ANALYSIS OF SALARY EQUITY BY GENDER AND, AMONG MEN, ETHNICITY

UNIVERSITY OF CALIFORNIA RIVERSIDE

2013-2014

OVERVIEW

The analysis discussed in this report was conducted in response to the request from the University of California Office of the President (UCOP) in August of 2013 that each of the campuses examine equity in faculty salaries by gender and ethnicity. The report includes a description of the background of this project on our campus, the method and results of our analysis, and, finally, our conclusions and recommendations for future study of these issues on the UCR campus.

BACKGROUND

Early in 2013, UCR submitted a plan to UCOP to analyze equity in faculty salaries by gender and ethnicity. The plan called for the formation of a Committee composed of four administrators, three faculty, and one administrative staff member. The plan was very brief and lacked important details. It also called for conducting the salary equity analysis in conjunction with the OFCCP compliance audit currently underway on the campus.

Since that time, several campus changes led to a revision of the plan. In spring of 2013, Professor Mary Gauvain (Department of Psychology and past Chair of the UCR Faculty Senate) was appointed as an Associate Vice Provost (AVP) in the Office of Academic Personnel and she assumed responsibility for the Salary Equity Study on the campus. In the summer of 2013, the AVP reviewed the study plan and changed the committee membership to one that was evenly split between faculty and administration. In addition, closer examination of the OFCCP audit and the needed data and goals of the salary equity study indicated that it would be more efficient and informative to carry out the salary equity study separately from the OFCCP audit. To this end, EVC/Provost Rabenstein and VPAP Bocian agreed to make the necessary data files available from the office of Academic Personnel for the salary equity study. The VPAP committed funds to utilize the UCR Statistical Consulting Collaboratory (http://collaboratory.ucr.edu) to work with the Committee in conducting the analysis. UCR Statistics Professor Daniel Jeske, Chair of the Department of Statistics and Director of the Collaboratory (http://collaboratory.ucr.edu), was hired and he has worked closely with the Committee in cleaning up the data set, conducting the data analyses as outlined by the Committee, consulting with the Committee regarding the findings, and preparing the report.

SALARY EQUITY STUDY COMMITTEE

This committee, formed in October of 2013, included three faculty members nominated by the Senate who represented diversity in faculty rank and academic unit, three campus administrators, and staff support from the VPAP office. The following individuals served on the committee:

- Mary Gauvain (AVP, Professor of Psychology, Committee Chair)
- Kimberly Hammond (Professor of Biology)

- Mindy Marks (Associate Professor of Economics)
- Mark Matsumoto (Associate Dean of Bourns College of Engineering, Professor of Environmental Engineering)
- Katina Napper (Assistant Vice Provost for AP, Committee Staff Support)
- Michael John Orosco (Assistant Professor in the Graduate School of Education)
- Thomas Perring (AVP for Undergraduate Education, Professor of Entomology)

The charge to the committee was as follows:
The committee is charged with devising and implementing a method to analyze faculty salary equity on the UCR campus. The method will be used to examine equity in relation to gender and for men by minority status. Results of the analysis will be made available no later than June 15, 2014, and the method and results will be transparent and accessible to the campus.

In fall of 2013, the Committee decided on an analysis plan that was then used to guide the work of Professor Jeske. Early in 2014, the Committee met with Professor Jeske to examine and discuss the results of the initial analyses, some revisions to analysis parameters were made, and a second set of analyses was conducted. The Committee met again with Professor Jeske to examine the results, discuss the format and timetable for the final report, and devise recommendations for the administration regarding the results and future salary equity studies on the campus. The Committee, with the assistance of Professor Jeske, wrote the final report, which was forwarded to the Chancellor and EVC/Provost. In keeping with the goal of transparency, the full report will be made available to the campus on the Academic Personnel website in the summer of 2014.

METHOD
The goals of the Committee were twofold: (1) determine the current status on the campus regarding salary equity among the faculty by gender and, for men, by minority status, and (2) devise an analytical approach that can be used on a biannual basis to examine equity in faculty salaries on these dimensions.

Quantitative methods were used to analyze salary data of ladder-rank UCR faculty from the 2010-2011 academic year, which included 672 faculty members (213 females, 459 males). The method was based on approaches used by several other UC campuses and on the *2009-10 UC Systemwide Analysis of UC Pay Equity by Sex and, Among Men, Ethnicity*, conducted by UCI Professor Pauline Yahr and based on the AAUP recommended approach with some adaptations.

A series of multiple regression models were conducted to examine the contribution of various objective work-related factors in explaining any differences that may exist between the predicted and actual salaries of UCR faculty by gender and ethnicity. Three analyses were conducted: two multiple regressions using initial salary and current salary as dependent variables, respectively, and a confirmatory analysis for the results that used current salary. Two sets of decisions were important in setting up the analysis: (1) the faculty groups and subgroups to examine and the salary values and (2) the predictor variables entered into the regression equations. Each of these decisions is discussed below.

We were also concerned with what to do with outliers, that is any faculty salaries that fell into the bottom or top 10% of the expected salary range. Our recommendations on this issue are in the final section of the report.

Grouping variables

Faculty data were broken down into groups based on gender, ethnicity, college, and, in some cases, department. All data were identified for gender. Ethnicity was based on a faculty member's self-identification from a list of 14 ethnic categories: African American, Black, American Indian, Asian, Chinese, Filipino, Japanese, Other Asian, Pakistan/East Asian, Latin American/Hispanic, Mexican, Other Spanish, White (not Hispanic), Unknown. Because many of the categories had few instances, some related categories were grouped together, which resulted in six groups: (1) African American, Black; (2) American Indian; (3) Asian, Chinese, Filipino, Japanese, Other Asian, Pakistan/East Asian; (4) Latin American/Hispanic, Mexican, Other Spanish; (5) White (not Hispanic); and (6) Unknown. The breakdown of the sample by gender and the six ethnic categories is shown in Table 1.

Table 1. Faculty included in the sample broken down by gender and ethnic category.

Ethnic Category	Female	Male	Total
American-Indian	2	2	4
Asian	49	103	152
Black	7	12	19
Hispanic	17	21	38
Unknown	10	13	23
White	128	308	436
Total	213	459	672

The majority of academic units on the campus are included in the analysis. There are seven colleges/schools: Business (SOBA); Education (GSOE); Engineering (BCOE); Humanities, Arts, and Social Sciences (CHASS); Medicine (SOM); Natural and Agricultural Sciences (CNAS); and Public Policy (SPP). SOM was recently formed, however, it was built up from the prior unit of Biomedical Sciences (BIOMED), which is included in the analysis. The newest academic unit, the School of Public Policy (SPP), did not have any faculty at the time period of the data and was excluded. The number of faculty in each of the colleges by gender and ethnicity is reported in the relevant sections below.

Values and variables

The important values and variables in these analyses are (a) the value used to describe the salary of individual faculty members, and (b) the variables used in the equations to predict the expected and actual salaries.

a. ***Salary value.*** Most faculty on the campus have a 9-month base salary, however, some individuals have an 11-month base salary. In both salary groups, some individuals have an additional off-scale component and some do not. Individual salary values were set at a 9-month salary for all ladder-rank faculty, which entailed a standardization of the 11-month salary amounts. The salary value included the base salary rate and any off-scale salary amounts for each faculty.

b. ***Predictor variables***. The predictor variables of primary interest were gender and ethnic category, but others considered were, Decade of Hire, College, Department within College, Rank Upon Hire, Step within Rank, and Years at UCR. When analyzing current salary, the initial salary was used as an additional predictor variable.

RESULTS

Results of three analyses are presented. First, the results for the analysis of initial salary are presented. Next, results for the analysis of current salary are presented, and finally, the confirmatory analysis of current salary is presented.

Initial Salary Analysis

The number of faculty in this analysis broken down by gender and college is shown in Table 2; the number of faculty broken down by ethnicity and college is shown in Table 3.

Table 2. Faculty included in the initial hire analysis broken down by gender and college.

	Initial BCOE	Initial CHASS	Initial CNAS	Initial GSOE	Initial SOBA	Initial SOM	Total
Female	10	124	54	10	7	8	213
Male	80	160	183	11	19	6	459
Total	90	284	237	21	26	14	672

Table 3. Faculty included in the initial hire analysis broken down by ethnicity and college.

	Initial BCOE	Initial CHASS	Initial CNAS	Initial GSOE	Initial SOBA	Initial SOM	Total
American -Indian	0	4	0	0	0	0	4
Asian	35	39	60	2	14	2	152
Black	2	15	0	2	0	0	19
Hispanic	2	24	7	3	2	0	38
Unknown	5	16	2	0	0	0	23
White	46	186	168	14	10	12	436
Total	90	284	237	21	26	14	672

Eight candidate predictor variables were considered for the multiple regression involving initial salary. These variables were:

1. Decade of Hire
2. College Hired Into
3. Department within College
4. Rank Hired Into
5. Step within Rank
6. Ethnic Category
7. Gender
8. Ethnic Category × Gender Interaction

The first five of the variables in this list were all statistically significant contributors to the regression model, with *p*-values smaller than .0001. The last three variables were not statistically significant, with respective *p*-values of 0.76, 0.88 and 0.97. Using the traditional model fitting strategy of dropping statistically insignificant variables from the model, a reduced model was fit to update the coefficients on the significant variables. The R-square value for the fitted reduced model is 0.90.

To represent the fit of the reduced model, a baseline intercept was established for a specific faculty salary. The baseline value chosen was $170.01 (represented in units of $1000), which is the salary of an above-scale Full Professor in SOM hired after 2010. The fitted model coefficients are increments to the baseline salary for different faculty profiles; these are shown in Figure 1. Increments for decade effects correspond to a hire prior to 1970 and for all decades between the 1970 and 2010. Increments for college effects correspond to each of the six colleges a faculty could be hired into.

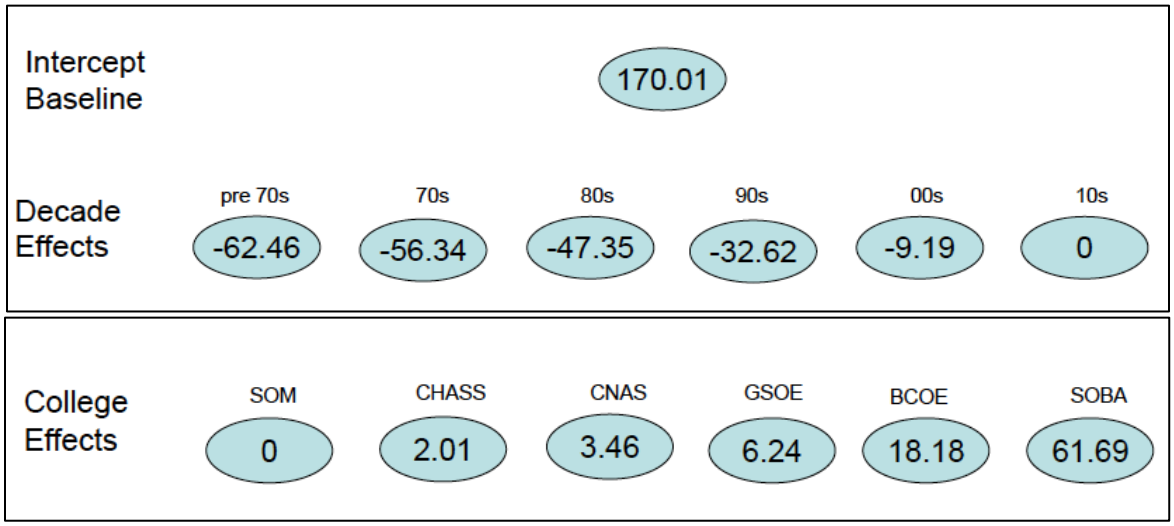


Figure 1. Tree diagram of multiple regression coefficients for initial salary analysis.

The lists below show the increments for individual departments within colleges. In the cases of GSOE, SOBA and SOM, where there is only one department, these increments are zero and therefore not shown.

BCOE: Mechanical engineering (-3.54), Chemical/Environmental Engineering (-3.28), Bioengineering (-2.79), Electrical Engineering (0), Computer Science and Engineering (4.57).

CHASS: Religious Studies (-5.94), Theatre (-5.67), Women's Studies (-5.49), Creative Writing (-4.21), Hispanic Studies (-3.23), Ethnic Studies (-2.74), History (-2.33), Media Studies (-2.03), Music (-1.78), Political Science (-1.69), Sociology (-1.53), Art History (-0.57), Art (-0.27), Dance (0), Literature and Foreign Languages (0.06), Anthropology (1.72), English (1.76), Psychology (2.21), Philosophy (6.66), Economics (19.57)

CNAS: Biology (-3.96), Mathematics (-2.25), Plant Pathology and Microbiology (-2.07), Chemistry (-1.49), Entomology (-1.36), Cell Biology and Neuroscience (-0.17), Statistics (0), Earth Science (0.02), Biochemistry (0.77), Physics and Astronomy (3.02), Environmental Science (3.02), Nematology (3.25), Botany and Plant Science (4.25)

Increments for faculty rank and for step within rank are shown in the Figure 2.

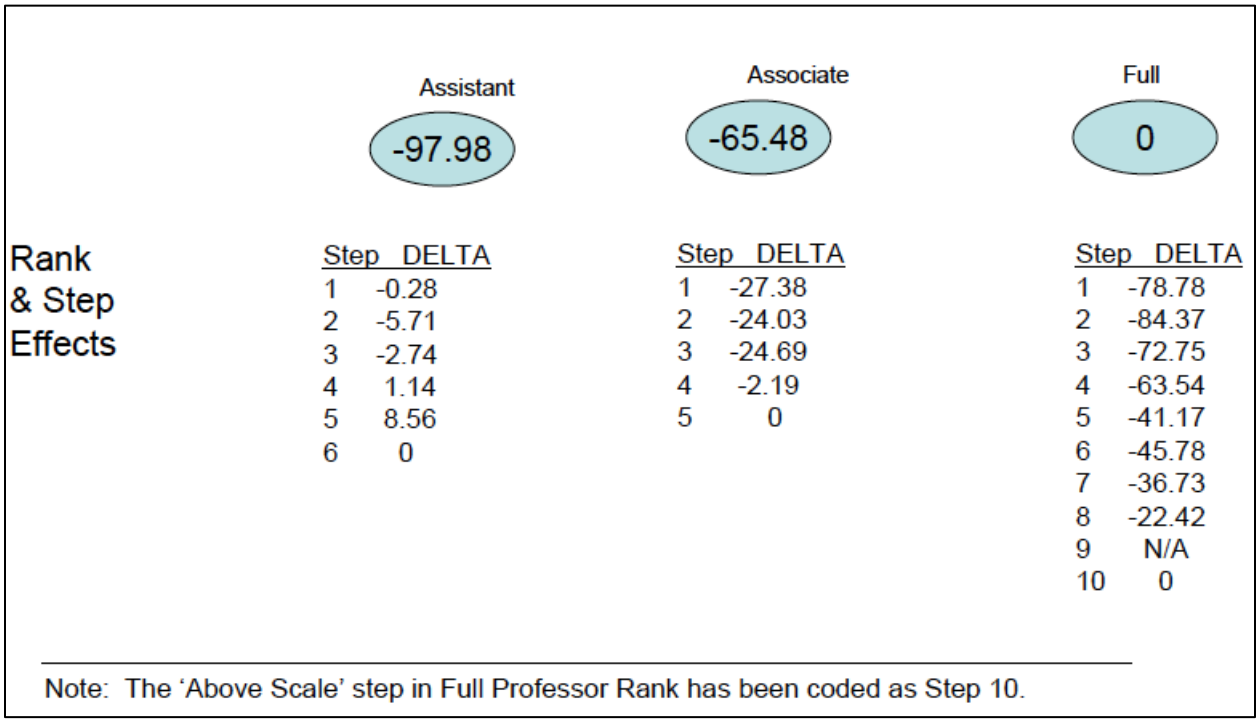


Figure 2. Multiple regression coefficients for faculty rank and step for initial salary.

Prediction example. The increments obtained by fitting the reduced multiple regression model were then used to predict the initial or starting salary for a faculty member hired in a particular decade into a specific college and/or department at a particular rank and step. For example, consider an Associate Professor Step II hired into the CNAS Statistics Department in 2004. To calculate this professor's salary the baseline value is adjusted by the decade value that included the year 2004, then the college value for CNAS was added, followed by the value for the Department of Statistics, followed by the value for the rank of associate professor, and concluding with the value for Step II in the associate professor rank. This calculation yielded an initial or starting salary of $74.77 (represented in units of $1000). The specific values used to predict this salary are in Figure 3.

Fig. 3. Faculty salary prediction example for an Associate Professor Step II hired in the CNAS Statistics Department in 2004.

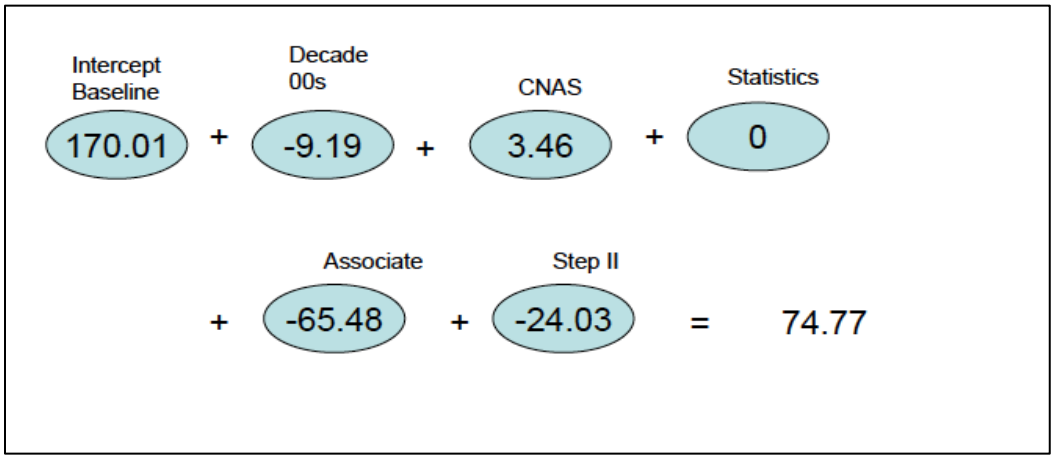


Figure 3. Faculty salary prediction example for an Associate Professor Step II hired in the CNAS Statistics Department in 2004.

The actual initial salary for one such professor who falls into the criteria set forth in Figure 3 was 70.2, which is lower but potentially within a reasonable range of salary levels for faculties in this category.

Standard analyses of residuals were used to judge the adequacy of the required assumptions needed for valid model interpretation. Results are shown in Figure 4. Although the upper left hand panel hints at heteroscedasticity in the error structure, it was judged to not be serious enough to warrant more sophisticated types of estimation methods such as weighted least squares. The reasoning behind this judgment was that the *p*-values for the significant variables are so small and those for the non-significant variables are so large that any chance of reversals in model interpretations seems slight. The figure's center panel shows each individual salary data point. The tight cluster of values around the centerline suggests that there are few outliers of predicted values compared to actual initial salaries of the faculty, and also reflects the high R-square value (0.90). In the bottom left panel, the frequency distribution of the residuals is shown as a histogram. The curve fitted over the histogram shows that the residuals center on zero, which implies that model predictions will have low bias.

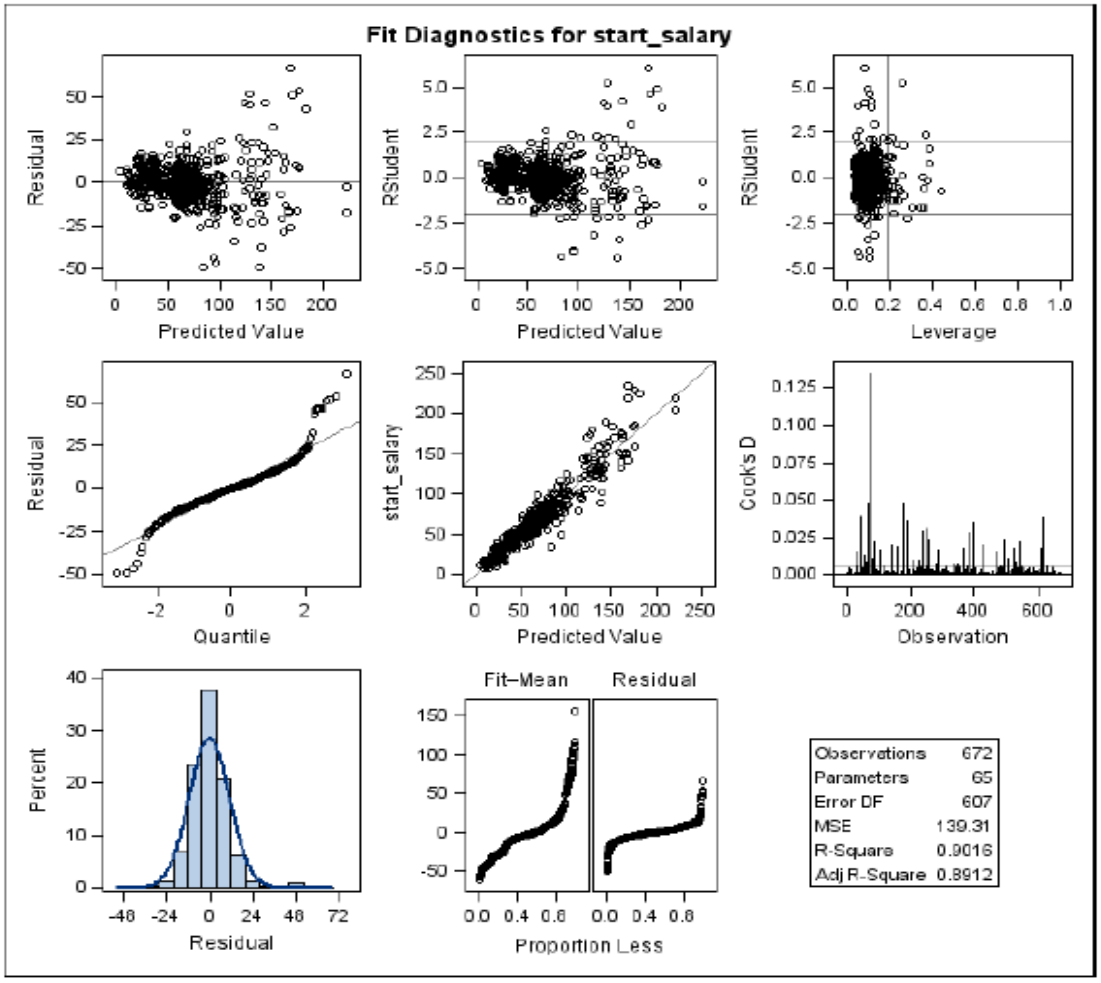


Figure 4. Fit diagnostics for initial salary model.

Summary of Results of the Initial Salary Analysis. Multiple regression analysis was used to identify predictor variables that are important for explaining initial salary levels. Results revealed that the following variables were significant predictors for initial salary: Decade of Hire, College Hired Into, Department within College, Rank Hired Into, and Step within Rank. Neither gender nor ethnic category was a significant factor in predicting initial salary. In addition, the interaction between gender and ethnic category was not significant, suggesting that ethnic category did not explain any differences in initial salary for men or women. Thus, based on this analysis, there is no relation between faculty initial or starting salary and gender or ethnic category for men or women.

Current Salary Analysis

The analysis of current faculty salaries used the same general multiple regression approach as was used for initial salary. It considered the following candidate predictor variables:

1. Start Salary
2. Current College
3. Current Department within College
4. Current Rank
5. Current Step within Rank
6. Ethnic category
7. Gender
8. Ethnic Category × Gender Interaction

The first six of the variables in this list were all statistically significant contributors to the model, with *p*-values smaller than .0001. The last two variables were not statistically significant, with respective *p*-values of 0.25 and .74. Dropping the insignificant variables, a reduced model was fit to update the coefficients on the remaining variables. All the variables in the reduced model were highly significant (*p*-values on the order of .0001) in the model and the R-square value of the fit was 0.92.

Some of the model coefficients used in Figure 5 are similar in manner to that shown in Figure 1 for initial salary. The coefficient 0.228 is used as a multiplier of the initial salary, whereas all other coefficients are used as increments.

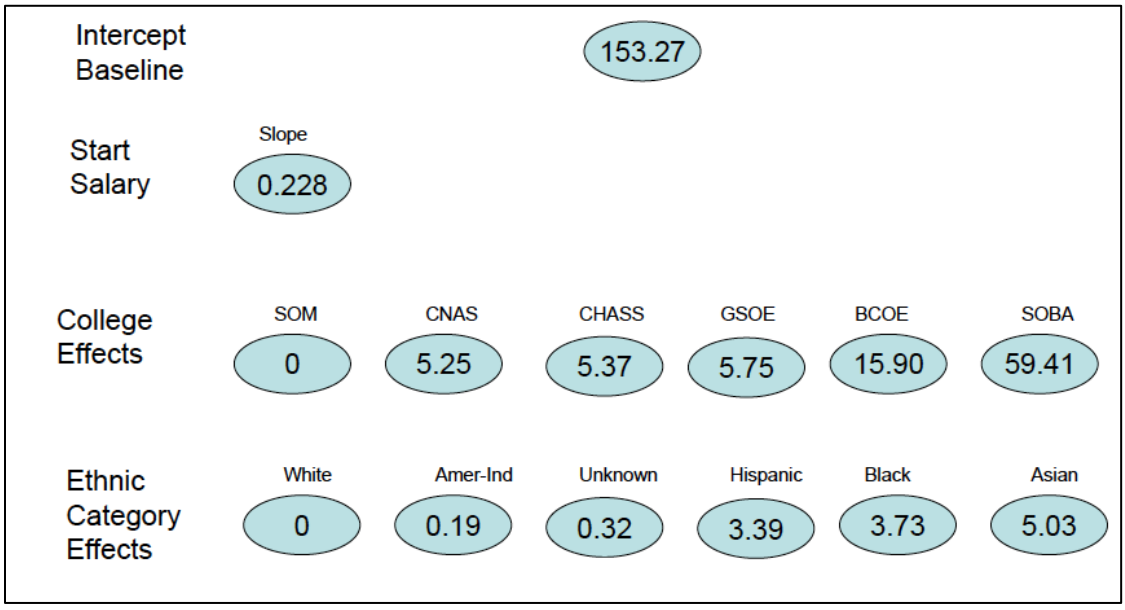


Figure 5. Tree diagram of multiple regression coefficients for current salary analysis.

Increments for each department in colleges with more than one department are shown in the lists below.

BCOE: Mechanical engineering (-1.78), Electrical Engineering (0), Bioengineering (4.35), Chemical/Environmental Engineering (5.16), Bioengineering (-2.79), Computer Science and Engineering (6.83)

CHASS: Hispanic Studies (-7.70), Women's Studies (-5.67), Religious Studies (-5.31), Ethnic Studies (-4.01), Media Studies (-2.99), Art History (-2.91), Art (-2.85), Theatre (-2.76), Music (-2.33), Literature and Foreign Languages (-2.19), History (-0.33), Anthropology (0.07), Dance (0), Creative Writing (0.75), Sociology (0.80), English (2.96), Political Science (5.19), Psychology (5.78), Philosophy (11.67), Economics (24.88)

CNAS: Mathematics (-1.43), Biochemistry (-0.79), Statistics (0), Plant Pathology and Microbiology (1.82), Cell Biology and Neuroscience (1.95), Chemistry (2.98), Nematology (2.99), Entomology (3.79), Earth Science (4.12), Environmental Science (4.14), Physics and Astronomy (5.67), Biology (7.51), Botany and Plant Science (7.79)

Increments for faculty rank and for step within rank appear in Figure 6.

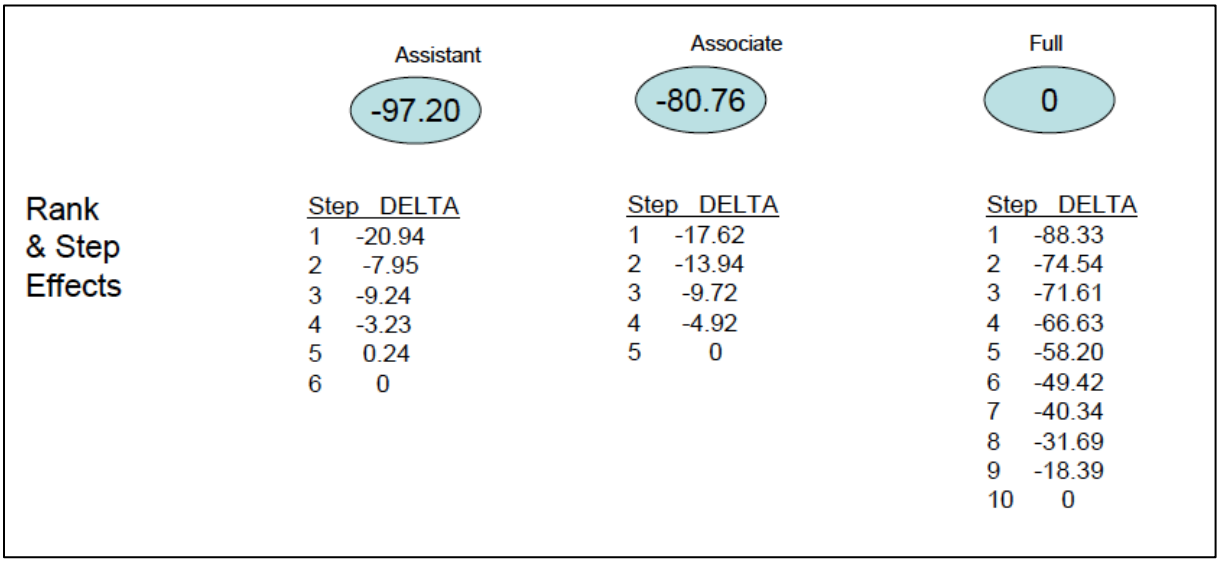


Figure 6. Multiple regression coefficients for faculty rank and step for current salary.

Prediction examples. To illustrate use of the model, the current salary is predicted for three hypothetical faculty members.

Example 1 is a Full Professor Step VII in the BCOE Electrical Engineering Department with a starting salary of $84.8 (represented in units of $1000) and identified as Asian. The values used to calculate the predicted salary for this faculty are in Figure 7. The actual current salary of one such individual who meets this description is $143.3.

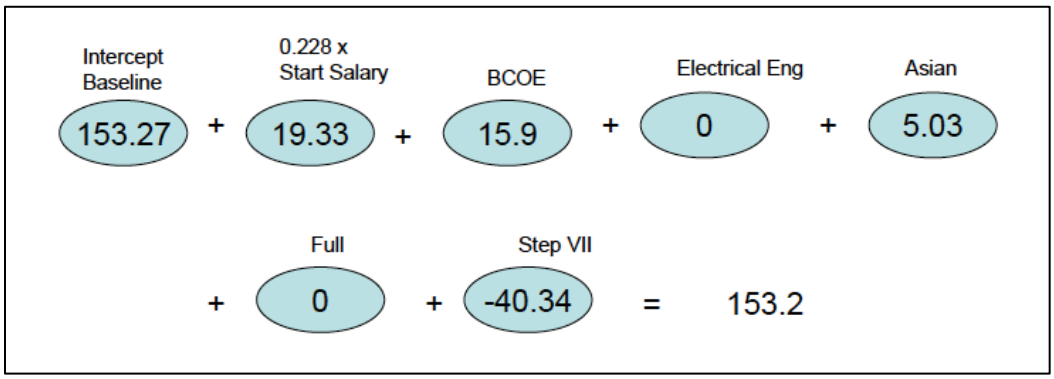


Figure 7. Faculty salary prediction Example 1, a Full Professor at Step VII in the BCOE Electrical Engineering Department identified as Asian.

Example 2 is a Full Professor Step VII in the BCOE Mechanical Engineering Department who had a starting salary of $76.57 (represented in units of $1000) and is identified as Asian. The values used to calculate the predicted salary for this faculty are in Figure 8. The actual current salary of one such individual who meets this description is $151.3.

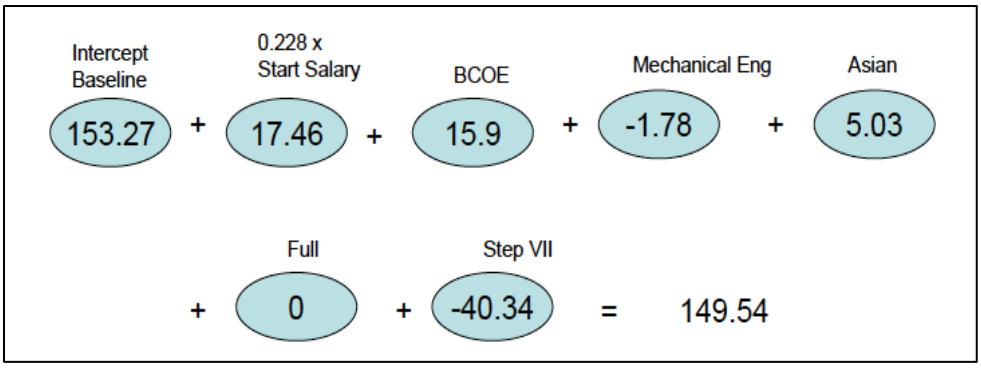


Figure 8. Faculty salary prediction Example 2, a Full Professor at Step VII in the BCOE Mechanical Engineering Department and identified as Asian.

Example 3 is an Assistant Professor Step III in the CHASS History Department who had a starting salary of $58.9 (represented in units of $1000) and is identified as Black. The values used to calculate the predicted salary for this faculty are in Figure 9. The actual current salary of one such individual who meets this description is $65.2.

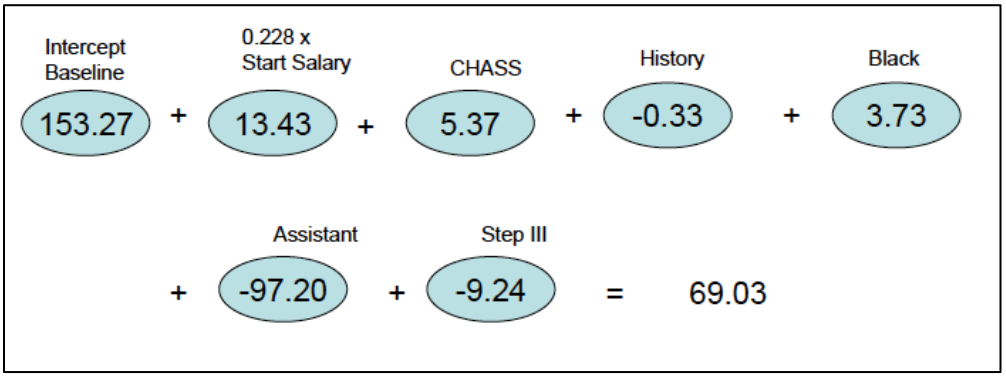


Figure 9. Faculty salary prediction Example 3, an Assistant Professor at Step III in the CHASS History Department and identified as Black.

As before, standard analyses of residuals were used to judge the adequacy of the required assumptions needed for valid model interpretation. Results are shown in Figure 10. The same comments made for the analysis of initial salary apply here as well, with the major conclusion being that there is no evidence in the residual analyses that cause concern about the validity of the model interpretation.

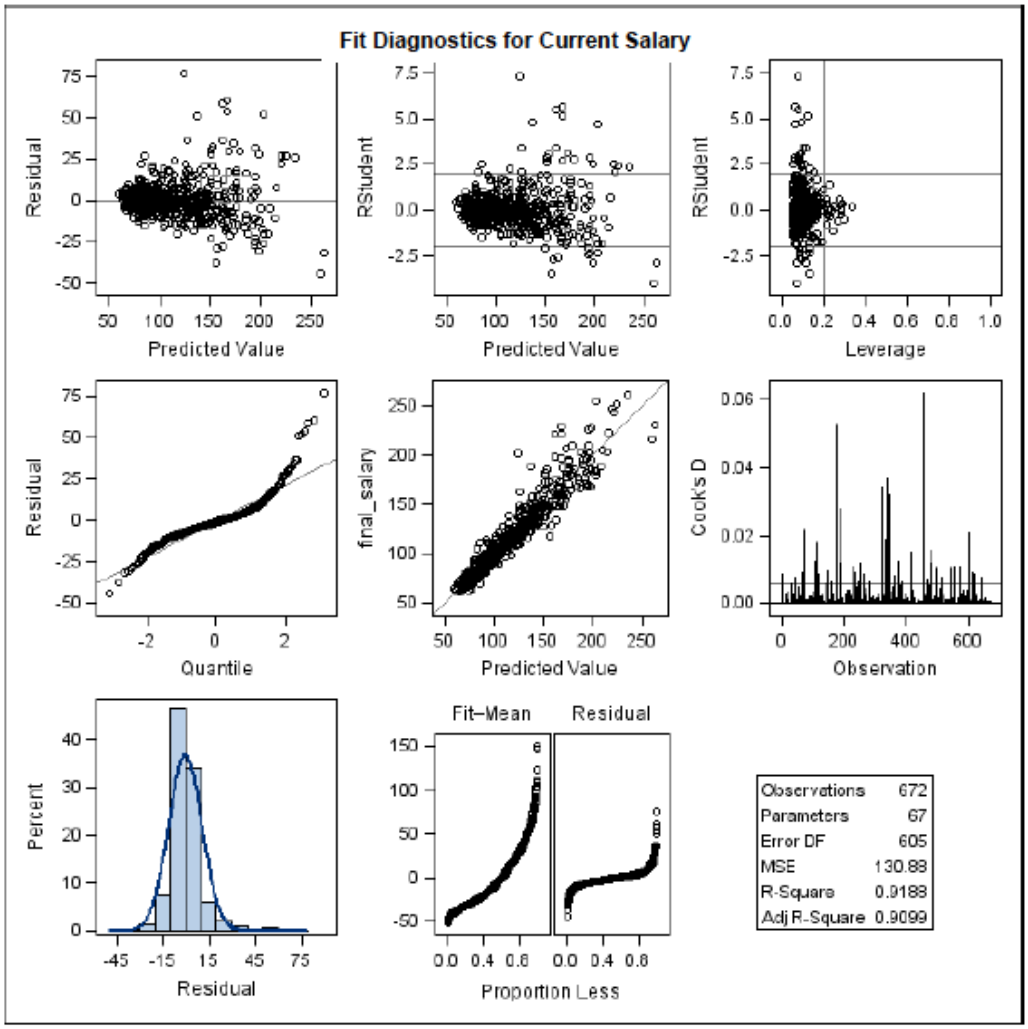


Figure 10. Fit diagnosis for current salary model.

Summary of Results of Current Salary Analysis. Multiple regression analysis was used to identify predictor variables that are important for explaining current salary levels. Results revealed that the following variables were significant: Starting Salary, Current College, Current Department within College, Current Rank, Current Step within Rank, and Ethnic Category. Gender was not a significant factor in predicting current salary. Also, the interaction between ethnic category and gender was not significant, indicating that current salaries for men (and for women) when considered separately do not differ by ethnic category. As a significant main effect, ethnic category predicts current salary independently of gender.

To examine further the effect of ethnic category, the mean values for current faculty salaries were compared across the ethnic categories. The arithmetic (unadjusted) mean and the least squares (adjusted) mean for current salary by ethnic category are shown in Table 4. The least squares or adjusted mean accounts for the fact that the arithmetic mean

includes other inequitable effects. For example, there may be a smaller percentage of Asians and Whites in Departments that have lower salaries. Least squares means account for the inequities.

Planned comparisons of the least squares means indicate that the effect for ethnic category is driven largely by higher salaries among faculty identified as Asian, compared to Whites (*p*-value less than .0001). No other contrast between two ethnic groups is statistically significant.

Table 4. Adjusted and unadjusted means of current faculty salaries by ethnic category.

Ethnic Category	N	Arithmetic Mean	Least Squares Mean
American-Indian	4	97.4	103.62
Asian	152	111.61	108.46
Black	19	99.86	107.16
Hispanic	38	100.25	106.82
Unknown	23	98.16	103.75
White	436	113.98	103.43

Confirmatory Analysis of Current Salary

This final analysis examined current faculty salaries using multiple regression with a modified set of candidate predictor variables. Rank and Step were removed as candidate predictor variables and Years of Experience at UCR was included in an effort to remove any potential for administrative bias associated with promotions into rank and step levels. In other words, this analysis unlinks the coupling of current salary to the UCR system tables. The set of candidate predictor variables considered, along with their *p*-values from the fitted model, are

1. Starting Salary (< .0001)
2. Current College (.27)
3. Current Department within College (.086)
4. Ethnic category (.049)
5. Gender (.40)
6. Ethnic Category × Gender Interaction (.97)
7. UCR Years of Experience (<.0001)
8. UCR Years of Experience × Gender (.90)

The reduced model utilizes just starting salary, Ethnic category and UCR Years of Experience. Figure 11 displays the coefficients of the fitted model.

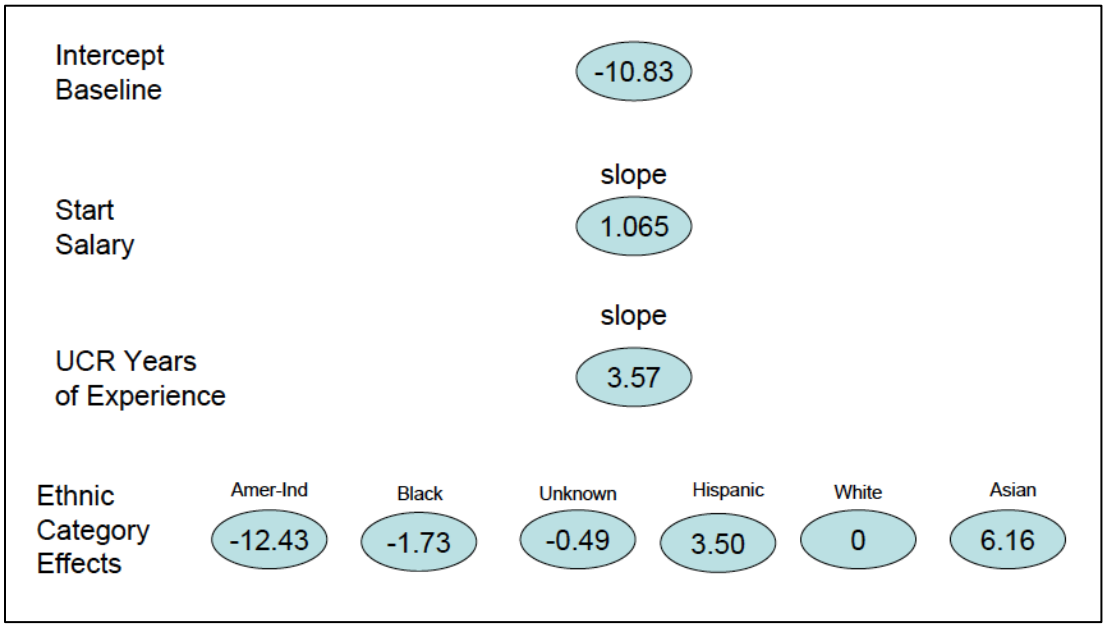


Figure 11. Tree diagram of multiple regression coefficients for confirmatory analysis of current salary.

Prediction examples. To illustrate use of the model, the current salary is predicted for two hypothetical faculty members.

Example 1 is an Asian faculty member with a starting salary of $84.8 (represented in units of $1000) and 13 years of experience at UCR. The values used to calculate the predicted salary for this faculty are in Figure 12. The actual current salary for one such professor is $143.30. (Note: The salary value predicted in the prior analysis was $153.30.)

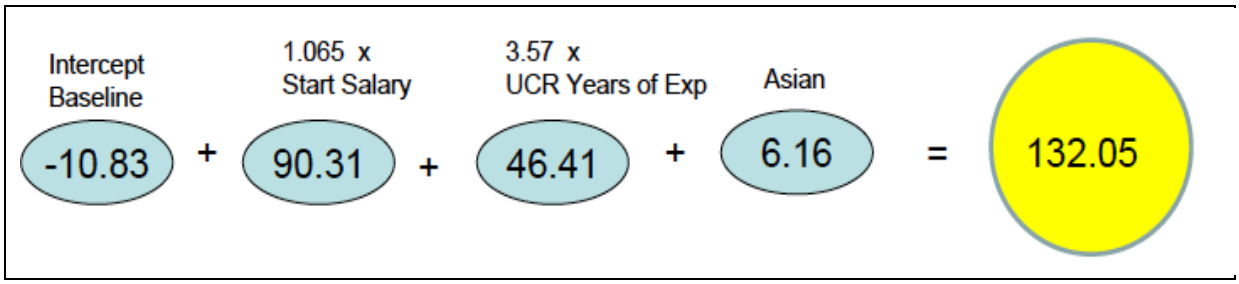


Figure12. Current salary prediction Example 1, an Asian faculty member with 13 years of experience at UCR.

Example 2 is a Black faculty member with a starting salary of $58.9 (represented in units of $1000) and 5 years of experience at UCR. The values used to calculate the predicted salary for this faculty are in Figure 13. The actual current salary for one such professor is $65.2. (Note: The salary value predicted in the prior analysis was $66.95.)

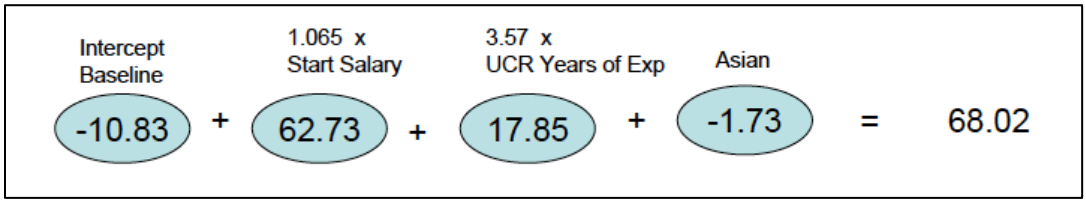


Fig. 13. Current salary prediction Example 2,
a Black faculty member with 5 years of experience at UCR.

The residual analyses for the fitted model is shown in Figure 14. The heteroscedasticity is a little more pronounced, but as this was a confirmatory analysis, we chose not to address the issue based on the view that what is of primary interest is the consistency we see in how gender and ethnic category enter into the model.

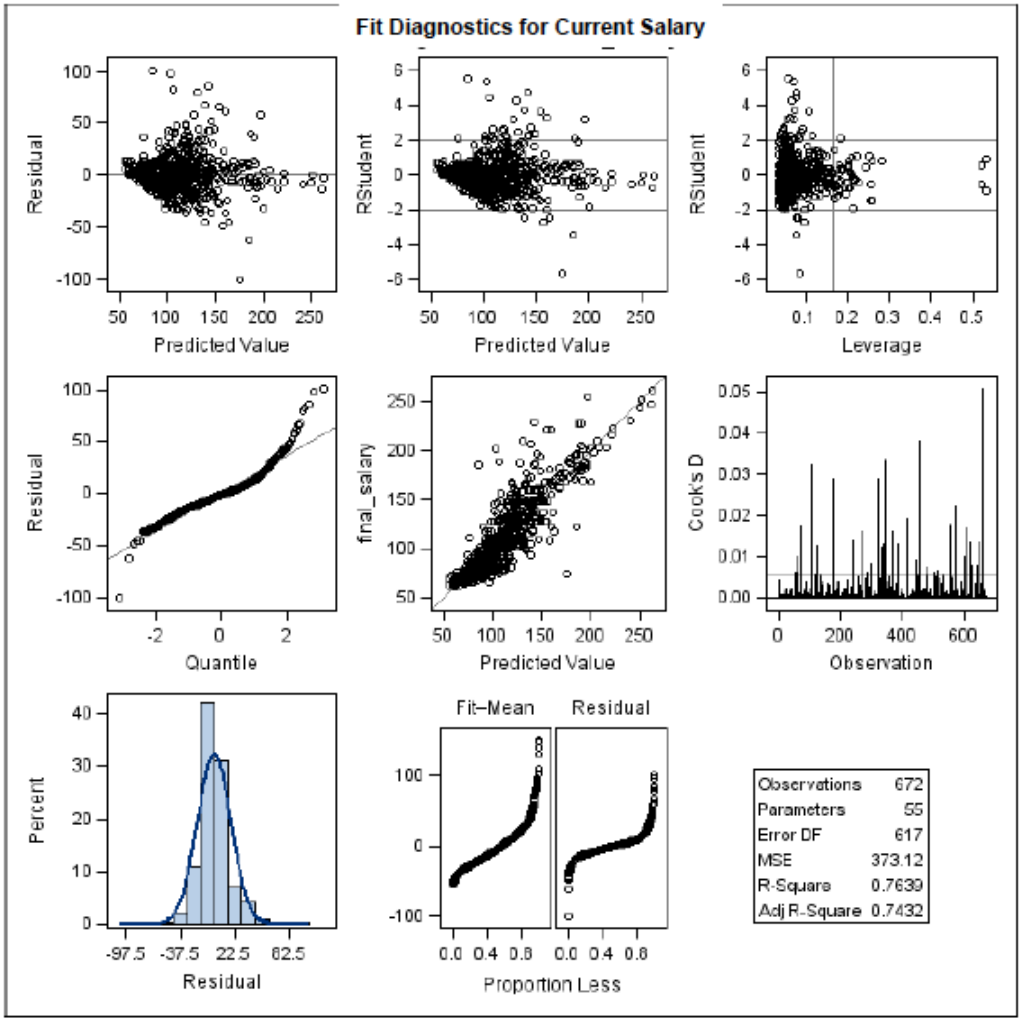


Figure 14. Fit diagnostics for confirmatory analysis salary model.

OVERALL SUMMARY OF THE RESULTS

Based on the three salary analyses, there does not seem to be any strong indication of inequity related to gender or ethnic category either in the initial salaries or current salaries of the UCR faculty. Only one status variable emerged as significant and it indicated higher current salaries among Asian than White faculty.

CONCLUSIONS AND RECOMMENDATIONS

The present results are consistent with the results reported for the UCR campus in the *2009-2010 UC Salary Equity Study*, which can be found at the following link (http://senate.universityofcalifornia.edu/PayEquityReportAllPagesJune2011.pdf). Both studies indicate little evidence of salary inequities on the UCR campus related to faculty gender or ethnic category, either in initial or current salary. Regular examination of these patterns is important, however, to ascertain that no inequities along these dimensions arise in the future.

The Committee recommends that the campus use the method implemented here on a biannual basis to continue to investigate this issue. The Committee also recommends that, in future studies, the method is augmented with additional analyses that probe these two faculty dimensions further. Although the UC salary tables are integral to the system, they make it difficult to detect discrimination among the faculty by status categories by looking at salaries alone. Other factors that may be important to consider in future analyses include:

- Tenure success rate
- Time to Associate Professor Rank
- Success rate from Associate to Full Professor

On this point, we conducted a cursory analysis of Time to Advancement by Gender to illustrate how such an analysis might be conducted in the future and the different type of information it might yield relative to the current findings. Of the 672 faculty in the data set, we identified the proportion initially hired in the ranks of Assistant, Associate, and Full Professor. This information, broken down by gender, is in Table 5. As the table shows, most faculty regardless of gender are hired in as Assistant Professors. The number of faculty hired into the Associate rank is evenly split by gender. However, the hiring of Full Professors is significantly weighted toward males.

Table 5. Male and female faculty hired into the different faculty ranks.

	Initial Assistant	Initial Associate	Initial Full	Total
Female	177 83%	19 9%	17 8%	213
Male	327 71%	41 9%	91 20%	459
Total	504	60	108	672

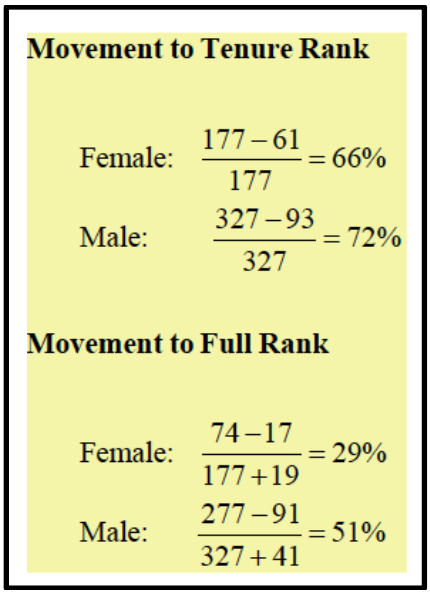
We also examined the current rank of male and female faculty (see Table 6). Again, the gender distribution at the Assistant Professor is close to evenly split, however, a larger difference by gender occurs in both of the higher ranks.

Table 6. Male and female faculty currently in the faculty ranks.

	Current Assistant	Current Associate	Current Full	Total
Female	61 29%	78 37%	74 35%	213
Male	93 20%	89 19%	277 60%	459
Total	154	167	351	672

Although these data are difficult to interpret, they do raise interesting questions. A rough calculation (shown in Figure 15) of values across the two tables indicates that there may be a gender difference in advancement through the ranks. For instance, the award of tenure and promotion from the rank of Assistant to Associate Professor proceeds at a somewhat different rate for the males and females represented in these two tables. Likewise, promotion to the rank of Full Professor also differs by gender. In both cases, males appear to advance more rapidly than females.

Fig. 15. Proportion of males and females advancement in rank to tenure and full professor.



More detailed analyses along these lines in the future might reveal different patterns of advancement for male and female faculty on the campus. A number of potential factors would be important to consider when interpreting any such patterns should they occur, including:

- Is normative time to tenure the same across all disciplines? Males and females may be differently represented in the disciplines, which would need to be examined closely.

- What is the effect of the stop-the-clock program? Maternity and other types of leaves associated with caregiving may differentially affect male and female advancement.

- Was the effect of initial step the same across gender? This question raises the issue of step of initial appointment. Further analysis could be conducted to determine how these initial appointments are determined and if there are any implicit gender biases in this process.

- What is the impact of service related responsibilities (both administrative and instructional) and are these responsibilities allocated evenly across male and female faculty?

There are also other factors important to consider in the future that may be difficult to measure but undoubtedly play a role in this overall process, including time spent as department chair, amount of external research funding, research productivity, service obligations, and teaching proficiency.

In addition, analyses such as the ones reported here may be useful in identifying 'outliers' in either initial or current salary, especially individuals whose salaries fall 10% below or above their predicted salary. It is important that the administration, especially Deans and Department Chairs, identify such individuals, discuss the reasons for their unexpected salary values, and propose remedies when needed. This effort should be ongoing and accompany each salary equity study when it occurs. This process is especially critical to conduct in cases involving women faculty or faculty from underrepresented minority groups.

Finally, it may be worthwhile in the future to decouple the two types of faculty characteristics that are examined here, gender and ethnic category. Although both are factors that may be directly relevant to workplace discrimination among faculty, the remedies for such discrimination may differ and would, therefore, lead to different institutional strategies for correction. Whereas ethnic discrimination may reveal issues related to the presence and treatment of faculty from underrepresented minority groups on the campus, the issues of significance, in addition to any immediate workplace concerns, may be recruitment, retention, and efforts to bolster the pipeline. Gender discrimination in salary and advancement may result less from the number of women on the faculty

(although this fact may vary greatly by discipline) and reflect other patterns and practices that impede women's success relative to men in their respective disciplines, such as networking, expectations of service, and leadership opportunities. Careful consideration should be made at the campus level about the best strategy for focusing on these related, yet separate, issues.