



Strengthening New York Businesses through Investments in Early Care and Education

How Investments in Early Learning
Increase Sales from Local Businesses,
Create Jobs and Grow the Economy

A report by: **AMERICA'S EDGE**
Strengthening Businesses Through Proven Investments in Kids



Who We Are

The business leaders of AMERICA'S EDGE take a critical look at the knowledge, skills and abilities businesses need their employees to have in the 21st century, including the ability to be communicators, collaborators and critical thinkers. Using that analysis, we educate policy-makers and the public about high-quality, proven investments that strengthen businesses, establish a foundation for sustained economic growth, and protect America's competitive edge in a global market place, while helping our nation's children get on the right track.

Acknowledgements

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Executive Summary

How Early Learning Investments Can Help Expand New York's Economy

New York business leaders recognize that the key to jump-starting the state's economy and keeping struggling companies in business is to generate additional sales of local goods and services, while also creating new jobs. That is why, after taking a hard look at the research and calculating proven returns on investment, New York business leaders are calling on the governor and state legislators to invest in early care and education. This report documents that investments in early learning provide a significant, immediate economic boost for local businesses and help build stronger communities over the long term.

Fully investing in early care and education would generate billions of dollars in sales of goods and services for New York businesses and create tens of thousands of jobs in the state. In fact, investments in quality early learning generate as much or more new spending for local businesses as investments in eight other major economic sectors. For every \$1 invested in early care and education in New York, \$1.86 is generated in additional spending within the state. This strong economic boost for local businesses is as high or higher than investments in other major sectors such as construction, retail trade, manufacturing, transportation and utilities.

Expanding early care and education should be a critical component of New York's economic recovery. If all New York children were given access to quality early care and education at a cost of an additional \$3.6 billion, the state would generate \$6.7 billion in total new spending in New York businesses. And nearly all of these dollars generated in New York would stay in New York – helping local businesses prosper while also creating up to 80,000 new jobs, including 17,000 jobs outside the early learning sector.

Such an investment will also save New York businesses money every day through reduced absenteeism and turnover. The average working parent in America misses five to nine days of work per year because of child care problems. This costs U.S. businesses \$3 billion a year in lost productivity. Research confirms that if parents have quality early care and education available in their communities, not only will absenteeism and

turnover go down, but productivity will also go up – immediately improving businesses' bottom lines.

Yet another strategic reason for this investment is that access to quality early care and education will increase the ability of New York businesses to attract skilled employees. Quality programs for our youngest children are needed for the same reasons communities strive to have a strong K-12 education system to attract skilled workers and new businesses. The U.S. Department of Education has warned that 60 percent of new jobs in the 21st century will require skills possessed by only 20 percent of the current workforce. As our economy begins to turn around, New York businesses need the right resources to attract and retain the best workers. To attract the best employees, communities must be able to ensure that quality early learning is available for their children.

Finally, such an investment will establish a foundation for sustained economic growth because quality early learning is key to ensuring that future employees have the 21st century skills New York businesses need. To remain competitive in a global marketplace, businesses need communicators, collaborators and critical thinkers. Research confirms that quality early learning is the crucial first step in the development of those skills. And research shows that the return on investment is impressive: Studies of high-quality early education programs for at-risk children have shown that quality programs can save as much as \$16 for every dollar invested.

The bottom line: With limited funds available to help businesses and our economy get back and stay on track, few investments make as much sense for New York businesses' balance sheets as do expanded investments in high-quality early care and education.



Strengthening New York Businesses through Investments in Early Care and Education

Immediate Short-Term Economic Gains

Critical Issues for New York Businesses

Even in today's tough economy, many businesses are experiencing a short supply of employees with 21st Century skills in large part because high school and college graduates lack the knowledge and ability businesses need. Consider these facts. In the United States:

- 31 percent of high school students do not graduate on time;
- 70 percent of eighth graders are below grade level in math;
- 68 percent of fourth graders read below grade level; and
- 60 percent of three- to five-year-olds do not have the basic skills needed to enter kindergarten, such as counting to ten and recognizing letters in the alphabet.¹

Each year, dropping out costs the United States dearly in lost productivity. In fact, high school dropouts are so much less productive than high school graduates that each class of dropouts will make \$335 billion less over their lifetime than they would have as graduates.² Deficits in basic skills are also an unsustainable expense, costing our nation \$3.7 billion annually in remedial education costs and reduced earning potential.³

Increasing Sales of Local Goods and Services

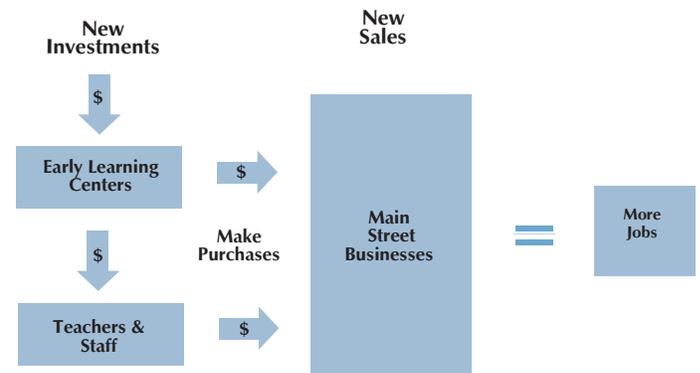
New research by AMERICA'S EDGE found that increasing the skill level of current and future employees, increasing graduation rates and future earnings, strengthening local and state economies immediately, and improving businesses' bottom line can be achieved through cost effective and proven investments in quality early childhood education programs.⁴

What economic modeling is the most effective way to determine early education's economic impact in New York? This report used IMPLAN, an economic modeling system first developed 17 years ago that is widely used for conducting a variety of

economic impact and related analyses, to find the answer. This study employed the most recently available (2008) data sets and IMPLAN models and adheres fully to standard input-output and IMPLAN conventions (see the Appendix for a complete explanation of IMPLAN and the report's methodology).

This economic impact modeling system found that, for every additional \$1 invested in early care and education in New York, \$1.86 is generated in additional spending within the state. This strong economic boost for local businesses is as high or higher than investments in other major sectors such as construction (\$1.86), retail trade (\$1.83), manufacturing (\$1.72), transportation (\$1.72) and utilities (\$1.53).⁵ Research shows that among New York's major economic sectors that will spur economic growth, early care and education offers one of the smartest ways to create additional buying power for consumers and help local companies stay in business.

How Early Learning Investments Help New York Businesses



To ensure all New York children have access to quality early care and education would require an investment of an additional \$3.6 billion. That investment would yield \$3.1 billion in additional sales in New York's economy outside of early care and education, for a total of \$6.7 billion of new money infused into the state.⁶ And most of these dollars generated in New York would stay in New York – helping local businesses improve sales in almost every sector. Here are some examples of the economic impact that investing in



The Early Learning sector generates as much or more additional spending in the economy as other major economic sectors

Economic Sectors	Output Multipliers
Early Care and Education ¹	\$1.86
Other Major Sectors	
Construction	\$1.86
Wholesale Trade	\$1.83
Retail Trade	\$1.83
Farming, Logging, Fishing, Hunting	\$1.75
Manufacturing	\$1.72
Transportation	\$1.72
Mining, Oil, Gas	\$1.67
Utilities	\$1.53
<p>1. The early care and education sector is part of the larger services sector, which on average generates a multiplier of \$1.98 for every \$1 invested.</p> <p>Source: IMPLAN, 2008 analysis of Type SAM Output Multipliers for New York State</p>	

Every \$1 invested in the early learning sector generates an additional 86 cents in the local economy.

early learning would have on the major economic sectors in New York:

- **Over \$800 million in new sales in the state’s services sector**, which employs the majority of workers in New York. The additional dollars would benefit many small businesses including dry cleaners, mobile phone and cable companies, and numerous professional firms such as accounting, law and tax offices.⁷
- **Over \$550 million in new sales in real estate and construction** – providing a boost to the slumping real estate market and helping many low- and middle-income families keep up with their mortgage or rental payments.⁸
- **Over \$550 million in new dollars to New York’s insurance and finance sectors**, including local banks and insurance companies.⁹
- **Over \$350 million in new sales in New York’s retail and wholesale trade sectors** including grocery stores, department stores, and auto dealers.¹⁰

The \$3.1 billion in additional spending outside of early care and education will be generated in over 400 economic categories. Of those 400-plus categories, here are just a few concrete examples of increased sales for New York businesses:

- \$113 million in sales at local restaurants, the cost for over 25,000 households of four to eat out for one year;¹¹
- \$80 million in sales from local electric companies, the cost of monthly electric bills for nearly 50,000 families;¹²
- \$29 million in sales from local supermarkets, the cost of a year of groceries for over 5,000 families;¹³
- \$20 million in sales from local clothing stores, the cost of annual clothing purchases for over 2,500 families;¹⁴
- \$12 million in home-health care services, enough, for example, for 3,000 families to pay home-health care providers for an average 60-day home-care episode;¹⁵ and
- \$16 million in sales from local car and automobile parts dealers, the cost, for example, for 900 families to get a new compact car.¹⁶

The key point is that investments in the early learning sector are very competitive with investments in other major sectors, and those investments create an immediate infusion of dollars throughout New York’s local businesses.

80,000 New Jobs in New York

Fully investing in early care and education would also create tens



Early Learning Spending Stays in New York

Here's how it works:

The dollars initially invested in an early learning program re-circulate through the local economy. The first dollar of spending goes directly to early care and education programs, and the additional spending is generated in two ways: (1) when early learning centers purchase local goods and services to operate their programs; and (2) when early learning teachers and staff spend their wages on local goods and services. All this additional spending is generated through what is known as the “multiplier effect.”

Although every industry generates some additional spending in these two ways (see table on page 2 for a comparison of economic output multipliers for different sectors), the early child care and education sector has one of the highest output multipliers because a high proportion of the spending by early learning programs and staff is spent locally. Much of the investment in early education goes to teacher wages, and the person-to-person nature of this service means that it must be provided and delivered locally. This

is different from many industries that are based on products that could be manufactured outside of New York or on services that can be provided remotely (e.g., customer service representatives via phone lines from other states or even internationally).

In turn, since early education teachers and staff are low- and moderate-wage workers (child care workers have median annual incomes of \$17,630¹⁷), they typically spend rather than save their wages, purchasing local goods and services, including housing and retail products.

Here's what this means in actual dollars and cents: Every dollar spent on early care and education in New York yields a total of \$1.86 in the state economy.¹⁸

of thousands of new jobs. For every four jobs created in the early care and education sector, more than one job is created outside that sector in New York's economy.¹⁹

An analysis of the IMPLAN economic data for New York shows that a \$3.6 billion investment to offer early learning services to all of New York's young children would create 80,000 new jobs, including 17,000 new jobs in other economic sectors.²⁰ These additional jobs are created when expanded early learning programs and their employees purchase additional local goods and services. As demand for goods increases, so does the need to supply those goods, which creates jobs.

Thus, investment in early learning, with the increased spending power from newly-employed individuals, would help New York begin to reduce its unemployment rate and immediately strengthen local businesses.

Cost Savings and Increased Productivity for Businesses

Quality early learning saves businesses money through reduced absenteeism and turnover. The average working parent in America misses five to nine days of work, or one to two weeks per year, because of child care problems. In fact, according to a study published by Cornell University, this problem costs U.S.

businesses \$3 billion every year.²¹ Research confirms that if parents have quality early care and education available in their communities, not only will absenteeism and turnover go down, but retention and productivity will also go up.²² Reduced absenteeism and turnover and increased retention and productivity translate into immediate savings and increased profits for businesses—good news to New York businesses on both sides of their balance sheets.

Attracting Skilled Employees

Even in tough economic times, businesses often struggle to attract qualified applicants to fill skilled positions. Having access to quality early care and education services currently helps 750,000 parents stay in the workforce in New York. However, over 500,000 children under six in New York do not participate in regulated early learning programs, and a significant number would likely participate if high-quality, affordable programs were available in their neighborhoods.²³ Quality programs for our youngest children are needed for the same reasons communities strive to have strong K-12 education systems: to attract skilled workers and new businesses. New York businesses must be poised to compete for the most skilled workers as the economy begins to recover.



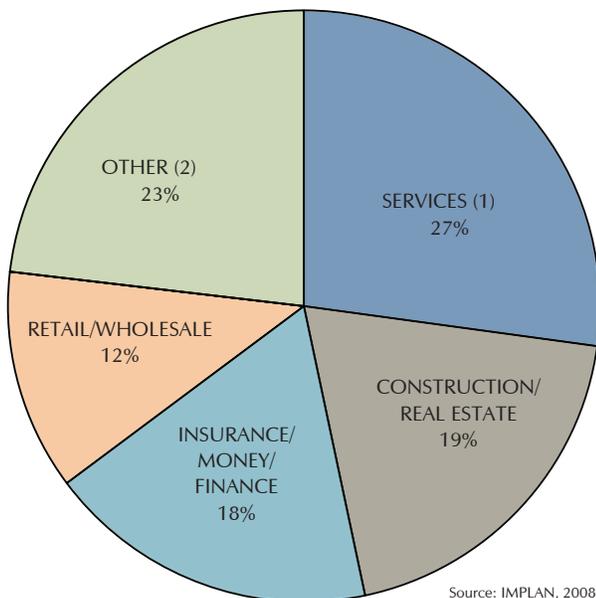
Long-Term Benefits for Economic Security

In addition to jump-starting New York’s economy and creating thousands of new jobs, major investments in quality early learning programs would also have important long-term benefits that would establish a foundation for sustained economic growth.

To remain competitive in the global marketplace, businesses need employees with the hard skills (math, reading, writing) and soft skills (communication, collaboration and critical thinking). But employers are experiencing a significant shortage of workers with the skills they need. Deficits in basic skills are an unsustainable expense, costing our nation \$3.7 billion annually in remedial education costs and reduced earning potential.²⁴

Less than a quarter of employers (only 23.9 percent) report that new entrants with four-year college degrees have “excellent” basic knowledge and applied skills, and significant deficiencies exist

Every \$1 spent in New York on early learning generates an additional 86 cents in other sectors of the economy:



1. Professional, business, information, entertainment, rental, and utility services.
 2. Farming, logging, fishing, and hunting; mining, oil, and gas; manufacturing; and transportation.

The Perry Preschool Program

One of the best studies of early care and education for three- and four-year-olds, the High/Scope Perry Preschool Program in Ypsilanti, Michigan, followed the children who attended the preschool until they were age 40. From 1962 through 1967, preschool teachers worked intensively with low-income children ages three and four. The children attended preschool during the week and teachers came to their homes once a week to coach their parents. When the children were age 40, researchers compared their life stories with those who did not participate in the early education program. The payoff was impressive. Almost half of the preschool children were performing at grade level by the age of 14, compared with just 15 percent of the children in the control group; 44 percent more of the children in the Perry program graduated from high school; and 60 percent of participants were earning upward of \$20,000 a year in their forties, versus 40 percent of those in the control group.³⁶

among entrants at every level.²⁵ The deficiencies are greatest with high school graduates: 42.4 percent of employers report the overall preparation of high school graduates as deficient; 80.9 percent report deficiencies in written communications; 70.3 percent report deficiencies in professionalism; and 69.6 percent report deficiencies in critical thinking.²⁶ Although preparedness increases with education level, employers note significant deficiencies remaining among graduates of the four-year colleges in written communication (27.8 percent), leadership (23.8 percent), and professionalism (18.6 percent).²⁷

High-quality early care and education is a critical step to support the development of the 21st Century skills that businesses require in their workforce. Research studies demonstrate that children who participate in high-quality early learning do better on a range of outcomes. Here are examples of what outcomes are impacted and what is possible:

- **Better preparation to succeed in elementary school** – for example, children in Oklahoma’s universal pre-kindergarten program scored 16 percent higher on a measure of early language skills than those left out of the program;²⁸
- **Less special education** – children who attended the Chicago Child Parent Centers (CPC) program were 35 percent less likely to need special education;²⁹



Early Care and Education in New York: An economic snapshot

Early care and education programs serve young children from birth through age 5. These programs take several forms, including child care centers and family child care homes, private preschool programs, and publicly-funded and regulated early education programs including Universal Pre-Kindergarten, Head Start, and early childhood special education programs provided by the public schools. In New York, over 500,000 young children under age 6 are not served by regulated early care and education settings.³⁷

Early care and education is an important economic sector in New York, making significant contributions to the local economy:

- Early care and education programs represent a sizable small business sector in the state, with 22,000 small businesses. Among these businesses are child care centers, pre-kindergarten and Head Start programs, and approximately 11,000 family child care providers.³⁸
- There are 119,000 workers in the early care and education sector in the state, including teachers, assistants, and staff.³⁹
- The early care and education sector generates \$4.7 billion dollars annually in New York State, including both public investments and parent fees.⁴⁰
- The sector also helps 750,000 parents to go to work.⁴¹

- **Lower rates of retention in school** – children participating in the Abecedarian early education program were 48 percent less likely to be held back in school;³⁰
- **Lower dropout rates** – children not in CPC were 27 percent more likely to drop out of school;³¹
- **Higher rates of high school graduation** – children attending the Perry program were 44 percent more likely to graduate from high school;³²
- **Less crime** – children not offered the Perry program were five times more likely to become chronic offenders by age 27;³³ and
- **Higher rates of employment** – children in Perry were 22% more likely to be employed at age 40.³⁴

Conclusion

Research is clear that investments in high-quality early care and education will help jump-start our economy through an immediate increase in sales for New York businesses and the creation of many new jobs. At the same time, we will be building the skills of our future workforce. Policy-makers must make difficult decisions about where to invest limited funds as revenues have decreased during this recession. Funding for early care and education should be a priority since it is one of the best ways we can immediately strengthen our economy while creating lasting economic security.

Studies of high-quality early education programs for at-risk children have shown that these programs can save as much as \$16 for every dollar invested.³⁵ These long-term benefits are realized when the children who receive high-quality early learning grow up and become better-educated and more productive workers, with far less remedial education or criminal costs to society. That is a return on investment that cannot be matched by almost any other public investment.

Appendix A

Economic Multipliers Analysis

Economists have documented the contributions that early care and education sector makes to the economy in the short term through economic multiplier effects.

The short-term economic development benefits of the early child care and education sector are based on estimates calculated from what are called input-output economic models. These models show the linkages between all sectors in the economy, creating a matrix detailing how spending in each sector ripples through other economic sectors via the purchases of goods and services from other sectors.

There are three types of economic linkage effects that this input-output analysis captures. Direct effects of new spending in the child care sector are seen within the sector itself, through new money spent on child care programs. Indirect effects reflect the inter-industry expenditures generated when child care businesses purchase goods and services from other sectors. These businesses in turn are stimulated to increase their input purchases, and so on in widening ripple effects throughout the economy. Induced effects reflect similar economy-wide impacts due to the increased spending on goods and services of early education workers as first their wages increase, and then the wages of workers in other affected industries increase. The combined linkage effect of indirect (inter-industry spending) and induced (household spending) is called a Type SAM multiplier.

Early learning investments generate new dollars and jobs throughout New York's economy. Every new dollar spent on early learning yields a total of \$1.86 in the state economy.

AMERICA'S EDGE commissioned an analysis of the most recent available data in New York State on the economic impact of the early care and education sector on other sectors.

All input-output modeling results were generated using the Minnesota IMPLAN Group, Inc (MIG, Inc.) IMPLAN® economic impact modeling system. First developed in 1993, the system now is in widespread use for conducting a wide variety of economic impact and related analyses.

This study employed the most recently available (2008) data sets and IMPLAN models. One model was created for New York State. Another New York City model was created using combined datasets for the five counties comprising the City. Our modeling approach and analyses adhere fully to standard input-output and IMPLAN conventions.

Multipliers were generated for each of the models using two separate sets of assumptions about regional purchase coefficients (RPC), or the proportion of purchases in each sector that occur regionally (locally). First, the multipliers were generated based on estimates from MIG, Inc.'s recently-completed National Trade Flow Model. Second, in order to facilitate comparison with earlier IMPLAN modeling work, multipliers were also generated based on the previous IMPLAN standard for RPC estimates, namely an econometric model.

The reported results are based on fully disaggregated models (i.e. 440 distinct sectors for the NY State model). The disaggregated sectors are defined by MIG, inc. but are based upon and cross-walked with the North American Industrial Classification System (NAICS), which several years ago replaced the Standard Industrial Classification (SIC) code system. Additional analysis was also conducted using models we aggregated into a small number of very broad sectors (e.g. Agriculture, Manufacturing, Services, etc.).

To illustrate the impact of increased spending on child care, we used the models created to estimate the indirect and induced effects on each sector of the economy of exogenous increases (e.g. of a \$1,000,000) in the demand for child care services. Because government spending is determined as much by policy decisions as by the regional dynamics of economic forces, government spending is conventionally treated as a source of exogenous demand. We focus on this source.

For additional information and background on input-output analyses of the early care and education sector, see the following resources:

Zhilin, L., Ribeiro, R., & Warner, M. (2004). Child care multipliers: Analysis from fifty states. Linking Economic Development and Child Care Research Project. Ithaca, NY: Cornell University, Cornell Cooperative Extension. Retrieved from <http://government.cce.cornell.edu/doc/pdf/50StatesBrochure.pdf>

Zhilin, L., Ribeiro, R., & Warner, M. (2004). Comparing child care multipliers in the regional economy: Analysis from 50 states. Linking Economic Development and Child Care Research Project. Ithaca, NY: Cornell University, Cornell Cooperative Extension. Retrieved from <http://government.cce.cornell.edu/doc/pdf/50States.pdf>



Appendix B

New spending generated by early care and education investments, selected major cities and regions of New York State									
Location	Percent of children under six relative to state	Total new early care and education investments to serve unmet need from birth to six	Total new spending generated in the economy	Total new spending generated outside the early care and education sector	Spending by Major Sector				Retail and wholesale - 12%
					Services - 27%	Real estate and construction - 19%	Insurance and finance - 18%	Insurance and finance - 18%	
New York State	100%	\$3.6 billion	\$6.7 billion	\$3.1 billion	Over \$800 million	Over \$550 million	Over \$550 million	Over \$550 million	Over \$350 million
Albany Metro Area	4%	\$144 million	\$270 million	\$124 million	\$33 million	\$23 million	\$22 million	\$15 million	\$15 million
Syracuse Metro Area	3%	\$110 million	\$205 million	\$95 million	\$25 million	\$18 million	\$17 million	\$11 million	\$11 million
Long Island (Nassau and Suffolk Counties)	14%	\$508 million	\$945 million	\$437 million	\$118 million	\$83 million	\$78 million	\$52 million	\$52 million
Rochester Metro Area	5%	\$177 million	\$329 million	\$152 million	\$41 million	\$28 million	\$27 million	\$18 million	\$18 million
New York City	47%	\$1.9 billion	\$3.4 billion	\$1.4 billion	\$400 million	over \$250 million	over \$250 million	over \$150 million	over \$150 million

Source: IMPLAN, 2008, using New York State and New York City data and IMPLAN models. Notes: For New York State and New York City, separate input-output modeling analyses were conducted to identify economic impacts. New York State's Type SAM output multiplier was \$1.86, and New York City's Type SAM multiplier was \$1.72. For Albany, Syracuse, Buffalo, Rochester and Long Island, the figures above represent a proportional estimate of the statewide economic impact, estimated based on the proportion of children under 6 in those locations. For New York City, the figure 47 percent is for the proportion of the city's children under age six. However New York City's children make up an estimated 55 percent of the state's unmet need for early care and education, and so these spending projections for the city are based on the 55 percent figure.

Endnotes

1 EPE Research Center. (2009). *High school graduation rate improves over past decade: Recent declines threaten progress*. Bethesda, MD: Education Week. Retrieved on March 1, 2010 from http://www.edweek.org/media/ew/dc/2009/DC09_PressPackage_FINAL.pdf Lee, J., Grigg, W., & Donahue, P. (2007). *The Nation's Report Card: Reading 2007* (NCES 2007-496). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC; Lee, J., Grigg, W., & Dion, G. (2007). *The Nation's Report Card: Mathematics 2007* (NCES 2007-494). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education, Washington, DC; Nord, C.W., Lennon, J., Baiming, L., & Chandler, K. (1999). *Home literacy activities and signs of children's emerging literacy, 1993 and 1999*. Washington, DC: U.S. Department of Education. Retrieved on April 6, 2010 from <http://nces.ed.gov/pubs2000/2000026.pdf>

2 Alliance for Excellent Education. (August 2009). *The high cost of high school dropouts: What the nation pays for inadequate high schools*. Washington, DC: Author. Retrieved on October 12, 2010 from: <http://www.all4ed.org/files/HighCost.pdf>

3 Alliance for Excellent Education. (2006). *Paying double: Inadequate high schools and community college remediation*. Washington, DC: Author. Retrieved on February 25, 2010 from <http://www.all4ed.org/files/remediation.pdf>

4 High-quality early care and education programs include the following essential features: Highly-qualified teachers with appropriate compensation, comprehensive and age-appropriate curricula, strong family involvement, small staff-to-child ratios to ensure that each child gets sufficient attention, small, age-appropriate class sizes, and screening and referral services for developmental, health, or behavior problems. Several studies show that high quality early care and education teachers have at least a four-year degree, partake in on-going training, and are paid well. Whitebook, M. (2003). *Early education quality: Higher teacher qualifications for better learning environments—A review of the literature*. Berkeley, CA: Institute of Industrial Relations. Retrieved on February 25, 2010 from <http://iir.berkeley.edu/csce/pdf/teacher.pdf>; Katz, L. (1999). *Curriculum disputes in early childhood education*. Champaign, IL: Clearinghouse on Early Education and Parenting. Retrieved on February 25, 2010 from <http://ceep.crc.uiuc.edu/earlycareandeducationarchive/digests/1999/katz99b.html>; Goffin, S. G., & Wilson, C. (2001). *Curriculum models and early childhood education: Appraising the relationship* (2nd ed.). Upper Saddle River, NJ: Merrill/Prentice Hall; Some examples of a strong parent-involvement component include the home visits in the High/Scope Perry Pre-kindergarten and Syracuse University Family Development programs, the intensive parent coaching in Chicago Child-Parent Centers, and the parent volunteers in Head Start. For Perry Pre-kindergarten see: Schweinhart, L. J., Barnes, H. V., & Weikart, D. P. (1993). *Significant benefits: The High/Scope Perry Pre-kindergarten study through age 27*. Ypsilanti, MI: High/Scope Press. See also D. R. Powell (Ed.). (1988). *Parent education as early childhood intervention: Emerging directions in theory, research, and practice* (pp. 79-104). Norwood, NJ: Ablex Publishing. For preschool classrooms, the staff-to-child ratio should be not more than 10 children per teacher. In early learning settings for infants, the child-staff ratio should be not more than three children per teacher, and for toddlers, not more than four children per teacher. American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education (2002). *Caring for Our Children: National Health and Safety Performance Standards: Guidelines for Out-of-Home Child Care Programs, 2nd edition*. Elk Grove Village, IL: American Academy of

Pediatrics and Washington, DC: American Public Health Association; Barnett, W.S., Epstein, D.J., Friedman, D.J., Boyd, J.S., & Hustedt, J.T. (2008). *The state of preschool 2008: State preschool yearbook*. New Brunswick, NJ: National Institute of Early Education Research; Dunkle, M., & Vismara, L. (2004). *Developmental checkups: They're good, they're cheap and they're almost never done. What's wrong with this picture?* Retrieved on February 25, 2010 from <http://www.child-autism-parent-cafe.com/child-development.html>

5 AMERICA'S EDGE commissioned an analysis of the linkage effects of early care and education. Analyses were conducted using fully disaggregated models and using models aggregated into nine very broad sectors. This analysis calculated the Type SAM (Social Accounting Matrix) Output multipliers for all nine major aggregated economic sectors in the state using IMPLAN models. The analysis was conducted on 2008 data, the most recently available data set for New York. The early care and education sector's Type SAM output multiplier for New York was \$1.86. See Table 1 for Type SAM output multipliers of each sector analyzed. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods.

6 AMERICA'S EDGE estimates that \$3.6 billion in new early care and education investments are needed in New York State to serve an additional 35% of young children from birth to age five currently unserved by these programs, such that these new investments plus current investments together reach a full 75% of all young children from birth through age five in the state. Serving 75% of all young children is a conservative estimate for providing early care and education services to all young children who are likely to participate. These percentages are common upper-bound estimates of the full "take-up rate" for early care and education services, that is, the maximum proportion of families likely to participate in programs, given that some families use parental care exclusively or otherwise do not enroll in formal early care and education services.

The \$6.7 billion estimate for of the new spending generated in New York's economy from \$3.6 billion in new early care and education spending was calculated by taking the Type SAM Output multiplier for New York, State \$1.86, and multiplying it by the \$3.6 billion, which yields \$6.7 billion in new spending. This new spending includes the \$3.6 billion new direct spending in the ECE sector, plus the new indirect and induced spending (with a subtotal of \$3.1 billion) which ripple out to other sectors of New York's economy, yielding \$6.7 billion in new total spending.

In New York State, there are an estimated 1.37 million children (1,374,069) under age six living in families (2006 – 2008 ACS Census estimate). Thirty-five percent of this figure yields 480,924 children under six, or approximately 480,000 children. To estimate the number of children under age six in regulated early care and education programs, AMERICA'S EDGE obtained the most recently available figures from the state agencies that oversee early care and education programs (provided below). However, we learned that the total number of children under six served by regulated early care and education programs in New York is not available. An in-depth additional study would be needed to address the challenges in summarizing data across different types of programs regulated by or operated by different agencies in the state, the counties, and New York City and to create unduplicated counts of children enrolled in more than one program at a time.

However, for the purpose of establishing a rough estimate of the number of children currently served by early care and education programs, including accounting for some of the duplication of individual children who participate in more than one program, it is reasonable to conclude from the enrollment estimates of the separate programs and data sources that approximately 40 percent of children under six participate in regulated early care and education programs in the state, or approximately 550,000 children. This number was calculated by taking 40 percent of



the estimated 1.37 million children (1,374,069 children) under age six living in families in New York, yielding 549,628 children, or approximately 550,000 children.

We were able to obtain estimates of the program capacity for children in child care, universal pre-kindergarten, and Head Start separately. First, AMERICA'S EDGE calculated an estimate of number of children under six in regulated child care programs monitored by the state's Division of Child Care Services, Office of Children and Family Services, as follows: The total capacity of regulated programs in the state is for 539,422 children (which includes child care center programs, except those in New York City, and also includes all family day care programs, group family day care programs, and school-age child care programs throughout the state). We then added the number of program openings (or slots) for New York City day care centers (259,539 openings for children) for a total statewide capacity of 798,961 children of all ages. From this state capacity figure of 798,961, AMERICA'S EDGE subtracted the capacity figures for children older than age six that could be identified (this included subtracting 235,844 program openings representing school-age child care capacity throughout the state and also subtracting 21,163 program openings representing school-age children in day care centers outside of New York City) which yielded an under age six subtotal of 541,954 children in ECE programs regulated by the Office of Children and Family Services. This figure likely includes a small number of school-age children who are in family child care settings or group family child care settings; thus the figure may slightly overestimate the number of children under age six served by regulated care.

It is estimated that approximately 102,000 young children are enrolled in universal pre-kindergarten programs. Approximately half of those programs are operated by the public schools and therefore are under the regulatory authority of the Department of Education rather than the Office of Children and Family Services (OCFS).

There are 51,092 children age three to five enrolled in Head Start programs in New York. These programs are included in OCFS figures, but some children may be dually enrolled in Head Start and other child care programs.

The New York State Child Care Coordinating Council's 2004 report calculated \$4.7 billion in early care and education gross receipts in New York State. Using this figure, AMERICA'S EDGE calculated an average gross receipts per-child expense of \$7500 by dividing the gross receipts figure by the number of children in regulated care estimated in that report (622,795 children) and used this as a proxy measure of additional per-child costs for serving additional children with ECE programs in New York. Multiplying this gross receipts per-child expense (\$7500) by the total number of new children to be served to reach 75 percent of all New York children under age six, which is an additional 35 percent of New York's young children, or 480,000 children, yields an estimated \$3.6 billion in new early care and education spending needed. New York State Child Care Coordinating Council. (2004). *Investing in New York: An economic analysis of the early care and education sector*. Albany, NY: Author. Retrieved on February 25, 2010 from <http://government.cce.cornell.edu/doc/pdf/NewYorkCornellReport.pdf>; Susan Duchnycz, Division of Child Care Services, New York State Office of Children and Family Services. Personal Communication on 2010, February 26. Child care capacity data reported from Division of Child Care Services database; Lynnette Pannucci, New York State Department of Education. Personal communication on February 26, 2010. Estimates of UPK enrollment figures; Bob Frawley, Head Start enrollment figures, New York State Council on Children and Families. Personal Communication on February 26, 2010. 2007-2008 data.

7 The services sector includes professional, business, information, entertainment, rental, and utility services. It represented 27 percent of the new spending generated outside the early care and education sector. The over \$800 million figure was calculated by taking 27 percent of \$3.1

billion, which is the amount of the total \$6.7 billion in new spending that is generated outside the early care and education sector (the first \$3.6 billion dollars invested is spent directly, in the early care and education sector).

8 The real estate and construction sectors represented 19 percent of the new spending generated outside the early care and education sector. The over \$550 million figure was calculated by taking 19 percent of \$3.1 billion, which is the amount of the total \$6.7 billion in new spending that is generated outside the early care and education sector. These numbers illustrate how far the more than \$550 million figure would go in terms of average mortgage payments. Housing sector economic demand included real estate and construction industry spending due to early care and education sector spending.

9 The insurance and finance sectors represented 18 percent of the new spending generated outside the early care and education sector. The over \$550 million figure was calculated by taking 18 percent of \$3.1 billion, which is the amount of the total \$6.7 billion in new spending that is generated outside the early care and education sector.

10 The retail and wholesale trade sectors represented 12 percent of the new spending generated outside the early care and education sector. The over \$350 million figure was calculated by taking 12 percent of \$3.1 billion, which is the amount of the total \$6.7 billion in new spending that is generated outside the early care and education sector.

11 Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2008 New York State model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2010). *Consumer Expenditure Survey*. Washington, DC: U.S. Department of Labor. Retrieved on March 3, 2010 from <http://www.bls.gov/cex/>. The national figure for yearly out-of-home food spending is adjusted to reflect higher expenses in the Northeast, using other data from the same Census database.

12 Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2008 New York State model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2010). *Consumer Expenditure Survey*. Washington, DC: U.S. Department of Labor. Retrieved on March 3, 2010 from <http://www.bls.gov/cex/>. The national figure for spending on electricity is adjusted to reflect higher expenses in the Northeast, using other data from the same Census database.

13 Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2008 New York State model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2010). *Consumer Expenditure Survey*. Washington, DC: U.S. Department of Labor. Retrieved on March 3, 2010 from <http://www.bls.gov/cex/>. The national figure for in-home food spending is adjusted to reflect higher expenses in the Northeast, using other data from the same Census database.

14 Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2008 New York State model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2010). *Consumer Expenditure Survey*. Washington, DC: U.S. Department of Labor. Retrieved on March 3, 2010 from <http://www.bls.gov/cex/>. The national figure for spending on clothing and accessories is adjusted to reflect higher expenses in the Northeast, using other data from the same Census database.

15 Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2008 New York State model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Mazacco, M. (2010). Testimony before a joint hearing of the Senate Finance and Assembly Ways and Means Committees, Member of the Board of the Home Care Association of

New York State, retrieved from the internet on March 3, 2010 from <http://www.hca-nys.org/2010HCABudgetTestimonyforFeb9FINAL.pdf>

16 Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2008 New York State model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. The cost of a basic Ford Focus, including tax and tags, was obtained from

Orange Ford Motor Company, 799 Central Ave, Albany, New York.

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18 AMERICA'S EDGE commissioned an analysis of the linkage effects of early care and education using IMPLAN models. Analyses were conducted using fully disaggregated models and using models aggregated into nine very broad sectors. The analysis was conducted on 2008 data, the most recently available data set for New York. The early care and education sector's Type SAM output multiplier for New York was \$1.86. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods.

19 The linkage effects of the early care and education sector were analyzed using IMPLAN models for New York State using 2008 data, the most recently available for the state. The Type SAM employment multiplier for early care and education for New York state was 1.28. This means that for every one new job in the ECE sector, an additional 0.28 jobs are created outside that sector in other parts of the state economy. Multiplying both numbers by four yields this reformulation of the same finding: for every 4 jobs created in the ECE sector, 1.12 jobs are created outside the sector.

20 The \$3.6 billion investment in early care and education programs was applied to the 2008 New York State employment multiplier findings for the ECE sector (with a Type SAM multiplier of 1.28 using IMPLAN), and yielded 79,995 total jobs, or approximately 80,000 jobs, with 17,640 of these jobs (or approximately 17,000 jobs) being in other economic sectors outside early care and education. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods.

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23 Although a precise estimate of the number of children under 6 in New York not participating in regulated early learning programs was not available (see endnote 6 for a fuller discussion of the available data), it is reasonable to conclude that more than 500,000 of New York state's 1.37 million children under age six are not participating in regulated early learning programs. ; American Community Survey. (2009). *B05009 Age and nativity of own children under 18 years in families and subfamilies by number and nativity of parents – Universe: Own children under 18 years in families and subfamilies*. Washington, DC: U.S. Census Bureau. Retrieved on March 1, 2010 from http://factfinder.census.gov/servlet/DTTable?_bm=y&-context=dt&-ds_name=ACS_2008_3YR_G00_&-mt_name=ACS_2008_3YR_G2000_B05009&-CONTEXT=dt&-tree_id=3308&-geo_id=04000US36&-search_results=01000US&-

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