

Salary Equity Committee Report

March 2017

Formation and Charge

During late spring 2015, Dr. Tony Frank, President of Colorado State University (CSU), called for the creation of a committee of internal and external experts to analyze Colorado State University's faculty salary equity model and provide recommendations of effective practices that would strengthen the work conducted at the University. The Salary Equity Committee (Committee) was appointed through nominations received from and reviewed with the leadership of the Standing Committee on the Status of Women Faculty, the President's Commission on Women and Gender Equity, and the Faculty Council.

Subsequently, Dr. Rick Miranda, Provost and Executive Vice President, charged the Committee at the first meeting held October 26, 2015. In the charge, Dr. Miranda spoke to:

- A desire to put CSU on a path to reach an appropriate balance in the area of faculty salary equity.
- A desire for a model that employs a best practice in methodology.
- Consider gender as well as other subpopulations in the use of the model.



- Consider how to address extraordinary events such as retention efforts.
- Consider how to extend the model beyond tenured and tenure-track faculty to include salary equity analyses for non-tenured faculty, administrative professional and state classified employee groups.
- A goal for CSU to be a model nationally for salary equity analyses.
- The Committee to communicate the final report publicly to the campus community.

Timeframe: March for recommendation of model in time for use during the spring salary exercise; full report by the end of the academic year.

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Membership

The following are members of the Salary Equity Committee:

Mary Dunn Baker, Managing Director, Berkeley Research Group

Dan Bush, Vice Provost for Faculty Affairs, Office of the Provost, Colorado State University

Nick Cummings, Assistant Director, Office of Equal Opportunity, Colorado State University

Sue Doe, Associate Professor, Department of English, Colorado State University

Tammy Donahue, Professor, Department of Mechanical Engineering, Member of the Standing Committee on the Status of Women Faculty, Colorado State University

Ellen Fisher, Professor, Department of Chemistry, Member of the Standing Committee on the Status of Women Faculty, Colorado State University

Marcia Gumpertz, Assistant Vice Provost, Office for Institutional Equity & Diversity, North Carolina State University

Laura Jensen, Associate Provost, Office of Institutional Research, Planning and Effectiveness, Colorado State University

Mary Meyer*, Professor, Department of Statistics, Colorado State University

Diana Prieto, Executive Director, Human Resources and Equal Opportunity, Colorado State University

Jerry Reiter, Professor, Department of Statistical Science, Duke University

Angelica Stacy, Associate Vice Provost for the Faculty, Office for Faculty Equity & Welfare, University of California Berkeley

Colleen Webb, Professor, Department of Biology, Colorado State University

* **Dr. Mary Meyer** served on the Salary Equity Committee from its origin until her resignation in November 2016, and she had great influence over the Committee's work. Dr. Meyer was a main contributor, identifying and refining the models the Committee is recommending. She reviewed and was able to comment on the *Committee Report* and the *FY17 Faculty Salary Equity Analysis Report*.

Development of the Model

The Committee met eleven times from mid-fall 2015 through early spring 2017. During the course of the committee's work, subcommittees formed at various times to work with the data sets and experiment with different models, work with the model selected to create the report, work on the communication plan to faculty and campus, and conduct pilot sessions of the report and communication plan.

During the first meeting of the Committee on October 26, 2015, Drs. Stacy, Reiter and Gumpertz, external members of the Committee, provided an overview of the work conducted on each of their campuses and resulting model being used to conduct salary equity studies at their universities. Dr. Baker, a consultant, shared an overview of the work she has done in connection with salary equity studies at various universities and some key considerations for the Committee. The addition of external members to the Committee and time spent learning about what was explored and done on three other campuses, and through Dr. Baker as a consultant, was a purposeful exploration of models and variables to learn what options exist for consideration as the Committee embarked on the work of identifying models and variables for CSU. In addition, Dr. Meyer had conducted research into salary equity models as she worked to develop a model she employed while working with

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the Office of Institutional Research, Planning and Effectiveness (IRPE) in FY 14.

Through the course of three meetings, the Committee discussed in depth what variables should be considered and ultimately included in the model. The Committee also discussed at length the between-group model and the individual model to be recommended. The between-group models identify salary differences by gender or minority status for further examination at the institutional level. The individual model helps to identify individual salaries that appear to be outliers and thus, require further examination. The Committee identified the use of the term “group center” to refer to the concept of “a distribution of values” in place of the idea of a regression line (as was used previously), a median “target,” or a “predicted salary.” Note that the between-group model and the results of the analyses should not be used as a predictor of salary.

Drs. Meyer and Jensen reported to the Committee on several occasions the results of the analyses they conducted using different data sets, most recently the fiscal year 2017 (FY17) data set. Additional data sets include the FY16 data set, the FY15 data set, and various data sets that excluded specific individuals or groups of individuals who held administrative positions or were otherwise compensated for reasons beyond being a faculty member (e.g., University Distinguished

Professors, endowed chairs, center directors, etc.). Dr. Webb and Mr. Cummings also reported on their findings using the initial data set (i.e., the FY16 data). Each of these four members of the Committee worked independently with the data set and explored an approach and resulting findings in preparation for the meeting of this small group. The work with the initial data set of Drs. Meyer, Jensen, Webb and Mr. Cummings yielded similar results. As this small group discussed their work and findings, the group gravitated toward the model presented by Drs. Meyer and Jensen given the robust work done by Drs. Meyer and Jensen, and supported by the similar results reached by all four working independently with the same data set. Information specific to the between-group analysis can be found in the *FY17 Faculty Salary Equity Analysis* report accompanying this *Committee Report*.

A separate model was considered to analyze individual faculty members’ salaries to understand if a salary falls within an expected range. The Committee decided to use a regression model. For each rank, the logarithm of the 9-month salary (log salary) was used as the dependent variable. The 9-month salary was calculated for 12-month contracts using a 0.75 conversion. The 9-month standardized salaries were then subjected to a logarithmic transformation. The independent variables are years in rank and department. A separate regression

model for each rank was used to assess how much salary variance is related to each of the independent variables. The predicted log salary for each faculty is, in the end, transformed to a dollar amount. The residual is the actual 9-month salary minus the predicted 9-month salary resulting from that transformation. At the Committee’s determination, if the residual value was greater than 20 percent below or above the group center 9-month salary, it was flagged for explanation by the department chairs/heads and/or dean. Faculty will have the ability to view their data through the IRPE website and can make corrections through HR if errors are discovered.

During reports of the work with the models and data, the Committee defined “minority” to mean all underrepresented groups under the federal definition of minority (Latino/a, Black/African American, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, and Two or More Races/Ethnicity). Minority, as defined federally, is the variable included in the salary equity study and includes international faculty. Demographic information, race/ethnicity and gender, for each faculty member is collected from each faculty member through an invitation to self-identify pursuant to the affirmative action program and held in the Human Resources (HR) system. Under the federal definition, gender is defined by the binary of male and female.

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Variables

I. Model Inputs

The following considerations were discussed for incorporation and agreed upon based on data that currently resides in the HR system or could be collected and verified, in addition to the Committee's understanding of the predictive nature of the variables. Rank, demographic data (gender and race/ethnicity), time in rank, and experience through hire date or years in rank are commonly used variables by other institutions. The variables decided on for use in the between-group model are a subset of the variables considered and discussed and were ultimately selected for use based on current availability of accurate data in the HR system that is reliable.

Variables Included

- Years in current rank
- Home department
- Demographics (gender or minority status)

Variables Considered

- Date of current rank
- Date of first tenure track position
- Date of each promotion
- Exclude transitional faculty
- Generally include department-level administrators
 - include department chairs/heads at 0.75 FTE of salary with indicator that individual is chair/head

- exclude assistant and associate deans
- Distinguished professor or endowed chair (run model with and without)
- Base salary – 9 months

Through the Office of Institutional Research, Planning and Effectiveness, a survey was conducted during spring 2016 of all department chairs/heads, seeking current information in connection with the variables to ensure the most accurate information was obtained to run the analyses. IRPE also conducted a curriculum vitae review to verify data obtained from chairs/heads, as well as to obtain missing data in order to have the most complete data set possible.

In addition to this audit exercise of the data, the Committee discussed and recommends an exercise during the salary exercise in spring 2017 that would seek to verify the information collected associated with each tenured and tenure-track faculty member. The exercise would be a process of information verification through each department during the salary exercise meeting between the department chair/head and the faculty member. During this exercise, the faculty member would also be able to provide updated information directly to the Human Resources Department. The additional exercises to verify and collect accurate information strengthens the data set used to run the salary equity analyses in a manner not previously done at CSU.

II. Observations

As part of the consideration of the variables to be included in the model, as well as the outcomes from the most recent analyses using the most robust data set, the Committee discussed a range of factors that could contribute to any differences in salaries observed in the data. The Committee acknowledges and agrees that the data do not allow a conclusion of a causative relationship in connection with these elements. However, a confluence of different factors could affect any individual faculty member's salary, including but not limited to service assignments, performance/productivity achievements, favoritism, as well as other departmental dynamics. Nevertheless, it is important to also acknowledge that the Committee's deliberations included a robust discussion of these factors, especially in conjunction with the development of recommendations that could potentially address or reveal the impact of these factors.

In addition, the Committee acknowledges the salary differences that exist across disciplines driven by market value. A variety of factors lead the market, and society, to place different values on different disciplines. The Committee recognizes that disciplines with high female participation can be valued less by the market than disciplines with high male participation. Thus, salaries in traditionally female occupied disciplines are lower than salaries in traditionally male occupied disciplines. The Committee's discussion focused on the need to emphasize and

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prioritize appropriate search processes that do not erect barriers to entry or movement for women and minority applicants, as well as the importance of robust recruitment efforts during searches for open faculty positions to increase representation of women and minorities in applicant pools and hires.

An analysis of the intersection of gender and minority status is important. Due to small numbers, it is not meaningful to conduct a statistical analysis. Therefore, IRPE will conduct a manual review, visual inspection, of the data to determine if there is an area of concern of salaries that are low or a low clump of salaries within a department based on the intersection of gender and minority status. Observations made by IRPE about salaries of concern will be shared with the appropriate chair/head and dean for review and explanation.

Recommendations

I. Implementation and Analyses

- Based on the results of the salary equity study using the recommended between-group model, the Committee recommends the University explore the causes of potential differences in salaries and the mechanisms that explain these differences for female full professors and minority associate professors.
- The Committee recommends the creation of an internal review body by college to review individual salaries that are noted for further inquiry. The internal review process must be transparent. The review

would also allow a separate avenue for an individual salary review of a faculty member's salary beyond the current process through the chair/head of the department.

- Periodic exploration of time-to-promotion from associate to full professor should be undertaken to identify, understand and address any barriers to promotion for all faculty, particularly women and minorities.
- Formal and informal mentoring programs should be created within colleges and across the University to assist faculty to obtain tenure and promotion through greater guidance and understanding of stated and unstated requirements in a department and college. For women and minority faculty, mentoring can also assist to navigate politics within a department and college.

II. Guidance for Department Chairs/Heads

- Department chairs/heads will require guidance and education on how to use the individual model and the salary equity data reported during the salary exercise as well as how to engage in conversation with faculty in their departments about the faculty member's salary and salary equity. The Committee recommends creating a structured process to provide the required guidance and education to department chairs/heads.
- A measure of accountability of department chairs/heads and

deans should be created to ensure the salary equity data are part of the annual review process between the department chair/head and faculty member.

- The recommended between-group model does not include effort distribution between research, teaching and service because of the differences in the percentage effort distribution for each faculty member and because this data is not housed in CSU's HR system and is not readily and accurately available. The Committee notes during the execution of annual performance evaluations the importance that each chair/head bring to bear an understanding of the differences in the contributions by faculty in a department to teaching and service. A method to better quantify service might assist the evaluation of service by chairs/heads during the annual evaluation exercise.

III. Models

- The Committee recommends continued and periodic efforts to ensure data are entered into the HR system and the data entered are complete and accurate, specifically at the departmental level.
- The models recommended and used for the between-group and individual analyses and inquiries should be reviewed after three years for effectiveness and appropriateness to CSU. After this first review, the Committee recommends further reviews every five years.

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Colorado State University

The full report of the Committee's analysis and findings
of the salary equity study can be accessed online at:
<http://www.ir.colostate.edu/data-reports/faculty/salary-equity/>

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