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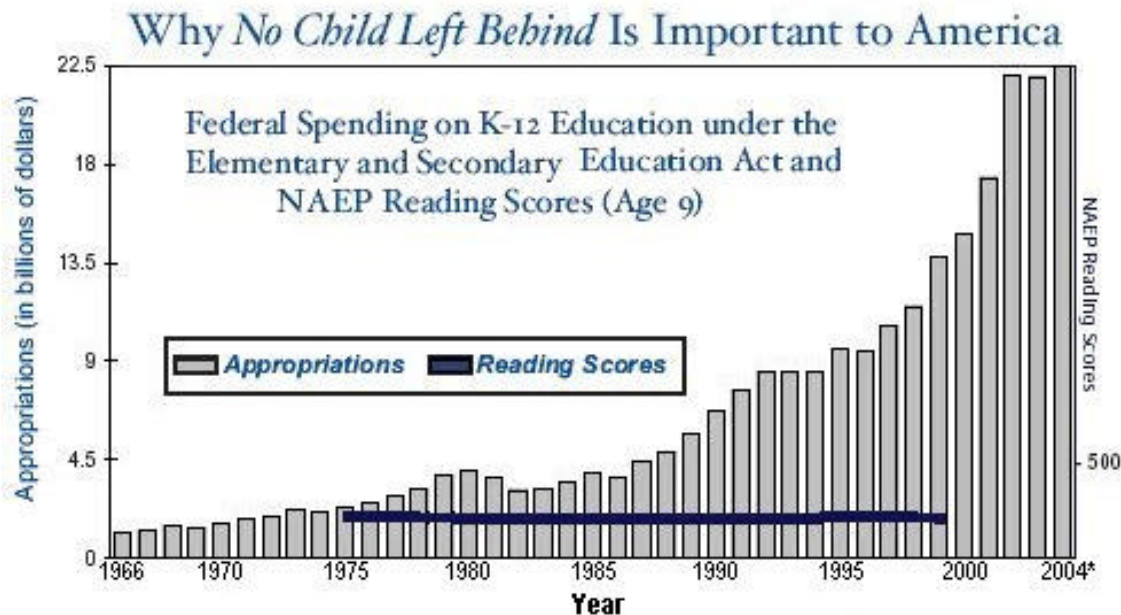
Child's Play? The Bush Administration's Misuse of Data

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The Department of Education’s homepage prominently features a graph that appears to show a vast increase in federal spending on education over the last thirty five years, but no improvement whatsoever in student test scores. (<http://www.ed.gov>) (Figure 1). The message seems clear.



(Figure 1: <http://www.ed.gov/images/title-one.jpg>)

However, Figure 1 does not give an entirely accurate representation of the situation for several reasons. A better representation of the data might look like Figure 2 below.

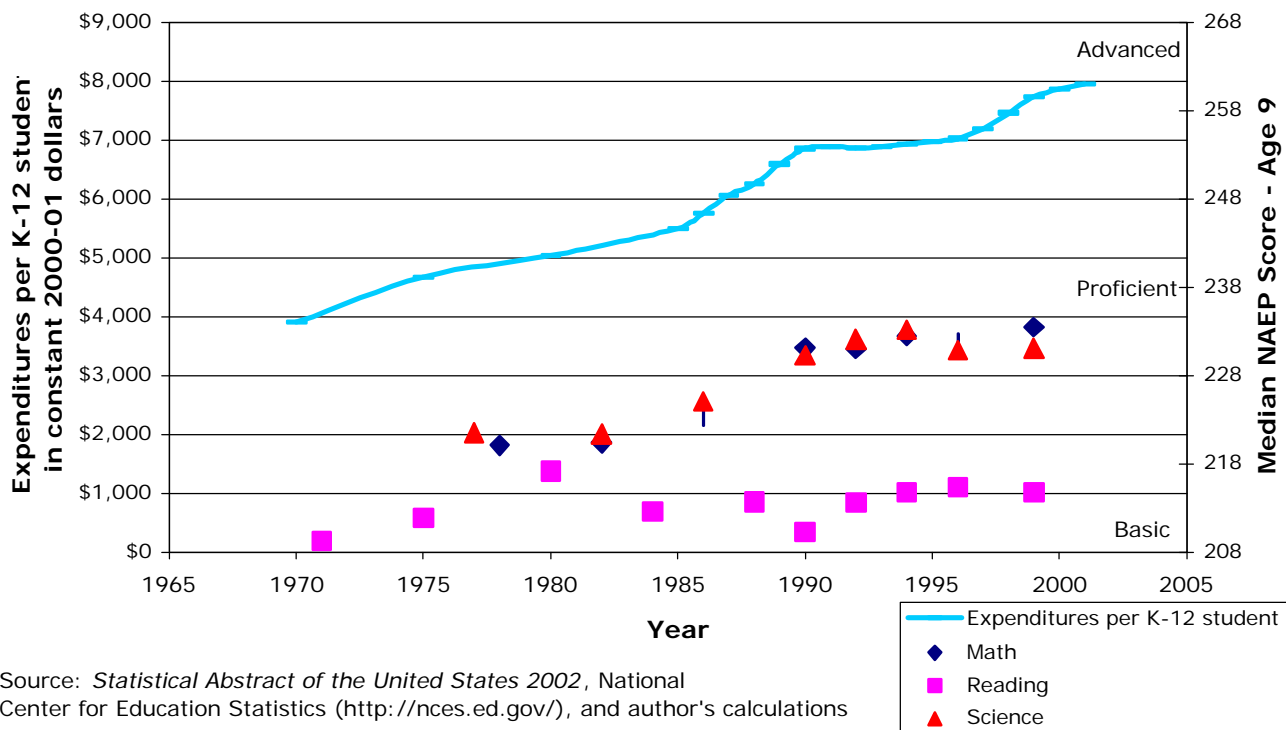
There are several important differences between the two graphs.

- The generally accepted way to judge growth in expenditures is measured on an inflation-adjusted, per-capita basis. Whereas Figure 1 shows nominal growth in total federal expenditures, Figure 2 shows total K-12 expenditures adjusted both for inflation and for the number of students enrolled in K-12 schools. This way, the figure accounts for changes in the cost of living over time, as well as changes in the number of children enrolled in school.
- Figure 1 leads the viewer to believe that federal education appropriations are especially important for children’s achievement. However, these federal appropriations to elementary and secondary schools accounted for *only 3.5%* of all K-12 expenditures in 1999.² Figure 2 shows all K-12 spending.
- Figure 1 provides little information as to what the test scores are measuring and whether this is the only measure of student achievement. The choice of scale is also misleading: 500 is the highest possible score, but it is placed near the bottom of the graph, making it seem low. In 1999, 90% of nine-year-olds scored between 173.4 and 285.4 on the reading test, but this is not evident from Figure 1. Figure 2 scales the test from scores of 208 (“Basic” 4th grade understanding) through 238 (“Proficient”) to 268 (“Advanced”).

² Figure 1 shows \$13.8 billion in appropriations for 1999, but total K-12 expenditures that year amounted to \$408.7 billion in constant 2000-01 dollars. The value for total expenditures was taken from the *Statistical Abstract of the United States 2002*.

- Finally, the Department of Education fails to clearly specify what scores are presented – the average, the median, the high or the low scores. Figure 2 shows median test scores, meaning that 50% of nine-year-olds scored over, and 50% scored under that level.

Figure 2: Total Expenditures per Student and National Assessment of Educational Progress (NAEP) Test Scores



Source: *Statistical Abstract of the United States 2002*, National Center for Education Statistics (<http://nces.ed.gov/>), and author's calculations

Clearly, Figure 1 paints an incomplete picture of the relationship between school expenditures and student achievement. While it does seem to be that case that reading scores have not risen with school expenditures, math and science scores have risen. In these areas increased spending has been associated with improved student performance. From the standpoint of showing returns for increases spending, it is worth noting that private schools have not performed better. As seen in Figure 3 below, from 1970 to 2001, nonpublic school expenditures per K-12 student have grown at a 3.8% annual rate, compared to only 3.1% for public schools. However, the NAEP data from 1980 to 1999 indicates that average reading scores in nonpublic schools have not changed significantly, dropping one point over that time.³

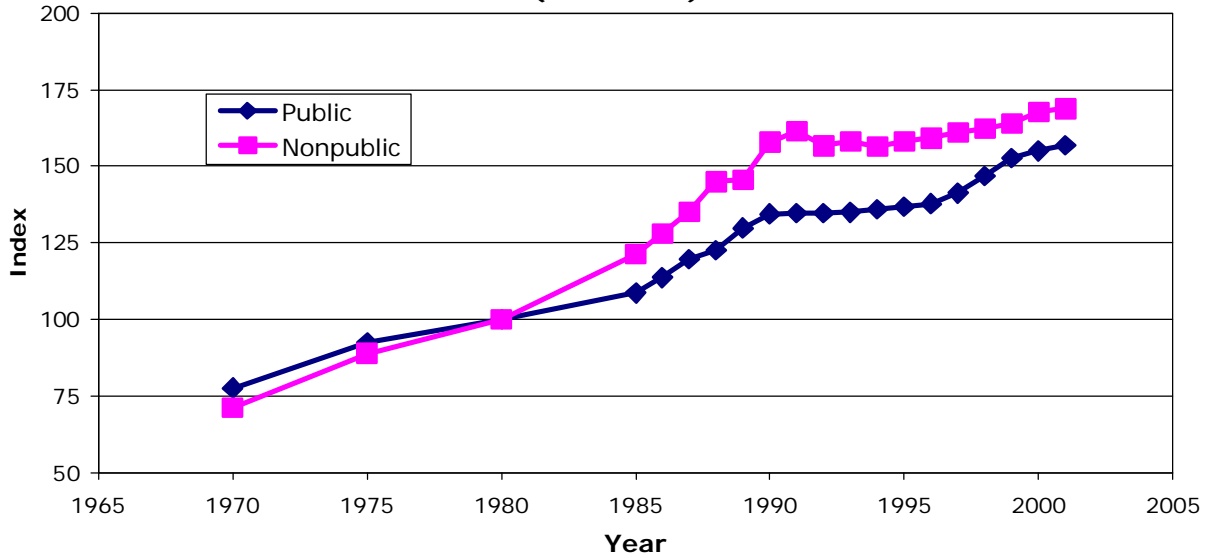
Figure 2 actually understates the improvement in scores made by minorities. In 1999, 68 percent of nine-year old Hispanics scored at least 200 on the mathematics NAEP exam, compared to only 54 percent in 1978. For African-American students, the difference is even greater: the percent of students scoring at least 200 rose from 42 percent in 1978 up to 63 in 1999.⁴

³ <http://nces.ed.gov/nationsreportcard/tables/Lt1999/NTR11012.asp>

⁴ <http://nces.ed.gov/nationsreportcard/tables/Lt1999/NTM11014.asp>

Fortunately, all the necessary information is available to the public. From enrollment and expenditure data in the Statistical Abstract of the United States 2002 and test score data available at the National Center for Education Statistics⁵ an informative graphic may be produced.

Figure 3: K-12 Public vs. Nonpublic Per-Student Expenditures (1980=100)



Source: *Statistical Abstract of the United States 2002*, author's calculations.

⁵ <http://nces.ed.gov/nationsreportcard/tables/Ltt1999/>