

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

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Executive Summary

The primary goal of the salary study initiated by the Office of the Dean of Faculties and Associate Provost was to determine if 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 are any systematic differences by race/ethnicity or national origin, and to identify individuals whose actual salaries are unusually high or unusually low, given the predictions of the salary model. The analyses include tenured/tenure track faculty at 9 divisions of Texas A&M University and covered fiscal years 2003 through 2014. We found that:

- In fiscal year 2014, four statistically significant differences in monthly salaries for male and female faculty were observed, once other demographic characteristics were taken into account. (Quantitative results can be found in Table 2.)
 1. Across the Science, Technology, Engineering, and Mathematics (STEM) departments of the College of Agriculture and Life Sciences and the STEM departments of the College of Liberal Arts, female salaries were significantly less than male salaries at the assistant and associate professor levels. The same pattern was also detected in the College of Liberal Arts at the full professor level.
 2. Across the non-STEM departments of the College of Agriculture and Life Sciences, female salaries were significantly less than male salaries at all three ranks (assistant, associate and full).
 3. In the College of Architecture, female associate professors earned significantly less than male associate professors, all other demographic factors being equal.
 4. In the College of Veterinary Medicine, female full professors earned significantly less than male full professors, all other demographic factors being equal.
- There is no evidence that salaries were systematically related to sex during fiscal year 2014 in the Colleges of Education and Human Development, Engineering, Geosciences or Science, nor in the Mays School of Business.
- Differentials between male and female salaries have been growing over time in the College of Agriculture and Life Sciences and narrowing over time in the College of Education. No systematic time trends were found in the other colleges.
- Asian faculty members earn systematically more than non-Asian faculty members in the College of Geosciences and the Mays School of Business. There is no other statistically reliable evidence of differences in salary by race/ethnicity.
- There is no evidence that salaries for 2014 were systematically related to national origin in any of the Colleges. However, in the College of Veterinary Medicine, Asian faculty members who are also foreign-born appear to earn significantly less than white faculty members who are native born.

Data Description

The payroll data for this analysis, which covers fiscal years 2003 through 2014, 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, and the Mays Business 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 hierarchical linear models, or multilevel 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 on salaries of the status of board certification 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. 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 (which were statistically significant in all of the colleges except the College of Architecture, where they were not used) allow for salary growth to be higher in some departments than in others. The rank-specific year indicators (which were statistically significant in all Colleges) allow for salary growth to be

systematically different for the three ranks: assistant professors, associate professors, and full professors and above.

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; however, none of the models include any independent variables for either of those important determinants of salary. 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. 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.

Findings about Sex Differentials

Table 2 compares the predicted fiscal year 2014 salaries for male and female faculty members with identical demographic characteristics.⁹ For example, the first row in the table indicates that the salary model for the STEM departments in the College of Agriculture and Life Science predicts that a female assistant professor would earn 92.9% 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.¹⁰

Table 2: Female Salaries as a Percentage of Male Salaries, by College and Faculty Rank, Fiscal Year 2014

	Female Salaries as a Percentage of Male Salaries
College of Agriculture and Life Science (COALS)	
STEM Assistant Professor	92.9% **
STEM Associate Professor	93.8% **
STEM Full Professor	98.5%
Non STEM Assistant Professor	90.3% **
Non STEM Associate Professor	89.6% ***
Non STEM Full Professor	88.0% ***
College of Architecture	
Assistant Professor	95.8%
Associate Professor	93.4% **
Full Professor	98.3%
College of Education and Human Development	
Assistant Professor	100.3%
Associate Professor	99.1%
Full Professor	98.3%

	Female Salaries as a Percentage of Male Salaries	
College of Engineering		
Assistant Professor	102.8%	
Associate Professor	100.9%	
Full Professor	99.4%	
College of Geosciences		
Assistant Professor	95.3%	
Associate Professor	96.7%	
Full Professor	95.8%	
College of Liberal Arts		
STEM Assistant Professor	89.3%	***
STEM Associate Professor	86.5%	***
STEM Full Professor	90.7%	**
Non STEM Assistant Professor	97.3%	
Non STEM Associate Professor	98.9%	
Non STEM Full Professor	97.9%	
College of Science		
Assistant Professor	98.1%	
Associate Professor	97.1%	
Full Professor	97.5%	
College of Veterinary Medicine		
Assistant Professor	96.7%	
Associate Professor	97.2%	
Full Professor	91.2%	***
Mays School of Business		
Assistant Professor	95.5%	
Associate Professor	101.0%	
Full Professor	98.5%	

Note: Salary ratios are based on a regression analysis of monthly salaries from fiscal year 2003 through fiscal year 2014. 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 2014 (the 2013-14 school year) were observed in four TAMU divisions.

- In the College of Agriculture and Life Sciences, 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 88% of the salary of male full

professors in non-STEM departments (on average) once other demographic characteristics were taken into account.

- In the College of Architecture, female associate professors earned 93.4% of the salaries of male associate professors, all other factors in the model being equal.
- In the College of Liberal Arts, female faculty in the STEM departments earned no more than 91% 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 91.2% of the salary for otherwise equal male full professors. Differences in salary for assistant and associate professors were not statistically significant.

There is no evidence that salaries were systematically related to sex in the remaining TAMU colleges under analysis. In the College of 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 in the College of Agriculture and Life Sciences, narrowing over time in the College of Education, and following no discernible time trends in the Colleges of Architecture, Engineering, Geosciences, Liberal Arts, Science and Veterinary Medicine and in the Mays School of Business (see Appendix Tables A.2 and A.3).

Findings about Race/Ethnicity and National Origin Differentials

Table 3 compares the predicted fiscal year 2014 salaries for Asian and other nonwhite faculty members with those of otherwise equal white faculty members, and the predicted salaries for foreign-born faculty with those of otherwise equal native-born faculty.¹¹ For the purposes of this analysis, the category of other nonwhite 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. Again, the asterisks indicate salary ratios that are significantly different from 100% at the 1-percent (***) 5-percent (***) or 10-percent (*) levels.¹²

As the table illustrates, Asian faculty appear to command a significant wage premium in the College of Geosciences and the Mays School of Business. On average, Asian faculty members in the College of Geosciences earned 106.4% and Asian faculty members in the Mays School of Business earned 106.7% of the salaries of white faculty members with equivalent demographics. There is weak additional evidence of salary differentials for Asian faculty in the Non-STEM departments of the College of Agriculture and Life Sciences, the College of Education and

Human Development and the College of Veterinary Medicine, but those differences are only statistically significant at the 10 percent level.

Table 3: Asian and Other Nonwhite Salaries as a Percentage of White Salaries and Foreign-born Salaries as a Percentage of Native-born Salaries, by College, Fiscal Year 2014

	Asian Salaries as a Percentage of White Salaries		Other Nonwhite Salaries as a Percentage of White Salaries		Foreign-born Salaries as a Percentage of Native Salaries
College of Agriculture and Life Science STEM	102.7%		98.3%		100.1%
College of Agriculture and Life Science Non-STEM	106.4%	*	101.7%		99.5%
College of Architecture	100.2%		99.8%		99.4%
College of Education and Human Development	94.6%	*	102.4%		101.8%
College of Engineering	99.3%		99.4%		100.0%
College of Geosciences	106.4%	**	99.5%		100.9%
College of Liberal Arts STEM	107.0%		101.1%		102.1%
College of Liberal Arts Non-STEM	104.4%		98.7%		100.2%
College of Science	98.0%		100.6%		100.6%
College of Veterinary Medicine	95.7%	*	100.0%		97.4%
Mays School of Business	106.7%	**	95.8%	*	99.6%

Note: Salary ratios are based on a regression analysis of monthly salaries from fiscal year 2003 through fiscal year 2014. 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.

There is no evidence that salaries for other nonwhite faculty are systematically different from the salaries for 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. However, evidence does suggest that the interaction between national origin and race/ethnicity is important in the College of Veterinary Medicine, where faculty members who are both Asian and foreign-born earn significantly less than demographically equivalent faculty who are white and native-born.

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 2014 diverged considerably from salaries predicted by the empirical model described above. The predicted salaries used for this exercise

were constructed setting 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 5.0% of the female faculty members and 6.6% 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 over twice the percentage of female faculty members.

Table 4: Percentages of Individuals Flagged for Follow-up, by College and Sex, Fiscal Year 2014

	Lower than Predicted		Higher than Predicted	
	Female	Male	Female	Male
College of Agriculture and Life Science STEM	7.7%	6.6%	7.7%	9.9%
College of Agriculture and Life Science Non-STEM	10.0%	4.4%	0.0%	5.9%
College of Architecture	5.0%	6.6%	10.0%	3.3%
College of Education and Human Development	2.1%	5.6%	8.5%	5.6%
College of Engineering	4.4%	5.6%	4.4%	8.5%
College of Geosciences	7.1%	4.4%	0.0%	7.3%
College of Liberal Arts STEM	11.3%	6.7%	1.9%	17.8%
College of Liberal Arts Non-STEM	13.4%	8.9%	4.5%	15.2%
College of Science	15.2%	12.1%	9.1%	15.5%
College of Veterinary Medicine	4.6%	4.3%	0.0%	10.0%
Mays School of Business	0.0%	6.9%	0.0%	6.9%
Total	8.0%	7.1%	4.5%	10.5%

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 Due to its small size the Bush School of Government and Public Service was not included. Given the lack of historical data, the Law School also was not included.

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, as was one faculty member who was tenured in the 1980s but held the rank of assistant professor throughout the analysis period. 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

⁹ The regression coefficients that support these salary predictions are presented in Appendix Tables A.2 and A.3.

¹⁰ 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.

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.

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 clock, and zero otherwise.

Hired as Associate professor	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	Takes on the value of one if the highest degree held is a master's degree, 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 12 in fiscal year 2013. Department trends are not used in the models for the College of Architecture 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, 2002-03 through 2013-14

VARIABLES	COALS STEM	Engineering	Geosciences	Science	Liberal Arts STEM
Male	-0.0121 (0.0332)	0.0140 (0.0193)	0.0722** (0.0315)	0.0165 (0.0270)	0.121*** (0.0302)
Male trend	0.00657** (0.00278)	-0.00314 (0.00233)	-0.00331 (0.00316)	-0.00173 (0.00282)	-0.00378* (0.00225)
Male trend after FY 2011	-1.60e-05 (0.00111)	-3.90e-05 (0.000763)	0.00143* (0.000817)	0.00194** (0.000873)	0.00325*** (0.000788)
Male Associate	-0.00937 (0.0214)	0.0182 (0.0142)	-0.0144 (0.0183)	0.01000 (0.0128)	0.0309 (0.0202)
Male Full Plus	-0.0576* (0.0339)	0.0332 (0.0206)	-0.00518 (0.0375)	0.00562 (0.0303)	-0.0164 (0.0349)
Associate Professor	0.110*** (0.0266)	0.0821*** (0.0141)	0.0606** (0.0249)	0.117*** (0.0138)	0.163*** (0.0150)
Dean/VP	0.250*** (0.0485)	0.208*** (0.0323)	0.209*** (0.0404)	0.235*** (0.0522)	0.442*** (0.0461)
Distinguished Professor	0.364*** (0.0411)	0.366*** (0.0286)	0.320*** (0.0674)	0.379*** (0.0334)	0.862*** (0.0763)
Full Professor	0.311*** (0.0366)	0.231*** (0.0198)	0.193*** (0.0373)	0.305*** (0.0305)	0.349*** (0.0355)
White	0.0169 (0.0335)	0.00601 (0.0224)	0.00497 (0.0329)	-0.00638 (0.0270)	-0.0107 (0.0319)
Asian	0.0432 (0.0453)	-0.000648 (0.0222)	0.0666* (0.0361)	-0.0267 (0.0359)	0.0567 (0.0453)
Foreign born	0.00105 (0.0303)	0.000184 (0.0131)	0.00886 (0.0311)	0.00645 (0.0219)	0.0209 (0.0422)
Current admin	0.0326** (0.0141)	0.0665*** (0.0203)	0.0274** (0.0118)	0.0879*** (0.0203)	0.206*** (0.0323)
Ever admin	0.0600* (0.0316)	0.0722*** (0.0197)	0.0807*** (0.0308)	0.153*** (0.0397)	0.156*** (0.0442)

Years since degree	0.0113** (0.00438)	0.0169*** (0.00245)	0.0278*** (0.00438)	0.0296*** (0.00318)	0.0193*** (0.00398)
Years since degree unknown	-0.0126 (0.0394)	-0.0143 (0.0199)	0.0491 (0.0404)	0.0442 (0.0437)	0.00113 (0.0489)
Years Since Degree, Squared	-0.000238** (0.000106)	-0.000220*** (3.58e-05)	-0.000393*** (6.52e-05)	-0.000234*** (4.04e-05)	-0.000237*** (6.13e-05)
Years since First Hired	0.00225 (0.00216)	-0.00265 (0.00192)	-0.00618* (0.00320)	-0.0158*** (0.00244)	-0.00884*** (0.00319)
Break in service	0.0829** (0.0325)	0.0343* (0.0196)	0.0718* (0.0387)	0.0709 (0.0568)	0.0588 (0.0695)
Term length	-0.203*** (0.0612)	0.00513 (0.0241)	0.00925 (0.0160)	0.0213 (0.0204)	0.00980 (0.0392)
Hired As Advanced Assistant	0.301** (0.141)	0.103** (0.0413)	0.0589 (0.0490)	-0.0349 (0.0367)	-0.0399 (0.0598)
Hired As Associate	0.0663** (0.0297)	0.00345 (0.0263)	-0.0262 (0.0378)	-0.120*** (0.0419)	0.0611 (0.0701)
Hired as Full	0.342*** (0.0758)	0.117*** (0.0415)	-0.00255 (0.0655)	-0.0133 (0.0601)	0.198** (0.0909)
Rank at Hire Unknown	0.0541 (0.0482)	0.00418 (0.0316)	0.0983** (0.0446)	-0.185*** (0.0475)	0.0253 (0.0938)
MA	-0.151*** (0.0488)	-0.146*** (0.0538)	0.0321 (0.0323)		0.0892** (0.0353)
Special Degree	0.0637 (0.0570)	0.0148 (0.0736)			0.185*** (0.0516)
Newly tenured	-0.000319 (0.00889)	-0.0110*** (0.00356)	0.00189 (0.00721)	-0.000917 (0.00557)	-0.0176* (0.00928)
Other promotion	-0.00637 (0.0110)	-0.0192*** (0.00552)	-0.0197*** (0.00709)	-0.0255*** (0.00775)	-0.00540 (0.00776)
Demotion	0.0529*** (0.0143)	0.0529*** (0.00956)	0.0229** (0.00903)	0.0584*** (0.0149)	0.0358** (0.0158)
Title change	0.00708 (0.0115)	0.0378*** (0.0123)	0.0221 (0.0147)	0.0129 (0.0116)	0.00117 (0.0146)
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	yes
Observations	2,248	4,114	1,083	2,837	1,767
Number of UINs	283	530	136	334	244
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, 2001-02 through 2012-13

VARIABLES	Architecture	COALS Non-STEM	Education	Liberal Arts Non-STEM	Mays	Veterinary Medicine
Male	-0.0207 (0.0320)	-0.0157 (0.0371)	0.0897*** (0.0239)	0.0333 (0.0213)	0.0423 (0.0325)	0.0605** (0.0250)
Male trend	0.00649** (0.00321)	0.00967** (0.00424)	-0.00931*** (0.00261)	0.000218 (0.00249)	-0.00113 (0.00474)	-0.00216 (0.00190)
Male trend after FY 2011	-0.00162 (0.00105)	-0.000583 (0.00172)	0.00222* (0.00115)	-0.000715 (0.00102)	0.00139 (0.00146)	0.000102 (0.000917)
Male Associate	0.0260 (0.0349)	0.00688 (0.0196)	0.0115 (0.0187)	-0.0158 (0.0148)	-0.0563** (0.0264)	-0.00540 (0.0155)
Male Full Plus	-0.0260 (0.0422)	0.0249 (0.0461)	0.0193 (0.0288)	-0.00531 (0.0293)	-0.0309 (0.0434)	0.0579*** (0.0221)
Associate Professor	0.132*** (0.0267)	0.0878*** (0.0284)	0.129*** (0.0129)	0.116*** (0.0122)	0.149*** (0.0251)	0.0672*** (0.0195)
Dean/VP	0.186*** (0.0693)	0.344*** (0.132)	0.322*** (0.0339)	0.355*** (0.0384)	0.376*** (0.0487)	0.268*** (0.0460)
Distinguished Professor	0.352*** (0.0672)	0.354*** (0.0551)	0.385*** (0.0335)	0.537*** (0.0457)	0.436*** (0.0465)	0.572*** (0.0983)
Full Professor	0.300*** (0.0338)	0.218*** (0.0513)	0.284*** (0.0277)	0.314*** (0.0246)	0.285*** (0.0390)	0.137*** (0.0254)
White	0.00194 (0.0312)	-0.0170 (0.0434)	-0.0241 (0.0223)	0.0126 (0.0203)	0.0431* (0.0258)	-0.000458 (0.0429)
Asian	0.00366 (0.0368)	0.0450 (0.0496)	-0.0798** (0.0376)	0.0552 (0.0375)	0.108*** (0.0367)	-0.0443 (0.0427)
Foreign born	-0.00554 (0.0310)	-0.00519 (0.0329)	0.0175 (0.0312)	0.00212 (0.0230)	-0.00381 (0.0238)	-0.0263 (0.0228)
Current admin	0.141*** (0.0524)	0.0311** (0.0142)	0.0609*** (0.0108)	0.00988 (0.0309)	0.0586*** (0.0180)	0.0455** (0.0210)
Ever admin	0.140*** (0.0369)	0.0365 (0.0369)	0.0710*** (0.0268)	0.135*** (0.0286)	0.0846** (0.0369)	0.136*** (0.0320)

Years since degree	0.00793** (0.00391)	0.0255*** (0.00400)	0.0147*** (0.00256)	0.0150*** (0.00295)	0.0212*** (0.00483)	0.0155*** (0.00246)
Years since degree unknown	-0.0452 (0.0372)	0.0165 (0.0406)	0.0337 (0.0311)	-0.0169 (0.0313)	-0.0327 (0.0236)	0.0553 (0.0384)
Years Since Degree, Squared	-0.000102 (6.98e-05)	-0.000422*** (6.44e-05)	-0.000229*** (4.06e-05)	-4.65e-05 (5.84e-05)	-0.000395*** (0.000103)	-0.000155*** (4.19e-05)
Years since First Hired	-0.00233 (0.00231)	-0.00410 (0.00352)	-0.00115 (0.00182)	-0.00979*** (0.00222)	-0.0126*** (0.00294)	-0.00635*** (0.00204)
Break in service	0.0350 (0.0289)	0.0528 (0.0372)	0.0308 (0.0285)	-0.0286 (0.0394)	0.207*** (0.0552)	0.0509** (0.0204)
Term length	0.0501 (0.0316)	0.00992 (0.0371)	-0.134*** (0.0316)	0.0347 (0.0386)	-0.0755* (0.0401)	-0.0665 (0.162)
Hired As Advanced Assistant	0.00621 (0.0524)	0.135*** (0.0521)	-0.00579 (0.0532)	-0.0338 (0.0251)	-0.0121 (0.0690)	0.0121 (0.0562)
Hired As Associate	0.133** (0.0552)	0.0305 (0.0526)	0.0134 (0.0335)	-0.0136 (0.0410)	0.0244 (0.0409)	-0.0264 (0.0285)
Hired as Full	0.278*** (0.0618)	0.200** (0.0816)	0.170*** (0.0530)	0.0216 (0.0614)	0.141** (0.0609)	0.169** (0.0688)
Rank at Hire Unknown	0.162** (0.0671)	0.0649 (0.0636)	0.0655 (0.0437)	-0.0863* (0.0516)	0.0196 (0.0548)	0.0463 (0.0322)
BA	0.412*** (0.0587)				0.311*** (0.0626)	
MA	-0.00971 (0.0341)		-0.0379 (0.0263)	-0.0794 (0.0575)	0.217*** (0.0600)	
Special Degree	0.0264 (0.0418)		0.0659 (0.161)	-0.217*** (0.0588)	0.0223 (0.0977)	-0.0358 (0.0413)
DVM PhD						0.0255 (0.0295)
Board certified						0.0492 (0.0308)
Dual certified						0.0166 (0.0164)

Newly tenured	-0.00822 (0.00949)	0.00673 (0.00925)	0.00411 (0.00671)	-0.0139* (0.00714)	-0.0211* (0.0124)	0.00195 (0.00548)
Other promotion	-0.0255* (0.0155)	-0.00906 (0.0106)	-0.0128 (0.00776)	-0.0375*** (0.00795)	-0.0190* (0.0100)	-0.00648 (0.00560)
Demotion	0.0302*** (0.0101)	0.0256 (0.0258)	0.0259*** (0.00910)	0.0608*** (0.0157)	0.0214* (0.0130)	0.0351 (0.0302)
Title change	-0.00630 (0.0121)	-0.00957 (0.0369)	-0.0272 (0.0207)	0.0299 (0.0195)	-0.0224 (0.0150)	-0.0127 (0.0106)
Year indicators	yes	yes	yes	yes	yes	yes
Year X rank indicators	yes	yes	yes	yes	yes	yes
Department Indicators	yes	yes	yes	yes	yes	yes
Department*trend	no	yes	yes	yes	yes	yes
Observations	1,038	1,103	1,331	2,185	1,179	1,417
Number of UINs	148	145	192	287	176	197
Robust standard errors in parentheses	*** p<0.01, ** p<0.05, * p<0.10.					