A FACULTY SALARY EQUITY STUDY: SUNRISE TO SUNSET

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Sunrise over the University at Buffalo

- Flagship University in the State University of New York System
- Member of the Association of American Universities
- Headcount: 21,020 undergraduates; 9,628 graduates (Fall 2017)
- More than 110 undergraduate and 300 graduate/professional programs
- ~2,500 tenure-track & non-tenure track faculty
Headlines

• Gender Pay Gap Persists Across Faculty Ranks - The Chronicle of Higher Education (March, 2017)

• Testimony on the Gender Pay Gap in New York State – United University Professions (July, 2017)

• The Simple Truth About the Gender Pay Gap – AAUW Economic Justice (2016)

• Women in New York Face a pay Gap of 11%, Ranks First Nationally in Gender Pay Equity (AAUW, April, 2018)
Benefits to Studying Pay Equity

• Sense of fairness and inclusion
• Understanding the pay structure
• Reduction in potential liability by addressing
  o which pay differences are at issue
  o whose pay should be compared
  o what are the factors that explain differences in pay
Time to Discuss Equity in Faculty Salaries
Gender Pay Gap is the difference in the average man's and average woman's compensation without accounting for other differences.

<table>
<thead>
<tr>
<th>Group</th>
<th>Male</th>
<th>Female</th>
<th>Gap ($)</th>
<th>Gap (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>All Public Doctoral</td>
<td>$102,331</td>
<td>$81,174</td>
<td>-$21,157</td>
</tr>
<tr>
<td></td>
<td>University at Buffalo</td>
<td>$122,774</td>
<td>$105,144</td>
<td>-$17,630</td>
</tr>
<tr>
<td>Full Professors</td>
<td>All Public Doctoral</td>
<td>$133,468</td>
<td>$119,761</td>
<td>-$13,707</td>
</tr>
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<td></td>
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<td>$151,809</td>
<td>$139,037</td>
<td>-$12,772</td>
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<tr>
<td>Associate Professors</td>
<td>All Public Doctoral</td>
<td>$91,354</td>
<td>$84,997</td>
<td>-$6,357</td>
</tr>
<tr>
<td></td>
<td>University at Buffalo</td>
<td>$103,259</td>
<td>$94,700</td>
<td>-$8,559</td>
</tr>
<tr>
<td>Assistant Professors</td>
<td>All Public Doctoral</td>
<td>$80,858</td>
<td>$73,741</td>
<td>-$7,117</td>
</tr>
<tr>
<td></td>
<td>University at Buffalo</td>
<td>$91,774</td>
<td>$83,283</td>
<td>-$8,491</td>
</tr>
</tbody>
</table>

Source: All Public Doctoral from Academe March/April 2015, UB from human resource data.
The University at Buffalo - Rationale for the Study

• Examine faculty salary equity broadly across the university

• Determine if there are systemic problems regarding faculty salary equity

• Address perceptions about inequity as a whole throughout the campus environment
Historical Faculty Salary Equity Analysis at UB

• 2009 & 2011 – Salary equity studies were done internally by the professional IR staff

• In both studies, it was found that the average salaries were comparable between male and female faculty members after taking into account work-related factors

• But, the study results were not made public and therefore perceptions salary inequity were left unaddressed
A unique shared-governance approach was adopted in which both faculty and professional staff undertook the study together.
What are Some of the Administration Concerns

- Which faculty will be involved?
- How will salary data be kept confidential?
- Can faculty involved in a salary study be trusted to be objective?
- What if “problems” surface?
- Will the study be taken out of context?
- What is the dialogue on campus regarding salary equity?
What are Some of the Faculty Concerns

- Would the salary study process be transparent?
- Would the analysis be careful and thorough?
- Would the methodology used be appropriate for a gender equity study?
- Would faculty be able to question the validity, methods or results?
Gender Equity Salary Study Committee (GESS)

4 Co-Chairs
2 Faculty representing the Faculty Senate &
2 Professional Staff including the Title IX Director

6 Additional Faculty representing
College of Arts and Sciences
School of Engineering
Law School
School of Public Health and Health Professions
Medical School
Initiate Faculty Equity Study

Review & Present Results

Conduct Analyses

Research Methodologies & Dataset Characteristics

COMMUNICATE
Literature View of Faculty Salary Studies

- **Paychecks: A Guide to Conducting Salary Equity Studies for Higher Education Faculty (Haignere, 2002)**
  - Go to guidebook on conducting a salary equity study

- **Internal Institutional Faculty Equity Studies**
  - University of Missouri
  - University of Maine

- **New Directions For Institutional Research** (Fall 2002, Spring 2003, Winter 2008) - Special edition volumes addressing issues in salary-equity

- Various pieces of academic literature & special reports
It was a lonely couple of months.......
What Did We Learn?

- Identified 4 different statistical analysis methods
  - Multiple Linear Regression with residual analysis
  - Blinder-Oaxaca Decomposition
  - Hierarchical Linear Modeling (HLM)
  - Individual Growth Modeling
- Identified numerous variables used to predict faculty salary
  - rank, rank-at-hire, time-in-rank
  - degree earned
  - discipline, market factors
- Identified inclusion/exclusion criteria for sample dataset
  - Tenured/tenure-track, librarians, research/clinical faculty, adjuncts
Synthesized an IR Plan

- Identified the variables that we considered important in predicting faculty salaries
- Identified the faculty cohort for the study
- Developed 2 statistical models
  - Multiple Linear Regression (OLS) Model
  - Hierarchical Linear Model (HLM)
- Presented both models at the combined Gender Equity Salary Study (GESS) committee meeting
- Reviewed the Faculty Committee Proposed Model
Multiple Linear Regression (OLS) Analysis

Predictor variables may have influence on the outcome variable. Multiple regression tests each variable to determine the extent to which the variable does or does not influence the outcome variable.
Market Factors

- AAUP – Faculty Compensation Survey
- AAUDE – Faculty Salary Data
- CUPA·HR Salary Surveys
- Oklahoma Faculty Salary Study
Hierarchical Linear Model (HLM) Analysis

Individual Faculty Level Predictors
- Gender
- Ethnicity or Race
- Current Rank
- Time in Current Rank
- Rank at Hire

Department Level Predictors
- Department Affiliation
- Percent Female
Proposed Models, Pros & Cons

- Actual Dollar Amount Base Salary versus Ln(base salary)
- 10-month appointments vs 12-month appointments
- Research productivity
- Teaching load
- Number of departments with small faculty counts
Faculty Cohort

• Included: Ladder faculty, with full-time tenured/tenure-track appointments

• Excluded:
  o Qualified Faculty
    ▪ Clinical & Research faculty
    ▪ Librarians
    ▪ Other qualified faculty groups
  o Faculty in administrative positions
Analysis Process

1. Single Dataset was constructed using Human Resources Tables by the IR Office

2. Both the IR office and the Designated Faculty Member conducted analyses using both models separately

3. Initial results were reviewed by the committee co-chairs

4. Additional analyses were conducted to answer additional questions

5. Reliability & validity analyses including outlier analysis
The regression coefficients for gender, controlling for all other factors are presented below.

<table>
<thead>
<tr>
<th></th>
<th>Department Model</th>
<th>Market Factor Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender (log model)</td>
<td>-0.001 (.011)  ( p&gt;0.05 )</td>
<td>-0.012 (.012)  ( p&gt;0.05 )</td>
</tr>
<tr>
<td>Gender (dollar model)</td>
<td>$ 60.56  ( p&gt;0.05 )</td>
<td>$ -1,951.04  ( p&gt;0.05 )</td>
</tr>
</tbody>
</table>
Model Fit

Total Variance Explained by Departmental Model

- Gender: 0.0%
- URM: 4.2%
- Rank at Hire: 27.3%
- Current Rank: 17.7%
- Time in Rank: 32.5%

Adjusted $R^2 = 0.828$

Total Variance Explained by Market Factor Model

- Gender: 0.0%
- URM: 4.2%
- Rank at Hire: 27.3%
- Current Rank: 17.7%
- Time in Rank: 24.2%

Adjusted $R^2 = 0.745$
Afternoon Snack: Faculty & IR Collaborating For Success

- Avoiding issues
- Be aware of perceived salary equity
- Process can be fraught with angst
- Sensitivity, issues of trust and confidence
Timeline

- Nov-16: Provost approaches IR for preliminary study
- Mar-17: Literature review
- Jul-17: 1st GESS committee mtg
- Sep-17: Townhall meetings
- Oct-17: Construct dataset
- Nov-17: Run analyses
- Dec-17: Additional analyses
- Jan-18: Preliminary report to full GESS committee
- Feb-18: Compare preliminary results with co-chairs
- Apr-18: Presented results
- May-18: Report accepted by Faculty Senate Executive Committee
- May 22, 2018:
Transparency & Communication
Document, document, document, & ...... SHARE
Many, many, many, changes & modifications were made before the final presentations
Dinner: Testing a New Dessert - Communication Strategy

- Town-hall meetings
- Final report was made public on both the Faculty Senate & IR websites
- Tableau Visualizations
Tableau Visualization
The Role of the IR Office

- Guided the committee
- Stimulated questions to ask
- Answered questions along the way
- Provided a strong commitment to collaborate with the faculty committee
Sunset: Putting it to Bed

- Tenure process
- Startup packages
- Clock stoppage
- Salary compression
- Grant distribution
- Cohort studies
QUESTIONS?

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