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Preschool and Economic Development

NOTE: The full report referred to in this article is available at http://www.upjohn.org/preschool/Full_report.pdf. A shorter report that summarizes the main estimates and methodologies used is available at http://www.upjohn.org/preschool/Short_report.pdf.

This article summarizes my study of the effects of high-quality universal preschool education when it is treated as an economic development program. The study finds that each dollar that a state government invests in universal preschool education is estimated to increase the present value of earnings

From a state perspective, economic development subsidies create more jobs for state residents in the short- and medium run, but universal preschool education creates more jobs in the long run.

of state residents by about \$3 and all U.S. residents by about \$4. From a state government perspective, universal preschool education provides economic development benefits that complement the benefits provided by traditional economic development tax subsidies to business. Traditional economic development subsidies create more jobs for state residents in the short- and medium run, but universal preschool education creates more jobs in the long run. From a national perspective, the average state's investments in universal

preschool education do more to boost the national economy than its investments in economic development subsidies.

What Does It Mean to Think of Preschool as an Economic Development Program?

I consider high-quality preschool to be an economic development program to the extent that it accomplishes the same goals—mainly increases in jobs and earnings—as traditional economic development programs.

Traditional economic development programs provide customized assistance to individual businesses in order to affect decisions about location, employment, or productivity. Most resources devoted to these programs go to providing businesses with tax breaks, such as property tax abatements.

Research has shown that the largest benefits of traditional economic development programs are increases in employment rates and earnings. Therefore, a preschool program is an economic development program if it increases jobs and earnings. From a state government perspective, these increases must be for state residents, whereas a national perspective would include all U.S. residents.

A valid question is, why focus on only one type of benefit of preschool education? Studies have shown that preschool also provides other important benefits, such as crime reductions and

lower special education costs. However, economic development benefits are of particular interest to the business community and to many state and local policymakers.

Methodology

To estimate the economic development effects of universal preschool education and traditional economic development programs, I perform simulations based on the research literature. These include studies of the effects of high-quality preschool on individual participants, and effects of business subsidies on individual businesses; and studies of how increases in labor supply or labor demand affect aggregate labor market outcomes.

The universal preschool education program considered is similar to the much-studied Chicago Child-Parent Center program. It would be a half-day, school-year program for four-year-olds, with a ratio of 20 four-year-old participants in each class to two teachers, with the lead teacher certified in early childhood education. The cost of such a program would be about \$6,000 per child. In the aggregate, the program would have an annual gross national cost of \$20 billion, and a net cost, including savings from replacing current preschool spending, of about \$15 billion.

The analysis compares the economic development effects over the next 75 years of permanently enacting such a universal preschool program with devoting the same resources to traditional economic development subsidies to business. To estimate preschool's long-run effects on educational attainment, employment rates, and earnings, I rely on estimates from studies of the Chicago Child-Parent Center program, supplemented in some cases by estimates from studies of the Perry Preschool program in Ypsilanti, Michigan. These studies focused on the effects of high-quality preschool that targets economically disadvantaged children for assistance. Therefore, I assume that universal preschool education, which serves a wider variety of children, will have lower effects per participant than the effects of the Child-Parent Center and

Perry programs. This is a conservative assumption, as the extent to which the effects of high-quality preschool diminish with family income is disputed.

In addition, when estimating effects from a state government perspective, I exclude effects on former preschool participants who move out of state. However, estimates suggest that in most states over half of former preschool participants will remain in the same state for most of their working careers.

I also consider other economic development effects of universal preschool. The increased spending on universal preschool education will stimulate a state or national economy, even allowing for the taxes to finance the program. Universal preschool education will increase the labor supply of the parents of preschoolers.

My simulations suggest that those other effects are less important than the

From a national perspective, universal preschool education does more to boost the national economy than economic development subsidies.

effects of preschool on participants in increasing the quantity and quality of participants' future labor supply. Some of those other economic development effects might be more important for early childhood education programs with a different design, for example, programs that were full time and full year for all years from birth to age five.

For traditional economic development programs, I rely on prior research on how taxes affect business location investment decisions.

Effects of preschool or traditional programs depend on how state or national labor markets will respond to a shock to labor supply or labor demand. Preschool education's effects on participants is viewed as a "shock" that increases the quantity and quality of former participants' labor supply. Traditional economic development programs is a "shock" that increases the quantity or quality of labor demand. We would expect the equilibrium increase

in employment due to a labor supply or labor demand shock to be somewhat less than the initial shock. For example, an increase in labor supply due to preschool does nothing directly to increase the number of jobs in a state. Rather, the increased availability of labor will induce some response of labor demand by employers.

State Perspective

Figure 1 compares the simulated effects on a state's jobs from a state permanently adopting universal preschool to devoting the same resources to business subsidies. As the figure shows, initially economic development subsidies create more jobs for a state economy. But by 2033, the annual jobs impact of universal preschool on a state economy is more than twice that of business subsidies.

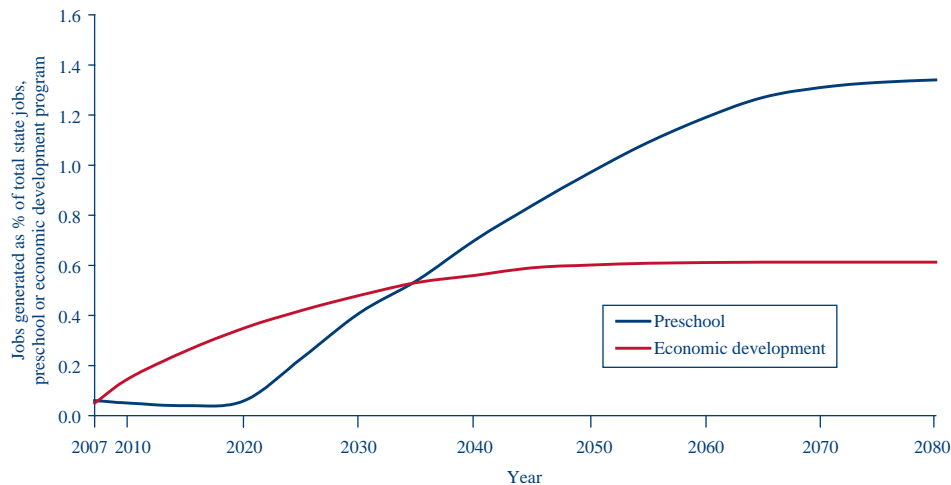
Of course, any professional economic developer would be fired for achieving such meager results within a 5- or 10-year period. Therefore, maintaining economic development subsidies will be necessary to get short-term results. But an economic developer might be quite thankful if previous state leaders had adopted universal preschool or other programs to enhance the state's human capital.

I also simulate the effect of universal preschool on the earnings of state residents, again comparing this with traditional economic development programs. Table 1 includes a column showing the effect, from a state perspective, on the present value of the earnings of state residents, per \$1.00 invested in either high-quality preschool or business subsidies. The bottom line is that for every \$1 devoted to either high-quality preschool or business subsidies, the present value of the earnings of state residents increases by about \$3.

National Perspective

The national economic benefits of preschool and business subsidies differ greatly from the benefits from a state perspective. First, many former preschool participants do move out of state. For the

Figure 1 Jobs Generated for State Residents by Permanent Universal Preschool Program, Compared to Jobs Generated by Economic Development Subsidy of Same Cost



NOTE: The jobs generated for the preschool program show effects due to all avenues of influence of preschool programs on job generation, of which the largest is effects on participants and peers, but also including the balanced budget multiplier and labor supply effects on parents. The jobs generated as % of baseline employment compares jobs generated to total state baseline employment, which is assumed to grow at 0.3% per year. These percentage figures for preschool would apply to any state that adopted a universal preschool program of this design, or an economic development program that had the same cost as such a program. Both programs are assumed to start in 2007.

typical state, over one-third of preschool participants are estimated to eventually move out of the state in which they were enrolled in preschool. Second, many of the jobs a state gains by offering economic development subsidies to business are reshuffled from other states. Estimates suggest that for every five jobs gained by the state offering the subsidies, four jobs are reshuffled from other states.

For this project I also simulate the national economic benefits of investing in preschool, or business subsidies, after allowing for effects on out-migrants and jobs being reshuffled among the states. As shown in Table 1, from a national perspective, preschool education increases the present value of real earnings by almost \$4, per \$1 of preschool spending. For business subsidies, the national perspective suggests that for the typical state, each

\$1 of resources devoted to business subsidies increases the present value of national earnings by considerably less than a dollar.

Economic development subsidies may have greater national effects if implemented in a state with high unemployment. Redistributing jobs from low-unemployment to high-unemployment states may allow greater national economic stimulus without inflationary pressures. Simulations suggest that in states with the highest unemployment, the national benefits of economic development subsidies may be similar to the benefits from a state perspective.

The greater benefits of preschool from a national perspective than from a state perspective—a 4 to 1 national payoff versus a 3 to 1 state payoff—provide a rationale for federal financial support

for state government investments in preschool education. For the typical state, the lesser benefits of business subsidies from a national perspective than from a state perspective suggest that many states may overinvest in subsidies to attract business. Federal policymakers might consider ways to curb economic development subsidies in low-unemployment states, while allowing or even encouraging such subsidies in high-unemployment states.

The long-run national economic benefits of universal preschool can be stated in other metrics. By 2080, universal preschool would add over 3 million jobs to the U.S. economy, almost \$300 billion in annual earnings, nearly \$1 trillion in increased annual value of gross domestic product, and over \$200 billion in annual government tax revenues, increasing all of these economic indicators by almost 2 percent of their baseline values.

The most important economic development effect of universal preschool is through increasing the quantity and quality of participants' future labor supply.

These long-run effects of preschool are quite similar to those estimated in another recent study, using a quite different model. According to Dickens, Sawhill, and Tebbs (2006), the effects in 2080 of universal preschool would be to boost U.S. gross domestic product by between 1 and 4 percent.

Ambiguities in the Results

There are two uncertainties about these results. First, the simulations assume that preschool's benefits tail off considerably for children from higher-income families. However, the extent of this tail-off is disputed in the research literature.

If there is such a large tail-off, there would be a considerably greater ratio of earnings boost per dollar of spending for preschool programs that target disadvantaged families than for universal

Table 1 Effects on Present Value of Real Earnings, per \$1.00 Invested in That Policy

	State perspective	National perspective
Universal preschool	\$2.78	\$3.79
Business subsidies	\$3.14	\$0.65

preschool. Such targeting has significant political costs by narrowing the base of support for government financing of preschool education. Therefore, we need more reliable information about whether there are large or small economic benefits from targeting preschool on disadvantaged families, so that we can judge whether these outweigh the political costs.

Second, we need to know more about what level of spending and type of program monitoring is needed to ensure high-quality results in universal preschool programs. We know that the Chicago Child-Parent Center program and the Perry Preschool program obtained excellent results with smaller programs. Any universal preschool program will have to include monitoring, and ensure that, if necessary, program resources can be expanded or program management reformed to achieve high-quality results.

Broader Implications

These findings suggest that economic development goals can be achieved by initiatives that do not target business growth directly, but instead increase the quantity and quality of labor supply. Under reasonable assumptions, such “human capital” approaches to economic development can sometimes achieve larger long-run results than traditional economic development programs. Similar analyses might be used to simulate the economic development effects of other policies to enhance human capital, such as programs that seek to boost educational attainment.

Timothy J. Bartik is a senior economist at the Upjohn Institute.

Notes

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Suggestions for Further Reading

A Powerpoint version of Bartik’s report (available at <http://www.upjohn.org/>)

preschool/presentation.ppt) was delivered in a short presentation on Capitol Hill on May 16, 2006. This briefing for Capitol Hill staff was sponsored by The Pew Charitable Trusts and PNC Financial Services, and also included presentations by pollster John Zogby, and economists Isabel Sawhill, William Dickens, and Jeffrey Tebbs of the Brookings Institution.

Mr. Zogby’s work in this area is available at http://www.ced.org/docs/poll_earlyed2006zogby.pdf, and the Brookings work in this area is available in a policy brief at <http://www.brookings.edu/views/papers/200604dickenssawhill.pdf>.

Both the Pew Charitable Trusts and the Committee for Economic Development have sponsored or conducted considerable additional research related to the economic benefits of high-quality preschool. A link to Pew’s work in this area is at <http://www.pewtrusts.org/ideas/index.cfm?issue=26>.

Links to CED’s work are available at <http://www.ced.org/projects/educ.shtml> and links to the CED-affiliated group Invest in Kids are available at <http://www.ced.org/projects/kids.shtml>.

Much research on early childhood education is available at the National Institute for Early Education Research, based at Rutgers, and available at <http://nieer.org/>. Research on child care and economic development is available at the Linking Economic Development and Child Care Research Project at Cornell University, at <http://government.cce.cornell.edu/doc/reports/childcare/>.

Reference

Dickens, W.T., I.V. Sawhill, and J. Tebbs. 2006. “The Effects of Investing in Early Education on Economic Growth.” Brookings Institution Policy Brief no. 153. Washington, DC: Brookings Institution.

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