

Update to the Regents Regional Cost Index

The Regional Cost Index was developed in recognition of the geographic cost variations in different areas of New York State. The index, which is based on the work of researchers for the state of Oregon, uses median salaries in professional occupations that require similar credentials to that of positions in the education field. These occupational titles typically require a bachelor's degree for employment at the entry level. The cost index was created from the wages of 56 professional, non-education occupations. Education-related titles were excluded to ensure that the index measured labor market costs and not the tastes or control of school districts.

Professional Cost Index for New York State by Labor Force Region (2009)		
Labor Force Region	Index Value	Purchasing Power of \$1,000 by Region
Capital Distict	1.149	\$870
Southern Tier	1.061	\$943
Western New York	1.103	\$907
Hudson Valley	1.392	\$718
Long Island/NYC	1.544	\$648
Finger Lakes	1.133	\$883
Central New York	1.130	\$885
Mohawk Valley	1.036	\$965
North Country	1.000	\$1,000

Methodology

Construction of the Index

In order to adjust for geographic variations in the cost of educational resources, the regional cost index (RCI) was generated following a methodology similar to one developed by Rothstein and Smith¹ for the state of Oregon. This involved the use of a statewide index based on median salaries in professional occupations that require similar credentials to that of positions in the education field. In particular, these titles represented categories for which employment at the entry level typically requires a bachelor's degree. The professional

¹ This methodology is described in Rothstein, R., & Smith (1997). *Adjusting Oregon Education Expenditures for Regional Cost Differences: A Feasibility Study*. Sacramento, CA: Management Analysis & Planning Associates, L.L.C

occupations selected for use in this index are based on a list of 94 occupational titles developed for use in the state of Oregon.

The previous RCI was based on 59 of the 94 occupational titles used in the Oregon study.² However, due to gaps in employment data within many of New York State's ten Labor Force Regions, 56 titles were used for this edition of the RCI. The titles used appear in Appendix A. In addition to those titles with missing data, the final list excluded teachers, other educational positions and categories that tended to be restricted to federal and state government, since the markets for teachers and for many government positions tend not to be fully competitive. Education-related titles were also excluded in order to ensure that this index be entirely a measure of labor market costs, and not be subject to the tastes or control of districts. Therefore, we sought to measure genuine labor market costs, not the results of districts' decisions to hire especially high quality teachers, or to influence the index value in later years by choosing to pay more for staff. By basing the index on the wages earned in the labor market by professionals with similar skills, we have created a measure of costs in the sector of the labor market in which districts compete for teachers and staff, in each region of the State. Since personnel salaries and benefits make up the vast majority of the costs faced by school districts (roughly 75% in New York State), the RCI allows for an individual to compare the buying power of the educational dollar in the different labor force regions of the State

Selection of Occupational Titles

The data on which the RCI is based was made available through the New York State Department of Labor. Since the original edition of the RCI, the structure of the occupational title system has been revised. This has resulted in the expansion of a number of titles. However, due to a lack of employment data, a fair amount of the titles were eliminated. In the end, 38 titles had both employment and wage data, 14 were plugged with wage data, and an additional four employment titles were plugged where data was available statewide and for nine of the ten labor force regions. In all, 56 occupational titles were used for this analysis.

Statewide Median Wage

The first step in generating a regional cost adjustment from the list of 56 titles was to establish a statewide median wage figure for which median wages in each labor force region could be compared for indexing purposes. The statewide median wage was calculated by taking the total number of employees in each of the 56 titles for the state as a whole (for example, the total number of people working in the title "pharmacist" across the state), and multiplying that amount by the median annual wage for that title (14,200 pharmacists * \$97,054). This result was then summed for all titles, and then divided by the total number of

² See <http://www.oms.nysed.gov/faru> for a discussion of alternate methods.

employees in all 56 occupational titles (1,015,670). This produced a weighted annual median wage of \$77,489 for the professional titles making up the index.

Title Weightings

It was important to avoid the possibility that the index could be skewed due to compositional differences in the percentage distribution or mix of the individuals occupying the 56 selected titles. Therefore, if professional wages in the titles selected were found to be identical in two labor force regions, but 60 percent of the employees in region A occupied the 10 lowest salaries titles (vs. a 10 percent employee representation in these lower salary titles in region B), a simple summation of wages could lead to the erroneous conclusion that professional service costs were far higher in region A than in region B. In short, “apparent” cost differences would be due totally to differences in the title composition of the workforce, not to true wage differences in those titles.

This problem was avoided by weighting the wage for each title based on the relative importance of that title in the group of 56 titles statewide. Thus, in determining the regional differences in median wage, we assume that the “mix” of jobs in each region is the same as the “mix” in the state as a whole. These title weights were then applied to each region, therefore making the distribution or service “mix” of titles a constant across the state. For example, if sales managers made up 10% of the total number of employees statewide in the 56 titles, then a 0.10 compositional weighting was assigned to sales managers in every region. This title weighting procedure thus imputes to every labor force region precisely the same mix of employees across the 56 titles in every region.

Title weights were generated by dividing the statewide number of employees in a given title by the total number of employees in the 56 titles of the index. For example, the number of pharmacists statewide was 14,200, which was then divided by 1,015,670 (the total number of workers in the state in these 56 titles.) This yielded a title weight of 0.014. (Since this was performed for all the titles in the list, the sum of all title weightings equals one.)

Final Calculation of the Regional Index

Once the title weights were determined, they were incorporated into the data set for each of the ten labor force regions. The median annual wage for each title was multiplied by the title weight. This result was summed for all 56 titles, yielding a regional median wage. This regional median was divided by the statewide weighted median professional service wage to yield the final professional service wage index for each region. These results were then normed on the North Country.

When median wage data were missing for a title in a given region, the solution was based on the creation of a similar regional cost index, using a smaller set of

occupational titles (those titles, in which data was not missing in any region of the State, n=38). The smaller index, in conjunction with the statewide median salary information for any occupational title that was lacking salary information in a specific region, was used to estimate the missing regional salary item.

While the list of professional occupations used to create the RCI was based on the work of Rothstein and Smith in Oregon, the Bureau of Labor Statistics provided the wage data used in the index. The wage data was obtained from the Occupational Employment Statistics (OES) Survey, which allows employers to report the number of employees and wages for each title they employ. The United States Department of Labor has noted, "Establishment surveys have little information on the demographics of their employees, but...wages and earnings tend to be more accurately reported in establishment surveys as they are based upon administrative records rather than recall by respondents...These factors make establishment data the natural choice..."³

The data from the 2007 Occupational Employment Survey for New York State was made available to the staff of the New York State Education Department through the New York State Department of Labor. Therefore, data was provided for 724 occupational titles in each of the ten labor force regions in New York State, as well as a statewide total for all titles. The wage data obtained from the OES is based on "straight-time, gross pay, exclusive of premium pay. Base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay including commissions and production bonuses, tips, and on-call pay are included. Excluded are back pay, jury duty pay, overtime pay, severance pay, shift differentials, nonproduction bonuses, employer cost of supplementary benefits, and tuition reimbursements."⁴

The New York State OES survey samples approximately 9,500 establishments on a semiannual basis. Sampling occurs during the second and fourth quarters of the year, yielding a combined sample of approximately 57,000 establishments over six semiannual panels. Each semiannual panel represents a one-sixth sample of the full 3-year sample plan. The full 3-year sample allows the production of estimates at fine levels of geography, industry, and occupational detail. Each year the oldest two panels of data are dropped and replaced by two new panels of sampled data before the estimates are recalculated. Employment numbers are from New York State's Long-Term Occupational Projections base employment numbers and are updated every two years.

³ See U.S. Department of Labor, "Interarea Comparison of Compensation and Prices", Report on the American Workforce, 1997, pp.69-97.

⁴ United States Department of Labor's Bureau of Labor Statistics Website. Technical Notes for 2001 OES Estimates. (http://www.stats.bls.gov/oes/2001/oes_tec.htm)

It should be noted that the index results for New York City and Long Island were combined. A single median wage was calculated for this labor force area, because there is evidence that these two areas actually function as a single labor market region. With professionals, especially those in the education professions, moving to jobs across the lines between New York City and Long Island, it is necessary to consider this entire region as a single area, with similar wage costs.

Occupational Titles Used for the Regional Cost Index

1. General and Operations Managers
2. Advertising and Promotions Managers
3. Marketing Managers
4. Sales Managers
5. Public Relations Managers
6. Administrative Services Managers
7. Computer and Information Systems Managers
8. Financial Managers
9. Compensation and Benefits Managers
10. Industrial Production Managers
11. Purchasing Managers
12. Transportation, Storage, and Distribution Managers
13. Construction Managers
14. Engineering Managers
15. Medical and Health Services Managers
16. Property, Real Estate, and Community Association Managers
17. Social and Community Service Managers
18. Purchasing Agents, Except Wholesale, Retail, and Farm Products
19. Cost Estimators
20. Employment, Recruitment, and Placement Specialists
21. Training and Development Specialists
22. Management Analysts
23. Accountants and Auditors
24. Budget Analysts
25. Financial Analysts
26. Loan Officers
27. Computer Programmers
28. Computer Software Engineers
29. Computer Systems Analysts
30. Network and Computer Systems Administrators
31. Civil Engineers
32. Electrical Engineers
33. Industrial Engineers
34. Mechanical Engineers

35. Industrial Engineering Technicians
36. Electrical and Electronic Engineering Technicians
37. Clinical, Counseling, and School Psychologists
38. Substance Abuse and Behavioral Disorder Counselors
39. Child, Family, and School Social Workers
40. Medical and Public Health Social Workers
41. Mental Health and Substance Abuse Social Workers
42. Librarians
43. Graphic Designers
44. Public Relations Specialists
45. Writers and Authors
46. Dietitians and Nutritionists
47. Pharmacists
48. Physician Assistants
49. Physical Therapists
50. Recreational Therapists
51. Speech-Language Pathologists
52. Medical and Clinical Laboratory Technologists
53. Medical and Clinical Laboratory Technicians
54. Recreation Workers
55. Residential Advisors
56. Interviewers, Except Eligibility and Loan

2009 REGIONAL COST INDEX- REVISED DEPARTMENT OF LABOR REGIONS

CAPITAL DISTRICT

Albany
Columbia
Greene
Rensselaer
Saratoga
Schenectady
Warren
Washington

CENTRAL

Cayuga
Cortland
Madison
Onondaga
Oswego

FINGER LAKES

Genesee
Livingston
Monroe
Ontario
Orleans
Seneca
Wayne
Wyoming
Yates

HUDSON VALLEY

Dutchess
Orange
Putnam
Rockland
Sullivan
Ulster
Westchester

LONG ISLAND/NEW YORK CITY

Nassau
New York City
Suffolk

MOHAWK VALLEY

Fulton
Herkimer
Montgomery
Oneida
Otsego
Schoharie

NORTH COUNTRY

Clinton
Essex
Franklin
Hamilton
Jefferson
Lewis
St. Lawrence

SOUTHERN TIER

Broome
Chemung
Chenango
Delaware
Schuyler
Steuben
Tioga
Tompkins

WESTERN

Allegany
Cattaraugus
Chautauqua
Erie
Niagara