

Task Force on Total Compensation Final Report

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Introduction

The Task Force on Total Compensation was created by Senate Document SSR0118 in the Fall, 2018 semester with the following stated purpose:

- 1) to analyze current information and/or collect an additional underlying dataset on salary changes, cost of living metrics, and benefit expenses over time;
- 2) to develop a synthesized report on the situation specific to faculty and staff at UNC Asheville; and
- 3) to generate recommendations on specific areas that would better inform our leadership team and improve their ability to advocate on our behalf. The task force also needs to present a plan for ongoing review of this data.

We present here our methods, analysis, and recommendations.

Data Sources and Collection

FACULTY SALARIES: The Office of Institutional Research, Effectiveness, and Planning (IREP) provided us with faculty salary data for all full-time faculty from 1998-2018. We used salaries as of October 30 for consistency, and adjusted all salaries to the base salary, e.g., removing the extra month's salary for department chairs which has been awarded in recent years, adjusting for grant-funded appointments, and so forth. For analysis of differences in faculty ranks, all non-tenure-track faculty are combined into one category (e.g., lecturers, instructors, visiting faculty).

STAFF SALARIES: IREP provided us with staff salary data for all full-time staff from 1998-2018. We used base salaries for the fall semester of each year and analyzed the data in the two broad categories of SHRA (Subject to the Human Resources Act) and EHRA (Exempt from the Human Resources Act). Longevity pay is not included in base pay and thus is not included in the IREP data.

COST OF LIVING: Data for the cost of living in Asheville is hard to come by. Some official statistics are available specifically for the Asheville metropolitan statistical area (such as unemployment), but the Bureau of Labor Statistics does not release price indices for the Asheville area. We ultimately chose to use the Consumer Price Index (CPI) for Urban Consumers in the South, produced by the Bureau of Labor Statistics (BLS).

We considered using the ACCRA Cost of Living Index produced by the Council for Community and Economic Research (C2ER) which the Chamber of Commerce has acquired going back to 2007. This report shows the cost of living in the Asheville Metropolitan Statistical Area (MSA) relative to all other MSAs in the United States and is compiled annually using survey research methods. While it does not measure the COL directly, it does provide a reference for where the Asheville MSA COL is relative to national levels. The overall index for the Asheville MSA in the years for which we have data are:

Year	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Asheville COLI	99.6	99.7	101.9	101.1	101.7	101.2	103.6	104.8	97.5	95.6	97.0

Source: ACCRA Cost of Living Index reports, compiled by the Council for Community and Economic Research, 2007-2017

This data could be used to convert the national or regional CPI into an Asheville CPI. However, we decided against using this data for a number of reasons:

- 1) The available data only goes back to 2007, while our salary data goes back to 1998.
- 2) This data is explicitly *not* intended to be used for time-series analysis, because the composition of the estimates change over time. The survey methods used from year to year are not consistent.
- 3) There is an odd discontinuity in the data after 2014, which is unexplainable. If we relied on this data, it would have suggested a decline in the cost of living in 2015 of 7.5%, which is implausible (regionally, there was a slight decline of 0.2% in that year). We believe that this data is not reliable for time-series analysis.

We discussed the use of this data with Tom Tveidt, a local research economist (who conducted a study documenting the economic impact of UNC Asheville a few years ago), and he concurred with our conclusion that this data is not built for time-series study.

For all of these reasons, we concluded that the data quality and consistency of official BLS statistics for the US South over this time period made it superior for these purposes. In addition, we consulted data from the Bureau of Economic Analysis which estimates “regional price parities,” the degree to which regional prices differ from national averages. This data is available for 2008-2016. According to the BEA, Asheville prices (overall, including housing) have moved with national prices, consistently recorded at 92-93% of the national level:

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016
Asheville Regional Price Parity	93	93.1	92.5	92.2	92.2	92.6	93.1	92.9	92.6

Source: Bureau of Economic Analysis, <https://www.bea.gov/data/prices-inflation/regional-price-parities-state-and-metro-area>

Based on this data, the cost of living in Asheville has closely mapped national changes. Particularly since we are tasked with assessing *changes* in total compensation over time, rather than *levels* of total compensation relative to other areas, this data supports our decision to use changes in the CPI for the urban south to estimate changes in the COL in the Asheville MSA.

Finally, while it is beyond the charge of the task force, we thought it would be useful to compare the COLI for the Asheville MSA relative to other areas of North Carolina and the larger region. Using the most recent data we have (2017):

Metropolitan Statistical Area	2017 ACCRA Cost of Living Index
Asheville	97.0
Charlotte-Concord-Gastonia	96.2
Chapel Hill	94.0
Raleigh	96.4
Wilmington	96.4
Winston-Salem	92.7
Greenville, SC	94.7
Columbia, SC	98.5
Chattanooga, TN	97.0
Knoxville, TN	82.2
Roanoke, VA	88.3
Atlanta, GA	99.0

Source: ACCRA Cost of Living Index reports, compiled by the Council for Community and Economic Research, 2017

Acknowledging the limitations of this data, Asheville is modestly more expensive than other parts of North Carolina, but not unduly so, contrary to our expectations entering into this project.

BENEFITS: The major components of employer contributions to benefits include:

- Health benefits expense
- Social Security expense – employer portion
- Retirement benefits (TSERS, ORP, LEO)
- Employee education expenses
- Workers Comp and Disability Benefits

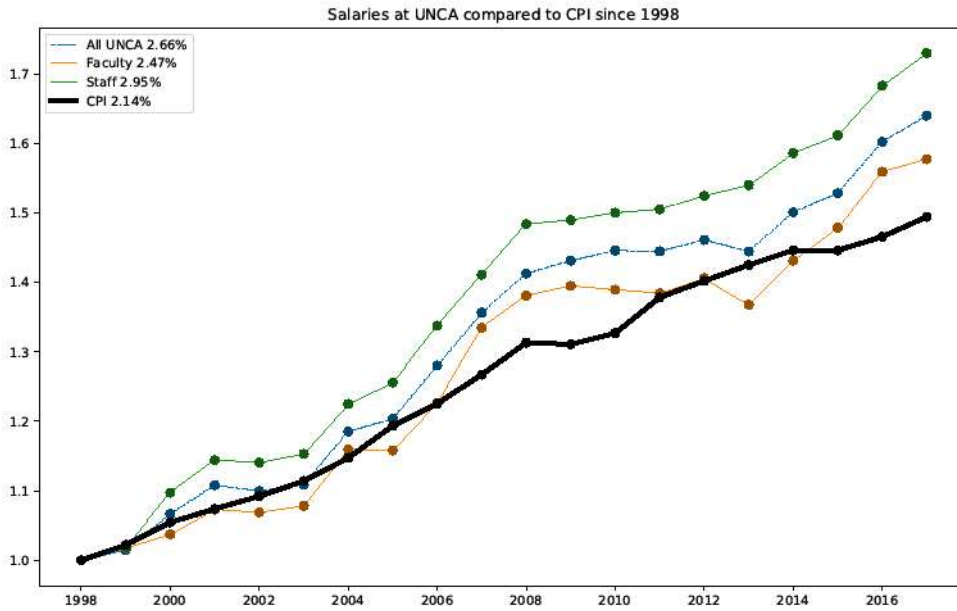
Data on the total benefit expense to UNC Asheville and the corresponding number of employees each year was obtained from IPEDS (Integrated Post-Secondary Educational Data System.) IPEDS data is derived from audited financial statements. In addition to the categories mentioned above, pension expenses were also included beginning in FY 15-16.

Data Analysis and Remarks

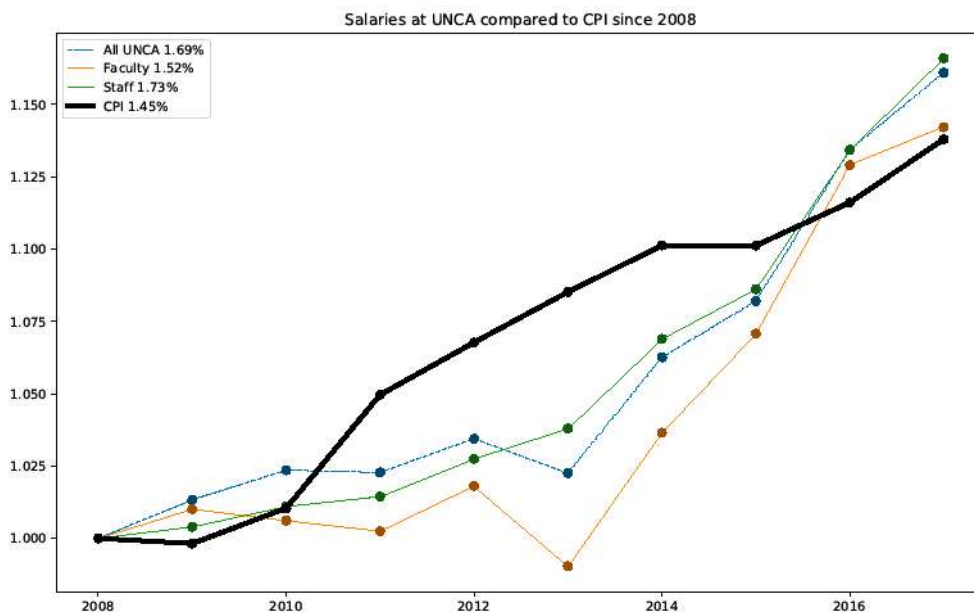
Because the charge of the task force was to look at change over time, we focused on calculating and displaying the rate of growth of salaries, total compensation, and consumer price index. In the graphs below, “CPI” refers to the Bureau of Labor Statistics Consumer Price Index for urban consumers of the US South, as discussed in the preceding section. Each graph displays quantities compared to a base year. For example, a point on a “CPI” graph with a y-axis coordinate of 1.2 indicates that the CPI that year was 1.2 times the CPI in the base year, or an increase of 20%. In addition, the legends embedded in each graph include the *average annual growth rate* of each quantity plotted for the entire time period of the graph. (For more detail on calculation of these averages, see Appendix 1.)

Salary and CPI growth

The first graph shows rate of growth of average faculty salary, average staff salary, average salary of all full time employees together, and CPI using a base year of 1998. The year 2008 appears to be a turning point when both salary and CPI graphs level off for a time. The second graph repeats the analysis with 2008 as the new base year in order to examine the more recent trends.



For the time since 2008, the *average* annual growth for salaries has been comparable to inflation. However, there were several years in the middle of this time period in which salary increases fell below the rate of inflation.

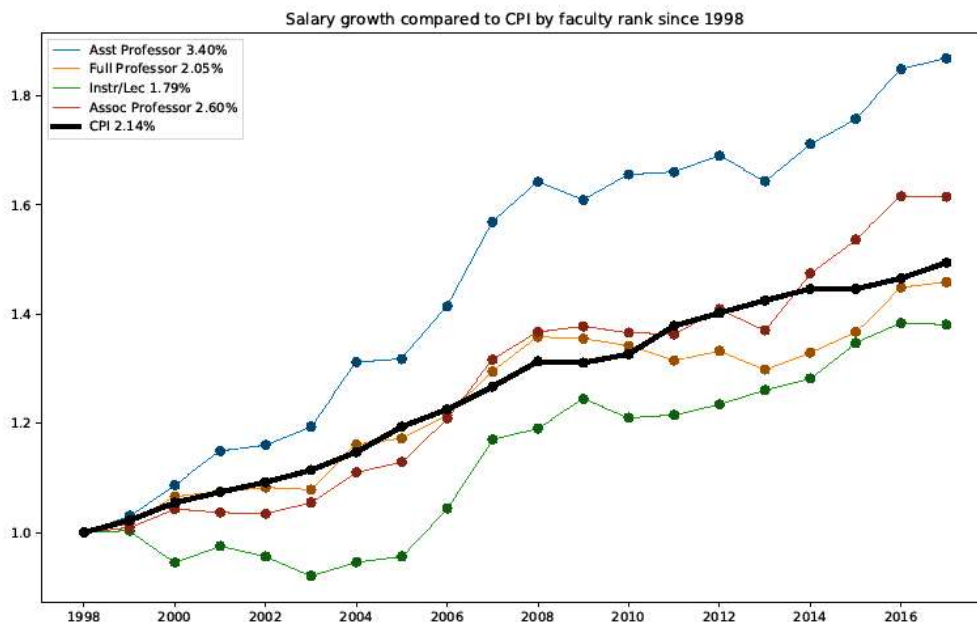


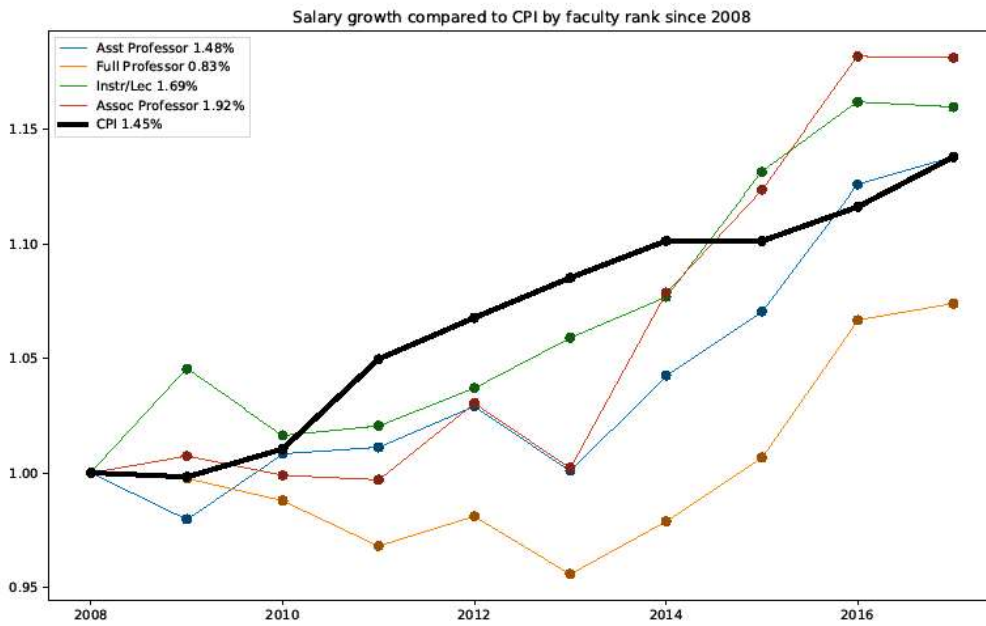
Analysis by faculty and staff sub-category appears in the next set of graphs. Average faculty salaries by rank (professor, associate professor, assistant professor, and non-tenure-track rank) and average staff salaries by classification (EHRA staff and SHRA staff) were calculated in order to graph the rate of growth as above.

In reading the graphs, note the following:

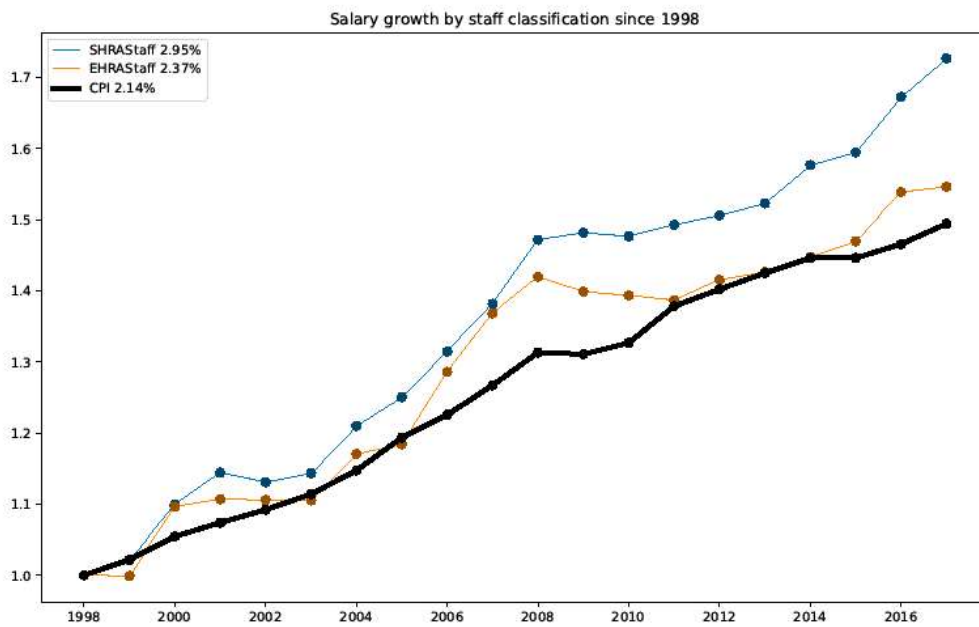
- For each category, the average of the salaries of all members of that group is used. Retirements, promotions and new hires introduce some of the year-to-year variation.
- The graphs *do not* compare actual average salaries among the various groups; they compare the rate of growth of salary. All groups are normed to “1” at the starting year of each graph.
- In general, the graphs do not display the growth of salary of a representative person or even group of people, but rather the growth of salary for a category of employment. For example, no one who was an assistant professor in 1998 or in 2008 was still an assistant professor in 2017, so the rate of growth of average assistant professor salary shown in the graph is not the rate of growth of any individual’s salary.
- The disciplinary composition of these groups matters for year-to-year changes. When new hires or resignation/retirement occur in relatively higher-paid disciplines, it affects the average. For this reason, long-term trends are more meaningful than year-to-year fluctuations.

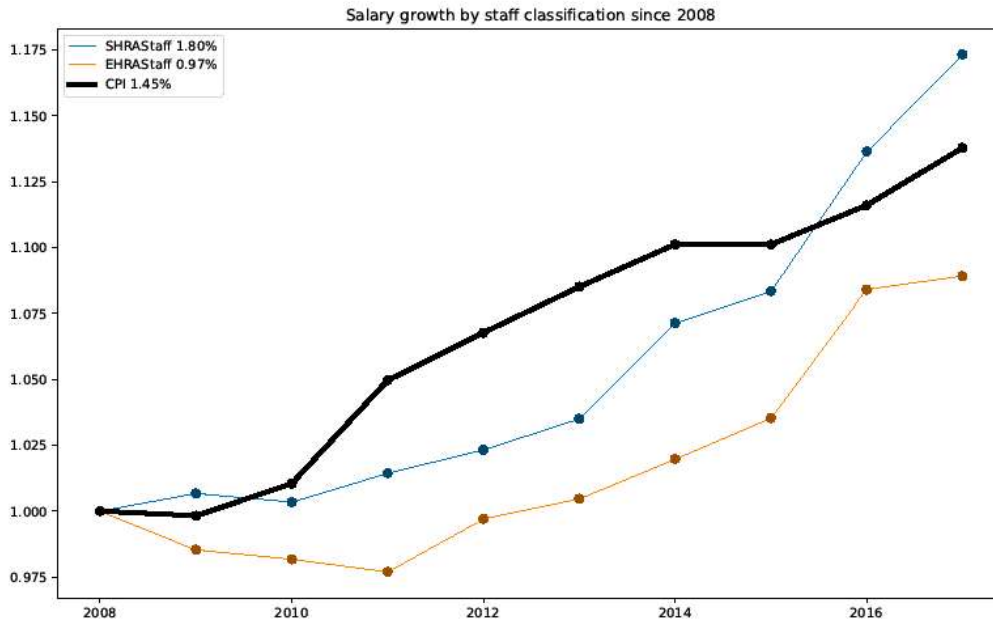
Average salaries for assistant professors rose the most during the first ten years of the data period shown, likely as a result of hiring and market trends. The growth of average salaries for full professors and for full-time, non-tenure-track faculty have not kept up with inflation during the last 20 years.





Staff salaries show similar trends. Since 2008 (see graph next page) the average EHRA staff salary has not kept pace with inflation.



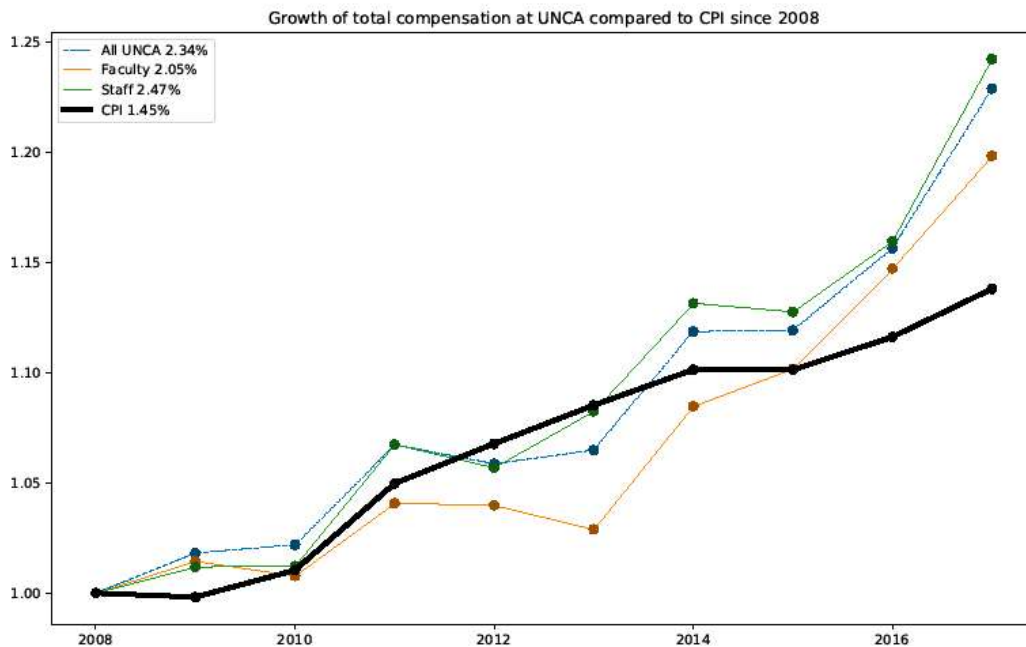


Total Compensation and CPI growth

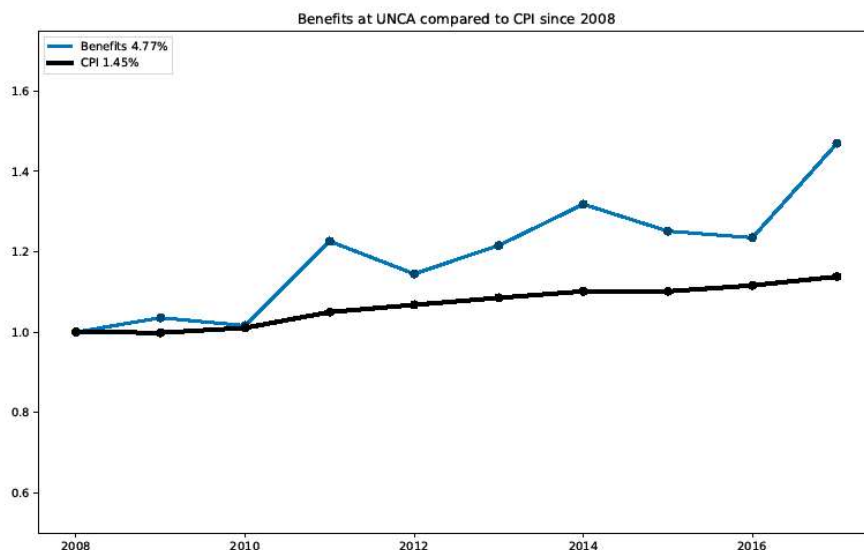
Data analysis for total compensation growth is more problematic. As an estimate, we divided the total amount spent by the university on benefits each year by the total number of full time employees that year to determine the average benefit expenditure per employee. Adding this average university expenditure to each employee's salary provides an estimate of total compensation. The following issues with this method should be kept in mind while interpreting the graphs below:

- Some benefit expenditures by the university are, as this method assumes, essentially the same for all employees. However, other benefits are proportional to salary. Adding the same total benefit value to all employees inflates the total compensation of those on the lower end of the salary spectrum.
- The assumption that benefits are distributed evenly across all employees leads to the result that for lower-paid employees, benefits represent a larger proportion of the total compensation package.

We compared growth of average total compensation for faculty, staff, and all employees to CPI using a base year of 2008 only, due to lack of availability of IPEDS data for benefits for the earlier time period.



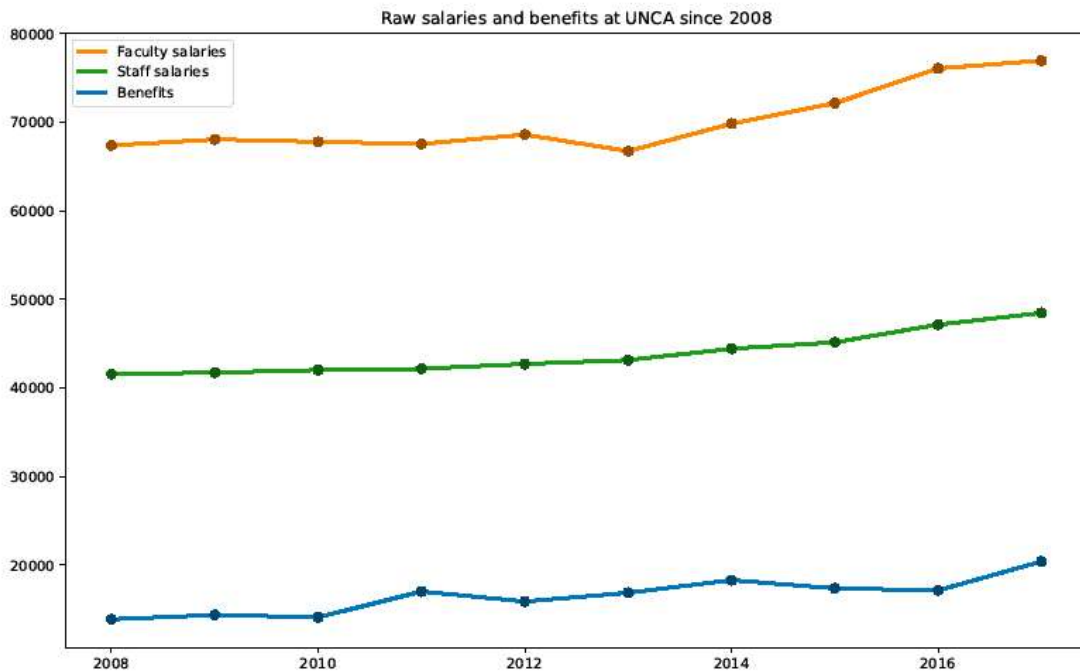
Since 2008, the university expenditure on benefits per employee has grown an average of 4.77% per year compared to CPI growth of 1.45% per year, as shown in the graph below. Our understanding is that much of this increase comes from the increased cost of health care premiums. The impact in terms of our analysis is to increase the growth rate of total compensation compared to salary. Across all employee categories in the 2008-2017 time period, the average rate of increase for total compensation was 2.34% per year as compared to only 1.69% per year for salaries. However, employees do not actually experience the increase in total compensation above salary increase as a positive benefit, since the health care benefit has not improved, but rather has just become more expensive for the university. For the purposes of assessing how well UNC Asheville employees are faring with respect to inflation, we argue that the growth of salaries is more relevant than the growth of total compensation.



Additional graphs showing growth of total compensation by faculty rank and staff classification are included in Appendix 2.

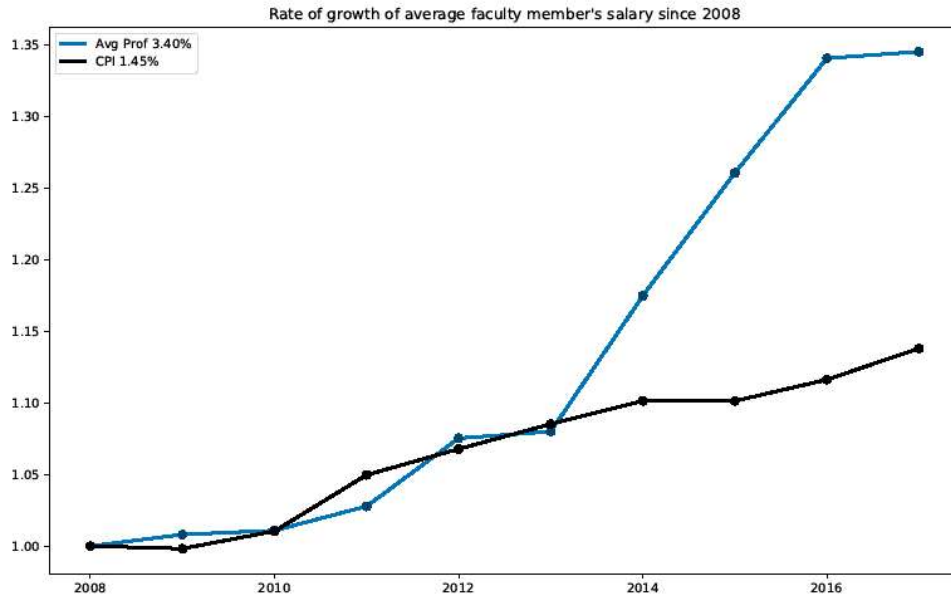
Additional Analysis and Remarks

The graphs presented above do not compare actual average salaries of different groups of employees and thus can be misleading. Because all groups are normed to “1” for the base year, there is no information about either salary amounts or even dollar amounts of increase in salary. A group that shows the greatest percentage increase is not necessarily the group with the greatest dollar increase and most certainly not the group with the greatest salary overall. As a reminder of actual average salary and benefit values, we present a graph of values of actual average salaries.



Data for faculty and staff salaries are the averages of all the base salaries in that category for a particular year. Adding the benefits for the same year provided us with the “total compensation” value as discussed earlier. It is clear that the benefits amount is a larger percentage of the average staff salary than of the average faculty salary.

The graphs can also be misleading at a glance because they do not, in most cases, represent any individual’s salary growth. In order to examine an example of salary change for individuals more closely, we found a cohort of 52 faculty members who were assistant professors in 2008 and were still employed (as associate or full professors) in 2017. The growth rate of average salary for this group is shown below, with a comparison to CPI growth. Unlike the graphs of average salary by rank, this data includes an increase in salary as a result of tenure and promotion.



A comparable study of a cohort of staff would need to include longevity pay, which is not a part of the base salary data from IREP used in this project.

The data for growth in average faculty salary by rank suggested a closer look at salary compression issues. To examine this possibility, we looked at average assistant professor salary as a percentage of average full professor salary over time from 1998 to 2017. While some of the variability in the data is likely due to individuals entering and leaving the pool, there is a definite upward trend during much of the time period under consideration, with a general leveling in the last few years.



Finally, we would like to comment on some areas relevant to faculty and staff compensation that were *not* addressed by this work:

1) Comparison of UNC Asheville employee salaries to market rates or to peer institutions

Consistent with our charge, we focused on rate of change of average salaries on our campus only, and did not attempt to assess whether our salaries are competitive in the marketplace or comparable to salaries at peer institutions. Comparison of growth of average salary to growth of cost of living is important, but that is only a part of the whole picture of the health of our campus compensation.

2) Rising cost of employee contributions to benefits, particularly health insurance

Employee contributions to health insurance premiums do not appear in the total compensation figures since these are contributions made *by* employees. However, the amount that individuals spend on health insurance premiums is relevant to their actual take home pay. We found it difficult to gather consistent data about the change over time in these expenses to employees. Reasons for difficulty include the number of different plans, the fact that they have not remained consistent, the changes in those plans over time (including some that have been completely eliminated,) and the difficulty of making comparisons when individuals may choose some combination of employee, spouse, and dependent coverage. However, it is clear that the cost of health insurance has gone up across the board, in many cases substantially. For instance, prior to 2018-2019, employees had an option of employee-only coverage at no cost to the individual. Beginning in 2018-2019, even the most basic plan requires financial contribution from employees.

3) The structure of yearly salary increases

Appendix 3 includes a table taken from the “State of North Carolina 2018 Compensation and Benefits Report,” submitted by Barbara Gibson, Director, the Office of State Human Resources, April 2018. It outlines the legislative SHRA salary increases from 1992 through 2017. We have not been able to obtain a comparable history of faculty salary increases on our campus. While not directly relevant to actual average salary changes over time, a complete picture of the history of salary increases, including type (across the board, cost of living, merit raises, etc.) would help inform our understanding of the current landscape of salary and total compensation.

4) Cost of housing as a subset of cost of living

Anecdotally, UNC Asheville employees report significant increases in the cost of housing and the sense that salary increases are not keeping up with housing cost increases. Obtaining data on the change in housing costs over time proved to be problematic, and therefore our analysis did not examine this area separately.

Conclusions and Recommendations

The analysis conducted for this report concludes that, broadly speaking, both salaries and total compensation have kept up with inflation over the last twenty years, although the average salaries of some subgroups of employees have not kept up with inflation. In general, the rate of growth slowed over the last decade, and the years 2010-2014 were marked by salary growth lower than inflation across the board. It remains a matter of judgment as to whether just keeping up with the cost of living is acceptable, or if instead, we should be seeking increases in the real standard of living of employees over time by working toward salary increases that exceed increases in the cost of living.

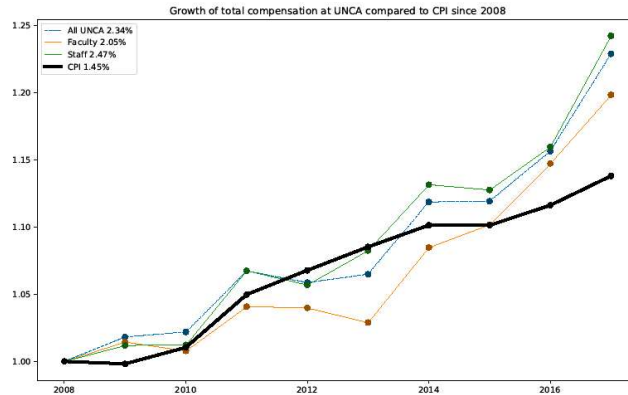
The determination of whether changes in total compensation are equitable is beyond the scope of this report, but we suggest that comparison with various peer groups and the national market for faculty and other education professionals is an appropriate starting point for addressing this question. While it is not clear just who should be responsible for this task, we feel that monitoring the situation is critical to the well-being of faculty and staff.

Additionally, our work has raised several other questions that are relevant to issues of salary growth. Following are a list of suggestions that could provide information to help our leadership determine equitable distribution of resources and advocate for increased resources.

- Create a comprehensive report of the increases to employee contributions to health care premiums.
- Investigate and address salary compression issues.
- Create a comprehensive history of the *structure* of salary changes over time, with particular attention to the lack of across-the-board cost-of-living increases
- Search for a better method to estimate cost of living in Asheville, including in particular housing costs.
- Generate a comparison of faculty and staff salaries at UNC Asheville to those at various peer groups to assess our market competitiveness and distribute as appropriate.

Appendix 1: Description of Average Annual Growth Rate Calculation

The majority of the graphs included in this report examine change over time by comparing values of each quantity (average salary, CPI, etc.) to the value of the same quantity for the base year.



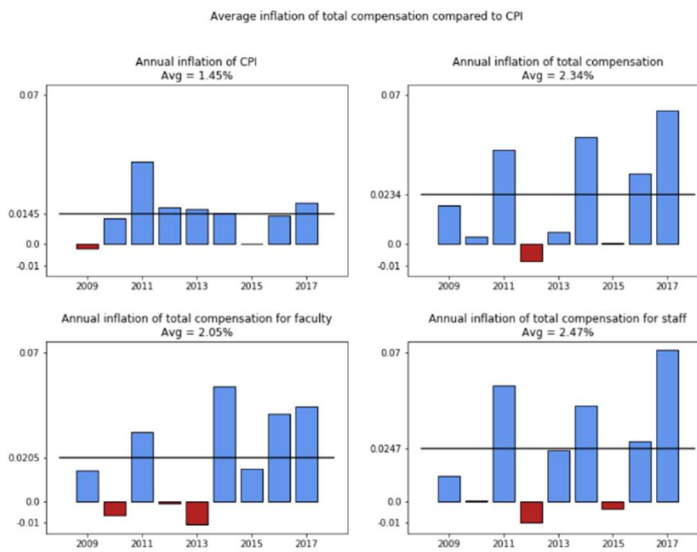
In the example above, the y-coordinate of the CPI graph in 2014 is about 1.10, indicating that CPI that year was 1.1 times what it was in 2008, or 10% more.

Figures in the legend of each graph (upper left) compare the average annual growth rate of each series.

Given a time series, (x_i) , the rate of growth from step x_i to step x_{i+1} is $\frac{x_{i+1} - x_i}{x_i}$.

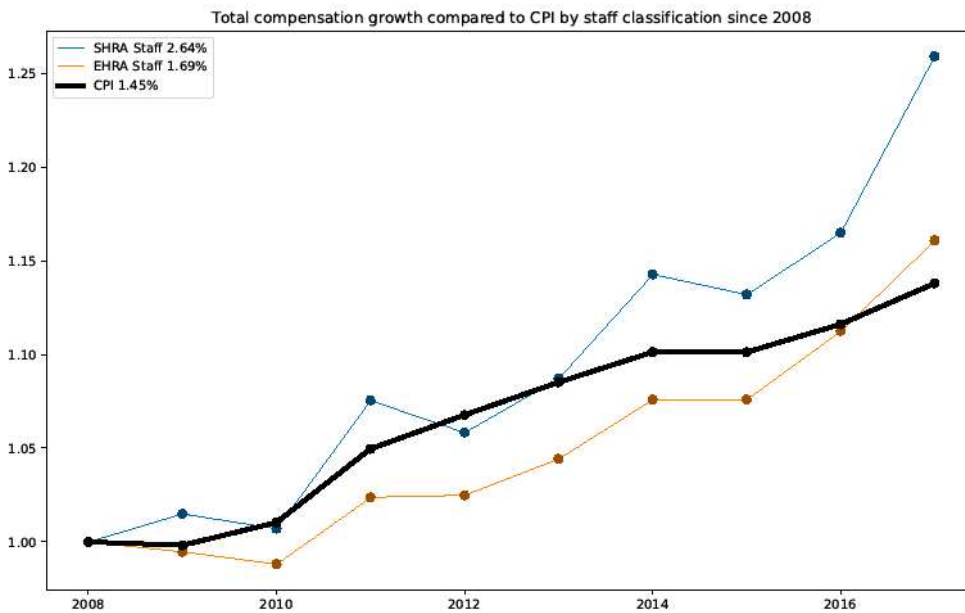
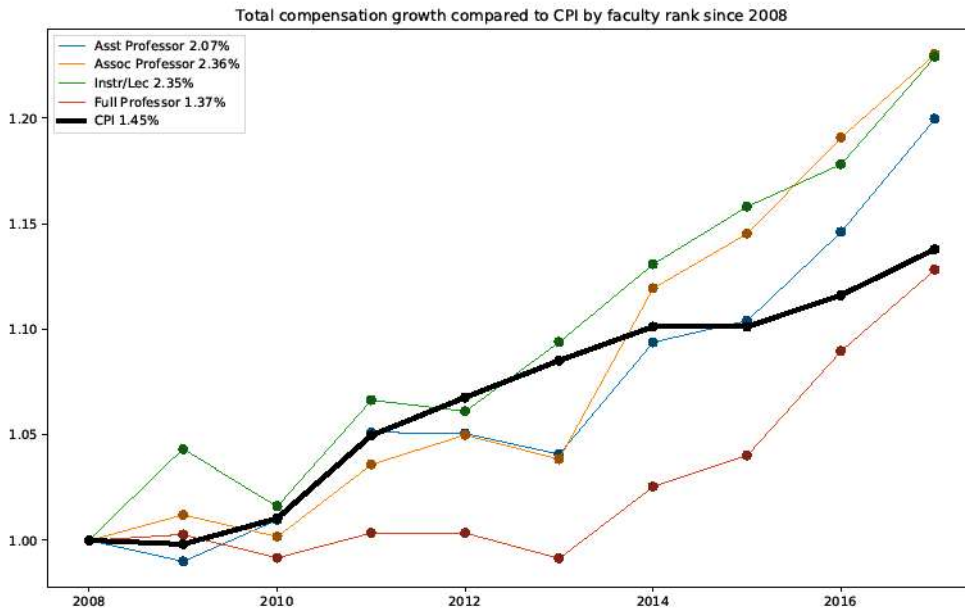
For instance, a change from $x_i = 100$ to $x_{i+1} = 105$ yields a growth rate of 0.05, or 5%.

The annual rates of growth can be calculated for each series. Results corresponding to the series in the graph above are plotted below as bar graphs, with averages shown by the horizontal lines. Similar calculations were done for all graphs, and average values of growth rates are reported in each graph legend.



Appendix 2: Total Compensation by Employee Subcategory

The graphs below show the total compensation figures broken out by faculty rank and staff classification.



Appendix 3: History of Legislative Increases

from the “State of North Carolina 2018 Compensation and Benefits Report,” submitted by Barbara Gibson, Director, the Office of State Human Resources, April 2018, p. 16.

History of Legislative Increases 1992-2017

Year	Cost-of-Living Increase	Career Growth Increase	Bonus/Other
1992	\$522	0	0
1993	2%	0	1% bonus
1994	4%	0	1% bonus
1995	2%	0	0
1996	2.5%	2%	0
1997	2%	2%	0
1998	1%	2%	1% performance bonus
1999	1%	2%	\$125 performance bonus
2000	2.2%	2%	\$500 bonus
2001	\$625	0	0
2002	0	0	10 days bonus leave
2003	0	0	\$550 bonus plus 10 days bonus leave
2004	2.5% for salaries over \$40K; or \$1,000 / yr for salaries under \$40K	0	0
2005	the greater of \$850 or 2.0%	0	5 days bonus leave
2006	5.5%	0	0
2007	4.0%	0	0
2008	the greater of \$1,100 or 2.75%	0	0
2009	0	0	0
2010	0	0	0
2011	0	0	0
2012	1.2%	0	5 days “special leave”
2013	0	0	5 days “special leave”
2014	\$1,000 flat increase	0	5 days bonus leave
2015	0	0	\$750 bonus
2016	1.5%	0	0.5% bonus; variable merit bonus (\$475 for ME, \$700 for EE)
2017	\$1,000	0	3 days “special bonus” leave