

Understanding Costs and Inflation

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We often see pundits arguing that education spending has doubled over a 30 year period, when adjusted for inflation, and we've gotten nothing for it. We've got modest growth in NAEP scores and huge growth in spending. And those international comparisons... wow!

The assertion is therefore that our public education system is less cost-effective now than it was 30 years ago. But this assumption is based on layers of flawed reasoning, on both sides of the equation.

Here's a bit of School Finance 101 on this topic:

First, what are the two sides of the equation, or at least the two parts of the fraction? The numerator here is education spending and how we measure it now compared to previously. The major flaw in the usual reasoning is that we are making our comparison of the education dollar now to then by simply adjusting the value of that dollar for the average changes in the prices of goods purchased by a typical consumer (food, fuel, etc.), or the Consumer Price Index.

Unfortunately, the consumer price index is unhelpful for comparing current education spending to past education spending, unless we are considering how many loaves of bread or gallons of gas can be purchased with the education dollar.

If we wanted to maintain constant quality education over time, the main thing we'd have to do is maintain a constant quality workforce in schools – mainly a teacher workforce, but also administrators, etc. At the very least, if quality lagged behind we'd have to be able to offset the quality losses with additional workers, but the trade-offs are hard to estimate.

The quality of the teacher workforce is influenced much more by the competitiveness of the wages for teachers, compared to other professions, than to changes in the price of a loaf of bread or gallon of gas. If we want to get good teachers, teaching must be perceived as a desirable profession with a competitive wage. That is, to maintain teacher quality, we must maintain the competitiveness of teacher wages (which we

have not over time) and to improve teacher quality, we must make teacher wages (or working conditions) more competitive. On average, non-teacher wage growth has far outpaced the CPI over time and on average, [teacher wages have lagged behind non-teacher wages](#), even in New Jersey!

Now to the denominator or the outcomes of our education system. First of all, if we allow for a decline in the quality of the key input – teachers – we can expect a decline in the outcomes however we choose to measure them. But, it is also important to understand that if we wish to achieve either higher outcomes, or to achieve a broader array of outcomes, or to achieve higher outcomes in key areas without sacrificing the broader array of outcomes, costs will rise. In really simple terms, the cost of doing more is more, not less. And yes, a substantial body of rigorous peer-reviewed empirical literature supports this contention (a few examples in the readings below).

So, as we ask our schools to accomplish more, we can expect the costs of those accomplishments to be greater. If we expect our children to compete in a 21st century economy, develop technology skills and still have access to physical education and arts, it will likely cost more, not less, than achieving the skills of 1970. But, we must also make sure we are adequately measuring the full range of outcomes we expect schools to accomplish. If we are expecting schools to produce engaged civic participants, we may or may not see the measured effects in elementary reading and math test scores.

An additional factor that affects the costs of achieving educational outcomes is the student inputs – or who is showing up at the schoolhouse door (or logging in to the virtual school). A substantial body of research (see chapter by Duncombe and Yinger, [here](#)) explains how child poverty, limited English proficiency, unplanned mobility and even school racial composition may influence the costs of achieving any given level of student outcomes. Differences in the ways children are sorted across districts and schools create large differences in the costs of achieving comparable outcomes and so too do changes in the overall demography of the student population over time. Escalating poverty, mobility induced by housing disruptions, and increased numbers of children not speaking English proficiently all lead to increases of the cost of achieving even the same level of outcomes achieved in prior years. This is not an excuse. It's reality. It costs more to achieve the same outcomes with some students than with others.

In short, the “cost” of education rises as a function of at least 3 major factors:

1. Changes in the incoming student populations over time
2. Changes in the desired outcomes for those students, including more rigorous core content area goals or increased breadth of outcome goals
3. Changes in the competitive wage of the desired quality of school personnel

And the interaction of all three of these! For example, changing student populations making teaching more difficult (a working condition), meaning that a higher wage might be required to simply offset this change. Increasing the complexity of outcome goals might require a more skilled teaching workforce, requiring higher wages.

The combination of these forces often leads to an increase in education spending that far outpaces the consumer price index, and it should. Costs rise as we ask more of our schools, as we ask them to produce a citizenry that can compete in the future rather than the past. Costs rise as the student population inputs to our public schooling system change over time. Increased poverty, language barriers and other factors make even the current outcomes more costly to achieve. And costs of maintaining the quality of the teacher workforce change as competitive wages in other occupations and industries change, which they have.

Typically, state school finance systems have not kept up with the true increased costs of maintaining teacher quality, increased outcome demands or changing student demography. Nor have states sufficiently targeted resources to districts facing the highest costs of achieving desired outcomes (See www.schoolfundingfairness.org). And many states with significantly changing demography, including Arizona, California and Colorado, have merely maintained or even cut current spending levels for decades (despite what would be increased costs of even maintaining current outcome levels).

Evaluating education spending solely on the basis of changes in the price of a loaf of bread and/or gallon of gasoline is, well, silly.

Notably, we may identify new “efficiencies” that allow us to produce comparable outcomes, with comparable kids at lower cost. We may find some of those efficiencies through existing variation across schools and districts, or through new experimentation. But it is downright foolish to pretend that those efficiencies are simply out there (even if we can’t see them, or don’t know them) and we can simply squeeze the current system into achieving comparable or better outcomes at lower cost.

Readings

Baker, B.D., Taylor, L., Vedlitz, A. (2008) Adequacy Estimates and the Implications of Common Standards for the Cost of Instruction. National Research Council.

<http://www7.nationalacademies.org/CFE/Taylor%20Paper.pdf>

Duncombe, W., Lukemeyer, A., Yinger, J. (2006) The No Child Left Behind Act: Have Federal Funds been Left Behind?

http://cpr.maxwell.syr.edu/efap/Publications/costing_out.pdf

This second one is a really fun article showing the vast differences in the costs of achieving NCLB proficiency targets in two neighboring states which happen to have very

different testing standards. In really simple terms, Missouri has a hard test with low proficiency rates and Kansas an easy test with high proficiency rates. The authors show the cost implications of achieving the lower, versus higher tested achievement standards.