Presentation to the Stakeholder Advisory Group

APA Consulting
and
Jennifer Imazeki
San Diego State University

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Today's Presentation

- Presentation of *A Comparable Wage Index for Maryland*

- Adequacy Study updates
  - Developing a final adequacy recommendation
  - Integrating recommendations from other project studies

Report

A Comparable Wage Index for Maryland

Study Purpose

- Estimate a comparable wage index for Maryland that can be used to adjust school finance revenue allocations for differences in geographic wage costs

Why Adjust for Geographical Wage Costs?

- To ensure that all districts have equal capacity to attract/retain good teachers, salaries must allow teachers to buy a similar standard of living in all locations
- One dollar does not go as far in some communities as in others
- Some places are nicer to live in than others – some places have higher costs – some have both
- Method should control for labor force characteristics (occupations, education, etc.)

Why Comparable Wage Index

- Annual updates are relatively easy: Data are publicly available, estimation straightforward
- Well-established methodology, few choices for analysts to make
- Data is outside the control of local districts

Data: American Community Survey

- Replacement for long-form on decennial census
- Identified down to Public Use Microdata Areas (PUMA): 100,000 + residents
  - In MD, some PUMAs contain multiple districts (or counties)
- For Maryland, split observations into "Professional" and "Non-Professional" groups
  - Both exclude those in 'Elementary and Secondary Schools'
  - "Professional" only includes those with BA or higher

Professional / Non-Professional CWI, 2014

Public Use Microdata Area (PUMA)	District	Professional CWI	Non-Professional CWI
100	Allegany	0.785	0.899
1200	Anne Arundel	1.145	1.104
500	Baltimore	1.08	1.08
800	Baltimore City	1.078	1.09
1500	Calvert	1.121	1.085
1300	Caroline	0.878	0.909
400	Carroll	0.979	0.91
700	Cecil	1.057	0.875
1600	Charles	1.014	1.115
1300	Dorchester	0.878	0.909
300	Frederick	1.01	1.028
100	Garrett	0.785	0.899

Public Use Microdata Area (PUMA)	District	Professional CWI	Non-Professional CWI
600	Harford	1.087	1.094
900	Howard	1.14	1.133
1300	Kent	0.878	0.909
1000	Montgomery	1.203	1.114
1100	Prince George's	1.121	1.166
1300	Queen Anne's	0.878	0.909
1400	Somerset	0.972	0.964
1500	St. Mary's	1.121	1.085
1300	Talbot	0.878	0.909
200	Washington	0.966	0.884
1400	Wicomico	0.972	0.964
1400	Worcester	0.972	0.964

Overall CWI

- CWI only adjusts for labor costs, which comprise 90% of district budgets (80% for professional workers, 10% non-professional)
- Can apply Professional and Non-Professional CWI to 80% and 10% of revenue, or combine into one overall CWI:

$$CWI_{overall} = 0.8*CWI_{prof} + 0.1* CWI_{non\text{-}prof} + 0.1$$

Overall CWI, 2014

Public Use Microdata Area (PUMA)	District	Overall CWI
100	Allegany	0.818
1200	Anne Arundel	1.126
500	Baltimore	1.072
800	Baltimore City	1.072
1500	Calvert	1.105
1300	Caroline	0.894
400	Carroll	0.974
700	Cecil	1.033
1600	Charles	1.023
1300	Dorchester	0.894
300	Frederick	1.011
100	Garrett	0.818

Public Use Microdata Area (PUMA)	District	Overall CWI
600	Harford	1.079
900	Howard	1.126
1300	Kent	0.894
1000	Montgomery	1.174
1100	Prince George's	1.113
1300	Queen Anne's	0.894
1400	Somerset	0.974
1500	St. Mary's	1.105
1300	Talbot	0.894
200	Washington	0.961
1400	Wicomico	0.974
1400	Worcester	0.974

Additional considerations

- To further smooth year-to-year changes, could use a three-year moving average

3-year moving average CWI, 2010-2014

Public Use Microdata Area (PUMA)	District	2010-2014
100	Allegany	0.811
1200	Anne Arundel	1.109
500	Baltimore	1.065
800	Baltimore City	1.066
1500	Calvert	1.079
1300	Caroline	0.923
400	Carroll	0.985
700	Cecil	1.000
1600	Charles	1.055
1300	Dorchester	0.923
300	Frederick	1.047
100	Garrett	0.811

Public Use Microdata Area (PUMA)	District	2010-2014
600	Harford	1.073
900	Howard	1.131
1300	Kent	0.923
1000	Montgomery	1.166
1100	Prince George's	1.129
1300	Queen Anne's	0.923
1400	Somerset	0.941
1500	St. Mary's	1.079
1300	Talbot	0.923
200	Washington	0.957
1400	Wicomico	0.941
1400	Worcester	0.941

Recommendations

- Adopt 3-year moving average CWI as regional cost adjustment
- Include only wage costs, eliminate energy and other cost components
- Stop truncating the index to allow values less than 1.0
- Incorporate the index into the base funding formula

Questions?

Adequacy Study Update

Reconciling Multiple Adequacy Models

- The APA study team used three different adequacy approaches to estimate an adequate education in Maryland
  - Successful schools – identifies a base cost only
  - Evidence-based – base and weights
  - Professional judgment – base and weights
- The study team has developed a process for reconciling the 3 adequacy estimated to form a single recommendation for a per student base amount and special needs weights

Successful Schools

- Successful Schools (SSD)
  - Identified 111 schools using 2 different criteria (110 included in analysis)
    - High performance: >= 95% proficient or above
    - High growth: >= 40% growth in proficient or above over 6-year period, minimum overall proficient or above of 80% in 2012
    - Includes 65 elementary schools, 29 middle schools, and 17 high schools representing 16 districts
    - Updating results to incorporate 2015-16 PARCC scores
  - Districts were asked to fill out a guided collection device; data was received for all but one school
  - ***Important to remember*** that Successful Schools identifies what is spent at a base level to meet current standards and within current funding system

Evidence-Based

- Evidence-Based (EB)
  - Relies on research and model-school information to design a set of prototype schools and a prototype district
  - Focuses on resources needed for meeting all current Maryland performance standards
  - Model was reviewed by four panels of Maryland educators from across the state last year. The panels made a number of suggestions, three adjustments to the model were made where the suggestions could be supported by research

Evidence-Based

- Adjustments to Evidence-Based Model based upon Maryland panel suggestions
  - Added 1 math teacher per high school to account for the State's requirement for 4 years of high school math
  - Modified the at-risk student counts to exclude ELL students
    - The at-risk count now includes only FARMS students (whether ELL eligible or not) while the ELL count includes all ELL students (FARMS and non-FARMS).
    - ELL students now receive all of the at-risk services of teacher tutors, pupil support, extended day, and summer school as well as the one additional teacher per 100 ELL students
    - Added the following central office-based related services and psychological services positions: two speech pathologists and two psychologists

Professional Judgment

- Professional Judgment (PJ)
  - Relied on multiple panels of Maryland educators that built on the work of previous panels in the study to construct a set of representative schools and a representative district
    - 9 panels were convened including school level, special needs, prekindergarten, CFO, district, and statewide panels
  - Focuses on resources needed for meeting all current Maryland performance standards

Establishing a Single Adequacy Recommendation

- The process below is being used to develop a single adequacy recommendation for base amount and weights:
  - Closely analyze the elements making up each of the adequacy models
  - Review differences in the processes, data, and targeted performance levels used to develop each model
  - Identify areas where models (particularly EB and PJ) differ and determine reasonable resolution of the differences based on all evidence (PJ and EB panels' input, case studies, experience, and knowledge of Maryland and other states)

Understanding Differences

- The base cost figure for Successful Schools is representative of the current available funding. The base cost figure developed from successful schools is not comparable to that of the EB and PJ results
- The study team identified the areas that explain the majority of the difference between the EB and PJ results

Differences Identified Across Evidence Based and Professional Judgement Models

- Key base cost differences include:
  - Elementary class size ratios
  - Middle school teacher utilization rates
  - School administration
  - School level student support services
  - Career and technical education programs included in PJ model but are a separate categorical program in EB model

Model Differences

Elementary Schools

- Elementary class size differs in grades 4 and 5, 25 to 1 in EB and 20 to 1 in PJ
  - PJ panels felt transition from 15 to 25 was too high, literature review also supported 20 to 1 as smallest 4/5 class size
- PJ panels identified 2 additional administrators to meet school goals including evaluations
- PJ had much higher level of student supports, including behavioral supports, which were mentioned frequently during the PJ process

Model Differences

Middle Schools

- The EB model has a higher utilization rate requiring fewer teachers.
  - The PJ model's lower utilization rate is partially offset by lowering the number of days needed for professional development
- Administration was higher for PJ due to focus on teacher evaluation and providing time for administrators to be instructional leaders
- Higher student support with a focus on behavior issues

Model Differences

High Schools

- The EB and PJ models have similar teacher utilization rates
- Administration was slightly higher for PJ
- Higher student support with a focus on behavior issues in PJ

Comparison of Adequacy Models to Current System

- Overall, the PJ and EB models focus more resources in the base amount (leading to a much higher base cost) than the previous PJ/SSD work and lower weights for special needs students
  - Previous work had a low base and high weights for student populations
  - Results are more in line with more recent adequacy studies from around the country

Next Steps

- Will update successful schools model for PARCC results. This may change the inclusion of some schools in the analysis
- Continue work on developing final base cost and special needs weights recommendation
- Work to integrate these with other recommendations impacting funding such as wealth, regional cost adjustment, enrollment change adjustments, at-risk counts, and prekindergarten

Questions?