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Faculty Salary Equity Study
School of Physical Sciences
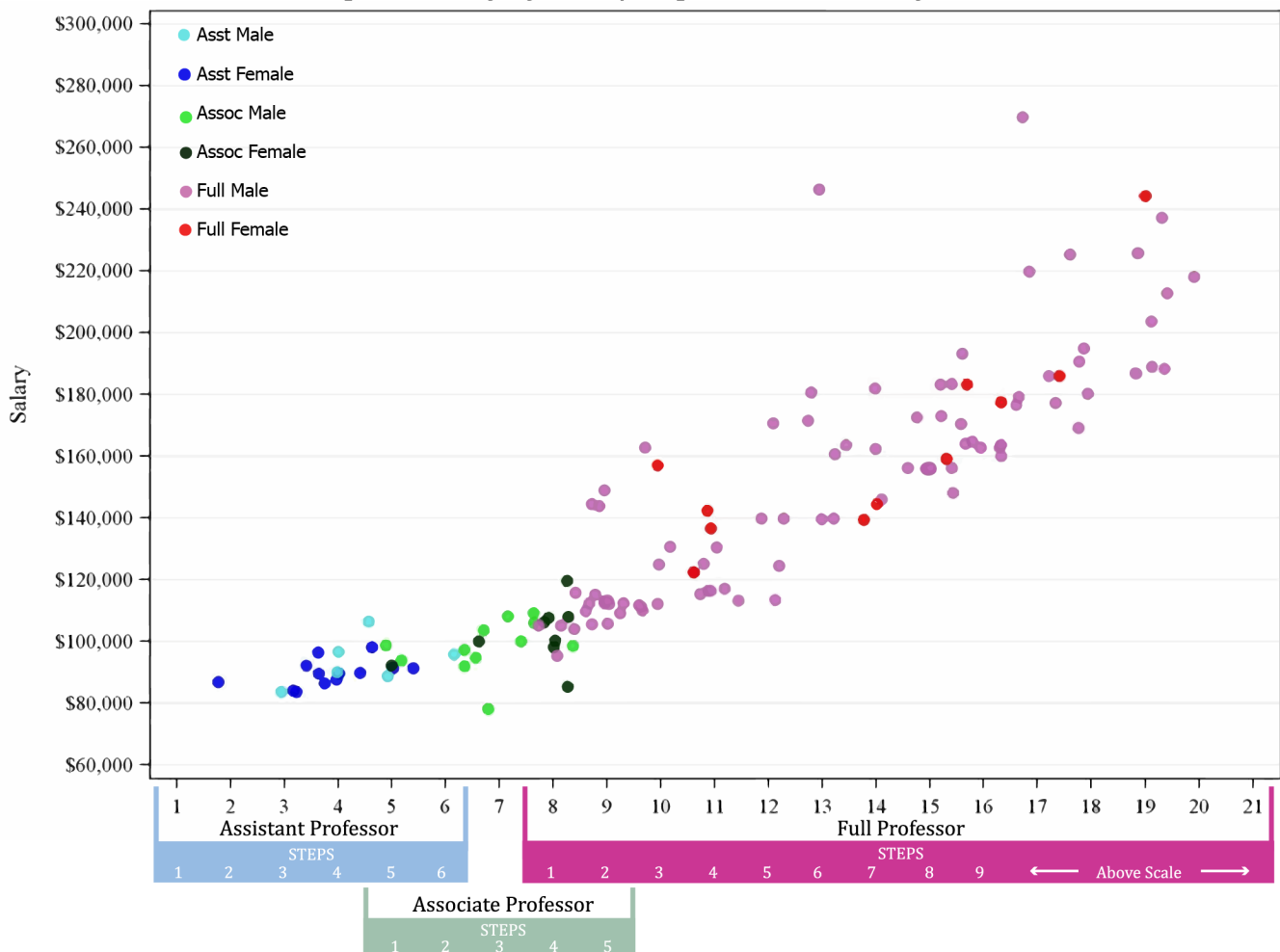
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September 23, 2016

Overview

A joint Administration-Academic Senate Committee has undertaken the planning and execution of an equity study on ladder rank faculty salaries. The analyses presented 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. The methodology used and results for the analyses at the whole campus level are available in the campus report. Results of the school level analyses are available in separate reports for each of 14 Schools/Units. SOM faculty continue to be excluded from this study due to the differences in compensation associated with participation in the COMP plan.
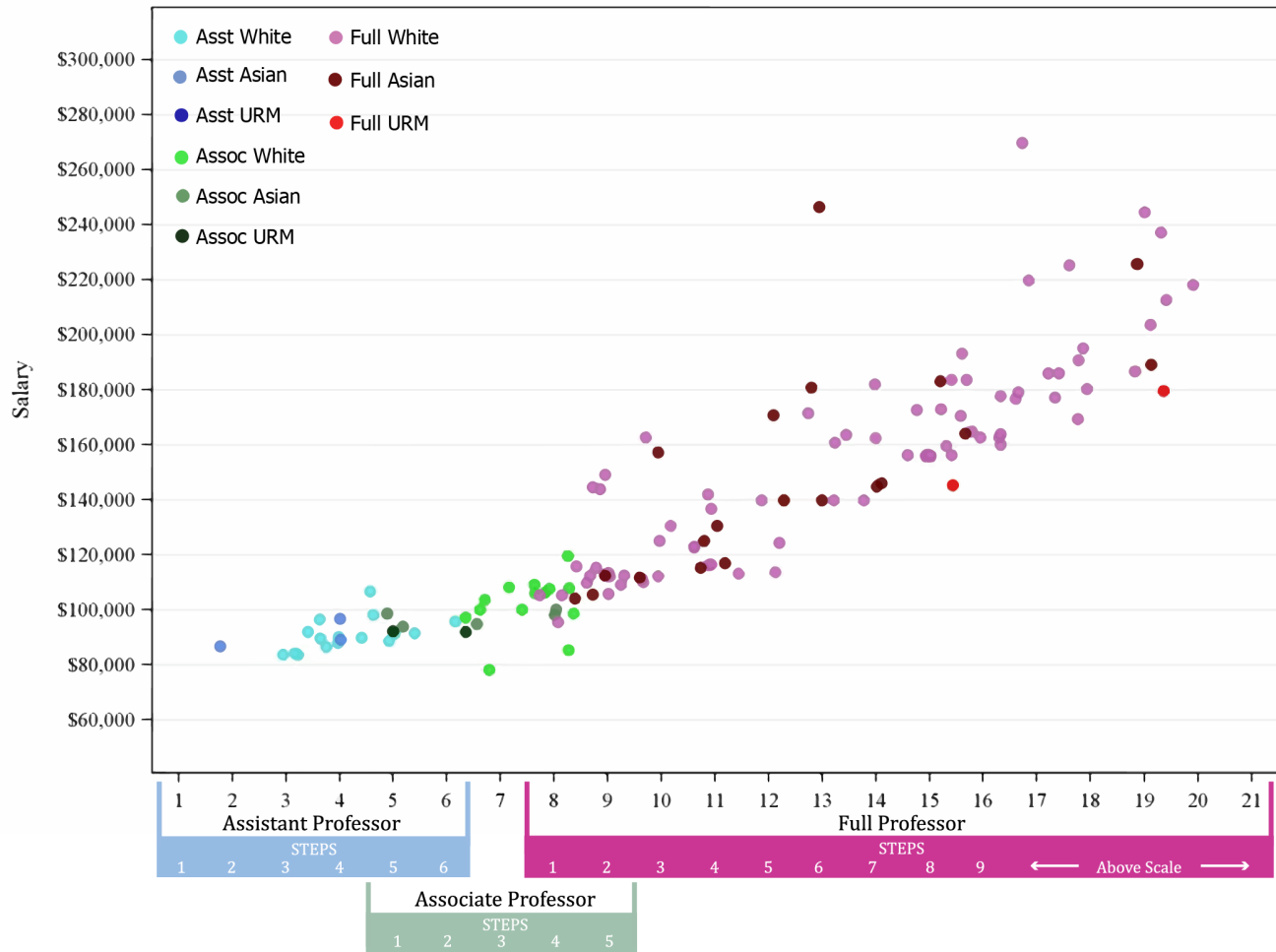
Methodology (see campus level report)

Results

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

Graph 1: Salary by Rank/Step and Gender - Physical Sciences

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Graph 2: Salary by Rank/Step and Ethnicity- Physical Sciences

2. Multiple regression analysis of salary vs rank/step. As indicated in Table 1, the simplest model with only demographic variables shows women earn salaries that are 14% lower, Asian and URM faculty earn 4%, compared to their colleagues who are white and male. However, only 2% of salary variation is explained by this model. As control factors are added to the model, salary differences change with women and Asian faculty earning 3% more, and URM faculty earn 1% less, compared to white male faculty. The percentage of salary variation explained by the model increases to 92%.

Table 1.

| Submodel	R-sq	Significant Variables	Salary Difference		
			Women vs White Men	Asian vs White Men	URM vs White Men
1 Demography	0.02		-14.3%	-4.2%	-3.6%
2 Demography, Experience	0.64	Experience***	-3.9%	3.8%	-6.8%
3 Demog, Exper, Field	0.71	Experience***,Field***	1.3%	6.3%	-6.6%
4 Demog, Exper, Field, Rank	0.92	Exper*,Rank***	1.7%	3.3%	0.4%
5 Demog, Exper, Field, Rank[1]	0.92	Exper**,Rank***	2.9%	3.1%	-0.6%

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

[1]Final model corrected for collinearity.

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

Graph 3: Salary by Progress and Gender - Physical Sciences

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Graph 4: Salary by Progress and Ethnicity - Physical Sciences
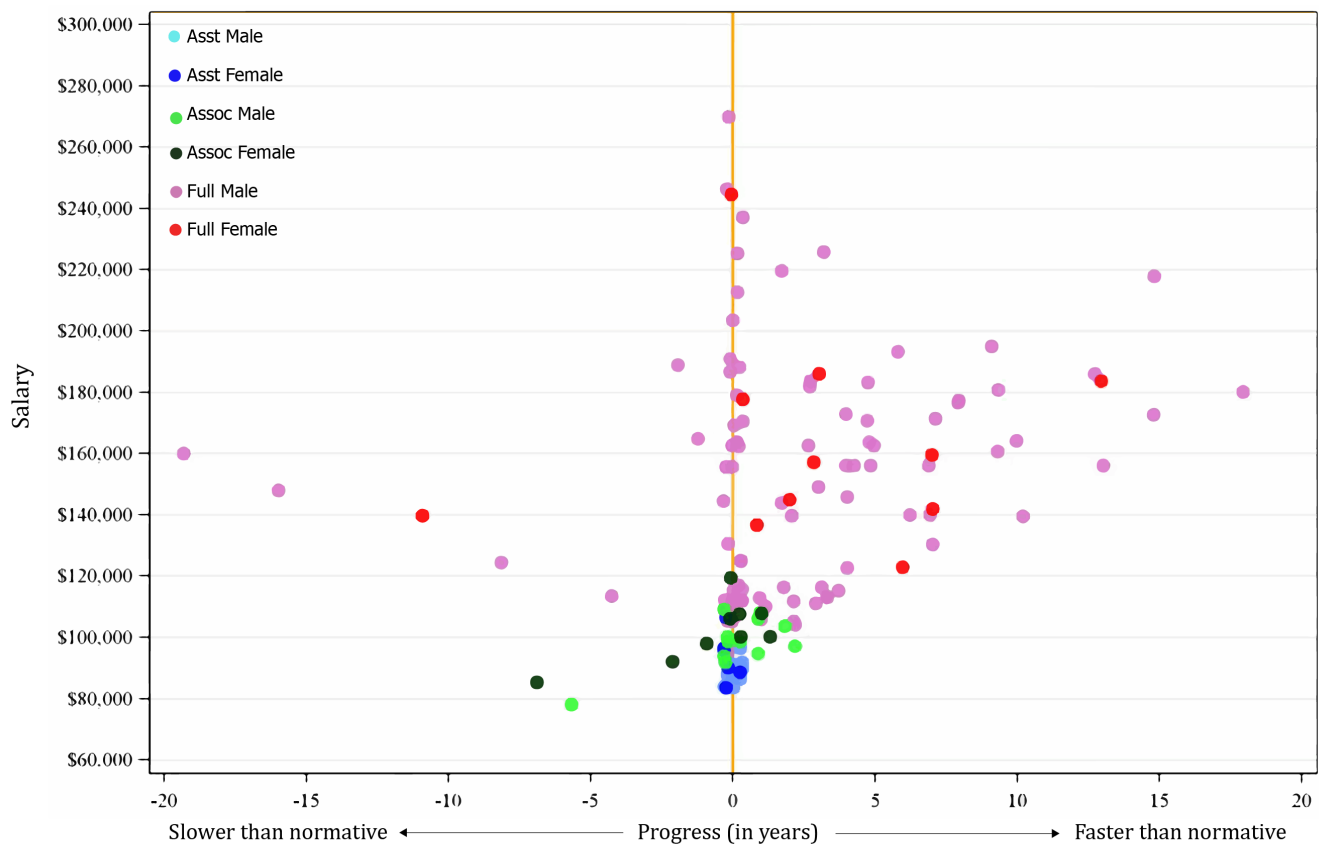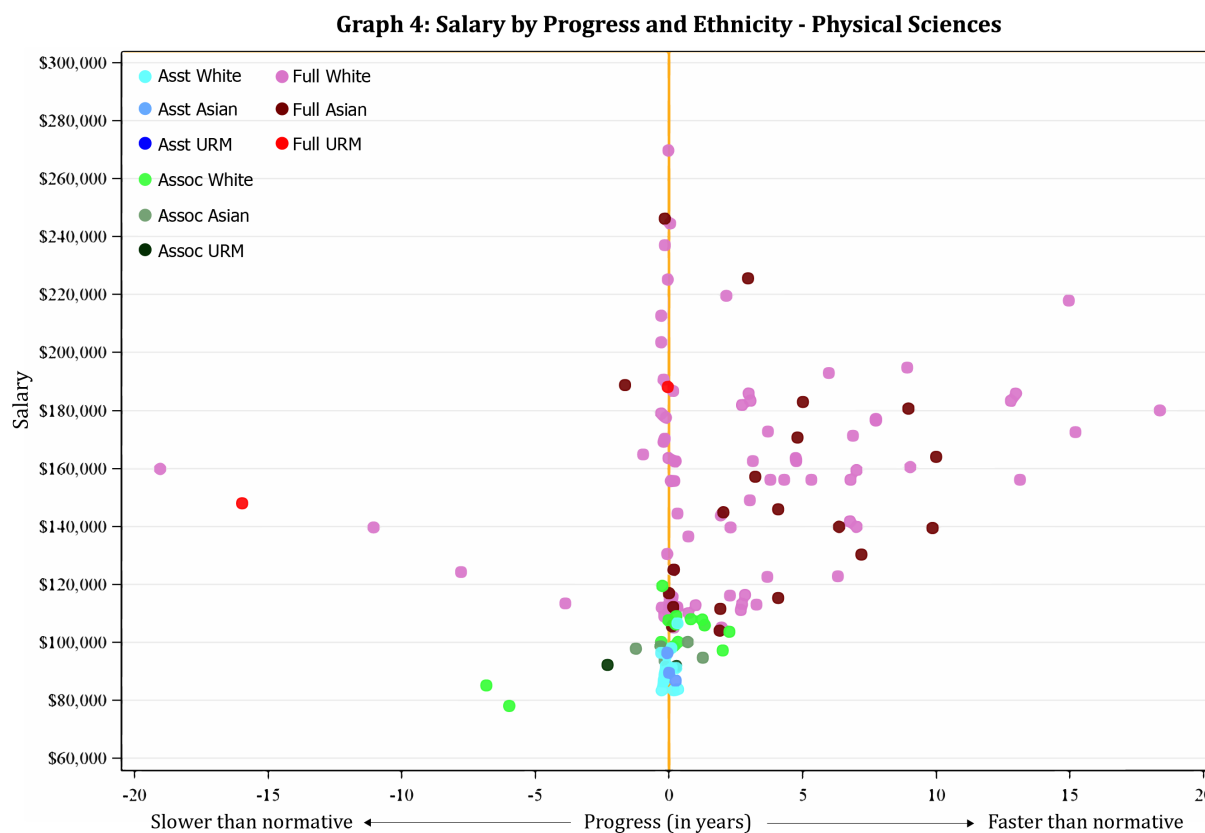
4. <u>Progress Rate Analysis</u>: The results indicate there isn't a statistically significant difference in progression rate means by gender when compared to white male faculty. URM faculty, however, progress approximately four and a half years slower (p=0.01).

Table 2. Progress Rate (in years) Comparison

Comparison	n	Mean	t	df	p-value
White Male	87	1.97			
Women vs White Male	26	0.88	1.03	111	0.3059
URM vs White Male	4	-4.50	2.57	89	0.0118
Asian vs White Male	28	2.54	0.58	113	0.5599