## Overview

A joint Administration-Academic Senate Committee redesigned our annual campus pay equity study of ladder rank faculty salaries. The analyses presented in this report focus on regression models that go beyond the annual residual analysis conducted in the past (1997-2014) and include evaluation of rate of progression through the ranks. Analysis of salary data from October 2017 indicated no evidence of systemic disparity in pay associated with gender and/or ethnicity at the campus level when experience, discipline, and rank are included in the model.
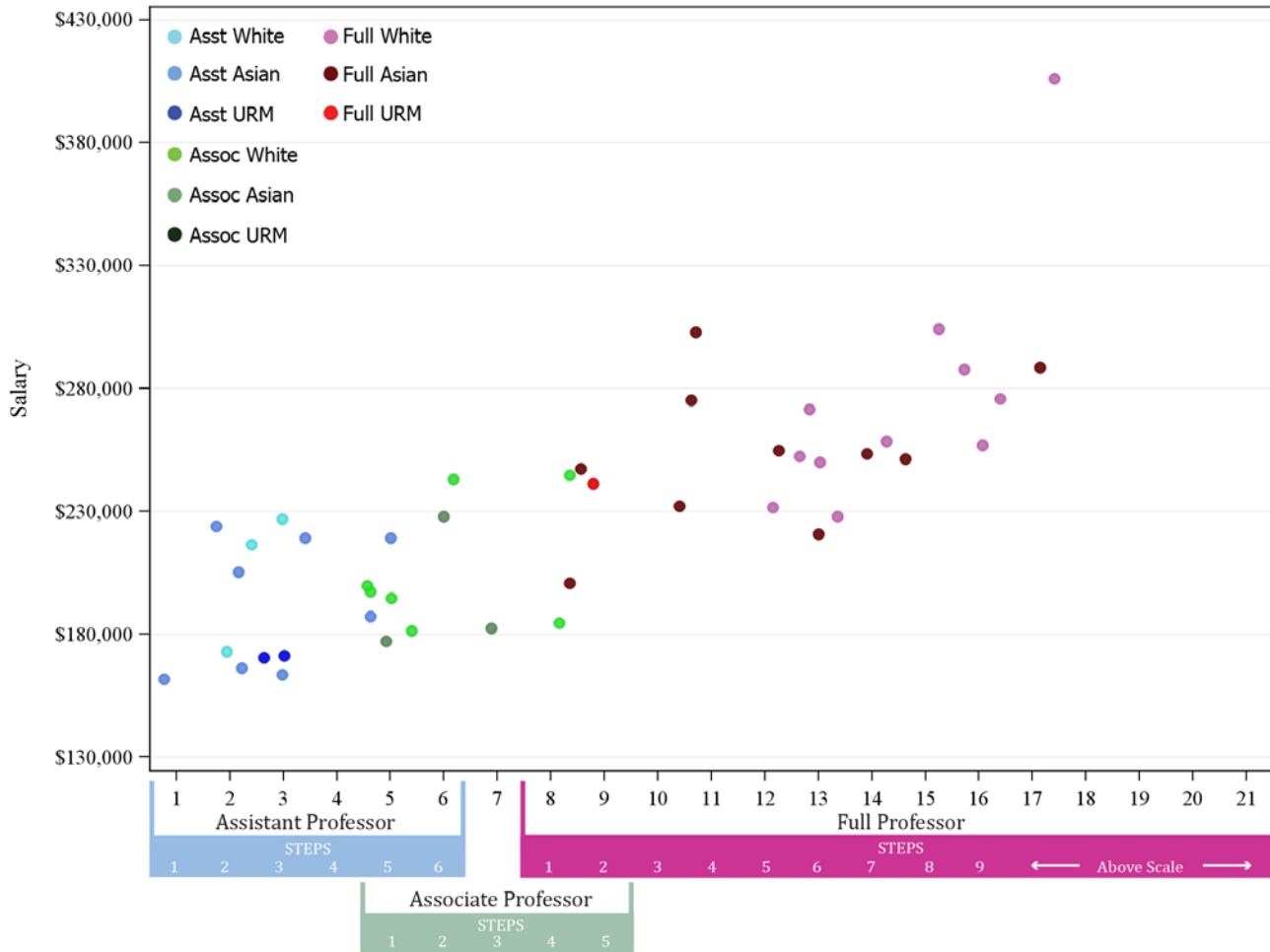
Methodology (see campus level report)

Results

1. Salary data for all ladder rank faculty plotted as a function of rank/step/gender and rank/step/ethnicity.

Graph 1: Business, Salary by Rank/Step and Gender

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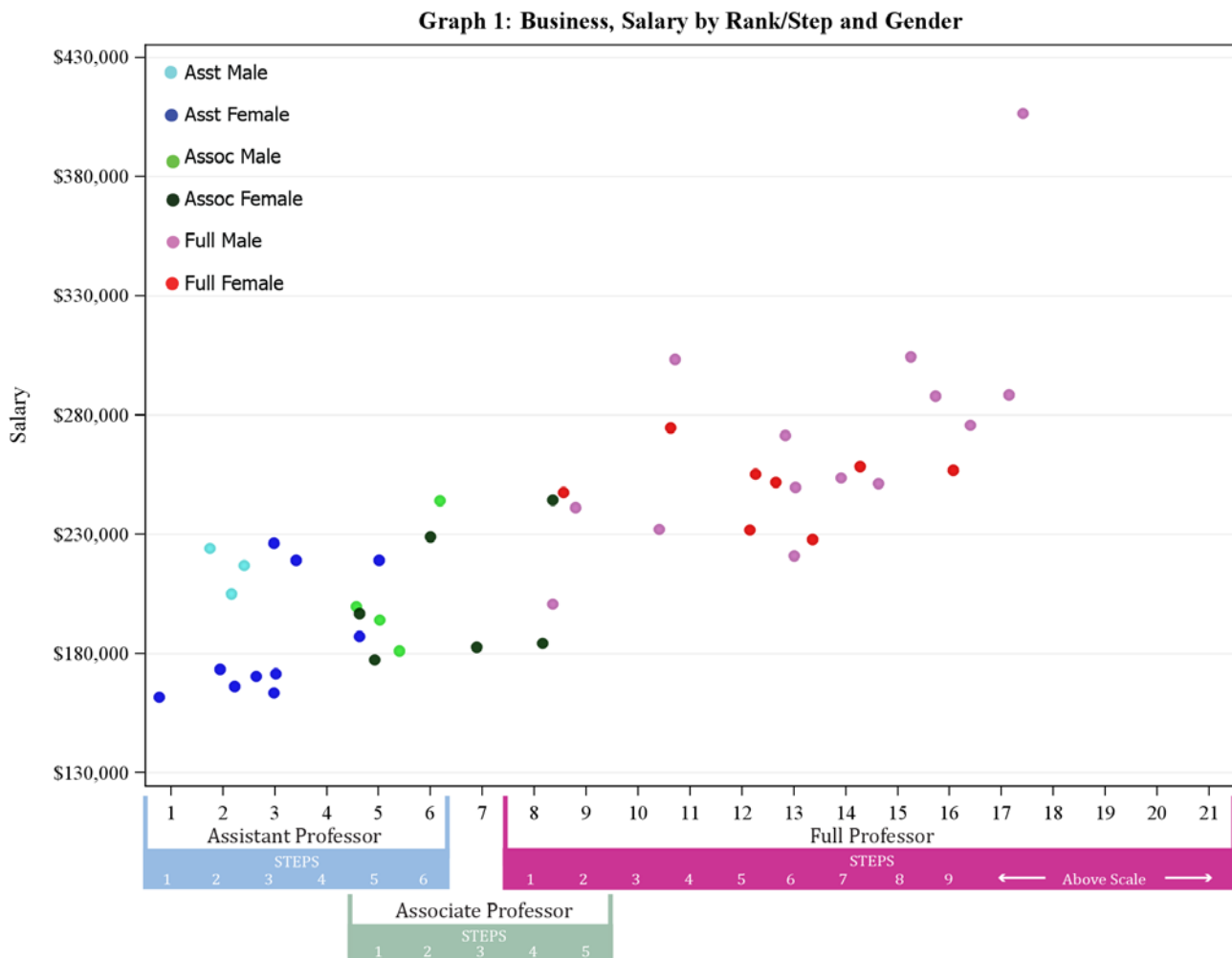
Graph 2: Business, Salary by Rank/Step and Ethnicity

2. Multiple regression analysis of salary vs rank/step. As indicated in Table 1, the simplest model with only demographic variables shows that relative to white male faculty, women earn salaries that are 14% lower, Asian faculty earn 7% and URM faculty earn 17% less. Only 24% of salary variation is explained by this model. After all control factors are added, 71% of salary variation is explained by a model with demographic, experience, field, and rank variables. After adjusting for covariates, relative to white male faculty, salaries are 1% lower for faculty who are women, 1% higher for Asian, and 12% lower for URM faculty. In this model, demographic variables were not statistically significant.

Table 1

| Submodel[1]	R-sq	Significant Variables	Salary Difference		
			Women vs Men	Asian vs White	URM vs White
1 Demography	0.24	Women**	-14.1%	-6.7%	-16.9%
2 Demography, Experience	0.67	Women*, Experience***	-8.5%	-2.8%	-13.5%
3 Demog, Exper, Field	0.67	Experience*	-7.1%	-2.0%	-13.5%
4 Demog, Exper, Field, Rank	0.77		-3.5%	1.7%	-8.9%
5 Demog, Exper, Field, Rank[2]	0.71		-1.2%	0.9%	-12.2%

$*p<0.05, **p<0.01, ***p<0.001$

[1]Experience includes years of services, years since degree, decade of hire. Field includes department and the market ratio of salaries tied to the faculty member's department. Rank includes their starting rank at UCI, their current rank at UCI, and where they stand in relation to normal progress.

[2]Final model corrected for collinearity and included demographics, decade of hire, years since degree, market salary ratio, progress, and starting rank.

3. Progress Rate plotted as a function of gender and ethnicity

Graph 3: Business, Salary by Progress and Gender

Graph 4: Business, Salary by Progress and Ethnicity
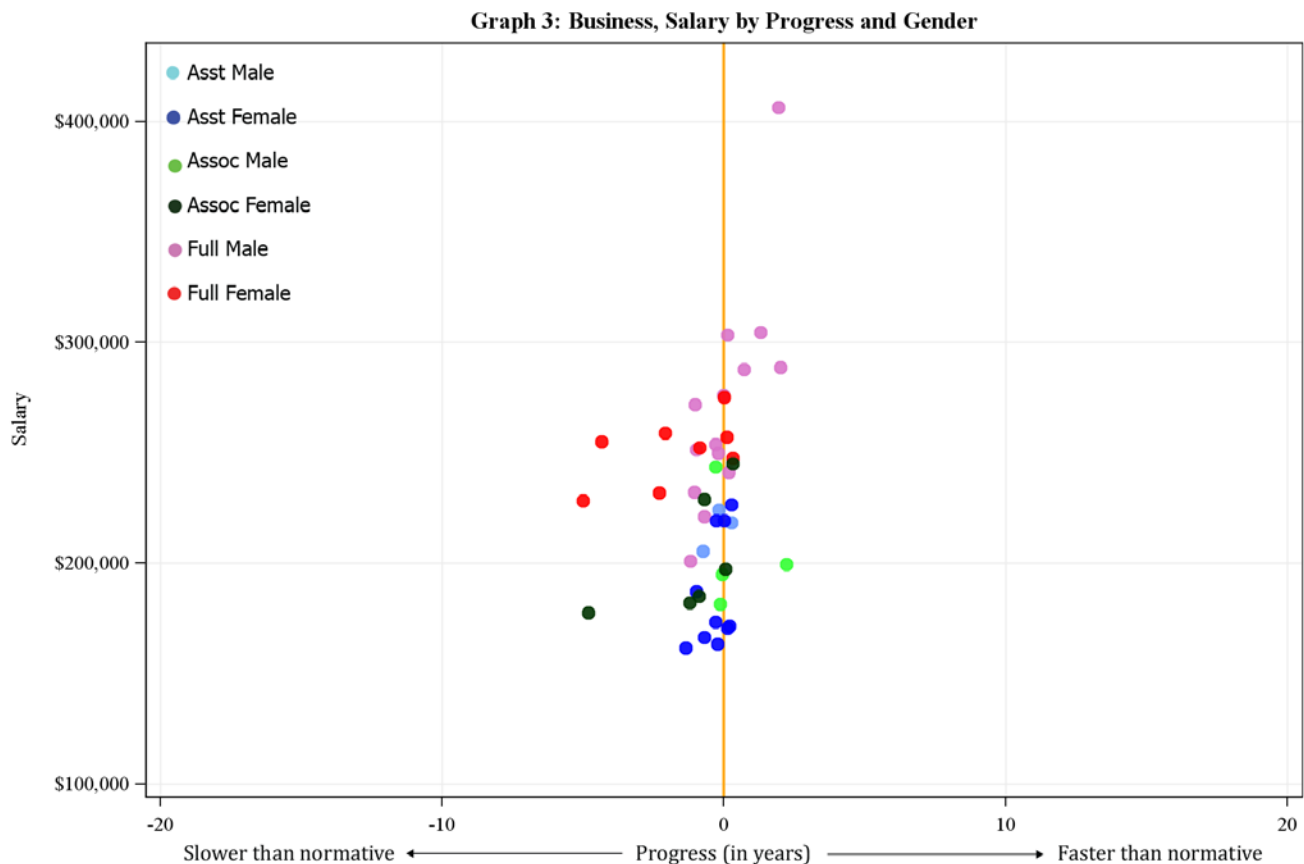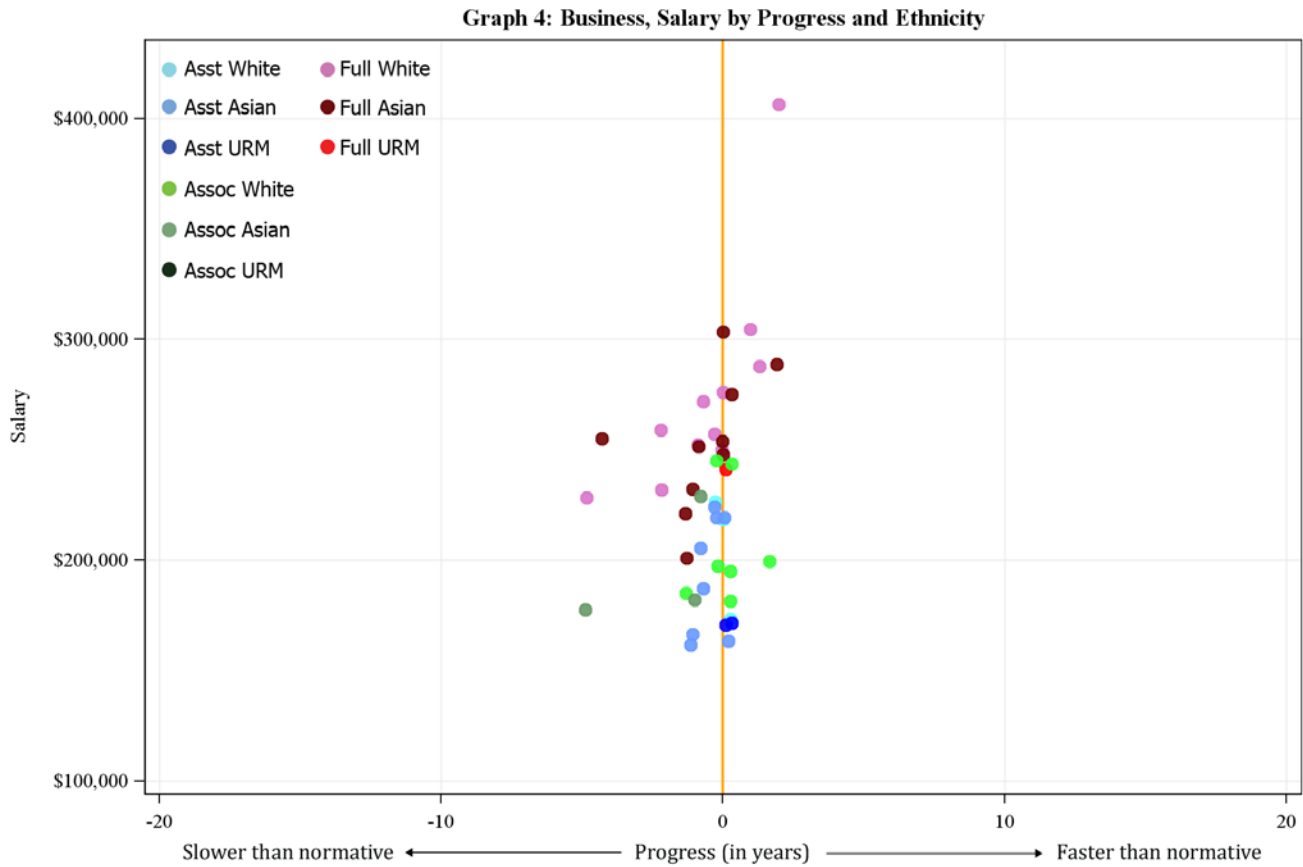
4. Progress Rate Analysis: Using a simple t-test, the results indicate that there is no statistically significant difference in progression rate means between white males and URM faculty. However, female faculty progress at a rate that is 1.5 years slower than white males, and URM faculty progress at a rate that is 1.25 years slower than white males.

Progress Rate (in years) Comparison

Comparison	n	Mean	t	df	p-value
White Male vs	11	0.45			
Women	24	-1.04	-2.96	33	0.006
URM[a]	3	0.00	-1.61	10	0.138
Asian	21	-0.81	-2.63	30	0.013

[a]Homogeneity of variance assumption not met. Satterthwaite variance estimator used.