



Strengthening Illinois Businesses through Investments in Early Care and Education

How Investments in Early Learning
Increase Local Business Activity,
Create Jobs and Grow the Economy

A report
by:



Acknowledgements

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Who We Are

READYNATION/AMERICA'S EDGE is the nation's preeminent business leader organization working to strengthen business through better policies for children and youth.

We educate policymakers and the public about effective investments that will help businesses compete in today's global marketplace, build a foundation for lasting economic security, and help children get on the right track to succeed in school and in life.

Executive Summary

How Early Learning Investments Can Help Expand the Illinois Economy

Illinois business leaders recognize that the key to sustained economic growth in our state 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, Illinois business leaders are calling on state and federal policymakers to invest in high-quality 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.

Increasing investments in early childhood education to cover the majority of disadvantaged children under age 5 would generate more than one billion dollars in sales of goods and services for Illinois businesses and create thousands of jobs in the state. In fact, investments in quality early learning generate more activity for local businesses than investments in seven other major economic sectors. For every \$1 invested in early care and education in Illinois, an additional 94 cents are generated, for a total of \$1.94 in new economic activity in the state. This strong economic boost for local businesses is higher than investments in other major sectors such as transportation, retail trade and manufacturing. Inversely, cuts to early learning programs—such as the deep reductions made since 2009—hurt local businesses in Illinois by eliminating \$0.94 in additional new economic activity for every \$1 cut.

Early care and education should be a critical component of Illinois' economic growth. If disadvantaged Illinois children under age 5 were given access to quality early care and education at a cost of an additional \$630 million, that investment would generate \$1.2 billion in total new activity for Illinois businesses. And nearly all of these dollars generated in Illinois would stay in Illinois—helping local businesses prosper while also creating more than 19,000 new jobs, including 4,000 jobs outside the early learning sector.

Such an investment will also save Illinois 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. 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 Illinois 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. Illinois businesses need the right resources to attract and retain the best workers. One resource that can help communities attract the best employees is the availability of quality early learning 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 skills Illinois businesses need in a highly competitive global market. Sixty-nine percent of the job openings in Illinois in the current decade require post-secondary education. To remain competitive in a global marketplace, businesses also 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 long-term return on investment is impressive: Studies of high-quality early education programs for at-risk children have shown that quality programs average \$22,000 in net economic benefits (benefits minus costs) for each child served.

THE BOTTOM LINE: With limited funds available to help businesses and our economy stay on track, few investments make as much sense for Illinois businesses' balance sheets as do investments in high-quality early care and education.

Strengthening Illinois Businesses

through Investments in Early Care and Education

IMMEDIATE SHORT-TERM ECONOMIC GAINS

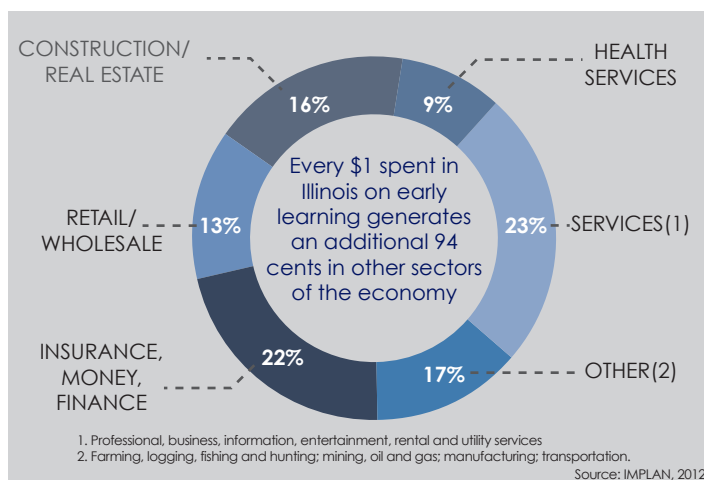
Increasing Sales of Local Goods and Services

New research by READY NATION/AMERICA'S EDGE found that attracting skilled employees, strengthening local and state economies now, and improving businesses' bottom lines can be achieved through cost-effective and proven investments in quality early childhood care and education programs.¹

What economic modeling is the most effective way to determine

early education's economic impact in Illinois? This report used IMPLAN, an economic modeling system first developed in 1993 that is widely used for conducting a variety of economic impact and related analyses, to measure the impact. This study employed the most recently available (2012) data sets and IMPLAN models and adheres fully to standard input-output and IMPLAN conventions (see Appendix A 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 Illinois, \$1.94 is generated in total economic activity within the state. This strong economic boost for local businesses is higher than investments in other major sectors such as manufacturing (\$1.79), transportation (\$1.91) and retail trade (\$1.93).² Research shows that among Illinois' 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.



To ensure disadvantaged Illinois children under age 5 have access to quality early care and education would require an investment of an additional \$630 million. That investment would yield \$570 million in additional activity in Illinois' economy outside of early care and education, for a total of \$1.2 billion of new money infused into the state (see Appendix B).³ And most of these dollars generated in Illinois would stay in Illinois – helping local businesses improve sales in almost every sector. Here are some examples of the economic impact that investing in early learning would have on the major economic sectors in Illinois:

- **Over \$132 million** in new economic activity in the state's services sector. 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.⁴
- **Over \$90 million** in new activity in real estate and construction – providing a boost to the real estate market and helping many low- and middle-income families keep up with their mortgage or rental payments.⁵

- **Over \$129 million** in new dollars for Illinois' insurance and finance sectors, including local banks and insurance companies.⁶
- **Over \$72 million** in new activity for Illinois' retail and wholesale trade sectors, including grocery stores, department stores and auto dealers.⁷

The **\$570 million** in additional economic activity 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 activity for Illinois businesses:

The early learning sector in Illinois generates more additional activity in the economy than most other major economic sectors

Economic Sectors	Output Multipliers
Construction	\$1.99
Early Care and Education¹	1.94
Retail Trade	1.93
Other	1.93
Wholesale Trade	1.92
Transportation	1.91
Manufacturing	1.79
Mining, Oil, Gas	1.70
Farming, Forest, Fishing, Hunting	1.55
Utilities	1.44

¹The early care and education sector is part of the larger services sector, which on average generates a multiplier of \$1.98 for every dollar invested.
Source: IMPLAN 2012 analysis of Type SAM Output Multipliers for Illinois

Every \$1 invested in the early learning sector generates an additional 94 cents in the local economy.

- **Over \$27.2 million** in sales at local restaurants, the cost for over 7,500 households of four to eat out for one year;⁸
- **Over \$12.2 million** in sales from local electric companies, the cost of monthly electric bills for over 7,000 families of four for one year;⁹
- **Over \$5.1 million** in sales from local supermarkets, the cost of a year of groceries for over 900 families of four;¹⁰
- **Over \$17.1 million** in sales from telecommunications, equal to the annual cost of telephone services for over 10,000 families of four;¹¹

The key point is that investments in the early learning sector are very competitive with investments in other major sectors, and these investments create an immediate infusion of dollars throughout Illinois' local businesses.

More Than 19,000 New Jobs in Illinois

Increasing investments in early care and education to cover disadvantaged children would also create thousands of

new jobs. For every 20 jobs created in the early care and education sector, five jobs are created outside that sector in Illinois' economy.¹⁴

An analysis of the IMPLAN economic data for Illinois shows that a \$630 million investment to offer quality early care and education to disadvantaged Illinois children under age 5 would create more than 19,000 new jobs, including 4,000 new jobs in other economic sectors.¹⁵ 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 Illinois reduce its unemployment rate and immediately strengthen local businesses.

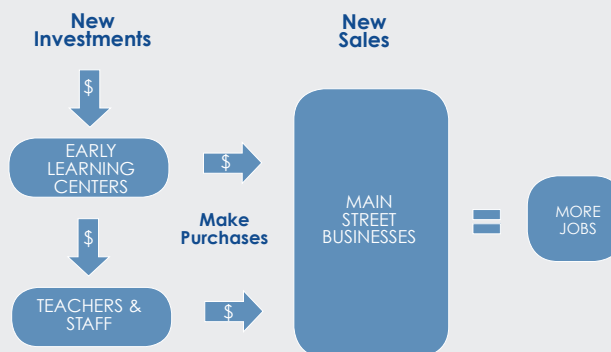
Early Learning Spending Stays in Illinois

Here's how it works:

The dollars initially invested in an early learning program re-circulate through the local economy. The first dollar is invested directly in early care and education programs, for teacher and staff wages, etc. The additional 94 cents 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 economic activity is generated through what is known as the “multiplier effect.”

Although every industry generates some additional activity 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 Illinois or on services that can be provided remotely (e.g., customer service representatives via

Early Learning Investments Help Illinois Businesses



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 mean annual incomes of \$22,610 in Illinois),¹² 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 Illinois yields a total of \$1.94 in the state economy.¹³

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.¹⁶ 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.¹⁷ Reduced absenteeism and turnover and increased retention and productivity translate into immediate savings and increased profits for businesses—good news to Illinois businesses on both sides of their balance sheets.

“Making good early learning options available helps to curb employee absenteeism and turnover, as well as the associated costs for employers. Working parents need reliable places for their kids to stay and to learn while mom and dad are on the job.”
 —Ken Hoving, President,
 K. Hoving Companies, West Chicago

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 hundreds of thousands of parents stay in the workforce in Illinois.¹⁸ However, approximately 216,000 disadvantaged children under age 5 in Illinois 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.¹⁹ Like strong K-12 education systems, quality early education for our youngest children can help attract skilled workers and new businesses. Illinois businesses must be poised to compete for the most skilled workers.

“Employers and employees, alike, are attracted by a strong education system. Local economies benefit enormously when we ensure quality preschool and child care programs are part of the local landscape.”
—Wendi Valenti, Executive Director,
Collinsville Chamber of Commerce

LONG-TERM BENEFITS FOR ECONOMIC SECURITY

In addition to jump-starting Illinois’ 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 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.

Cuts to Early Learning Hurt Businesses

In the same way that investments in early learning generate additional economic activity in Illinois due to the multiplier effect, the reverse is also true: Funding cuts to early learning programs reduce sales from Illinois businesses.

Thus, for every \$1 cut from early learning programs, an additional 94 cents will be lost in sales of local goods and services.³³ Illinois cannot afford further cuts to early learning that will directly hurt the bottom lines of Illinois businesses. These businesses already are suffering from state budget cuts that have reduced the Early Childhood Block Grant by \$80 million since 2009, pushing 25,000 young children out of preschool classrooms—and representing a total loss of \$155 million in local economic activity for Illinois in 2013, alone. Of that \$155 million loss, \$75 million was lost outside of the early learning sector.

The Perry Preschool Program

One of the best known studies of early care and education for 3- and 4-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 3 and 4. 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. Children who participated in the preschool program had significantly higher reading achievement and arithmetic achievement scores at age 14 compared with the children not participating in the program; 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 only 40 percent of those in the control group.³⁴

According to a 2006 survey, 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 among entrants at every level.²⁰ The deficiencies are greatest among workers holding only a high school diploma: 42.4 percent of employers report the overall preparation of such workers 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.²¹ Although preparedness increases with education level, employers note significant deficiencies remaining among graduates of the four-year colleges in written communications (27.8 percent), leadership (23.8 percent), and professionalism (18.6 percent).²²

“It’s pretty simple: When we invest in young children’s learning today, we’re really developing the workforce – and the job-creators – of tomorrow. It’s a research-proven way to bridge the growing skills gap that challenges our state and our nation.”
— Thomas G. Welsh, President,
MBL (USA) Corporation, Ottawa

Early Care and Education in Illinois: 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 such as public pre-kindergarten and Head Start. In Illinois, approximately 216,000 disadvantaged young children under age 5 are not served by regulated early care and education settings.³⁵

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

- Early care and education programs represent a sizable small business sector in the state. The sector employs approximately 36,000 early care and education administrators, preschool teachers and child care workers.³⁶
- There are an estimated 5,531 child care centers and 10,183 family child care homes in Illinois. Nine percent of Illinois child care centers are nationally accredited, meeting some standards for quality beyond state licensing standards. Two percent of Illinois family child care homes are nationally accredited, meeting some standards for quality beyond state licensing standards.³⁷
- 68 percent of children under the age of 6 in Illinois (648,000 children) have both or their only parent in the workforce.³⁸

“Our increasingly global marketplace calls on us to do everything we can to sharpen our competitive edge. Solid early learning programs represent one of our best opportunities to rise to the challenge.”

— B. Bradford Billings, President & CEO,
Blessing Health System, Quincy

High-quality early care and education is a critical step to support the development of the skills that businesses require in their workforce. Rigorous research studies demonstrate that children who participate in high-quality early learning can 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 who participated in a pre-kindergarten program in Boston had improvements in math, literacy and language skills equivalent to seven months of additional learning, compared with non-participants;²³

- **Improved academic outcomes well into elementary school**–For example, children in counties that invested more in North Carolina’s Smart Start and More at Four early education initiatives were five months ahead in reading at third grade and three to five months ahead in math by third grade, when compared to children in counties that invested less;²⁴

- **Less special education** – Children who attended the Chicago Child-Parent Centers (CPC) program were 40 percent less likely to need special education.²⁵ Children who attended New Jersey’s state preschool program were 31 percent less likely to need special education.²⁶

- **Lower rates of retention in school** – Children participating in North Carolina’s Abecedarian early education program were 43 percent less likely to be held back in school and children who attended New Jersey preschool were 40 percent less likely to be held back by fourth and fifth grades.²⁷

“The long-range return on investments in high-quality early education averages more than \$22,000 for every child served, according to one well-respected study. That’s net savings for society, after subtracting costs - an incredible cost-benefit boost for local communities and economies.”

—Jeffrey G. Cribbs, Managing Principal, Chicago Wealth Management, Inc.

- **Higher rates of high school graduation** – Children attending Michigan’s Perry Preschool program were 44 percent more likely to graduate from high school.²⁸ Children attending CPC were 29 percent more likely to graduate;²⁹

- **Less crime** – Children not offered the Perry program were five times more likely to become chronic offenders by age 27; ³⁰ and

- **Higher rates of employment** – Children in Perry were 22 percent more likely to be employed at age 40.³¹

Studies of high-quality early education programs for at-risk children have shown that these programs average \$22,000 in net economic benefits (benefits minus costs) for each child served.³² 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.

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 Illinois 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. 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.

“Any worthwhile construction project begins with a strong foundation. And that’s what preschool and child care represent: The opportunity to help kids off to the absolute best start in life.”

—Tom Fitch, Vice President, Harold O’Shea Builders, and Chairman,
Greater Springfield Area Chamber of Commerce, Springfield

Appendix A: Economic Multipliers Analysis

Economists have documented the contributions that the 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 Illinois' economy. Every new dollar spent on early learning yields a total of \$1.94 circulating in the state economy.

READYNATION/AMERICA'S EDGE commissioned an analysis of the most recently available data for Illinois 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, LLC (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 (2012) data sets and IMPLAN models. One model was created for Illinois. Our modeling approach and analyses adhere fully to standard input-output and IMPLAN conventions.

Multipliers were generated for the model 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 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). 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 investments in early learning, 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 base investment) 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

READYNATION/AMERICA'S EDGE estimates that \$630 million in new early care and education investments are needed in Illinois to serve an additional 126,000 disadvantaged young children from birth through age 4 currently not served by these programs, such that these new investments plus current investments together reach a full 75 percent of all young disadvantaged children from birth through age 4 in the state. We define disadvantaged children as those coming from families with incomes at or below 200 percent of the federal poverty level.

Serving 75 percent of all disadvantaged young children is a conservative estimate for providing early care and education services to all disadvantaged 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 choose not to enroll in formal early care and education services.

Economic multipliers calculations for new investments needed

The \$1.2 billion estimate of the total new activity generated in Illinois' economy from \$630 million in new early care and education investment was calculated by taking the Type SAM Output multiplier for Illinois, \$1.94, and multiplying it by the \$630 million, which yields \$1.2 billion in new economic activity. This new activity includes the \$630 million new direct investment in the ECE sector, plus the new indirect and induced spending (with a subtotal of \$570 million) which ripple out to other sectors of Illinois economy, yielding \$1.2 billion in new total economic activity.

Estimates of current capacity in early care and education programs

In Illinois there are an estimated 816,000 children (816,278) under age 5. Forty-four percent of young children are from families below 200 percent of the federal poverty level (359,162 children). To serve 75 percent of these disadvantaged children, early childhood programs would have to reach 269,371 children.

KIDSCOUNT (2012). Child population by age group. Retrieved from: <http://datacenter.kidscount.org/data/tables/101-child-population-by-age-group?loc=1&loct=2#detailed/2/15/false/868,867,133,38,35/62,63,64,6,36|/419,420>
KIDSCOUNT (2012). Child population by age group. Retrieved from: <http://datacenter.kidscount.org/data/tables/7867-children->

[ages-0-to-8-below-200-percent-poverty?loc=1&loct=2#detailed/2/10-19,2,20-29,3,30-39,4,40-49,5,50-52,6-9/false/868/1232|/15173,15174](http://datacenter.kidscount.org/data/tables/5938-head-start-enrollment-by-age-group?loc=1&loct=2#detailed/2/10-19,2,20-29,3,30-39,4,40-49,5,50-52,6-9/false/868/1232|/15173,15174)

To estimate the number of disadvantaged children under age 5 in regulated early care and education programs, READYNATION/AMERICA'S EDGE obtained the most recently available figures documenting enrollment in the various early care and education programs.

Head Start: 51,646 children were enrolled in Head Start programs in Illinois, based on 2012 enrollment data (42,568 in Head Start and 9,078 in Early Head Start).

KIDSCOUNT (2012). Head Start enrollment by age group. Retrieved from: <http://datacenter.kidscount.org/data/tables/5938-head-start-enrollment-by-age-group?loc=1&loct=2#detailed/2/15/false/868,867,133,38,35/1830,558,559,1831,122|/12570>

Illinois Preschool for All: 80,914 children were enrolled in the Illinois Preschool for All program in 2012.

Barnett, W. S., Carolan, M. E., Fitzgerald, J., & Squires, J. H. (2013). The state of preschool 2012: State preschool yearbook. New Brunswick, NJ: National Institute for Early Education Research. Retrieved from: http://nieer.org/sites/nieer/files/Illinois_0.pdf

Child care centers and family child care homes: The total number of children under age 5 served in subsidized child care slots in 2012 was 76,967 children.

State of Illinois, Department of Human Services (2012). Illinois child care report FY 2012. <http://www.dhs.state.il.us/OneNetLibrary/27897/documents/HCD%20Reports/Child%20Care/2012AnnualReportFINAL.pdf>

Disadvantaged young children served and not served

READYNATION/AMERICA'S EDGE estimates that the total number of disadvantaged children age birth through 4 served by early care and education programs in Illinois is 143,247 children. This extremely conservative estimate totals the number of disadvantaged children served by the early care and education programs detailed above, and adjusts for the potential for duplicated counts for individual children enrolled in more than one early care and education setting (pre-K and child care, for example) by adjusting the half-day programs' estimates (for preschool and Head Start) downward by 50 percent, which assumes that 50 percent of these children were also enrolled in another early care and education program. Subtracting this estimate of the number of children being served (143,247) from the proposed number of children to be served to reach the goal of serving 75 percent of all disadvantaged children from birth through age 4 (269,371

children) yields 126,124 children, or approximately 126,000 disadvantaged children under age 5 not being served who would need to be served to reach this goal. Program data documenting the number of children enrolled in multiple early learning programs were not available; improved early learning data systems that track individual children's participation in multiple programs would provide useful data to develop more precise estimates across the whole early learning sector.

Calculations for per-child and total costs for early care and education investments

The National Institute of Early Education Research (NIEER) estimates that the average per-child annual cost for high-quality pre-K in Illinois is \$4,943 (rounded to \$5,000). Multiplying this per-child cost (\$5,000) by the total number of new children to be served to reach 75 percent of all children under age 5, which is an additional 126,000 children, yields an estimated \$630 million in new early care and education investments needed. Note that this estimated per child

cost is a very conservative figure, as it represents the cost of providing high-quality pre-K in Illinois. The cost of high-quality care for younger children is substantially higher: the average annual cost for full-time care for an infant is more than \$12,000 in a child care center and more than \$7,000 in a family child care home.

Barnett, W. S., Carolan, M. E., Fitzgerald, J., & Squires, J. H. (2013). *The state of preschool 2012: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research. Retrieved from: http://nieer.org/sites/nieer/files/Illinois_0.pdf
Child Care Aware of America (2012). *2012 child care in the state of Illinois*. Retrieved from: http://www.naccra.org/sites/default/files/default_site_pages/2012/illinois_060612-3.pdf

Endnotes

¹High-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. 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 from <http://iir.berkeley.edu/cscce/pdf/teacher.pdf>;
Katz, L. (1999). *Curriculum disputes in early childhood education*. Champaign, IL: Clearinghouse on Early Education and Parenting. Retrieved from http://ceep.crc.uiuc.edu/early_care_and_educationarchive/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., Carolan, M. E., Fitzgerald, J., & Squires, J. H. (2013). *The state of preschool 2012: State preschool yearbook*. New Brunswick, NJ: National Institute for Early Education Research. Retrieved from: http://nieer.org/sites/nieer/files/Illinois_0.pdf;
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 from <http://www.child-autism-parent-cafe.com/child-development.html>
²READYNATION /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 eleven very broad sectors. This analysis calculated the Type SAM (Social Accounting Matrix) Output multipliers for all eleven major aggregated economic sectors in the state using IMPLAN models. The analysis was conducted on 2012 data, the most recently available data set for Illinois. The early care and education sector's Type SAM output multiplier for Illinois was \$1.94. See Table for Type SAM output multipliers of each sector analyzed. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods.
³READYNATION /AMERICA'S EDGE estimates that \$630 million in new early care and education investments are needed in Illinois to serve an additional 126,000 disadvantaged young children from birth through age 4 currently not served by these programs. See appendix B for calculations of new early care and education investments in Illinois.
⁴The services sector includes professional, business, information, entertainment, rental, and utility services. It represented 23.1 percent of the new economic activity generated outside the early care and education sector. The \$132 million figure was calculated by taking 23.1 percent of \$570 million, which is the amount of the total \$1.2 billion in new activity that is generated outside the early care and education sector (the first \$630 million dollars invested is invested directly in the early care and education sector).
⁵The real estate and construction sectors represented 15.8 percent of the new economic activity generated outside the early care and education sector. The over

\$90 million figure was calculated by taking 15.8 percent of \$570 million, which is the amount of the total \$1.2 billion in new activity that is generated outside the early care and education sector.

⁶The insurance and finance sectors represented 22.6 percent of the new economic activity generated outside the early care and education sector. The over \$129 million figure was calculated by taking 22.6 percent of \$570 million, which is the amount of the total \$1.2 billion in new activity that is generated outside the early care and education sector.

⁷The retail and wholesale trade sectors represented 12.7 percent of the new economic activity generated outside the early care and education sector. The over \$72 million figure was calculated by taking 12.7 percent of \$570 million, which is the amount of the total \$1.2 billion in new activity that is generated outside the early care and education sector.

⁸Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2012 Illinois model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2012). Consumer Expenditure Survey. Washington, DC: U.S. Department of Labor. Retrieved from <http://www.bls.gov/cex/>. Based on the national figure for yearly out-of-home food for a household of four people.

⁹Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2012 Illinois model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2012). Consumer Expenditure Survey. Washington, DC: U.S. Department of Labor. Retrieved from <http://www.bls.gov/cex/>. Based on the national figure for yearly spending on electricity for a household of four people.

¹⁰Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2012 Illinois model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2012). Consumer Expenditure Survey. Washington, DC: U.S. Department of Labor. Retrieved from <http://www.bls.gov/cex/>. Based on the national figure for yearly spending on food at home for a household of four people.

¹¹Based on input-output analysis using fully disaggregated IMPLAN models with 440 distinct economic sectors in the 2012 Illinois model. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods. Bureau of Labor Statistics. (2012). Consumer Expenditure Survey. Washington, DC: U.S. Department of Labor. Retrieved from <http://www.bls.gov/cex/>. Based on the national figure for yearly spending on telephone services for a household of four people.

¹²Bureau of Labor Statistics. (2012). Occupational employment statistics query system. Washington, DC: U.S. Department of Labor. Retrieved from: <http://data.bls.gov/oes/>

¹³READYNATION /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 eleven very broad sectors. The analysis was conducted on 2012 data, the most recently available data set for Illinois. The early care and education sector's Type SAM output multiplier for Illinois was \$1.94. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods.

¹⁴The linkage effects of the early care and education sector were analyzed using IMPLAN models for Illinois using 2012 data, the most recently available for the state. The Type SAM employment multiplier for early care and education for Illinois

was 1.25. This means that for every one new job in the ECE sector, an additional 0.25 jobs are created outside that sector in other parts of the state economy. Multiplying both numbers by twenty yields this reformulation of the same finding: for every twenty jobs created in the ECE sector, five jobs are created outside the sector.

¹⁵The \$630 million investment in early care and education programs was applied to the 2012 Illinois employment multiplier findings for the ECE sector (with a Type SAM multiplier of 1.25 using IMPLAN), and yielded 19,673 total jobs, or more than 19,000 jobs), with 3,996 (rounded to 4,000) of these jobs being in other economic sectors outside early care and education. See Appendix A, Economic Multipliers Analysis, for more details on analysis and methods.

¹⁶Shellenback, K. (2004). Child care and parent productivity: Making the business case. Linking Economic Development & Child Care Research Project. Ithaca, NY: Cornell University, Cornell Cooperative Extension. Retrieved from <http://government.cce.cornell.edu/doc/pdf/ChildCareParentProductivity.pdf>

¹⁷Shellenback, K. (2004). Child care and parent productivity: Making the business case. Linking Economic Development & Child Care Research Project. Ithaca, NY: Cornell University, Cornell Cooperative Extension. Retrieved from <http://government.cce.cornell.edu/doc/pdf/ChildCareParentProductivity.pdf>

¹⁸Based on the number of children under six in Illinois with all available parents in the labor force (648,000). KIDS COUNT data center. Retrieved from: <http://datacenter.kidscount.org/data/tables/5057-children-under-age-6-with-all-available-parents-in-the-labor-force?loc=1&loct=2#detail> ed/2/10-19,2,20-29,3,30-39,4,40-49,5,50-52,6-9/false/868/any/11472,11473

¹⁹Although estimates of the number of disadvantaged children participating in regulated early learning programs vary, and no precise figure is available due to data limitations (described in Appendix B), READYNATION/AMERICA'S EDGE estimates that about 216,000 disadvantaged young children under age 5 in Illinois were not in regulated early learning programs. This estimate was calculated by subtracting the estimated total number of disadvantaged young children in early learning programs, 143,247 children, from the estimates of the number of disadvantaged children under age 5 in Illinois from KIDSCOUNT (359,162 children), yielding 215,915, or approximately 216,000 children. (See Appendix B for a fuller explanation of the number of disadvantaged children served in each type of early learning program in Illinois.)

²⁰Casner-Lotto, K., & Benner, M.W. (2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. Retrieved from: http://www.21stcenturyskills.org/documents/FINAL_REPORT_PDF09-29-06.pdf

²¹Casner-Lotto, K., & Benner, M.W. (2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. Retrieved from http://www.21stcenturyskills.org/documents/FINAL_REPORT_PDF09-29-06.pdf

²²Casner-Lotto, K., & Benner, M.W. (2006). Are they really ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce. Retrieved from http://www.21stcenturyskills.org/documents/FINAL_REPORT_PDF09-29-06.pdf

²³Weiland, C., & Yoshikawa, H. (2013). Impacts of a prekindergarten program on children's mathematics, language, literacy, executive function, and emotional skills. Child Development. DOI: 10.1111/cdev.12099

²⁴Ladd, H. F., Muschkin, C. G., & Dodge, K. (2012, February). From birth to school:

Early childhood initiatives and third grade outcomes in North Carolina. Retrieved from: <http://research.sanford.duke.edu/papers/SAN12-01.pdf>

²⁵Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest. *Journal of the American Medical Association*, 285(12), 2339-2380.

²⁶Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Preschool Program longitudinal effects study: Fifth grade follow-up. New Brunswick, NJ: National Institute for Early Education Research, Rutgers-The State University of New Jersey. Retrieved from: <http://nieer.org/sites/nieer/files/APPLES%205th%20Grade.pdf>

²⁷Barnett, 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; Barnett, W. S., Jung, K., Youn, M., & Frede, E. C. (2013, March 20). Abbott Preschool Program longitudinal effects study: Fifth grade follow-up. New Brunswick, NJ: National Institute for Early Education Research, Rutgers-The State University of New Jersey. Retrieved from: <http://nieer.org/sites/nieer/files/APPLES%205th%20Grade.pdf>

²⁸Schweinhart, 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, MI: High/Scope Press.

²⁹Reynolds, A. J., Temple, J. A., Robertson, D. L., & Mann, E. A. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest A 15-year follow-up of low-income children in public schools. *Journal of the American Medical Association*, 285, 2339-2346.

³⁰Schweinhart, 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.

³¹Schweinhart, 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, MI: High/Scope Press.; 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.

³²Kay, N., & Pennucci, A. (2014, January). *Early childhood education for low-income students: A review of the evidence and benefit-cost analysis*. Olympia, WA: Washington State Institute for Public Policy. Retrieved from: <http://www.wsipp.wa.gov/reports/531>

³³The additional lost economic activity for local businesses is calculated by applying the 1.94 Type SAM output multiplier for the early care and education sector in Illinois.

³⁴Schweinhart, 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, MI: High/Scope Press.

³⁵Although estimates of the number of disadvantaged children participating in regulated early learning programs vary, and no precise figure is available due to data limitations (described in Appendix B), READY NATION/AMERICA'S EDGE estimates that about 216,000 disadvantaged young children under age 5 in Illinois were not in regulated early learning programs. This estimate was calculated by subtracting the estimated total number of disadvantaged young children in early learning programs, 143,247 children, from the estimates of the number

of disadvantaged children under age 5 in Illinois from KIDSCOUNT (359,162 children), yielding 215,915, or approximately 216,000 children. (See Appendix B for a fuller explanation of the number of disadvantaged children served in each type of early learning program in Illinois.)

³⁶Bureau of Labor Statistics. (2013). *Occupational employment statistics – May 2012 state occupational employment and wage estimates- Illinois*. Washington, DC: US Department of Labor. Retrieved from: http://www.bls.gov/oes/current/oes_il.htm As of 2012, there were 2,280 early education administrators, 16,870 preschool teachers and 17,030 child care workers, for a total of 36,180.

³⁷Child Care Aware of America. (2013). *2012 child care in the state of: Illinois*. Retrieved from: http://www.naccrra.org/sites/default/files/default_site_pages/2012/illinois_060612-3.pdf

³⁸KIDS COUNT data center. Retrieved from: <http://datacenter.kidscount.org/data/tables/5057-children-under-age-6-with-all-available-parents-in-the-labor-force?loc=1&loct=2#detailed/2/10-19,2,20-29,3,30-39,4,40-49,5,50-52,6-9/false/868/any/11472,11473>



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