

The Politics of Equity Research

Leonard S. Goldfine – Assistant Director, Office of
Institutional Research

Peter M. Radcliffe – Director, Planning and
Analysis

AIRUM, October 29, 2010



UNIVERSITY OF MINNESOTA

The big ideas

- **Equity \neq Equality**
- **Correlation \neq Causation**
- **Regression of a universe is a good for identifying systemic problems, but may not be ideal for addressing individual cases.**
- **Is the analysis at the appropriate administrative level?**
 - **That is, is a system-wide model being used to examine local decisions?**

Lawyer Up

...no seriously, consult a lawyer!

- They know better the implications of the research and/or findings.
- They know better what are the institution's explicit and implied obligations regarding salaries, tenure, etc.
- They know better about whether there is (or should be) a process in place for affected groups.

Ideology versus Reality

- From faculty: “We’re all faculty, so disciplinary differences shouldn’t matter.”
- From administration: “All key decisions are local (loose coupling), so central administration can’t be held accountable for local decisions...even if they add up to a systemic issue.”

What may prompt equity research

- Perception of disparate treatment
- Perception of disparate impact
 - Neutral policies may nevertheless have disparate impact
- Everyone else is doing it...It's time to have a policy
 - We did this 20 years ago...it's all be fixed.
 - Don't poke the hornets' nest.

Players and/or Initiators of Equity Research

- The petitioners (e.g., female faculty, faculty of color, etc.)
- The administrators (e.g., President, Board of Regents, Provost, etc.)
- The IR Office
- Others: Lawyers, Consultants, Press

Game Theories

- Cooperative vs Non-cooperative game
 - Are players bound by commitments? (e.g., legal) Or can the “winner” not necessarily expect that the “loser” will follow-through on remedy?
- Zero Sum?
 - Does winning mean that the other side has to lose?
- Perfect versus Imperfect Information

Law Background

- Title VII (Civil Rights Act 1964, Education Amendments 1972)
 - Prohibits discrimination in employment on basis of race, color, religion, sex, or national origin.
- Title VI (CRA 1964)
 - Prohibits discrimination against any person on grounds of race, color, or national origin *under any program or activity receiving Federal financial assistance.*
- Title IX (EA 1972)
 - Prohibits discrimination against any person on grounds of sex *under any program or activity receiving Federal financial assistance.*
- Others:
 - Age Discrimination in Employment Act (1967); for persons age 40+
 - Section 504 of the Rehabilitation Act (1973) [institutions getting Federal Funding]
 - Americans with Disabilities Act (1990)
 - Executive Order 11246 (1965) prohibits discrimination based on race, color, religion, sex, national origin; and requires affirmative action plans that include specific goals for developing a more diverse workforce.

Poskanzer, S.G. (2002). *Higher Education Law: The Faculty*. Johns Hopkins University Press, Baltimore.

The Politics of Choosing the Appropriate Analytical Model

- What type of model to use for analysis
 - Linear regression
 - Binary Logistic
- What is the dependent variable
 - Salary – point in time
 - Prorate salary, total income, augmentation, etc.
 - Pure salary, natural log, white-male salary, etc.
 - Salary – change over time
 - Distribution of merit awards
 - Retention offers
 - Tenure awards
 - Etc.

Politics of Analytical Technique

- Regression and total variance explained
 - Impact on whether model used is appropriate for policy and/or remediation decisions.
 - Using a population sample or the entire population?
- Statistical significance
 - large enough sample size can make almost anything statistically significant
- Practical significance
 - rules of thumb
 - “Sure, I’ll take \$500!”

Politics of Variable Definition

- What variables are included?
 - Appropriate for determining disparate impact?
- How are they calculated?
 - All 9-month prorated?
 - Include administrative augmentations?

Politics of Sample selection

- Who is included in the analysis? (scope)
 - All faculty? Faculty of a certain rank?
 - Administrators?
 - Quasi-administrators (department chairs – may be in admin role on rotation...first among equals, etc.) How is salary calculated?- included in base or augmented?
 - Medical school/clinical salaries?
 - Full-time, part-time? How defined (100%? 67% 75%????) If not 100%, then how pro-rate, if at all?
 - What time frame of data-set? Multi-year, historical?
- Level of aggregation – how far down can you reasonably dig? System-wide, college, department?
 - Affects sample size, which affects how you can structure your model

Predictor variables

- Too many variables:
 - Overspecified model: loses predictive power when a small sample size (or even not so small) is torn apart by too many predictors.
 - *Rule of thumb, if you have one predictor for every five individuals, you probably have too many predictors.*
- Too few variables:
 - Omitted variable bias: loses power because some critical predictor is left out of the model. This may result in the variable of grievance (e.g., gender, race) being given inappropriate statistical significance.
- It is in the best interest of a petitioning party to limit the number of variables in the model. It is in the best interest of the defending party to maximize the number of non-grievance variables in order to explain away and/or limit the size of a disparity.

Examples of typical predictive variables

- Variable of grievance: (gender, race). This is the critical dependent variable. If, after other variables are accounted for, this is still statistically significant, then it signals a potential (systemic) problem.
- Seniority – years since degree, years since hire, years since tenure, rank
- Discipline – college/department, CIP, field, Biglan classification (hard/soft, pure/applied, life/non-life)
- Other Market Variables - PhDs in the pipeline, PhDs in non-academic jobs, others
- **Merit** (good luck)

Example of disparate impact: Unintended consequences

- E.g., Hiring Faculty at Rank
- E.g., Tenure Clock Stoppage
- E.g., Spousal Hire

Lessons Learned

- Consult your lawyer
- Reach agreement on a model BEFORE running numbers
- Data integrity is probably worse than you think
- Implications of analysis are limited to those who are included in the analysis (avoid over-generalization)
- Model definition is a POLITICAL process
- Analysis is also a political process (statistical significance versus practical significance)
- Analysis versus policy/remediation decisions

Contact Information

- Leonard S. Goldfine, Assistant Director
Office of Institutional Research
University of Minnesota
gold0154@umn.edu
612-625-1481
- Peter M. Radcliffe Executive Director Office of
Planning and Analysis - System Academic
Administration, University of Minnesota
radcl002@umn.edu
612-626-3838