

To: Joint Legislative Education Funding Task Force

From: Lexi Hill, ISER –UAA

Re: ISER Cost Differential Index recalculated without teacher component

For this memo, I have re-calculated the district cost differential without the teacher compensation component. However (as usual) nothing is as simple as it seems, and so I want to provide some context to the resulting numbers.

The cost differential that ISER calculated in 2005 (like the one AIR calculated in 2002) is a multiplicative index. It is the product of 11 components<sup>1</sup>. Each component is a relative price (such as the cost of a ‘standard’ teacher, or a gallon of heating fuel), adjusted to reflect the budget shares of each component in each district.

The simplest way to calculate the differential-without-teachers that you’ve asked for is to divide out the teacher component, and the results of that calculation are in Table 1 and Chart 1, below. Those numbers express what our methodology would produce if teacher costs didn’t differ at all from district to district, and those (unvarying) costs still comprised the same share of the budget that they do now. If what you’re interested in is how much the teacher cost component contributes to the final index numbers, then you can use this measure, but with caution. It is more difficult to determine the relative contribution of each component in this type of index than in (for example) the consumer price index, which is a weighted sum, rather than a weighted product. If you were to calculate the contribution of each component in turn by making its relative price 1 (the same for every district), leaving the rest of the calculations the same, and applying the resulting differentials to some fixed level of funding for Anchorage, then the sum of ‘contributions’ of all 11 components will be greater than the total funding amount you start with. This is a problem, if you’re looking for some exact measure. If you just want a general sense of the magnitude the teacher cost component has in getting to the final result, then just keep in mind that it’s not perfect.

If this is not what you’re trying to do, then other calculations come into play. I can do those as well – just give me more information on how you want to use the numbers so that I make sure I don’t provide misleading analysis.

Finally, (since I have you reading this) I would urge you to consider looking at the energy component. ISER recommended taking energy out of the school funding formula and paying energy costs (or most of them) directly. There are several reasons for this. (1) Energy costs are the most volatile and difficult to model part of the index. We didn’t model them – we just took average costs from FY2000 to FY2003. Rapidly changing energy costs can make any formula wrong quite quickly. I’d predict (without doing the calculations) that ISER’s proposed index, based on 4- to 7-year old costs, would be noticeably different with today’s energy prices. (2) Districts have little or no control over energy costs. When their electric or heating fuel bills double, they just have to take the money from somewhere else – like instruction. (3) In general, when energy costs rise, the state has more income to cover them.

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<sup>1</sup> AIR had 12 components, but we combined teachers and administrators into one.

<b>Table 1. ISER Cost Differential with and without Teacher Relative Cost Component</b>			
<b>District Name</b>	<b>District #</b>	<b>ISER 2005 Index</b>	<b>ISER Index with Teacher Relative Costs=1 for all Districts</b>
Denali Borough School District	2	1.332	1.177
Alaska Gateway School District	3	1.594	1.323
Aleutian Region School Dist	4	1.939	1.533
Anchorage School District	5	1.000	1.000
Annette Island School District	6	1.338	1.079
Bering Strait School District	7	1.998	1.480
Bristol Bay Borough Sch Dist	8	1.478	1.206
Chatham Region Schools	9	1.576	1.276
Chugach School District	10	1.496	1.352
Copper River School District	11	1.316	1.117
Cordova City School District	12	1.234	1.069
Craig City School District	13	1.206	1.077
Delta Greely School District	14	1.241	1.078
Dillingham City School Dist	15	1.346	1.106
Fairbanks North Star Boro S/D	16	1.070	1.036
Galena City School District	17	1.391	1.184
Haines Borough School District	18	1.200	1.065
Hoonah City School District	19	1.399	1.145
Hydaburg City School District	20	1.504	1.171
Iditarod Area School District	21	1.846	1.439
Juneau Borough Schools	22	1.145	1.028
Kake City School District	23	1.459	1.171
Kenai Peninsula Borough Schs	24	1.171	1.066
Ketchikan Gateway Borough S.D.	25	1.170	1.037
Klawock City School District	27	1.302	1.073
Kodiak Island Borough Sch Dist	28	1.289	1.109
Kuspuk School District	29	1.734	1.314
Lake And Peninsula School Dist	30	1.994	1.583
Lower Kuskokwim School Dist	31	1.663	1.304
Lower Yukon School District	32	1.861	1.363
Matanuska-Susitna Borough Schs	33	1.070	1.014
Nenana City School District	34	1.338	1.129
Nome City School District	35	1.450	1.158
North Slope Borough Sch Dist	36	1.791	1.350
Northwest Arctic School Dist	37	1.823	1.393
Pelican City School District	38	1.477	1.276
Petersburg City School Dist	39	1.244	1.077
Pribilof Island School Dist	40	1.691	1.288
Sitka Borough School District	42	1.195	1.031
Skagway City School District	43	1.174	1.064
Southeast Island School Dist	44	1.403	1.205
Southwest Region School Dist	45	1.685	1.288
Saint Marys City School Dist	46	1.624	1.244
Unalaska City School District	47	1.441	1.132
Valdez City School District	48	1.170	1.059
Wrangell City School District	49	1.159	1.027
Yakutat City School District	50	1.412	1.221
Yukon Flats School District	51	2.116	1.581
Yukon Koyukuk School District	52	1.835	1.433
Tanana City School District	53	1.786	1.353
Yupit School District	54	1.723	1.274
Kashunamiut School District	55	1.619	1.198
Aleutians East Borough Sch Dis	56	1.991	1.523

**Chart 1. ISER Cost Differential with and without Teacher Relative Cost Component**

