

Investments in Young Children: The Economic Case and How to Fund

July 18, 2011
CCSSO Summer Institute



Rob Grunewald
Federal Reserve Bank of Minneapolis

Investments in Young Children: Economic Case and How to Fund



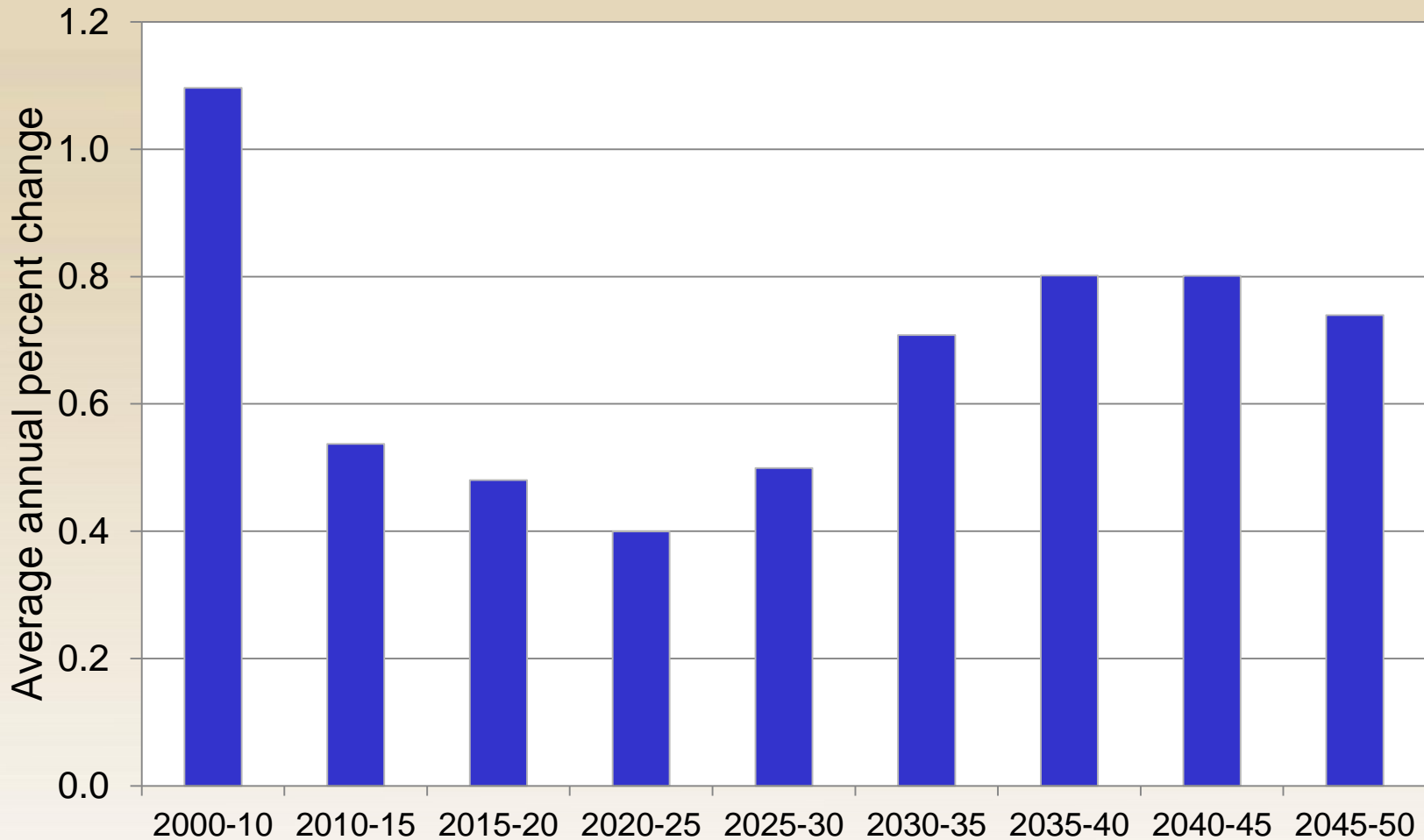
- Early childhood development is economic development
- Early investments yield a high public return
- States use a variety of funding sources
- Education chiefs play key role in moving agenda forward



Investments in Young Children: Economic Case and How to Fund

- Early childhood development is economic development
- Early investments yield a high public return
- States use a variety of funding sources
- Education chiefs play key role in moving agenda forward

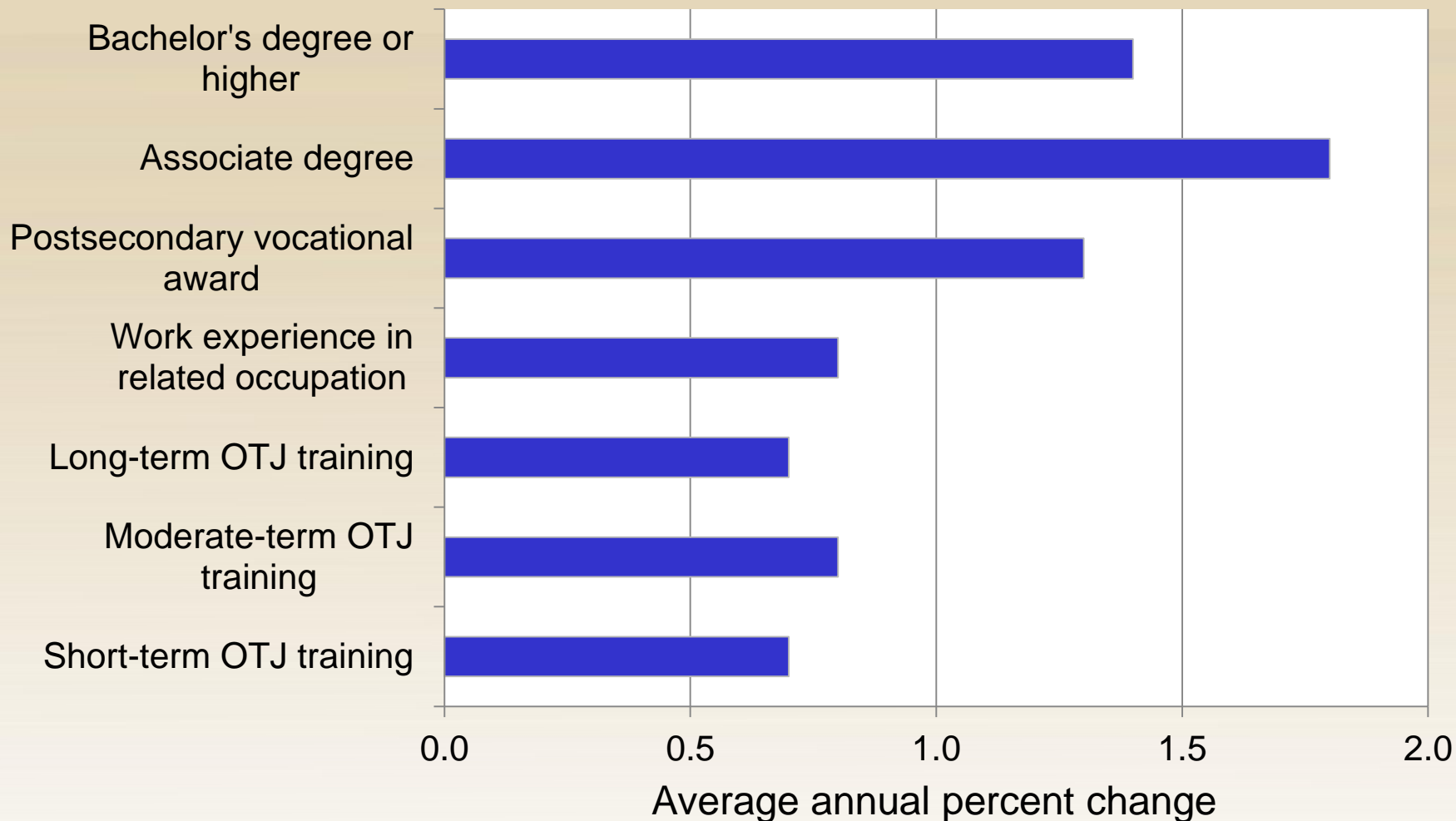
U.S. Population Projections, Ages 15 to 64



Source: U.S. Census Bureau, Population Division

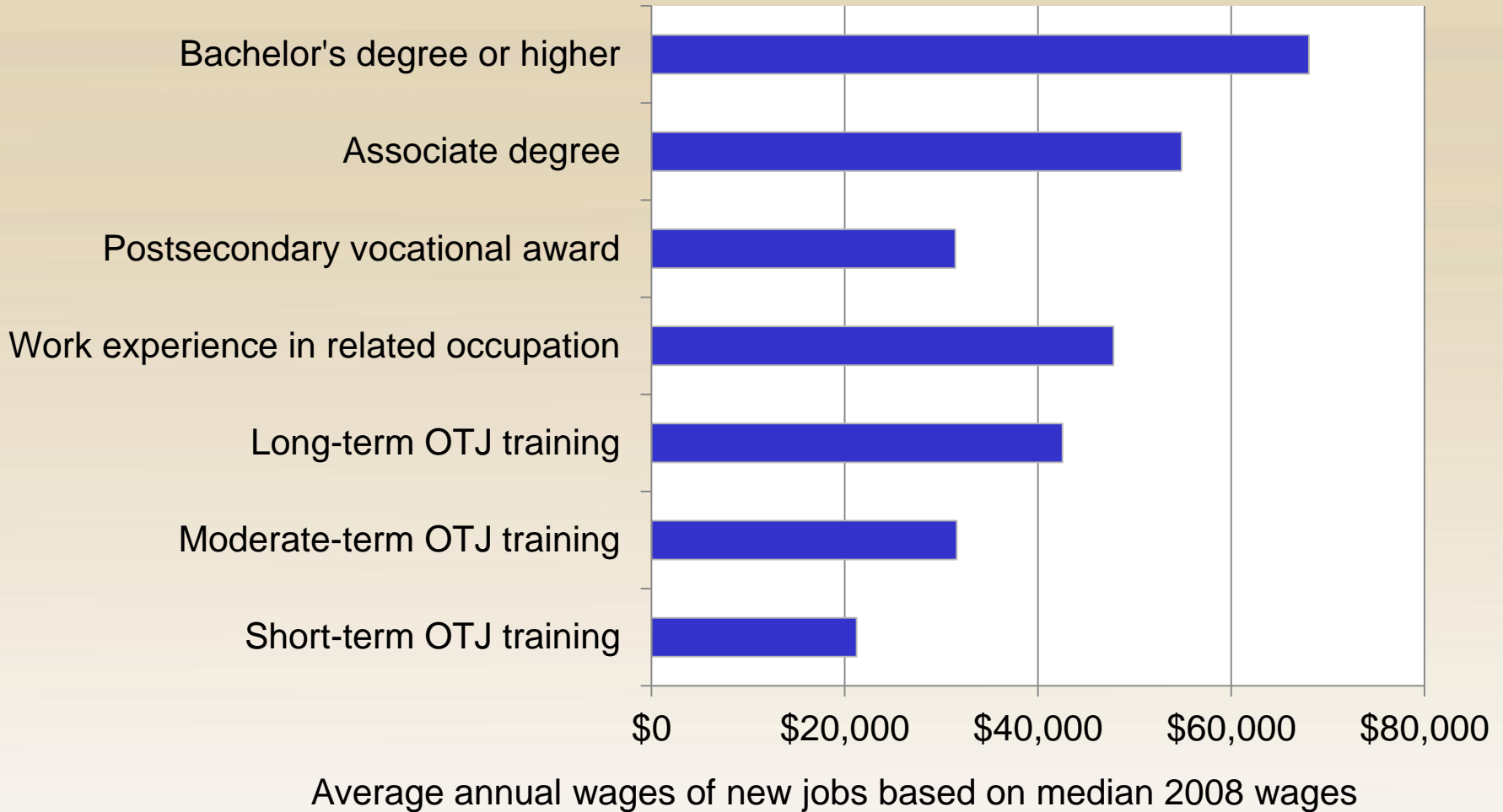


Occupation Growth by Primary Source of Education and Training, 2008 to 2018



Source: U.S. Bureau of Labor Statistics, Employment Projections Program

Average Annual Wages of New Jobs by Primary Source of Education and Training, 2008 to 2018



Source: U.S. Bureau of Labor Statistics, Employment Projections Program



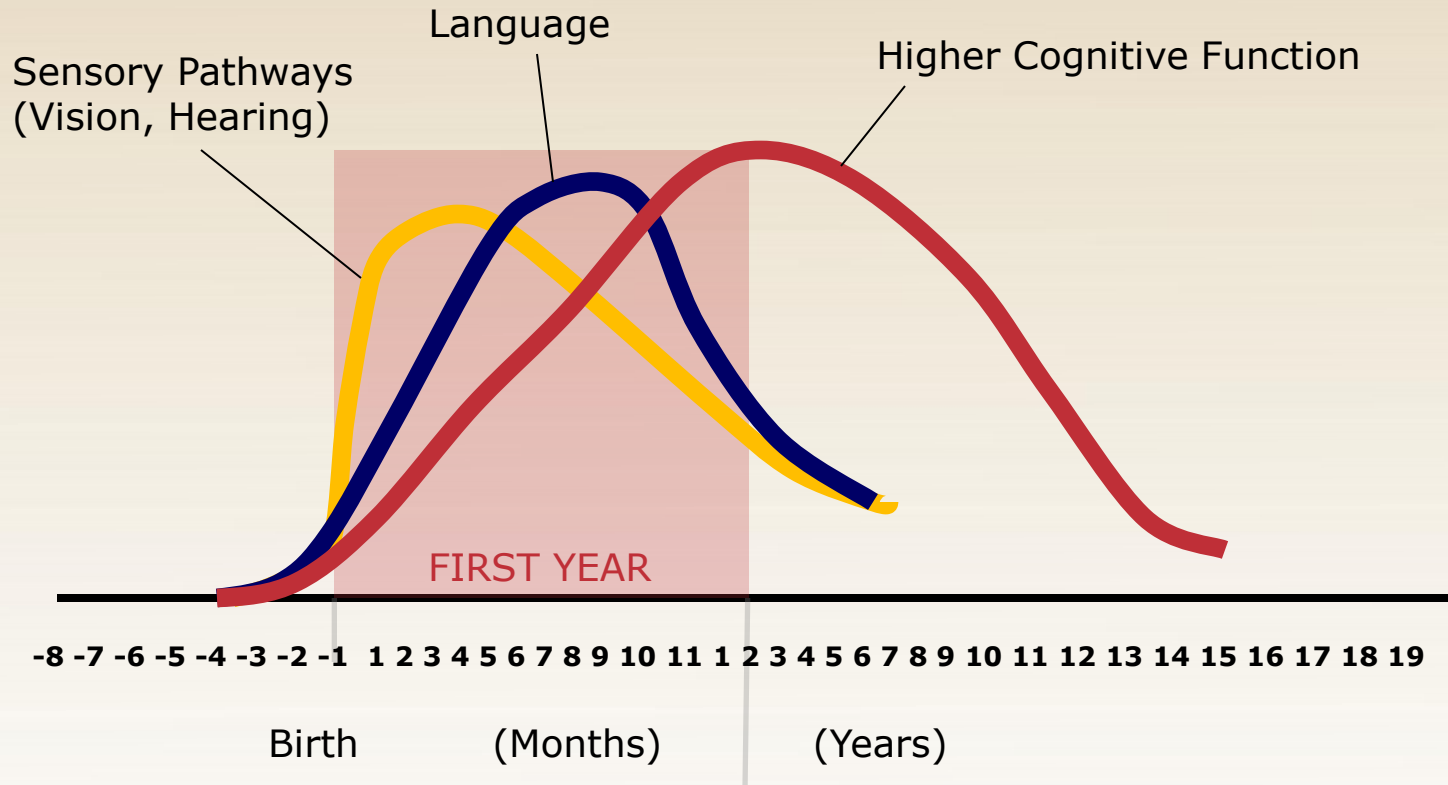
Investments in Young Children: Economic Case and How to Fund

- Early childhood development is economic development
- Early investments yield a high public return
- States use a variety of funding sources
- Education chiefs play key role in moving agenda forward



Human Brain Development

Synapse Formation Dependent on Early Experiences



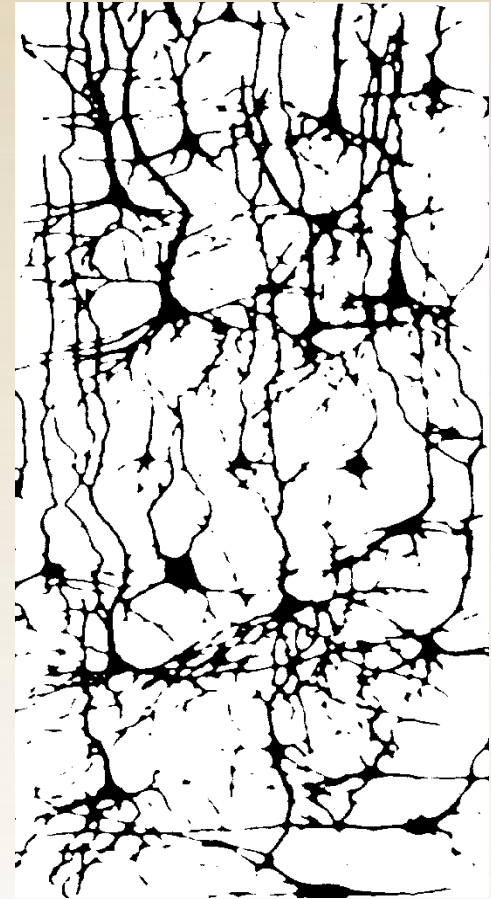
Human
Brain
at Birth



6 Years Old



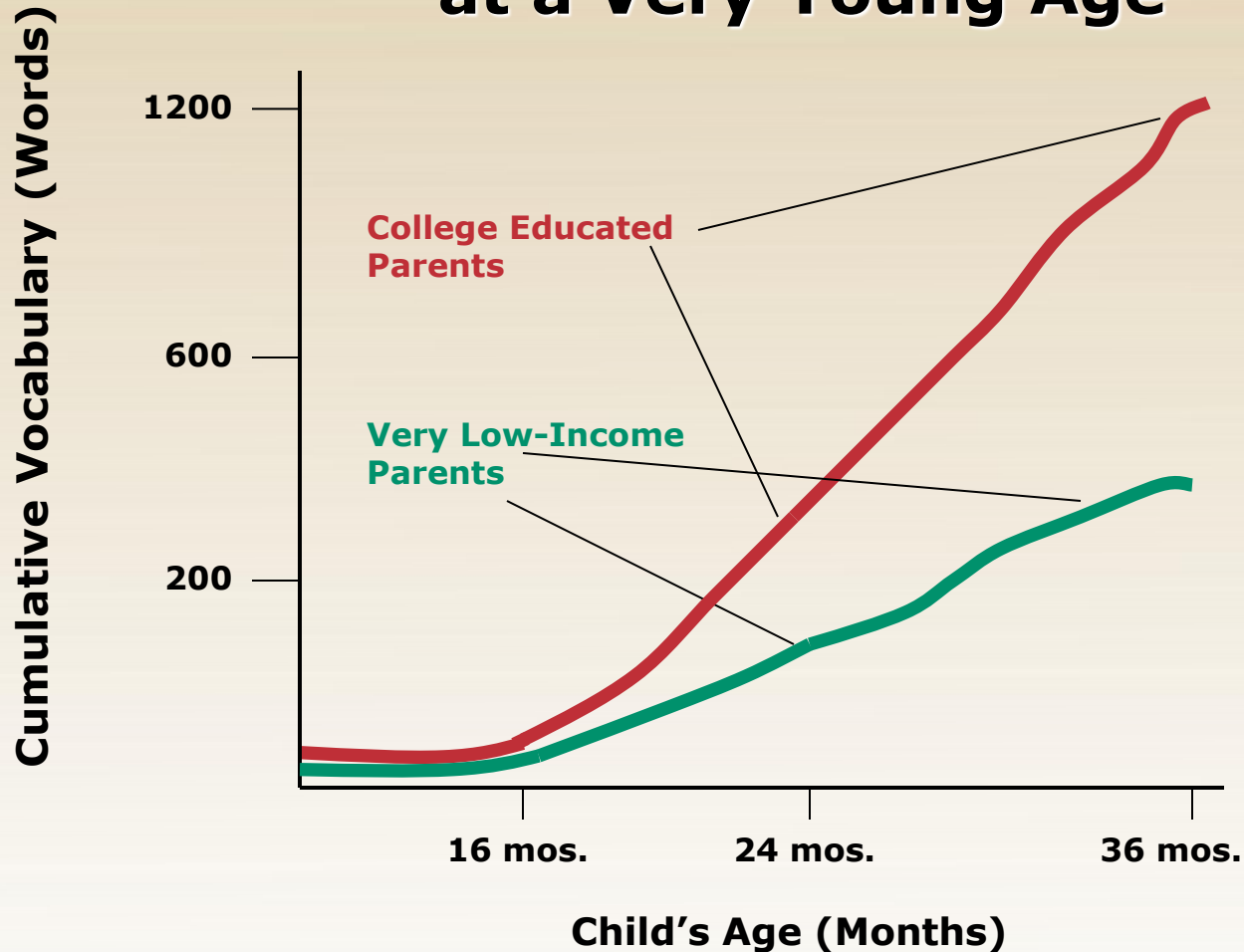
14 Years Old



Source: Chugani, Phelps & Mazziotta (1987)



Barriers to Social Mobility Emerge at a Very Young Age



Source: Hart & Risley (1995)

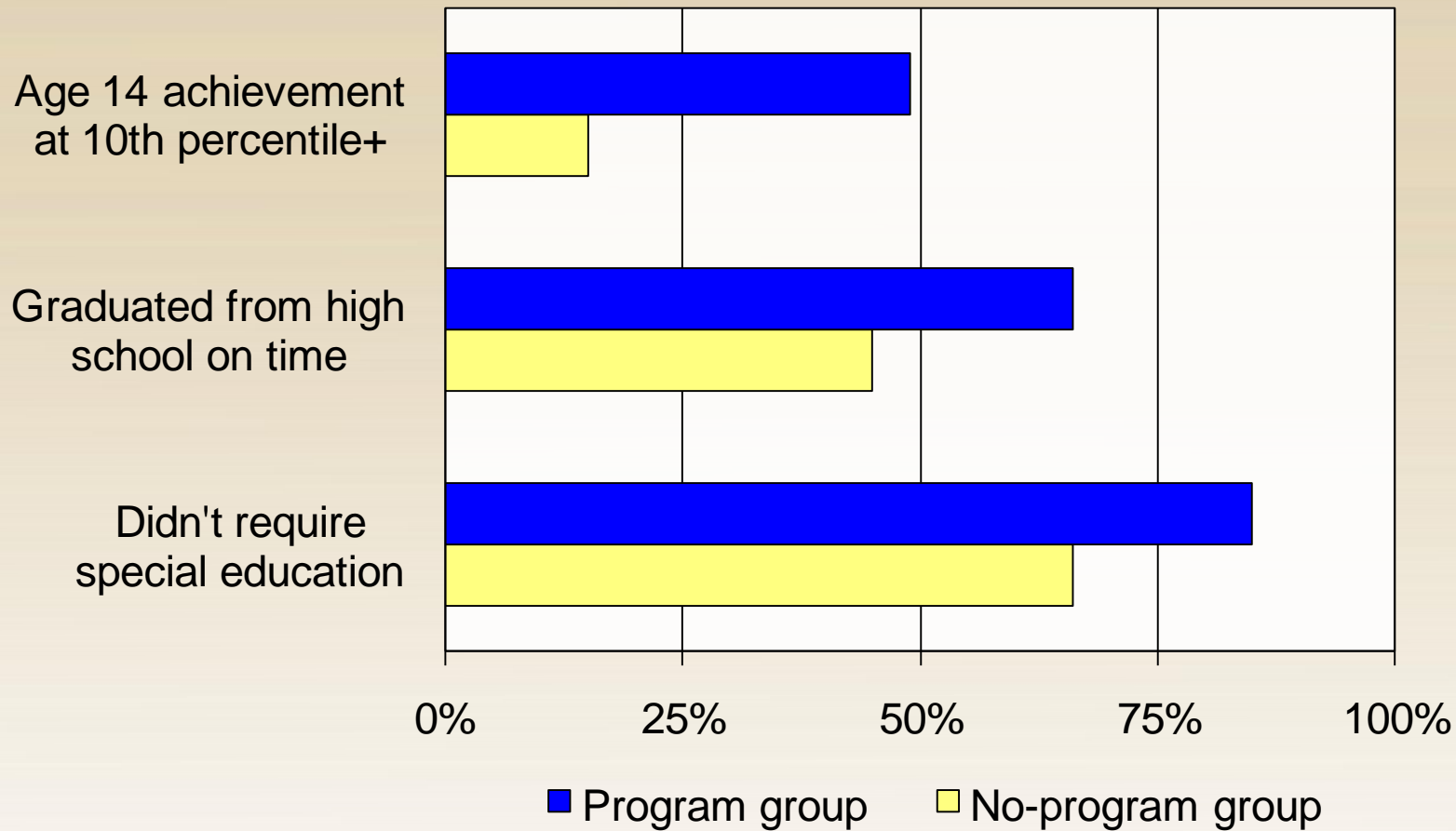


High/Scope Study of Perry Preschool

- In early 1960s, 123 children from low-income families in Ypsilanti, Mich.
- Children randomly selected to attend Perry or control group.
- High-quality program with well-trained teachers, daily classroom sessions and weekly home visits.
- Tracked participants and control group through age 40.



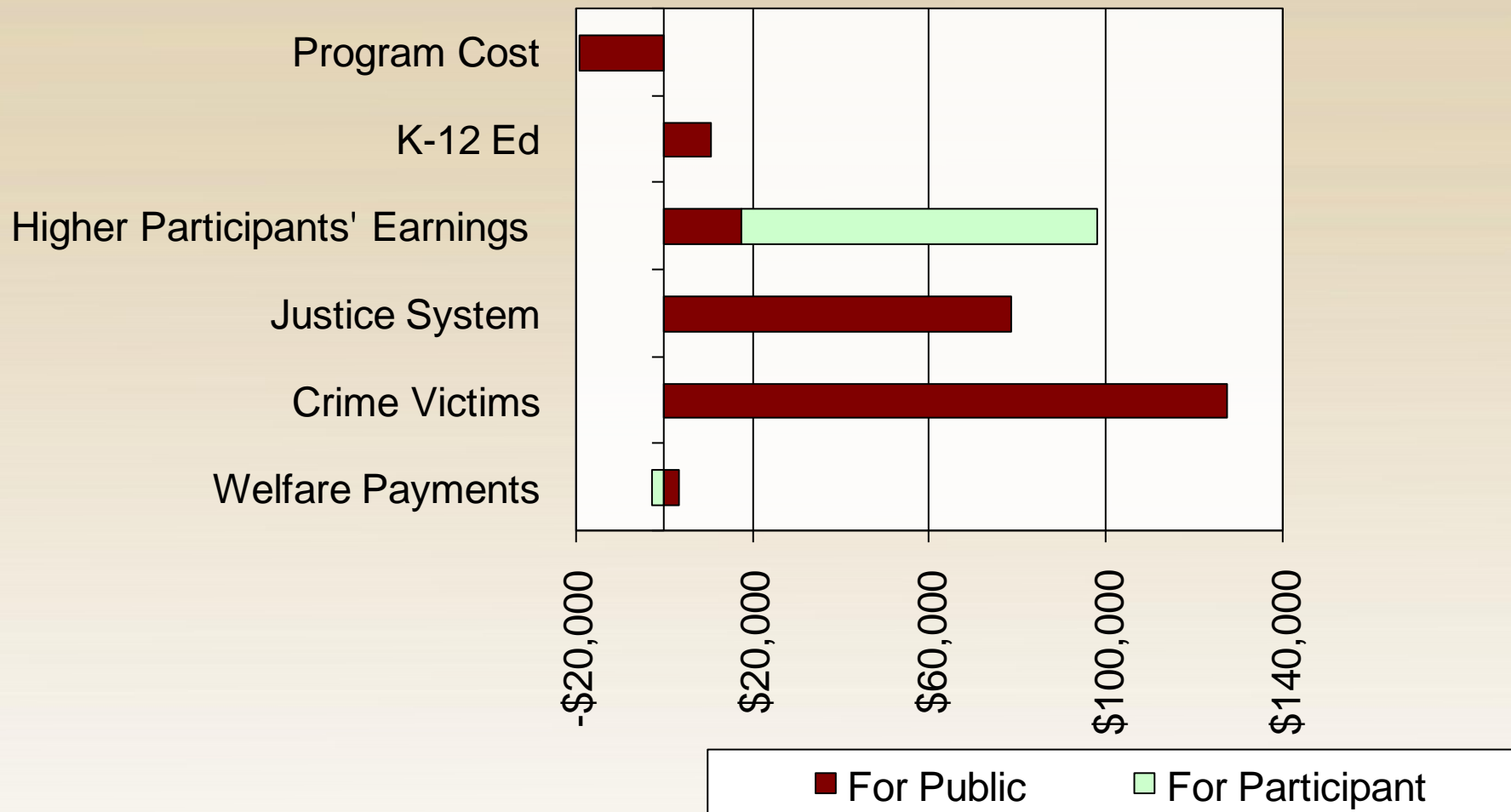
Perry: Educational Effects



Source: Schweinhart, et al. (2005)



Perry Preschool Costs and Benefits Over 62 Years



Source: Schweinhart, et al. (2005)



Perry Preschool — Estimated Return on Investment

- Benefit-Cost Ratio = \$16 to \$1
- Annual Rate of Return = 18%
- Public Rate of Return = 16%
- Heckman Reanalysis = 10%

Sources: Schweinhart, et al. (2005); Author's calculations; Heckman, Moon, Pinto, Savelyez, & Yavitz (2010)



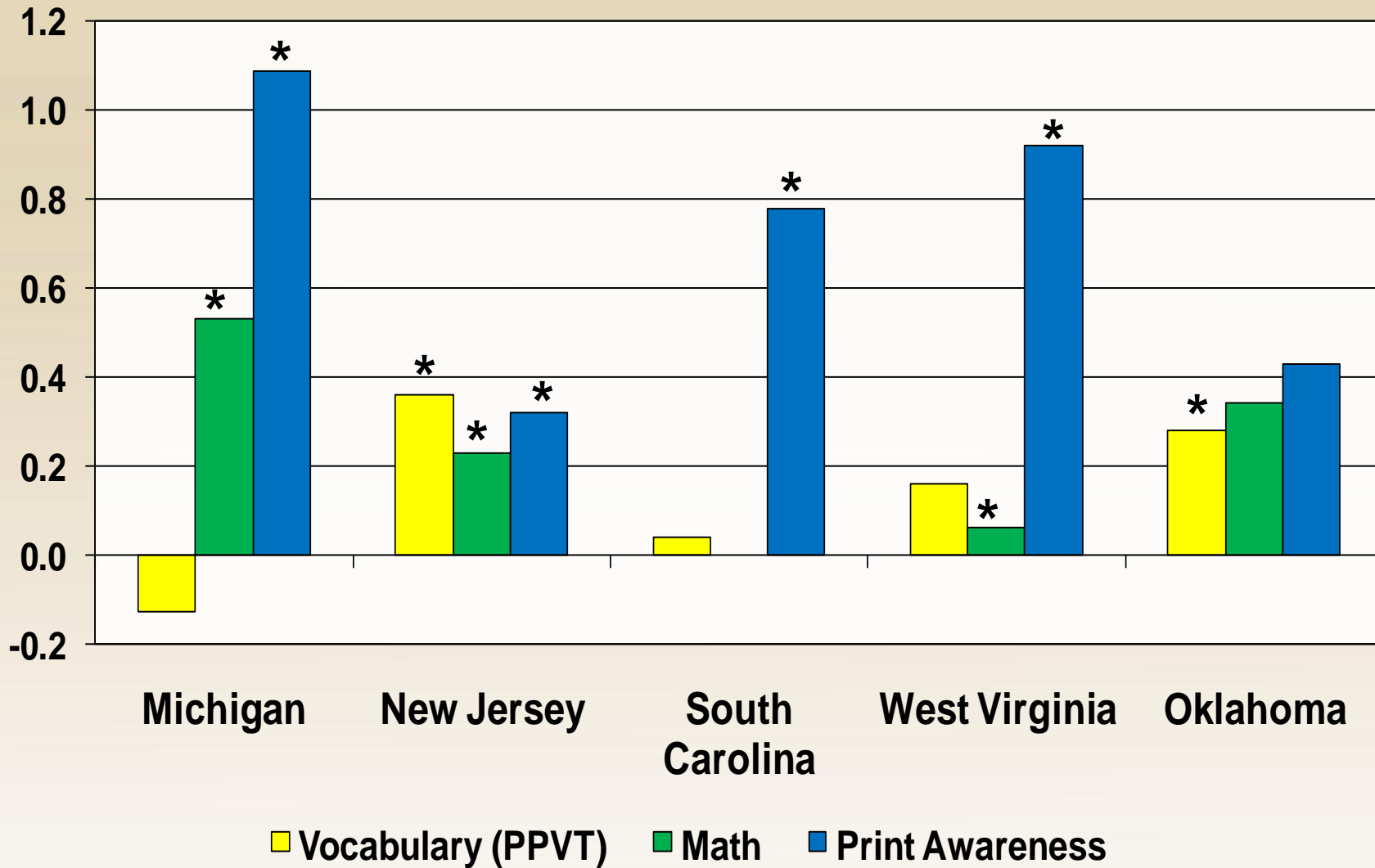
Benefit-Cost Ratios for Other Longitudinal Studies

- Abecedarian Educational Child Care
 - \$4 to \$1
- Chicago-Child Parent
 - \$7 to \$1
- Elmira Prenatal/Early Infancy Project
 - \$5 to \$1

Sources: Masse & Barnett (2002); Reynolds, Temple, Robertson, & Mann (2002); Karoly, et al. (1998)

Five-State Pre-K Evaluation

Estimated size of intent-to-treat effect



*Significant at 5% Source: Wong, V. C., Cook, T. D., Barnett, W. S., & Jung, K. (2008)



Lessons Learned from Research

- Invest in quality
- Involve parents
- Start early
- Reach at-risk population
- Bring to scale



Investments in Young Children: Economic Case and How to Fund

- Early childhood development is economic development
- Early investments yield a high public return
- States use a variety of funding sources
- Education chiefs play key role in moving agenda forward



Funding Pre-K

- General revenue
- School funding formula
 - At least 11 states and D.C.
 - Community programs can provide preschool
- Designated sales or excise tax
 - South Carolina and Denver: Sales tax
 - California and Arizona: Cigarette tax
- Lottery
 - Georgia raises about \$300 million



Funding Prenatal to Age 3

- Set aside Pre-K funds for ages 0 to 3
 - Illinois and Kansas
- Endowment
 - Nebraska, \$60 million
- Public-Private Partnerships
 - Smart Start (North Carolina)
 - Smart Beginnings (Virginia)
 - Minnesota Early Learning Foundation

Investments in Young Children: Economic Case and How to Fund



- Early childhood development is economic development
- Early investments yield a high public return
- States use a variety of funding sources
- Education chiefs play key role in moving agenda forward



Roles for Education Chiefs

- Advocate for early childhood funding
- Partner with Human Services and Health Departments to improve program quality
- Encourage schools to partner with child care, Pre-K and Head Start to improve transition to kindergarten
- Apply for Early Learning Challenge funds to build a stronger state early learning system
- Promote partnerships with the private sector



Sources

Chugani, H.T., Phelps, M.E., & Mazziotta, J.C. (1987). Positron emission tomography study of human brain functional development. *Annals of Neurology* 22, 487-497.

Hart, B., & Risley, T.R. (1995). *Meaningful Differences in the Everyday Experience of Young American Children*. Baltimore: Paul H. Brooks Publishing Co.

Karoly, L.A., Greenwood, P.W., Everingham, S.S., Hoube, J., Kilburn, M.R., Rydell, C.P., et al. (1998). *Investing in Our Children: What We Know and Don't Know About the Costs and Benefits of Early Childhood Interventions*. Santa Monica, Cal.: RAND Corporation.

Masse, L.N., & Barnett, W.S. (2002). *A Benefit-Cost Analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, N.J.: National Institute for Early Education Research.

Heckman, J. J., Moon, S.H., Pinto, R., Savelyez, P., & Yavitz, A. (2010). "The Rate of Return to the HighScope Perry Preschool Program." *Journal of Public Economics* 94(1-2), 114-28.

Minnesota Early Learning Foundation. www.melf.us.

Nelson, C.A. (2000). The Neurobiological Bases of Early Intervention. In J.P. Shonkoff & S.J. Meisels (Eds.), *Handbook of Early Childhood Intervention*, second edition (204-227). Cambridge, Mass.: Cambridge University Press.

Reynolds, A.J., Temple, J.A., Robertson, D.L., & Mann, E.A. (2002) "Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Centers." *Educational Evaluation and Policy Analysis* 4(24), 267-303.

Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005) *Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40*. Ypsilanti, Mich.: High-Scope Press.

U.S. Census Bureau, Population Division. Population Projections. <http://www.census.gov/population/www/projections/>.

U.S. Bureau of Labor Statistics, Employment Projections Program. <http://www.bls.gov/emp/>.

Wong, V. C., Cook, T. D., Barnett, W. S., & Jung, K. (2008). "An Effectiveness-based Evaluation of Five State Prekindergarten Programs." *Journal of Policy Analysis and Management*, 27(1), 122-154.



minneapolisfed.org