

**Summary Information for Report
Equity Analysis of Faculty Salaries, Appointment, and Administrative
Responsibilities at New York University's Faculty of Arts and Science
February 23, 2006**

In March 2005 FAS contracted with Bruce Levin, Professor and Chair of the Department of Biostatistics at Columbia University's Mailman School of Public Health, to conduct a study of gender equity in New York University's Faculty of Arts and Science (FAS) faculty salaries. The study was proposed to extend the results of his 2002 equity analysis. The following report contains the results of this study; it is comprised of two parts. Parts I through V were completed under the supervision of Dr. Levin. They were prepared with the invaluable assistance of Mr. Eric C. Polley, currently a graduate student of Biostatistics at the University of California, Berkeley and Mr. David Vintinner and Mr. Jason Presley of FAS Institutional Research. Parts VI through VIII were prepared by Mr. Vintinner and Mr. Presley to address additional questions raised by the FAS Faculty Equity Review Committee, with data provided by FAS Faculty Appointments and Records.

I. Principal Study: A comparison of mean academic salaries for men and women, for the latest academic year.

Two datasets for analysis were developed by FAS Institutional Research. One dataset was a snapshot of faculty data from 2005 and the other was a snapshot of faculty data from 2000. The year 2005 dataset refers to all current faculty available at the beginning of the 2005 calendar year (similar for 2000). In the 2000 data there were 144 females and 409 males; in the 2005 data there were 211 females and 500 males (as compared to the original 2002 dataset, which included 170 females and 435 males).

Overall average salaries by gender and snapshot year

Snapshot year	Females	Males
Original report	\$84,421	\$103,313
2000	\$75,407	\$95,495
2005	\$88,642	\$110,691

- A regression model was fit with the natural log of salary (snapshot year 2005) as the dependent variable and the following explanatory variables (model 1) :
 - primary department
 - secondary department (if blank, coded as 'none')
 - age and age squared (age = Jan 1, 2005 – DOB)
 - experience and experience squared (experience = 2005 – year of highest degree)
 - year of first NYU appointment (Indicator for Year)
 - tenure track (Yes/No)

- rank
- administrative responsibilities (Yes/No)
- Sex (1 = female, 0 = male)

A similar model was fit to 2000 snapshot. Faculty for whom all data was not available (11 in 2000 and 9 in 2005) were removed from these analyses. Also, both age and experience covariates were centered before creating the quadratic term. From the above model we find:

Model 1

Snapshot yr	R ²	Gender beta	Se(beta)	p-value	N
Original report	*	*	*	*	605
2000	0.8346	-0.0153	0.0223	0.4934	542
2005	0.8549	-0.0212	0.0194	0.2749	702

*not reported

Each of these models was also analyzed omitting administrative responsibility as an explanatory variable:

Model 1 with Administrative Responsibility Removed

Snapshot yr	R ²	Gender beta	Se(beta)	p-value	N
Original report	*	*	*	*	605
2000	0.8099	-0.0095	0.0213	0.6555	542
2005	0.8331	-0.0163	0.0192	0.3982	702

*not reported

We noted that this model includes highly correlated covariates (age and experience), but estimates of the sex coefficient do not appear to change greatly when only experience is used. We also note that the model exhibits evidence of non-constant variance, but nearly all of the outlying residuals are male, and therefore downweighting these cases in a robust regression analysis would potentially bias towards inequality of pay. Therefore no correction was made for heteroskedasticity.

- In the 2002 report, we noted that model 1 was not the final model used. Tenure track status, secondary department, and administrative responsibilities were removed due to non-significance for the final model in 2002. We also ran this reduced Model 2 on the new snapshots for comparison.

Model 2:

Snapshot yr	R ²	Gender beta	Se(beta)	p-value	N
Original 2002	0.814	0.0134	0.0213 ¹	0.53	605
2000	0.825	-0.0158	0.0215	0.4644	542
2005	0.841	-0.0212	0.0192	0.2693	702

¹inferred from 2002 report

We see that there is a statistically non-significant salary disadvantage for females in comparison to males, after adjusting for experience, age, year of faculty appointment, primary department, and rank.

- In both new snapshots, primary department, year of faculty appointment, and rank were highly significant ($p < 0.0001$) predictors of log salary.
- In the 2002 report, it was noted that the removal of the rank variable (Model 3) did not alter the significance level of the sex coefficient. We ran the same test on the new snapshots below:

Model 3:

Snapshot yr	R ²	Gender beta	Se(beta)	p-value	N
Original 2002	***	-0.0219	0.0290 ¹	0.45	605
2000	0.604	-0.0728	0.0313	0.0203	541
2005	0.628	-0.0738	0.0287	0.0105	702

¹inferred from 2002 report

In the 2000 and 2005 snapshots we see a significant effect of sex when rank is ignored.

- II. Gender Prevalence and Time to Promotion Studies:** A comparison of the proportion of males and females in each rank (rank in the current academic year). A second analysis comparing the time to promotion for males and females.

Comparison of the proportion of males and females at each rank, by department, for the faculty members in each snapshot study.

- Faculty members with the rank of Clinical Assistant/Associate Professors, (Senior) Language Lectures, and Assistant Professor/Faculty Fellow were excluded from this analysis due to the small number at each rank, leaving 517 faculty members in the 2000 snapshot and 594 faculty members in the 2005 snapshot.
- Tables of frequencies for the two snapshots are presented below. Observed cell counts are reported for each rank, and expected cell frequencies are in italics. The chi-squared value for the pooled data is reported along with the Cochran-Mantel-Haenszel statistic when the data were stratified by department. Both statistics have two degrees of freedom.

2000		Female	Male	
Prof	57 76.37	264 244.63		321
Assoc P	33 26.65	79 85.35		112
Assist P	33 19.99	51 64.02		84
	123	394		517

$$\chi^2_{pooled} = 19.557 \text{ (} p < 0.0001 \text{)} \quad \chi^2_{CMH} = 13.6168 \text{ (} p = .0011 \text{)}$$

2005		Female	Male	
Prof	72 89.82	279 261.18		351
Assoc P	54 38.13	95 110.87		149
Assist P	26 24.05	68 69.95		94
	152	442		594

$$\chi^2_{pooled} = 13.8414648 \text{ (} p = 0.0010 \text{)} \quad \chi^2_{CMH} = 6.9902 \text{ (} p = 0.0303 \text{)}$$

We note that using the Cochran-Mantel-Haenszel statistic, the 2005 frequency table is significant ($p=0.03$) when stratified by primary department. The 2000 and the 2005 frequency tables are each significant at $p<0.01$ when departments are pooled.

- As was noted in the 2002 report, the rank imbalance could reflect the larger number of men in academia in previous years. We consider an analysis of new hires similar to an analysis from 2002 with two additional cohorts. The first cohort consists of all faculty hired in calendar years 1995 through 1999, the second considers all faculty hired between 2000 and 2004 (plus 3 faculty members who started January 2005). These two cohorts provide us with independent groups that should show the current trend in new faculty rank distribution.

Comparison of the proportion of males and females at each rank, by department, for the faculty members appointed in each of the five year cohorts.

- We use the two independent cohorts defined by appointment in [1995,2000) and [2000,2005). The chi-squared value for the pooled data is reported along with the Cochran-Mantel-Haenszel statistic when the data were stratified by department. Both statistics have two degrees of freedom.

[1995,2000)	Female	Male	
Prof	15 18.59	38 34.41	53
Assoc P	6 6.66	13 12.34	19
Assist P	26 21.75	36 40.25	62
	47	87	134

$$\chi^2_{pooled} = 2.4511 \text{ (p = 0.2936)} \quad \chi^2_{CMH} = 2.2727 \text{ (p=0.3210)}$$

[2000,2005)	Female	Male	
Prof	17 16.90	39 39.10	56
Assoc P	18 11.17	19 25.83	37
Assist P	16 22.94	60 53.07	76
	51	118	169

$$\chi^2_{pooled} = 8.9952 \text{ (p = 0.0111)} \quad \chi^2_{CMH} = 2.3346 \text{ (p=0.3112)}$$

We note in the 2000 to 2005 cohort that the observed values and the expected values are very close, indicating proportionate distributions in rank for males and females. As in 2002, we find non-significant association between sex and rank in both of the cohorts.

Waiting time to promotion across gender among faculty in the cohorts:

- We combine the two cohorts above to form a new cohort which spans all faculty hired between 1995 and 2005. In this cohort there are 292 tenure track faculty members. Of the 292 faculty members, 140 started as assistant professors and 49 started as associate professors. Of the 49 associate professors, 21 were women. Of the 140 assistant professors, 41 were female.
- Median time to promotion for men and women at each starting rank was estimated using Kaplan-Meier survival curves. The first analysis

considers the promotion from assistant professor to associate professor with the year 2005 as a censoring time if no promotion has occurred. Similar analysis was conducted for associate professor to full professor.

- A Cox survival model was used to examine whether gender is a significant factor in predicting time to promotion. As in the 2002 report, we were unable to fit a model with department and secondary department because of sparse data. The following variables were included in the Cox model:
 - age and age squared
 - experience and experience squared
 - gender

Promotion to Associate Professor

- Of the 140 faculty members with a starting rank of assistant professor, 46 were promoted to associate professor. The median time to promotion estimate for females is 7 years and for males is 6 years. We note that a confidence interval is not obtainable from this dataset because the censored proportion is large.
- The hazard ratio for the sex coefficient was 0.635 with p-value=0.2002. In comparison to females, males had roughly 1.6 times the odds of being promoted at any point in follow-up. The age and experience variables were not significant predictors of promotion status.
- When time to promotion is adjusted to allow for official pauses in the tenure clock for maternity leave or other reasons, the hazard ratio shifts to 0.672 with p-value=0.2542, which reduces the odds of being promoted for males to 1.5 in comparison to females. The median time to promotion was not affected.

Promotion to Full Professor

- Of the 49 faculty members with a starting rank of associate professor, 8 were promoted to full professor. The median time to promotion estimate for both females and males are not estimable.
- The hazard ratio for the sex coefficient was 0.577 with p-value=0.5180. In comparison to females, males had roughly 1.7 times the odds of being promoted at any point in follow-up. The age and experience variables were not significant predictors of promotion status.

III. Administrative Responsibilities: A comparison of the proportion of administrative responsibilities, by department, held by men and women. This analysis was conducted for both the faculty in the principal study and the two independent cohorts.

For all faculty in the principal study

- We considered both the snapshot at 2000 and the snapshot at 2005. The two-by-two tables presented below show the observed counts of males and

females with administrative responsibilities. The chi-squared value for the pooled data is reported along with the Cochran-Mantel-Haenszel statistic when the data was stratified by department. Both statistics have one degree of freedom. Expected cell counts are displayed in italics.

Administrative Responsibilities 2000	Female	Male	
Yes	42 <i>40.57</i>	115 <i>116.43</i>	157
No	104 <i>105.43</i>	304 <i>302.57</i>	408
	146	419	565

$$\chi^2_{pooled} = 0.0941 \text{ (} p = 0.7590 \text{)} \quad \chi^2_{CMH} = 0.4235 \text{ (} p=0.5152 \text{)}$$

Administrative Responsibilities 2005	Female	Male	
Yes	50 <i>48.69</i>	115 <i>116.31</i>	165
No	161 <i>162.31</i>	389 <i>387.69</i>	550
	221	504	715

$$\chi^2_{pooled} = 0.0648 \text{ (} p = 0.7991 \text{)} \quad \chi^2_{CMH} = 0.4609 \text{ (} p=0.4972 \text{)}$$

- We see that the observed and expected cell counts are very close in both snapshots. Both tables display no evidence of association between sex and administrative responsibilities.

For faculty in the two independent cohorts

- For the two cohorts, we notice a similar lack of association between sex and administrative responsibility. The chi-squared value for the pooled data is reported along with the Cochran-Mantel-Haenszel statistic when the data was stratified by department. Both statistics have one degree of freedom. Observed cell counts are given along with expected values in italics.

	Female	Male	
Administrative Responsibilities (1995 to 2000 cohort)			
Yes	13 10.60	16 18.40	29
No	44 46.40	83 80.60	127
	57	99	156

$$\chi^2_{pooled} = 1.055 \text{ (} p = 0.3042 \text{)} \quad \chi^2_{CMH} = 0.0691 \text{ (} p=0.7926 \text{)}$$

	Female	Male	
Administrative Responsibilities (2000 to 2005 cohort)			
Yes	10 11.29	21 19.72	31
No	77 75.715	131 132.28	208
	87	152	239

$$\chi^2_{pooled} = 0.2642 \text{ (} p = 0.6042 \text{)} \quad \chi^2_{CMH} = 0.7414 \text{ (} p=0.3892 \text{)}$$

IV. Starting Salary Study: A comparison of the mean starting salaries for men and women appointed from in each of the cohorts. A logistic regression analysis, similar to that in the 2002 report, using age, experience, department, year of appointment, rank, and sex as predictors of starting rank, has been added.

Comparison of mean starting salaries

- As in 2002, the starting rank/starting salary (SR/SS) information is only available for faculty who are on tenure track. Restricting to only assistant, associate, and full professors, we have 171 faculty in the 2000 to 2005 cohort and 134 faculty in the 1995 to 2000 cohort. In these groups, 8 faculty members are missing starting information in the 2000 to 2005 cohort and 1 faculty member is missing starting information in the 1995 to 2000 cohort. This analysis will be referred to as “SR/SS available.”
- For the faculty who do not have SR/SS information, we prepared a separate analysis that includes all individuals in each cohort. For faculty missing SR/SS information, their current status will replace the missing data. This analysis will be referred to as “SR/SS not available.”

- Both of the models fit for the SR/SS Available/Not Available data contained the following variables (with the exception for rank noted):
 - primary department
 - secondary department (if blank, coded as 'none')
 - age and age squared (age = Date of first appointment – DOB)
 - experience and experience squared (experience = year of first appointment – year of highest degree)
 - year of first NYU appointment (Indicator for Year)
 - starting rank (current rank for SR/SS Not Available)
 - Sex
- The outcome variable is natural log starting salary for all models (current salary when starting salary is missing). The models were estimated for both cohorts.

SR/SS available

- The following table shows the results of the linear model fit for the SR/SS data on each cohort.

Cohort	R²	Gender beta	se(gender)	p-value	N
1995-2000	0.959	-0.0057	0.0289	0.8431	132
2000-2005	0.925	0.0076	0.0303	0.8013	161

- Both cohorts have statistically non-significant effects of sex on natural log starting salary.
- Removal of the rank variable results in only a very small change in the p-value for the sex coefficient. For the 1995 to 2000 cohort, the p-value is decreased to 0.5905. For the 2000 to 2005 cohort, the p-value is increased to 0.9875.
- These results appear to match those from the 2002 report.

SR/SS non available

- The following table shows the results of the linear model fit for the SR/SS data on each cohort.

Cohort	R²	Gender beta	se(gender)	p-value	N
1995-2000	0.956	-0.0222	0.0287	0.4411	154
2000-2005	0.948	-0.0012	0.0212	0.9554	234

- Both cohorts have statistically non-significant effects of sex on natural log starting salary
- Removal of the rank variable results in only a very small change in the p-value for the sex coefficient. For the 1995 to 2000 cohort, the p-value is

decreased to 0.3910. For the 2000 to 2005 cohort, the p-value is decreased to 0.5449.

Comparison of starting rank across males and females

- The faculty members with a starting rank of Assistant, Associate, or Full Professor were included in this analysis.
- A polytomous logistic regression model, using rank as the dependent variable, as well as the explanatory variables used in the 'SS/SR Available' hiring study analysis (age, age squared, experience, experience squared, appointment year, sex, primary and secondary department) was fit.
- As in 2002, the primary and secondary department and year of appointment were removed from the analysis due to non-significance.
- In the 1995 to 2000 cohort: after adjusting for age and experience, in comparison to males, females have 1.287 greater odds (95% CI: 0.427 – 3.873) of having a higher versus lower starting rank. The difference, however, was not significant, $p=0.6539$.
- In the 2000 to 2005 cohort: after adjusting for age and experience, in comparison to males, females have 0.626 odds (95% CI: 0.214 – 1.836) of having a higher versus lower starting rank. The difference, however, was not significant, $p=0.3939$.

Examining Proportion of Males and Females Hired in Comparison to 'Short-List'

- There were 418 short lists available, documenting hires from academic years 1998 through 2005. Of the 418 lists, 22 had no female applicants and 10 had no male applicants. Omitting these 32 tables, a Mantel-Haenszel procedure was used to determine that, when both genders were considered, the ratio of men and women hired was not significantly different. The combined Mantel-Haenszel OR is 1.096 (95% CI: 0.875 – 1.372) with a chi-square value of 0.65, $p\text{-value}=0.422$.
- To study whether the average proportion of women hired when there is a short list differs from the average proportion of women hired when there isn't a short list, we considered all faculty hired between 2000 and 2005. In this period there were 18 hires for which no short list was available. Using a Mantel-Haenszel procedure to compare the outcomes of the two hiring groups and stratifying by department, the combined statistic is 1.091 (95% CI: 0.328 – 3.627). The proportion of women hired was not found to be significantly different under the two hiring groups, with a chi-square value of 0.02, $p\text{-value}=0.891$.

V. Cohort Study: A comparison of the mean salaries for the two cohorts.

To look for a temporal trend in salary differences by gender, we created two independent cohorts of faculty. One cohort consists of all faculty hired in [1995,2000), the other consists of all faculty hired in [2000,2005). I will refer to these two cohorts as nyu2000 and nyu2005 respectively. First, the full model was fit to each cohort:

- A regression model was fit, with the natural log of salary (academic year 2000 or 2005) as the dependent variable and the following explanatory variables:
 - primary department
 - secondary department (if blank, coded as 'none')
 - age and age squared (age = Jan 1, 2000 or Jan 1, 2005 – DOB)
 - experience and experience squared (experience = 2000 or 2005 – year of highest degree)
 - year of first NYU appointment (Indicator for Year)
 - tenure track (Yes/No)
 - rank
 - administrative responsibilities (Yes/No)
 - Sex

Cohort	R ²	Gender beta	Se(beta)	p-value	N
2000	0.959	-0.0025	0.0301	0.9337	150
2005	0.955	-0.0021	0.0210	0.9209	234

We see in both cohorts that the model fit is much better (larger R²) than in the full dataset. We also see a smaller sex effect in both cohorts than in the full dataset. Both sex effects are not significantly different from zero, and the exclusion of the gender covariate results in only a very small change in the R-squared value (0.959 and 0.955, respectively).

Also, a model with only:

- department
- experience
- experience squared
- current rank
- gender

Cohort	R ²	Gender beta	Se(beta)	p-value	N
2000	0.942	0.00011	0.02845	0.9963	150
2005	0.933	-0.00999	0.02271	0.6604	236

Model including (to match initial analysis with full snapshots):

- department
- age and age squared
- experience and experience squared
- year of appointment
- current rank

--gender

Cohort	R²	Gender beta	Se(beta)	p-value	N
2000	0.945	-0.00687	0.02938	0.8156	150
2005	0.938	-0.00809	0.02281	0.7231	234

Note that year appointed (treated as indicator for year) is not significant in either cohort. We do not see a significant difference between the sex coefficient in 2000 and the sex coefficient in 2005.

VI. Tenure Process:

The FAS Faculty Appointments and Records Report “Gender Analysis of Tenure Decisions 96-05” details FAS tenure track review results by year, department, and gender, and attrition of tenure track faculty prior to tenure review. We test for association between various facets of the tenure review process and gender.

Relationship between gender and success during tenure review:

A table of frequencies showing tenure review results by gender is below, with expected frequencies reported in italics. The relatively low p value of the chi squared test implies that there is a possible statistically significant relationship (at the 90% confidence level, but not at 95%) between gender and tenure denials.

		All Tenure Rejections 1996 - 2005		
		Female	Male	
Rejection	16 <i>11.9</i>	12 <i>16.1</i>	28	
Tenure Granted	43 <i>47.1</i>	68 <i>63.9</i>	111	
	59	80	139	

$$\chi^2_{pooled} = 3.10 \text{ (} p = 0.0783 \text{)}$$

The results are similar to those of the promotion to associate professor analysis in Part II above, which essentially reaches the same conclusion with a different data set and statistical analysis: inconclusive—but with an arguable risk that women are less likely to be granted tenure (and therefore promotion) when they come up for review.

Relationship between gender and survival to the tenure review:

We conducted a chi squared test to examine the relationship between gender and the early stages of the tenure track. Women appear to be more likely to remain as NYU faculty until the time of their tenure review, but again the findings fail to be statistically significant.

It is important to note that the FAR report reflects each pre-review departure in the year it occurred, not in the year the faculty member was scheduled for review. Therefore, some departures are of faculty scheduled to have been reviewed after the dates of interest, and faculty departed before 1996 who would otherwise have been reviewed during the period are not reflected. Hence, the chart below reflects the *number of individuals that ceased to be tenure pending* for whatever reason during the ten year window.

Faculty ceasing to be tenure-pending, 1996 - 2005

	Female	Male	
Reviewed	59 55.0	80 84.0	139
Departed	11 15.0	27 23.09	38
	70	107	177

$$\chi^2_{pooled} = 2.27 \text{ (p = 0.1315)}$$

The number of departed faculty includes those labeled “resigned” who indicated they had left for a “better position”, for “family obligations”, or for “potential negative third year review”, and in one case “never finished PhD”.

Over the past 10 years, 107 men and 70 women have ceased to be tenure pending. The full breakout appears as follows:

	No Longer Tenure Pending	Tenured	Failed Tenure	Departed due to Bad Review or Potential Bad Review	Departed for Better Opportunity	Departed for Unknown/Other Reasons
Men	107	68	12	12	7	8
Women	70	43	16	6	3	2

Analyzing the entire pre-review process:

Since the above studies showed a slight tendency for women to survive to review more than men, but to make it through review less than men, a third chi squared test combines these two stages into a single study. When the whole process is taken together as a whole, grouping departures for “better positions” together with successful reviews and comparing them against negative departures and tenure denials, it appears that women may be slightly at risk to have a less successful journey through the early tenure track career path. Due to the high p value, the overall relationship fails to be statistically significant.

**Faculty
ceasing to
be tenure-
pending,
1996 - 2005**

	Female	Male	
Tenured or Positive Departure	46 49.3	75 71.7	121
Denied or Negative Departure	22 18.7	24 27.3	46
	68	99	167

$$\chi^2_{pooled} = 1.33 \text{ (p = 0.2490)}$$

VII. Faculty Research Support in the Social Sciences and Humanities:

An FAS Faculty Appointments and Records table showing internally funded annual research support levels for faculty in Arts and Science in AY2004-05 was analyzed with a series of two tailed t-tests to test for significant differences between genders with respect to research support. The original table showed 507 individuals receiving support totaling \$3.08 million. Support amounts were removed from the analysis if they were designated as compensation for administrative roles or teaching duties. They were also removed if the recipient was not designated as a humanities or social science faculty member in the 2005 snapshot. (The relatively rare occurrences of internal faculty support in the sciences would detract from trends in the other divisions if considered together and do not represent a large enough data set to consider alone) The reduced awards were received by 385 of 470 faculty members and totaled \$2.23 million.

Analysis of the mean level of support

With more than 99% certainty, we can discard the hypothesis that male and female faculty receive the same average research support among the humanities and social sciences:

	Male Faculty	Female Faculty
	230	155
Avg Research	\$ 6,507	\$ 4,741
Standard Dev	\$ 5,986	\$ 4,795

t statistic	p value
3.201	.0014

Given the known gender imbalance among ranks, we repeat the analysis to focus only on awarded faculty and control for rank. We find it is likely that males

and females have the same average research support per rank, particularly as full professors and off the tenure track:

	Male	Female	t statistic	p value
Full Professors	124	45		
Avg Research	\$ 8,776	\$ 8,847	0.061	0.9510
Associate Professors	40	40		
Avg Research	\$ 5,388	\$ 4,794	1.139	0.2547
Assistant Professors	39	23		
Avg Research	\$ 4,046	\$ 3,696	0.451	0.6517
Non Tenure Track Faculty	27	47		
Avg Research	\$ 1,296	\$ 1,277	0.121	0.9038

It appears from the above analysis that there is no gender bias in research support dollars awarded to faculty that is not attributable to gender differences in rank.

Analysis of the frequency of support

A chi squared study of the frequency of research support by gender at each rank reveals that female faculty historically receive research support more often at all tenure track faculty ranks, but that this tendency only has slight statistical significance at the rank of full professor. This may be an artifact of the overrepresentation of males among full professors who have over 20 years service, and are thus approaching retirement age. When full professors are split by years of service, this correlation weakens.

Full Professors (All)

	Female	Male	
Supported	45 40.7	124 128.3	169
Not Supported	7 11.3	40 35.7	47
	52	164	216

$\chi^2_{pooled} = 2.77$ (p = 0.0961)

Full Professors (<= 20 yrs)

	Female	Male	
Supported	35 35.2	76 75.8	111
Not Supported	4 3.8	8 8.2	12
	39	84	123

$\chi^2_{pooled} = 0.02$ (p = 0.8986)

Full Professors (> 20 yrs)

	Female	Male	
Supported	10 8.2	48 49.8	58
Not Supported	3 4.8	31 29.2	34
	13	79	92

$\chi^2_{pooled} = 1.25$ (p = 0.2632)

Associate Professors

	Female	Male	
Supported	40 38.4	40 41.6	80
Not Supported	8 9.6	12 10.4	20
	48	52	100

$\chi^2_{pooled} = 0.64$ (p = 0.4233)

Assistant Professors

	Female	Male	
Supported	23 21.9	39 40.1	62
Not Supported	0 1.1	3 1.9	3
	23	42	65

$\chi^2_{pooled} = 1.72$ (p = 0.1894)

Non Tenure Track Faculty

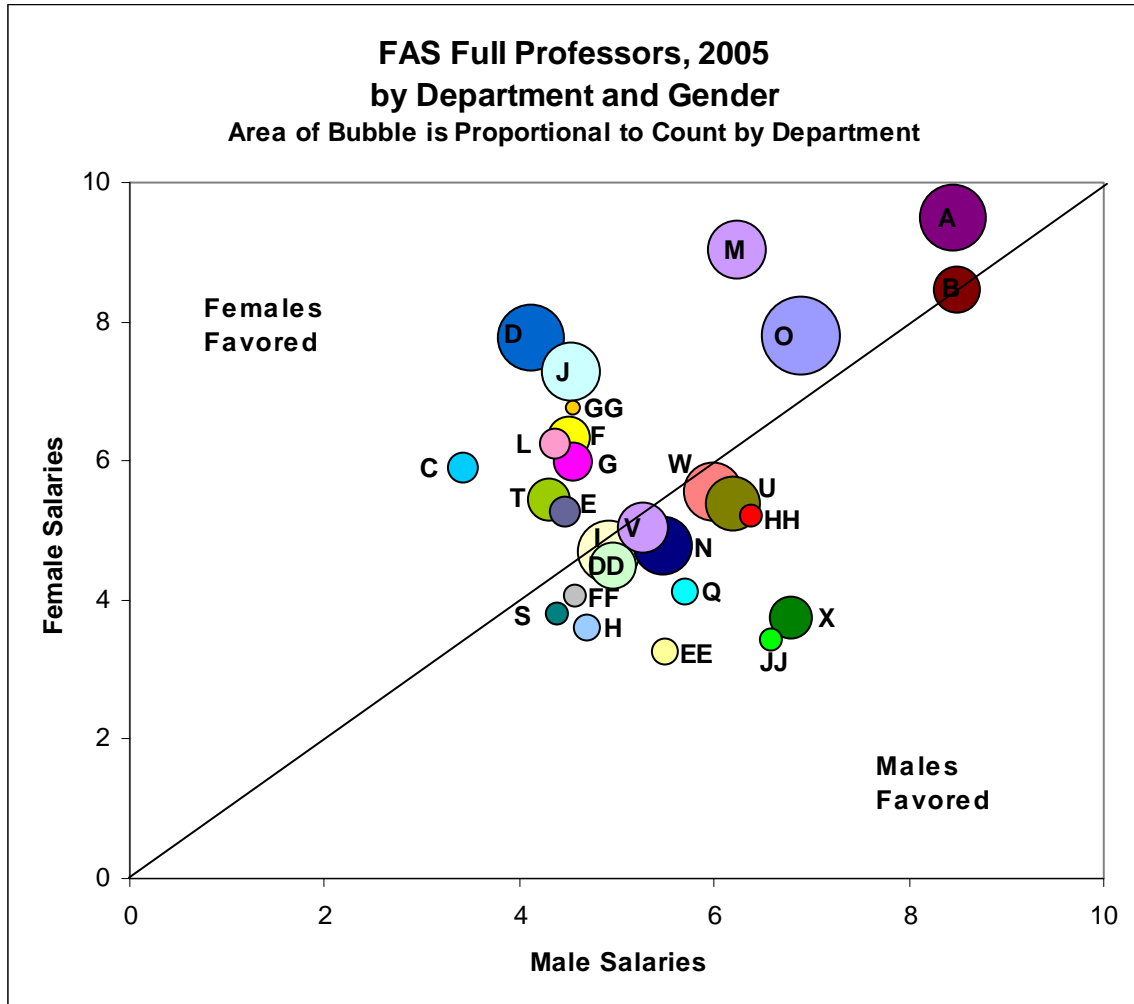
	Female	Male	
Supported	27 29.3	47 44.7	74
Not Supported	9 6.7	8 10.3	17
	36	55	91

$\chi^2_{pooled} = 1.57$ (p = 0.2109)

VIII. A Comparison of Departmental Mean Tenure Track Salaries to the Proportion of Males in each Department

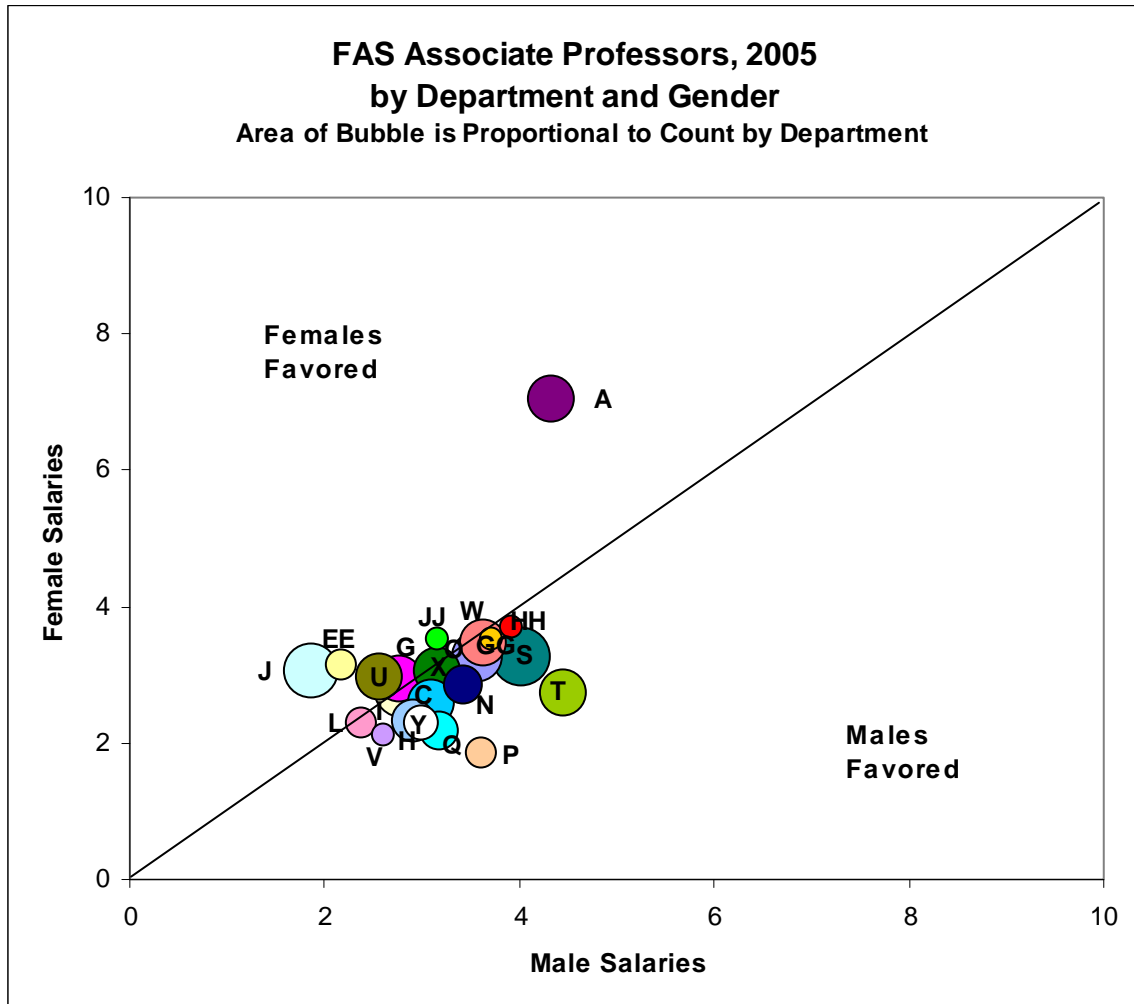
Charts 10 and 11 display the proportion of males in each department to the mean salary in that department. At 2000 and 2005, these charts indicate a softening positive relationship between salary and percent male. Note that the salary scales are different in the two charts.

Chart 1:



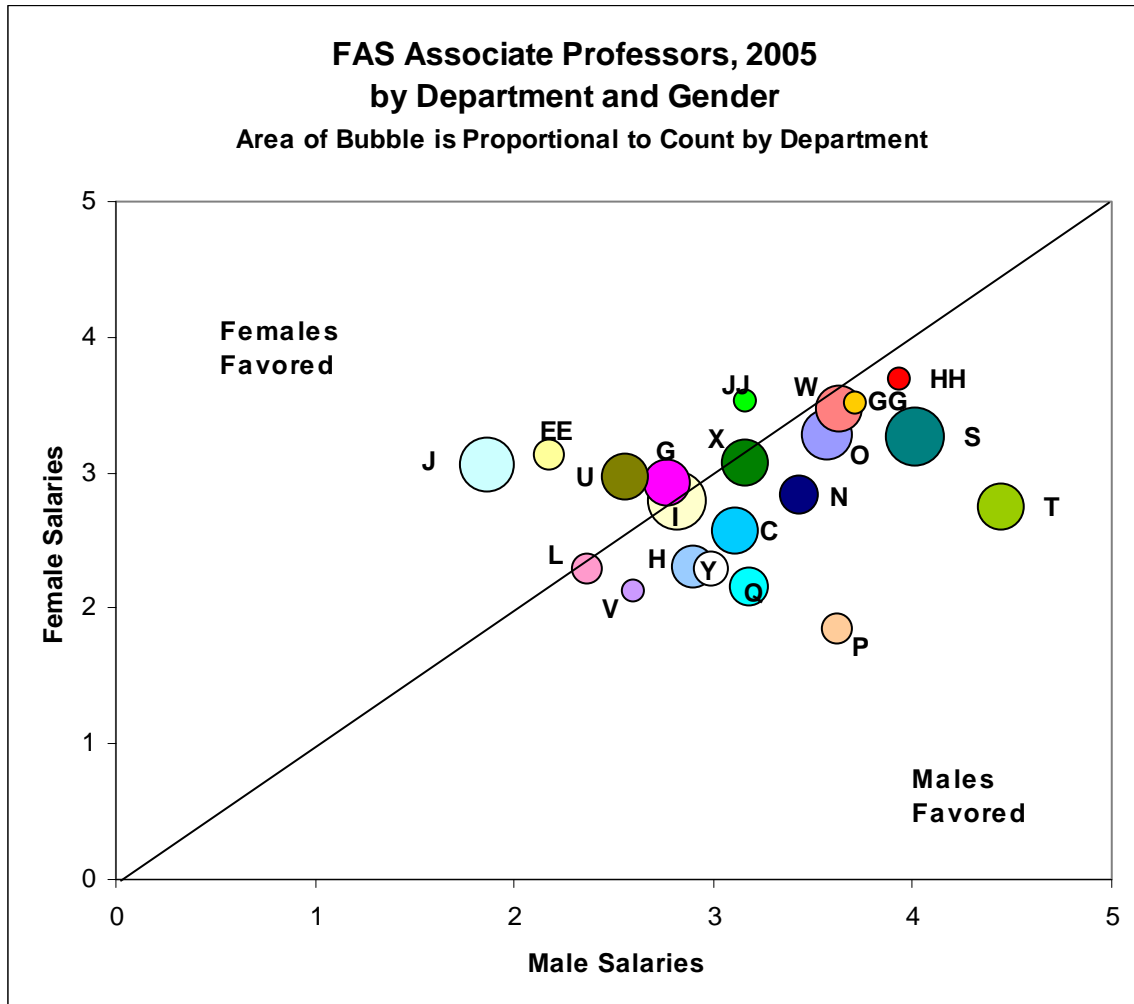
NOTE: Eight departments omitted with only male professors.

Chart 2:



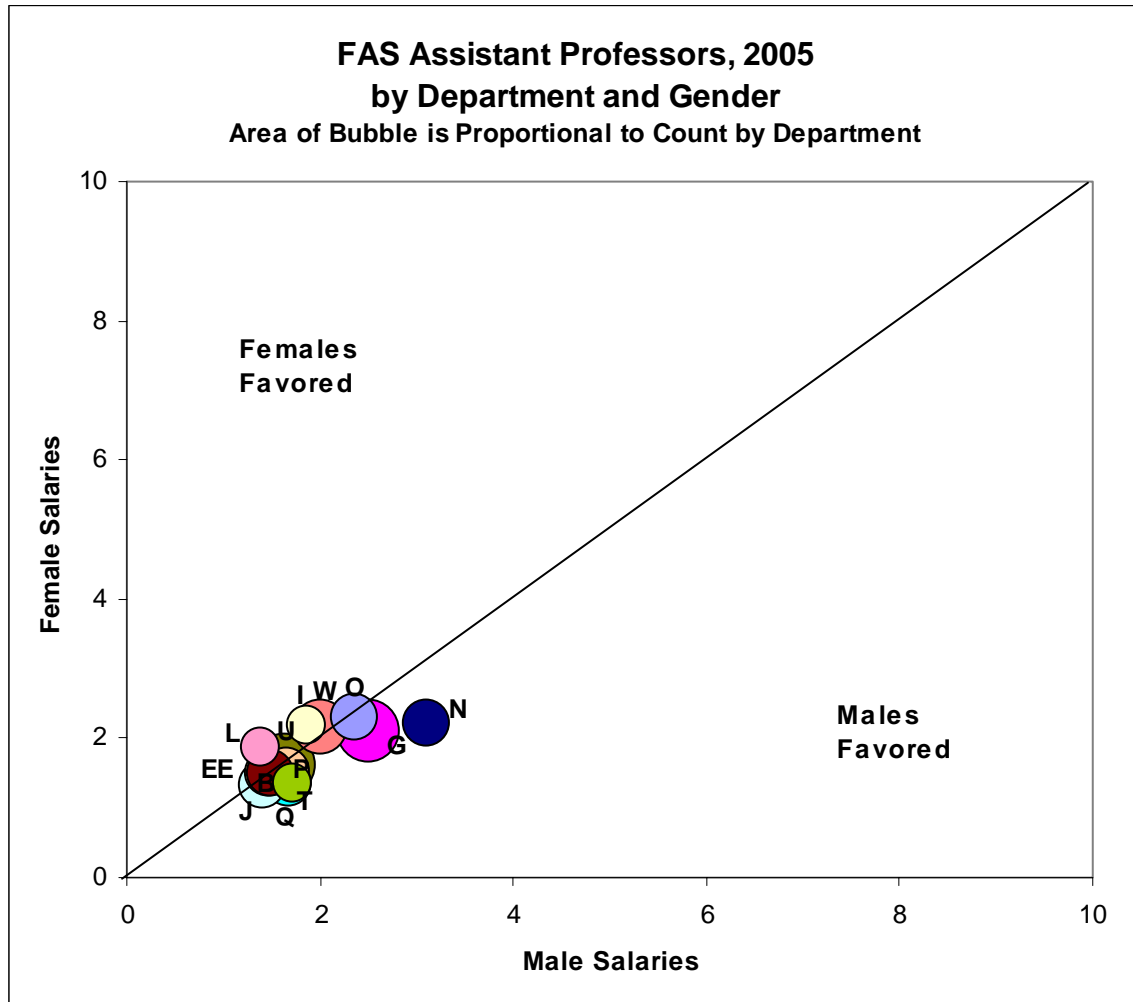
NOTE: Six departments omitted with only male associate professors, and two departments omitted with only female associate professors.

Chart 2a (Detail—Excluding Outlier):



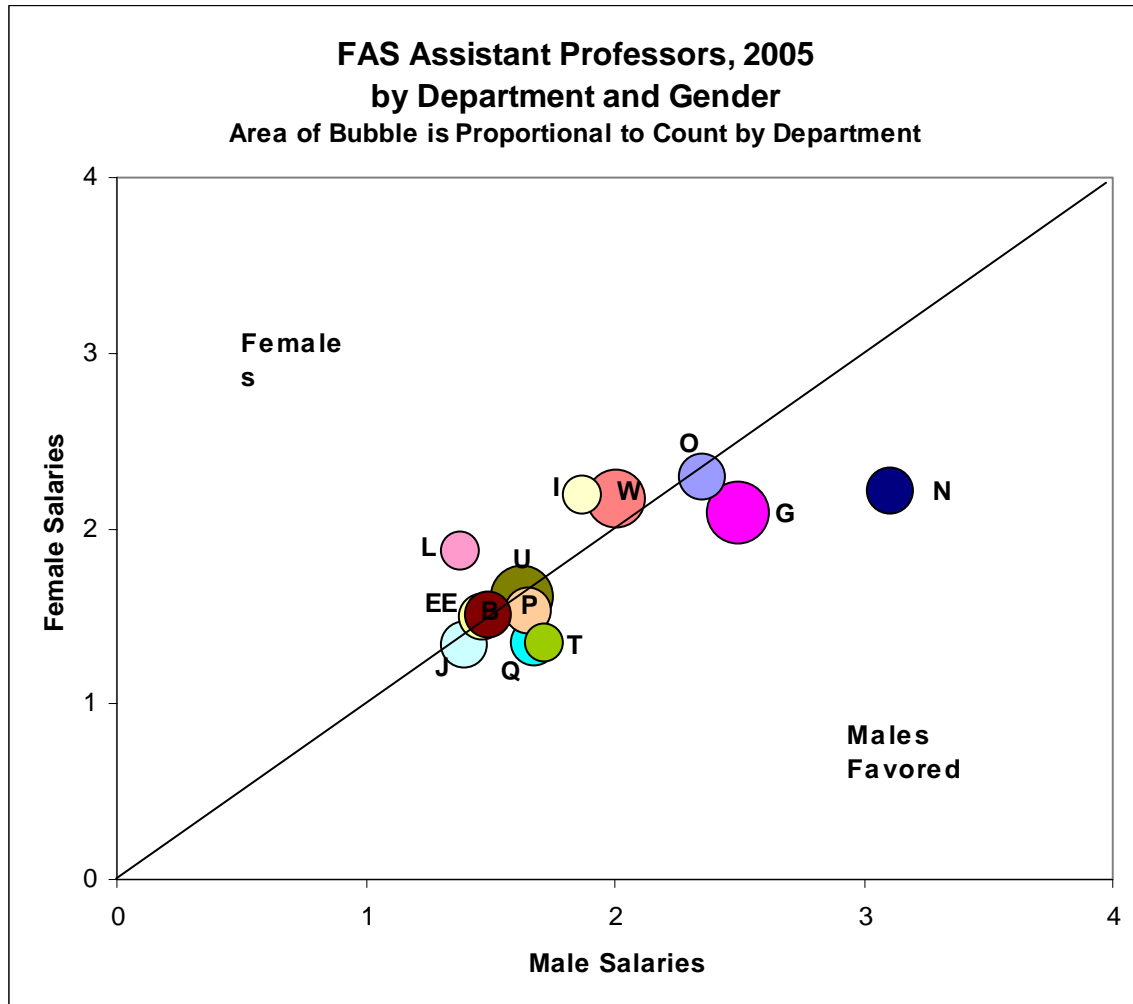
NOTE: Six departments omitted with only male associate professors, two departments omitted with only female associate professors, and one department lies beyond the scale of this graph.

Chart 3:



NOTE: Ten departments omitted with only male assistant professors, and five departments omitted with only female assistant professors.

Chart 3a (Detail):



NOTE: Ten departments omitted with only male assistant professors, and five departments omitted with only female assistant professors.

Chart 4:

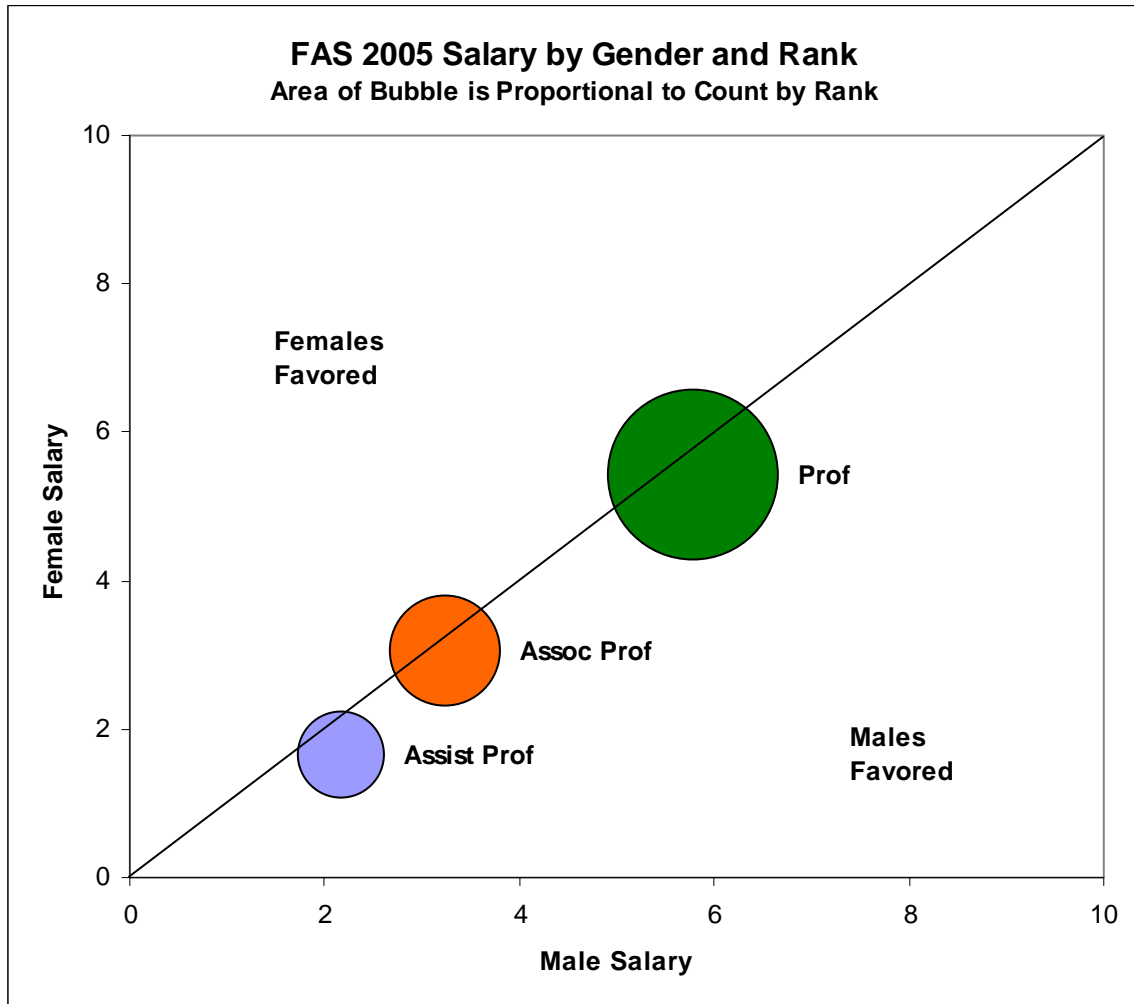
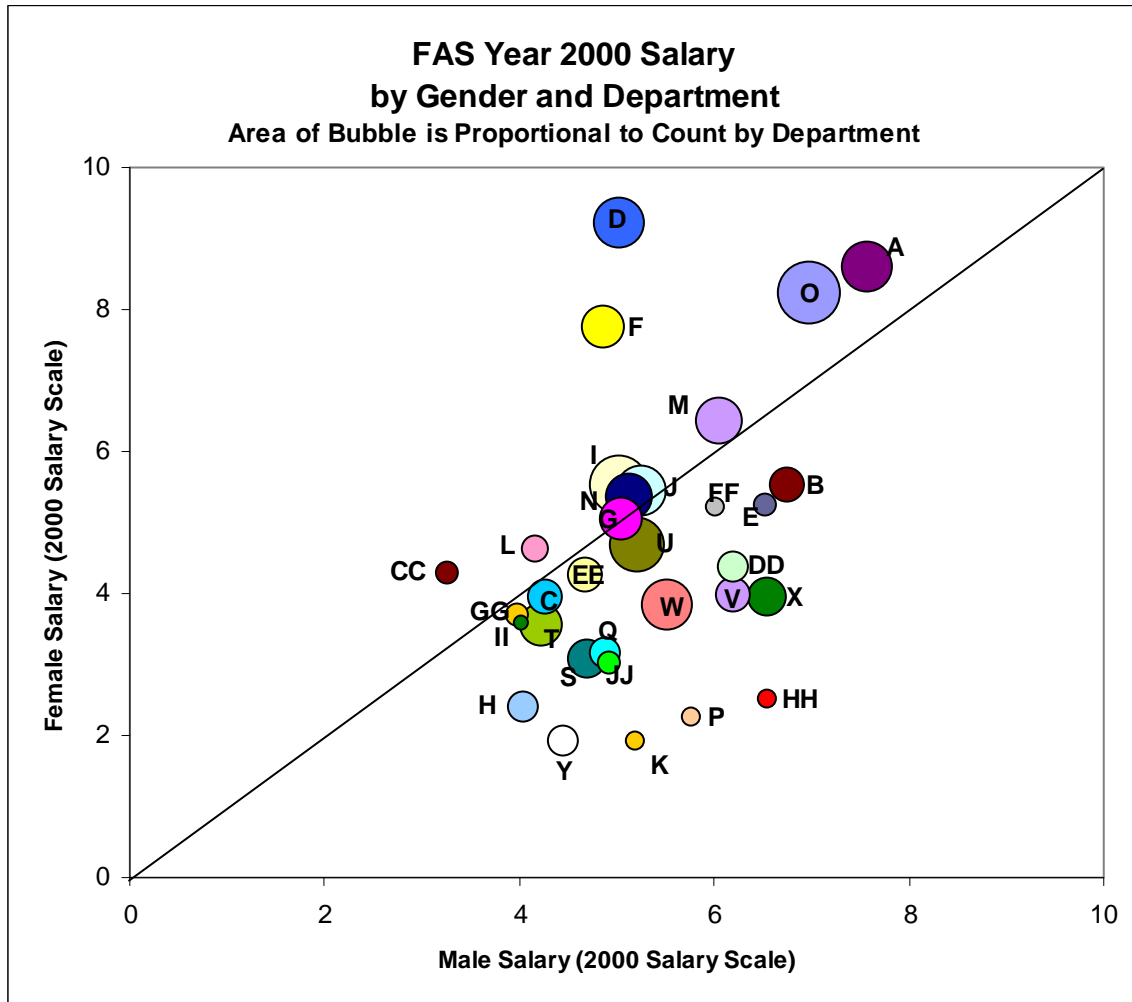
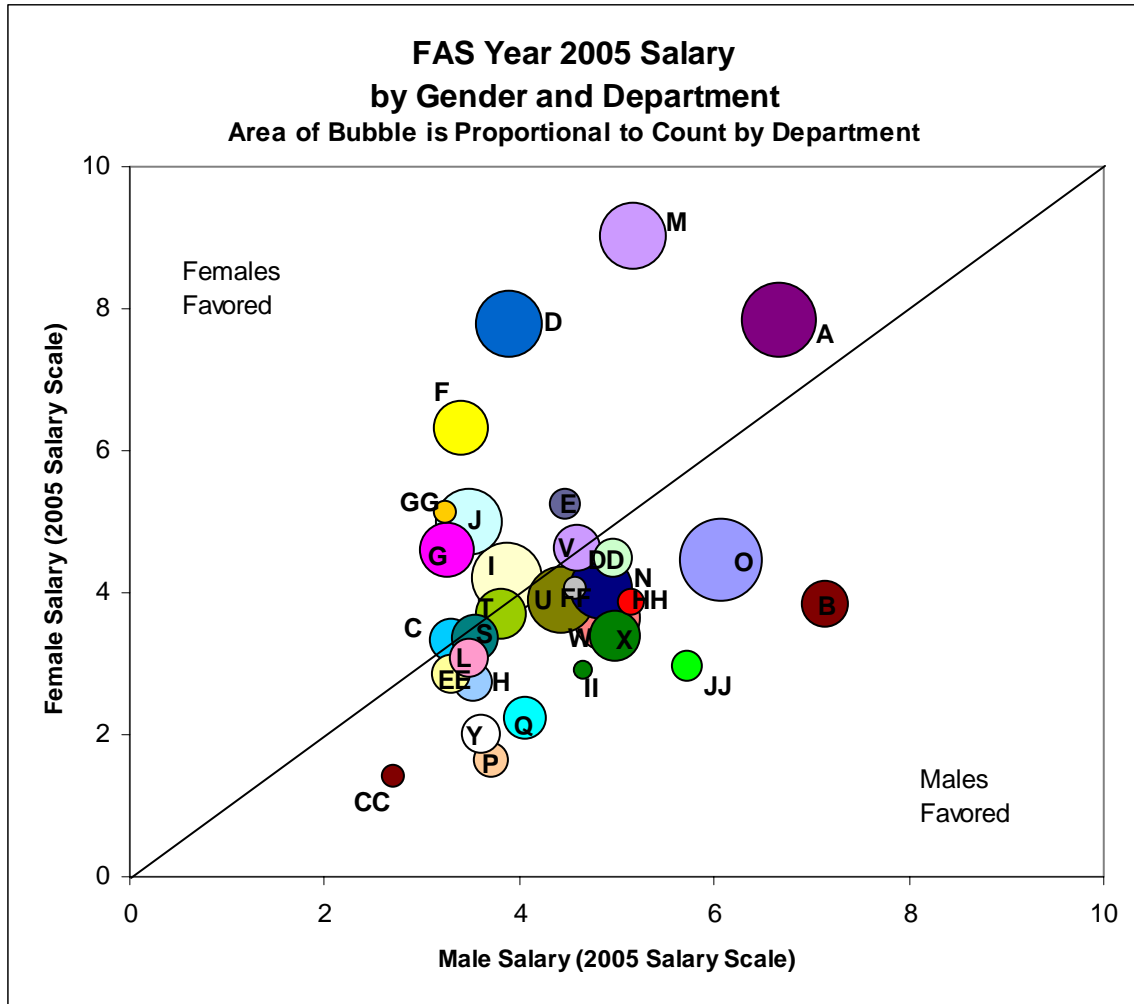


Chart 5:



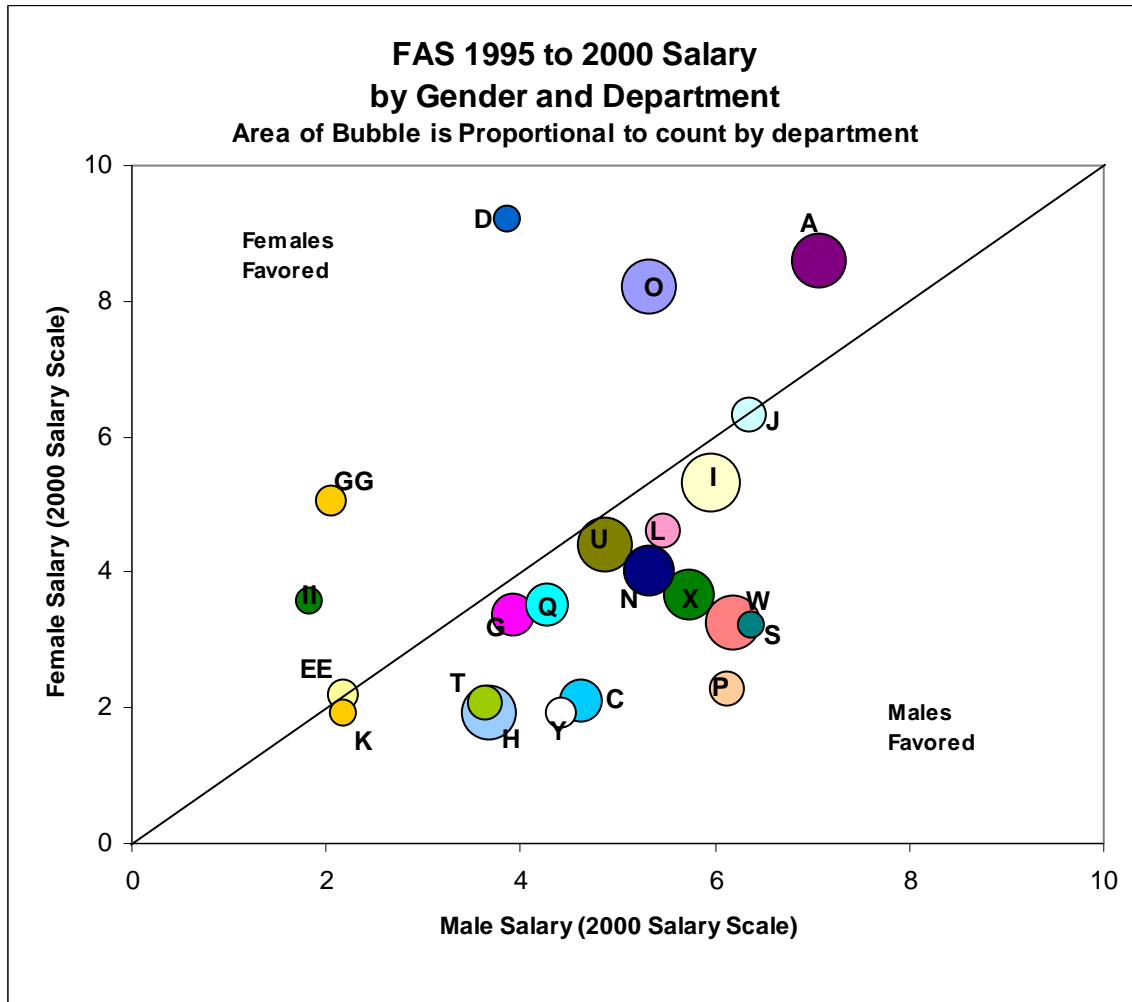
NOTE: Three departments omitted with only male faculty, and one department omitted with only female faculty.

Chart 6:



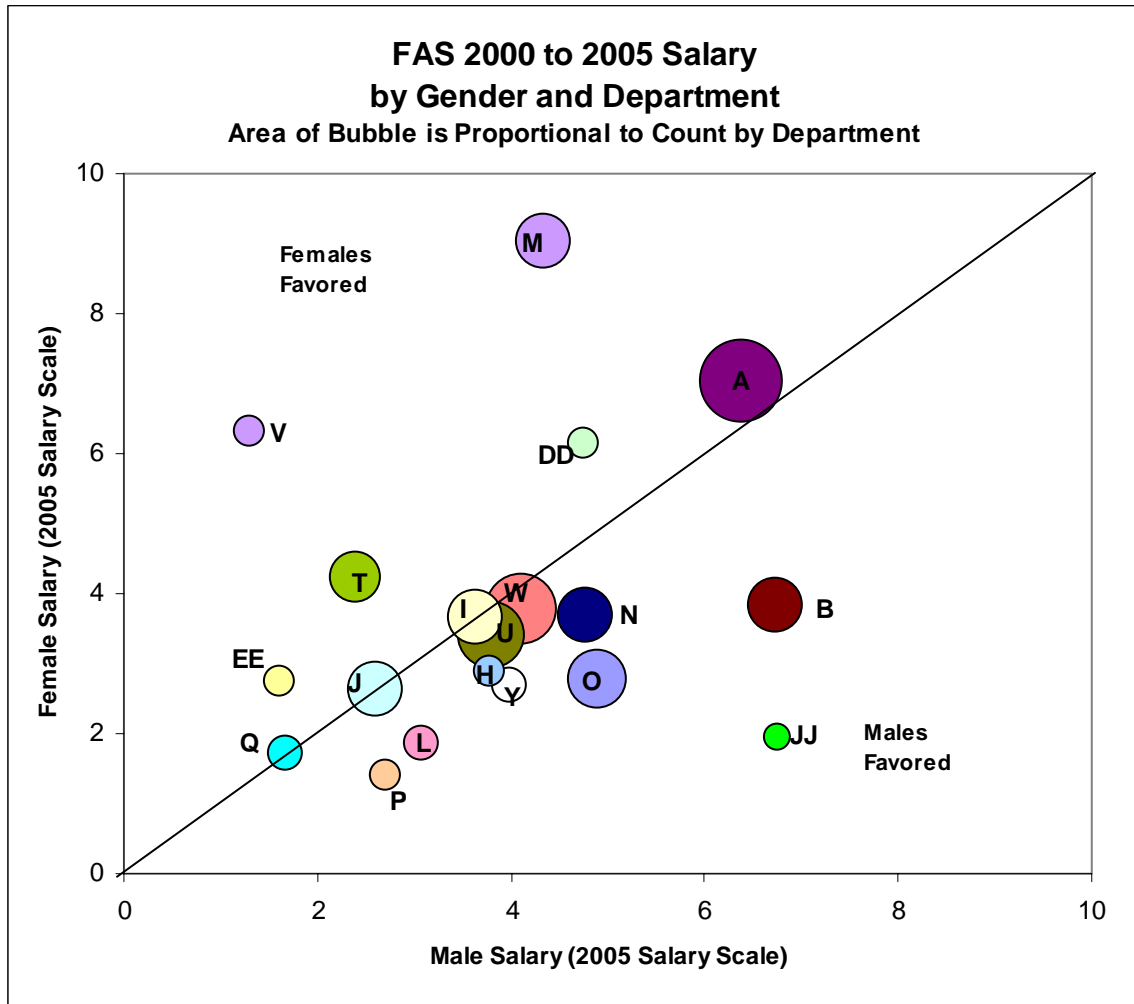
NOTE: Four departments omitted with only male faculty.

Chart 7:



NOTE: This graph represents the cohort of faculty hired during calendar years 1995 through 1999. The salaries are from AY2000.

Chart 8:



NOTE: This graph represents the cohort of faculty hired during calendar years 2000 through 2004, with 3 faculty members from January 2005. The salaries are from AY2005.

Chart 9:

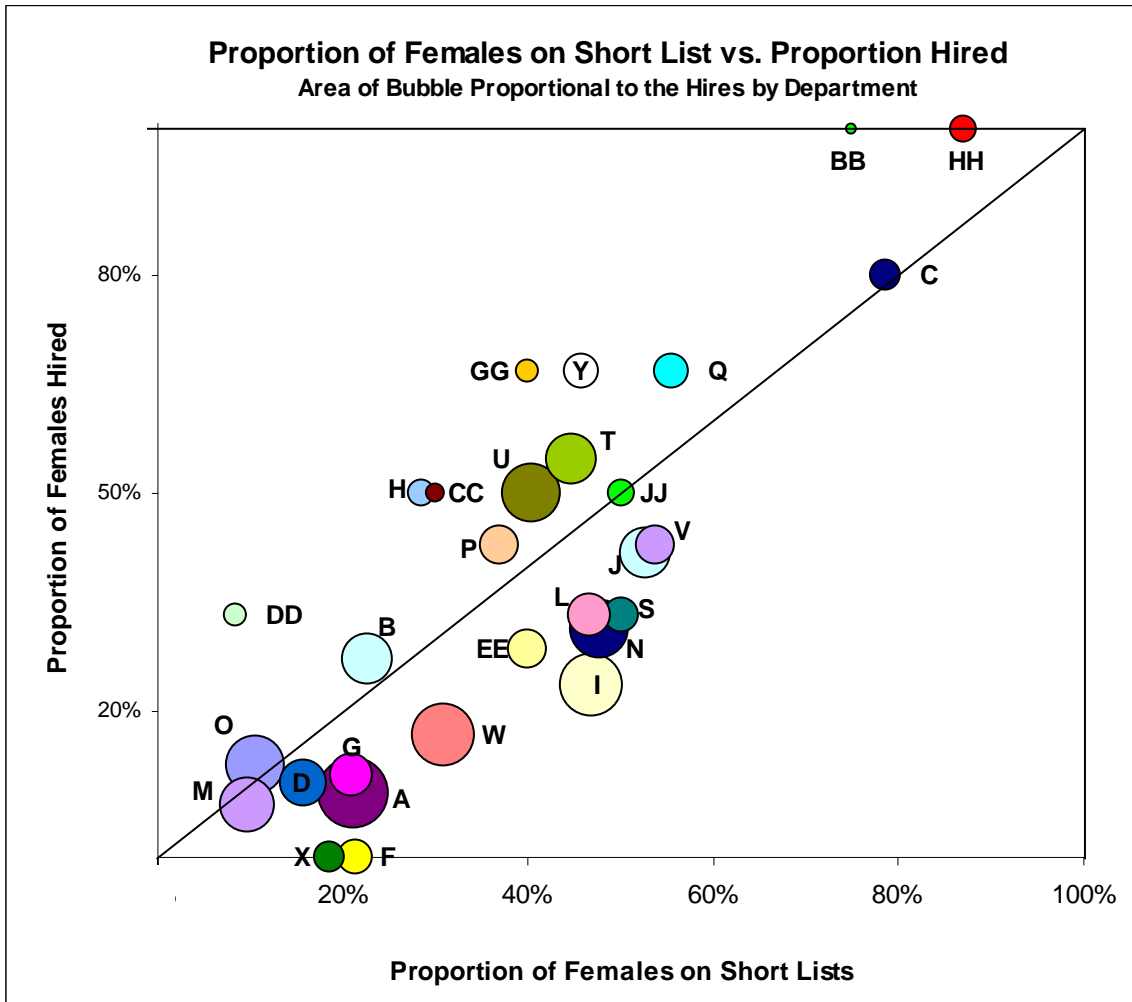


Chart 10:

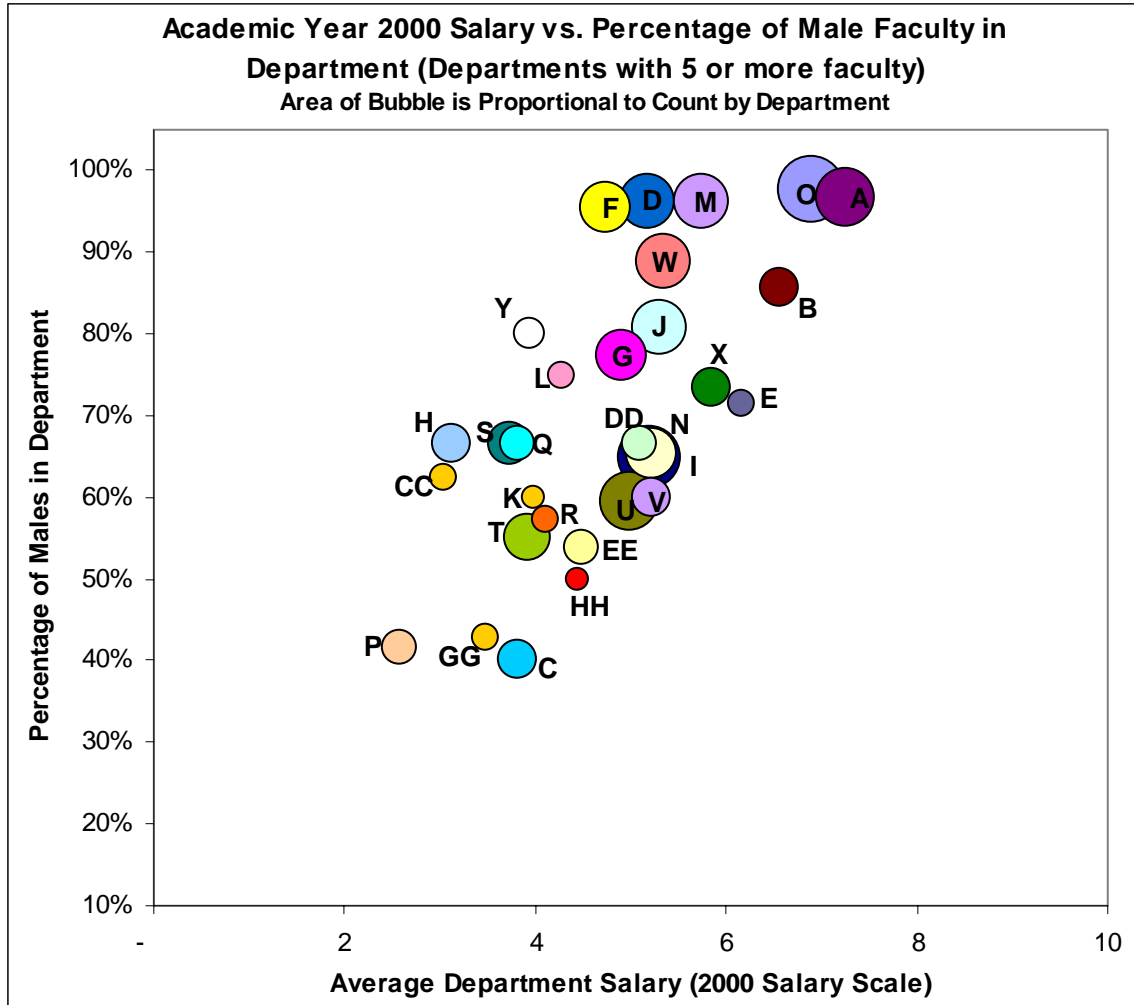
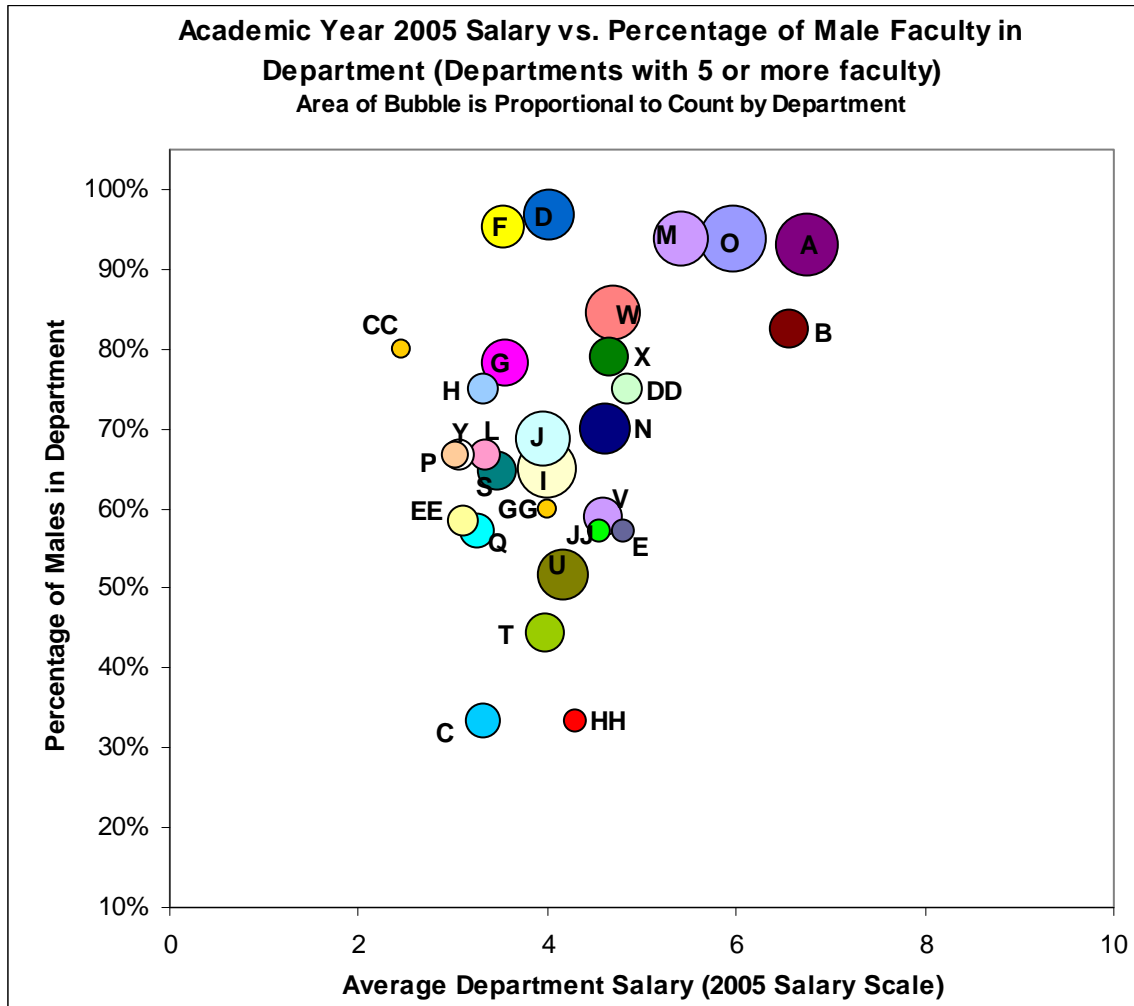


Chart 11:



Report of the FAS Faculty Equity Committee
March 10, 2006

Committee Members: Raquel Fernandez (WFC, Economics), Madeline Heilman (FAS, Psychology), Emily Martin (P&P, Anthropology), John Rinzel (P&P, Neural Science), Srinivasa Varadhan (P&P, Courant), and Carol Shoshkes Reiss (Equity Committee Chair, WFC, Biology).

Ex-officio: Joe Juliano (Dean of Administration), David Vintinner (FAS Administration), Jason Presley (FAS Administration), and Randall Say (FAS Fiscal Services).

Consulting Biostatisticians: Bruce Levin (Mailman School of Public Health, Columbia University) and Eric C. Polley (present address: University of California at Berkley).

History: In 2002, the first joint FAS Deans Advisory Committee on Policy and Planning (P&P) and FAS Womens' Faculty Caucus (WFC) Faculty Committee on Equity prepared and presented its report to Dean Richard Foley. This report was the culmination of two years work between the Equity committee, Joe Juliano and his staff in the FAS Dean's office, and Bruce Levin, Michael Finkelstein and their staff at the Mailman School of Public Health. The report was accepted by P&P and presented to the Faculty in Arts and Science at a Faculty meeting, and then placed on the FAS web site.

Dean Foley, at that time, made a commitment to establish committees which would regularly revisit the current data on equity between Male and Female members of the tenured and tenure-track faculty in FAS. As time progresses, additional years of information will be available for analysis.

In the Fall of 2005, the current committee was appointed and met once on 12/13/05 with an initial draft report from Bruce Levin. Revisions were made in that report, and additional material was prepared based on an analysis of 10 years of data requested initially by the FAS Promotions and Tenure (P&T) Committee. The Equity committee met again with the FAS Ex-Officio personnel and Bruce Levin on 2/16/06 and requested additional refinements in the data content and presentation.

This analysis of the *Summary Information for Report Equity Analysis of Faculty Salaries, Appointment, and Administrative Responsibilities at New York University's Faculty of Arts and Science*, dated February 23, 2006, is based on the final data sets provided by both Dr. Levin and Eric C. Polley with the support of David Vintinner and Jason Presley (FAS Institutional Research) (parts I through V) and by David Vintinner & Jason Presley (parts VI through VIII).

All data were blinded for division and department identifiers. Ten years of faculty information are included. The axis scales were made consistent in the figures, at

the committee's request. The letter code of each department is also invariant. In figures, the size of each circle is proportional to the number of individuals represented in that group. The reports which were discussed and analyzed follow this summary.

Salaries:

- By and Large, the dataset is characterized by little change from the findings of 2002. Overall, male faculty average \$110,691 in salary, while women faculty average \$88,642 in the AY 2005 dataset (Table page 1). *However*, when this is analyzed by department, rank, age, administrative responsibilities and sex, women faculty members are compensated at nearly the same rate as males in the same department. That is, there is a 2% advantage for male faculty, but the p value is 0.27, which is not significant (Table, model 1, page 2).
- The most important criteria determining salary are Department of primary appointment (for instance, Economics versus French) and rank (Model 3, page 3 and Chart 4).
- There are profound differences when departments are compared, and these distinctions in compensation have not changed. Comparison of salaries of faculty within a rank can be found in Charts 1 through 3. Where the bubbles are above or below the diagonal line, average compensation differs for male and female faculty. Most cluster close to the diagonal line. Overall, in 2005, most average salaries by the sex of faculty cluster at or near the diagonal line; 8 departments, six of which have large circles, have a female-biased (above the line) placement and 15 fall below, four of which are large groups (Chart 6).
- The departments which have more male faculty are more likely to have a greater average salary than departments which have fewer male faculty members (Charts 10 for 2000 and 11 for 2005).
- Starting salaries are virtually identical (pages 8 and 9; charts 7 and 8).

Characteristics of the faculty:

- Female faculty overall are more likely to be more junior than their male colleagues, and this is highly significant, $p < 0.0011$ in 2000; this has modestly improved, tending toward more balance, $p < 0.0303$ in 2005 (bottom of page 3 and page 4).
- Due both to hiring and promotion, the number of women Full Professors increased from 57 in 2000 to 72 in 2005, and Associate Professors from 33 to 54. These represent relatively higher increases than for men.
- There are 8 departments which lack women at the Full Professor level, but have some men at that rank. These are: East Asian Studies, Expository Writing, Institute for French Studies, Irish Studies, Hellenic Studies, Music, Religious Studies, and Russian & Slavic Studies. With the exception of Music, these are very small departments.

- Four departments do not have female faculty members at any Tenure Track rank (Chart 6 footnote). These are Irish studies, Institute of French Studies, Hellenic Studies, and Expository Writing.

Hiring:

- Over the ten year period examined, women were more likely to be hired at a higher rank than male recruits, although this was more significant in the 1995-2000 period (bottom page 9 and top page 10).
- Hiring over the 10 year period was compared. Between 1995 and 2000 47 women were recruited and 87 men; women tended to be more junior than the male hires which were more likely to be senior hires. However, in the 2000-2005 period, 51 women joined the faculty and 118 men, and the female hires were at a level expected given their numbers, while many more junior men were hired than “expected” (page 5).
- When women were present on “short lists” they were hired proportionally. Of 418 short lists, 22 had no female candidates while 10 had no male applicants. Only 18 individuals were hired during the 7 year period of study without short lists, and 6 of these hires were women (Chart 9).

Tenure and Promotion:

- Over a ten academic year period, 1996 to 2005, in Tenure and Promotion, women faculty are disadvantaged, compared to their male colleagues.
- The time to promotion and tenure is one year slower for women faculty (page 6); this is not attributable to electing to delay the tenure clock for births or adoptions.
- Women are more likely to be denied tenure and promotion. Men are tenured at 1.5 times the rate of women faculty (page 6). 43 women were promoted and 16 were denied tenure; 68 men were tenured and 12 were not (page 12), $p=0.0783$.
- Women are more likely to receive good third year reviews than their male colleagues (page 13).
- Men are more likely to leave prior to being considered (27 men vs. 11 women), but when compared with women, the reasons (25% for better offer, half due to a poor 3rd year review or other negative indications, the remaining for reasons not noted by the Deans’ office) are not different (page 13).
- We asked if the P&T data might be explained by stopping the tenure clock (NYU permits stopping the tenure clock for one year at a time for the primary care-giver when a baby arrives or is adopted), however, when the data were re-evaluated, the very small numbers of individuals who used this option did not vary from the outcomes of uninterrupted careers.

Administrative responsibilities:

- Administrative responsibilities (chairs, DUGS, DGS) are equitably distributed among the sex of the faculty (page 7).
- This was seen overall and in the recently hired faculty (pages 7 and 8).

NYU-derived research support funds:

- Internal research support for faculty in the Social Sciences and Humanities was examined. The support for Science faculty was not evaluated. Of 470 eligible faculty, 385 received some grant from NYU, of a total of \$2.23 million dispensed (page 14).
- Overall, there was a statistically significant difference, with male faculty receiving on the average \$6,507 and female faculty merely \$4,741 (page 14).
- However, when this was broken down by rank and by longevity at NYU, there were no statistical differences. By rank, Full professors (\$8,776 XY/8,847 XX) received more than Associate Professors (\$5,388/4,794), who received more than Assistant Professors (\$4,046/3,696), who secured more than Contract faculty (\$1,296/1,277). Indeed, women faculty were more likely to receive research support than male colleagues except at the contract faculty level (pages 15 and 16).

Conclusions and recommendations:

1. Salaries are determined largely by rank and by the department and division in which a faculty member resides.
2. Departments with a higher proportion of male faculty tend to have higher average salaries. *A comparison of national trends may be valuable to determine if this disparity is an artifact here or consistent with other research universities.*
3. There remain 4 departments with no women faculty and 8 with no Full professors. *Recruitment goals should promote diversity in those departments, where possible.*
4. Women have been recruited well over the last 10 years, and have been appointed at higher rank than the male hires.
5. Starting salaries are equitable.
6. Tenure is slower and less frequent for female faculty. *It will be important for the Deans to determine why Women Faculty are delayed and less successful in this process.*
7. Hiring from short lists is proportional to the representation of women among the desired candidates, thus *it is critical to have diverse search committees who are more likely to support diverse short lists.*
8. Administrative responsibilities are equitably distributed. *Care must be taken to maintain this and also to assure that junior faculty members are not burdened with onerous obligations.*
9. Internal research support for the social science and humanities faculties does not appear to be biased in distribution.
10. There are too few minority faculty to include in this analysis. The committee recommends increasing diversity among FAS faculty.