

Early Childhood Development:

ECONOMIC DEVELOPMENT WITH A HIGH PUBLIC RETURN

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Early childhood care and education are generally not thought of as economic development issues, but the authors of this article make a compelling case. Based on standard measures of economic impact, public investments in early childhood care and education are shown to outperform traditional forms of economic development. Minnesota is their model, but Pennsylvania could be easily substituted.

Why the case for publicly subsidizing private businesses is flawed and misguided

Over the last few years, the future of Minnesota's economy has been called into question. While many recognize the success of the Minnesota economy in the past, they see a weakening in the foundations of that success. Some point to the decline in corporate headquarters located in Minnesota. Some point to the lack of funding for new startup companies, particularly in the areas of high-tech and biotech. Some point to the possible loss of professional sports teams. Some think the University of Minnesota is not visible enough in the business community. And still others raise the broader concern that Minnesota's citizens and policymakers have become too complacent and unwilling to make the public commitment to be competitive in a global economy.

State and local subsidies to private businesses are not new. In the name of economic development and creating new jobs, Minnesota, and virtually every other state in the union, has a long history of subsidizing private businesses. We have argued in previous studies that the case for these subsidies is short-sighted and fundamentally flawed. From a national perspective, jobs are not created — they are only relocated. From a state and local perspective, the economic gains are suspect because many would have been realized without the subsidies. In summary, what often passes for economic development and sound public investment is neither.

If subsidizing private businesses is the wrong way to promote Minnesota's economy, then what is the right way?

Market failures can occur for a variety of reasons; two well-documented failures are goods that have external effects or public attributes. Unfettered markets will generally produce the wrong amount of such goods. Education has long been recognized as a good that has external effects and public attributes. Without public support, the market will yield too few educated workers and too little basic research. This problem has long been understood in the United States and it is why our government, at all levels, has supported public funding for education.

Investment in human capital breeds economic success not only for those being educated, but also for the overall economy. Clearly today, the market return to education is sending a strong signal. Prior to 1983, the wages of a worker with an undergraduate degree exceeded a worker with a high school degree by roughly 40 percent. Currently, that difference is close to 60 percent.

Evidence is clear that our state has one of the most successful economies in the country because it has one of the most educated workforces. In 2000, almost a third of persons 25 and older in Minnesota held at least a bachelor's degree, the sixth highest state in the nation. To ensure the future success of Minnesota's economy, we must continue to provide a highly educated workforce.

The economic case for public funding of early childhood development

Knowing that we need a highly educated workforce, however, does not tell us where to invest limited public resources. Policymakers must identify the educational investments that yield the highest public returns. Here the literature is clear: Dollars invested in early childhood development (ECD) yield extraordinary public returns.

The quality of life for a child and the contributions the child makes to society as an adult can be traced back to the first few years of life. From birth until about 5 years old a child undergoes tremendous growth and change. If this period of life includes support for growth in cognition, language, motor skills, adaptive skills and social-emotional functioning, the child is more likely to succeed in school and later contribute to society.

However, without support during these early years, a child is more likely to drop out of school, receive welfare benefits and commit crime.

A well-managed and well-funded early childhood development program, or ECDD, provides such support. Current ECDDs include home visits as well as center-based programs to supplement and enhance the ability of parents to provide a solid foundation for their children. Some have been initiated on a large scale, such as federally funded Head Start, while other small-scale model programs have been implemented locally, sometimes with relatively high levels of funding per participant.

An often-cited research project is the High/Scope study of the Perry Preschool in Ypsilanti, Michigan, which demonstrates that the returns available to an investment in a high-quality ECDD are significant. During the 1960s the Perry School program provided a daily 2½-hour classroom session for 3- to 4-year-old children on weekday mornings and a 1½-hour home visit to each mother and child on weekday afternoons. Teachers were certified to teach in elementary, early childhood and special education, and were paid 10 percent above the local public school district's standard pay scale. During the annual 30-week program, about one teacher was on staff for every six children.

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Beginning in 1962, researchers tracked the performance of children from low-income black families who completed the Perry School program and compared the results to a control group of children who did not participate. The research project provided reliable longitudinal data on participants and members of the control group. At age 27, 117 of the original 123 subjects were located and interviewed.

The results of the research were significant despite the fact that, as in several other studies, program participants lost their advantage in IQ scores over nonparticipants within a few years after completing the program. Therefore a significant contribution to the program's success likely derived from growth in noncognitive areas involving social-emotional functioning. During elementary and secondary school, Perry School participants were less likely to be placed in a special education program and had

a significantly higher average achievement score at age 14 than nonparticipants. Over 65 percent of program participants graduated from regular high school compared with 45 percent of nonparticipants. At age 27, four times as many program participants as nonparticipants earned \$2,000 or more per month. And only one-fifth as many program participants as nonparticipants were arrested five or more times by age 27.

The High/Scope study conducted a benefit-cost analysis of the Perry School program by converting the benefits and costs found in the study into monetary values in constant 1992 dollars discounted annually at 3 percent. The researchers found that for every dollar invested in the program during the early 1960s, over \$8 in benefits were returned to the program participants and society as a whole (see Table 1A).

Perry School Preschool's Estimated Impact per Program Participant

Table 1A — Benefit/Cost Analysis

Benefits*	Present Value in 1992 Dollars Discounted at 3%		
	For Participant	For Public	Total
Child care provided	\$738	\$0	\$738
More efficient K-12 education, such as less grade retention and higher achievement	0	6,872	6,872
Decrease in public adult education costs	0	283	283
Increase in participants' earnings and employee benefits	21,485	8,846	30,331
Decrease in crime	0	70,381	70,381
Increase in publicly funded higher education costs	0	-868	-868
Decrease in welfare payments	-2,653	2,918	265
Total Benefits	19,570	88,433	108,002
Cost of Program	0	-12,356	-12,356

Estimated return on \$1 invested in program:

For Participant and Public: \$8.74 (\$108,002 in Benefits/\$12,356 for Cost of Program)

For Public: \$7.16 (\$88,433 in Benefits/\$12,356 for Cost of Program)

* Benefits and costs were measured from ages 3 through 27 and projected for ages 28 through 65.
Data source: The High/Scope Perry Preschool Study Through Age 27

Perry School Preschool's Estimated Impact per Program Participant

Table 1B — Real Internal Rate of Return *

Average Annual Effect in 1992 Dollars

Benefits**		For Participant	For Public	Total
Child care provided	(Ages 3-4)	\$385	\$0	\$385
More efficient K-12 education	(Ages 5-17)	0	747	747
Decrease in public adult education services	(Ages 20-25)	0	89	89
Increase in participants' earning and employee benefits	(Ages 18-27) (Ages 28-65)	2,142 1,070	714 357	2,856 1,427
Decrease in crime	(Ages 18-27) (Ages 28-65)	0 0	8,923 1,565	8,923 1,565
Increase in publicly funded higher education costs	(Ages 20-25)	0	-225	-225
Decrease in welfare payments	(Ages 18-27) (Ages 28-65)	-392 -31	431 34	39 3
Cost of program	(Ages 3-4)	0	-6,444	-6,444
Estimated Real Internal Rate of Return		4%	12%	16%

* The internal rate of return is the interest rate received for an investment that consists of payments and revenue occurring at regular periods. The above amounts were allocated annually across the age groups listed.

** Benefits and costs were measured from ages 3 through 27 and projected for ages 28 through 65.

Data source: *The HighScope Perry Preschool Study Through Age 27*

... for every dollar invested in the [Perry School] program ... over \$8 in benefits were returned to the program participants and society as a whole.

While 8-to-1 is an impressive benefit-to-cost ratio, we place this result in context with returns from other economic development projects by calculating the internal rate of return for the Perry School program.

To calculate the internal rate of return, we estimated the time periods in which costs and benefits in constant dollars were paid or received by program participants and society (see Table 1B). We estimate the real internal rate of return for the Perry School program at 16 percent. "Real" indicates that the rate of return is adjusted for inflation.

While program participants directly benefited from their increase in after-tax earnings and fringe benefits, these benefits were smaller than those gained by the general public. Based on present value estimates, about 80 percent of the benefits went to the general public (students were less disruptive in class and

went on to commit fewer crimes), yielding over a 12 percent internal rate of return for society in general. Compared with other public investments, and even those in the private sector, an ECDP seems like a good buy. This analysis suggests that early childhood development is underfunded; otherwise, the internal rate of return on an ECDP would be comparable to other public investments.

The returns to ECDPs are especially high when placed next to other spending by governments made in the name of economic development. Yet ECD is rarely considered as an economic development measure.

For example, tax increment financing and other subsidies have recently been used to locate a discount retail store and an entertainment center in downtown Minneapolis, and to relocate a major corporate headquarters to suburban Richfield and a computer soft-



ware firm to downtown St. Paul. Can any of these projects, which combined represent an estimated quarter of a billion dollars in public subsidies, stand up to a 12 percent public return on investment? From the state's point of view, if the subsidy is simply moving businesses within the state, the public return is zero. If the subsidy is required for the business to survive, the risk-adjusted public return is not merely small but could be negative.

As our lawmakers review proposals to build or improve the state's major professional sports stadiums, let's not make the same mistake. The various proposals to build new baseball and football stadiums and improve the current basketball stadium total over \$1 billion. Can new stadiums offer a comparable public return on investment as an ECDP? How does a new stadium reduce crime, increase earnings and potentially break a chain of poverty? We propose that this \$1 billion plus be invested in a project with a much higher public return.

Proposal: Minnesota Foundation for Early Childhood Development

For several years the state of Minnesota has sponsored initiatives to help prepare children for

kindergarten, specifically, Early Childhood Family Education, or ECFE, School Readiness and state-funded Head Start programs.

We propose that the Minnesota state government create the Minnesota Foundation for Early Childhood Development to fill the gap between the funds currently available for ECFE, School Readiness and Head Start and the amount necessary to fully fund a high-quality program for all 3- and 4-year-old children living in poverty in Minnesota. A one-time \$1.5 billion outlay would create an endowment that could support ECDPs on an annual basis. The foundation would receive donations from government, private foundations, individuals and businesses. With the foundation's funds invested in corporate AAA bonds, earning about 7 percent per year, we estimate that the \$105 million in annual earnings would cover the yearly costs required to fully fund comprehensive, high-quality ECDPs for all children from low-income families in Minnesota.

The Minnesota Foundation for Early Childhood Development would provide funding for well-supported and highly effective ECDPs, whether supplementing funds for an existing Head Start center or

helping start a new program. The Foundation would provide additional resources to enhance existing programs, such as boost teacher qualification and compensation, reduce teacher-student ratios and expand curriculum resources. Furthermore, the Foundation would provide startup funds for new ECDPs to help reach all eligible children.

We contend that funding for ECDPs should reach the level of model program status, such as the Perry School program, since this is the level at which high returns have been demonstrated. Well-funded ECDPs would ensure that all teachers have a degree in early childhood education and are paid at a level that keeps turnover to a minimum. Furthermore, ECDPs would maintain low student-to-teacher ratios and use high-quality curriculum materials. Funds should also be allocated for research to track the improvement of participating children and identify where additional support may be needed. Participation in these programs should be voluntary, but incentives may be provided for families to participate. ECDPs should work effectively with parents and include them in the education process with their children.

Conclusion

The conventional view of economic development typically includes company headquarters, office towers, entertainment centers, and professional sports stadiums and arenas. In this paper, we have argued that in the future any proposed economic development list should have early childhood development at the top. The return on investment from early childhood development is extraordinary, resulting in better working public schools, more educated workers and less crime. A \$1.5 billion investment to create the Minnesota Foundation for Early Childhood Development would go a long way toward ensuring that children from low-income families are ready to learn by the time they reach kindergarten.

After measuring the public impact on the quality of life that such a foundation can provide, the costs of not making such an investment are just too great to ignore.

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