

AY22-23 UCR Salary Equity Program
UCR Academic Personnel Office
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Abstract

Along with the announcement of a 4% scale adjustment to base salaries for AY22-23, UC President Michael Drake requested campuses put up to 1.5% of the AY21-22 salary and benefits expenditures (\$2,712,000) into their AY22-23 budgets to fund salary equity programs. Planning at UCR for a salary equity program that had started in the fall of 2020 provided the framework for developing an AY22-23 UCR salary equity program that is described in this document.

The AY22-23 UCR salary equity program is based on an internal assessment of Senate ladder-rank faculty members relative to their comparable UCR peers. The purpose of the program is to address faculty members that may have been overlooked and left behind by the variable process of awarding off-scale increments in faculty salaries.

The salary equity program is distinct from UC system wide adjustments of base salaries that apply to all faculty members. Range adjustments aim to keep UC faculty salaries competitive with comparison institutions. The program is also distinct from equity adjustments related to gender and ethnicity.

The salary equity program will provide salary equity adjustments for 213 Senate ladder-rank faculty members who currently have salaries that are 3% or more below the projected median salary for their current appointment. The adjustments will bring all of those faculty members to 3% of the projected median. The profile of faculty members receiving equity adjustments is representative of the campus profile of faculty with respect to gender, ethnicity, and college/school membership. The cost of the salary equity program is \$1,298,505 and will be covered by an additional allocation of permanent funds to college/school budgets. It is noted that the investment by the UCR salary program represents nearly one-third of what has been invested in annual merit and promotion actions in recent years. The adjustments will be effective 10/1/2022.

The investment by the UCR salary program described here represents nearly one-half of the AY21-22 salary expenditures and is responsive to the call to invest up to 1.5% of the AY21-22 salary and benefits expenditures into an AY22-23 salary equity program. The remainder of the 1.5% target investment is \$1,413,500, which will be supplemented by an additional \$112,000 to reach the sum \$1,525,500 that is needed to fund 3% increases on off-scale and above-scale components (including benefits) of UCR faculty salaries.

It is the expectation of the Provost that salary equity at UCR will be reviewed at least every two years with adjustments being made according to what is feasible with the campus budget situation.

1. Motivation and Purpose

The UCR salary equity program for Senate ladder-rank faculty members is intended to: a) identify faculty whose professorial academic-year salaries are below expectations relative to *comparable UCR peers* and for which there is no explanation that would offer justification, and b) subject to budget availability, make adjustments to bring those salaries closer to expectations. The program defines comparable UCR peers as UCR faculty in the same area/discipline, in the same professorial series, and who are at the same rank and step. Defined this way, the only reason that salaries would differ for comparable UCR peers is because of differences in their respective off-scale salary components. Off-scale salary component differences can arise because of different initial appointment times, additional off-scale treatment during M/P reviews, and/or retention actions.

Appointment off-scales can be influenced by varying market pressures and inflation trends. M/P off-scales can be influenced by a faculty member's assertiveness about their file, individual department cultures, and variability in review committee composition. Finally, off-scale increments due to retentions are influenced by a faculty member's willingness and appetite to engage in the retention process. The UCR salary equity program described in this document is an internal assessment of faculty relative to their comparable peers, and is intended to identify faculty that may have been overlooked and left behind by the variable process of awarding off-scale salary.

2. Equity Program versus Range Adjustments

The UCR salary equity program identifies *specific faculty* for a salary adjustment that addresses inequities that exist relative to their comparable peers at UCR. Not all faculty members will receive a salary adjustment with this program. In contrast, the UC system periodically implements base salary increases that apply to *all faculty* members. Across the board base salary increases are intended to preserve competitive balance between UCR salaries and salaries at comparison institutions. Across the board base salary increases are referred to as *salary range adjustments*. In AY21-22 there was a 3% range adjustment for all UCR faculty members, and an additional decision was made at UCR to also apply the 3% increase to the off-scale component of faculty salaries. Similarly, in AY22-23 all UCR faculty members will receive a 4% increase on their total salary.

3. Gender and Ethnicity Equity

Before proceeding to describe the AY22-23 UCR Salary Equity Program in detail, we address an additional question that comes up around equity studies, namely, the issue of whether or not gender and ethnicity influence faculty salaries.

3.1 Gender Equity Analysis

A database of 871 Senate ladder-rank faculty members who were on payroll during AY21-22 was searched to create 112 groups of faculty where department, rank, and step were constant but where gender varied. Within each of these groups, the average salary of the male faculty members and the

average salary of the female faculty members were computed to create a *matched pair*. A total of 112 matched pairs were found.

Figure 1 shows scatterplots of the matched pairs, by rank. Points above the diagonal reference line correspond to pairs where the average salary of the male faculty members is higher than the average salary of the female faculty members, and vice-versa. A discernible pattern in each figure is a slight tendency to have more points below the reference line than above it, which would suggest that after adjusting for department, rank, and step, the average salaries for male faculty are slightly lower than the average salaries for female faculty. A formal statistical analysis is provided using a paired t-test of the null hypothesis that after adjusting for department, rank, and step, the mean salaries for males and females are the same. A two-sided test of that hypothesis yields an approximate p-value of 0.32. Using the threshold of .05 as the standard for statistically significant evidence, there is no evidence in the data to suggest a difference exist between the mean salaries of males and females.

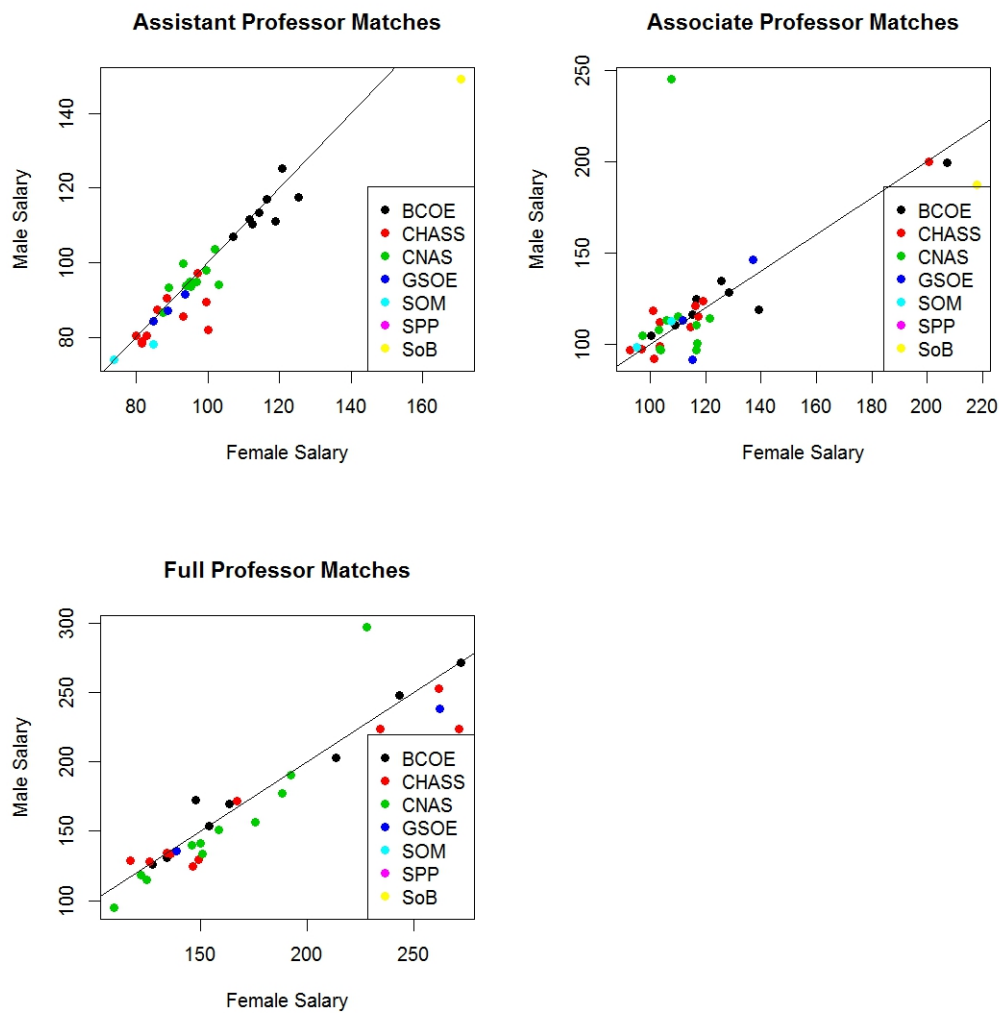


Figure 1. Male vs. Female Salaries for 112 Matched Pairs holding Department, Rank, and Step Fixed

3.2 Ethnicity Equity Analysis

An analysis of matched pairs on ethnic category was similarly carried out. With 7 ethnic categories, there are 21 potential comparisons that can be made. For example, the Alaskan/American Indian ethnic category could be compared with the Asian ethnic category, and so on. Some of the comparisons are limited because of the small number of matches that will be available. Table 1 summarizes the paired t-tests for the comparisons that are feasible. The fractional numbers in the cells of Table 1 are the p-value for the null hypothesis that mean salaries for the ethnic categories corresponding to the row and column are the same. The parenthetical numbers in the cells of Table 1 are the number of matches that the paired t-test was based upon. Empty cells imply there were no matches, or just a single match, which in either case implies the paired t-test cannot be calculated. None of the p-values in Table 1 are below the threshold of .05 for declaring statistically significant differences in the means of any comparison of ethnic categories. Hence, there is no evidence in Table 1 that a systematic institutional salary data bias related to ethnicity exists.

	Alaskan/ American Indian	Asian	Black/ African American	Hispanic	N/A	White	Hawaiian/ Pacific Islander
Alaskan/American Indian		.48 (3)	.32 (2)	.48 (3)		.46 (6)	
Asian			.10 (9)	.56 (15)	.76 (12)	.16 (93)	
Black/African American				.08 (7)		.96 (13)	
Hispanic					.32 (7)	.30 (29)	
N/A						.54 (21)	.84 (2)
White							.36 (2)
Hawaiian/Pacific Islander							

Table 1. P-values and Sample Sizes for Comparing Mean Salary Values of Ethnic Categories

4. Eligibility Criteria for the AY22-23 UCR Salary Equity Program

All ladder-rank faculty who are members of the Academic Senate are eligible for consideration of an equity adjustment of their salary with the following exceptions: 1) Faculty with full-time faculty administrator appointments, and 2) Faculty that have Professor Above-Scale appointments. The remaining sections of this memo describe the methodology that was used to select which of the eligible faculty will receive salary equity adjustments from the AY22-23 UCR Salary Equity Program.

5. Calculation of Median Salaries

5.1 Data Set

The AY21-22 salaries (base plus off-scale) for 742 faculty members (excluding full-time faculty administrators and above-scale faculty members) comprised the data set used to construct a statistical regression model. The model that was developed predicts the median salary that would be expected for UCR faculty members based on their discipline, their type of professor (professor series versus professor of teaching series), their rank, and their step. A median salary has the interpretation that half of the faculty members with appointments of the same type, within the same discipline, and at that same rank

and step could be expected to have a higher salary, and half a lower salary. Salaries for faculty members with fiscal year appointments were converted to 9-month salaries by dividing by 1.16, per APM-600-18.

5.2 Statistical Regression Model

5.2.1 BCOE, CHASS, CNAS, SOE, SOM, SPP

The natural logarithm of the faculty salaries was used as the dependent variable in a multiple regression model. The explanatory variables in the model were department, professor type, rank, and step, all of which were coded as categorical variables. The step variable was nested within rank, and the professor type variable was variable across colleges. There were 68 model degrees of freedom, and the R-square value of the fit was 0.92. Residual plots looked satisfactory and confirmed a satisfactory model fit.

The regression model provides a predicted mean for the logarithm of the salary. Exponentiation of the predicted mean results in the predicted median salary for faculty, as a function of their department, professor type, rank, and step. Faculty members with current salaries less than their predicted median were identified for consideration of equity adjustments.

5.2.2 SOB

The School of Business is organized as one department but with five substantially different areas with respect to external market factors. The areas are accounting, marketing, finance, supply chain, and management. A multiple regression model was fit to the natural logarithm of faculty salaries for the 36 faculty in the school of business. The regression model had three explanatory variables, each of which was significant as a predictor: 1) base salary for rank and step from Table 3 of the UC salary tables, 2) the 90th percentile salaries from a national survey of business school salaries, by rank and area, conducted by the Association to Advance Collegiate Schools of Business (AACSB), and 3) professor type. The rationale for using 90th percentile values from the salary survey was that the AACSB survey included both research- and teaching-focused business schools. Therefore, the 90th percentile data better reflected compensation structures at research-oriented business schools than the 50th percentile data. The R-squared score of the business school model was over .92 and in line with models for the rest of the campus. As with the other colleges/schools, faculty members with current salaries less than their predicted median were identified for consideration of equity adjustments, with increases capped at \$15K.

6. Faculty Not Making Normative Progress

Faculty members who met one of the following conditions were identified as making progress that was not normative progress (NNP):

1. Associate Professor rank for 12+ years, or
2. Professor below Step VI for 18+ years, or
3. Professor at Step VI/VII/VII/IX for 6+/7+/8+/9+ years

A total of 65 faculty members were identified in the NNP group and these faculty were excluded from consideration of salary equity adjustments. Table 2 shows how these are distributed with respect to gender, ethnicity, and college/school. Columns two and three in Table 2 provide a profile of the overall campus, while columns four and five provide a profile of the NNP group. Comparing the two percent columns in Table 2 addresses the question as to if the NNP faculty reflect the campus profile. The last column in Table 2 is a statistical test for the null hypothesis that the NNP faculty members reflect the campus population, and the yellow highlighted rows draw attention to when there is evidence (P-value smaller than .05) to reject the null hypothesis.

It can be concluded from Table 2 that white faculty are overrepresented and Asian faculty are underrepresented in the NNP faculty. In addition, CHASS faculty members are overrepresented and BCOE faculty members are underrepresented in the NNP faculty. Finally, Associate Professors are overrepresented and Full Professors are underrepresented in the NNP faculty.

Characteristic	Campus Count	Percent	NNP Count	Percent	P-value for Similarity
Male	556	63.8%	42	64.6%	.50
Female	315	36.2%	23	35.4%	.50
Total	871	100%	65	100%	
White	455	52.2%	43	66.2%	.013
Asian	243	27.9%	11	16.9%	.025
Hispanic	72	8.3%	5	7.7%	.55
Unknown	49	5.6%	0	0	.020
Black African American	35	4.0%	4	6.2%	.26
American Indian Alaskan	14	1.6%	2	3.1%	.28
Hawaiian Pacific Islander	3	0.3%	0	0	.79
Total	871	100%	65	100%	
CHASS	328	37.7%	39	60.0%	<.001
CNAS	295	33.9%	22	33.8%	.55
BCOE	132	15.2%	0	0	<.001
SOB	39	4.5%	2	3.1%	.43
SOE	30	3.4%	2	3.1%	.61
SOM	30	3.4%	0	0	.094
SPP	15	1.7%	0	0	.31
VPDUE	2	0.2%	0	0	.85
Total	871	100%	65	100%	
Associate	245	38.3%	38	58.5%	<.001
Full	394	61.7%	27	41.5%	<.001
Total	639	100%	65	100%	

Table 2. Profile of Faculty Identified as Not Making Normative Progress

7. Selecting an Adjustment Scenario

Table 3 shows alternative scenarios that were considered for adjusting salaries of faculty who are not in the NNP group and that had salaries below their predicted median. The scenario in the first row addresses 128 faculty members who have salaries that are more than 5% below their predicted median. For this scenario, adjustments would be made to bring up the salary of those faculty members to 5% of their medians. The cost of this scenario is \$711,900 of additional permanent funding to the colleges/school budgets.

Adjustment Scenario	Total Faculty	Salary Cost (\$)	Benefits Cost (\$) @ 35.6%	Total Cost (\$)
5%	128	525,000	186,900	711,900
4%	169	711,400	253,258	964,658
3%	213	957,600	340,905	1,298,505
2%	263	1,267,600	451,265	1,718,865
1%	313	1,641,400	584,338	2,225,738
0%	369	2,087,400	743,114	2,830,514

Table 3. Faculty Impacted and Cost of Adjustment Scenarios

The subsequent rows in Table 3 are more ambitious scenarios. For example, the third row expands the scope of the program by addressing 213 faculty members who have salaries that are more than 3% below their projected median. For this scenario, adjustments would be made to bring up the salary of those faculty members to 3% of their medians. The cost of this scenario is \$1,298,505 of additional permanent funding to the colleges/schools budgets.

Besides cost, the alternative scenarios were evaluated with respect to the number of faculty impacted, and how the impact was reflected with respect to faculty demographics. Table 4 shows how the number of faculty impacted by each scenario distributes over gender and ethnic category, and Table 5 shows the same information with respect to college/school.

Adjustment Scenario	N	Gender		Ethnicity Category						
		F	M	Alaskan/ American Indian	Asian	Black/ African American	Hispanic	N/A	White	Hawaiian/ Pacific Islander
5%	128	34	94	2	42	3	14	8	59	
		26.6%	73.4%	1.6%	32.8%	2.3%	19.9%	6.3%	46.1%	
4%	169	54	115	3	59	7	16	9	75	
		32.0%	68.0%	1.8%	34.9%	4.1%	9.5%	5.3%	44.4%	
3%	213	76	137	5	72	7	18	10	101	
		35.7%	64.3%	2.3%	33.8%	3.3%	8.5%	4.7%	47.4%	
2%	263	100	163	5	85	14	21	12	126	
		38.0%	62.0%	1.9%	32.3%	5.3%	8.0%	4.6%	47.9%	
1%	313	121	192	6	97	14	23	15	158	
		38.7%	61.3%	1.9%	31.0%	4.5%	7.3%	4.8%	50.5%	
0%	369	136	233	6	114	16	29	18	185	1
		36.9%	63.1%	1.6%	30.9%	4.3%	7.9%	4.9%	50.1%	0.3%

CAMPUS	36.2%	63.8%	1.6%	27.9%	4.0%	8.3%	5.6%	52.2%	0.3%
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Table 4. Demographics of Faculty Impacted by Adjustment Scenarios

Adjustment Scenario	N	Colleges/Schools							
		BCOE	CHASS	CNAS	SOE	SOM	SPP	SOB	UE
5%	128	28	52	24	9	7	3	5	
		21.9%	40.6%	18.8%	7.0%	5.5%	2.3%	3.9%	
4%	169	33	70	34	13	7	4	8	
		19.5%	41.4%	20.1%	7.7%	4.1%	2.4%	4.7%	
3%	213	41	88	51	14	7	4	8	
		19.2%	41.3%	23.9%	6.6%	3.3%	1.9%	3.8%	
2%	263	48	108	68	14	10	5	10	
		18.3%	41.1%	25.9%	5.3%	3.8%	1.9%	3.8%	
1%	313	52	129	86	17	13	6	10	
		16.6%	41.2%	27.5%	5.4%	4.2%	1.9%	3.2%	
0%	369	59	149	111	17	15	7	10	1
		16.0%	40.4%	30.1%	4.6%	4.1%	1.9%	2.7%	0.3%
CAMPUS		15.2%	37.7%	33.9%	3.4%	3.4%	1.7%	4.5%	0.2%

Table 5. Faculty Impacted by Adjustment Scenarios by College/School

Tables 4 and 5 show that the profile of the faculty members that receive adjustments with the 3% scenario match up well with campus faculty demographics. Combined with the feasibility of the cost of the 3% scenario, it was selected as the AY22-23 UCR salary equity program. It is noted that the investment of \$1,298,505 for the UCR salary program represents nearly one-third of what has been invested in annual merit and promotion actions in recent years.

The investment of \$1,298,505 for the UCR salary program represents about one-half of the AY21-22 salary and benefits expenditures. The remainder of the 1.5% target investment that UC President Michael Drake asked campuses to invest is \$1,413,500, an amount that will be supplemented by an additional \$112,000 to reach the sum \$1,525,500 that is needed to fund 3% increases on off-scale and above-scale components (including benefits) of UCR faculty salaries.

8. Vetting

College/school specific lists of faculty that were identified for equity adjustments under the 3% scenario were sent to each Dean. The Deans were asked to review the lists and determine if there were any reasons to remove faculty from those lists, and if so, to provide a narrative explanation that would be reviewed by the VPAP, Chief Diversity Officer, and the Provost for approval. No faculty members were removed by any of the Deans from the 3% lists.

The Deans were also provided a list of their faculty in the NNP group so that they could determine which of these faculty members, if any, might warrant future consideration for an independent salary equity adjustment from within the college/school.

9. Implementation

The salary equity adjustments received by faculty members will be rounded up to the next highest multiple of one hundred dollars. Colleges/Schools will receive augmented budgets of permanent funding to implement the 3% scenario, and the salary equity adjustments will be effective for faculty members 10/1/2022. Going forward, the Provost has set the expectation that all colleges/schools will conduct salary equity reviews and implement salary adjustments every two years.