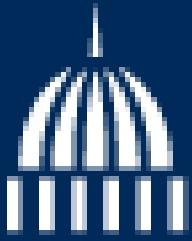


# **ECONOMIC RETURNS to EARLY EDUCATION**

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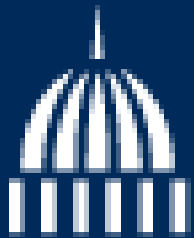
**NCSL  
2007 Annual  
Meeting**



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

## **TODAY I WILL :**

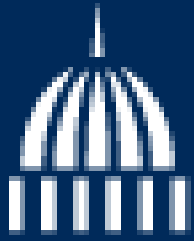
- **Tell you why workforce development is imperative in today's new economy**
- **Show you the ROI on quality early childhood development**
- **Show you the impacts on national and state economies**
- **Answer your questions**



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

**THE  
RAW MATERIAL  
IN THE  
NEW ECONOMY  
IS  
BRAIN POWER**

**August 7, 2007**

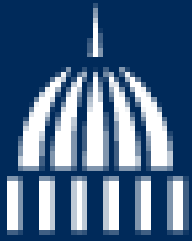


ECONOMIC  
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to  
EARLY  
EDUCATION

## NEW ECONOMY HIGHER SKILL SET REQUIRED

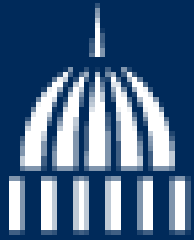
**"The days are over when you could walk into a paper mill with a high school diploma and run one of the machines."**

– Patrick Schillinger, former Wisconsin Paper Council President,  
*Center will teach paper-industry technology,*  
Milwaukee Journal Sentinel, JS Online, October 21, 2004.



## **GLOBAL BRAIN POWER QUANTITY**

- **The 25% of China's population with the highest IQs ...  
... is greater than the total population of North America**
- **In India, it's the top 28%**
- **Translation: They have more honors kids than we have kids**

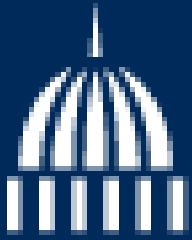


## **NEW ECONOMY NEED FOR CREATIVITY & INNOVATION**

**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

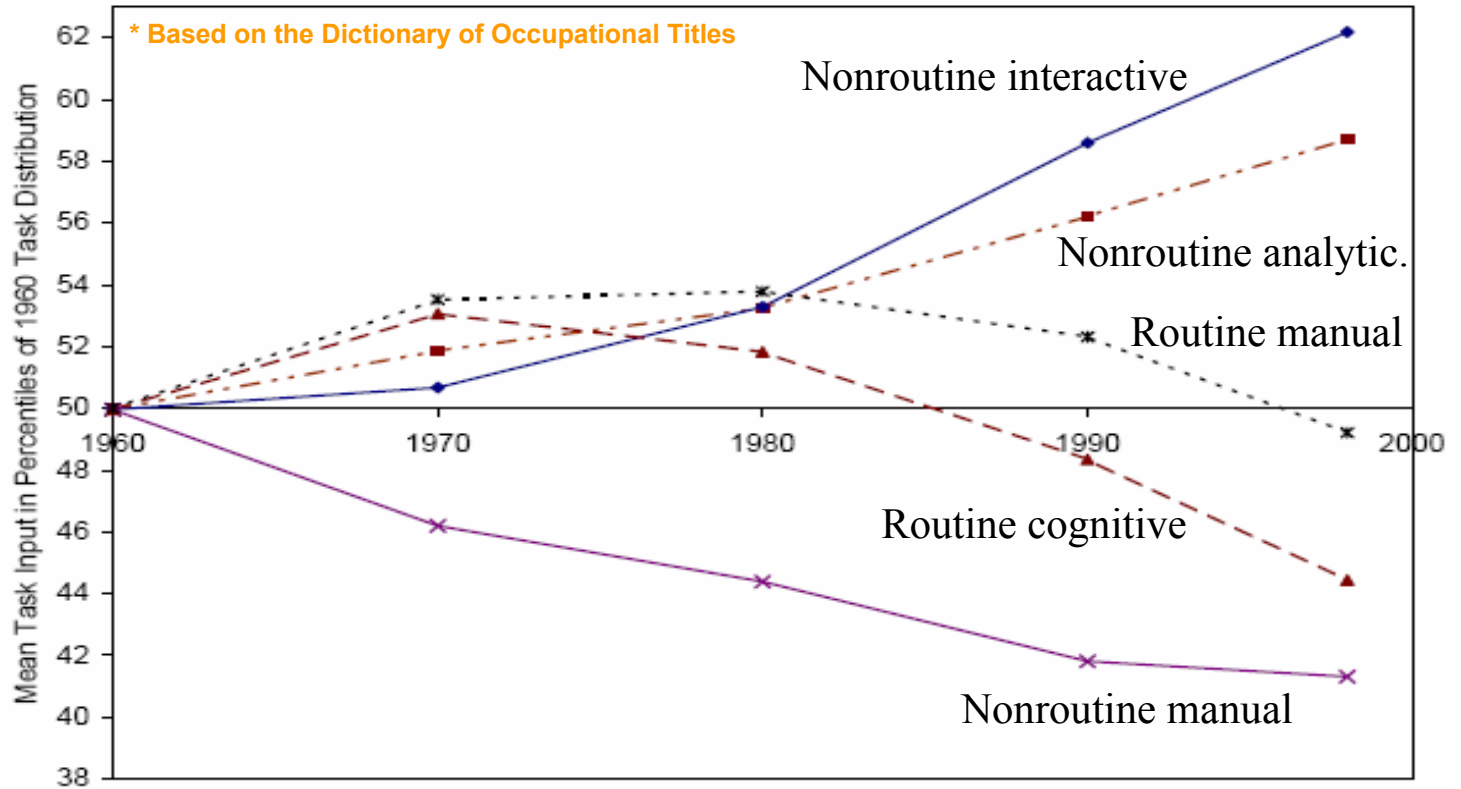
**“Today in most fields I know, the struggle is about creativity and innovation. There is no script.”**

– Robert B. Shapiro,  
former CEO & Chairman,  
Monsanto Corporation



# WORKPLACE REQUIREMENTS CHANGES IN SKILLS USED AT WORK\*

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION

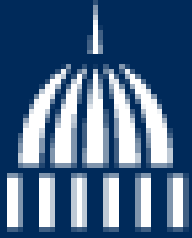


—■— Nonroutine analytic      —◆— Nonroutine interactive      —×— Nonroutine manual  
—▲— Routine cognitive      —\*— Routine manual

Source: Autor, Levy and Murnane, 2003.

— Source: K-12 Education and Economic Summit presentation by Alan B. Krueger, Princeton University

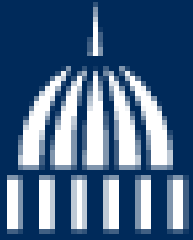
August 7, 2007



## **GLOBAL WORKFORCE SOBERING TRENDS**

**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

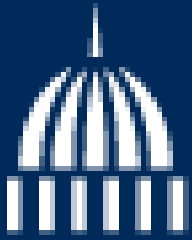
- **In 2000, more than 25 countries had higher percentage of 24-year-olds with degrees in science and engineering than U.S.**
- **By 2010, China will produce more S&E doctorates than the U.S.**
- **In 1997, China had 50 research centers; by 2004, China had 600**



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

# **WHY IS EARLY EDUCATION IMPORTANT?**

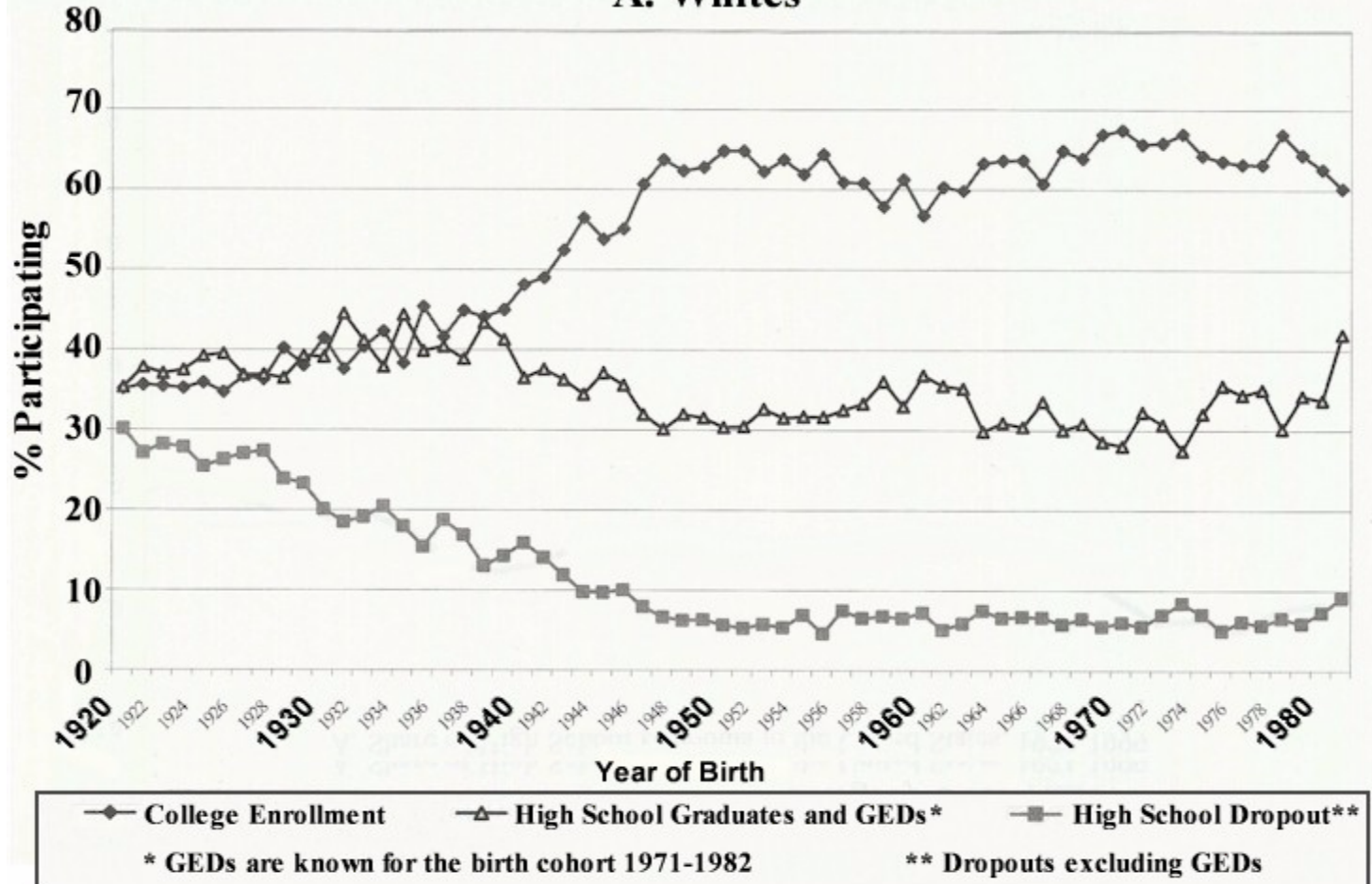
**August 7, 2007**

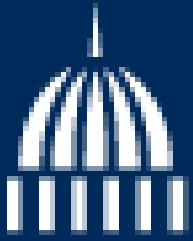


# EDUCATION INCLINATION GAINS HAVE CEASED

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION

Schooling Participation Rates by Year of Birth: Data from CPS 2000  
A. Whites

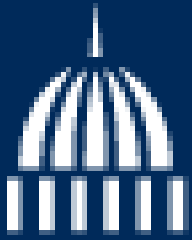




**ECONOMIC  
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EARLY  
EDUCATION**

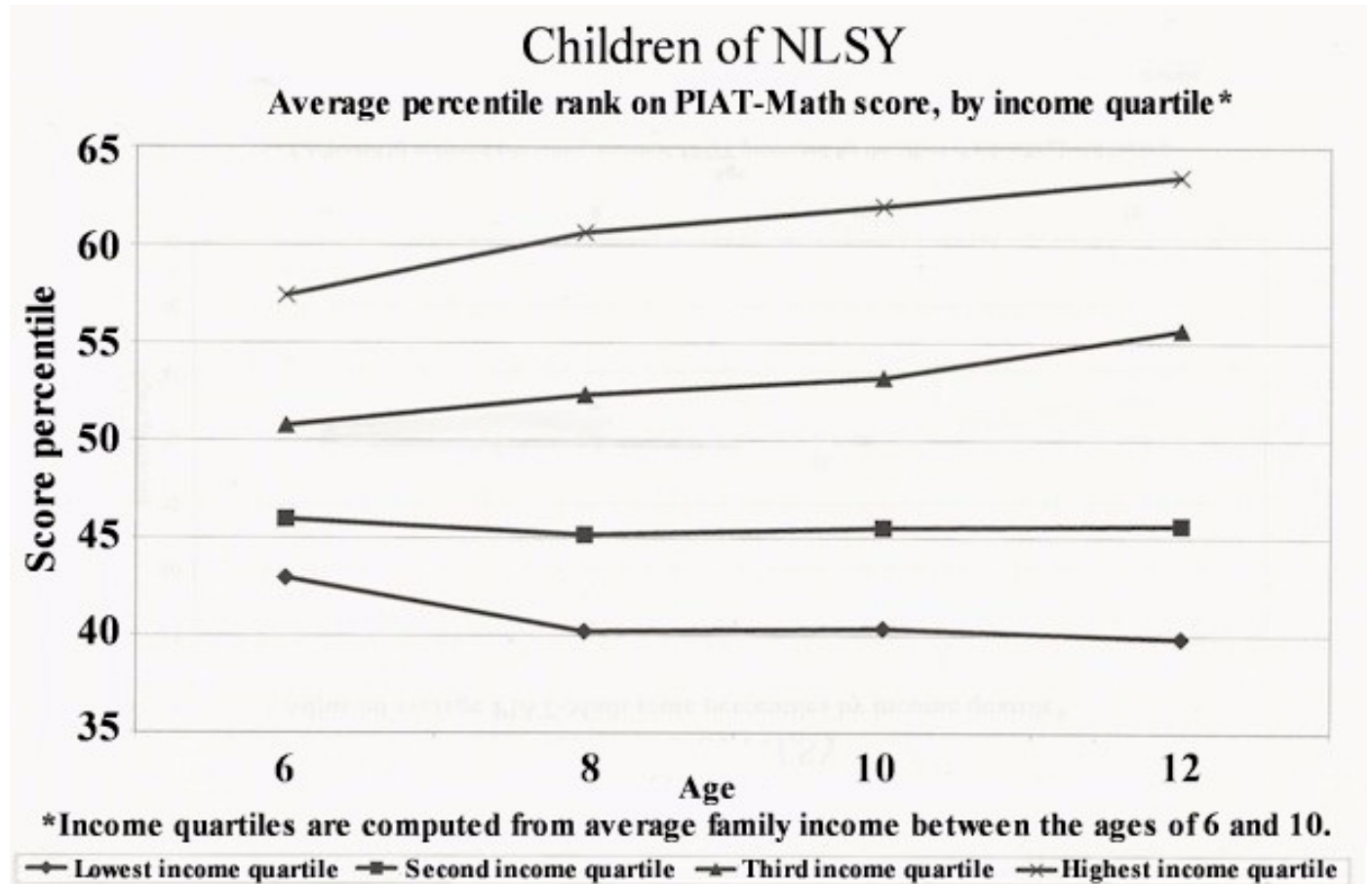
## **WHY EARLY EDUCATION? AN EARLY FULCRUM**

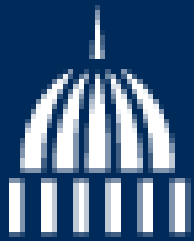
- **Third Grade Reading Skills**
  - **Learn to Read**  **Read to Learn**



# ACHIEVEMENT GAP ESTABLISHED EARLY

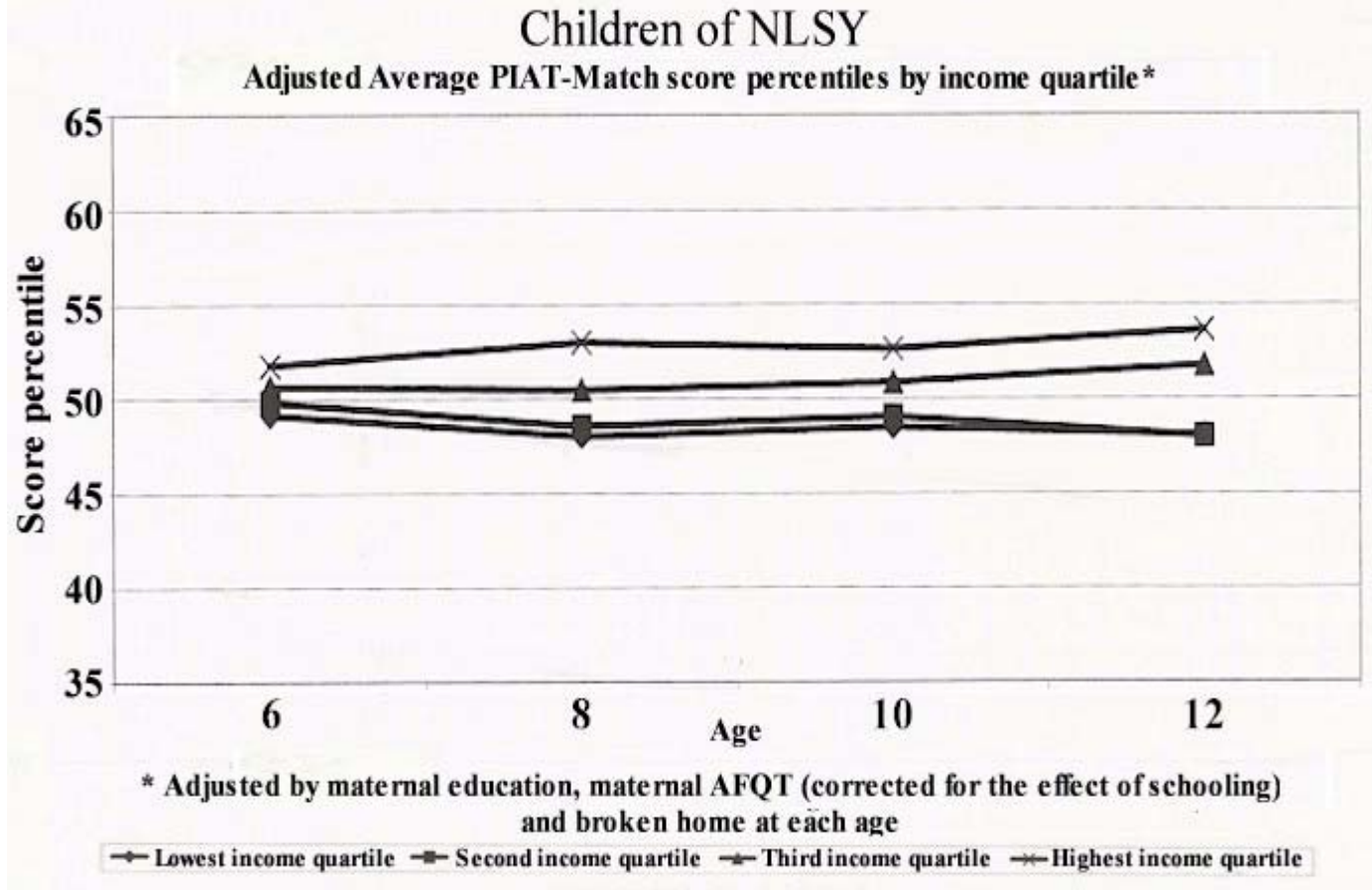
ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



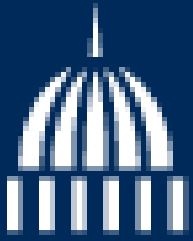


# ACHIEVEMENT GAP DEPENDENT ON THE MOTHER'S EDUCATION

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



Source: Prof. James Heckman, Nobel Laureate, University of Chicago

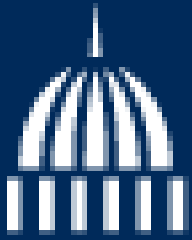


ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION

## POVERTY v. EDUCATION USE THE CORRECT POLICIES

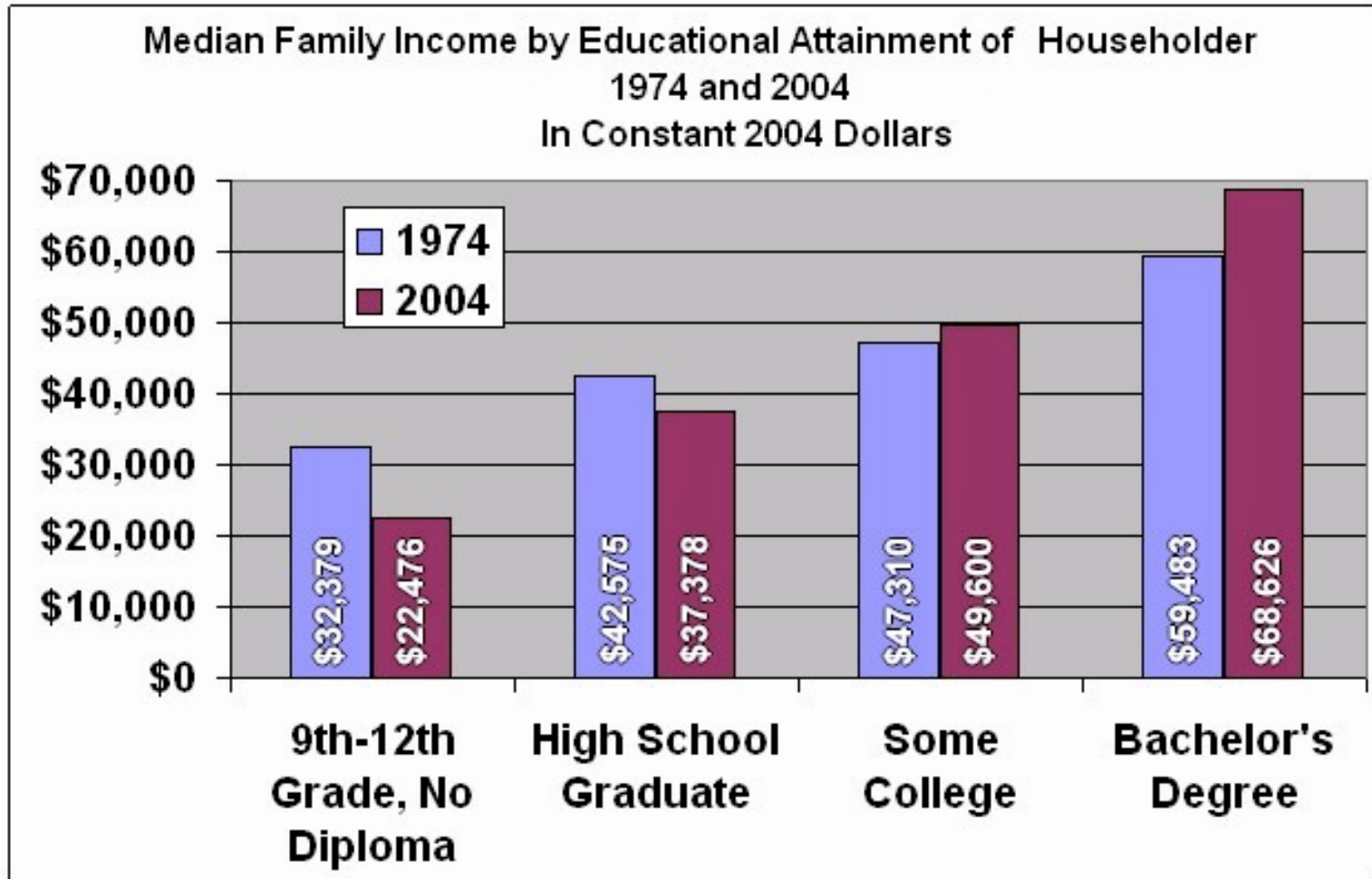
➤ **Ed  $\neq$   $f$  (Poverty)**

➤ **Poverty =  $f$  (Education)**

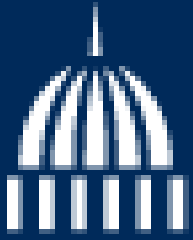


**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

# MEDIAN FAMILY INCOME BY EDUCATIONAL ATTAINMENT



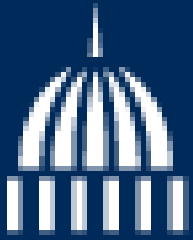
Source: U.S. Census Bureau



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

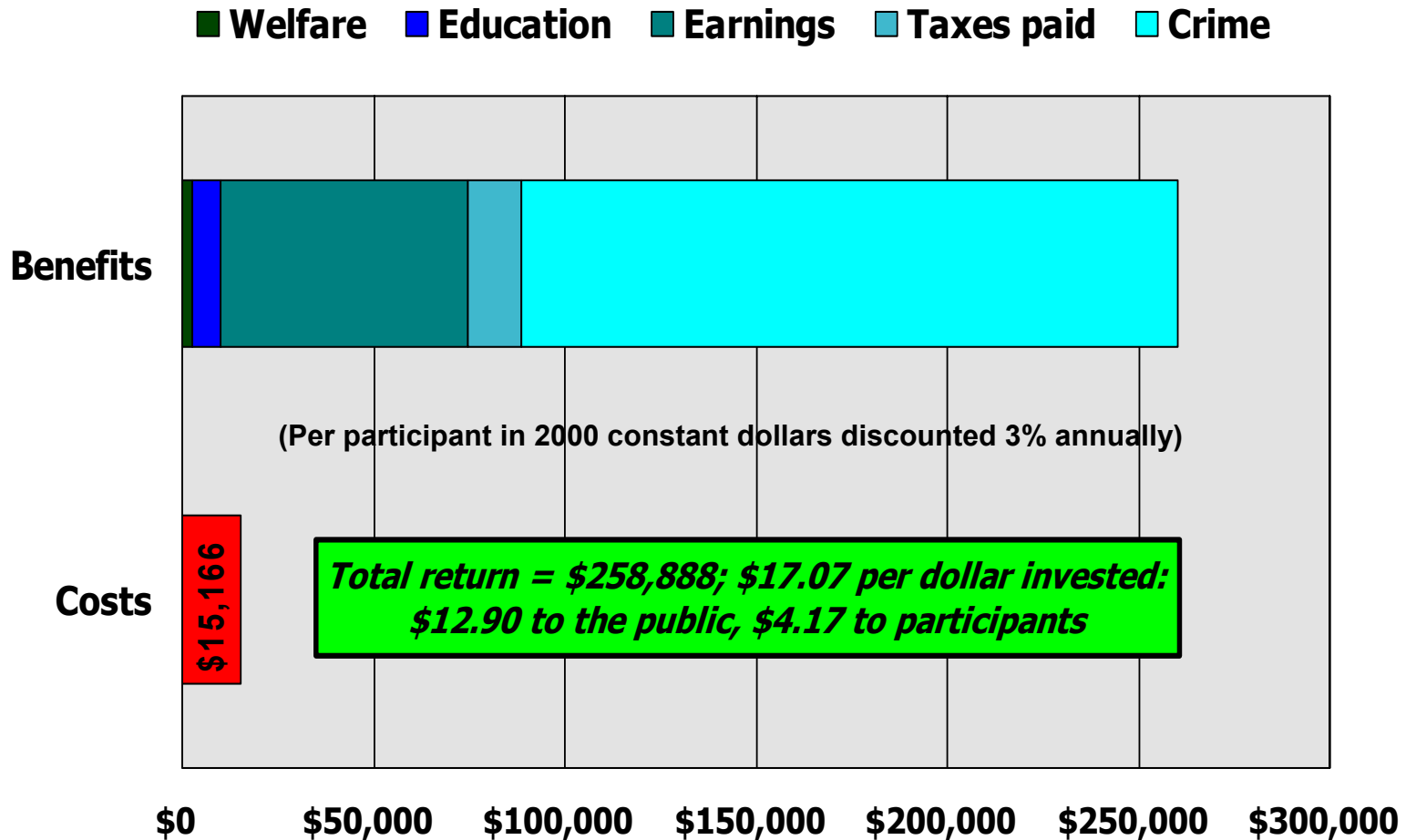
# **WHAT ARE THE ECONOMIC RETURNS TO EARLY EDUCATION?**

**August 7, 2007**



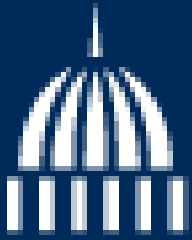
# HUGE RETURN ON INVESTMENT HIGH/SCOPE PERRY PRESCHOOL

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



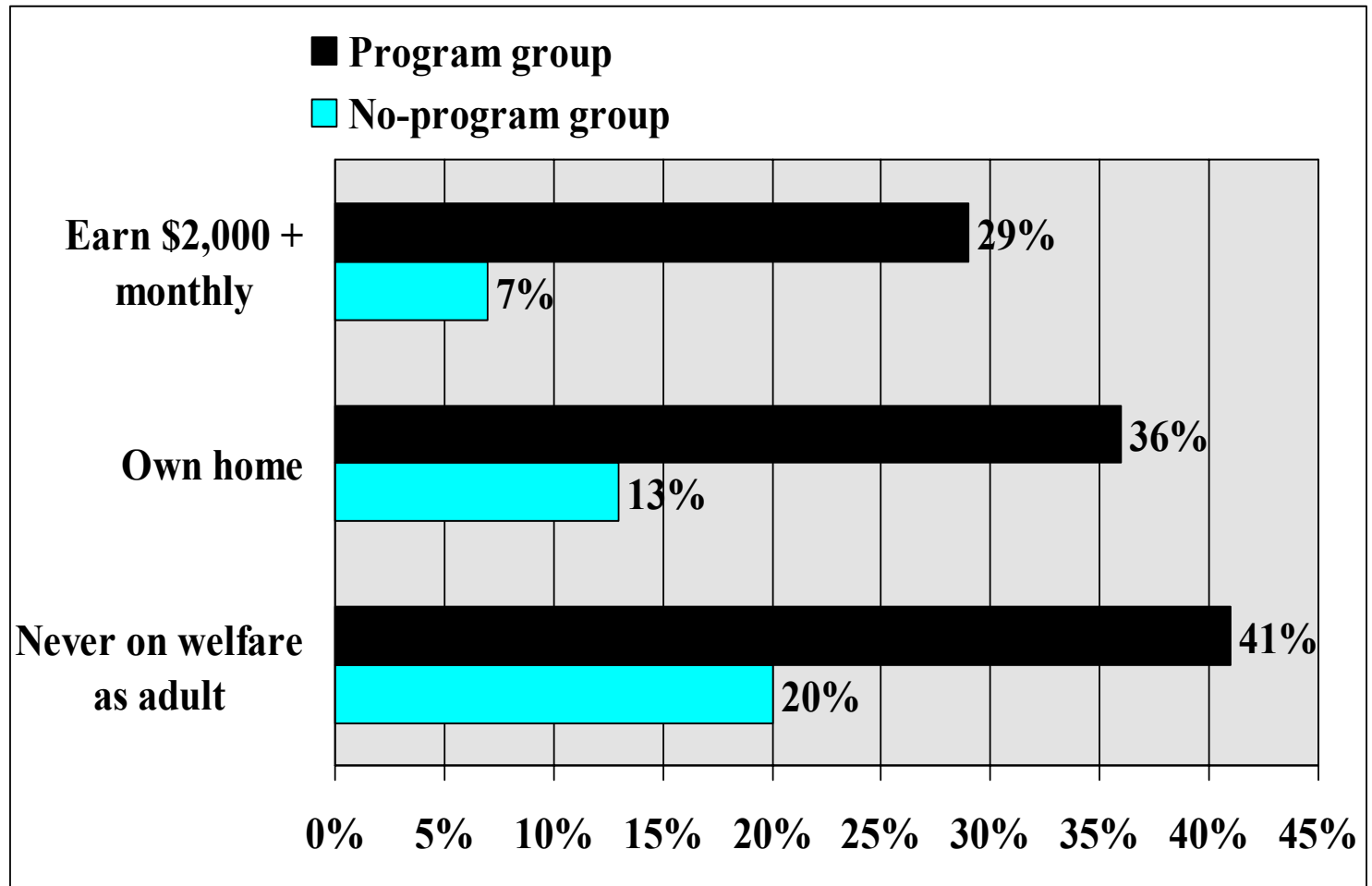
August 7, 2007

Larry Schweinhart, *High/Scope Educational Research Foundation*, [www.highscope.org](http://www.highscope.org)

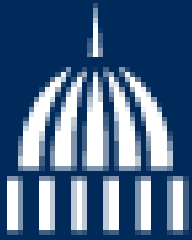


# HIGH/SCOPE PERRY PRESCHOOL ECONOMIC EFFECTS AT AGE 27

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION

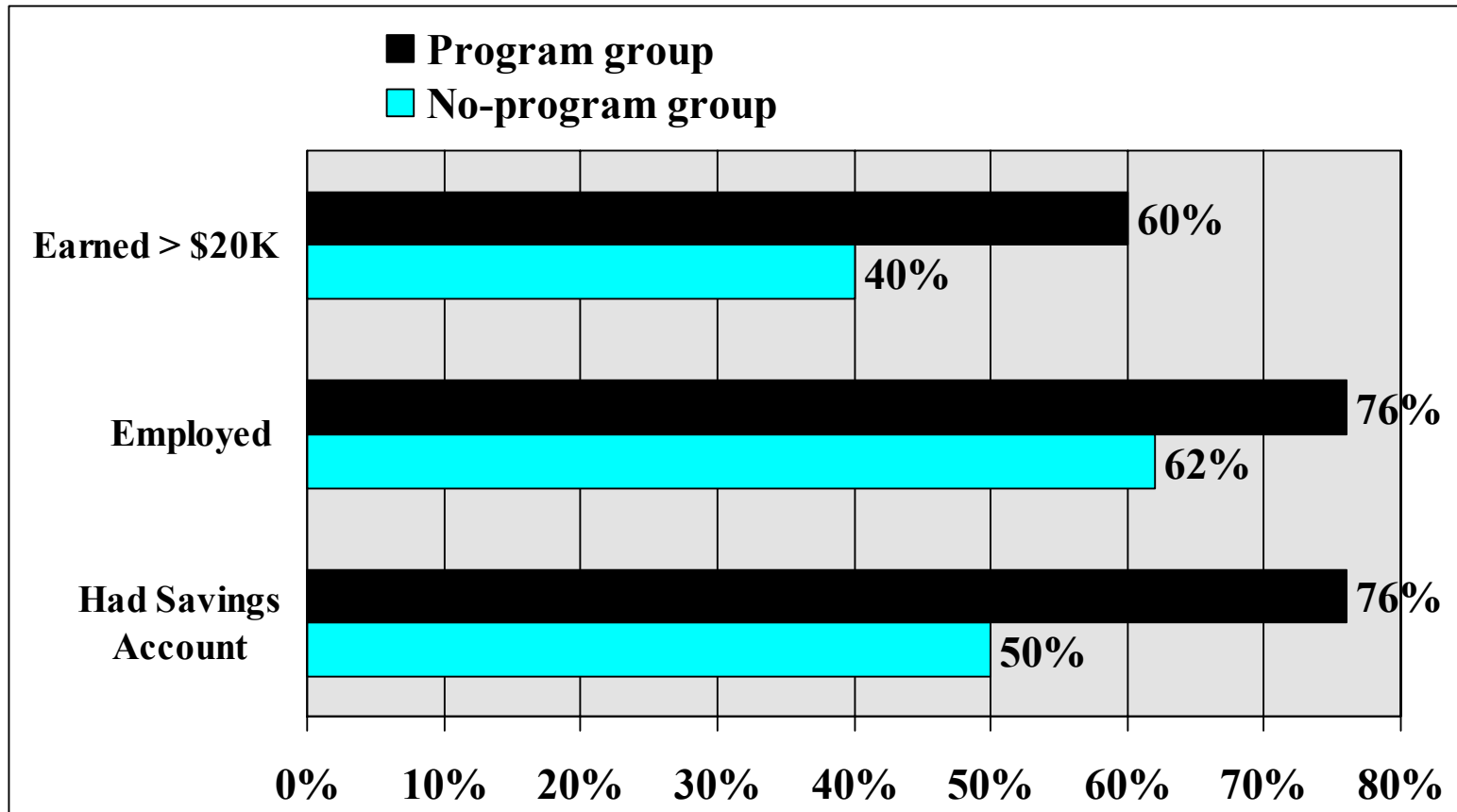


Barnett, W.S. (1996). *Lives in the balance: Benefit-cost analysis of the Perry Preschool Program through age 27*. Monographs of the High/Scope Educational Research Foundation. Ypsilanti, MI: High/Scope Press. Graphic from National Institute for Early Education Research.



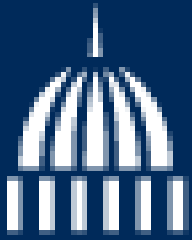
# PERRY PRESCHOOL ECONOMIC EFFECTS AT AGE 40

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



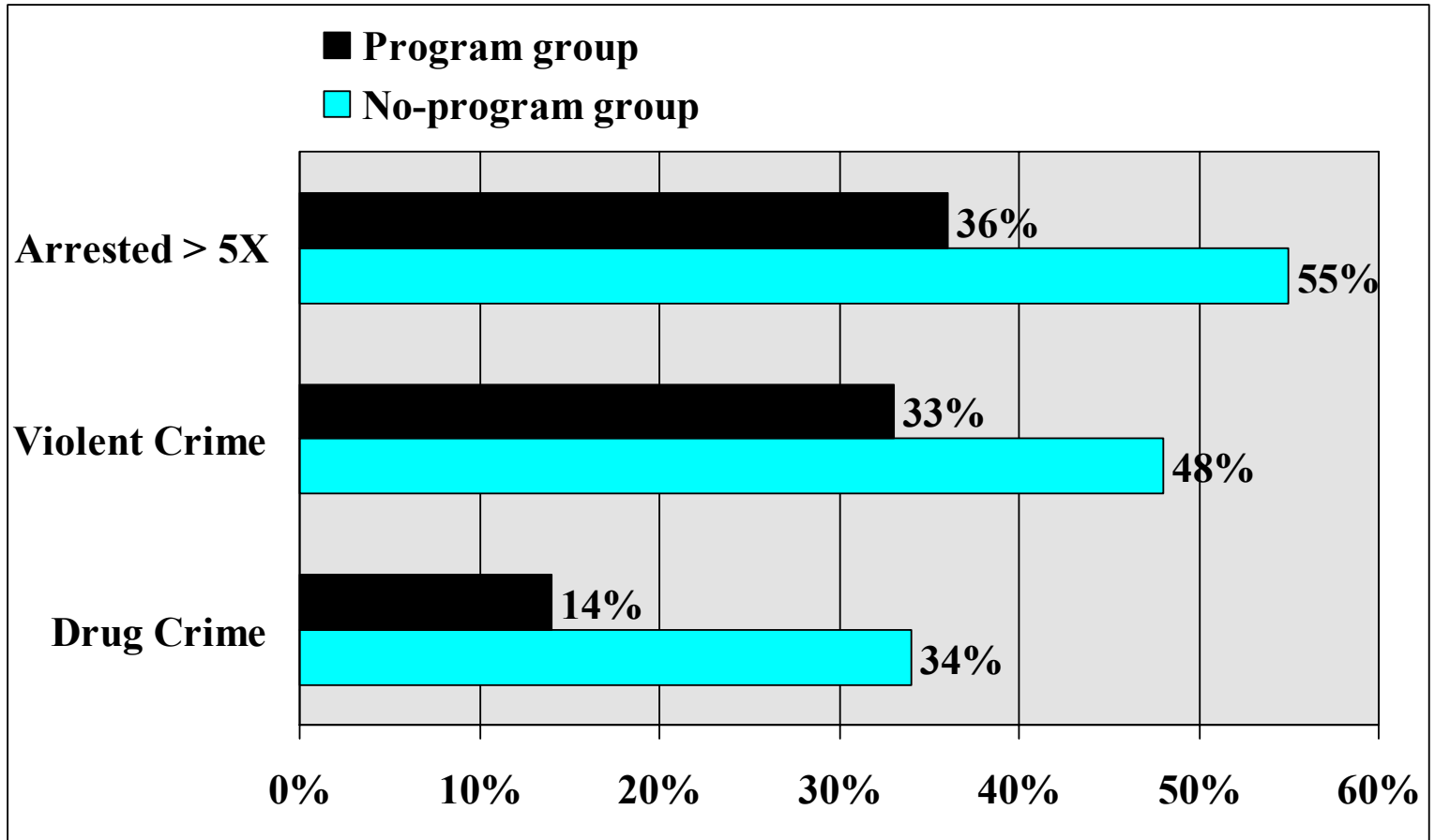
Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation. Graphic from National Institute for Early Education Research.

August 7, 2007



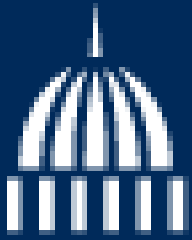
# PERRY PRESCHOOL CRIME EFFECTS AT AGE 40

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



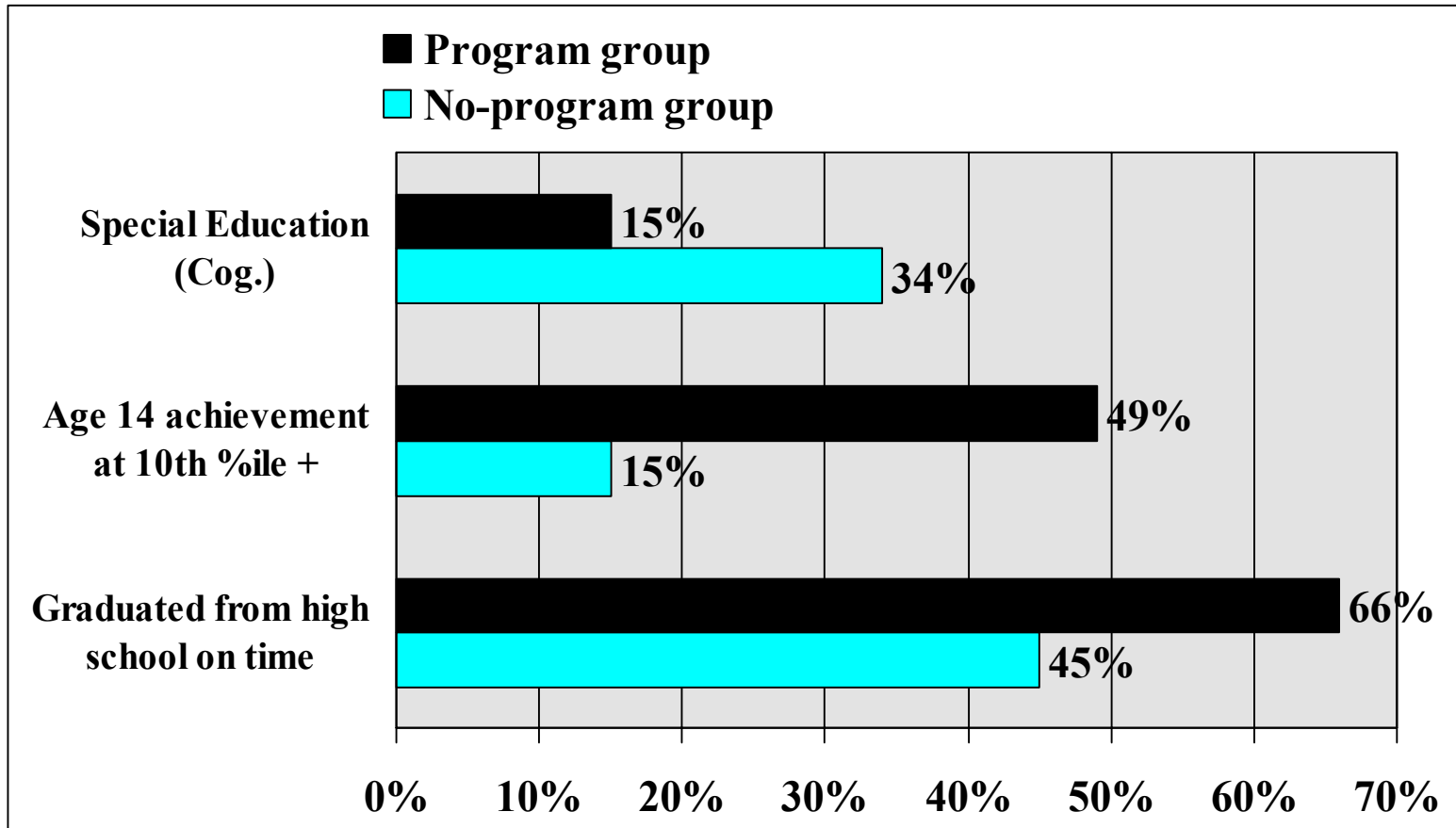
Schweinhart, L. J., Montie, J., Xiang, Z., Barnett, W. S., Belfield, C. R., & Nores, M. (2005). *Lifetime effects: The High/Scope Perry Preschool study through age 40* (Monographs of the High/Scope Educational Research Foundation, 14). Ypsilanti, MI: High/Scope Educational Research Foundation. Graphic from National Institute for Early Education Research..

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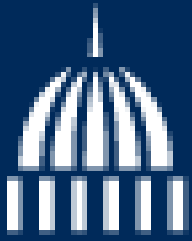


# PERRY PRESCHOOL EDUCATIONAL EFFECTS

**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

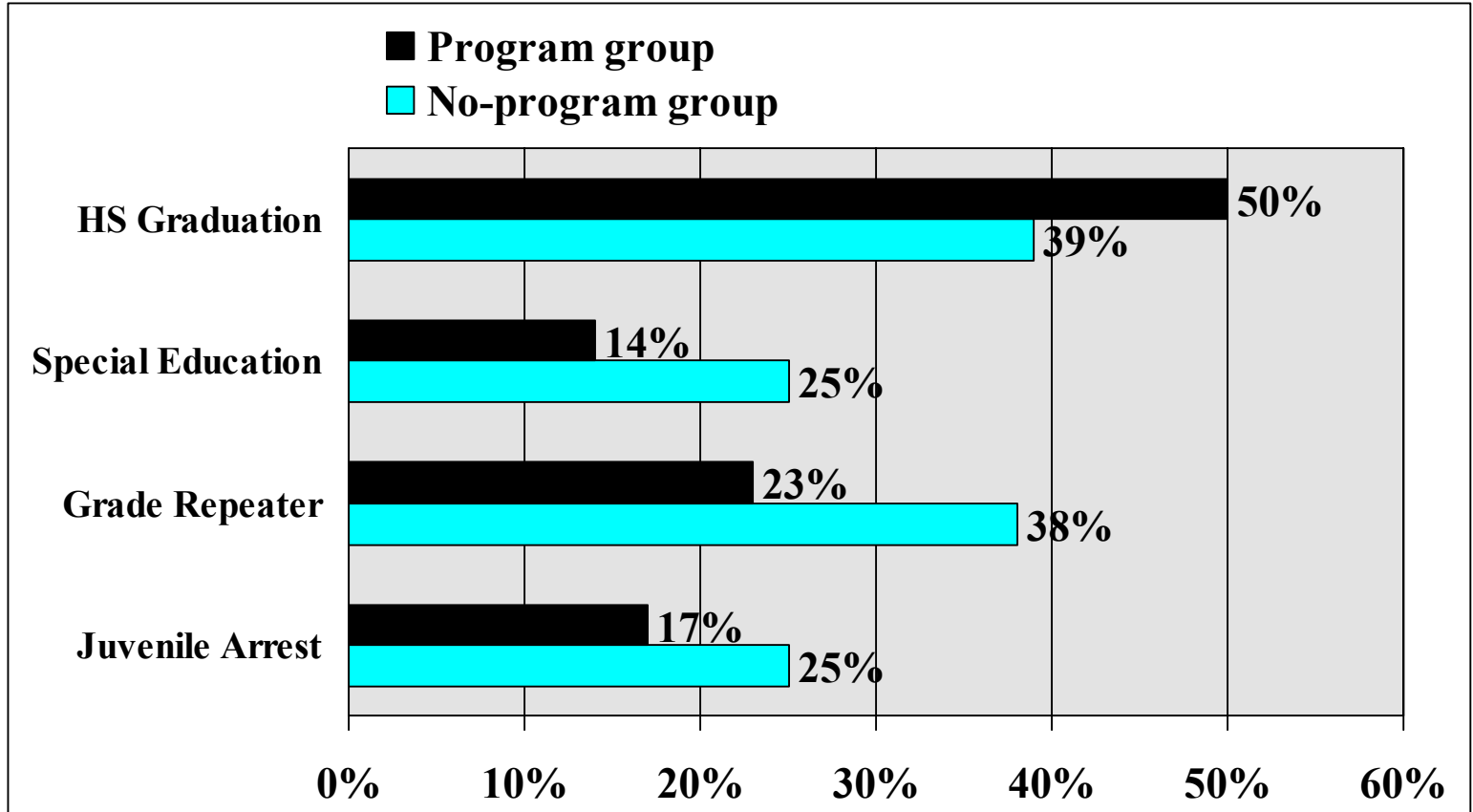


Berrueta-Clement, J.R., Schweinhart, L.J., Barnett, W.S., Epstein, A.S., & Weikart, D.P. (1984). *Changed lives: The effects of the Perry Preschool Program on youths through age 19*. Ypsilanti, MI: High/Scope Press. Graphic from National Institute for Early Education Research.

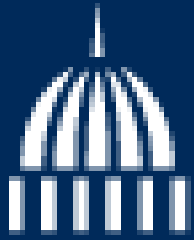


# CHICAGO CPC ACADEMIC & SOCIAL BENEFITS AT SCHOOL EXIT

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review*, 26(1), 126-144. Graphic from National Institute for Early Education Research.



# ECONOMIC RETURNS TO EARLY CHILDHOOD EDUCATION

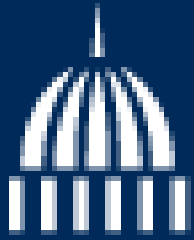
## ECONOMIC RETURNS to EARLY EDUCATION

(In 2002 dollars, 3% discount rate)

	<u>Cost</u>	<u>Benefits</u>	<u>B/C</u>
▪ Perry Pre-K	\$15,386	\$262,642	17.1
▪ Chicago P/C	\$ 7,384	\$ 74,981	10.1

\*Marginal cost, net of existing child care costs.

Barnett, W. S., & Masse, L. N. (2007). Early childhood program design and economic returns: Comparative benefit-cost analysis of the Abecedarian program and policy implications, *Economics of Education Review*, 26, 113-125; Belfield, C., Nores, M., Barnett, W.S., & Schweinhart, L.J. (2006). The High/Scope Perry Preschool Program. *Journal of Human Resources*, 41(1), 162-190; Temple, J. A., & Reynolds, A. J. (2007). Benefits and costs of investments in preschool education: Evidence from the Child-Parent Centers and related programs. *Economics of Education Review*, 26(1), 126-144.



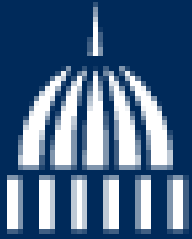
**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

# PERFORMANCE MEASURES RESULTS FROM FIVE STATES

Raw Score comparisons:

	<u>No-PreK</u>	<u>PreK</u>
▪ Language	49.02	65.68
▪ Math	10.66	15.31
▪ Print Awareness	43.48	78.70
▪ Phonological Awareness	67.94	77.72

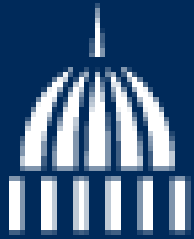
Barnett, W. S., Lamy, Cynthia, and Jung, Kwanghee, The Effects of State Prekindergarten Programs on Young Children's School Readiness in Five States, NIEER, December 2005. States are Michigan, New Jersey, Oklahoma, South Carolina, and West Virginia.



## **BENEFITS ARE SHARED ACROSS SECTORS**

**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

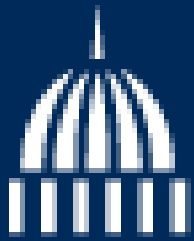
- **Personal Success – 20% of gains**
  - **Better Employment Attributes**
  - **Higher Income**
  - **Better Health**
  
- **Public Externalities – 80% of gains**
  - **Lower Crime**
  - **Less Social Intervention**
  - **Greater Civil Contributions**
  
- **Business**
  - **More Skilled Workforce**
  - **Higher Productivity**
  - **Less Turnover**



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

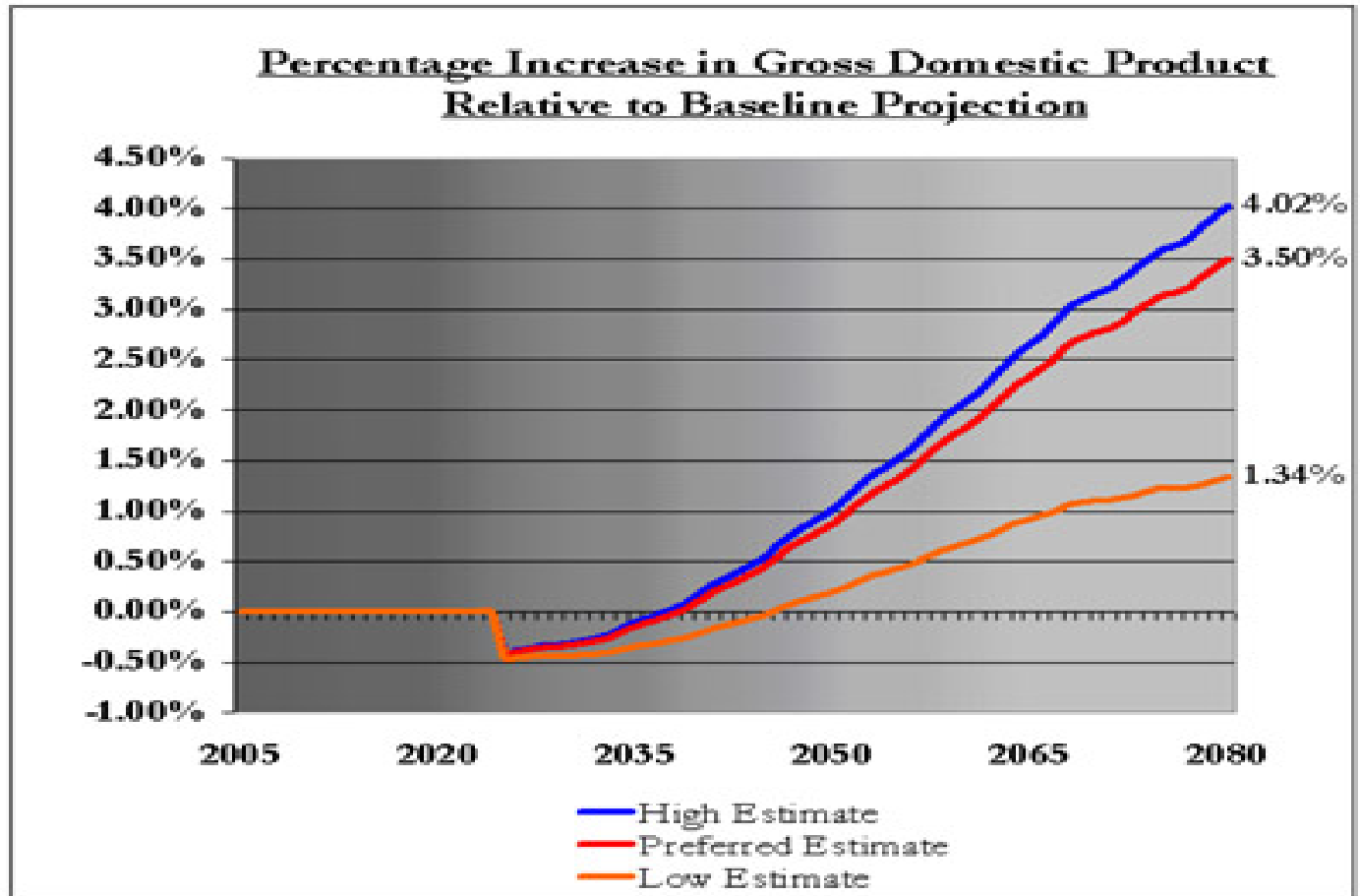
# **IMPACTS ON NATIONAL ECONOMY**

**August 7, 2007**

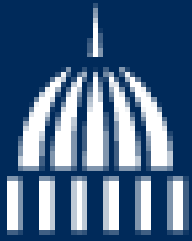


# NATIONAL IMPACTS BENEFICIAL AND PERPETUAL

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



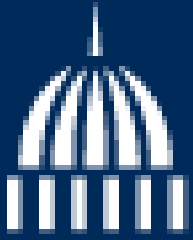
Graph representative of data portrayed in [The Effects of Investing in Early Education on Economic Growth](#), Dickens, Sawhill, and Tebbs The Brookings Institute, 2006



## NATIONAL MACROECONOMIC EFFECTS BOOST TO GROWTH

- **Cost is substantial**
  - \$59 billion by 2080
  - Break even point occurs in 2048
- **Gains are enormous**
  - \$2.0 Trillion increase in GDP by 2080
  - GDP 3.5% higher than baseline
  - \$400 billion in increased federal revenue

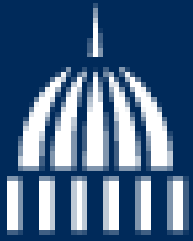
Source: Dickens, Sawhill, and Tebbs, *The Effects of Investing in Early Education on Economic Growth*, The Brookings Institute, 2006



**ECONOMIC  
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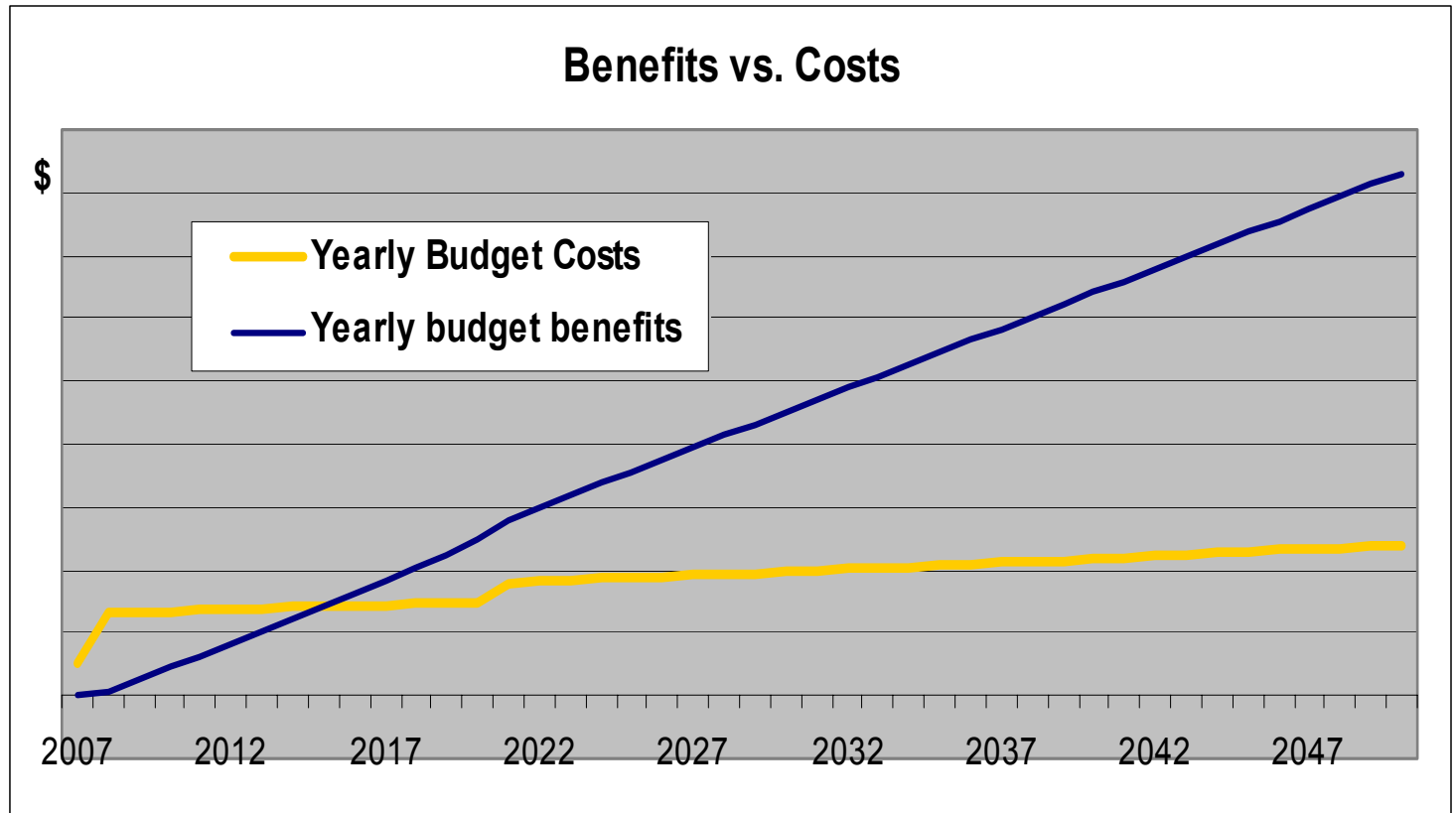
# **IMPACTS ON STATE BUDGETS**

**August 7, 2007**



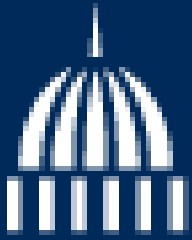
# STATE IMPACTS BENEFICIAL AND PERPETUAL

ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION



Graph representative of data portrayed in *Enriching Children, Enriching the Nation*, Robert Lynch, Economic Policy Institute, 2007.

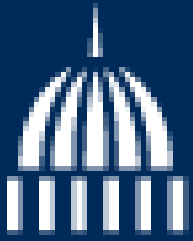
August 7, 2007



# STATE BUDGET IMPACTS BENEFICIAL AND PERPETUAL

ECONOMIC  
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EDUCATION

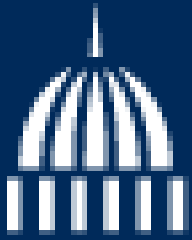
- **Years before benefits exceed costs range from 4 years to 17 years**
  - 14 states recoup in less than 8 years
  - 4 states recoup in more than 13 years
- **Cost/Benefit ratios range from 8:1 to 29:1**
  - 3 states C/B less than 10:1
  - 5 states C/B greater than 20:1
- **Cost bump up in 2021 due to higher post-secondary enrollments**
- **Benefits rise faster after 2021 due to higher earnings of graduates**
- Robert Lynch, *Enriching Children, Enriching the Nation*, Economic Policy Institute, 2007.



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

# **SUMMING UP**

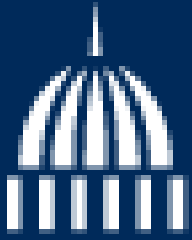
**August 7, 2007**



**ECONOMIC  
RETURNS  
to  
EARLY  
EDUCATION**

## **NEW ECONOMIC DEVELOPMENT MODEL USING THE RIGHT TOOLS**

- **Returns to high-quality early-childhood initiatives produce huge returns.**
  - **Perry Preschool 40-year study reports \$17-to-\$1 total and \$13-to-\$1 public benefit-cost ratios.**
- **Traditional economic development tools produce a zero public return or worse.**
- **Early education exhibits a 16% ROI.**
  - **See A. Rolnick, Federal Reserve Bank of Minneapolis**



## **WHAT MORE INFORMATION IS NEEDED? THE QUESTIONS HAVE BEEN ANSWERED**

- **What is the greatest job need?**
  - Skilled, creative, interactive occupations
- **What are the returns?**
  - 17: 1 returns; 80% to the Public
- **Is it fiscally prudent?**
  - Tiny fraction of total public K-12 school funding
- **What is your alternative investment?**
  - Nothing with comparable returns.