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Regional Cost Adjustment

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Presentation Overview

- Review of different types of regional cost adjustments (RCAs)
 - Pros and cons
- Review of RCAs in other states
 - Including identifying states with multi-factor RCAs
- Review of AIR Study recommendation
- Alternative RCA Approaches
 - Updated Comparative Wage Index for Nevada
 - Cost of Living
 - Hedonic
- Initial RCA application scenarios for consideration

Regional Cost Adjustment Approaches

- There are three primary types of indices that can be used to make a regional, or geographic, cost adjustment:
 - Cost-of-Living Index (COL). Usually created by determining the cost for a given set of goods — often termed a “market basket” — in different locations.
 - Hedonic Wage Index (HWI). Uses regression analysis to predict wages by dividing the variation in *actual* wages across districts into spending that is and is not within control of the districts.
 - Comparable Wage Index (CWI). Uses regional differences in non-educator wages based on the recognition that if wages in comparable professions are higher in a given region, then teacher wages will also have to be higher.

Pros and Cons of Different Approaches

- **Cost-of-Living**

- Pros: Readily available data, represents the costs faced by personnel to live in a community
- Cons: Limited to population centers of a certain size, otherwise regional; assumes that spending patterns are similar and that cost of living is the only factor that influences wages. Does factor in amenities/attractiveness of location

- **Hedonic**

- Pros: based upon many factors including working conditions and amenities
- Cons: not easily updated; volume of data required to be collected for analysis

Pros and Cons of Different Approaches, Continued

- **Comparable Wage Index**

- Pros: uses readily available data so easy to update; implicitly accounts for a wide range of factors that influence the salary levels necessary to attract teachers to live and work in particular districts or regions, such as cost of living and amenities/attractiveness; independent from district decision making and available revenues
- Cons: is a relative measure that does not directly evaluate cost differentials between districts

Regional Cost Adjustments in Other States

	Index Name	Index Type
Alaska	District Cost Factor	Hedonic Wage Index
Colorado	Cost of Living Factor	Cost of Living Index
Florida	District Cost Differential	Comparative Wage Index
Maine	Regional Labor Market Area Adjustment	Hedonic Wage Index
Maryland	Geographic Cost of Education Index	Hedonic Wage Index
Massachusetts	Wage Adjustment Factor	Comparative Wage Index
Missouri	Dollar Value Modifier	Comparative Wage Index
New Jersey	Geographic Cost Adjustment	Comparative Wage Index
New York	Regional Cost Index	Comparative Wage Index
Texas	Cost of Education Index	Hedonic Wage Index
Virginia	Cost of Competing Adjustment	Comparative Wage Index
Wyoming	Regional Cost Adjustment	Cost of Living Index, Hedonic Wage Index

RCA Application in Other States

- CWI is most common approach (6 states), followed by hedonic (5 states) and COL (2 states) approaches
- Of the five states use that use hedonic wage indexes, most have not been updated since they were created
- Adjustments are often only applied to the portion of resources associated with salaries (either all salaries, or just teacher salaries)
- Two states, Alaska and Maryland, include non-personnel adjustments
- Wyoming uses the “better of” two approaches (hedonic and COL)

Alaska's District Cost Factor

- In Alaska, the District Cost Factor (DCF) to address geographic cost differences is based on costs in 12 subareas, relative to Anchorage.
 1. Administrator compensation
 2. Certified teacher compensation
 3. Classified employee compensation
 4. Travel – teacher from school to district office
 5. Travel – teacher from district office to Anchorage
 6. Travel – school administrator from schools to district office
 7. Travel – superintendent from district office to Anchorage
 8. Travel – district administrator to schools
 9. Travel – maintenance staff from district office or center of commerce
 10. Energy costs
 11. Goods – cost of instructional and office supplies, including shipping
 12. Goods – cost of maintenance supplies, including shipping
- Cost differentials in these subareas are weighted based upon the proportion of a district's budget that they represent to produce a district's DCF.

Maryland's Geographic Cost of Education Index

- Maryland's GCEI is composed of a personnel cost index (PCI) and a non-wage index (NWI)
 - PCI is based upon a hedonic wage index
 - NWI is designed to account for differences in the costs of procuring non-personnel supplies, other than capital expenditures, such as paper products and energy
 - Weighted based upon proportion of budget, so a district's GCEI is about 85% PCI and 15% NWI

Wyoming's Regional Cost Adjustment

- A district's RCA, is based upon the approach that produces the highest factor:
 - Wyoming Cost of Living Index
 - Calculated by the state as no national data is available
 - Hedonic Wage Index
 - Has not be recalculated since it was developed
- A district's RCA cannot be below 100, meaning it is only applied when positive
- Another consideration:
 - Wyoming also has a multi-factor external cost adjustment that adjusts funding year-to-year based upon changes to professional salaries, non-professional salaries, energy, and supplies and materials (health care changes are also adjusted for separately)

Review of AIR Study Approach

- AIR disaggregated the BSA adjustment (at time of study) to separate scale (size) and wage variation
- AIR then replaced wage differential from BSA with CWI to create a “CWI Wage Differential BSR Adjustment”
 - Only Washoe and Clark had a CWI over 1.0 (indexed on average)
 - For remaining districts, new CWI WD BSR Adjustment was less than current BSR adjustments
- APA will show comparison of their disaggregated scale only adjustment against the recommended size adjustments in a separate presentation
- While AIR combined size and CWI to create a single adjustment, APA recommends keeping them separate

Nevada RCA Alternatives: Nevada CWI

- APA has worked with an economist, Dr. Christina Stoddard (Montana State University) to update the CWI for Nevada
 - Using 2017 data (most recent available)
 - Removing industry controls to include all industries/professions
 - Calculated for all workers, for workers with BAs or higher, and for workers without a BA
 - Given the population size needed to calculate, factors were calculated for four groupings:
 - Clark
 - Storey, Carson City, Lyon, Douglas Counties
 - Washoe
 - Rest of the state
 - Factors shown are indexed to statewide average

Nevada CWI Chart

	All workers	Workers with BA or higher	Workers with less than BA
Storey, Carson City, Lyon, Douglas Counties	0.954	0.932	0.960
Rest of the state	1.026	0.995	1.032
Washoe	0.984	1.006	0.975
Clark	1.037	1.067	1.032

Nevada RCA Alternatives: Cost-of-Living

- Cost-of-Living
 - Use the Bureau of Economic Analysis (BEA) regional price parities (RPPs).
 - 2017 is the most recent year available
 - Produced for Carson City, Reno, Las Vegas-Henderson-Paradise, then non-metropolitan Nevada (also statewide figures available)
 - Provides factors for: all items (goods and services), then separately for goods, services-rents, and services-other
 - Figures on next slide indexed to statewide average

Nevada Cost-of-Living (RPPs) Chart

	All Items	Goods	Services-Rent	Services-Other
Carson City	0.98	1.05	0.96	0.93
Churchill	0.97	1.04	0.88	0.94
Clark	1.00	1.02	1.00	1.01
Douglas	0.98	1.05	0.96	0.93
Elko	0.97	1.04	0.88	0.94
Esmeralda	0.97	1.04	0.88	0.94
Eureka	0.97	1.04	0.88	0.94
Humboldt	0.97	1.04	0.88	0.94
Lander	0.97	1.04	0.88	0.94
Lincoln	0.97	1.04	0.88	0.94
Lyon	0.98	1.04	0.88	0.94
Mineral	0.97	1.04	0.88	0.94
Nye	0.97	1.04	0.88	0.94
Pershing	0.97	1.04	0.88	0.94
Storey	0.98	1.05	0.96	0.93
Washoe	1.01	0.99	1.06	1.01
White Pine	0.97	1.04	0.88	0.94

Nevada RCA Alternatives: Hedonic

Dr. Christina Stoddard suggests that an alternative would be to develop a Hedonic-style index based upon examining teacher turnover rates by district, and to calculate the “cost” for each district to generate turnover rates that are the average rate in the state.

- Estimates from this model could be used to calculate differences in retention costs across areas. Because turnover rates are volatile in small districts, aggregating to larger areas and multiple years of data is the best analytical approach.
- Data required:
 - Teacher tenure and education level (e.g., MA, years in district)
 - Teacher’s position characteristics (full/part time, subject and grade level)
 - District characteristics (outside of district control): district size, percent free/reduced price lunch, racial composition
 - At least 5 years of teacher data
- Alternatively, instead of region, this model could include characteristics of a region, like population density, number of shopping centers (like Walmart) or hospitals, etc.
- This model does not exist at present and requires more data to consistently update.

Nevada RCA Alternatives: Application Options

- Apply CWI or alternative wage index only to salary portion of funding (72%)
 - Using either statewide aggregate figures or district-by-district figures
- If using CWI, weight CWI based upon split of professional (68%) and nonprofessional salaries (32%)
 - Using BA or higher CWI for professional salaries, and less than BA for nonprofessional
 - Either based upon statewide aggregate figures or district-by-district figures
- Use Nevada CWI and BEA RPP data to develop hybrid approach
 - Option 1: “Better of” Nevada CWI (BA or better) and RPP
 - Option 2: Develop Nevada Cost of Education Index (NCEI) using weighted CWI for salary portion of funding, then apply the RPP goods factor to remaining 28% of funding for non-personnel expenditures (or remaining percentage district by district)
- Still apply only above 1.0
- Limit the scale of the available funding for RCA or phase in over time with adequacy

RCA Comparison Chart

	CWI, BA or higher	Weighted CWI	NCEI	RPP, All Items	“Best Of”
Carson City	0.93	0.94	0.95	0.98	0.98
Churchill	1.00	1.01	1.00	0.97	1.00
Clark	1.07	1.06	1.04	1.00	1.07
Douglas	0.93	0.94	0.95	0.98	0.98
Elko	1.00	1.01	1.00	0.97	1.00
Esmeralda	1.00	1.01	1.00	0.97	1.00
Eureka	1.00	1.01	1.00	0.97	1.00
Humboldt	1.00	1.01	1.00	0.97	1.00
Lander	1.00	1.01	1.00	0.97	1.00
Lincoln	1.00	1.01	1.00	0.97	1.00
Lyon	0.93	0.94	0.95	0.98	0.98
Mineral	1.00	1.01	1.00	0.97	1.00
Nye	1.00	1.01	1.00	0.97	1.00
Pershing	1.00	1.01	1.00	0.97	1.00
Storey	0.93	0.94	0.95	0.98	0.98
Washoe	1.01	1.00	1.00	1.01	1.01
White Pine	1.00	1.01	1.00	0.97	1.00

Next Steps

- Finish collecting stakeholder feedback
- Model cost impact of different RCA scenarios
- Finalize recommendation to Commission