

A Statistical Investigation of Equity in Faculty Salaries at the University of Vermont

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February 21, 2014

Executive Summary

In summer 2013, at the request of President Thomas Sullivan and under the direction of Vice President for Human Resources, Diversity, and Multicultural Affairs Wanda Heading-Grant, the University of Vermont engaged a statistical consultant to conduct an analysis of faculty salary at UVM, focusing specifically on investigating whether there is statistical evidence of a gap in salary associated with gender or with minority status.

Multiple linear regression was used to determine whether there was evidence of a gap in salary due to gender or minority status after various adjustment factors considered to influence salary were taken into account (such as department, years of faculty employment at the university, etc.). The data used for analyses were those effective November 11, 2012 and included tenured and tenure-track faculty. Faculty from all schools and colleges were included in this study except those from Medicine. College of Medicine faculty were excluded because of differences in the salary structure for those faculty. Merit data were not available and therefore not used.

In studies of this type an issue often discussed is whether or not to include professorial rank as an explanatory factor in the regression model. Although salaries typically increase as faculty move up through the ranks, as an explanatory variable in regression analyses of salary, rank is often referred to as a potentially “tainted” variable that might itself reflect gender or minority status bias. Therefore, two analyses were conducted in parallel. First, rank was included in the list of adjustment factors; in the second, rank was excluded. The average of the gaps estimated by these two methods will be referred to as the “combined” gap.

Taking the campus as a whole, in the analysis where rank was included in the list of explanatory variables, the gender gap was estimated to be -0.6%; that is, it was estimated that, on average, and taking other compensable factors into account that may affect salary, female faculty are paid 0.6% less than male faculty. In the analysis in which rank was excluded from the list of explanatory variables, it was estimated that female faculty are paid 0.5% less than male faculty. *Thus, the combined estimated gender gap is 0.5% – on average across the whole campus, and taking into account other compensable factors that may affect salary, it is estimated that male faculty are paid 0.5% more than female faculty.* The same analyses also provide estimates of any gap in salary due to minority status. In the analysis that included rank in the list of explanatory variables, the gap due to minority status was 0.7%; that is, on average and taking into account other compensable factors that might affect salary, minority persons are paid 0.7% higher than nonminority persons. In the analysis that excluded rank as a possible explanatory variable, the estimated gap was the same: 0.7%. Therefore, *on average across the whole campus, and taking into account other compensable factors that may affect salary, it is estimated that minority faculty are paid 0.7% more than nonminority faculty.* None of these gaps is “statistically significant” – the full report discusses the meaning of that term in this context.

Absent merit data, these results are based on the reasonable assumption that male and female faculty are equally meritorious overall; and likewise for minority and nonminority faculty. Also, without merit data, these methods and results have little to say about the appropriateness of the salary of any given individual. Further, because the individual colleges and schools are relatively small, these methods cannot be used to reliably assess salary gaps within those units. The report discusses less formal methods for administrators to assess individual or college-level situations. These might be employed in the spirit of conducting due diligence and as an alternative confirmation of the statistical results provided herein; it seems unnecessary for these efforts to be extensive in light of the overall conclusion of this study: there is essentially no statistical evidence of an overall gap in salaries due to gender or minority status.