A Model to Address Salary Compression for Faculty
(an anti-compression model)

Presented to President Joe Shepard and the Faculty Salary and Benefits Committee

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The Problem: Salary Compression

Characteristics include:

• A situation where the salary differential between “more senior” faculty and “less senior” faculty is smaller than it should be (salary compression) or the salary of a “more senior” faculty member is actually less than the salary of a “less senior” faculty member (salary inversion)
The Problem: Salary Compression (cont.)

Characteristics include:

• Disparities between ranks (inter-rank compression) and/or within ranks (intra-rank compression);

• An internal problem initiated by external market conditions and enhanced by other factors (e.g., insufficient allocations of funds for raises, reclassification, hiring mistakes)

The Model: Characteristics

• Addresses what the differential should be between “less senior” and “more senior” members of the faculty;

• Addresses both inter- and intra-compression;

• Addresses specific instances of known or perceived salary compression;

• Is general enough to be repeated with an arbitrary set of salary data.
The Model: Assumptions

• The basic unit of comparison is the department (with exceptions for “large” differences in CUPA-HR averages);

• The data used are salaries of regular (tenure or tenure-track) faculty employed as of fall of the current academic year (Fall 2011);

The Model: Procedure – Defining Compression

• Normalize salary data for all faculty to account for contract length and terminal degree (note: data discrepancies need to be cleaned up);

• Determine the average change in salary per year in rank;

• Determine the lines corresponding to a “best fit” model for salaries vs years in rank, one line for each rank:
The Model: Procedure – Defining Compression

At the base years in rank (years in rank = 0) the salary of full professors is about 17% higher than the salary of associate professors and about 6.8% higher than the salary of assistant professors; also the salary for associate professors is about 8.7% lower than the salary for assistant professors (salary inversion).
The Model: Procedure – Defining Compression

• For each unit determine a line of “best fit” for each rank;
• Using the unit salaries at the base years in rank compute the percentage differences between ranks;
• Compare the percentage differences between ranks for the unit with the percentage differences between ranks for the entire University
The Model: Procedure – Defining Compression

Compression exists for full professors if:

• The unit base salary for full professors is less than (say \( \frac{1}{2} \) of) 17% of the base salary for associate professors; OR
• Inversion exists between full professors and either associate professors or assistant professors

The Model: Procedure – Defining Compression

Compression exists for associate professors if:

• The unit base salary for associate professors is less than (say \( \frac{1}{4} \) of) 6.8% of the base salary for assistant professors; OR
• Inversion exists between associate professors and assistant professors
The Model: Procedure – Adjusting for Compression

If compression exists for full professors:

• Increase the unit base salary for full professors to equal the greater of 108.5% of the base salary for unit associate professors or 103.4% of the base salary for unit assistant professors.

The Model: Procedure – Defining Compression

All Faculty vs Humanities Salary Data by Years in Rank

<table>
<thead>
<tr>
<th>Salary</th>
<th>Years in Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>35000</td>
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<tr>
<td>80000</td>
<td>18</td>
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</tbody>
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Legend:
- Full Professor
- Associate Professor
- Assistant Professor
- Humanities Assoc Prof
- Humanities Asst Prof
- Humanities Full Prof
- Adjusted Prof
- Adjusted Assoc Prof
The Model: Procedure – Adjusting for Compression

If compression exists for associate professors:

• (non inversion case) Increase the unit base salary for associate professors to equal 101.7% of the base salary for unit assistant professors; OR

• (inversion case) Increase the unit base salary for associate professors to equal 95.65% of the base salary for asst prof

The Model: Procedure – Defining Compression

All Faculty vs Humanities Salary Data by Years in Rank

![Graph showing salary data by years in rank for different faculty ranks.](image)
The Model: Procedure – Adjusting for Compression

- Use the (original or, in the case of compression, the adjusted) unit lines to compute a “compression” target salary for each member of the unit;
- If target salary is greater than current salary adjust the difference in proportional to the available funds for all faculty.

The Anti-Compression Model vs The Current Distribution Model

Anti-compression model:
- More biases depending on the decisions made for the model, the number of faculty in each rank in a given unit, the extent of the hiring mistakes;
- Potentially addresses disparities in salary to a greater degree
The Anti-Compression Model vs The Current Distribution Model

Distribution model:
- Fewer biases, self-correcting for hiring mistakes, hiring decisions or reclassifications;
- Adheres more to the University core value of “constant respect for [all] people” (also aligns with the thinking behind the reorganization effort)

The Anti-Compression Model vs The Current Distribution Model

Distribution model:
- Disparities in salaries may take longer to adjust (depends on the allocation of funds for distribution)
Recommendations

- Continue to use the current distribution model to make adjustments to salaries;
- Work with the President to create a 3-4 year plan for making salary adjustments according to the current distribution model (note: for any faculty member retiring during this time, the President could negotiate an adjustment as part of the retirement package);

Recommendations (cont.)

- Develop an anti-compression model with as few biases as possible;
- Use the anti-compression model as a measure of progress of the 3-4 year plan developed to adjust salaries.