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CFRP POLICY BRIEF

Pre-K Is Good For Kids and For Texas:

Short-term Savings from Pre-K Estimated at Nearly $142 Million Annually

In addition to the educational and developmental benefits for kids, the benefits of Texas pre-K also add up to short-term savings for schools. Recent analyses of data from the Texas Education Agency (TEA) show that economically disadvantaged children who attended a Texas public prekindergarten program (Texas pre-K) are less likely to be retained or participate in special education programs in first, second, or third grades. **Thanks to Texas pre-K, in the 2013-2014 school year, Texas spent $127 million less on special education programs and nearly $15 million less because fewer kids were retained.** Add these savings to the mounting evidence that children who attend high quality prekindergarten programs have better academic outcomes, are less likely to drop out of high school, and are less likely to use public services compared to children who do not attend prekindergarten, and Texas pre-K is a program that has a substantial return on investment for Texas kids and the state.

Prekindergarten Has Big Short-term *and* Long-term Cost Savings

A wealth of evidence shows that early education interventions, including high-quality prekindergarten programs, produce positive impacts for children in the short- and long-term and that there are big cost savings associated with the long-term outcomes.[1,2] The lag between intervention and payoff, however, is often considered too long for most policymakers. CFRP's analysis of data from the Texas Education Agency (TEA) shows that cost savings from Texas pre-K accumulate immediately and lead to substantial savings for Texas schools.

Two of the most widely-cited early intervention programs with high cost savings—the Perry Preschool program and the Abecedarian program—were associated with long-term impacts ranging from reduced rates of teen parenthood, higher employment rates and earnings, and lower arrest rates. Evidence shows that prekindergarten programs are also associated with important short-term cognitive and social outcomes that emerge in elementary school and include reduced rates of grade retention and lower participation in special education programs.[3] These short-term outcomes set children on more positive academic trajectories and they also lead to substantial cost savings. [4]

Short-term Benefits of Texas Pre-K for Kids

Texas public pre-K is a free, voluntary, but targeted program for three- and four-year-old children who meet at least one indicator of risk for school failure.[5] Texas pre-K has already been shown to produce significant, positive benefits for children. Two studies show that economically disadvantaged children who attended Texas pre-K were significantly less likely to be retained by third grade or be assigned to a special education program.[6,7] In a 2012 study conducted by the Ray Marshall Center at the University of Texas at Austin, among children eligible for Texas pre-K, children who attended were 23 percent less likely to be retained by the third grade.[8] In another 2012, study published by the National Bureau of Economic Research, the odds of being retained in either first, second, or third grade were 24 percent lower for Texas pre-K attendees and the odds of being assigned to a special education program were 13 percent lower for Texas pre-K attendees.[9]

What Does Texas Pre-K Save Texas?

How much do these short-term benefits save Texas? Using recent Texas Education Agency (TEA) education and finance data from the 2013-2014 school year, [10] CFRP compared rates of retention and special education services among economically disadvantaged (ED) first, second, and third graders who either attended Texas pre-K or did not, and examined the associated cost savings.[11,12] In the 2013-2014 school year, 762,202 children in grades one, two, and three were economically disadvantaged, which represents nearly two-thirds (63.8%) of students enrolled in these grades.[13] Over 64 percent of these economically disadvantaged students attended Texas pre-K.[14]

Grade Retention

Descriptive analysis of TEA grade retention data shows that economically disadvantaged children who attended Texas pre-K were less likely to be retained in first, second, and third grade compared to economically disadvantaged children who did not attend Texas pre-K.[15] Economically disadvantaged first graders were 13 percent less likely to be repeating the grade level if they went to Texas pre-K; second graders were 8 percent less likely to be repeating the second grade; and third graders were 1.4 percent less likely to be repeating the grade (see Table 1). The average cost to educate a child in Texas is $7,691 annually.[16] Therefore, **by retaining nearly 2,000 fewer students, Texas schools saved nearly $15 million in 2013-2014**.

Table 1: Texas pre-K associated with reduced rates of retention and big cost savings

	Percent fewer grade retentions among ED* children who attended Texas pre-K	Number of ED children Texas pre-K may have prevented from being retained	Dollars saved	Total savings across grades 1-3
Grade 1	12.8%	1,341	$10,313,743	$14,800,221
Grade 2	8.2%	526	$4,046,409	
Grade 3	1.4%	57	$440,068	

Note. Per-pupil spending = $7,691; *ED = economically disadvantaged

Special Education Programs

Economically disadvantaged children who attended Texas pre-K were also less likely to be assigned to special education (SPED) programs in first, second, and third grades, compared to economically disadvantaged children who did not attend Texas pre-K (see Table 2). Economically disadvantaged first graders were 27 percent less likely to be assigned to a SPED program if they attended Texas pre-K; second graders were 31 percent less likely; and third graders were 30.5 percent less likely to be assigned to a SPED program. Each year, Texas spends an average of $9,027[17] more per special education student than per student who is not in a SPED program. **After attending Texas pre-K, 14,000 fewer economically disadvantaged students required special education services before grade three, leading to a short-term annual cost savings of more than $127 million.**

Table 2: Texas pre-K associated with reduced rates of SPED and big cost savings

	Percent fewer children in SPED among ED* children who attended Texas pre-K	Number of ED children Texas pre-K may have prevented from being in SPED	Dollars saved	Total savings across grades 1-3
Grade 1	27.1%	4,011	$36,204,620	$127,182,505
Grade 2	30.9%	4,989	$45,032,495	
Grade 3	30.5%	5,090	$45,945,389	

Note. Per-pupil spending on SPED= $9,027; *ED = economically disadvantaged

Texas Pre-K Prepares Kids and Saves Money

Economically disadvantaged children are at a higher risk for negative life outcomes (e.g., lower levels of school achievement, and lower rates of high school graduation, earnings, and employment during adulthood).[18,19,20] In the face of these risks, economically disadvantaged children who attend Texas pre-K are better prepared for school than their peers who do not, lowering their risk for negative life outcomes. These analyses show that in addition to being good policy for at-risk children, it is smart policy for the state. **Texas pre-K saves the state upwards of $142 million in annual short-term cost savings related to lower rates of grade retention and assignment to special education programs during the early elementary school years**. These estimates likely underestimate the full savings associated with Texas pre-K annually because they focus only on economically disadvantaged children, which is only one of the high-risk populations targeted by Texas pre-K, and they are limited to only two outcomes and grades 1 through 3. With greater investment in high-quality Texas pre-K, the savings to the state will continue to mount and our children will be on a more solid path to success.

Data for Calculations

Grade Retention

		Attended Texas pre-K	Did Not Attend Texas pre-K	Percentage Point Reduction	Percent Fewer Children Retained
Grade 1	Total	172,511	91,244	-0.78%	12.8%
	% Retained	5.3%	6.1%		
Grade 2	Total	163,187	89,230	-0.32%	8.2%
	% Retained	3.6%	3.9%		
Grade 3	Total	153,102	92,928	-0.04%	1.4%
	% Retained	2.7%	2.8%		

Special Education Programs

		Attended Texas Pre-K	Did Not Attend Texas pre-K	Percentage Point Reduction	Percent Fewer Children in SPED
Grade 1	Total	172,511	91,244	-2.3%	27.1%
	% SPED	6.3%	8.6%		
Grade 2	Total	163,187	89,230	-3.1%	30.9%
	% SPED	6.8%	9.9%		
Grade 3	Total	153,102	92,928	-3.3%	30.5%
	% SPED	7.6%	10.9%		

[1] Barnett, 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

[2] Duncan, G. J., Ludwig, J., & Magnuson, K. A. (2007). Reducing poverty through preschool interventions. *Future of Children, 17*, 143-160.

[3] Weiland, C. and Yoshikawa, H. (2013), Impacts of a Prekindergarten Program on Children's Mathematics, Language, Literacy, Executive Function, and Emotional Skills. Child Development, 84: 2112–2130. doi: 10.1111/cdev.12099

[4] Karoly, L. A., Kilburn, M. R., & Cannon, J. S. (2005). The economics of early childhood interventions in *Early Childhood Interventions: Proven Results, Future Promise*. Santa Monica, CA: RAND Corporation (pp. 87-122)

[5] Eligibility criteria for Texas Pre-K: Unable to speak or understand English, economically disadvantaged (free or reduced priced lunch), homelessness, child of an active duty member of the military, or DFPS conservatorship. http://tea.texas.gov/ece/eligibility.aspx

[6] Andrews, R. J., Jargowsky, P., & Kuhne, K. (2012). The effects of Texas's targeted pre-kindergarten program on academic performance. National Bureau of Economic Research (Working Paper 18598). Available at http://www.nber.org/papers/w18598

[7] Huston, A., Gupta, A., & Schexnayder, D. (2012). Study of early education in Texas: The relationship of Pre-K attendance to 3rd grade test results. The Ray Marshall Center for the Study of Human Resources, Lyndon B. Johnson School of Public Affairs, The University of Texas at Austin. Available at https://raymarshallcenter.org/2013/10/04/early-childhood-2/

[8] Ibid

[9] Andrews, R. J., Jargowsky, P., & Kuhne, K. (2012). The effects of Texas's targeted pre-kindergarten program on academic performance. National Bureau of Economic Research (Working Paper 18598). Available at http://www.nber.org/papers/w18598

[10] In our analyses, we used "General Fund" expenditures (which include local and state funds only) for "All Districts" from TEA's 2013-14 PEIMS District Financial Actual Reports (http://tea.texas.gov/financialstandardreports/)

[11] TEA definition of "Not found attending Texas public Pre-K" may include children who attended a private pre-K or out-of-state program.

[12] TEA 2013-2014 Actual Financial data
http://ritter.tea.state.tx.us/cgi/sas/broker?_service=marykay&_program=sfadhoc.actual_report_2014.sas&_service=appserv&_debug=0&who_box=&who_list=_STATE

[13] TEA Enrollment in Texas Public Schools, 2013-2014 http://tea.texas.gov/acctres/enroll_index.html

[14] Tables with all data and calculations are provided at the end of this brief.

[15] These analyses cannot confirm a causal link between Texas pre-K and the associated cost savings. It is possible that children who would be less likely to need special education or less likely to be retained are more likely to attend Texas pre-K. It is also possible that children who attend Texas pre-K have more positive school or home experiences that affect their retention and special education needs. This analysis does not account for these external factors, but the reduced rates grade retention and special education services found in these analyses are similar to the reduced rates found in the Texas studies that did attempt to account for these factors.

[16] TEA 2013-2014 Actual Financial data
http://ritter.tea.state.tx.us/cgi/sas/broker?_service=marykay&_program=sfadhoc.actual_report_2014.sas&_service=appserv&_debug=0&who_box=&who_list=_STATE

[17] Analysis of "Students with Disabilities" Program Expenditures from TEA's 2013-14 PEIMS District Financial Actual Reports (http://tea.texas.gov/financialstandardreports/) and 2013-14 Special Education Enrollment from TEA's Enrollment in Texas Public Schools 2013-14 report (http://tea.texas.gov/acctres/enroll_index.html)

[18] McLoyd, V. C. (1998). Socioeconomic disadvantage and child development. American Psychologist, 53, 185-204.

[19] Duncan, G. J., Yeung, W. J., Brooks-Gunn, J., & Smith, J. R. (1998). How much does childhood poverty affect the life chances of children? American Sociological Review, 63, 406-423.

[20] Duncan, G. J., Ziol-Guest, K. M., & Kalil, A. (2010). Early-childhood poverty and adult attainment, behavior, and health. Child Development, 81, 306-325.