

Congressional Budget Office
Washington, DC

**How CBO Analyzes the Economic Effects of Changes in
Federal Subsidies for Education and Job Training: A Bibliography**

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This document accompanies Keith Hall, “How CBO Analyzes the Economic Effects of Changes in Federal Subsidies for Education and Job Training,” *CBO Blog* (May 3, 2017), www.cbo.gov/publication/52361.

To develop estimates of the effects of federal subsidies for education and job training on workers' earnings and the supply of labor, the Congressional Budget Office drew on the following research.

Spending on Head Start

For studies that explicitly study the long-run effects of Head Start on schooling and earnings, see the following:

Administration for Children and Families, Office of Planning, Research, and Evaluation, *Third Grade Follow-Up to the Head Start Impact Study: Final Report*, OPRE Report 2012-45 (October 2012), <http://go.usa.gov/x9gcw>.

Raquel Bernal and Michael P. Keane, "Child Care Choices and Children's Cognitive Achievement: The Case of Single Mothers," *Journal of Labor Economics*, vol. 29, no. 3 (July 2011), pp. 459–512, <http://dx.doi.org/10.1086/659343>.

Pedro Carneiro and Rita Ginja, "Long-Term Impacts of Compensatory Preschool on Health and Behavior: Evidence From Head Start," *American Economic Journal: Economic Policy*, vol. 6, no. 4 (November 2014), pp. 135–173, <http://dx.doi.org/10.1257/pol.6.4.135>.

David Deming, "Early Childhood Intervention and Life-Cycle Skill Development: Evidence From Head Start," *American Economic Journal: Applied Economics*, vol. 1, no. 3 (July 2009), pp. 111–134, <http://dx.doi.org/10.1257/app.1.3.111>.

Sneha Elango and others, *Early Childhood Education*, Working Paper 21766 (National Bureau of Economic Research, November 2015), www.nber.org/papers/w21766.

Avi Feller and others, "Compared to What? Variation in the Impacts of Early Childhood Education by Alternative Care Type," *The Annals of Applied Statistics*, vol. 10, no. 3 (September 2016), pp. 1245–1285, www.projecteuclid.org/euclid.aoas/1475069607.

Eliana Garces, Duncan Thomas, and Janet Currie, "Longer-Term Effects of Head Start," *American Economic Review*, vol. 92, no. 4 (September 2002), pp. 999–1012, <http://dx.doi.org/10.1257/00028280260344560>.

Jorge Luis Garcia and others, *The Life-Cycle Benefits of an Influential Early Childhood Program*, Working Paper 2016-035 (University of Chicago, December 2016), <http://tinyurl.com/k8vyfh3>.

Chloe Gibbs, Jens Ludwig, and Douglas Miller, *Does Head Start Do Any Lasting Good?* Working Paper 17452 (National Bureau of Economic Research, September 2011), www.nber.org/papers/w17452.

Patrick Kline and Christopher Walters, *Evaluating Public Programs With Close Substitutes: The Case of Head Start*, Working Paper 21658 (National Bureau of Economic Research, October 2015), www.nber.org/papers/w21658.

Fuhua Zhai, Jeanne Brooks-Gunn, and Jane Waldfogel, “Head Start’s Impact Is Contingent on Alternative Type of Care in Comparison Group,” *Developmental Psychology*, vol. 50, no. 12 (December 2014), pp. 2572–2586, <http://dx.doi.org/10.1037/a0038205>.

For studies that examine government-sponsored preschool programs similar to Head Start, see the following:

Michael Baker, Jonathan Gruber, and Kevin Milligan, *Non-Cognitive Deficits and Young Adult Outcomes: The Long-Run Impacts of a Universal Child Care Program*, Working Paper 21571 (National Bureau of Economic Research, September 2015), www.nber.org/papers/w21571.

Michael Baker, Jonathan Gruber, and Kevin Milligan, “Universal Child Care, Maternal Labor Supply, and Family Well-Being,” *Journal of Political Economy*, vol. 116, no. 4 (August 2008), pp. 709–745, <http://dx.doi.org/10.1086/591908>.

Elizabeth U. Cascio, *Does Universal Preschool Hit the Target? Program Access and Preschool Impacts*, Working Paper 23215 (National Bureau of Economic Research, March 2017), www.nber.org/papers/w23215.

Elizabeth U. Cascio and Diane Whitmore Schanzenbach, *The Impacts of Expanding Access to High-Quality Preschool Education*, Working Paper 19735 (National Bureau of Economic Research, December 2013), www.nber.org/papers/w19735.

William T. Gormley Jr. and Deborah Phillips, “The Effects of Universal Pre-K in Oklahoma: Research Highlights and Policy Implications,” *Policy Studies Journal*, vol. 33, no.1 (February 2005), pp. 65–82, <http://dx.doi.org/10.1111/j.1541-0072.2005.00092.x>.

James J. Heckman and others, “The Rate of Return to the HighScope Perry Preschool Program,” *Journal of Public Economics*, vol. 94, no. 1–2 (February 2010), pp. 114–128, <http://dx.doi.org/10.1016/j.jpubeco.2009.11.001>.

Federal Spending for Grades K–12

For studies that explicitly examine the effects of Title I spending, see the following:

Elizabeth U. Cascio, Nora Gordon, and Sarah Reber, “Local Responses to Federal Grants: Evidence From the Introduction of Title I in the South,” *American Economic Journal: Economic Policy*, vol. 5, no. 3 (August 2013), pp. 126–159, <http://dx.doi.org/10.1257/pol.5.3.126>.

Rucker C. Johnson, “Follow the Money: School Spending From Title I to Adult Earnings,” *The Russell Sage Foundation Journal of the Social Sciences*, vol. 1, no. 3 (December 2015), pp. 50–76, www.rsfjournal.org/doi/abs/10.7758/RSF.2015.1.3.03.

Jordan D. Matsudaira, Adrienne Hosek, and Elias Walsh, “An Integrated Assessment of the Effects of Title I on School Behavior, Resources, and Student Achievement,” *Economics of Education Review*, vol. 31, no. 3 (June 2012), pp. 1–14, <http://dx.doi.org/10.1016/j.econedurev.2012.01.002>.

For studies that examine the effects of other changes in K–12 spending on students’ achievement and subsequent earnings, see the following:

David Card and A. Abigail Payne, “School Finance Reform, the Distribution of School Spending, and the Distribution of Student Test Scores,” *Journal of Public Economics*, vol. 83, no. 1 (January 2002), pp. 49–82, [http://dx.doi.org/10.1016/S0047-2727\(00\)00177-8](http://dx.doi.org/10.1016/S0047-2727(00)00177-8).

Raj Chetty and others, “How Does Your Kindergarten Classroom Affect Your Earnings? Evidence From Project Star,” *Quarterly Journal of Economics*, vol. 126, no. 4 (November 2011), pp. 1593–1660, <http://dx.doi.org/10.1093/qje/qjr041>.

Jonathan Guryam, *Does Money Matter? Regression-Discontinuity Estimates From Education Finance Reform in Massachusetts*, Working Paper 8269 (National Bureau of Economic Research, May 2001), www.nber.org/papers/w8269.

Eric Hanushek, “The Failure of Input-Based Schooling Policies,” *Economic Journal*, vol. 113, no. 485 (February 2003), pp. F64–F98, <http://dx.doi.org/10.1111/1468-0297.00099>.

C. Kirabo Jackson, Rucker C. Johnson, and Claudia Persico, “The Effects of School Spending on Educational and Economic Outcomes: Evidence From School Finance Reforms,” *Quarterly Journal of Economics*, vol. 131, no. 1 (February 2016), pp. 157–218, <http://dx.doi.org/10.1093/qje/qjv036>.

Rucker C. Johnson, *Long-Run Impacts of School Desegregation & School Quality on Adult Attainments*, Working Paper 16664 (National Bureau of Economic Research, January 2011), www.nber.org/papers/w16664.

Julien Lafortune, Jesse Rothstein, and Diane Whitmore Schanzenbach, *School Finance Reform and the Distribution of Student Achievement*, Working Paper 22011 (National Bureau of Economic Research, February 2016), www.nber.org/papers/w22011.

Federal Subsidies for Higher Education

For general reviews of the effects of federal subsidies for higher education, see the following:

David Deming and Susan Dynarski, *Into College, Out of Poverty? Policies to Increase the Postsecondary Attainment of the Poor*, Working Paper 15387 (National Bureau of Economic Research, September 2009), www.nber.org/papers/w15387.

Susan Dynarski and Judith Scott-Clayton, *Financial Aid Policy: Lessons From Research*, Working Paper 18710 (National Bureau of Economic Research, January 2013), www.nber.org/papers/w18710.

For studies of the effects of federal grants for higher education, see the following:

Susan M. Dynarski, “Does Aid Matter? Measuring the Effect of Student Aid on College Attendance and Completion,” *American Economic Review*, vol. 93, no. 1 (March 2003), pp. 279–288, <http://dx.doi.org/10.1257/000282803321455287>.

For studies of the effects of federal tax credits for higher education, see the following:

George B. Bulman and Caroline M. Hoxby, *The Returns to the Federal Tax Credits for Higher Education*, Working Paper 20833 (National Bureau of Economic Research, January 2015), www.nber.org/papers/w20833.

Nicholas Turner, “Who Benefits From Student Aid? The Economic Incidence of Tax-Based Federal Student Aid,” *Economics of Education Review*, vol. 31, no. 4 (August 2012) pp. 463–481, <http://dx.doi.org/10.1016/j.econedurev.2011.12.008>.

For general reviews of the financial effects of attending college, see the following:

David Card, “The Causal Effect of Education on Earnings,” in Orley C. Ashenfelter and Card, eds., *Handbook of Labor Economics*, vol. 3, part A (North-Holland, 1999) pp. 1801–1863, [http://dx.doi.org/10.1016/S1573-4463\(99\)03011-4](http://dx.doi.org/10.1016/S1573-4463(99)03011-4).

Philip Oreopoulos and Uros Petronijevic, “Making College Worth It: A Review of the Returns to Higher Education,” *Future of Children*, vol. 23, no. 1 (Spring 2013), pp. 41–65, www.futureofchildren.org/publications.

Federal Spending on Job Training

For broad reviews of the effects of federal job-training programs, see the following:

Burt S. Barnow and Jeffrey Smith, *Employment and Training Programs*, Working Paper 21659 (National Bureau of Economic Research, October 2015), www.nber.org/papers/w21659.

Brian McCall, Jeffrey Smith, and Conny Wunsch, “Government-Sponsored Vocational Education for Adults,” in Eric A. Hanushek, Stephen J. Machin, and Ludger Woessmann, eds., *Handbook of the Economics of Education*, vol. 5 (North-Holland, 2016), pp. 479–652, <http://dx.doi.org/10.1016/B978-0-444-63459-7.00009-9>.

For studies of specific job-training programs, see the following:

Fredrik Andersson and others, *Does Federally-Funded Job Training Work? Nonexperimental Estimates of WIA Training Impacts Using Longitudinal Data on Workers and Firms*, Working Paper 19446 (National Bureau of Economic Research, September 2013), www.nber.org/papers/w19446.

Sarah Dolfen and Peter Z. Schochet, *The Benefits and Costs of the Trade Adjustment Assistance (TAA) Program Under the 2002 Amendments* (Submitted by Mathematica Policy Research to the Department of Labor, December 2012), <http://tinyurl.com/z9vlyxn>.

Government Accountability Office, *Providing Information on Colocating Services and Consolidating Administrative Structures Could Promote Efficiencies*, GAO-11-92 (January 2011), www.gao.gov/products/GAO-11-92.

Carolyn J. Heinrich and others, “Do Public Employment and Training Programs Work?” *IZA Journal of Labor Economics*, vol. 2, no. 6 (October 2013), <http://dx.doi.org/10.1186/2193-8997-2-6>.

Peter Z. Schochet, John Burghardt, and Sheena McConnell, *National Job Corps Study and Longer-Term Follow-Up Study: Impact and Benefit-Cost Findings Using Survey and Summary Earnings Records Data* (Submitted by Mathematica Policy Research to the Department of Labor, August 2006), <http://tinyurl.com/zmsmbjf>.