

FY18 Faculty Salary Equity Study

Executive Summary



PURPOSE

Institutional Research, Planning and Effectiveness conducts the Salary Equity Study annually to assess potential salary differences by gender or minority status for CSU tenured and tenure-track faculty. It is just one of many salary studies completed throughout the year. It is not intended to assess the salary of any individual faculty.

METHODOLOGY

Two regression models at each rank (one for gender and one for minority status) are used. They were developed, by the Salary Equity Committee for use from FY17 through FY19.

VARIABLES

Dependent

The models use a logarithm of the 9-month salary as the dependent variable. The salaries for 12-month contracts are converted at 0.75 for standardization.

Independent

Gender
Minority Status
Years in Rank
Department

FY18 single year analysis, key findings:

- No statistically significant between-group differences in salary were identified at any rank by gender or minority status.

FY14-FY18 change over time analysis, key findings:

- In four of the last five years, the salary gap for female Full Professors was statistically significant but has narrowed and is no longer statistically significant. In FY14, female Full Professors (N = 131) earned 93.5% of what their male colleagues (N = 302) earned; by FY18, this increased to 96.6%.
- Over the last five years, there were no statistically significant differences in salary by gender for Assistant or Associate Professors (Associate female N = 149; Associate male N = 203; Assistant female N = 120; Assistant male N = 140).
- In three of the last five years, the salary gap for minority Associate Professors was statistically significant but has narrowed and is no longer statistically significant. In FY14, minority Associate Professors (N = 72) earned 96.8% of what their non-minority colleagues (N = 280) earned; by FY18, this increased to 97.8%.
- Over the last five years, there were no statistically significant differences in salary by minority status for Assistant or Full Professors (Assistant minority N = 62; Assistant non-minority N = 198; Full minority N = 54; Full non-minority N = 379).

The full salary equity results can be accessed online at: <http://www.ir.colostate.edu/data-reports/faculty/salary-equity/>



FY18 Faculty Salary Equity Analysis

Contents

Background	1
Methodology	1
Population	1
Data Fidelity	1
Dependent Variable	1
Independent Variables	1
Analysis Technique	1
FY18 Results.....	3
Trends Over Time	7
Discussion	8
Appendix A Regression Models	9
Appendix B	20

Background

In the summer of 2015, with the full involvement of the President's Commission on Women and Gender Equity (PCWGE), the Standing Committee on the Status of Women Faculty (SCSWF) and Faculty Council, a Salary Equity Committee was formed to look at salary equity issues, including best practices and an equitable salary model for use through FY19. In addition to members of the PCWGE and SCSWF, the Committee included experts both internal and external to CSU, including representatives from CSU's Office of

Human Resources (HR), the Office of Institutional Research, Planning and Effectiveness (IRP&E) and faculty members with subject matter expertise. Using the methodology selected by the Committee, the current analysis assesses the association of gender and minority status with tenured and tenure-track faculty salaries at CSU. A separate report about the Committee's process is available on the Institutional Research, Planning and Effectiveness web site.

It is important to note that, although the models reflect best practices in the analysis of salary equity, there is

unexplained variance. Therefore, any between-group differences by gender or minority status do not confirm the existence or absence of salary inequities; as discussed at length by the Committee, there are many potential reasons for group differences.

The models do not address the salary of any specific individual faculty member. The assessment of individual salary equity is completed through a separate exercise in which in-depth attempts are made to understand individual performance and salary. That exercise is completed annually.

Methodology

Population

Tenured and tenure-track faculty with active appointments in academic departments or the Library are included for the current analysis.

Faculty on transitional appointments are excluded; those on sabbatical are included. Department Heads are included. Assistant Deans, Associate Deans and Deans are excluded from the population as is one faculty member who also serves as a Senior Associate Athletic Director.

Data Fidelity

In preparation for this analysis, multiple efforts were made to address data fidelity. Faculty were invited to review their demographic data through the self-service HR application. Further, demographic data and the other independent variables included in the salary equity analysis, are accessible through an online portal hosted by the Office of Institutional Research, Planning and Effectiveness. This portal was created in response to faculty feedback in FY17. Faculty were urged to correct their data as necessary with HR or IRP&E. Additionally, Curriculum Vitae

reviews were also completed and individual faculty were contacted via phone and/or email if questions still remained (especially related to time in rank).

Dependent Variable

The dependent variable for each regression model is the logarithm of the 9-month salary. The 9-month salary is calculated for 12-month contracts at a 0.75 conversion. The standardized salaries are then subjected to a logarithmic transformation¹.

Independent Variables

1. Gender: Categorical (female, male)
2. Minority Status: Categorical (minority, non-minority) with minority defined as self-reported Black/ African American, Latino/a, Asian, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, Two or More Races/Ethnicity. Non-minority is defined as White or Unreported.
3. Years in Current Rank (including appointments at accredited institutions prior to CSU):
 - a. Assistant Professor years in rank (linear)
 - b. Associate Professor years in rank (linear and quadratic)
 - c. Full Professor years in rank (linear, quadratic and cubic)

4. Department: Categorical (yes, no) for each academic department at CSU and the Library

The current models do not include any variables related to performance because of data collection and validation issues.

Analysis Technique

A separate regression model for each rank is used to assess how much salary variance is related to each of the above independent variables. The models were selected after significant deliberation of best practices in salary equity analysis at other institutions and the current availability of accurate data.

The Committee decided that insufficient counts prohibited the inclusion of an interaction effect in the statistical analysis. The gender models exclude the minority status variable and vice versa.

The relationship between the log salary (dependent variable) and years in rank (independent variable) differs by rank and is therefore represented differently for each rank.

FY18 Faculty Salary Equity Analysis

The relationship for Assistant Professors is linear and increasing; as years in rank increase so does log salary (Appendix B, Figure 1).

The relationship for Associate Professors is quadratic²; it increases to a point but then decreases slightly (Appendix B, Figure 2).

The relationship for Full Professors is cubic³; it increases more quickly immediately after appointment and again in later years with a relative plateau in between (Appendix B, Figure 3).

The significance of the model results are expressed in terms of the p value metric; lower values are more significant, with a significance level set at the standard of $p < 0.05$. Regression coefficients are shown in Appendix A.

¹ The logarithmic transformation helps to better approximate a normal distribution in order to meet the assumptions of the statistical analysis. It also aids in the interpretation of the model coefficients for categorical variables (e.g., gender or minority status) by representing percentage differences in salary. For example, under this transformation, a positive 0.05 independent variable coefficient corresponds to a +5% difference in salary between groups.

² A quadratic function is stated as $f(x) = ax^2 + bx + c$ where the resulting graph is a basic "U" shape.

³ A cubic function is stated as $f(x) = ax^3 + bx^2 + cx + d$ where the resulting graph is a basic "S" shape.



FY18 Results

Descriptive Statistics

Demographic frequency counts by college and rank are displayed in Table 1. The study included a total of 1,045 faculty. Overall, females account for 38% of faculty included in the current study; minority faculty account for 18%. There are lower numbers of female and minority faculty in Science, Technology, Engineering and Math (STEM) than male and non-minority faculty. This is especially true at the Full Professor rank. This distribution reflects larger societal patterns.

Table 1

Demographic Frequency Counts by College and Rank

College	Rank	Female	Male	Minority	Non-Minority	Total
College of Agricultural Sci	Assistant Professor	10	17	4	23	27
	Associate Professor	7	18	8	17	25
	Professor	9	43	3	49	52
College of Business	Assistant Professor	6	11	4	13	17
	Associate Professor	8	16	6	18	24
	Professor	7	18	1	24	25
College of Health and Human Sci	Assistant Professor	28	9	13	24	37
	Associate Professor	19	17	6	30	36
	Professor	25	11	1	35	36
College of Liberal Arts	Assistant Professor	26	36	14	48	62
	Associate Professor	45	45	16	74	90
	Professor	29	48	11	66	77
College of Natural Sciences	Assistant Professor	7	27	10	24	34
	Associate Professor	21	31	14	38	52
	Professor	25	61	18	68	86
College of Vet Med & Biomed Sci	Assistant Professor	24	11	7	28	35
	Associate Professor	25	30	9	46	55
	Professor	22	59	5	76	81
Library	Assistant Professor	3	0	0	3	3
	Associate Professor	9	1	1	9	10
	Professor	3	0	0	3	3
Walter Scott, Jr. College of Engineering	Assistant Professor	9	21	8	22	30
	Associate Professor	4	31	11	24	35
	Professor	5	40	9	36	45
Warner College of Natural Resources	Assistant Professor	7	8	2	13	15
	Associate Professor	11	14	1	24	25
	Professor	6	22	6	22	28
Total	Assistant Professor	120	140	62	198	260
	Associate Professor	149	203	72	280	352
	Professor	131	302	54	379	433
Grand Total		400	645	188	857	1045

FY18 Faculty Salary Equity Analysis

Table 2 displays the interquartile salary range for each department by rank. Generally, the lower salaries are in the library and liberal arts/humanities departments and the higher salaries are located in STEM departments. Combined with the faculty counts in Table 1, it is clear that female and/or minority faculty are more heavily concentrated in lower paying departments. Therefore, in order to isolate the impact of gender or minority status, department is statistically controlled for in the regression models.

Table 2
Interquartile Salary Range by Department

Department	25th Percentile			50th Percentile			75th Percentile		
	Assistant Professor	Associate Professor	Professor	Assistant Professor	Associate Professor	Professor	Assistant Professor	Associate Professor	Professor
Accounting	\$168,749	\$136,808	\$142,151	\$173,698	\$140,283	\$177,997	\$178,499	\$166,070	\$189,444
Agricultural and Resource Econ	\$85,000	\$95,379	\$108,788	\$87,000	\$95,917	\$116,260	\$89,125	\$99,416	\$135,622
Animal Sciences	\$79,475	\$84,360	\$98,228	\$82,270	\$86,241	\$113,257	\$86,950	\$95,031	\$153,283
Anthropology	\$63,410	\$74,250	\$86,050	\$64,459	\$75,924	\$93,709		\$77,015	\$104,892
Art and Art History	\$54,184	\$62,587	\$73,361	\$55,305	\$66,495	\$77,721	\$58,641	\$68,704	\$84,590
Atmospheric Science	\$99,500	\$119,300	\$142,425	\$108,000	\$120,250	\$158,000		\$121,350	\$181,969
Bioagricultural Sciences and P	\$81,478	\$136,725	\$96,244	\$81,485	\$136,725	\$108,728	\$82,295	\$136,725	\$134,550
Biochemistry and Molecular Bio	\$78,500	\$89,000	\$104,226	\$83,000	\$94,000	\$114,950		\$96,000	\$138,019
Biology	\$79,390	\$87,040	\$106,120	\$80,845	\$88,780	\$118,910		\$90,648	\$127,073
Biomedical Sciences	\$82,823	\$86,592	\$115,627	\$84,486	\$87,822	\$133,707	\$86,722	\$91,808	\$149,309
Chemical and Biological Engine	\$99,900	\$114,200	\$148,125	\$100,450	\$115,000	\$159,650		\$115,800	\$172,563
Chemistry	\$84,000	\$96,114	\$114,805	\$85,870	\$101,627	\$123,825	\$88,202	\$101,893	\$157,175
Civil and Environmental Engine	\$92,100	\$113,400	\$136,825	\$93,000	\$117,100	\$145,400	\$96,900	\$129,700	\$167,438
Clinical Sciences	\$86,642	\$93,632	\$111,641	\$88,552	\$94,365	\$118,264	\$92,154	\$100,164	\$137,025
Communication Studies	\$61,186	\$70,900	\$83,435	\$61,469	\$74,046	\$98,441	\$67,080		\$105,256
Computer Information Systems	\$141,212	\$135,722	\$147,148	\$143,106	\$141,426	\$156,879		\$161,874	\$160,422
Computer Science	\$107,290	\$112,050	\$128,530	\$108,898	\$114,400	\$133,800	\$110,430	\$119,600	\$135,500
Construction Management	\$77,865	\$82,477	\$160,463	\$79,489	\$90,594	\$160,463	\$81,345	\$98,222	\$160,463
Design and Merchandising	\$70,914	\$77,200	\$92,838	\$74,000	\$78,400	\$99,000	\$75,350		\$114,066
Economics	\$90,751	\$100,289	\$111,247	\$91,958	\$103,336	\$119,324		\$115,338	\$164,649
Ecosystem Science and Sustaina	\$73,458	\$80,567	\$100,373	\$73,539	\$81,800	\$118,613		\$83,175	\$142,447
Electrical and Computer Engine	\$96,000	\$110,100	\$138,700	\$97,000	\$112,100	\$150,700		\$114,400	\$180,000
English	\$61,293	\$70,723	\$81,466	\$64,113	\$73,012	\$85,310	\$66,294	\$81,125	\$92,573
Environmental and Radiological	\$89,638	\$94,868	\$112,928	\$92,225	\$98,660	\$118,474	\$103,180	\$106,026	\$135,410
Ethnic Studies	\$64,581	\$72,949	\$88,204	\$64,581	\$75,149	\$89,731	\$64,581	\$78,267	
Finance and Real Estate	\$158,820	\$128,986	\$141,524	\$172,905	\$143,651	\$169,164	\$179,735	\$156,683	\$212,816
Fish, Wildlife and Conservatio	\$75,000	\$79,555	\$92,180	\$75,000	\$82,678	\$99,675	\$75,000	\$86,194	\$111,674
Food Science and Human Nutriti	\$73,978	\$79,067	\$88,575	\$73,978	\$83,404	\$95,010	\$73,978	\$92,396	\$135,528
Forest & Rangeland Stewardship	\$71,288	\$79,390	\$91,524	\$72,138	\$80,403	\$98,818	\$72,982	\$80,964	\$120,638
Geosciences	\$75,018	\$78,801	\$105,257	\$76,700	\$80,015	\$115,853		\$96,346	\$121,306

Table 2 (cont.)
 Interquartile Salary Range by Department

Department	25th Percentile			50th Percentile			75th Percentile		
	Assistant Professor	Associate Professor	Professor	Assistant Professor	Associate Professor	Professor	Assistant Professor	Associate Professor	Professor
Health and Exercise Science	\$74,223	\$83,476	\$102,601	\$75,145	\$85,484	\$116,681	\$75,580	\$90,864	\$131,403
History	\$59,570	\$63,514	\$80,335	\$60,336	\$72,310	\$83,524	\$61,306		\$99,887
Horticulture and Landscape Arc	\$62,807	\$68,895	\$102,169	\$77,387	\$84,126	\$104,111		\$92,241	\$121,610
Human Development and Family S	\$73,200	\$84,057	\$94,798	\$74,050	\$84,835	\$112,250	\$78,375	\$91,852	\$124,588
Human Dimensions of Natural Re	\$69,204	\$81,322	\$86,611	\$72,714	\$84,195	\$103,168	\$78,550	\$87,167	\$124,511
Journalism and Media Communica	\$64,229	\$72,664	\$92,418	\$65,267	\$76,079	\$100,553	\$66,186	\$79,279	\$107,523
Languages, Literatures and Cul	\$60,250	\$62,607	\$78,882	\$61,500	\$62,650	\$87,808	\$62,809	\$66,210	
Library	\$39,469	\$45,438	\$58,022	\$39,469	\$55,580	\$60,084		\$62,567	
Management	\$137,700	\$124,909	\$158,473	\$138,566	\$144,552	\$181,307		\$146,972	\$186,510
Marketing	\$142,787	\$142,036	\$156,041	\$149,665	\$154,620	\$157,475	\$151,330	\$163,414	\$165,419
Mathematics	\$78,026	\$84,374	\$95,445	\$79,252	\$87,680	\$107,502	\$80,672	\$91,589	\$142,138
Mechanical Engineering	\$95,100	\$112,725	\$141,800	\$95,600	\$115,300	\$144,750	\$97,700	\$127,000	\$178,750
Microbiology, Immunology and P	\$82,207	\$89,347	\$107,831	\$82,923	\$93,866	\$114,520	\$85,255	\$96,998	\$143,830
Occupational Therapy	\$73,000	\$86,158	\$107,402	\$76,006	\$87,544	\$115,444		\$89,853	
Philosophy	\$64,140	\$67,624	\$77,464	\$68,481	\$69,858	\$96,556		\$92,047	\$127,998
Physics	\$74,500	\$91,080	\$111,567	\$75,630	\$92,853	\$117,967	\$78,011	\$97,269	\$125,485
Political Science	\$67,240	\$79,702	\$107,724	\$68,847	\$84,612	\$111,948	\$69,784	\$86,084	\$121,948
Psychology	\$73,905	\$85,626	\$99,344	\$75,576	\$87,805	\$105,295		\$93,002	\$125,870
School of Education	\$67,271	\$76,203	\$90,341	\$67,881	\$80,277	\$96,326	\$75,385	\$83,640	\$113,372
School of Music, Theatre and D	\$53,521	\$63,030	\$76,920	\$55,218	\$65,226	\$85,356	\$58,465	\$72,845	\$102,675
School of Social Work	\$65,090	\$80,500		\$65,690	\$80,500		\$70,611	\$80,500	
Sociology	\$66,572	\$74,614	\$95,216	\$67,935	\$76,969	\$103,938	\$69,117	\$78,086	\$136,542
Soil and Crop Sciences	\$77,390	\$71,143	\$108,040	\$83,280	\$76,970	\$128,570		\$84,695	\$137,569
Statistics	\$89,574	\$102,570	\$127,587	\$91,626	\$104,096	\$136,785			\$144,328

FY18 Faculty Salary Equity Analysis

Model Statistics

At the institutional level, each of the models is statistically significant indicating the variables of department, years in current rank and either gender or minority status are significantly associated with salary. Tables 3 and 4 show the regression model results by rank.

The second column, the adjusted R squared, is the percentage of salary variance that is explained by each model. The salary variance explained by the models is inversely related to

rank. However, all of the models are highly significant indicating a good fit to the data ($p = 0.0000$).

Use of the log salary as the dependent variable (instead of 9-month salary) allows for an interpretation of the salary of one group as a percentage of another group. The third column of Table 3 displays female faculty salary as a percent of male while the third column in Table 4 displays the salary for minority faculty as a percentage of non-minority faculty. The salary difference by gender is largest at the

Full Professor rank (3.4%) and by minority status at the Associate Professor rank (2.2%).

The fourth column in Tables 3 and 4 provides the p value for the gender or minority status coefficients after controlling for department and years in rank. None of the between-group differences are statistically significant ($p > .05$). However, the gender difference at the Full Professor rank is trending toward significance at $p = .056$.

Table 3

Between-Group Salary Differences by Gender (after controlling for years in rank and department)

Rank	Gender Models		
	Salary Variance Explained (Adjusted R Squared)	Female Salary as a Percent of Male	Significance Level (p value)
Assistant Professor	96.4%	99.3%	0.371
Associate Professor	84.9%	98.2%	0.109
Full Professor	59.2%	96.6%	0.056

Table 4

Between-Group Salary Differences by Minority Status (after controlling for years in rank and department)

Rank	Minority Status Models		
	Salary Variance Explained (Adjusted R Squared)	Minority Salary as a Percent of Non-Minority	Significance Level (p value)
Assistant Professor	96.4%	99.6%	0.618
Associate Professor	84.9%	97.8%	0.117
Full Professor	58.8%	101.9%	0.458

Trends over Time

Descriptive Statistics

In this section, the FY18 results are reiterated and shown with a retroactive analysis for FY14-17 using the FY18 population parameters and modeling methods.

Table 5 displays the demographic

frequency counts by rank and year for tenured/tenure-track faculty. Overall, the number of female and minority faculty has increased from FY14 to FY18 and each of these subgroups has increased as a proportion of the total.

However, this finding is not consistent at each rank. At the Assistant Professor rank, both subgroups have declined slightly as a percent of the

rank total. The same is true for females at the Associate Professor rank.

The proportion of females as a percent of the Full Professors has increased as has the proportion of minority faculty as a percent of the total at the Associate and Full Professor ranks.

Table 5
Demographic Frequency Counts by Rank and Year

Rank	Fiscal Year	Female	Male	Minority	Non-Minority	Total
Assistant Professor	FY14	110	123	59	174	234
	FY15	108	116	55	169	225
	FY16	111	115	57	169	227
	FY17	113	138	56	195	251
	FY18	120	140	62	198	260
Associate Professor	FY14	162	212	61	313	374
	FY15	163	217	72	308	380
	FY16	162	206	69	299	368
	FY17	154	207	69	292	361
	FY18	149	203	72	280	352
Full Professor	FY14	103	296	42	357	399
	FY15	113	299	49	363	412
	FY16	117	308	54	371	425
	FY17	127	303	55	375	430
	FY18	131	302	54	379	433

FY18 Faculty Salary Equity Analysis

Model Statistics

As shown in Table 6, over the last five years, there have been two ranks with statistically significant between-group differences. Female Full Professors have, in four of the last five years, had a statistically significantly lower average salary than their male counterparts after controlling for department and years in rank. Minority Associate Professors have, in three of five years, had a statistically significantly lower average salary than their non-minority counterparts after controlling for department and years in rank. In each of these situations, the gap has narrowed and is no longer statistically significant in FY18.

Table 6

Regression Results by Rank and Year

Rank and Fiscal Year		Gender			Minority Status		
		Salary Variance Explained (Adjusted R2)	Female Salary as a Percent of Male	Gender Difference (pvalue)	Salary Variance Explained (Adjusted R2)	Minority Salary as a Percent of Non-Minority	Minority Difference (pvalue)
Assistant Professor	FY14	92.0%	99.9%	0.958	92.2%	102.3%	0.056
	FY15	94.2%	99.2%	0.395	94.2%	100.1%	0.962
	FY16	93.2%	98.6%	0.147	93.2%	98.3%	0.121
	FY17	95.2%	98.8%	0.160	95.2%	98.5%	0.100
	FY18	96.4%	99.3%	0.371	96.4%	99.6%	0.618
Associate Professor	FY14	83.2%	100.3%	0.817	83.4%	96.8%	0.039
	FY15	82.6%	99.8%	0.845	82.8%	97.2%	0.067
	FY16	82.7%	100.3%	0.801	83.2%	95.2%	0.002
	FY17	80.4%	99.9%	0.933	81.3%	94.6%	< 0.001
	FY18	84.9%	98.2%	0.109	84.9%	97.8%	0.117
Full Professor	FY14	49.4%	93.5%	0.003	48.1%	101.7%	0.584
	FY15	53.7%	92.2%	< 0.001	52.0%	103.9%	0.169
	FY16	55.3%	93.6%	0.001	54.1%	102.7%	0.300
	FY17	59.5%	95.1%	0.006	58.8%	102.9%	0.241
	FY18	59.2%	96.6%	0.056	58.8%	101.9	0.458

Shaded cells indicate statistically significant results.

Discussion

The current analysis represents best practices in salary analysis as discovered by the Salary Equity Committee in 2015. Although there are no statistically significant between-group differences found in FY18, salary equity is an issue that continues to be central to the institution's goal of being the best place to work and learn.

Assessment of salary equity is ongoing and not accomplished with any single analysis. The current study may best be interpreted in conjunction with salary and utilization analyses completed by the Office of Equal Opportunity and the Office of Institutional Research, Planning, and Effectiveness.

Faculty are encouraged to review their HR data through either the HR

self-service portal or with their departmental HR liaison. Faculty can also review, [online](#), a subset of demographic data (much of which was used in the current study).

Please contact the Office of Institutional Research, Planning, and Effectiveness with any questions or comments related to the current analysis.

Appendix A Regression Models

Each of the six tables below display the regression model coefficients for each rank by gender or minority status. All variables are categorical (0 = no, 1 = yes) except the constant and the years in rank (linear, quadratic and cubic). The equation for each model can be derived as follows: $\log \text{ salary} = \text{constant} + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4\dots$

Because of the categorical nature of the department variables, all but one will equal zero so the equations can be shortened to the following (where female = 1 and male = 0; minority = 1 and non-minority = 0)

Full Professor

Log Salary = $11.608 + (\text{gender} * -0.034) + (\text{department coefficient}) + (\text{fullyrs} * 0.025) + (\text{fullyrs}^2 * -0.001) + (\text{fullyrs}^3 * 1.486E-05)$

Log Salary = $11.596 + (\text{minority} * 0.019) + (\text{department coefficient}) + (\text{fullyrs} * 0.026) + (\text{fullyrs}^2 * -0.001) + (\text{fullyrs}^3 * 1.492E-05)$

Associate Professor

Log Salary = $11.485 + (\text{gender} * -0.018) + (\text{department coefficient}) + (\text{assocys} * 0.002) + (\text{assocys}^2 * .000)$

Log Salary = $11.480 + (\text{minority} * -0.022) + (\text{department coefficient}) + (\text{assocys} * 0.002) + (\text{assocys}^2 * .000)$

Assistant Professor

Log Salary = $11.384 + (\text{gender} * -0.007) + (\text{department coefficient}) + (\text{assistys} * 0.003)$

Log Salary = $11.379 + (\text{minority} * -0.004) + (\text{department coefficient}) + (\text{assistys} * 0.003)$

FY18 Faculty Salary Equity Analysis

Full Professor Gender Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.608	.035		328.063	0.000
Full Female (comparative group)	-.034	.018	-.068	-1.919	.056
Accounting	.313	.079	.129	3.943	.000
Agricultural and Resource Econ	-.041	.059	-.024	-.701	.483
Animal Sciences	-.040	.054	-.026	-.734	.463
Anthropology	-.231	.063	-.125	-3.683	.000
Art and Art History	-.453	.067	-.227	-6.794	.000
Atmospheric Science	.250	.059	.145	4.221	.000
Bioagricultural Sciences and P	-.086	.051	-.060	-1.673	.095
Biochemistry and Molecular Bio	-.051	.059	-.030	-.866	.387
Biology	-.029	.047	-.023	-.618	.537
Biomedical Sciences	.035	.046	.028	.756	.450
Chemical and Biological Engine	.216	.080	.089	2.721	.007
Chemistry	.072	.050	.053	1.458	.146
Civil and Environmental Engine	.129	.055	.083	2.328	.020
Communication Studies	-.226	.067	-.113	-3.387	.001
Computer Information Systems	.206	.080	.084	2.571	.011
Computer Science	.081	.052	.055	1.553	.121
Construction Management	.194	.152	.040	1.282	.201
Design and Merchandising	-.174	.068	-.087	-2.562	.011
Economics	.047	.059	.027	.796	.427
Ecosystem Science and Sustaina	-.017	.067	-.008	-.254	.800
Electrical and Computer Engine	.190	.047	.149	4.032	.000
English	-.302	.053	-.204	-5.642	.000
Environmental and Radiological	.017	.054	.011	.316	.752
Ethnic Studies	-.233	.110	-.068	-2.124	.034
Finance and Real Estate	.283	.072	.130	3.906	.000
Fish, Wildlife and Conservatio	-.224	.059	-.129	-3.765	.000
Food Science and Human Nutriti	-.171	.073	-.078	-2.352	.019
Forest & Rangeland Stewardship	-.173	.079	-.071	-2.176	.030
Geosciences	-.092	.072	-.042	-1.279	.202

Full Professor Gender Model (cont.)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Health and Exercise Science	-.019	.072	-.009	-.262	.794
History	-.308	.063	-.167	-4.924	.000
Horticulture and Landscape Arc	-.141	.050	-.104	-2.855	.005
Human Development and Family S	-.083	.060	-.048	-1.388	.166
Human Dimensions of Natural Re	-.189	.073	-.087	-2.593	.010
Journalism and Media Communica	-.227	.079	-.093	-2.862	.004
Languages, Literatures and Cul	-.376	.090	-.134	-4.168	.000
Library	-.613	.091	-.218	-6.724	.000
Management	.375	.059	.217	6.303	.000
Marketing	.237	.079	.097	2.993	.003
Mathematics	-.036	.052	-.024	-.678	.498
Mechanical Engineering	.242	.059	.140	4.097	.000
Microbiology, Immunology and P	.014	.041	.013	.334	.738
Occupational Therapy	-.009	.091	-.003	-.103	.918
Philosophy	-.266	.081	-.109	-3.276	.001
Physics	-.090	.064	-.049	-1.417	.157
Political Science	-.146	.064	-.079	-2.278	.023
Psychology	-.084	.048	-.064	-1.740	.083
School of Education	-.176	.060	-.102	-2.949	.003
School of Music, Theatre and D	-.338	.063	-.183	-5.407	.000
Sociology	-.128	.073	-.059	-1.746	.082
Soil and Crop Sciences	-.013	.056	-.008	-.235	.814
Statistics	.111	.062	.060	1.778	.076
FULLYRS	.025	.006	.955	4.435	.000
FULLYRS ²	-.001	.000	-1.415	-3.063	.002
FULLYRS ³	1.486E-05	.000	.679	2.419	.016

FY18 Faculty Salary Equity Analysis

Associate Professor Gender Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	11.485	.024		485.047	0.000
Associate Female (comparative group)	-.018	.011	-.039	-1.607	.109
Accounting	.430	.051	.197	8.381	.000
Agricultural and Resource Econ	-.025	.040	-.015	-.606	.545
Animal Sciences	-.103	.040	-.062	-2.560	.011
Anthropology	-.246	.046	-.126	-5.386	.000
Art and Art History	-.359	.034	-.281	-10.613	.000
Atmospheric Science	.208	.050	.095	4.126	.000
Bioagricultural Sciences and P	.331	.093	.076	3.567	.000
Biochemistry and Molecular Bio	-.044	.046	-.023	-.969	.334
Biology	-.070	.037	-.048	-1.888	.060
Biomedical Sciences	-.067	.041	-.040	-1.632	.104
Chemical and Biological Engine	.162	.040	.097	3.999	.000
Chemistry	.026	.046	.013	0.559	.576
Civil and Environmental Engine	.233	.035	.175	6.687	.000
Communication Studies	-.264	.056	-.105	-4.672	.000
Computer Information Systems	.413	.046	.211	8.948	.000
Computer Science	.168	.050	.077	3.365	.001
Construction Management	-.078	.043	-.044	-1.825	.069
Design and Merchandising	-.206	.067	-.067	-3.057	.002
Economics	.087	.040	.053	2.172	.031
Ecosystem Science and Sustaina	-.166	.046	-.085	-3.629	.000
Electrical and Computer Engine	.135	.046	.069	2.936	.004
English	-.254	.035	-.191	-7.311	.000
Environmental and Radiological	.034	.034	.026	.979	.328
Ethnic Studies	-.252	.050	-.115	-5.057	.000
Finance and Real Estate	.384	.050	.176	7.674	.000
Fish, Wildlife and Conservatio	-.157	.046	-.080	-3.434	.001
Food Science and Human Nutriti	-.132	.037	-.090	-3.578	.000
Forest & Rangeland Stewardship	-.193	.050	-.089	-3.873	.000
Geosciences	-.118	.041	-.071	-2.891	.004
Health and Exercise Science	-.126	.050	-.058	-2.499	.013
History	-.308	.068	-.100	-4.555	.000
Horticulture and Landscape Arc	-.160	.043	-.090	-3.768	.000

Associate Professor Gender Model (cont.)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Human Development and Family S	-.102	.046	-.052	-2.223	.027
Human Dimensions of Natural Re	-.141	.050	-.065	-2.809	.005
Journalism and Media Communica	-.246	.050	-.113	-4.907	.000
Languages, Literatures and Cul	-.399	.040	-.241	-9.923	.000
Library	-.570	.036	-.409	-15.872	.000
Management	.372	.040	.224	9.246	.000
Marketing	.454	.050	.208	9.099	.000
Mathematics	-.106	.036	-.076	-2.967	.003
Mechanical Engineering	.181	.039	.117	4.690	.000
Microbiology, Immunology and P	-.044	.030	-.042	-1.464	.144
Occupational Therapy	-.096	.046	-.049	-2.112	.036
Philosophy	-.247	.040	-.149	-6.123	.000
Physics	-.015	.041	-.009	-0.353	.724
Political Science	-.137	.043	-.077	-3.196	.002
Psychology	-.083	.036	-.060	-2.328	.021
School of Education	-.189	.050	-.087	-3.756	.000
School of Music, Theatre and D	-.352	.031	-.326	-11.489	.000
School of Social Work	-.173	.093	-.040	-1.866	.063
Sociology	-.231	.046	-.118	-5.055	.000
Soil and Crop Sciences	-.217	.051	-.099	-4.276	.000
Statistics	.070	.067	.023	1.044	.297
ASSOCYRS	.002	.002	0.069	1.188	.236
ASSOCYRS ²	-1.610E-04	.000	-.137	-2.421	.016

FY18 Faculty Salary Equity Analysis

Assistant Professor Gender Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
(Constant)	11.384	.017		689.289	0.000
Assistant Female (comparative group)	-.007	.008	-.014	-.896	.371
Accounting	.674	.029	.330	23.534	.000
Agricultural and Resource Econ	-.040	.023	-.026	-1.727	.086
Animal Sciences	-.066	.022	-.045	-2.983	.003
Anthropology	-.324	.037	-.112	-8.698	.000
Art and Art History	-.459	.025	-.274	-18.644	.000
Atmospheric Science	.174	.031	.074	5.614	.000
Bioagricultural Sciences and P	-.083	.024	-.049	-3.427	.001
Biochemistry and Molecular Bio	-.091	.031	-.039	-2.899	.004
Biology	-.099	.037	-.034	-2.655	.009
Biomedical Sciences	-.049	.029	-.024	-1.716	.088
Chemical and Biological Engine	.111	.038	.038	2.947	.004
Chemistry	-.007	.024	-.005	-.294	.769
Civil and Environmental Engine	.056	.020	.045	2.762	.006
Communication Studies	-.326	.021	-.237	-15.371	.000
Computer Information Systems	.485	.037	.169	13.245	.000
Computer Science	.208	.028	.102	7.378	.000
Construction Management	-.115	.026	-.063	-4.403	.000
Design and Merchandising	-.182	.024	-.109	-7.595	.000
Economics	.036	.037	.013	.994	.322
Ecosystem Science and Sustaina	-.189	.037	-.066	-5.075	.000
Electrical and Computer Engine	.092	.032	.039	2.903	.004
English	-.319	.022	-.219	-14.333	.000
Environmental and Radiological	.070	.021	.053	3.397	.001
Ethnic Studies	-.323	.050	-.080	-6.425	.000
Finance and Real Estate	.649	.028	.318	23.084	.000
Fish, Wildlife and Conservatio	-.158	.037	-.055	-4.277	.000
Food Science and Human Nutriti	-.174	.050	-.043	-3.499	.001
Forest & Rangeland Stewardship	-.205	.026	-.112	-7.865	.000
Geosciences	-.142	.037	-.049	-3.868	.000
Health and Exercise Science	-.166	.026	-.091	-6.440	.000
History	-.378	.026	-.207	-14.793	.000
Horticulture and Landscape Arc	-.161	.032	-.068	-5.066	.000
Human Development and Family S	-.158	.026	-.086	-6.193	.000
Human Dimensions of Natural Re	-.191	.028	-.093	-6.906	.000

Assistant Professor Gender Model (cont.)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Journalism and Media Communica	-.303	.026	-.166	-11.873	.000
Languages, Literatures and Cul	-.361	.028	-.177	-12.925	.000
Library	-.797	.031	-.339	-25.729	.000
Management	.463	.031	.197	14.824	.000
Marketing	.515	.028	.252	18.457	.000
Mathematics	-.112	.023	-.072	-4.821	.000
Mechanical Engineering	.081	.021	.065	3.879	.000
Microbiology, Immunology and P	-.060	.021	-.043	-2.786	.006
Occupational Therapy	-.160	.031	-.068	-5.141	.000
Philosophy	-.264	.037	-.092	-7.084	.000
Physics	-.151	.026	-.082	-5.780	.000
Political Science	-.256	.029	-.125	-8.960	.000
Psychology	-.163	.031	-.069	-5.205	.000
School of Education	-.235	.023	-.151	-10.295	.000
School of Music, Theatre and D	-.464	.021	-.337	-21.660	.000
School of Social Work	-.271	.026	-.148	-10.640	.000
Sociology	-.266	.026	-.145	-10.179	.000
Soil and Crop Sciences	-.086	.031	-.037	-2.764	.006
Statistics	.024	.031	.010	.776	.439
ASSTYRS	.003	.001	.028	2.100	.037

FY18 Faculty Salary Equity Analysis

Full Professor Minority Status Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
(Constant)	11.596	.035		330.022	0.000
Full Minority (comparative group)	.019	.025	.026	.743	.458
Accounting	.304	.080	.125	3.813	.000
Agricultural and Resource Econ	-.042	.059	-.025	-.715	.475
Animal Sciences	-.035	.054	-.022	-.634	.527
Anthropology	-.241	.063	-.131	-3.844	.000
Art and Art History	-.457	.067	-.229	-6.837	.000
Atmospheric Science	.253	.059	.146	4.257	.000
Bioagricultural Sciences and P	-.087	.051	-.061	-1.688	.092
Biochemistry and Molecular Bio	-.055	.059	-.032	-.917	.360
Biology	-.038	.047	-.030	-.806	.421
Biomedical Sciences	.029	.047	.024	.631	.528
Chemical and Biological Engine	.223	.080	.091	2.788	.006
Chemistry	.066	.050	.048	1.303	.193
Civil and Environmental Engine	.132	.056	.085	2.365	.019
Communication Studies	-.229	.067	-.115	-3.393	.001
Computer Information Systems	.207	.080	.085	2.571	.011
Computer Science	.080	.053	.054	1.494	.136
Construction Management	.200	.152	.041	1.315	.189
Design and Merchandising	-.201	.067	-.101	-3.010	.003
Economics	.046	.059	.026	.770	.442
Ecosystem Science and Sustaina	-.020	.067	-.010	-.291	.771
Electrical and Computer Engine	.183	.049	.144	3.758	.000
English	-.322	.053	-.217	-6.097	.000
Environmental and Radiological	.016	.054	.010	.291	.772
Ethnic Studies	-.257	.112	-.075	-2.287	.023
Finance and Real Estate	.281	.073	.129	3.867	.000
Fish, Wildlife and Conservatio	-.222	.060	-.128	-3.706	.000
Food Science and Human Nutriti	-.185	.072	-.085	-2.555	.011
Forest & Rangeland Stewardship	-.191	.080	-.079	-2.379	.018
Geosciences	-.098	.072	-.045	-1.360	.175
Health and Exercise Science	-.022	.072	-.010	-.310	.756
History	-.314	.063	-.170	-4.999	.000
Horticulture and Landscape Arc	-.143	.050	-.105	-2.870	.004
Human Development and Family S	-.101	.059	-.058	-1.697	.091
Human Dimensions of Natural Re	-.190	.073	-.087	-2.596	.010

Full Professor Minority Status Model (cont.)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Journalism and Media Communica	-.227	.080	-.093	-2.854	.005
Languages, Literatures and Cul	-.398	.094	-.142	-4.242	.000
Library	-.638	.091	-.227	-7.038	.000
Management	.371	.060	.215	6.220	.000
Marketing	.236	.080	.097	2.967	.003
Mathematics	-.041	.053	-.028	-.774	.439
Mechanical Engineering	.241	.059	.139	4.049	.000
Microbiology, Immunology and P	.010	.041	.010	.240	.810
Occupational Therapy	-.037	.091	-.013	-.409	.683
Philosophy	-.266	.082	-.109	-3.251	.001
Physics	-.089	.064	-.048	-1.387	.166
Political Science	-.147	.064	-.079	-2.278	.023
Psychology	-.098	.049	-.074	-2.008	.045
School of Education	-.191	.060	-.111	-3.204	.001
School of Music, Theatre and D	-.348	.063	-.188	-5.542	.000
Sociology	-.133	.074	-.061	-1.798	.073
Soil and Crop Sciences	-.011	.057	-.007	-.201	.841
Statistics	.106	.063	.057	1.692	.091
FULLYRS	.026	.006	.973	4.496	.000
FULLYRS ²	-.001	.000	-1.422	-3.063	.002
FULLYRS ³	1.492E-05	.000	.682	2.416	.016

FY18 Faculty Salary Equity Analysis

Associate Professor Minority Status Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
(Constant)	11.480	.023		498.299	0.000
Associate Minority (comparative group)	-.022	.014	-.039	-1.573	.117
Accounting	.443	.052	.203	8.584	.000
Agricultural and Resource Econ	-.022	.040	-.013	-.546	.585
Animal Sciences	-.090	.040	-.054	-2.234	.026
Anthropology	-.248	.046	-.127	-5.418	.000
Art and Art History	-.365	.034	-.286	-10.815	.000
Atmospheric Science	.213	.050	.097	4.248	.000
Bioagricultural Sciences and P	.336	.093	.077	3.629	.000
Biochemistry and Molecular Bio	-.037	.046	-.019	-.797	.426
Biology	-.065	.037	-.044	-1.758	.080
Biomedical Sciences	-.061	.040	-.037	-1.508	.133
Chemical and Biological Engine	.171	.040	.103	4.245	.000
Chemistry	.023	.046	.012	.511	.610
Civil and Environmental Engine	.241	.035	.181	6.961	.000
Communication Studies	-.269	.056	-.107	-4.787	.000
Computer Information Systems	.415	.046	.212	9.004	.000
Computer Science	.186	.050	.085	3.677	.000
Construction Management	-.072	.043	-.040	-1.688	.093
Design and Merchandising	-.197	.068	-.064	-2.887	.004
Economics	.095	.040	.057	2.342	.020
Ecosystem Science and Sustaina	-.175	.046	-.089	-3.832	.000
Electrical and Computer Engine	.158	.046	.081	3.411	.001
English	-.256	.035	-.193	-7.375	.000
Environmental and Radiological	.039	.034	.030	1.128	.260
Ethnic Studies	-.234	.051	-.107	-4.575	.000
Finance and Real Estate	.396	.050	.181	7.896	.000
Fish, Wildlife and Conservatio	-.162	.046	-.083	-3.553	.000
Food Science and Human Nutriti	-.134	.037	-.091	-3.631	.000
Forest & Rangeland Stewardship	-.187	.050	-.086	-3.759	.000
Geosciences	-.118	.041	-.071	-2.880	.004
Health and Exercise Science	-.121	.050	-.055	-2.406	.017
History	-.302	.067	-.098	-4.487	.000
Horticulture and Landscape Arc	-.153	.043	-.086	-3.576	.000
Human Development and Family S	-.111	.046	-.057	-2.425	.016
Human Dimensions of Natural Re	-.140	.050	-.064	-2.790	.006

Associate Professor Minority Status Model (cont.)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Journalism and Media Communica	-.250	.050	-.114	-4.971	.000
Languages, Literatures and Cul	-.392	.040	-.237	-9.720	.000
Library	-.579	.036	-.415	-16.207	.000
Management	.376	.040	.227	9.342	.000
Marketing	.450	.050	.206	9.007	.000
Mathematics	-.102	.036	-.073	-2.874	.004
Mechanical Engineering	.190	.038	.122	4.947	.000
Microbiology, Immunology and P	-.048	.030	-.045	-1.569	.118
Occupational Therapy	-.098	.046	-.050	-2.150	.032
Philosophy	-.243	.040	-.147	-6.057	.000
Physics	-.005	.041	-.003	-.118	.906
Political Science	-.143	.043	-.080	-3.342	.001
Psychology	-.086	.036	-.062	-2.408	.017
School of Education	-.191	.050	-.088	-3.809	.000
School of Music, Theatre and D	-.351	.031	-.325	-11.471	.000
School of Social Work	-.187	.093	-.043	-2.009	.045
Sociology	-.237	.046	-.121	-5.165	.000
Soil and Crop Sciences	-.210	.051	-.096	-4.141	.000
Statistics	.066	.067	.021	.984	.326
ASSOCYRS	.002	.002	.067	1.156	.248
ASSOCYRS ²	.000	.000	-.138	-2.429	.016

FY18 Faculty Salary Equity Analysis

Assistant Professor Minority Status Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
(Constant)	11.379	.015		741.363	0.000
Assistant Minority (comparative group)	-.004	.008	-.007	-0.499	.618
Accounting	.679	.028	.332	24.366	.000
Agricultural and Resource Econ	-.036	.023	-.023	-1.591	.113
Animal Sciences	-.063	.022	-.044	-2.879	.004
Anthropology	-.318	.037	-.110	-8.683	.000
Art and Art History	-.455	.024	-.271	-18.917	.000
Atmospheric Science	.174	.031	.074	5.606	.000
Bioagricultural Sciences and P	-.078	.024	-.047	-3.233	.001
Biochemistry and Molecular Bio	-.085	.031	-.036	-2.755	.006
Biology	-.093	.037	-.032	-2.534	.012
Biomedical Sciences	-.041	.028	-.020	-1.472	.142
Chemical and Biological Engine	.117	.037	.041	3.190	.002
Chemistry	-.001	.023	.000	-.032	.974
Civil and Environmental Engine	.061	.020	.048	3.025	.003
Communication Studies	-.324	.021	-.236	-15.322	.000
Computer Information Systems	.486	.037	.169	13.200	.000
Computer Science	.214	.028	.105	7.634	.000
Construction Management	-.110	.026	-.060	-4.286	.000
Design and Merchandising	-.182	.024	-.108	-7.490	.000
Economics	.041	.037	.014	1.112	.267
Ecosystem Science and Sustaina	-.183	.037	-.064	-4.997	.000
Electrical and Computer Engine	.099	.031	.042	3.192	.002
English	-.315	.022	-.216	-14.328	.000
Environmental and Radiological	.071	.021	.054	3.448	.001
Ethnic Studies	-.313	.050	-.077	-6.220	.000
Finance and Real Estate	.654	.028	.320	23.624	.000
Fish, Wildlife and Conservatio	-.154	.037	-.054	-4.160	.000
Food Science and Human Nutriti	-.172	.050	-.042	-3.407	.001
Forest & Rangeland Stewardship	-.201	.026	-.110	-7.845	.000
Geosciences	-.140	.037	-.049	-3.812	.000
Health and Exercise Science	-.162	.026	-.088	-6.290	.000
History	-.378	.026	-.206	-14.729	.000
Horticulture and Landscape Arc	-.155	.031	-.066	-4.992	.000
Human Development and Family S	-.158	.026	-.086	-6.196	.000
Human Dimensions of Natural Re	-.191	.028	-.093	-6.881	.000

Assistant Professor Minority Status Model (cont.)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Journalism and Media Communica	-.301	.026	-.165	-11.734	.000
Languages, Literatures and Cul	-.357	.028	-.175	-12.736	.000
Library	-.799	.031	-.339	-25.742	.000
Management	.467	.031	.198	15.049	.000
Marketing	.519	.028	.254	18.558	.000
Mathematics	-.107	.023	-.069	-4.685	.000
Mechanical Engineering	.087	.020	.069	4.279	.000
Microbiology, Immunology and P	-.056	.021	-.041	-2.653	.009
Occupational Therapy	-.160	.031	-.068	-5.148	.000
Philosophy	-.256	.037	-.089	-6.961	.000
Physics	-.145	.026	-.079	-5.634	.000
Political Science	-.250	.028	-.122	-9.002	.000
Psychology	-.158	.031	-.067	-5.082	.000
School of Education	-.232	.023	-.149	-10.024	.000
School of Music, Theatre and D	-.461	.021	-.335	-21.779	.000
School of Social Work	-.272	.026	-.148	-10.636	.000
Sociology	-.260	.026	-.142	-10.095	.000
Soil and Crop Sciences	-.083	.031	-.035	-2.670	.008
Statistics	.029	.031	.012	.941	.348
ASSTYRS	.003	.001	.026	1.991	.048

FY18 Faculty Salary Equity Analysis

Appendix B

Relationship between Log Salary and Years in Rank

Figure 1.

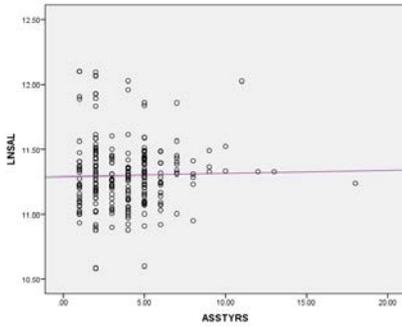


Figure 2.

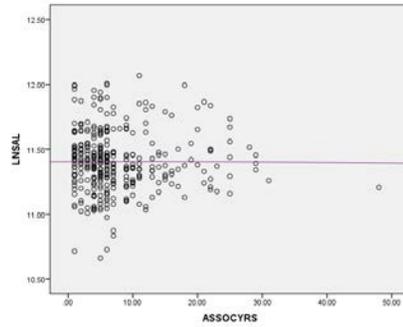


Figure 3.

