

Triennial
Tenured/Tenure Track Faculty
Salary Equity Study

T/TT Faculty Transitions: FY 2012 - FY 2017

407

Hires

242

Retentions

361

Separations

\$104.7M

Start-up
costs
(one-time)

\$4.9M

Retention
costs
(salary and benefits)

400

Eligible for
retirement

2016-2017 Committee

- **Marcia Gumpertz, Committee Chair, Professor, Statistics**
- Carolyn Bird, Chair of the Faculty, Professor, Agricultural and Human Sciences
- Karen Bullock, University Diversity Advisory Council, Professor and Head, Social Work
- Nancy Floyd, Director of Institutional Analytics, Office of Institutional Research & Planning
- Mary Lelik, Sr. Vice Provost for Institutional Research and Planning
- Linda McCabe Smith, Former Vice Provost for Institutional Equity and Diversity
- Sheri Schwab, Interim Vice Provost for Institutional Equity and Diversity
- Lori Preiss, Director - EHRA Administration, Human Resources
- Julieta Sherk, Council on the Status of Women, Associate Professor, Horticultural Science
- Katharine Stewart, Vice Provost for Faculty Affairs
- Courtney Thornton, Associate Vice Provost for Academic Personnel and Policy
- Andrea DeSantis, Graduate Assistant, Office of Institutional Research & Planning

Study Background

Recruiting and retaining a diverse interdisciplinary faculty is a core part of NC State's strategic plan and vital to our mission to prepare students to function in a global workforce. (NC State Strategic Plan Goals 2, 3 and 4)

NC State's faculty salary equity study is conducted every three years to inform the campus community and leadership. Last study produced in 2014 based on Fall 2012 data. No study done in 2009 due to recession.

Studies from 2001 through present can be found at:
<https://oied.ncsu.edu/divweb/facts-and-figures/>

Study Purpose

Purpose of this study is to determine if there are **group differences** in base salary by gender or racial identity after accounting for relevant **professional factors**.

Group differences may be used as a starting point to discuss quantitative differences that exist. Not a formula for individual-level adjustments.

Study Methodology: New!

- Separate regression for each college
- Log (base salary) for all T/TT faculty regressed on:
 - Race/ethnicity
 - Gender
- Additional variables for market salary, terminal degree, career progression, rank, and special titles/distinctions
- Separate variances for each rank

Previous Studies: Methodological Differences

Fall 2012 & Prior Studies

- Model fit to “US White Male”
- Smaller colleges were combined
- Residuals reported in **dollars**
- Groups of Interest:
 - Women
 - Non-White Women
 - Non-White Men
- Limited data on distinctions

Fall 2017 Study

- Model fit to All Faculty
- Model for each college
- Residuals reported in **percentages**
- Groups of Interest:
 - Women
 - Underrepresented Minorities (URM)
 - Asian faculty disaggregated
- Distinguished, CFEP and Fac. Scholars

Study Population

- Data snapshot as of **November 1 of study year (here, 2016 & 2017)**
- All Tenured and Track Track Faculty Members
- Exclusions:
 - Deans
 - Assistant and Associate Deans
 - Department Heads
 - Administrators whose home unit is not an academic department
- N= 1362 (2016 = 1369)

Dependent Variable for the Model

The logarithm of the 9-month* salary as of October 31 of the study year

**Salaries for 12-month faculty were converted to 9-month equivalent (9/11) before analysis.*

Independent Variables in the Model

- Gender
- Race/Ethnicity
- Highest Degree Earned
- Rank
- Market Salary: $\log(\text{market salary})$
- **Previous Experience:** Yrs between earning highest degree & placement on tenure track at NC State
- **Time at NCSU Before Rank:** Years between date of appointment to current rank and placement on tenure track at NC State
- **Time at Current Rank:** Years between November 1, 2016 and date of appointment to current rank
- Appointment Period (CALS, CNR, COS): 9 or 12 month
- Distinguished/Named Faculty indicator
- Chancellor's Faculty Excellence Program (CFEP) indicator
- University Faculty Scholar (UFS) indicator

Groups of Interest

- **Women Faculty Members**
 - Existing literature suggests women are consistently paid less than men and continue to be underrepresented in many academic disciplines, most notably STEM.
- **Underrepresented Minority (URM) Faculty Members**
 - URM includes all faculty who selected at least one of the following: Hispanic, Black or African American, American Indian or Native Hawaiian/Pacific Islander. Grouped together because:
 - Limited sample size would not allow them to be analyzed individually without risking a compromise to confidentiality
 - Precedent within other studies and national definitions (NSF, IPEDS, UNCSCO) to group individuals from these racial/ethnic backgrounds together
- **Asian Faculty Members**
 - Asian faculty members are disaggregated from the underrepresented minority group based on generally higher availability/presence, but may still be underrepresented in some disciplines

Results for Women and Faculty of Color

Comparisons

- Women (all male faculty are reference group)
- URM (all white & unspecified race/ethnicity faculty are the reference group)
- Asian (all white & unspecified race/ethnicity faculty are the reference group)

We attended to instances in which the **estimated median base salary** for a given **demographic group** at a given **rank** within a **college** was either greater than 105% or less than 95% of the reference group.

2016 & 2017 Summary of Findings

Median salaries for URM, Asian and female faculty were estimated to be between 95% and 105% of their reference groups at most ranks in most colleges. However, there were some exceptions:

| # of rank/college instances below or above reference group | | | | |
|---|-------------------------------------|---------------|-----------------------------------|-------------|
| | 2016 < 95% of reference group | 2017 < 95% | 2016 > 105% of reference group | 2017 > 105% |
| Women faculty | 3 (of 30) | 2 (-1) | 3 | 3 |
| URM faculty | 4 | 6 (+2) | 6 | 7 (+1) |
| Asian faculty | 4 | 4 | 6 | 8 (+2) |

Actions To Date

- Summer 2018: Individual college meetings between Vice Provosts Schwab, Lelik and Stewart and Deans to discuss college-level data in more detail, with additional dialogue and focus on college/department climate, retention, promotion and other efforts beyond salary equity
- Deans determined how to address compensation and climate in their individual college and reviewed details with Provost Arden
- EHRA Faculty salary increases coming in October 2018 pay. 3% pool for this year, self-funded.
- Administration will re-run models on newer salary data as needed and consult with Deans as appropriate.

Overall Notes

- 2001 to present, the overall gaps in salaries have improved over time.
 - 2001 - Large gaps; addressed with large infusion of funds
 - 2006 and 2012 - less distinct differences
 - 2016/2017 - new methodology, so difficult to compare
- Our internal equity appears to be stabilizing. It is important to continue to monitor salary equity along with issues of climate and retention.
- Our Market Equity is notably off, and recognized by Chancellor and Provost as a major issue.
- Non-tenure track faculty salaries remain unstudied; variables are markedly different.

Additional Slides

2016 Demographic Summary

The 2016 results are based on salaries of 1369 full-time T/TT faculty

- 410 Female faculty: 126 Assistant, 154 Associate, 130 Full
- 959 Male faculty: 162 Assistant, 285 Associate, 511 Full

- 128 URM faculty: 44 Assistant, 46 Associate, 38 Full
- 181 Asian faculty: 44 Assistant, 54 Associate, 83 Full
- 1057 White faculty: 185 Assistant, 338 Associate, 534 Full

*counts may not add up to 'Total' because some faculty identify with 2 or more races

2017 Demographic Summary

The 2017 results are based on salaries of 1362 (-7) full-time T/TT faculty

- 416 (+6) Female faculty: 124 (-2) Assistant, 150 (-4) Associate, 142 (+12) Full
- 946 (-3) Male faculty: 167 (+5) Assistant, 274 (-11) Associate, 505 (-6) Full
- 135 (+7) URM faculty: 48 (+4) Assistant, 46 (NC) Associate, 41 (+3) Full
- 182 (+1) Asian faculty: 47 (+3) Assistant, 51 (-3) Associate, 84 (+1) Full
- 1042 (-15) White faculty: 181 (-4) Assistant, 325 (-15) Associate, 536 (+2) Full
- 733 (54%) White Male faculty: 110 Assistant, 209 Associate, 414 Full

*counts may not add up to 'Total' because some faculty identify with 2 or more races

2016 Distribution of CFEP and UFS Faculty

The picture is different for the Chancellor's Faculty Excellence Program (CFEP) and University Faculty Scholars (UFS).

URM faculty have higher representation in CFEP clusters and women are more highly represented than men in the UFS program.

CFEP estimated odds *controlling for rank and college*

- Women: 27% higher than men ($p = .42$)
- **URM: 111% higher than other faculty ($p = .06$)**
- Asian: 47% higher ($p = .32$)

University Faculty Scholar estimated odds

- **Women: 56% higher than men ($p = .06$)**
- URM: 1% lower than other faculty ($p = .98$)
- Asian: 25% higher ($p = .53$)

2016 Distribution of Named and Distinguished Titles

The estimated odds (*controlling for college*) of being a named/distinguished professor are lower for women, URM and Asian faculty than for other full professors

- **Women: 64% of men's (p =.09)**
- **URM: 19% of others' (p =.009)**
- **Asian: 61% of others' (p =.10)**

Considerations about including indicator variables for distinguished/named, CFEP, and UFS faculty

Each of these variables explains a significant amount of the variation in salaries for several colleges, so the models fit better when the variables are included.

If there are underlying biases that affect appointment of women or faculty of color to distinguished/named, CFEP, or UFS status in a similar way that they affect salary, these variables may mask effects of gender or race/ethnicity on salary.