MEMORANDUM

To: Members of the Wyoming Legislature's Joint Appropriations and Joint Education Committees

From: Lawrence O. Picus

Subject: **Updating the Regional Cost Adjustment for the Wyoming Funding Model**

Date: August 30, 2011

Wyoming is a large and geographically diverse state. As a result, there are differences in the wages districts have to pay to attract the same quality teachers. State policy makers have recognized the importance of including a Regional Cost Adjustment (RCA) in the school funding model and have included such an adjustment in each iteration of the model since the Wyoming Supreme Court's initial ruling in *Campbell*. Among the many issues considered during the 2010 recalibration process and in the 2011 interim session has been the design of an RCA. This memo provides a brief summary of the development of the current RCA and summarizes our recommendations regarding use of an RCA in the funding model.

Historical Context

The initial funding model developed in response to the *Campbell* decision recognized the need to adjust for regional cost differences among the 48 school districts in Wyoming. That model relied primarily on the Wyoming Cost of Living Index (WCLI) to make the adjustments to district funding. Recognizing that the WCLI over-represented housing costs, and that medical costs were already adjusted for in the funding model itself, the initial RCA recomputed the WCLI without those components. Ultimately, the Court ruled that the State must use the unadjusted WCLI and that change was accomplished in approximately 2002. The Court's ruling did indicate that an alternative suitable index could be used in place of the WCLI if one were identified.

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As part of the recalibration in 2005 we recommended that the WCLI be replaced with a Hedonic Wage Index (HWI). The hedonic-wage methodology is the intuitive notion that individuals care about the quality of their work environment, the monetary and nonmonetary rewards associated with their jobs, and the conditions associated with where their job is located. We argued at the time that a HWI captured the differences in cost facing school districts in recruiting and retaining quality teachers better than other alternative indices and developed an HWI for use with the Wyoming Funding Model.

During the 2006 Legislative session, it was decided that the RCA for each district to be used in the funding model would be the highest of the HWI, the WCLI, or a value of 100. This RCA has been used in computation of the Wyoming Funding Model since that time.

In our 2010 recalibration we again argued that a hedonic index would more accurately capture the differences in costs facing local school districts and demonstrated that the current approach resulted in over funding to school districts. We further recommended that computation of a new HWI be undertaken but that its estimation await the 2011 interim when data from the 2010 census would be available.

Current Situation

During the 2011 Interim, Dr. Lori Taylor was contracted to develop a new hedonic index. Dr. Taylor is a national expert in development of such indices and her report provides a description of the process she used to compute a new hedonic index for the Wyoming Funding Model. Her new index improves upon the 2005 index in the following ways:

1. It uses more recent data and longer time series of data in its computations.
2. It computes a hedonic model of total salary (including supplemental pay – other than coaching supplements – and not just base salary as was used in 2005).
3. It includes additional discretionary factors which give more confidence that the index reflects only factors outside of school district control – and thus requires an adjustment.
4. It includes a Comparable Wage Index (CWI) as an uncontrollable cost factor. This CWI was not available for the previous analysis.
5. It revises and expands the set of uncontrollable cost factors which improve the predictive power of the underlying model.

Dr. Taylor estimated four different statistical models for developing a HWI, eventually recommending an autoregressive (AR) random effects model. The autoregressive pattern assumes that if a teacher earns more than the model predicts in one year, he or she will likely earn more than the model predicts in the next year as well.

The hedonic index derived from the AR random effects model has a mean of 100 and index values for individual districts range from a low of 90 to a high of 111. In comparing the AR model to the current HWI, the index value declines for 25 districts, increases for 18 districts and remains the same for 5 districts.

It is important to remember, however, that the hedonic index is not the only value used to compute each district's RCA. In fact if the current approach (the highest of the hedonic index, the WCLI or 100) were used, 27 of the 48 districts would not be affected by the change in the HWI. Of the remaining 21 districts, seven would see a decrease in their RCA and 14 would experience an increase in the RCA.

It remains our recommendation that the hedonic index represents the best cost-based approach for computing the RCA. The AR hedonic index recommended by Dr. Taylor should replace the HWI computed in 2005 to further enhance the cost basis of the model.

Conclusion

The RCA is an essential component for ensuring the cost basis of the Wyoming Funding Model. The current approach, which uses the greater of the WCLI or HWI, with a minimum of 100, overestimates the regional adjustments for school districts not using the HWI. Our recommendation is that a HWI represents the best approach for estimating regional cost variation, and that Dr. Taylor's recommended HWI offers substantial improvements over the HWI computed for the 2005 recalibration. If the Legislature maintains the greater-of approach, we still recommend updating the HWI with Dr. Taylor's recomputed amounts.