most of the differences across Schools were explained by the controlling for rank, time in rank, and discipline. The University will continue to analyze the data and work proactively with the Deans to make all necessary adjustments to sustain and accelerate forward progress in eliminating unexplained differences in salaries for men and women faculty. The interplay of retention, starting salaries, decisions about research discipline, timing of promotions and personal decisions about family in creating or maintaining salary differentials need to be better understood and taken into account in connection with University practices and policies. The Office of the Provost, in collaboration with the Deans, will continue to study these effects to ensure that the University's stated aims of achieving gender equity are achieved.

VII. Members of the Committee

2015-2016 Committee Members

Robert Hollebeek, SAS/Physics & Astronomy
Jerry Jacobs, SAS/Sociology
Mark Kahn, PSOM/Cardiovascular Medicine
Susan Margulies, SEAS/Bioengineering, Co-Chair
Andrew Postlewaite, SAS/Economics
Bob Stine, Wharton
Andrea Troxel, PSOM/Biostatistics and Epidemiology, Co-Chair

Ex Officio:

Claire Finkelstein, LAW, Faculty Senate Past Chair
Laura Perna, GSE, Faculty Senate Chair-Elect
Reed Peyeritz, PSOM/Medicine and Genetics, Faculty Senate Chair

The committee gratefully acknowledges the essential and invaluable assistance of J. Patrick Walsh of the Office of the Faculty Senate. The committee also notes that this year's report directly benefited from presentation and analysis described in reports from previous years and, where appropriate, some previous text is included here.

VIII. Tables

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/Metric		FY 2014-2015
Full Professor	Mean	4.1%
	Median	3.0%
Associate Professor	Mean	5.1%
	Median	3.0%
Assistant Professor	Mean	3.6%
	Median	3.0%
All Three Ranks	Mean	4.2%
	Median	3.0%
U.S. City Average CPI Growth	Mean	0.1%
Philadelphia CPI Growth	Mean	0.2%
Budget Guidelines	Mean	3.0%

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

FY 2014-2015 CPI growth for the US and for Philadelphia are based on a change in CPI from June 2014 to June 2015.

Table 2

Percentage of continuing Penn Standing Faculty members awarded percentage salary increases exceeding the percentage growth in the Consumer Price Index (CPI) for Philadelphia

Schools and Disciplinary Areas	Percentage of all Standing Faculty with Salary Increases Exceeding Growth in the CPI (Phila.) FY 2014 to 2015
Annenberg	100%
Dental Medicine	92.3%
Design	97.2%
Engineering & Applied Science	99.1%
Graduate Education	100%
Humanities (A&S)	99.4%
Law	100%
Natural Science (A&S)	100%
Nursing	100%
Perelman-Basic Science	92.4%
Social Policy & Practice	100%
Social Science (A&S)	100%
Veterinary Medicine	94.3%
Wharton	98.6%
All Schools/Areas	98.2%
U.S. City Average CPI Growth	0.1%
Philadelphia CPI Growth	0.2%
Budget Guidelines	3.0%

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

FY 2014-2015 CPI growth for the US and for Philadelphia are based on a change in CPI from June 2014 to June 2015.

Table 3

Percentage of continuing Penn Full Professors awarded percentage salary increases exceeding the percentage growth in the Consumer Price Index (CPI) for Philadelphia

Schools and Disciplinary Areas	Percentage of all Full Professors with Salary Increases Exceeding Growth in the CPI (Phila.) FY 2014 to 2015
Annenberg	100%
Dental Medicine	90.5%
Design	92.9%
Engineering & Applied Science	100%
Graduate Education	100%
Humanities (A&S)	99.0%
Law	100%
Natural Science (A&S)	100%
Nursing	100%
Perelman-Basic Science	88.9%
Social Policy & Practice	100%
Social Science (A&S)	100%
Veterinary Medicine	93.1%
Wharton	98.3%
All Schools/Areas	97.4%
U.S. City Average CPI Growth	0.1%
Philadelphia CPI Growth	0.2%
Budget Guidelines	3.0%

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

FY 2014-2015 CPI growth for the US and for Philadelphia are based on a change in CPI from June 2014 to June 2015.

Table 4
Rank of mean salaries of Penn faculty by academic fields as compared to universities participating in the American Association of Universities Data Exchange (AAUDE) survey

Academic Field	Fall 2009	Fall 2010	Fall 2011	Fall 2012	Fall 2013	Fall 2014
Full Professor						
Annenberg	1/40	1/41	1/41	1/39	1/43	1/43
Dental Medicine	2/44	9/45	10/45	9/43	9/44	11/44
Design	5/51	5/55	10/53	11/52	10/55	11/56
Engineering & Applied Science	11/53	13/57	13/55	14/54	13/58	14/59
Graduate Education	4/44	6/47	6/47	7/45	4/45	6/45
Humanities (A&S)	9/54	9/58	7/56	11/55	11/58	10/59
Law	7/37	8/40	7/39	8/38	7/39	8/38
Natural Science (A&S)	15/54	14/58	12/56	11/55	14/58	15/59
Nursing	2/24	1/17	1/19	1/19	1/21	3/23
Perelman–Basic Science	6/54	6/58	6/56	8/55	7/58	8/59
Social Policy & Practice	7/23	8/25	6/25	6/23	6/26	4/27
Social Science (A&S)	8/54	9/57	8/56	9/55	9/57	9/58
Veterinary Medicine	3/13	3/14	3/14	4/13	2/13	3/13
Wharton–Business & Management	4/51	5/55	5/53	2/52	3/55	2/56
Wharton–Public Policy	15/52	-	13/54	12/53	5/55	9/56
Wharton–Statistics	1/32	1/36	1/34	2/34	2/36	2/34
Associate Professor						
Annenberg	-	-	-	-	-	-
Dental Medicine	9/42	9/43	13/43	9/41	-	6/44
Design	3/51	3/55	1/51	3/51	3/52	3/54
Engineering & Applied Science	7/53	8/57	11/54	11/53	10/56	11/57
Graduate Education	4/44	8/48	8/45	9/44	9/44	6/45
Humanities (A&S)	12/54	12/57	11/55	13/54	12/57	10/58
Law	-	-	-	-	-	-
Natural Science (A&S)	14/54	14/58	15/56	17/55	17/58	15/58
Nursing	6/23	3/17	5/19	3/19	2/21	7/24
Perelman–Basic Science	7/54	8/58	4/55	4/54	3/57	4/58
Social Policy & Practice	-	-	-	-	-	-
Social Science (A&S)	8/54	7/57	8/56	14/55	10/56	7/57
Veterinary Medicine	9/13	11/14	6/14	6/13	7/13	7/13
Wharton–Business & Management	2/50	2/54	2/51	2/51	3/54	3/56
Wharton–Public Policy	-	-	-	-	-	-
Wharton–Statistics	-	3/31	2/27	2/30	-	-
Assistant Professor						
Annenberg	-	-	-	-	3/41	3/42
Dental Medicine	8/43	-	-	-	-	-
Design	4/50	6/55	6/51	4/50	5/54	7/55
Engineering & Applied Science	5/53	6/57	7/54	8/54	8/58	10/59
Graduate Education	6/43	7/47	-	15/43	12/44	13/44
Humanities (A&S)	14/54	14/58	14/56	17/55	14/58	13/59
Law	6/25	5/25	6/27	-	-	-
Natural Science (A&S)	15/54	15/58	15/56	22/55	16/58	18/59
Nursing	3/23	2/17	3/19	2/19	3/21	5/24
Perelman–Basic Science	10/54	8/58	6/56	9/55	9/58	10/59
Social Policy & Practice	6/25	6/25	-	5/24	5/26	5/27
Social Science (A&S)	11/54	8/57	7/56	8/55	7/57	8/58
Veterinary Medicine	5/13	6/14	5/14	5/12	5/13	5/13
Wharton–Business & Management	5/50	4/54	4/52	4/51	5/54	7/55
Wharton–Public Policy	1/51	-	1/54	1/53	1/52	1/55
Wharton–Statistics	-	-	-	-	-	-

NOTES: 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.

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 that contain fewer than five Penn faculty members.

Table 5

Percentage differences in mean academic base salary levels of Professors
at a sample of comparable research universities for Academic Years 2006-2007 through 2014-2015

Full Professors—Mean Academic Base Salaries: Percentage Differences*

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Stanford	5.0%	6.4%	7.4%	6.6%	7.6%	7.6%	10.9%	11.9%	13.6%
Columbia	3.8%	-0.5%	3.4%	10.9%	9.3%	8.9%	13.5%	12.1%	13.4%
Chicago	3.8%	4.6%	6.0%	8.2%	8.7%	8.9%	8.9%	9.6%	10.0%
Princeton	4.6%	5.5%	6.4%	6.4%	6.2%	6.7%	7.0%	7.2%	9.3%
Harvard	13.4%	13.2%	13.7%	12.4%	10.7%	9.3%	8.6%	7.7%	8.1%
Yale	0.7%	1.1%	3.1%	2.4%	1.1%	-0.7%	-0.4%	-0.1%	0.5%
Penn	\$156.5	\$163.3	\$169.4	\$170.1	\$175.1	\$181.6	\$187.0	\$192.3	\$197.5
MIT	-6.8%	-7.2%	-5.4%	-5.4%	-5.3%	-5.4%	-4.4%	-3.3%	-1.8%
Duke	-9.3%	-6.6%	-4.8%	-5.5%	-6.7%	-3.5%	-3.6%	-3.1%	-2.1%
Dartmouth	-11.5%	-9.5%	-8.8%	-9.4%	-9.9%	-10.7%	-10.5%	-9.5%	-9.6%
Cornell	-9.4%	-9.2%	-8.9%	-8.8%	-9.9%	-10.9%	-10.9%	-14.2%	-14.2%
Brown	-13.8%	-14.3%	-13.6%	-14.3%	-13.9%	-13.7%	-14.0%	-14.4%	-14.6%

NOTES: Penn academic base mean salaries are based on standing faculty members at the rank of Full Professor. Excluded are all members of the Faculty of Medicine except basic scientists, and all Standing Faculty members who are appointed as Clinician Educators. Data Source: AAUP Salary Surveys.

*Universities are ordered from highest to lowest percentage difference for Full Professors as of 2014-2015. 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.

Associate Professors—Mean Academic Base Salaries: Percentage Differences

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Columbia	-7.7%	-8.7%	-1.7%	6.2%	8.9%	6.1%	12.9%	21.6%	21.2%
Stanford	7.8%	13.7%	12.2%	12.9%	12.7%	11.4%	15.2%	17.3%	13.0%
MIT	-6.3%	-1.0%	-3.3%	0.7%	2.3%	2.1%	4.5%	6.4%	7.0%
Princeton	-1.3%	0.0%	0.2%	6.1%	7.4%	5.0%	10.1%	8.5%	6.2%
Harvard	-6.0%	-1.3%	-1.6%	6.1%	7.3%	2.6%	1.4%	3.6%	2.3%
Duke	-9.0%	-4.7%	-6.0%	-6.9%	-7.6%	-2.8%	2.3%	1.1%	1.3%
Penn	\$106.4	\$107.5	\$114.1	\$110.2	\$112.5	\$117.8	\$117.3	\$119.5	\$125.2
Chicago	-8.1%	-3.9%	-6.4%	-3.3%	-3.2%	-3.1%	0.3%	-0.5%	-0.7%
Cornell	-6.9%	-3.8%	-3.8%	-1.3%	-2.8%	-4.1%	-5.6%	-3.5%	-5.5%
Yale	-18.1%	-15.1%	-12.5%	-10.7%	-7.7%	-7.8%	-3.6%	-1.0%	-6.3%
Dartmouth	-10.2%	-7.0%	-8.7%	-5.0%	-4.6%	-7.9%	-4.9%	-4.9%	-9.6%
Brown	-21.1%	-18.1%	-19.5%	-16.6%	-14.0%	-15.7%	-11.9%	-10.0%	-10.3%

Assistant Professors—Mean Academic Base Salaries: Percentage Differences

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Stanford	-0.9%	-1.7%	2.9%	-1.8%	-3.2%	-2.2%	-4.2%	-0.4%	2.4%
Penn	\$91.8	\$95.9	\$98.0	\$102.3	\$106.8	\$112.3	\$116.2	\$118.0	\$119.6
MIT	-3.1%	-2.7%	-0.5%	-1.7%	-6.4%	-8.5%	-8.5%	-5.8%	-4.4%
Columbia	-12.3%	-16.1%	-9.0%	-9.8%	-9.0%	-11.8%	-9.0%	-6.0%	-4.6%
Harvard	-0.5%	-0.5%	3.5%	2.1%	-2.6%	-2.2%	-2.4%	-3.0%	-5.3%
Chicago	-7.1%	-5.4%	-0.3%	-2.2%	-5.9%	-8.6%	-11.6%	-10.5%	-6.1%
Duke	-10.2%	-9.0%	-6.5%	-12.2%	-18.4%	-14.5%	-16.3%	-12.3%	-11.9%
Princeton	-13.8%	-15.3%	-12.4%	-14.3%	-15.0%	-16.1%	-16.7%	-13.8%	-12.5%
Cornell	-6.4%	-6.4%	-4.6%	-9.8%	-9.6%	-13.6%	-15.8%	-16.6%	-13.6%
Dartmouth	-16.7%	-16.9%	-15.1%	-18.9%	-20.0%	-20.1%	-23.1%	-20.3%	-16.3%
Yale	-15.1%	-14.9%	-12.2%	-16.3%	-18.1%	-20.1%	-18.9%	-18.7%	-16.7%
Brown	-20.9%	-21.9%	-21.6%	-23.3%	-24.3%	-26.7%	-26.0%	-24.7%	-22.8%

Table 6

Full Professors: Median academic base salary percentage increases of faculty continuing in rank who were Penn Full Professors for FY2015, along with the first and third quartile salary increases

School/Area	First Quartile (Q1), Median (Md.), and Third Quartile (Q3) Percentage Salary Increases, FY 2014-2015		
	Q1	Md.	Q3
All Schools	2.7%	3.0%	3.7%
Annenberg	3.0%	3.4%	3.5%
Dental Medicine	2.0%	3.8%	3.8%
Design	2.5%	2.5%	2.5%
Engineering & Applied Science	2.5%	3.2%	4.0%
Graduate Education	2.4%	3.3%	4.0%
Humanities (A&S)	2.7%	2.8%	3.2%
Law	2.9%	3.1%	3.5%
Natural Science (A&S)	2.7%	2.9%	3.5%
Nursing	3.0%	3.3%	5.3%
Perelman—Basic Science	2.9%	3.0%	4.0%
Social Policy & Practice	3.0%	3.0%	3.5%
Social Science (A&S)	2.8%	2.9%	3.3%
Veterinary Medicine	2.1%	3.0%	3.0%
Wharton	2.9%	3.2%	4.2%
Budget Guidelines	3.0%		

NOTES: The Budget Guideline is provided for comparison purposes. As per Penn policy, it is a guideline for the salary increment pool for all Standing Faculty members in each School, but not specifically for each rank.

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

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

The median (Md.) percentage salary increase is the mid-point of all increases within each School and rank (i.e. half of all increases are below the median and half are above).

The difference between the third (Q3) and first quartile (Q1) percentages provides a measure of variability in the percentage increases for each School and rank.

At the lower end of the salary increase percentages, 25% of all increases are below Q1, while 75% are above.

Median increases are reported only if the number of faculty members in a given School and rank is five or more; quartile increases are reported only if the number of faculty members is nine or more.

Table 7
Associate Professors: Median academic base salary percentage increases of faculty continuing in rank who were Penn Associate Professors for FY2015, along with the first and third quartile salary increases

School/Area	First Quartile (Q1), Median (Md.) and Third Quartile (Q3) Percentage Salary Increases FY 2014-2015		
	Q1	Md.	Q3
All Schools	2.7%	3.0%	3.6%
Annenberg	-	-	-
Dental Medicine	-	-	-
Design	-	3.0%	-
Engineering & Applied Science	2.3%	3.2%	4.5%
Graduate Education	3.0%	3.3%	3.6%
Humanities (A&S)	2.7%	2.9%	3.4%
Law	-	-	-
Natural Science (A&S)	2.5%	2.8%	3.6%
Nursing	2.5%	2.8%	3.2%
Perelman–Basic Science	2.2%	3.0%	3.4%
Social Policy & Practice	-	-	-
Social Science (A&S)	3.0%	3.1%	3.5%
Veterinary Medicine	2.5%	3.0%	3.0%
Wharton	3.0%	3.1%	3.9%
Budget Guidelines	3.0%		

NOTES: The Budget Guideline is provided for comparison purposes. As per Penn policy, it is a guideline for the salary increment pool for all Standing Faculty members in each School, but not specifically for each rank.

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

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

The median (Md.) percentage salary increase is the mid-point of all increases within each School and rank (i.e. half of all increases are below the median and half are above).

The difference between the third (Q3) and first quartile (Q1) percentages provides a measure of variability in the percentage increases for each School and rank.

At the lower end of the salary increase percentages, 25% of all increases are below Q1, while 75% are above.

Median increases are reported only if the number of faculty members in a given School and rank is five or more; quartile increases are reported only if the number of faculty members is nine or more.

Table 8

Assistant Professors: Median academic base salary percentage increases of faculty continuing in rank who were Penn Assistant Professors for FY2015, along with the first and third quartile salary increases

School/Area	First Quartile (Q1), Median (Md.) and Third Quartile (Q3) Percentage Salary Increases FY 2014-2015		
	Q1	Md.	Q3
All Schools	2.9%	3.0%	3.5%
Annenberg	-	3.5%	-
Dental Medicine	-	-	-
Design	2.5%	3.5%	5.0%
Engineering & Applied Science	3.1%	3.8%	4.0%
Graduate Education	-	3.3%	-
Humanities (A&S)	2.8%	2.9%	4.0%
Law	-	-	-
Natural Science (A&S)	2.9%	3.0%	3.3%
Nursing	-	2.6%	-
Perelman—Basic Science	3.3%	3.3%	4.3%
Social Policy & Practice	-	3.0%	-
Social Science (A&S)	2.8%	2.9%	3.3%
Veterinary Medicine	2.0%	3.0%	3.0%
Wharton	3.0%	3.1%	3.5%
Budget Guidelines	3.0%		

NOTES: The Budget Guideline is provided for comparison purposes. As per Penn policy, it is a guideline for the salary increment pool for all Standing Faculty members in each School, but not specifically for each rank.

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

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

The median (Md.) percentage salary increase is the mid-point of all increases within each School and rank (i.e. half of all increases are below the median and half are above).

The difference between the third (Q3) and first quartile (Q1) percentages provides a measure of variability in the percentage increases for each School and rank.

At the lower end of the salary increase percentages, 25% of all increases are below Q1, while 75% are above.

Median increases are reported only if the number of faculty members in a given School and rank is five or more; quartile increases are reported only if the number of faculty members is nine or more.

Table 9
Mean academic base salary levels of Penn Standing Faculty members who continued in rank by rank.

Faculty on paid leave or unpaid leave are reported at their full salary.

Rank	Academic Year	Metric	Amount	Not Weighted	Weighted
Full Professor					
2010-2011		Mean	\$177,139	1.69	1.82
		Median	\$161,270	1.85	1.81
2011-2012		Mean	\$183,176	1.66	1.81
		Median	\$166,463	1.80	1.80
2012-2013		Mean	\$188,537	1.64	1.82
		Median	\$171,500	1.88	1.82
2013-2014		Mean	\$194,443	1.66	1.83
		Median	\$176,072	1.86	1.84
2014-2015		Mean	\$200,643	1.67	1.84
		Median	\$182,017	1.84	1.81
Associate Professor					
2010-2011		Mean	\$112,139	1.07	1.23
		Median	\$100,474	1.15	1.21
2011-2012		Mean	\$115,457	1.05	1.22
		Median	\$102,929	1.11	1.21
2012-2013		Mean	\$117,826	1.02	1.21
		Median	\$104,508	1.14	1.21
2013-2014		Mean	\$119,064	1.02	1.22
		Median	\$106,900	1.13	1.24
2014-2015		Mean	\$124,375	1.04	1.24
		Median	\$109,283	1.11	1.23
Assistant Professor					
2010-2011		Mean	\$104,693	1.00	1.00
		Median	\$87,105	1.00	1.00
2011-2012		Mean	\$110,157	1.00	1.00
		Median	\$92,400	1.00	1.00
2012-2013		Mean	\$115,168	1.00	1.00
		Median	\$91,400	1.00	1.00
2013-2014		Mean	\$117,100	1.00	1.00
		Median	\$94,480	1.00	1.00
2014-2015		Mean	\$119,825	1.00	1.00
		Median	\$98,728	1.00	1.00

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

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

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
Full Professor						
2010-2011	\$135,000	\$161,270	\$209,131	\$74,131	0.46	14
2011-2012	\$139,318	\$166,463	\$218,935	\$79,617	0.48	14
2012-2013	\$142,300	\$171,500	\$224,500	\$82,200	0.48	14
2013-2014	\$145,500	\$176,072	\$232,093	\$86,593	0.49	14
2014-2015	\$149,037	\$182,017	\$240,350	\$91,313	0.50	14
Associate Professor						
2010-2011	\$86,613	\$100,474	\$117,300	\$30,687	0.31	13
2011-2012	\$90,000	\$102,929	\$120,025	\$30,025	0.29	13
2012-2013	\$91,950	\$104,508	\$122,829	\$30,879	0.30	13
2013-2014	\$94,800	\$106,900	\$123,500	\$28,700	0.27	13
2014-2015	\$98,088	\$109,283	\$129,878	\$31,790	0.29	14
Assistant Professor						
2010-2011	\$76,000	\$87,105	\$135,000	\$59,000	0.68	14
2011-2012	\$78,849	\$92,400	\$146,000	\$67,151	0.73	14
2012-2013	\$82,025	\$91,400	\$158,000	\$75,975	0.83	13
2013-2014	\$83,659	\$94,480	\$161,000	\$77,341	0.82	14
2014-2015	\$85,807	\$98,728	\$164,375	\$78,568	0.80	14

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

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Table 11
Percentage salary increase distribution of faculty who continued in rank by sex and rank

Rank	Sex	First Quartile (Q1), Median (Md.), and Third Quartile (Q3) Percentage Salary Increases, FY 2014-2015		
		Q1	Md.	Q3
Full Professor	Men	2.7%	3.0%	3.7%
	Women	2.8%	3.0%	3.6%
Associate Professor	Men	2.6%	3.0%	3.6%
	Women	2.8%	3.0%	3.6%
Assistant Professor	Men	2.9%	3.1%	3.5%
	Women	2.8%	3.0%	3.6%

NOTES: All salaries are converted to a nine-month base. Academic base salary increases pertain to all Penn Standing Faculty members with an appointment at the time of the fall census for both years. Faculty members on paid leave or unpaid leave are reported at their full salaries.

Excluded are all members of the Faculty of Perelman except basic scientists, all Clinician Educators from four Schools (Dental Medicine, Veterinary Medicine, Nursing and Social Policy & Practice), faculty members on phased retirement and Deans of all Schools.

Table 12
Mean academic base salary levels of Penn Standing Faculty members who continued in rank by rank and sex.

Faculty on paid leave or unpaid leave are reported at their full salary.

Rank/Academic Year/Metric		Unweighted			Weighted			Men	Women
		Women	Men	% Difference	Women	Men	% Difference	Unweighted	Weighted
Full Professor									
2010-2011	Mean	\$166,221	\$180,044	8.3%	\$171,066	\$180,044	5.2%	\$13,823	\$8,978
	Median	\$152,030	\$163,900	7.8%	\$168,798	\$175,223	3.8%		
2011-2012	Mean	\$172,035	\$186,174	8.2%	\$179,594	\$186,174	3.7%	\$14,139	\$6,580
	Median	\$158,631	\$169,112	6.6%	\$178,739	\$180,688	1.1%		
2012-2013	Mean	\$178,939	\$191,240	6.9%	\$187,240	\$191,240	2.1%	\$12,301	\$4,000
	Median	\$167,606	\$172,921	3.2%	\$186,092	\$187,320	0.7%		
2013-2014	Mean	\$183,418	\$197,811	7.8%	\$192,926	\$197,811	2.5%	\$14,393	\$4,885
	Median	\$169,373	\$179,000	5.7%	\$192,634	\$194,587	1.0%		
2014-2015	Mean	\$188,619	\$204,309	8.3%	\$199,277	\$204,309	2.5%	\$15,690	\$5,032
	Median	\$175,975	\$185,000	5.1%	\$197,029	\$200,227	1.6%		
Associate Professor									
2010-2011	Mean	\$103,011	\$116,923	13.5%	\$112,262	\$116,923	4.2%	\$13,912	\$4,661
	Median	\$93,557	\$105,175	12.4%	\$111,660	\$110,827	-0.7%		
2011-2012	Mean	\$107,783	\$119,589	11.0%	\$118,744	\$119,589	0.7%	\$11,806	\$845
	Median	\$97,250	\$108,000	11.1%	\$116,755	\$116,911	0.1%		
2012-2013	Mean	\$107,877	\$123,145	14.2%	\$119,492	\$123,145	3.1%	\$15,268	\$3,653
	Median	\$98,350	\$110,153	12.0%	\$120,071	\$120,546	0.4%		
2013-2014	Mean	\$108,925	\$125,067	14.8%	\$119,010	\$125,067	5.1%	\$16,142	\$6,057
	Median	\$100,127	\$112,750	12.6%	\$121,612	\$123,634	1.7%		
2014-2015	Mean	\$111,971	\$132,825	18.6%	\$121,576	\$132,825	9.3%	\$20,854	\$11,249
	Median	\$103,625	\$118,076	13.9%	\$122,624	\$130,632	6.5%		
Assistant Professor									
2010-2011	Mean	\$98,764	\$108,534	9.9%	\$105,754	\$108,534	2.6%	\$9,770	\$2,780
	Median	\$82,250	\$90,253	9.7%	\$102,731	\$104,510	1.7%		
2011-2012	Mean	\$104,768	\$113,590	8.4%	\$109,870	\$113,590	3.4%	\$8,822	\$3,720
	Median	\$84,913	\$94,425	11.2%	\$106,917	\$110,934	3.8%		
2012-2013	Mean	\$104,802	\$121,832	16.3%	\$118,812	\$121,832	2.5%	\$17,030	\$3,020
	Median	\$86,398	\$97,732	13.1%	\$116,624	\$122,590	5.1%		
2013-2014	Mean	\$109,758	\$122,033	11.2%	\$117,788	\$122,033	3.6%	\$12,275	\$4,245
	Median	\$89,400	\$100,435	12.3%	\$115,358	\$118,212	2.5%		
2014-2015	Mean	\$112,695	\$124,649	10.6%	\$121,025	\$124,649	3.0%	\$11,954	\$3,624
	Median	\$92,716	\$103,128	11.2%	\$118,706	\$122,042	2.8%		

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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.

Table 13
Employer contributions to retirement accounts and to dependent undergraduate tuition at Penn and Ivy Plus peer group

University	Maximum Employer Contribution to Retirement Accounts*	Dependent UG Tuition Benefit to Attend Home Institution#	Dependent UG Tuition Benefit to Attend Other Institution#
Penn	9%°	75% (\$33,453)	100% (up to \$17,535)
Brown	10%	23% (\$10,816)	100% (up to \$10,816)
Carnegie Mellon	8%	100% (\$48,030)	\$28,818
Columbia	9-11.2%†	100% (\$50,526)	50% (up to \$25,263)
Cornell	10%	50% (\$24,558)	30% (up to \$14,735)
Dartmouth	10%	0	0
Duke	None	75% (\$35,738)	\$35,738
Harvard	10%	0	0
Michigan	10%	0	0
MIT	10%	100% (46,400)	up to \$23,200
NYU	10%	90-100% (\$45,278-40,750)	up to \$5,860
Princeton	9.3-12.45%†	36% (\$16,180)	50% (up to \$16,180)
Stanford	10%	50% (\$22,865)	50% (up to \$22,865)
Chicago	8%	100% (\$36,770)	100% (up to \$36,770)
Yale	10-11.38%†	32% (\$15,200)	50% (up to \$15,200)
Median Max Benefit (without Penn)	10%	\$23,712	\$15,690

*Retirement account data as of July 2015. Service minimums to qualify vary by institution. Combined contributions to 403(b) and 401(a) accounts for oldest age bracket; only salary up to \$265,000 is eligible. A portion requires employee contribution to qualify.

°Penn highest age bracket for Retirement Accounts is age 40 and over.

†Contribution rate differs above and below Social Security Wage base of \$118,500.

#Tuition Benefits data as of July 2015. Conditions to qualify vary by institution. Some benefits include tuition only; others include fees. At Duke, only tuition above \$6650 is eligible. Percent is amount of extramural tuition that could be covered, and dollars are the maximum benefit available for the benefit for "away" tuition.