

Texas A&M University
Tenured/Tenure-track Faculty Salary Study
FY 2015

Lori L. Taylor
Bush School of Government & Public Service

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Jeffrey E. Froyd
Director, Faculty Climate and Development, Office of the Dean of Faculties

May 13, 2015

Executive Summary

Since 2012, the Office of the Dean of Faculties and the TAMU ADVANCE Center have sponsored an annual study of faculty salaries at Texas A&M University. The primary goal of each study was to determine whether or not there were statistically significant differences in monthly salary between male and female tenured/tenure-track faculty at Texas A&M University, after adjustment for demographic factors such as title, age, race/ethnicity, and years of service. However, these analyses have also been used to determine whether or not there were any systematic differences by race/ethnicity or national origin, and to identify individuals whose actual salaries were unusually high or unusually low, given the predictions of the salary model.

This report presents the 2015 version of the Texas A&M Tenured/Tenure-track Salary Study. The analyses include tenured/tenure track faculty in 10 divisions of Texas A&M University and covers the 12 fiscal years from 2004 through 2015. We found that:

- Statistically significant salary differentials by sex were detected in six TAMU divisions, once other demographic factors were taken into account.
 1. College of Agriculture and Life Sciences (COALS): Monthly salaries for female faculty members were significantly below those of their male counterparts in the STEM departments at the assistant and associate professor ranks and in the non-STEM departments at all three ranks (assistant, associate and full).
 2. College of Architecture: Female associate professors earned significantly less than male associate professors.
 3. College of Geosciences: Female associate professors earned significantly less than male associate professors.
 4. College of Liberal Arts: In the STEM departments, monthly salaries for female faculty members were significantly below those of their male counterpart at all three ranks. There was no discernable difference by sex in the non-STEM departments.
 5. College of Veterinary Medicine: Female full professors earned significantly less than male full professors, on average.
 6. Mays Business School: Female assistant professors earned significantly less than male assistant professors, on average.
- There is no evidence that salaries were systematically related to sex during fiscal year 2015 in the Colleges of Education and Human Development, Engineering or Science, or the Bush School of Government & Public Service.
- Differentials between male and female salaries have been growing over time in the STEM departments of the College of Liberal Arts and the Mays School of Business. No systematic time trends were found in the other colleges.
- As a general rule, the salary differences by sex that were statistically significant in fiscal year 2015 had also been detected in previous salary studies. However, this is the first time since annual analyses began in 2012 that significant differences by sex were detected in the College of Geosciences or the Mays Business School.

- Asian faculty members earn systematically more than non-Asian faculty members in the College of Geosciences, the non-STEM departments of the College of Liberal Arts and the Mays School of Business, and significantly less than non-Asian faculty members in the College of Education and Human Development. There is no other statistically reliable evidence of differences in salary by race/ethnicity.
- There is no evidence that salaries for 2015 were systematically related to national origin in any of the Colleges.
- Individuals with salaries that diverged sharply from the model predictions were flagged for follow-up by division personnel (to whom data files have been provided). University-wide, roughly the same percentages of male and female faculty members were flagged for follow-up because their salaries were lower than predicted. On the other hand, the percentage of male faculty members identified as outliers because their salaries were higher than predicted was nearly twice the percentage of female faculty members so identified.

Data Description

The payroll data for this analysis, which covers fiscal years 2004 through 2015, come from the Budget/Payroll/Personnel (BPP) Operations Center of the Texas A&M University System. Additional data on faculty characteristics come from the Data Warehouse maintained by the Texas A&M University System, departmental administrative data, and a supplemental review of faculty CVs.

This analysis covers TAMU employees in tenured or tenure track positions in the Colleges of Agriculture and Life Sciences, Architecture, Education and Human Development, Engineering, Geosciences, Liberal Arts, Science and Veterinary Medicine, the Mays Business School and the Bush School.¹ With the exception of a handful of outliers², all tenured or tenure-track faculty with at least a half-time appointment in one of these colleges were included in the analysis.³ Faculty members who retire but continue to work for TAMU are no longer considered tenured or tenure track employees and were therefore only included during the years prior to their retirements.

Model Methodology

This analysis examines the salary history for each tenured or tenure-track faculty member using a series of linear mixed models (also referred to as multilevel models or panel random effects models).⁴ Because salary patterns are likely to be different across colleges, separate salary models were estimated for each college. For the same reason, within the Colleges of Agriculture and Life Sciences and Liberal Arts, salary models for STEM departments were estimated separately from the salary models for non-STEM departments.⁵

Following the economics literature on the analysis of salaries in higher education,⁶ the dependent variable in each salary model is the natural log of each faculty member's full-time-equivalent monthly salary.⁷ The independent variables are a set of demographic characteristics (including sex) that could reasonably explain variations in those monthly salaries. The research team worked closely with TAMU's colleges to refine the set of demographic indicators included in the analysis and to ensure that important demographic nuances (such as the possible influence of being board certified on salaries in the College of Veterinary Medicine) were captured by the models.

Table 1 illustrates the demographic variables included in the salary models.⁸ As the table indicates, each model includes fixed effects for sex, sex interacted with faculty rank, and sex interacted with a linear time trend. The interaction between sex and faculty rank allows for possibilities that there could be differences in salary between male and female faculty at the different ranks: assistant professor, associate professor, and professor.⁹ Interactions between sex and a time trend allows for possibilities that any differences between male and female salaries could be widening or narrowing over time. Departmental time trends allow for salary growth to be higher in some departments than in others.¹⁰ The rank-specific year indicators allow for salary

growth to be systematically different for the three ranks: assistant professors, associate professors, and professors.

Table 1: Demographic Variables Included in the Salary Models

Variable Type	Specific Variables
Sex Indicators	Male Faculty Indicator Male Associate Professor Indicator Male Full Professor or Above Indicator Male Faculty Indicator * Time Trend Male Faculty Indicator * Post 2011 Time Trend
Faculty Rank Indicators	Associate Professor Indicator Dean/VP Indicator Distinguished Professor Indicator Full Professor
Faculty Race/Ethnicity Indicators	Anglo Faculty Indicator Asian Faculty Indicator Foreign Born Faculty Indicator
Administrative Status Indicators	Current Administrator Ever Administrator, 2000-01 through 2011-12
Years Since Degree Indicators	Years Since Degree, and its square Years Since Degree Unknown Indicator
Years Of Service At Texas A&M	Years Since First Hired Break in Service Indicator
Annual Term Length	Months Under Contract per Year (9 To 12)
Rank At Hire Indicators	Hired as Advanced Assistant Professor Hired as Associate Professor Hired as Full Professor Rank at Hire Unknown
Highest Degree Held Indicators	MA Special Degree Dual Degree
Certification Indicators	Board Certified Dual Certified
Change In Status Indicators	Newly Tenured Other Promotion Demotion Other Title Change
Departmental Indicators	Indicator Variables for Each Department
Department Trends	Department Indicators * Time Trend
Year Indicators	Year Indicators
Rank-Specific Year Indicators	Associate Professor Indicator * Year Indicators Full Professor or Above Indicator* Year Indicators

In addition to the demographic characteristics presented in Table 1, differences in salary are known to arise from differences in research productivity or teaching excellence. Unfortunately, research productivity and teaching excellence are very difficult to measure consistently, and therefore could not be included in the analysis. To the extent that the included variables (such as sex) are systematically correlated with these important omitted variables, then the interpretation of results may be altered. For example, a finding that female faculty members earn systematically less than male faculty members could be interpreted as evidence that female faculty members are systematically less productive than male faculty members, rather than as evidence that female faculty are paid systematically less than comparable male faculty members.

Furthermore, evidence that average salaries for female faculty are significantly below those for male faculty (after demographic adjustment) need not indicate that female faculty members are more likely than their male colleagues to have salaries that are unusually low. Such a difference between the sexes could also arise if female faculty members are less likely than their male colleagues to have salaries that are unusually high.

Findings about Sex Differentials

Table 2 compares the predicted fiscal year 2015 salaries for male and female faculty members with identical demographic characteristics.¹¹ For example, the first row in the table indicates that the salary model for the Bush School predicts that a female assistant professor would earn 96% of the salary of a male assistant professor, all other demographic characteristics in the model being equal. The asterisks indicate salary ratios that are significantly different from 100% at the 1-percent (***) 5-percent (**) or 10-percent (*) levels.¹²

Table 2: Female Salaries as a Percentage of Male Salaries, by College, STEM Status and Faculty Rank, Fiscal Year 2015

	Female Salaries as a Percentage of Male Salaries
Bush School of Government & Public Service	
Assistant Professor	98.0%
Associate Professor	96.0%
Full Professor	95.8%
College of Agriculture and Life Science (COALS)	
STEM Assistant Professor	94.1% *
STEM Associate Professor	94.3% *
STEM Full Professor	98.7%
Non STEM Assistant Professor	89.6% **
Non STEM Associate Professor	89.7% ***
Non STEM Full Professor	93.2% **

	Female Salaries as a Percentage of Male Salaries	
College of Architecture		
Assistant Professor	96.2%	
Associate Professor	94.0%	**
Full Professor	100.2%	
College of Education and Human Development		
Assistant Professor	102.2%	
Associate Professor	100.6%	
Full Professor	99.4%	
College of Engineering		
Assistant Professor	102.6%	
Associate Professor	100.6%	
Full Professor	99.0%	
College of Geosciences		
Assistant Professor	95.5%	
Associate Professor	96.2%	*
Full Professor	96.4%	
College of Liberal Arts		
STEM Assistant Professor	87.0%	***
STEM Associate Professor	85.5%	***
STEM Full Professor	88.8%	***
Non STEM Assistant Professor	96.6%	
Non STEM Associate Professor	97.5%	
Non STEM Full Professor	96.9%	
College of Science		
Assistant Professor	97.8%	
Associate Professor	97.4%	
Full Professor	97.9%	
College of Veterinary Medicine		
Assistant Professor	97.3%	
Associate Professor	96.9%	
Full Professor	90.6%	***
Mays School of Business		
Assistant Professor	91.1%	**
Associate Professor	96.7%	
Full Professor	95.8%	

Note: Salary ratios are based on a regression analysis of monthly salaries from fiscal year 2004 through fiscal year 2015. The salary model controls for systematic differences in salary arising from differences in sex, race, national origin, faculty rank, years since degree, years since hiring, rank at hiring, department, highest degree held, time trends and random effects for individuals. The asterisks indicate that the difference between male and female salaries is statistically significant at the 1-percent (***), 5-percent (**) or 10-percent (*) levels.

As Table 2 illustrates, statistically significant differences in monthly salaries for male and female tenured/tenure-track faculty in fiscal year 2015 (the 2014-15 school year) were observed in six of the 10 TAMU divisions under analysis.

- In COALS, the demographically adjusted average salaries for female faculty were significantly less than the demographically adjusted average salaries for male faculty at the assistant and associate professor levels in the STEM departments, and at the assistant, associate and full professor levels in the non-STEM departments. Female full professors earned only 93% of the salary of male full professors in non-STEM departments (on average) once other demographic characteristics were taken into account.
- In the Colleges of Architecture and Geosciences, female associate professors earned significantly less than male associate professors once other demographic factors were taken into account.
- In the College of Liberal Arts, female faculty in the STEM departments earned no more than 89% of the salary for otherwise equal male faculty at all ranks. Sex differences in salary were not statistically significant at any level among the Non-STEM departments of the College of Liberal Arts.
- In the College of Veterinary Medicine, female full professors earned less than 91% of the average salary for otherwise equal male full professors. Differences in salary for assistant and associate professors were not statistically significant.
- Female assistant professors in the Mays Business School earned only 91% of the average salary for their male counterparts, all other things being equal.

There is no evidence that salaries were systematically related to sex in the remaining TAMU colleges under analysis. In the Colleges of Education and Engineering, female assistant professors earned slightly more than male assistant professors (after demographic adjustments) but the differences were not statistically significant.

The differential between male and female salaries has been growing over time in the STEM departments of the College of Liberal Arts and the Mays Business School and following no discernible time trends in the Colleges of Architecture, Education, Engineering, Geosciences, Liberal Arts, Science and Veterinary Medicine and the Bush School (see Appendix Tables A.2 and A.3).

As a general rule, the salary differences by sex that were statistically significant in fiscal year 2015 had also been detected in previous salary studies. However, this is the first time since annual analyses began in 2012 that significant differences by sex were detected in the College of Geosciences or the Mays Business School.

Findings about Race/Ethnicity and National Origin Differentials

Table 3 compares the predicted fiscal year 2015 salaries for non-Hispanic white faculty members with those of otherwise equal Asian and Other Race faculty members, and the predicted salaries for foreign-born faculty with those of otherwise equal native-born faculty.¹³ For the purposes of this analysis, the category of Other Race faculty includes individuals who self-identify as American Indian, African American, Hispanic, or two or more races as well as those for whom ethnicity is not reported. (None of these subgroups is large enough to analyze separately.) Native born faculty members report that the United States is their national origin; foreign born faculty members report any other country. Given the small number of individuals involved, racial/nativity estimates are not available for the Bush School. Again, the asterisks indicate salary ratios that are significantly different from 100% at the 1-percent (***) 5-percent (**) or 10-percent (*) levels.¹⁴

Table 3: Asian and Other Race Salaries as a Percentage of White Salaries and Foreign-born Salaries as a Percentage of Native-born Salaries, by College, Fiscal Year 2015

	Asian Salaries as a Percentage of White Salaries	Other Race Salaries as a Percentage of White Salaries	Foreign-born Salaries as a Percentage of Native Salaries
COALS STEM	102.9%	98.0%	100.4%
COALS Non-STEM	105.3%	101.8%	98.9%
College of Architecture	99.6%	100.6%	99.4%
College of Education	93.3% **	103.0%	103.3%
College of Engineering	98.7%	100.4%	100.1%
College of Geosciences	107.9% **	100.6%	100.4%
College of Liberal Arts STEM	105.1%	99.5%	104.0%
College of Liberal Arts Non-STEM	107.8% **	98.3%	98.6%
College of Science	97.8%	100.6%	100.1%
College of Veterinary Medicine	96.5%	94.3%	99.6%
Mays School of Business	108.6% ***	95.7%	99.9%

Note: Salary ratios are based on a regression analysis of monthly salaries from fiscal year 2003 through fiscal year 2015. Given the small number of individuals involved, racial estimates are not available for the Bush School. The salary model controls for systematic differences in salary arising from differences in sex, race, national origin, faculty rank, years since degree, years since hiring, rank at hiring, department, highest degree held, time trends and random effects for individuals. The asterisks indicate that the difference between male and female salaries is statistically significant at the 1-percent (***), 5-percent (**) or 10-percent (*) levels.

As the table illustrates, Asian faculty appear to command a significant wage premium in the College of Geosciences, the non-STEM departments of the College of Liberal Arts and the Mays

School of Business. On the other hand, Asian faculty members in the College of Education earned only 93% of the salaries of white faculty members with equivalent demographics. There is no other evidence of salary differentials for Asian faculty.

There is no evidence that salaries for Other Race faculty are systematically different from the salaries for non-Hispanic white faculty in any of the colleges under analysis. There also is no evidence that the salaries for foreign-born faculty are systematically different from the salaries of native-born faculty in any of the colleges under analysis.

Findings about Individual Outliers

The intent of this aspect of the annual faculty salary study is to identify individual faculty members whose actual monthly salaries in fiscal year 2015 diverged considerably from salaries predicted by the empirical model described above. The predicted salaries used for this exercise were constructed setting the sex, ethnicity and national origin indicators at the values for a native-born, white male faculty member, but allowing all other indicators to reflect the actual characteristics of the individual faculty member. In each college, the 10 percent of records with the largest difference between actual and predicted were flagged for follow-up, as were the 10 percent of records university-wide with the largest difference for each faculty rank (assistant, associate and full). Only faculty records for individuals holding the rank of assistant, associate or full professor were flagged for follow-up based on university-wide differences; higher ranks, such as Distinguished Professors, Deans, and Vice Presidents, were not included in this exercise.

Please note that while the set of demographic characteristics used in this analysis is extensive, it is by no means complete. As is discussed above, research productivity and teaching excellence could not be included in the analysis because there are no available indicators that are consistently defined and comparable across the colleges. The differences between actual and predicted salaries that led authors to flag a salary record for follow-up could easily be explained by differences in research or teaching.

Table 4 illustrates the percentage of individuals in each sex and college who were flagged for follow-up because their salaries were higher than expected or lower than expected. Thus, the table indicates that 5.6% of the female faculty members and 6.9% of the male faculty members in the College of Architecture were flagged for follow-up because their salaries were lower than predicted. As the table illustrates, approximately the same percentages of male and female faculty members across the University were flagged for follow-up because their salaries were lower than predicted, but the percentage of male faculty members identified as outliers because their salaries were higher than predicted was nearly twice the percentage of female faculty members. Male faculty members in the STEM departments of the College of Liberal Arts were four times more likely than female faculty members to be flagged for follow-up because their salaries were higher than predicted.

Table 4: Percentages of Individuals Flagged for Follow-up, by College and Sex, Fiscal Year 2015

	Lower than Predicted		Higher than Predicted	
	Female	Male	Female	Male
Bush School of Government & Public Service	8.3%	5.9%	8.3%	0%
College of Agriculture and Life Sciences STEM	5.6%	4.7%	8.3%	8.7%
College of Agriculture and Life Sciences Non-STEM	4.6%	4.4%	0%	4.4%
College of Architecture	5.6%	6.9%	5.6%	3.5%
College of Education and Human Development	2.1%	7.0%	8.5%	3.5%
College of Engineering	4.4%	4.4%	2.2%	6.9%
College of Geosciences	0%	4.6%	5.6%	7.6%
College of Liberal Arts STEM	17.0%	8.7%	3.8%	17.4%
College of Liberal Arts Non-STEM	11.1%	12.5%	8.3%	13.4%
College of Science	11.8%	11.2%	8.8%	14.6%
College of Veterinary Medicine	2.2%	2.9%	2.2%	11.8%
Mays School of Business	5.8%	7.1%	0%	8.6%
Total	7.4%	6.9%	5.5%	9.5%

Note: Salary outliers are based on a comparison of actual salaries to the salaries that would have been predicted for a native-born white male, given the parameter weights in Appendix tables A.2 and A.3.

Endnotes

¹ Given the lack of historical data, the Law School also was not included in this analysis.

² The Cook's distance is a statistical indicator for outlier observations with a disproportionate influence on the coefficients. Three faculty members with a Cook's distance greater than one were excluded from the final models. Faculty records with incomplete data or obviously erroneous data were also excluded.

³ Thus, faculty with less than a nine-month contract and those with less than a 50 percent appointment were excluded from the analysis.

⁴ For a detailed discussion of linear mixed models, see Sheather, S. J. (2009). *A Modern Approach to Regression with R*. Springer, New York.

⁵ For a list of the departments considered STEM for this analysis, visit <http://advance.tamu.edu/index.php/publications-reports/reports.html>

⁶ See, for example, Ginther, D. "Is MIT an Exception? Gender Pay Differences in Academic Science," by Donna K. Ginther, *Bulletin of Science Technology & Society* 2003 23: 21, or Ginther, D., & Hayes, K. (2003). Gender differences in salary and promotion for faculty in the humanities 1977-1995. *Journal of Human Resources*, 38(1), 34-73;

⁷ The full-time-equivalent monthly salary is the current monthly salary for the month of October, divided by the percent time. Thus, the full-time-equivalent monthly salary for a person with a 75 percent appointment is his or her monthly salary divided by 0.75.

⁸ See appendix table A1 for definitions of the variables included in the salary model. All models also include random effects for individuals. Due to its small size, the Bush School of Government and Public Service was evaluated using a less detailed model than that used for the other TAMU divisions.

⁹ Distinguished Professors and Deans/Vice Presidents were considered Professors when constructing the time trends and sex differentials.

¹⁰ Preliminary analysis indicates that departmental time trends were not statistically significant in the College of Architecture, the College of Veterinary Medicine and the STEM departments of the College of Liberal Arts. Therefore departmental time trends were not used in the salary models for those divisions.

¹¹ The regression coefficients that support these salary predictions are presented in Appendix Tables A.2 and A.3.

¹² All statistical tests are two sided. The baseline analysis tests for significance with respect to the sex variables using Huber-White standard errors that have been clustered by individual. Clustering allows for a correlation among the residuals for an individual while maintaining the assumption that the residuals are independent from one individual to another.

¹³ The regression coefficients that support these salary predictions are presented in Appendix Tables A.2 and A.3.

¹⁴ All statistical tests are two sided. The baseline analysis tests for significance with respect to the sex variables using Huber-White standard errors that have been clustered by individual. Clustering allows for a correlation among the residuals for an individual while maintaining the assumption that the residuals are independent from one individual to another.

Appendix Table A1: Variables Included in the Salary Model

Variable	Definition
Log monthly salary	Natural log of the individual's full-time-equivalent salary for the month of October. The full-time-equivalent salary is the monthly salary divided by the percent time. This is the dependent variable.
Male	Takes on the value of 1 if the person is male, and zero otherwise.
Male trend	Male * time trend. The time trend takes on the value of zero in fiscal year 2001 and of 12 in fiscal year 2013.
Male Associate	Takes on the value of one if the person is a male associate professor, and zero otherwise.
Male Full Plus	Takes on the value of one if the person is a male full professor, dean or vice-president, or distinguished professor, and zero otherwise.
Associate Professor	Takes on the value of one if the person is an associate professor, and zero otherwise.
Dean/VP	Takes on the value of one if the person has the title of Dean, and zero otherwise.
Distinguished professor	Takes on the value of one if the person is a Distinguished Professor, and zero otherwise.
Full Professor	Takes on the value of one if the person is a full professor, and zero otherwise.
White	Takes on the value of one if the person is white, and zero otherwise.
Asian	Takes on the value of one if the person is Asian, and zero otherwise.
Foreign born	Takes on the value of one if the person is born in a country other than the United States, and zero otherwise.
Current Administrator	Takes on the value of one if the person holds an administrator title, and zero otherwise.
Ever Administrator	Takes on the value of one if the person has held an administrator title at any time since 2000-2001, and zero otherwise.
Years since degree and its square	Number of years since the highest degree awarded. If the date of the highest degree is unknown, the year of degree is imputed as the year originally hired.
Years since degree, unknown	Takes on the value of one if the year of degree is unknown, and zero otherwise.
Years since first hired	The number of years since the original employment year.
Break in service	Takes on the value of one if the year originally hired is not equal to the year currently hired, and zero otherwise.
Term length	Natural log of the number of months under contract.
Hired as Advanced Assistant professor	Takes on the value of one if the person was hired as an assistant professor with less than five years on the tenure

Hired as Associate professor	clock, and zero otherwise. Takes on the value of one if the person was hired as an associate professor, and zero otherwise.
Hired as Full professor	Takes on the value of one if the person was hired as a full professor or dean and zero otherwise.
Rank at hire unknown	Takes on the value of one if the person's rank at hire is unknown, and zero otherwise.
MA or below	Takes on the value of one if the highest degree held is a master's degree or below, and zero otherwise.
Special degree	Takes on the value of one if the highest degree held is a special degree, and zero otherwise.
Dual Degree	Takes on a value of one if the person holds both a PhD and a DVM, and zero otherwise. College of Veterinary Medicine only.
Board Certified	Takes on the value of one if the person is board certified, and zero otherwise. College of Veterinary Medicine only.
Dual Certified	Takes on the value of one if the person is board certified in two or more specialties, and zero otherwise. College of Veterinary Medicine only.
Newly tenured	Takes on a value of one if the person just received tenure, and zero otherwise.
Other promotion	Takes on a value of one if the person was just promoted, and zero otherwise.
Demotion	Takes on the value of one if the person just stepped down and zero otherwise.
Other title change	Takes on a value of one if the person's title changed from the previous observation, and zero otherwise.
Department indicators	Takes on a value of one if the person is from the designated department, and zero otherwise.
Department trends	Interaction between a department indicator and a time trend. The time trend takes on the value of zero in fiscal year 2000 and of 14 in fiscal year 2015. Department trends are not used in the models for the College of Architecture, the College of Veterinary Medicine and the STEM departments of the College of Liberal Arts because they are not statistically significant.
Year indicators	Sequence of indicator variables, one for each fiscal year.
Rank * year indicators	Interaction between two indicators for faculty rank (associate professor, and full professor or above) and the series of year indicators.

Appendix Table A2: The Estimated Relationship between Salaries and Faculty Demographics in STEM Departments, 2003-04 through 2014-15

VARIABLES	COALS STEM	Engineering	Geosciences	Science	Liberal Arts STEM
Male	-0.00939 (0.0356)	0.00915 (0.0192)	0.0703** (0.0344)	0.00281 (0.0297)	0.128*** (0.0315)
Male trend	0.00624** (0.00266)	-0.00310 (0.00232)	-0.00258 (0.00377)	0.000159 (0.00297)	-0.00152 (0.00257)
Male trend after FY 2011	-0.00433 (0.00516)	0.00209 (0.00345)	0.00291 (0.00661)	0.00418 (0.00409)	0.00802* (0.00410)
Male Associate	-0.00205 (0.0195)	0.0195 (0.0126)	-0.00688 (0.0196)	0.00461 (0.0137)	0.0175 (0.0199)
Male Full Plus	-0.0480 (0.0303)	0.0358* (0.0200)	-0.00933 (0.0386)	-0.000389 (0.0293)	-0.0200 (0.0315)
Associate Professor	0.105*** (0.0245)	0.0814*** (0.0135)	0.0614** (0.0287)	0.128*** (0.0167)	0.163*** (0.0143)
Dean/VP	0.266*** (0.0483)	0.192*** (0.0316)	0.201*** (0.0422)	0.207*** (0.0513)	0.465*** (0.0350)
Distinguished Professor	0.368*** (0.0367)	0.360*** (0.0293)	0.381*** (0.0670)	0.378*** (0.0343)	0.873*** (0.0799)
Full Professor	0.310*** (0.0337)	0.229*** (0.0207)	0.204*** (0.0393)	0.302*** (0.0315)	0.338*** (0.0326)
White	0.0206 (0.0365)	-0.00387 (0.0208)	-0.00555 (0.0225)	-0.00561 (0.0284)	0.00477 (0.0335)
Asian	0.0482 (0.0471)	-0.0173 (0.0209)	0.0628* (0.0323)	-0.0279 (0.0378)	0.0548 (0.0469)
Foreign born	0.00485 (0.0315)	0.00108 (0.0126)	0.000780 (0.0280)	0.00112 (0.0221)	0.0397 (0.0447)
Current admin	0.0323** (0.0131)	0.0763*** (0.0220)	0.0338*** (0.0129)	0.0852*** (0.0184)	-0.121 (0.0761)
Ever admin	0.0608* (0.0319)	0.103*** (0.0208)	0.0723** (0.0288)	0.183*** (0.0401)	0.177*** (0.0436)
Years since degree	0.0116*** (0.00383)	0.0162*** (0.00244)	0.0257*** (0.00412)	0.0303*** (0.00327)	0.0175*** (0.00403)
Years since degree unknown	-0.0137 (0.0375)	0.00842 (0.0179)	0.0368 (0.0348)	0.0612 (0.0461)	0.0454 (0.0474)

Years Since Degree, Squared	-0.000224** (8.91e-05)	-0.000194*** (3.43e-05)	-0.000368*** (5.96e-05)	-0.000248*** (3.78e-05)	-0.000204*** (5.82e-05)
Years since First Hired	0.00153 (0.00217)	-0.00250 (0.00199)	-0.00516* (0.00310)	-0.0150*** (0.00251)	-0.00893*** (0.00327)
Break in service	0.0758** (0.0314)	0.0258 (0.0187)	0.0480 (0.0352)	0.0108 (0.0606)	0.0560 (0.0743)
Term length	-0.208*** (0.0593)	0.0710*** (0.0266)	0.00165 (0.0148)	0.0410** (0.0190)	-0.0232 (0.0454)
Hired As Advanced Assistant	0.296** (0.137)	0.0824* (0.0443)	0.0630 (0.0474)	-0.00683 (0.0353)	-0.0316 (0.0589)
Hired As Associate	0.0598* (0.0306)	0.00128 (0.0257)	-0.0214 (0.0387)	-0.106*** (0.0388)	0.0544 (0.0703)
Hired as Full	0.355*** (0.0732)	0.125*** (0.0408)	0.0241 (0.0642)	-0.0179 (0.0615)	0.190** (0.0881)
Rank at Hire Unknown	0.0548 (0.0485)	-0.0150 (0.0337)	0.0911** (0.0446)	-0.152*** (0.0486)	0.0358 (0.103)
MA or less	0.0422 (0.139)	-0.169*** (0.0568)	-0.0585 (0.0648)		-0.0349 (0.102)
Special Degree	0.0338 (0.0465)	0.0122 (0.0771)			0.196*** (0.0539)
Newly tenured	-0.00163 (0.00865)	-0.0104*** (0.00341)	0.000392 (0.00711)	0.00327 (0.00470)	-0.0242** (0.00980)
Other promotion	-0.00455 (0.00847)	-0.0121** (0.00508)	-0.0135* (0.00750)	-0.0186*** (0.00628)	-0.00906 (0.00763)
Demotion	0.0417*** (0.0115)	0.0446*** (0.0105)	0.0295*** (0.00960)	0.0522*** (0.0169)	0.0360*** (0.0103)
Title change	0.000703 (0.00865)	0.0418*** (0.0124)	-0.00438 (0.0205)	0.0143 (0.0104)	-0.00851 (0.0127)
Year indicators	yes	yes	yes	yes	yes
Year X rank indicators	yes	yes	yes	yes	yes
Department Indicators	yes	yes	yes	yes	yes
Department*trend indicators	yes	yes	yes	yes	no
Observations	2,259	4,200	1,095	2,874	1,783
Number of UINs	281	545	140	333	249

Robust standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.10

Appendix Table A3: The Estimated Relationship between Salaries and Faculty Demographics in Non-STEM Departments, 2003-04 through 2014-15

VARIABLES	Bush School	Architecture	COALS Non-STEM	Education	Liberal Arts Non-STEM	Mays	Veterinary Medicine
Male	-0.0424 (0.0714)	-0.0203 (0.0340)	-0.00684 (0.0365)	0.0716*** (0.0247)	0.0441* (0.0251)	0.0636* (0.0368)	0.0619** (0.0247)
Male trend	0.000541 (0.00648)	0.00690** (0.00325)	0.00838* (0.00477)	-0.00883*** (0.00248)	-0.000795 (0.00267)	-0.00296 (0.00482)	-0.00211 (0.00179)
Male trend after FY 2011	0.0138 (0.0110)	-0.00945* (0.00542)	-0.000286 (0.00729)	0.00759 (0.00524)	0.000459 (0.00548)	0.0176** (0.00702)	-0.00132 (0.00430)
Male Associate	0.0205 (0.0365)	0.0236 (0.0297)	-0.000595 (0.0212)	0.0154 (0.0180)	-0.00988 (0.0157)	-0.0598** (0.0279)	0.00480 (0.0161)
Male Full Plus	0.0220 (0.0745)	-0.0406 (0.0343)	-0.0388 (0.0377)	0.0279 (0.0257)	-0.00290 (0.0301)	-0.0503 (0.0434)	0.0721*** (0.0274)
Associate Professor	0.102*** (0.0207)	0.119*** (0.0182)	0.109*** (0.0228)	0.137*** (0.0135)	0.122*** (0.0139)	0.134*** (0.0298)	0.0896*** (0.0163)
Dean/VP	0.367** (0.177)	0.203*** (0.0742)	0.590*** (0.0524)	0.308*** (0.0335)	0.337*** (0.0375)	0.362*** (0.0486)	0.278*** (0.0421)
Distinguished Professor		0.318*** (0.0748)	0.445*** (0.0439)	0.358*** (0.0299)	0.539*** (0.0441)	0.418*** (0.0450)	0.583*** (0.113)
Full Professor	0.290*** (0.0970)	0.314*** (0.0293)	0.294*** (0.0395)	0.277*** (0.0245)	0.320*** (0.0225)	0.282*** (0.0382)	0.156*** (0.0283)
White		-0.00266 (0.0334)	-0.0181 (0.0374)	-0.0294 (0.0221)	0.0175 (0.0211)	0.0437 (0.0310)	0.0583 (0.0363)
Asian		-0.0247 (0.0428)	0.0337 (0.0465)	-0.0963*** (0.0333)	0.0916*** (0.0346)	0.126*** (0.0410)	0.0223 (0.0364)
Foreign born		0.0223 (0.0398)	-0.0114 (0.0320)	0.0287 (0.0293)	-0.0145 (0.0235)	-0.00129 (0.0249)	-0.00376 (0.0234)
Current admin	-0.0254 (0.141)	0.154** (0.0601)	0.0324** (0.0150)	0.0639*** (0.0105)	0.0289 (0.0299)	0.0587*** (0.0143)	0.0686*** (0.0195)
Ever admin	0.0796 (0.128)	0.130*** (0.0378)	0.0264 (0.0380)	0.0905*** (0.0257)	0.138*** (0.0296)	0.0908** (0.0386)	0.158*** (0.0297)
Years since degree	0.00861 (0.00672)	0.00751* (0.00386)	0.0217*** (0.00381)	0.0142*** (0.00258)	0.0155*** (0.00281)	0.0204*** (0.00472)	0.0154*** (0.00267)

Years since degree	-0.0189	-0.0281	-0.0105	0.0306	0.00114	-0.0393	0.0651*
unknown	(0.0397)	(0.0390)	(0.0353)	(0.0302)	(0.0304)	(0.0277)	(0.0365)
Years Since Degree, Squared	-4.88e-06	-8.74e-05	-0.000347***	-0.000215***	-5.95e-05	-0.000394***	-0.000167***
	(0.000122)	(6.73e-05)	(5.47e-05)	(3.87e-05)	(4.97e-05)	(9.49e-05)	(5.00e-05)
Years since First Hired	0.00561	-0.00214	-0.00380	-8.58e-06	-0.0103***	-0.0121***	-0.00679***
	(0.00571)	(0.00235)	(0.00361)	(0.00176)	(0.00230)	(0.00308)	(0.00196)
Break in service	-0.0985	0.0541*	0.0571	0.0278	-0.0275	0.203***	0.0563***
	(0.209)	(0.0328)	(0.0368)	(0.0284)	(0.0410)	(0.0538)	(0.0205)
Term length	-0.471***	0.0427	-0.0120	-0.136***	0.0424	-0.0407	-0.0287
	(0.146)	(0.0381)	(0.0341)	(0.0329)	(0.0424)	(0.0367)	(0.194)
Hired As Advanced Assistant		0.00345	0.137***	-0.0147	-0.0317	0.00735	0.0220
		(0.0471)	(0.0439)	(0.0559)	(0.0260)	(0.0704)	(0.0604)
Hired As Associate	0.123*	0.136**	0.0272	0.0217	-0.0438	0.0514	-0.0608**
	(0.0665)	(0.0549)	(0.0515)	(0.0319)	(0.0389)	(0.0405)	(0.0286)
Hired as Full	0.272***	0.287***	0.174**	0.188***	0.0530	0.175***	0.169***
	(0.0967)	(0.0633)	(0.0821)	(0.0507)	(0.0597)	(0.0656)	(0.0624)
Rank at Hire Unknown	0.114	0.189***	0.0486	0.0606	-0.122**	0.0516	0.0702**
	(0.179)	(0.0677)	(0.0667)	(0.0449)	(0.0574)	(0.0619)	(0.0342)
MA or less	0.241***	-0.00479		-0.0401	-0.0605	0.323***	
	(0.0352)	(0.0351)		(0.0387)	(0.0545)	(0.0697)	
Special Degree		0.0283		0.0556	-0.182***	0.0112	5.79e-05
		(0.0370)		(0.163)	(0.0704)	(0.0692)	(0.0458)
DVM PhD							0.0389
							(0.0327)
Board certified							0.0151
							(0.0338)
Dual certified							0.0190
							(0.0190)
Newly tenured		-0.0123	-0.00327	-0.000507	-0.0148**	-0.0168	0.000874
		(0.0103)	(0.00910)	(0.00631)	(0.00658)	(0.0105)	(0.00713)
Other promotion		-0.0304*	-0.0216**	-0.0120	-0.0333***	-0.00517	-0.00559
		(0.0166)	(0.0110)	(0.00739)	(0.00697)	(0.0113)	(0.00653)
Demotion		0.0262**	0.0317	0.0206***	0.0516***	0.0213*	0.0442
		(0.0113)	(0.0244)	(0.00776)	(0.0157)	(0.0128)	(0.0322)
Title change		-0.00477	-0.0122	-0.0146	0.0224	-0.0169	-0.0295***
		(0.0121)	(0.0315)	(0.0182)	(0.0203)	(0.0181)	(0.0113)

Year indicators	yes	yes	yes	yes	yes	yes	yes	yes
Year X rank indicators	no	yes	yes	yes	yes	yes	yes	yes
Department Indicators	no	yes	yes	yes	yes	yes	yes	yes
Department*trend	no	no	yes	yes	yes	yes	yes	no
Observations	247	1,038	1,095	1,342	2,199	1,177	1,400	1,400
Number of UINs	46	148	147	193	294	178	190	190
Robust standard errors in parentheses	*** p<0.01, ** p<0.05, * p<0.10							