Using Compensation Data in Collective Bargaining
John Barnshaw is Senior Higher Education Researcher at the AAUP, where he directs the Faculty Compensation Survey.
Sam Dunietz
Presenter

Sam Dunietz is a research and policy analyst with the AAUP.
Today’s Agenda

• The Bargaining Context in Contemporary Higher Education
• Why Benchmark?
• Data Sources
• Leverage Considerations for Bargaining
• Understanding the Bargaining Context
• Questions and Comments
Exploring and Unpacking

We have a lot of content to cover!

Our goal this hour is to assist you in

• Understanding the changing context of higher education
• Identifying high quality sources of faculty data
• Exploring challenges to benchmarking by administration
• Exploring common statistical benchmarking techniques
• Utilizing best practices for data presentation to gain an advantage at the bargaining table
“Help will always be given to those who ask for it!”
The Bargaining Context
Setting the Context: Know Your Faculty

• Forty years ago, full-time tenured and tenure-track faculty comprised 45 percent of the faculty.
• Today, less than 20 percent of the instructional faculty are full-time tenured.
Setting the Context: Expenditure Areas

- How do costs at your institution differ from this figure?

**FIGURE 2**
Breakdown of Expenditures at Two- and Four-Year Public Institutions, 2012–13

- Instructional Salary
- Student Services
- Nonsalaried Academic Support
- Institutional Support/Operations
- Sponsored Activities (Research/Public Service)
- Other

Why Benchmark?
Why Use Benchmarking Data?

• The most integrated data system offers only clear insights into your institution (Case Study).

Highly effective institutions engage in comprehensive benchmarking processes.

• **Internal benchmarking** refers to measuring similar operations, functions, or activities within the same unit or organization.

• **External benchmarking** refers to measuring similar operations, functions, or activities outside the unit or organization.
Keys to Benchmarking

- Use key metrics (and align to quality)
- Engage in discussions with units
- Select peers based upon data (not an eye test)
- Implement change (growth v. static)
- Know your bench: peer v. aspirational v. comparator
## Academic Cost Benchmarking Projects

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Access</th>
<th>Cost</th>
<th>Unit of Analysis</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Association of University Professors Faculty Compensation Survey</td>
<td>Two-Year</td>
<td>Free</td>
<td>Institution</td>
<td>Best for Benefits Data, 1100+ Institutions, Only Full-Time Faculty</td>
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<tr>
<td>College and University Professional Association for Human Resources Faculty in Higher Education Salary Survey</td>
<td>Two-Year</td>
<td>$400</td>
<td>Discipline</td>
<td>Best for Discipline Data, 1100+ Institutions, Limited Data Coverage</td>
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<tr>
<td>Integrated Postsecondary Educational Data System</td>
<td>Two-Year</td>
<td>Free</td>
<td>Institution</td>
<td>Best for Overall Data, 4200+ Institutions, Limited Salary Data</td>
</tr>
<tr>
<td>Oklahoma State University Faculty Salary Survey</td>
<td>Four-Year</td>
<td>$100</td>
<td>Discipline</td>
<td>Doctoral Institutions Discipline Data, Exclusive Participation</td>
</tr>
<tr>
<td>National Community College Cost and Productivity Project</td>
<td>Two-Year</td>
<td>$1,250</td>
<td>Discipline</td>
<td>Best for Disciplinary Instruction, 200+ Institutions, Limited Peer Coverage</td>
</tr>
<tr>
<td>National Study of Instructional Costs and Productivity</td>
<td>Four-Year</td>
<td>$1,250</td>
<td>Discipline</td>
<td>Best for Disciplinary Instruction, 200+ Institutions, Limited Peer Coverage</td>
</tr>
</tbody>
</table>
Leverage Considerations for Bargaining
Know What to Use for Bargaining

- Control the data; control the narrative.
  - No unexpected surprises.

- Use hard facts, not just anecdotes.
  - Ability to counter management arguments with data.

- What will management bring to the table?
  - Know what could hurt you.
Leverage Considerations

• Benefits – AAUP Faculty Compensation Survey
• Large peer coverage – IPEDS, AAUP FCS, CUPA-HR
• Highlight gender disparity – AAUP FCS
• Stack peers (coasts v. plains, medical, full inclusion) - All
• Disciplinarity – (know who reported what) – NSICP, NCCCPP, OSU, CUPA-HR
• Carnegie classification/mission/control – All
• CPI-U (to use or not) – All
  • CPI-U vs CPI-W
  • National Averages v Metropolitan Location
Best Practices for Data Presentation
Benchmarking Utilizing Peer Groups

- AAUP Research Office recommends 15–30 institutions for peer benchmarking.

- The Association of American Universities is a consortium of 62 institutions in North America comprising 61% of all NSF grants and 36% of all Nobel Prize Laureates.

- 2014–15 AAUP Faculty Compensation Survey data presented covers 58 of 60 eligible institutions (96.7% coverage).
Getting the Most from Benchmarking Data: From Lagging to Leading Indicators
Does Disciplinarity Matter?

According to the National Center for Education Statistics, 76–82 percent of the variation in cost is located at the academic disciplinary level.
Cluster Analysis

- Cluster analysis is a series of statistical techniques designed to identify how similar (or different) some observations are from one another.

- Cluster analysis is a data classification technique rather than a test for statistical significance.

- The k-means cluster analysis approach is designed to assess how close data points are to a specific point based upon majority. If k=3, red triangle. If k=5, blue square.
Cluster Analysis of Faculty Salary by Rank

- **Assistant Professor** salaries are tightly clustered between -0.2 and 0.4 standard deviations.

- **Associate Professor** salaries are largely clustered between -0.5 and 0.7 standard deviations.

- **Professor** salaries are clustered between 0.0 and 4.5 standard deviations.

- Variation in faculty salary appears to increase by rank.
Regression: Best Fit Lines

- A regression is a best-fit line that lies closer to the data points than any other possible line according to a least squares standard statistical measure of closeness.
- Ordinary Least Squares (OLS) regression is a statistical improvement over bivariate statistical analyses because they allow the researcher to “control for” or “separate” certain aspects of independent variables on a dependent variable.
- Regression analysis is like a mosaic of real life experiences that allow complicated patterns of interaction to be disentangled on a statistical level.
### What Predicts Full-Time Faculty Salary?

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Standardized Coefficient</th>
<th>Significance</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
<th>Zero Order</th>
<th>VIF</th>
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</thead>
<tbody>
<tr>
<td>Variable</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>((B = 67.137))</td>
<td>.000***</td>
<td>43.985</td>
<td>90.290</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Institutional Control (2=Private)</td>
<td>.532</td>
<td>.000***</td>
<td>16.470</td>
<td>35.965</td>
<td>.620</td>
<td>1.518</td>
</tr>
<tr>
<td>Assistant Professor</td>
<td>-.522</td>
<td>.000***</td>
<td>-.271</td>
<td>-.112</td>
<td>-.518</td>
<td>1.833</td>
</tr>
<tr>
<td>All 5 Colleges (Business, Dentistry, Engineering, Law, Nursing)</td>
<td>.124</td>
<td>.146</td>
<td>-.630</td>
<td>4.129</td>
<td>-.005</td>
<td>1.099</td>
</tr>
<tr>
<td>Total Number of Professors</td>
<td>.538</td>
<td>.000***</td>
<td>.037</td>
<td>.078</td>
<td>.113</td>
<td>1.394</td>
</tr>
</tbody>
</table>

Model: (DV) Full-Time Faculty Salary All Ranks - AAU (Adjusted \(R^2=.635\))

* - \(p \leq .05\)  
** - \(p \leq .01\)  
*** - \(p \leq .001\)
What good is perpetually lagging data, even if the modeling is quite good?

- Data for 2015–2016 are collected and submitted January 29, 2016.
- Data is analyzed and verified and returned April 15, 2016.
- Too short a turnaround for 2016 – 2017 planning and budgeting.
- Data decisions are implemented for 2017 – 2018 based upon 2015 – 2016 benchmarked data.
Projection Utilizing Faculty Compensation Survey Data

- Monte Carlo methods allow for the simulation of estimated future costs. When simulating the total full-time faculty compensation 1 million times, a 90% confidence interval can be estimated.
- For all full-time faculty, the average AAU compensation is approximately $149,000.
- For all full-time faculty, there is a 5% chance an AAU institution’s compensation cost will be above $177,850. For all full-time faculty, there is a 5% chance an AAU institution’s compensation cost will be below $133,280.
Takeaway: Facilitating Successful Outcomes

- Even the best data systems provide only a case study approach. External benchmarking provides unique data for institutional improvement.
- Peer, aspirational, and comparator data are different! It is important to think about those differences for bargaining purposes.
- Leverage comes from your ability to know your strengths and limitations as a faculty and institution.
Thank you!

Visit Us on the Web
www.aaup.org

Contact Us
jbarnshaw@aaup.org
sdunietz@aaup.org
gbradley@aaup.org