

## The Path to a Competitive Workforce Begins with High-Quality Early Education

Leading economists estimate a 10-16% rate of return on investing in high-quality early education, a rate that outpaces the average long-term returns of the stock market. <sup>1</sup> Unless the United States gets serious about investing in young children, they warn, we will be unable to compete in an increasingly sophisticated global economy. Already, the U.S. has fallen from first place to twelfth in the proportion of young adults with college degrees. <sup>2</sup> It is projected that by 2022 the number of jobs requiring a post-secondary education for entry will continue to grow rapidly, especially those requiring a master's or associates degree. <sup>3</sup> Already, we have trouble filling the 85% of U.S. jobs that require skilled workers. <sup>4</sup> A compelling body of research finds the solution starts with high-quality early education. It yields significant returns in increased educational attainment, earnings, productivity and health and decreased reliance on special education, grade retention, public assistance and social services. It helps close achievement gaps that cost hundreds of billions of dollars in lost gross domestic product. <sup>5</sup>

### The Need is Urgent

The United States faces a mismatch in the demands of the 21<sup>st</sup> economy for skilled, well-educated workers and the preparedness of an increasingly diverse population of children and youth. The problem has particular resonance in Massachusetts, home to an aging workforce and one of the nation's leading innovation-based economies.

- 68% of Massachusetts jobs in 2018 will require a college degree, but only 54% of young adults in the state have completed college. <sup>6</sup>
- Massachusetts posts a wide and persistent achievement gap. <sup>7</sup> For students in Massachusetts entering community colleges, 65% require remedial coursework in math or reading. <sup>8</sup>
- 6,200 Massachusetts students dropped out of high school in 2012-13. <sup>9</sup>
- Each high school dropout in Massachusetts, on average, costs \$349,000 more over a lifetime – in decreased tax revenues and increased public assistance costs– than the average graduate. <sup>10</sup>

### Research Points to a Cost-Effective Investment in our Future

Three highly regarded longitudinal studies of preschool programs for children from low-income families have followed participants well into adulthood and find short- and long-term benefits. Other studies reinforce these findings.

- Participants are 40% less likely to be referred to special education services or held back a grade, 30% more likely to graduate from high school and twice as likely to attend college. <sup>11</sup>
- Participants demonstrate stronger early literacy and math skills. <sup>12</sup>
- The play-based curriculum of high-quality early education lays a strong foundation for STEM learning by building on young children's exploration of the world around them as natural scientists and mathematicians. <sup>13</sup>
- High-quality early education helps develop children's social-emotional skills and self-regulation, as well as their ability to focus and stay on task, all prerequisites for success in the 21<sup>st</sup> century workplace. Children's ability at age 4 to pay attention and complete a task strongly predicts their chances of graduating from college by 25. <sup>14</sup>
- Participants in early care programs have been found to have long-lasting health benefits. As adults, participants are less likely to experience depressive symptoms,

“Investing early allows us to shape the future; investing later chains us to fixing the missed opportunities of the past.”

*James Heckman  
Economist and Nobel laureate*

“Early childhood programs are a good investment, with inflation-adjusted annual rates of return to these funds of 10 percent or higher. Very few alternative investments can promise that kind of return.”

*Ben Bernanke  
Chairman, Federal Reserve*

“With current early childhood education resource levels, too many kindergartners will continue to begin school ill-prepared,... and businesses will lack the necessary workforce to fill the jobs of the future.”

*U.S. Chamber of Commerce*

“Access to high-quality early education and learning opportunities is integral to helping today's children prepare for the highly competitive, fast-paced global economy.”

*National Association of Manufacturers*

“High-quality early education programs are vital to future economic growth and maintaining a highly skilled workforce.”

*Committee for Economic Development*

have cardiovascular and metabolic disease, or regularly smoke. These improved outcomes further increases the potential for positive economic impact.<sup>15</sup>

- At age 40, adults who had participated in high-quality early education as children earned, on average, \$5,500 more per year. Three-quarters (76%) were employed, compared with 62% of non-participants.<sup>16</sup>
- Reliable, high-quality early education and care arrangements reduce employee turnover and lower absenteeism. Employee absenteeism due to breakdowns in child care cost American businesses \$3 billion per year.<sup>17</sup>

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<sup>1</sup> Rolnick, A. and Grunewald, R. (2003). Early childhood development: Economic development with a high return. Retrieved from [http://www.minneapolisfed.org/publications\\_papers/studies/earlychild/abc-part2.pdf](http://www.minneapolisfed.org/publications_papers/studies/earlychild/abc-part2.pdf); The Heckman Equation. Retrieved from: <http://www.heckmanequation.org/>.

<sup>2</sup> The College Board. (2011). The College Completion Agenda 2011 Progress Report Retrieved from [http://completionagenda.collegeboard.org/sites/default/files/reports\\_pdf/Progress\\_Executive\\_Summary.pdf](http://completionagenda.collegeboard.org/sites/default/files/reports_pdf/Progress_Executive_Summary.pdf)

<sup>3</sup> U.S Bureau of Labor Statistics. (2012). Education and training outlook from 2012-2022. Retrieved from: [http://www.bls.gov/emp/ep\\_edtrain\\_outlook.pdf](http://www.bls.gov/emp/ep_edtrain_outlook.pdf)

<sup>4</sup> “Skilled workers” in this context referring to workers who can exhibit complex thinking, communication, and technical skills. See Committee for Economic Development. (2012). Unfinished Business: Continued Investment in Child Care and Early Education is Critical to Business and America’s Future. Retrieved from: <http://ced.org/images/content/issues/earlyeducation/UnfinishedBusinessLO.pdf>

<sup>5</sup> McKinsey & Company. (2009). The Economic Impact of the Achievement Gap in America’s Schools. Retrieved from [http://mckinseysociety.com/downloads/reports/Education/achievement\\_gap\\_report.pdf](http://mckinseysociety.com/downloads/reports/Education/achievement_gap_report.pdf)

<sup>6</sup> The College Board. (2011). The College Completion Agenda 2011 Progress Report Retrieved from [http://completionagenda.collegeboard.org/sites/default/files/reports\\_pdf/Progress\\_Report\\_2011.pdf](http://completionagenda.collegeboard.org/sites/default/files/reports_pdf/Progress_Report_2011.pdf)

<sup>7</sup> U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), various years, 1992–2011 Reading Assessments.

<sup>8</sup> The Boston Foundation. (2013). Stepping up for community colleges: Building on the momentum to improve student success in Massachusetts. Retrieved from: [http://www.tbf.org/~media/TBFOrg/Files/Reports/SteppingUp\\_Mar11-2013.pdf](http://www.tbf.org/~media/TBFOrg/Files/Reports/SteppingUp_Mar11-2013.pdf)

<sup>9</sup> Massachusetts Department of Elementary and Secondary Education. (2013). High School Dropouts 2012-13. Retrieved from: <http://www.doe.mass.edu/infoservices/reports/dropout/2012-2013/>

<sup>10</sup> Sum, A., Khatiwada, I., McLaughlin, J. Tobar, P., & Motroni, J. (January 2007). An Assessment of the Labor Market, Income, Health, Social, Civic and Fiscal Consequences of Dropping Out of High School: Findings for Massachusetts Adults in the 21st Century. Center for Labor Market Studies Northeastern University.

<sup>11</sup> Reynolds, A. J., et al. (2001). Long-term Effects of an Early Childhood Intervention on Educational Achievement and Juvenile Arrest. *JAMA*, 285(18), 2339-2346.; Reynolds, A. J., et al. (2007). Effects of a School-Based, Early Childhood Intervention on Adult Health and Well-Being. *Archives of Pediatrics & Adolescent Medicine*, 161(8), 730-739.; Barnett, W. S. & Masse, L. N. (2007). Comparative benefit-cost analysis of the Abecedarian program and its policy implications. *Economics of Education Review*, 26, 113-125.

<sup>12</sup> Ibid.

<sup>13</sup> See for example: Gopnik, A. (2012). Scientific Thinking in Young Children: Theoretical Advances, Empirical Research, and Policy Implications. *Science*. 337, 6102. pp. 1623-1627.

<sup>14</sup> Parker-Pope, T. (2012, August 23). Simon says don’t use flashcards. *The New York Times*. Retrieved from <http://well.blogs.nytimes.com/2012/08/23/simon-says-dont-use-flashcards/>

<sup>15</sup> Campell, F. A., et al. (2012). Adult outcomes as a function of an early childhood educational program: An Abecedarian project follow up. *Developmental Psychology*. 48(4): 1033-1043

<sup>16</sup> Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). Lifetime effects: The HighScope Perry Preschool study through age 40. (Monographs of the HighScope Educational Research Foundation, 14). Ypsilanti, MI: HighScope Press.

<sup>17</sup> See for example: Shellenback, K. (2004). *Child Care and Parent Productivity: Making the Business Case*. Ithaca, NY: Cornell Department of City and Regional Planning. [Updated April 2014]