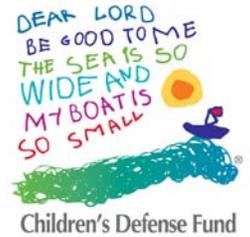


Be Careful What You Cut – Data Sources and Calculations Children’s Defense Fund (August 3, 2012)



Early Education Cuts

When it comes to fixing the deficit, be careful what you cut. Eliminating early education investments now would increase his chances of going to prison later by up to 39 percent. And paying for that prison will cost us nearly three times more a year than it would have cost to provide him with a quality early learning experience.

1. “Eliminating early education investments now would increase his chances of going to prison later by up to 39 percent.”

Reynolds, Arthur J., Judy A. Temple, Suh-Ruu Ou, Irma A. Arteaga, and Barry A.B. White. 2011. “School-Based Early Childhood Education and Age-28 Well-Being: Effects by Timing, Dosage, and Subgroups.” *Science* 333: 360-364.

<http://www.sciencemag.org/content/333/6040/360.full.html>

Reynolds, Arthur J., Judy A. Temple, Suh-Ruu Ou, Irma A. Arteaga, and Barry A.B. White. 2011. Supporting Online Material for “School-Based Early Childhood Education and Age-28 Well-Being: Effects by Timing, Dosage, and Subgroups.”

www.sciencemag.org/cgi/content/full/science.1203618/DC1

Reynolds and his colleagues followed a cohort of 1,400 children participating in Chicago’s Child-Parent Center Education Program, which had both preschool and school-age components. Participants were followed through age 28, offering a unique opportunity to track the long-term effects of a high-quality early learning program. To calculate the effect of early education on going to prison, we calculated the percent difference in incarceration rates between preschool participants (15.2 percent) and non-participants (21.1) percent):

$$\frac{21.1 - 15.2}{15.2} = .388$$

Eliminating early learning programs such as the one studied by Reynolds et al. would increase incarceration rates by up to 39 percent.

2. “And paying for that prison will cost us nearly three times more a year than it would have cost to provide him with a quality early learning experience.”

Reynolds, Arthur J., Judy A. Temple, Suh-Ruu Ou, Irma A. Arteaga, and Barry A.B. White. 2011. “School-Based Early Childhood Education and Age-28 Well-Being: Effects by Timing, Dosage, and Subgroups.” *Science* 333: 360-364.

<http://www.sciencemag.org/content/333/6040/360.full.html>

Schmitt, John, Kris Warner, and Sarika Gupta. June 2010. "The High Budgetary Cost of Incarceration." Washington, DC: Center for Economic and Policy Research <http://www.cepr.net/documents/publications/incarceration-2010-06.pdf>

Reynolds et al. cite the cost of the preschool component of Chicago's Child-Parent Center Education Program as being \$9233 per participant per year in 2011 dollars. Schmitt et al. cite the annual cost to imprison/jail non-violent offenders as \$25,500 for federal facilities and \$26,000 for state/local facilities. Thus, the cost of incarceration is nearly three times the cost of a high-quality early learning program ($\$9233 \times 3 = \$27,699$).

Health & Food Cuts

When it comes to fixing the deficit, be careful what you cut. Cutting just \$4,000 of Medicaid and food stamps from a girl in a low-income family negatively impacts her health and nutrition in the future. This can lead to poor performance in school, which increases her chances of getting pregnant as a teenager. And paying for teen pregnancies costs the rest of us \$10 billion a year.

1. "Cutting just \$4,000 of Medicaid and food stamps from a girl in a low-income family negatively impacts her health and nutrition in the future."

Ding, Weili, Steven F. Lehrer, J. Niels Rosenquist, and Janet Audrain-McGovern. 2009. "The Impact of Poor Health on Academic Performance: New Evidence Using Genetic Markers." *Journal of Health Economics* 28: 578-597. <http://www.sciencedirect.com/science/article/pii/S0167629608001902>

Grant, Roy, and Arturo Brito. June 2010. "Chronic Illness and School Performance: A Literature Review Focusing on Asthma and Mental Health Conditions." New York: Children's Health Fund. <http://www.childrenshealthfund.org/publications/chronic-illness-and-school-performance-literature-review-focusing-asthma-and-mental>

Jyoti, Diana F., Edward A. Frongillo, and Sonya J. Jones. 2005. "Food Insecurity Affects School Children's Academic Performance, Weight Gain, and Social Skills." *Journal of Nutrition* 135: 2831-2839. <http://jn.nutrition.org/content/135/12/2831.full>

National Association of Children's Hospitals. July 2011. "Make Health Care Work for Children Fact Sheet." <http://www.childrenshospitals.net/AM/TemplateRedirect.cfm?template=/CM/ContentDisplay.cfm&ContentID=57742>

U.S. Department of Agriculture. October 31, 2011. "Supplemental Nutrition Assistance Program Participation and Costs." <http://www.fns.usda.gov/pd/SNAPsummary.htm>

The \$4,000 per year figure was calculated by summing the annual per-person costs of Medicaid (\$2,422¹) and SNAP (\$1,694.90), which equals \$4,116.90.

Ding et al. analyze the GATOR dataset, which combines survey and genetic data from adolescents over four years of high school. They find that depression and obesity are associated with lower academic performance, as measured by grade point averages, with the effects much stronger for girls than boys. Grant and Brito add additional evidence to the connection between health and school performance in their review of hundreds of studies focused on asthma and mental health. These studies show links between asthma and absenteeism (which is associated with lower performance) and between psychiatric illness and a variety of academic outcomes: reading achievement, absenteeism, grade retention, and dropping out of high school.

In terms of nutrition, Jyoti et al. analyze data from the ECLS-K study, which followed 21,000 children from kindergarten to third grade. They find that food insecurity and transitioning from food security to food insecurity (both of which can be prevented through programs such as WIC and SNAP) is associated with lower school performance in reading and math – with more consistent effects among girls than boys.

2. “This can lead to poor performance in school, which increases her chances of getting pregnant as a teenager.”

Meade, Christina S., Trace S. Kershaw, and Jeannette R. Ickovics. 2008. “The Intergenerational Cycle of Teenage Motherhood: An Ecological Approach.” *Health Psychology* 27: 419-429.
<http://psycnet.apa.org/journals/hea/27/4/419/>

Scaramella, Laura V., Rand D. Conger, Ronald L. Simons, and Les B. Whitbeck. 1998. “Predicting Risk for Pregnancy by Late Adolescence: A Social Contextual Perspective.” *Developmental Psychology* 34: 1233-1245.
http://psyc.uno.edu/docs/scaramella_conger_simons_whitbeck_1998.pdf

Both of these studies use datasets that tracked girls over at least six years. Meade et al. find that teen girls who rate their academic performance as poor are more likely to become pregnant, while Scaramella et al. come to the same conclusion using girls’ grade point averages.

3. “And paying for teen pregnancies costs the rest of us \$10 billion a year.”

National Campaign to Prevent Teen and Unplanned Pregnancy. June 9, 2011. “Teen Childbearing Cost Taxpayers \$10.9 billion in 2008.” <http://www.thenationalcampaign.org/costs/>

¹ This figure is lower than the overall per-person average cost for Medicaid because spending per adult is more than twice the rate for children.

The National Campaign to Prevent Teen and Unplanned Pregnancy estimates that teen parenthood cost the nation \$10.9 billion in 2008 compared to if teen mothers had waited to have children until ages 20-21. The total cost is based on the increased risk of adverse consequences faced by teen parents and their children that result in additional public health care, child welfare, and incarceration costs, and lost tax revenue due to decreased earnings and spending.

Tax Credit Cuts

When it comes to fixing the deficit, be careful what you cut. Eliminating the Earned Income Tax Credit now would increase child poverty by 23 percent in the future. And since poor children are more likely to drop out of high school, they are less likely to find steady work as adults. Not to mention that paying for each year of high school dropouts costs us more than \$125 billion over the course of their lifetimes.

1. “Eliminating the Earned Income Tax Credit now would increase child poverty by 23 percent in the future.”

Short, Kathleen. November 2011. “The Research Supplemental Poverty Measure: 2010.” Washington, DC: United States Census Bureau. <http://www.census.gov/prod/2011pubs/p60-241.pdf>

Using the Supplemental Poverty Measure, Census Bureau researchers find that the percent of children under 18 in poverty when the Earned Income Tax Credit (EITC) is taken into account is 18.2 percent. Without the EITC, this rises to 22.4 percent. Thus:

$$\frac{22.4 - 18.2}{18.2} = .231$$

Eliminating the EITC would increase the poverty rate among children under 18 by 23 percent.

2. “And since poor children are more likely to drop out of high school, they are less likely to find steady work as adults.”

Rouse, Cecilia Elena. September 2005. “The Labor Market Consequences of an Inadequate Education.” Prepared for the Equity Symposium on “The Social Costs of Inadequate Education” at Teachers’ College, Columbia University. http://devweb.tc.columbia.edu/manager/symposium/Files/77_Rouse_paper.pdf

U.S. Department of Education. *Digest of Education Statistics: 2010*, “Table 116: Percentage of high school dropouts among persons 16 through 24 years old (status dropout rate), by income level, and percentage distribution of status dropouts, by labor force status and educational attainment: 1970 through 2009.” http://nces.ed.gov/programs/digest/d10/tables/dt10_116.asp

In 2009, the percent of individuals ages 16-24 who were not enrolled in school and who had not completed a high school program was 15.8 for the lowest income quartile,² compared to an overall average of 8.1 percent. The overall average doubled is 16.2 percent, making the dropout rate for poor children almost twice the national average.

Rouse uses 2003 and 2004 Current Population Survey data to show multiple ways in which dropping out of high school is associated with having a steady job:

- Only 53 percent of dropouts were employed compared to 69 percent of those with a high school diploma and 74.4 percent of those with a high school diploma and additional education.
- Over 39 percent of dropouts were not in the labor force, compared to 25.4 percent of those with a high school diploma and 21.3 percent of those with a high school diploma and additional education.
- Dropouts worked about 27 weeks in the previous year compared to 35.7 weeks for those with a high school diploma and 38.1 weeks for those with more than a diploma.

The first two sets of data are very similar to the numbers reported in a more recent dataset - the 2008-2010 American Community Survey 3-Year Estimates – Table S2301, “Employment Status.” Rouse also cites numerous studies that establish a causal relationship between level of education and labor market outcomes.

3. “Not to mention that paying for each year of high school dropouts costs us more than \$125 billion over the course of their lifetimes.”

Levin, Henry, Clive Belfield, Peter Muennig, and Cecilia Rouse. January 2007. “The Costs and Benefits of an Excellent Education for All of America’s Children.” New York: Center for Cost-Benefit Studies of Education Teachers College, Columbia University.

http://www.cbcse.org/media/download_gallery/Leeds_Report_Final_Jan2007.pdf

On Page 18, Levin et al. write: “The aggregate consequences of raising the high school graduation rate for each age cohort are economically significant. Each cohort of 20-year olds includes over 700,000 high school dropouts. The fiscal consequence is \$148 billion in lost tax revenues and additional public expenditures over the lifetime.” This estimate is arrived at by aggregating the estimated costs of dropping out of high school on taxes paid, health status, criminal behavior, and use of public welfare programs. Because the true number of yearly dropouts is currently closer to 600,000

(<http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2011312>) the calculation described above was adjusted downward to \$127 billion.

² Given that 20.7 percent of children under 18 were in poverty in 2009, this closely matches the bottom quartile of the income distribution.