Fiscal Impact of Proposed Tuition Tax Credits for the State of New Jersey

By Joseph L. Bast^{*}

This study reports the results of an independent examination of the likely fiscal impact of two proposed tuition tax credit plans for New Jersey. The author was not asked to comment on any aspect of these bills other than their likely fiscal impacts on the state of New Jersey. This report neither endorses nor questions the specific language or design features of the proposed legislation.

1. Summary of Findings

Two tuition tax credit plans, the Parental Control and Involvement Act (PCIA) and the Educational Options Act (EOA), were submitted to the author for an independent examination of their likely fiscal impact. The author determines that the plans would reduce the after-tax price of tuition by between 32 percent and 95 percent, depending on family income, grade level, and choice of school. The tax credit plans would increase private school enrollment by 40 percent by prompting 7 percent of students currently enrolled in government schools to transfer to private schools.

The combined effect of the two tax credits under consideration would be to increase private school enrollment by 40 percent (from 207,275 currently to 290,958) by prompting 7 percent of students currently enrolled in government schools to transfer to private schools. State tax revenues would decline \$585 million. Falling public sector enrollment would generate avoided costs of over \$1.065 billion, for net annual savings to the state's taxpayers of \$480 million.

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Part 2 summarizes the features of the proposed plans that are relevant to the plans' fiscal impact. Part 3 estimates the effect of the plans on the after-tax price of private- school tuition. Part 4 estimates the effect of lower tuition prices on the supply of and demand for private schooling. Part 5 estimates the net impact on the state's taxpayers of the tax credits and lower enrollment in public schools. Part 6 explains the difference between static and dynamic analysis and its relevance to this study. Part 7 is a brief summary and conclusion.

Three appendices appear at the end of this report. Appendix 1 is the text of the two proposed plans. Appendix 2 explains the choice of the coefficient of price elasticity of demand, and Appendix 3 explains the choice of a coefficient of price elasticity of supply.

2. The Proposals Summarized

The **Parental Control and Involvement Act (PCIA)** would allow parents and guardians of K-12 students to claim credits against their state personal income tax liability for qualified educational expenses, including public and private school tuition, school fees, tutoring, and computer expenses. Specifically:

< Parents of school-age children would be eligible to receive a credit against their state income tax liability equal to 50 percent of qualified educational expenses, up to a maximum credit of \$500 per dependent child.

The **Parental Control and Involvement Act** would provide tax credits to parents and guardians of K-12 students, while the **Educational Options Act** would give tax credits to all individuals and corporations that help fund educational scholarships for pre-school and K-12 students.

- < All parents of school-age children would be eligible to receive a credit against their state income tax credit equal to 100 percent of the amount spent on computer hardware and software related to curriculum or instruction, up to a maximum credit of \$150 per household.
- < "Qualified educational expenses" means "non-reimbursed verifiable payments made by a taxpayer on behalf of a dependent child of the taxpayer for tuition,

student fees, supplies, and books, that are directly related to the curriculum and course of instruction at the public or nonpublic school at which the dependent child is in attendance or for the equivalent instruction being received by the dependent child through home schooling or elsewhere than at school as required by state law."

< A school is defined as a public or nonpublic institution "wherein a child may legally fulfill compulsory school attendance requirements under State law or may attend at parental discretion."

The second proposal, the **Educational Options Act (EOA)**, would allow individuals, estates, trusts, and corporations to receive tax credits for monies they contribute to organizations that, in turn, use those monies to fund educational scholarships for students. Specifically:

- < Individuals, estates, trusts, and companies would receive a credit against state income and corporate income taxes of not more than 75 percent of the amount they contribute to certain "qualifying entities" which, in turn, provide educational scholarships to children attending nonpublic schools. For individuals, estates, and trusts, the credit is limited to \$10,000; for companies, it is limited to 10 percent of the company's annual corporate income tax liability.</p>
- < A "qualifying entity" is a nonprofit corporation, association, or organization under the provisions of N.J.S.A. 54:10A-3(c) that devotes at least 66 percent of its expenditures to educational scholarships to low-income children attending nonpublic schools.

The Educational Options Act (EOA) would allow individuals, estates, trusts, and corporations to receive tax credits for monies they contribute to organizations that, in turn, use those monies to fund educational scholarships for students.

- < A "low income child" is defined as a member of a household with income up to 1.85 times the level of income of households qualifying for reduced price meals through federal programs.
- < Qualifying entities would be authorized to distribute scholarships of up to two-thirds of the statewide average spending per child in New Jersey public elementary and secondary schools, or 90 percent of the nonpublic school's one-year tuition, whichever is less. The maximum scholarship amount would be adjusted annually for inflation.
- < Only gifts to a qualified entity used to fund scholarships would qualify their donors for the state tax credits. No tax credits would be earned for funds used to offset administrative expenses, which would have to be funded separately.

The tax credits under both plans cannot be carried forward from one tax year to the next. This means a taxpayer's annual tax liability constitutes another cap on the amount of the tax credit that he or she can claim. There are no provisions for making the tax credits refundable to people who have tax liabilities too low to qualify for a credit. An individual student may not receive scholarships from more than one "qualifying entity." No other rules govern how the qualified entities decide who receives scholarships. Drafts of both bills appear in Appendix 1.

3. Impact of Proposed Plans on Price of Tuition

To forecast the cost of the tax credit plan, we first need to know how many parents can be expected to apply for the credits. This depends on how many students currently attend private schools in New Jersey (about 207,000) and the number of students who *would* attend private schools if the tax credits were available. How do we determine the second number?

Tax credits would reduce the *price* of a student attending a private school, which is one of the factors determining how many parents choose private schools for their children. The relationship between the price of a good or service and the number of units *demanded* by consumers is called the

The analysis must begin with an estimation of the impact of the proposed plans on the after-tax price of tuition at private schools. price elasticity of demand. As Appendix 2 explains, we have pretty good evidence that the elasticity of demand for private schooling is about .48: in other words, a 10 percent reduction in tuition price produces a 4.8 percent increase in private school enrollment. By starting with an estimation of the impact of the proposed plans on the after-tax price of tuition at private schools, we can then calculate

how many students would attend private schools under the tax credit plans, and then how much their participation would cost the state treasury.

Estimated mean average tuitions in parochial and independent private schools in New Jersey are presented in Table 1. Estimates for parochial schools are from a survey of Catholic schools conducted in October 2000 and do not include non-Catholic religious schools. However, approximately 80 percent of parochial school enrollment nationwide is in Catholic schools, so these figures are a reasonably close estimate of average tuition at all parochial schools in New Jersey. Estimates for tuition at independent private schools are national averages and may be somewhat less than actual tuition in New Jersey.¹ Tuition for independent schools has been adjusted for inflation using the standard Consumer Price Index (CPI) rather than the education price index because the latter refers to public, not private, school spending.² Estimated public school spending includes only operating expenditure.³

¹An alternative source of state-specific data is a survey conducted by Market Data Retrieval in 1990, used in the study reported in Appendix 2. Adjusted for inflation, it yields an estimate for elementary independent school tuition of \$5,019, close to the national average of \$5,411, but its estimate for secondary independent school tuition, \$5,155, is less than half the national estimate of \$10,982. The national figure is more plausible.

² Public school costs have risen considerably faster than private school tuition. For national trends, see U.S. Department of Education, National Center for Education Statistics, *Digest of Education Statistics*, 1999. Even the CPI probably over-estimates the actual rate of inflation. See Alan Greenspan, "Testimony of Chairman Alan Greenspan before the Committee on Finance, U.S. Senate," Federal Reserve Board, January 30, 1997.

³The NEA's annual estimates of state per-pupil spending are a useful benchmark for making inter-state comparisons, but they exclude some 25 costs paid for by taxpayers. Those costs are discussed and some of them are taken into account in the discussion of savings to taxpayers in Part 5 below.

A. Maximum Effect of PCIA on Cost of Tuition

The Parental Control and Involvement Act (PCIA) gives parents and guardians of school-age children two tax credits against their state income tax liability, the first equal to 50 percent of qualified educational expenses, up to a maximum credit of \$500 per dependent child; and the second equal to 100 percent of the amount spent on computer hardware and software related to curriculum or

instruction, up to a maximum credit of \$150 per household.

The maximum tax credit a family could receive is \$650 a year. There are three reasons why a family might qualify for less than this amount:

- (1) The household does not have school-age children;
- (2) The amount spent on qualified educational expenses in a given year falls short of \$1,150 ((\$500 x 2) + \$150); and
- (3) A family's annual total state income tax liability is less than \$650.

Average private school tuition, at either parochial or independent

Table 1School Tuition in New Jersey

Institution	1999-2000 Tuition
Elementary parochial schools	\$ 2,082
Elementary independent schools	5,411
Secondary parochial schools	4,660
Secondary independent schools	10,982
Public school per pupil operating spending	9,775
Sources: Average tuition for diocesan schools provid author on October 6, 2000 by the NJ. Catholic Confe	led to the erence;
independent school tuition is U.S. national average fr	om U.S.
Department of Education, National Center for Education	ation Statistics,
Digest of Education Statistics, 1999, data for 1993-4	updated using
the inflation calculator at www.dismalscientist.com;	public school
spending estimate is from National Education Assoc	iation,
"Rankings and Estimates: Rankings of States 1999 a	nd Estimates of
School Statistics 2000," October 1999.	

schools, exceeds \$1,000, so we can assume that tuition does not pose a limit on the amount of tax credit for families that enroll their children in private schools. Public schools typically charge only token fees that would qualify for the credit, though the program would create incentives to increase those fees. For this analysis we assume the average public school raises its fees to \$100 a year to take advantage of the tax credit.⁴ Later in the analysis we take into consideration the limiting effects of total household state income tax liability. Table 2 shows the **maximum** effect of PCIA on the after-tax cost of tuition. The \$150 tax credit for computers and software does not reduce the price of private school tuition, so it is excluded from Table 2.

⁴Public schools might wish they could raise fees to \$500 to take complete advantage of the tax credit, but this would be difficult since the tax credit is per household rather than per student, so families with more than one school-age child would be sure to vigorously protest. While private schools often give parents discounts if they enroll more than one student at a school, it doesn't seem likely that public schools would be able to deviate in a similar way from charging a single per-pupil fee.

Table 2Maximum Possible Effect of PCIA on After-TaxCost of School Tuition in New Jersey							
Institution Average Maximum Maximum Possible Tuition Possible Credit Price Reduction							
Elementary parochial schools	\$2,082	\$500	24%				
Elementary independent schools	\$5,411	\$500	9%				
Secondary parochial schools	\$4,660	\$500	11%				
Secondary independent schools	\$10,982	\$500	5%				
Public elementary or secondary schools	\$100	\$50	50%				

B. Maximum Effect of the EOA on Cost of Tuition

The Educational Options Act (EOA) would allow individuals, corporations, trusts, and estates to qualify for tax credits by contributing to qualified entities that provide scholarships for students attending private pre-schools and K-12 schools. The scholarships would be capped (in 1999-2000) at two-thirds of average public school spending ($$9,775 \times .666 = $6,517$) or 90 percent of nonpublic school tuition, whichever is less. As Table 3 shows, two-thirds of average public school spending is greater than 90 percent of average tuition for all private schools except independent secondary schools.

As was true of the first analysis of PCIA, the first estimates of the reduction in tuition under EOA are maximum values. They assume the plan generates enough contributions to fund all families who apply for scholarships, and those monies are allocated in a way that provides each family the maximum allowable amount of support. This may not always be the case, since the plan prohibits awarding more than one scholarship to a student, so accepting a partial scholarship would preclude families from accepting other support through the program.

C. Maximum Effect of PCIA and EOA on Cost of Tuition

Table 4 combines data from the earlier tables to show the maximum possible effect of adoption of both plans on after-tax school tuition paid in New Jersey. **Table 4 assume that families receive the maximum level of support allowed under EOA first, and then use PCIA to receive a tax credit equal to half of whatever tuition remains to be paid.** This would be rational benefit-maximizing behavior by parents.

Table 4 reveals that families would see the after-tax price of tuition fall *at most* by 64 percent for students enrolled in independent secondary schools and 95 percent for students enrolled in independent and parochial elementary schools and parochial high schools.

Table 3 Maximum Possible Effect of EOA on Private School Tuition							
Institution	Average Tuition*	90% of average tuition	Two-thirds of public school spending	Maximum scholarship	Maximum price reduction		
Elementary parochial schools	\$2,082	\$1,874	\$6,517	\$1,874	90%		
Elementary independent schools	\$5,411	\$4,870	\$6,517	\$4,870	90%		
Secondary parochial schools	\$4,660	\$4,194	\$6,517	\$4,194	90%		
Secondary independent schools	\$10,982	\$9,884	\$6,517	\$6,517	59%		

* Many private schools adjust their tuition based on a family's ability to pay and offer discounts to families with more than one child attending the school. This table does not reflect such policies.

Table 4 Maximum Possible Effect of PCIA and EOA on Private School Tuition						
Institution Average Credits or Scholarships						
	Tuition*	PCIA	EOA	Total	Price Reduction	
Elementary parochial schools	\$2,082	\$104	\$1,874	\$1,978	95%	
Elementary independent schools	\$5,411	\$271	\$4,870	\$5,141	95%	
Secondary parochial schools	\$4,660	\$233	\$4,194	\$4,427	95%	
Secondary independent schools	\$10,982	\$500	\$6,517	\$7,017	64%	
Public elementary and secondary schools	\$100	\$50	\$0	\$50	50%	

* Many private schools adjust their tuition based on a family's ability to pay and offer discounts to families with more than one child attending the school. This table does not reflect such policies.

D. Effect of Maximum Tax Liability on Credits

How many New Jersey families have income tax liabilities sufficient to take advantage of the maximum possible tax credits? New Jersey's personal income tax has six marginal rates ranging from 1.4 percent

to 6.37 percent.⁵ Typical income tax burdens in 1996 for married couples with two children, filing jointly, after federal and state deductions, are shown in Table 5.

The data in Table 5 suggest that families with annual taxable incomes of approximately \$40,000 or more would typically qualify for the maximum tax credits available under PCIA, but families with lower incomes would pay too little income taxes to be eligible to receive the entire \$500 tax credit. Approximately 33 percent of New Jersey households have incomes under \$15,000,⁶ but these households seldom include children of school age. With these restraints in mind, the following adjustments to the maximum possible tax credits are needed to arrive at the most likely or average tax credits received under PCIA:

Table 5 New Jersey State Income Tax Burden by Income Levels (1996)				
Annual Taxable Income	Income Tax Liability			
\$20,000	\$ 210			
30,000	352			
40,000	530			
50,000	718			
60,000	930			
70,000	1,173			
150,000	5,236			
Source: <i>New Jersey Online</i> , "Fast Facts - Money, Income and Taxes," July 27, 2000; extrapolations by the author.				

- Reduce to \$210 the average amount of tax credit a "poor" family would claim under PCIA before "zeroing out" their state income tax liability. This is the average income tax burden of a family earning \$20,000 a year.
- Because the tax credit for education-related computer hardware and software is 100 percent of expenses (up to \$150), many parents will apply for this credit before or instead of applying for the 50 percent tax credit against tuition and other expenses. Assume therefore that the average family claims an annual \$100 tax credit for computer hardware and software expenses, reducing their remaining tax liability to \$110 for a low-

income household (\$210 - \$100). If the average nonpoor family (annual income of \$50,000) has a tax liability of \$718, then claiming a \$100 tax credit for computer hardware and software still leaves them able to claim the full \$500 tax credit for other qualified educational expenses.

Table 6 is based on the results from Table 4, but is revised to reflect the average tax liabilities of "poor" families and the effect of claiming the computer and software tax deduction first. Possible reductions in tuition prices now range from 60 percent to 95 percent.

⁵ Tax Foundation, *State Finance*, "Individual Income Tax Rates as of December 31, 1999."

⁶ New Jersey Online, "Fast Facts - Money, Income and Taxes," July 27, 2000. New Jersey Online is the Web site for the *Star-Ledger*, the *Times of Trenton*, the *Jersey Journal*, and News 12 New Jersey.

E. Effect of Limited Funds Available from EOA

Will enough money be donated to the scholarship-granting entities under EOA to provide scholarships for everyone who applies for them? The question is premature, since we haven't estimated the demand for private schooling yet, and therefore don't know how many people will apply. However, estimating that demand requires knowing what effect EOA would have on the price of tuition. The way out of the quandary is to estimate the number of scholarships that EOA *could* fund first, and then determine whether demand would be likely to reach that level.

Table 6 Revised Estimated Effect of PCIA and EOA on After-Tax School Tuition Paid in New Jersey						
Institution	Average Tuition*	Likely Tax Possible Sch	Aaximum	Likely Price Reduction		
		PCIA	ЕОА	Total		
Elementary parochial schools						
"Poor" families	\$2,082	\$110	\$1,874	\$1,984	95%	
Nonpoor families	\$2,082	\$104	\$1,874	\$1,978	95%	
Elementary independent schools						
"Poor" families	\$5,411	\$110	\$4,870	\$4,980	92%	
"Nonpoor" families	\$5,411	\$271	\$4,870	\$5,141	95%	
Secondary parochial schools						
"Poor" families	\$4,660	\$110	\$4,194	\$4,304	92%	
"Nonpoor" families	\$4,660	\$233	\$4,194	\$4,427	95%	
Secondary independent schools						
"Poor" families	\$10,982	\$110	\$6,517	\$6,627	60%	
"Nonpoor" families	\$10,982	\$500	\$6,517	\$7,017	64%	
Public elementary and secondary schools	\$100	\$100	\$0	\$100	100%	

* Many private schools adjust their tuition based on a family's ability to pay and offer discounts to families with more than one child attending the school. This table does not reflect such policies.

EOA's maximum income tax credit, \$10,000, exceeds the annual personal income tax liability of all but the wealthiest 1 percent of filers, approximately 53,000 out of the state's 3.76 million filers.⁷ If 10 percent of these taxpayers give enough to qualify for the entire \$10,000 tax credit, the amount raised for scholarships would be \$71 million.⁸

Not only the very wealthy would be expected to contribute. There are approximately 3.8 million New Jersey households that file federal tax returns.⁹ If we assume that 5 percent of these households make gifts averaging \$1,000 to scholarship-granting entities, an amount sufficient to "zero out" their income tax liabilities, the amount raised would be \$190 million.¹⁰ If 10 percent of households make gifts averaging \$1,000, the amount raised would be \$380 million.

EOA's maximum income tax credit, \$10,000, exceeds the annual personal income tax liability of all but the wealthiest 1 percent of filers, approximately 53,000 out of the state's 3.76 million filers. Companies making gifts to scholarshipgranting entities would also qualify for tax credits against their corporate income tax liabilities under EOA, in amounts equal to 75 percent of their gift or 10 percent of the firm's annual corporate income tax liability, whichever is less. The corporate income tax collected approximately \$1.17 billion in 1998.¹¹ If half of the companies in New Jersey contributed enough to qualify for the

maximum possible credit, the amount raised would be \$78 million.¹²

The EOA requires that scholarship-granting entities devote at least 66 percent of their funds to scholarships for "poor" families. Assume, therefore, that the *average* allocation of scholarships by such entities is 66 percent to "poor" families and 34 percent to nonpoor families. (This assumption is relaxed later in the analysis.) Assume as well that scholarships awards will reflect the current ratio of elementary to secondary school enrollment in private schools (78 percent elementary and 22 percent high school)¹³

⁷Ibid.

 8 \$10,000 x 1/.75 = \$13,333 x 5,300 = \$70,664,900.

⁹New Jersey Online, op cit.

 10 \$1,000 x .75 = \$750, versus the New Jersey average family income tax liability of \$718. 3,800,000 x.05 x \$1,000 = \$190,000,000.

¹¹Tax Foundation, *State Finance*, "State Tax Collections and Distribution by Type of Tax."

 12 \$117 million x 1/.75 = \$156 million / 2 = \$78 million.

¹³Private school enrollment figures for New Jersey are not reported separately by grade levels, but nationally it is known that 78 percent of total private school enrollment is elementary and 22 percent is secondary. (U.S. Department of Education, National Center for Education Statistics, *Condition of Education*, Section V.)

and of parochial to independent private schools (85.2 parochial and 14.8 percent independent).¹⁴

Table 7 summarizes the funds likely to be raised by scholarship-granting entities under EOA and its likely distribution as scholarships to "poor" and nonpoor families.

Table 7 Funds for Scholarships Likely to be Raised Under EOA (million dollars)				
	Low estimate	High estimate		
Wealthiest individuals	\$71.0	\$71.0		
Other donors	\$190.0	\$380.0		
Corporations	\$78.0	\$78.0		
Total	\$339.0	\$529.0		
Amount earmarked for "poor" families (66%)	\$223.7	\$349.1		
Elementary scholarships	\$174.5	\$272.3		
High school scholarships	\$49.2	\$76.8		
Amount earmarked for nonpoor families (34%)	\$115.3	\$179.9		
Elementary scholarships	\$89.9	\$140.3		
High school scholarships	\$25.4	\$39.6		

Table 7 reveals that between \$339 million and \$529 million is likely to be raised under EOA each year. The number of scholarships that could be financed depends on the cap (two-thirds of public school per-pupil spending, or \$6,517) and the cost of tuition at private schools (since scholarships are capped at 90 percent of tuition). Assume as was done previously that all scholarships will be the maximum amounts allowed, a practice likely to be encouraged by the fact that no child can receive more than one scholarship from a qualified scholarship-granting entity. Once again, this assumption is relaxed later in the analysis.

Table 8 shows 145,092 scholarships would be awarded under the EOA under the "low" funding estimate of 5 percent of taxpayers making contributions averaging \$1,000 to the scholarship-granting entities, and 226,414 scholarships would be awarded if 10 percent of taxpayers made such contributions.

¹⁴Similarly, it is known that 14.8 percent of national private school enrollment is in independent schools. U.S. Department of Education, National Center for Education Statistics, *Indirect State-Level Estimation for the Private School Survey*, Technical Report May 1999, p. 16.

The U.S. Department of Education estimates private school enrollment in New Jersey to be 207,275 students.¹⁵ EOA, under the low estimate of 5 percent of taxpayers contributing \$1,000 a year, would raise enough money to fund full scholarships for 79 percent of the children *currently* attending private schools, with no funds left for children who might decide to switch from public to private schools. The high funding estimate in which 10 percent of taxpayers contribute \$1,000 a year, would fund scholarships for all students currently enrolled in private schools plus 19,139 students switching from public schools.

Table 8 Scholarships Awarded under EOA, First Scenario					
Institution	Value of Scholarships	Number of	Scholarships	Cost of Scholarships (millions of dollars)	
		Low estimate	High estimate	Low estimate	High estimate
Elementary parochial schools					
"Poor" families	\$1,874	79,335	123,799	\$149	\$232
Nonpoor families	\$1,874	40,872	63,786	\$77	\$120
Elementary independent schools					
"Poor" families	\$4,870	5,303	8,275	\$26	\$40
"Nonpoor" families	\$4,870	2,732	4,264	\$13	\$21
Secondary parochial schools					
"Poor" families	\$4,194	9,995	15,602	\$42	\$65
"Nonpoor" families	\$4,194	5,160	8,045	\$22	\$34
Secondary independent schools					
"Poor" families	\$6,517	1,117	1,744	\$7	\$11
"Nonpoor" families	\$6,517	577	899	\$4	\$6
Totals		145,092	226,414	\$339	\$529
Total earmarked for "poor" families		95,750	149,420	\$224	\$349

The low estimate of funds raised would generate \$224 million earmarked for 95,750 scholarships for students from low-income families. The high estimate generates \$349 million, enough to fund

¹⁵Stephen P. Broughman and Lenore A. Colaciello, National Center for Education Statistics, *Private School Universe Survey*, *1995-96*, NCES 92-229 (Washington, DC: U.S. Department of Education, 1998).

149,420 scholarships for children from "poor" families. Approximately 63,000 low-income students currently attending private schools in New Jersey,¹⁶ so the program, with the various default assumptions made so far, would create enough scholarships to accommodate an increase in private school enrollment by children from "poor" families of between 52 percent and 137 percent, but perhaps not an increase in enrollment by children from nonpoor families.

With less money available than would be needed to completely satisfy all applicants, the administrators of scholarship-granting entities would have to use discretion in awarding scholarships. Suppose they make the following choices:¹⁷

 Give partial rather than full scholarships to children from nonpoor families, while giving the maximum allowed scholarships to children from "poor" families. One scenario could be average scholarships of \$1,500 for nonpoor elementary parochial school students and \$3,000 for nonpoor students attending all other types of schools.

With less money available than would be needed to completely satisfy all applicants, the administrators of scholarship-granting entities would have to use discretion in awarding scholarships.

ii. Increase the share of scholarships going to elementary schools, where demand is likely to be greatest and tuition cost lowest, from the current enrollment share of 78 percent to 85 percent.

Table 9 shows that these choices would increase the number of scholarships by about 15 percent over the first scenario. The low funding estimate funds 166,210 scholarships, 80 percent of the number of students already enrolled in private schools, and the high funding estimate funds 259,344 scholarships, 25 percent greater than current private school enrollment. Scholarships for low-income students would number 99,944 (58 percent above current enrollment) in the low funding estimate and 155,954 (147 percent above current enrollment) in the high funding estimate.

¹⁶Assuming 33 percent of all private school students come from "poor" families as defined by the legislation. Catholic school enrollment, which accounts for some two-thirds of all private school enrollment in New Jersey, is concentrated in urban areas and serves a largely low-income community. The convergence of demographic profiles of Catholic and public schools in major cities has been commented on by many researchers. See Jay P. Greene, "Civic Values in Public and Private Schools," in Paul E. Peterson and Bryan C. Hassel, eds., *Learning from School Choice* (Washington, DC: Brookings Institution Press, 1998), pp. 83-106.

¹⁷Spreadsheets such as the one used to generate Tables 8 and 9 make it possible to look at an almost unlimited variety of scholarship-giving preferences, though always constrained by the high and low "budget" estimates and the provisions of the EOA. The scenario presented here is plausible but admittedly arbitrary. Using different scenarios, though, seems to have little effect on the net cost of the program, so long as scholarships are available to students switching from public to private schools. The spreadsheet is available upon request from the author.

Table 9 Scholarships Awarded under EOA, Second Scenario					
Institution	Value of Scholarships	Number of S	cholarships	Cost of Scholarships (millions of dollars)	
		Low estimate	High estimate	Low estimate	High estimate
Elementary parochial schools					
"Poor" families	\$1,874	86,473	134,938	\$162	\$253
Nonpoor families	\$1,500	55,664	86,847	\$83	\$130
Elementary independent schools					
"Poor" families	\$4,870	5,780	9,020	\$28	\$44
"Nonpoor" families	\$3,000	4,835	7,543	\$15	\$23
Secondary parochial schools					
"Poor" families	\$4,194	6,826	10,645	\$29	\$45
"Nonpoor" families	\$3,000	4,913	7,668	\$15	\$23
Secondary independent schools					
"Poor" families	\$6,517	865	1,351	\$6	\$9
"Nonpoor" families	\$3,000	853	1,332	\$3	\$4
Totals		166,210	259,344	\$340	\$530
Total earmarked for "poor" families		99,944	155,954	\$224	\$350

F. Effect of Both PCIA and OEA on Cost of Tuition

The second column in Table 9, titled "Value of Scholarships," gives a plausible rendering of the effect of limited funding on the value of scholarships funded under the EOA program. Substituting those values for the maximum allowed scholarships used in Table 6 generates a new and final estimate of the effects of PCIA and OEA on the cost of private school tuition.

Table 10 shows that PCIA and OEA together would reduce the cost of tuition for a typical family by as little as 32 percent (for a nonpoor family sending a child to an independent secondary schools) to as much as 95 percent (for a poor family sending a child to a parochial elementary school). (Recall that taxpayers are assumed to have already qualified for \$100 tax credits for the purchase of education-related computer hardware and software, which reduces the maximum tax credit under PCIA for "poor" families to \$110.) The figures in Table 10 are averages: Different scholarship-granting entities

will use different rules in determining the amount and allocation of their scholarships, and families with tax liabilities above and below the averages used in Table 10 would face different price breaks.

Table 10 Final Estimate of PCIA and EOA on After-Tax School Tuition Paid in New Jersey						
Institution	Average Tuition*	AverageLikely Tax Credits and MaximumTuition*Possible Scholarships				
		PCIA	EOA	Total		
Elementary parochial schools						
"Poor" families	\$2,082	\$104	\$1,874	\$1,978	95%	
Nonpoor families	\$2,082	\$291	\$1,500	\$1,791	86%	
Elementary independent schools						
"Poor" families	\$5,411	\$110	\$4,870	\$4,980	92%	
"Nonpoor" families	\$5,411	\$500	\$3,000	\$3,500	65%	
Secondary parochial schools						
"Poor" families	\$4,660	\$110	\$4,194	\$4,304	92%	
"Nonpoor" families	\$4,660	\$500	\$3,000	\$3,500	75%	
Secondary independent schools						
"Poor" families	\$10,982	\$110	\$6,517	\$6,627	60%	
"Nonpoor" families	\$10,982	\$500	\$3,000	\$3,500	32%	
Public elementary and secondary schools	\$100	\$100	\$0	\$100	100%	

* Many private schools adjust their tuition based on a family's ability to pay and offer discounts to families with more than one child attending the school. This table does not reflect such policies.

4. Impact on Public and Private School Enrollments

What impact would the price reductions forecast in the previous section have on public and private school enrollments in the state? The answer depends on the sensitivity of parents and guardians of school-age children, on the one hand, and of the producers of private schooling on the other, to changes in private-school tuition.

According to Chiswick and Koutroumanes in their 1996 study of the demand for private schooling, "a price elasticity of .48 overall was calculated for private schools. The 95% confidence interval for the price elasticity was {.59, .38}."¹⁸ In other words, a 10 percent increase in the price of private schooling reduces the probability of a family choosing private schooling by 4.8 percent, while a 10 percent reduction in price causes a 4.8 percent increase in the probability of choosing private schools. A detailed explanation and defense of the use of this coefficient in the analysis that follows is presented in Appendix 2.

The price elasticity of supply is likely to be very high for reasons presented in Appendix 3. None of the inputs to K-12 schooling are particularly scarce, and the tax credit plans do not *increase* the quantity of schooling demanded, but only shift demand from public to private sectors. Such a shift wouldn't necessarily lead to higher per-pupil costs, and there is some reason to believe it would result in lower costs. Assuming that the supply for schooling is highly elastic means the price of tuition will not go up as schools compete for scarce inputs (personnel and buildings) or as parents compete for available seats.

The calculations that follow are based on estimates of public and private school enrollments that appear in Table 11. Other researchers should be able to improve on these estimates, but they are sufficiently accurate for our present purposes.

¹⁸ B.R. Chiswick and S. Koutroumanes, "An Econometric Analysis of the Demand for Private Schooling," *Research in Labor Economics*, Vol. 15 (1996) p. 229. Since this article was published, Stella Koutroumanes has changed her name to Stella Hofrenning.

Table 11 Estimated Current Enrollment in New Jersey's Private Schools						
Students from "poor" familiesStudents from nonpoor familiesTotal						
Elementary Parochial Schools	45,456	92,290	137,747			
Elementary Independent Schools	7,896	16,032	23,928			
Secondary Parochial Schools	12,821	26,031	38,852			
Secondary Independent Schools	2,227	4,522	6,749			
Total	68,401	138,874	207,275			

Sources: See footnotes 13-16 in the text.

Table 12 combines Chiswick and Koutroumanes's estimate of the price elasticity of demand for private schooling, the effects of PCIA and EOA on tuition prices shown in Table 10, and the data on private school enrollment in Table 11 to estimate the impact the two plans would have on private school enrollment.

Table 12Estimated Effect of PCIA and EOA onPrivate School Enrollment in New Jersey							
Institution	% Tuition Reduction	% Enrollment Increase	Current Enrollment	Projected Increase	Total Enrollment		
Elementary parochial schools							
"Poor" families	95	46	45,456	20,728	66,185		
Nonpoor families	86	41	92,290	38,097	130,388		
Elementary independent schools							
"Poor" families	92	44	7,896	3,487	11,383		
Nonpoor families	65	31	16,032	5,002	21,034		
Secondary parochial schools							
"Poor" families	92	44	12,821	5,662	18,483		
Nonpoor families	75	36	26,031	9,371	35,402		
Secondary independent schools							
"Poor" families	60	29	2,227	641	2,869		
Nonpoor families	32	15	4,522	695	5,216		
Totals		40	207,275	83,683	290,958		
"Poor" families		45	68,401	30,518	98,919		
Nonpoor families		38	138,874	53,165	192,039		

Table 12 reveals that total private school enrollment would increase 40 percent under the tax credit plans. Enrollment by children from "poor" families would increase 45 percent, and enroll by children from nonpoor families would grow 38 percent. Most of the increase would occur at the elementary school level (largely because elementary-school enrollment, spanning nine years, is much larger than high-school enrollment, spanning only four years). About 37 percent of the new students (30,518 out of 83,683) would be from "poor" families.

Public schools in New Jersey currently enroll approximately 1.2 million K-12 students. The transfer of 83,683 students from public to private schools would reduce public school enrollment by 6.97 percent.

The transfer of 83,683 students from public to private schools would reduce public school enrollment by 6.97 percent. It was estimated previously that the scholarshipgranting entities created under the EOA could raise funds sufficient to provide between 166,210 and 259,344 scholarships. This is 57 percent and 89 percent, respectively, of the number of families (of all income levels) who would be eligible for and presumably desirous of the scholarships.

The shortfall in funds raised by EOA would result in tuition reductions less than those projected in Table 12. Presumably, middle- and upper-income families that already enroll their children in private schools do not need the additional encouragement of lower prices to continue doing so, so financial relief would be concentrated where it does the most good: on lower- and middle-income families. Increasing enrollment in private schools may also result in more schools being formed, which would lower transportation and discovery costs. So rather than re-calculate the tuition reduction estimates still again, it seems sufficient to leave them at their current levels and admit that they (and the enrollment changes they would cause) are somewhat optimistic.

5. Impact on State Taxpayers

The impact of the two tax credit plans on New Jersey's taxpayers can now be estimated by calculating the total loss of revenue to the state caused by the new tax credits and then subtracting the likely savings due to declining enrollment in public schools.

The level of participation by the parents and taxpayers in the two plans, as has already been demonstrated, is difficult to predict. There is little to be learned from programs in other states. A tax credit plan in place in Arizona¹⁹ generated about \$8.8 million for parents with children attending public schools (incidentally, this is *five times* the amount given to nonpublic schools under the program)²⁰ but the Arizona program is a 100 percent tax credit; it allows *gifts* to public schools rather than being limited to payment of fees; and Arizona credits can be carried forward for up to five years if they exceed the taxpayer's annual tax liability. For these reasons, participation in the PCIA and EOA programs can be expected to be lower than in the Arizona plan.

¹⁹ The Private School Tuition Tax Credit, Arizona Revised Statute Title 43, Section 1089.

²⁰ Barry Goldwater Institute's Center for Market-Based Education, *Extra Credit*, www.cmbe.org/extracredit.htm, July 31, 2000.

A. Loss of Revenue Due to PCIA

Computer hardware and software tax credits up to \$150 are available to every family with schoolaged children. There are approximately half as many households with school-aged children as there are child in school, so the number of credits issued will be about half the number of school-age children in the state. Participation is highly unlikely to ever exceed 80 percent of those who are eligible. If such families report spending of \$100 a year, the cost to the treasury would be:

1.4 million x 0.5 x 0.8 x \$100 = **\$56 million**

Parents of public school students may receive 50 percent tax credits of up to \$500 a year for public school fees and other qualified expenses. If there are half as many households as there are children attending public schools, and if participation is at 80 percent, and if the average family reports spending \$100 in fees for each of two children, the cost to the treasury would be:

1.2 million x 0.5 x 0.8 x \$100 x 2 x 0.5 = **\$48 million**

Parents of private school students will receive tax-credit financed tuition assistance of between 32 percent and 95 percent of average private school tuition. Table 13 combines the average tax credits claimed under PCIA, reported in the third column of Table 10, and the new private school enrollment totals resulting from the two tax credit plans, shown in the final column of Table 12. The result is an upper-bound estimate of lost revenue to the treasury:

\$92 million

Homeschoolers also qualify for the \$500 tuition tax credit and \$150 computer and software tax credit. Approximately 1 million children, or 2 percent of all school-aged children, are homeschooled nationwide.²¹ If New Jersey parents are as likely to homeschool as the national average, this would mean about 27,000 children are being homeschooled in the state. The number of households that homeschool is probably half the number of students. Every family probably spends enough to qualify for the entire credit amounts, but due to the reticence of homeschoolers to register with public officials as well as the relatively small sums that may be involved, participation is likely to be around 50 percent. The cost to the treasury would be:

27,000 x 0.5 x 0.5 x \$650 = **\$4.4 million**

²¹ Daniel Golden, "Home-Schooled Pupils are Making Colleges Sit Up and Take Notice," *Wall Street Journal*, February 11, 2000.

Table 13 Tax Credits Claimed Under PCIA by Parents With Children Attending Private Schools			
	Average PCIA Tax Credit	# of People Claiming Credits	Total Loss of Revenue
Elementary parochial schools			
"Poor" families	\$104	66,185	\$6,883,240
Nonpoor families	\$391	130,388	\$50,981,708
Elementary independent schools			
"Poor" families	\$110	11,383	\$1,252,130
Nonpoor families	\$500	21,034	\$10,517,000
Secondary parochial schools			
"Poor" families	\$110	18,483	\$2,033,130
Nonpoor families	\$500	35,402	\$17,701,000
Secondary independent schools			
"Poor" families	\$110	2,869	\$315,590
Nonpoor families	\$500	5,216	\$2,608,000
Totals		290,960	\$92,291,798

The total revenue loss due to PCIA, then, is:

\$202,400,000	Total revenue loss due to PCIA
4,400,000	Tax credits to homeschoolers
48,000,000	Tax credits to parents of children attending public schools
56,000,000	Computer hardware and software tax credits
\$ 92,000,000	Tax credits for parents of children attending private schools

B. Loss of Revenue Due to EOA

Using the high estimate of funds raised by the scholarship-granting entities (chosen because it raises almost enough money to fund the scholarships demanded under the most likely scenario), the state treasury will lose revenue due to EOA in the following amounts:

\$384,300,000	Total revenue loss due to EOA
53,000,000	75% tax credits to wealthy individuals able to qualify for the maximum \$10,000 credit, being 10 percent of 53,000 individuals with personal income tax liabilities exceeding \$10,000.
58,500,000	75% tax credits to corporations contributing to scholarship-granting entities, being 50% of corporations contributing enough to offset 10% of their total corporate income tax liability.
\$272,800,000	75% tax credits to middle-income individuals contributing to scholarship- granting entities, being 10 percent of 3.8 million tax filers and an average gift of \$1,000.

The total revenue loss attributable to both programs, then, is:

\$384,300,000Total revenue loss due to EOA\$202,400,000Total revenue loss due to PCIA

\$586,700,000 Total cost

C. Avoided costs

i. First Estimate of Avoided Costs

If, as projected above, the tax credit proposals cause enrollments in New Jersey private schools to increase from 207,275 to 290,958, then some 83,683 students who would otherwise have attended public schools would enroll in private schools. New Jersey in 1999-2000 spent an average of \$9,775 per student on school operating costs,²² so a first approximation of state and local avoided costs is:

\$9,775 x 83,683 = **\$818 million**

This first estimate is too low for three reasons. The operating cost figures (provided to the U.S. Department of Education by a teachers union) do not include some 25 costs paid for by taxpayers, including some spending by the U.S. Department of Education, capital expenditures, unfunded pension liabilities, various expenditures incurred by government agencies that aid or oversee schools, and

²² National Education Association, "Rankings and Estimates: Rankings of States 1999 and Estimates of School Statistics 2000," October 1999.

donations from foundations and corporations.²³ Leaving out such costs may be necessary to make accurate state-to-state comparisons of spending, but using such an estimate here would understate the actual savings possible under the tax credit plans.

New Jersey's state government intends to borrow \$8.6 billion for new school construction in the state. Two major items should be added to the operating cost estimate. First, state contributions to teachers' state pension funds, which in New Jersey includes teachers' pension assistance, debt service on pension obligation bonds, pension and annuity assistance, and teachers'

Social Security assistance, should be added. In FY1999, the state spent \$919 million on these items, or **\$729** per public school student.²⁴

The second missing cost is capital outlays and interest on school debt, which nationwide amounted to over \$33 billion in 1995-1996, about \$750 per pupil.²⁵ New schools cost considerably more than this. New Jersey's state government intends to borrow \$8.6 billion to finance new school construction around the state.²⁶ Of the total, \$6 billion is earmarked for the state's 30 poorest school districts, \$2.5 billion to finance 40 percent of the cost of new school construction in the rest of the state, and \$100 million for county vocational schools. Adding the \$3.6 billion expected to be supplied by suburban districts produces a construction budget of \$12 billion.

While the program commits the state to covering \$138 per square foot for new construction, including land acquisition and professional fees for architects and attorneys,²⁷ an amount some experts say is sufficient to build a modern school,²⁸ it appears that new school construction in New Jersey, in urban areas at least, is expected to cost some \$20 million per new school, or approximately \$40,000

 ²³ Myron Lieberman, *Public Education: An Autopsy* (Cambridge, MA: Harvard University Press, 1993), pp.
119ff.

²⁴ "State Aid for Local School Districts Consolidated Summary," *Fiscal Year 2001 Budget* (Trenton, NJ: Office of Management and Budget, January 24, 2000), p. 10.

²⁵ \$33.8 billion / 45 million = \$751. See National Center for Education Statistics, *Digest of Education Statistics 1998*, Table 165, p. 179.

²⁶New Jersey School Board Association, "Schools Gear Up For Massive Construction Effort", News Release, August 4, 2000.

²⁷ See New Jersey School Board Association, "NJSBA Applauds Passage of School Construction Bill," News Release, July 18, 2000.

²⁸Conversation by the author with Jack Roeser, chairman of Otto Engineering, Carpentersville, Illinois, in September 2000.

per student.²⁹ Financing the cost of such a school with 25-year bonds and 5 percent interest requires payments of about \$1.4 million a year, or an average of \$2,800 per student per year.

It would be correct to say that every child who uses the tax credit program to switch from a public to a private school saves taxpayers some of the cost of having to build new schools, though not every child who shifts from a public to a private school would have attended a new public school, and not all new school construction would stop if the tax credit plans were adopted. An

Every child who uses the tax credit program to switch from a public to a private school saves taxpayers some of the cost of having to build new schools.

estimate of deferred cost therefore falls somewhere between the national average of \$750 per pupil and the expected New Jersey new school cost of \$2,800; splitting the difference generates an estimate of **\$1,775**, which is close enough for our purposes.

The third reason the first estimate of avoided costs is too low is because the average student moving from a public to a private school is likely to be leaving a high-spending urban school. Current per-pupil spending on operations in New Jersey's 30 largest cities is \$11,000, not the \$9,775 state average.³⁰ About 36 percent of students expected to move from public to private schools following implementation of the tax credit plans are from "poor" families, which are likely to be concentrated in inner-city areas.

Urban density and proximity to private schools are positive factors in the decision to choose private schooling (see Appendix 3 for the full discussion of why this is the case). Entrepreneurs also seem more interested in the under-served urban education marketplace than in suburbs,³¹ where parents may be more satisfied with their public schools and where lower population density means higher transportation costs. For these reasons it is reasonable to assume that **36 percent** of all students switching to private schools would avoid costs of \$11,000 a year, or **\$1,225** more than the state average spending level of \$9,775.

²⁹Based on discussion with Michael Carazzi, chief financial officer of the Jersey City School District in October 2000. Jersey City is slated to receive \$475 million to construct eleven schools and 13 pre-schools, for an average cost per facility of \$20 million. A new elementary school in Jersey City cost \$20 million and seats 500 students, for a cost per student of \$40,000.

³⁰The state subsidizes spending in the 30 poorest school districts in the state to bring their per-pupil spending up to parity with suburban districts. There are 300 schools in these so-called "Abbott districts." See New Jersey Department of Education, *Report to the Legislature on the Progress of Abbott School Districts*, October 21, 1997.

³¹Proprietary colleges, for example, enroll a "high proportion of minority, low-income youth," perhaps because "entrepreneurs may be adept at setting their schools in areas that lack public community colleges and vocational institutes." Thomas J. Kane, "Lessons from the Largest School Voucher Program," in Bruce Fuller and Richard F. Elmore, eds., *Who Chooses? Who Loses?* (New York, NY: Teachers College, Columbia University, 1996), p. 182.

ii. Second Estimate of Costs Avoided

Table 14 adds pension and capital costs to current average urban and nonurban per-pupil operating expenses to produce adjusted estimates of per-pupil spending in New Jersey. The new estimates are \$12,279 for nonurban students and \$13,504 for urban students.

Table 14 Adjusted Estimates of Per-Pupil Spending in New Jersey Public Schools				
School District	Average Operating Expense Per Pupil	Pension Adjustment	Capital Spending Adjustment	Adjusted Per Pupil Spending
Nonurban	\$9,775	\$729	\$1,775	\$12,279
Urban	\$11,000	\$729	\$1,775	\$13,504

A new estimate of costs avoided under the tax credits programs, assuming 36 percent of the students moving from public to private schools would have attended urban public schools, appears in Table 15. Total costs avoided now are just over \$1.0 billion a year, or about 20 percent more than our original estimate of \$818 million.

Table 15 Adjusted Estimate of Costs Avoided				
	% of students changing schools	Number of students changing schools	Per-pupil spending at departed public school	Total tax dollars saved
Non-urban students	64.0%	53,165	\$12,279	\$652,813,035
Urban students	36.0%	30,518	\$13,504	\$412,115,072
Totals	100.0%	83,683		\$1,064,928,107

D. Net Cost (Savings) to Taxpayers of the Tax Credit Plans

The net cost (savings) to taxpayers of PCIA and EOA can now be calculated. The results, with some rounding, appear in Table 16. Total lost revenues equal about \$585 million a year, while costs avoided due to lower public school enrollment equals about \$1 billion, for a net savings to taxpayers of \$480 million a year.

Table 16 Fiscal Impact of Tuition Tax Credits			
Totals	Subtotals	РСІА	
	\$92,000,000	50% tax credits for parents of children attending private schools	
	\$56,000,000	100% computer hardware and software tax credits	
	\$48,000,000	50% tax credits to parents of children attending public schools	
	\$4,400,000	50% tax credits to homeschoolers	
\$200,400,000		Revenues lost due to PCIA	
		ЕОА	
	\$272,800,000	75% tax credits to persons contributing gifts averaging \$1,000	
	\$58,500,000	75% tax credits to corporations giving to scholarship-granting entities	
	\$53,000,000	75% tax credits to donors contributing gifts averaging \$10,000	
\$384,300,000		Revenues lost due to EOA	
\$584,700,000		Total revenues lost	
		Costs avoided due to lower public school enrollment	
	\$652,813,035	Non-urban students transferring from public schools	
	\$412,115,072	Urban students transferring from public schools	
\$1,064,928,107		Total costs avoided	
\$480,228,107		Net savings to the state's taxpayers	

The Parental Control and Involvement Act and the Educational Opportunities Act together would save New Jersey taxpayers approximately \$480 million a year. As big as this estimate is likely to seem to most readers, it is apt to *underestimate* the savings to taxpayers, for the following reasons:

< It assumes that every parent of a student attending a private school would apply for and receive the maximum tax credit they qualify for under PCIA. Based on the admittedly limited experiences of Arizona and Minnesota, participation would be less than 25 percent in the early years of the programs.³² If parents who move their children from public to private schools apply for tax credits at a higher rate than parents who already have children enrolled, lost tax revenue would be much lower than the amounts projected.

³²The Minnesota tax credit plan in its second year saw 55,000 families claim tax credits and receive a total of \$20.1 million in refunds. See "Update on Minnesota's Education Tax Credits and Deductions," memorandum from Morgan Brown, executive director, Partner for Choice in Education (St. Paul, MN), July 28, 2000.

< It assumes that companies would use the tax credits to divert just 5 percent of current corporate income tax receipts to the scholarship-granting entities, a seemingly modest goal given the positive publicity such gifts would generate.

The Parental Control and Involvement Act and the Educational Opportunities Act together would save New Jersey taxpayers approximately \$480 million a year.

- < It assumes a lower price elasticity of demand (0.48) than past studies on this topic often cite (1.0). If demand is more responsive to price than assumed, then more students would move from public to private schools than projected, and the savings would be larger.
- < It adjusts spending levels by public schools upward to include state contributions to teachers' pensions and construction costs, but still exclude

many other educational expenses by state and local governments that would be saved.

< It assumes only 36 percent of students who switch from public to private schools will be leaving urban schools, even though these are the poorest performing schools, and even though high density housing in cities makes the total cost (time + tuition) of choosing a private school less than in suburban and rural areas. Since urban schools tend to spend more than suburban and rural schools, the assumption may underestimate savings.</p>

The author admits to only one assumption that may understate the cost of the programs and therefore overstate the savings, that increasing enrollments in the private sector would not cause tuition to rise. If that assumption is not correct, then fewer students would shift to private schools and the savings to the public sector would be less. The reasons for making that assumption are given in Appendix 3.

6. Static versus Dynamic Cost Estimates

This has been a static analysis. It does not take into account a variety of factors having to do with time, learning, and reactions to new incentives created by the program. More specifically, the analysis has not addressed:

- < The time required for parents to learn of the program and decide to take advantage of it;
- < The time required for private schools in New Jersey to accommodate an influx of students;
- < The time required for community organizations and entrepreneurs to start new schools;

- < Time and cost of public schools to release staff and close down facilities that are no longer needed;
- < The effect on parental decisions if public schools respond to new competition by improving the quality of their services.
- < The cost of overcoming roadblocks erected by public school administrators and interest groups opposed to the programs, including legal challenges and negative campaigning against private schools;
- < The impact on parents of a growing number of private schools, which would reduce the travel time and therefore the total (price + time) cost of choosing an alternative to the local public school. More private schools will also generate more information about the alternatives that already exist, and reduce the cost of information collection.

Some surveys have found that two-thirds of parents would choose private schools for their children if a school were available and tuition were not a problem.

A more sophisticated analysis of the cost of the two programs over time would require information about current capacity in private schools, plans (if any) by private school leaders and entrepreneurs to start new schools if such a program were in place, plans and resources available to publicize the existence of the program once it is in place, the complexity of the application forms and rigor of inspection and supervision by authorities, the willingness of public school districts to lease or sell excess school capacity (buildings) to private schools, and demographic projections.

An important element in a dynamic analysis would be to model the effects of rising private school enrollment on the probability of parents choosing private schools. We are reasonably certain that the coefficient of the price elasticity of demand for private schooling is around .48 under current conditions, but that figure could be expected to rise as private schools multiply, information barriers fall, and more children start their school careers in private elementary schools. Some surveys have found that two-thirds of parents would choose private schools for their children if a school were available and tuition were not a problem.³³ Further research is needed on this point.

The total annual cost savings figure, \$480 million, is therefore a hypothetical figure most likely to represent savings several years after the programs' start, assuming the availability of tax credits is well known and that they are easy to apply for, and that no new developments or trends that significantly influence the price or supply of private schooling. This does not contradict the earlier discussion of reasons why the savings estimate is probably too low: actually savings may be less than or greater than the estimate as the programs are implemented and as supply and demand conditions change.

³³For example, Herbert J. Walberg and G. Alfred Hess, Jr., *Chicagoans View Their Public Schools* (Chicago, IL: Chicago Panel on Public School Finances, June 1985).

7. Summary and Conclusion

This report examined two proposed tax credit plans for New Jersey and reported their likely effect on the state treasury and the state's taxpayers. It found that the the programs would save taxpayers \$480 million per year more than the tax revenues the state would forfeit.

This analysis shows both the promise and the limits of using tax credits to promote competition and choice in education. The Parental Control and Involvement Act (PCIA) would provide New Jersey parents and guardians with tax credits to offset up to 50 percent of the cost of tuition and other qualified educational expenditures for their children, with maximum annual tax credits of \$500. All parents would qualify for 100 percent tax credits for up to \$150 a year in

expenditures on education-related computer hardware and software.

The Educational Opportunity Act (EOA) would allow all individuals and corporations in New Jersey to receive tax credits of up to 75 percent of contributions they make to scholarship-generating entities, up to a tax credit of \$10,000. The corporate tax credit would be capped at 10 percent the corporation's corporate income tax liability.

Peer-reviewed empirical research shows that a 10 percent reduction in the price of schooling is likely to cause a 4.8 percent increase in the rate of parents choosing private schools. The tuition price reductions caused by PCIA and EOA would range from 32 percent to 95 percent, depending on the income of the family, student's grade level, and type of school (parochial or independent) chosen by parents. These price reductions would increase private school enrollment in New Jersey by 83,683 students, about 40 percent above current levels of enrollment. Students from low-income families would make up 30,518 of that increase, about 36 percent.

The gross cost of the tax credits would be approximately \$584.7 million a year. The migration of students from public to private schools would generate off-setting savings of some \$1.0 billion each year. The net savings of the two tax credit programs to New Jersey taxpayers in a typical year would be \$480 million.

These cost estimates are most likely to correspond to actual costs several years after adoption of the program, and do not take into account changes in price and the supply of private schooling that result from the programs' existence.

"It is possible for low income children to attend privately managed schools while simultaneously saving State taxpayers many hundreds of millions of dollars annually."

This analysis shows both the promise and the limits of using tax credits to promote school choice. The promise lies in the large portion of students from "poor" and moderate-income families (up to 1.85 times the poverty level) who would be able, many for the first time, to attend the school of their choice. The large savings to taxpayers will also be welcomed by most observers. The two bills studied here are mute on whether the savings should be returned to taxpayers.

The limits of the tax-credit approach are most clear when one studies the individual tax credits for private school tuition and other qualified educational expenses contained in PCIA. A typical low-income family pays just \$210 a year in state income taxes, so it would "zero out" its entire tax liability before reaching the \$500 cap. Even middle- and upper-income families who qualify for the entire \$500 would see tuition price fall as little as 5 percent and at most 24 percent (see Table 2).

This analysis confirms, though cautiously, what the supporters of one of the bills, EOA, assert in its preamble: "It is possible for low income children to attend privately managed schools while simultaneously saving State taxpayers many hundreds of millions of dollars annually."

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Joseph Bast is president of The Heartland Institute, an independent nonprofit research organization based in Chicago, Illinois. He is the founding editor of *School Reform News*, a monthly newspaper, and coauthor of two books on school reform, *We Can Rescue Our Children* (1988) and *Rebuilding America's Schools* (1991).

More research on the effective design of tax credit and voucher plans can be found on either of two Web sites hosted or cohosted by The Heartland Institute: www.heartland.org and www.SchoolReformers.com. Appendix 1 Text of the Proposed Tax Credits

ASSEMBLY, No.____

STATE OF NEW JERSEY

INTRODUCED _____, 2000

By Assemblymen

AN ACT providing for annual educational tax credits against the income taxes imposed by the New Jersey Gross Income Tax Act, NJ.S.A. 54:1-1 et. seq., of:

- not more than fifty (50%) percent of the amount of expenses incurred by a taxpayer in each tax year for qualified educational and qualified tutoring expenses, limited to five hundred dollars (\$500.00) per tax year per dependent child;
- (2) one hundred (100%) percent of the amount of expenses incurred by a taxpayer in each tax year for qualified computer hardware and software expenses, limited to an aggregate amount of one hundred fifty dollars (\$150.00) per tax year for all dependent children of the taxpayer.

WHEREAS, parental involvement is fundamentally necessary for children to attain educational success, to pursue excellence, and to maximize their potentials; and

WHEREAS, encouragement of direct parental involvement in the education of their children should be the policy of this State; and

WHEREAS, a partial tax credit against the tax otherwise due under the Gross Income Tax Act would assist parents in paying for the costs of tutoring, tuition, student fees, school supplies, books, and computer software and hardware and would thereby encourage parents to review the educational needs of their children and to enroll their children in supplementary educational programs.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. N.J.S.A. 54A:4B-1. Short Title

2. N.J.S.A.54:4B-2, Definitions

As used in this act:

a "Qualified educational expenses" means non-reimbursed verifiable payments made by a taxpaver on hehalf of a dependent child of the taxpaver for tuition, student fees, supplies, and books, and other instructional materials that are directly related to the curriculum and program of instruction being provided to the dependent child by the school from which the dependent child is taking instruction.

<u>b. "Oualified tutoring expenses" means non-reimbursed verifiable payments made by a</u> taxpayer on behalf of a dependent child of the taxpayer for tutoring expenses that are directly related to the curriculum and program of instruction being provided to the dependent child by the school from which the dependent child is taking instruction. Payments by a taxpayer to a member of a dependant child's own household or to the dependant child's parents or siblings shall not be deemed "qualified intoring expenses."

. '

...

c. "Onalified computer and software expenses" means non-reimbursed payments by a taxpayer on behalf of dependent children of the taxpayer for computer hardware or software, the use of which is directly related to the curriculum and program of instruction being provided to the dependent children by the school from which the dependent children are taking instruction.

<u>d. "Dependent children" means a child or children who are dependents of the taxpaver</u> <u>pursuant to the provisions of the Internal Revenue Code and who are taking instruction from a</u> <u>school as that term is defined in this act.</u>

e. "School" means a public or nonpublic school. or a program of equivalent instruction other than at a school, offering on or offsite education or programs of instruction, for K through 12th grade, or any combination of them, wherein a child may legally fulfil State compulsory school attendance and instruction requirements.

f. 'Taxpayer' means an individual, required to report or to pay income taxes, or whose income in whole or in part is subject to the tax imposed by the New Jersey Gross Income Tax Act, NJ.S.A. 54A:1-1 et. seq.

3. N.J.S.A. 54A:4B-3 Tax_credit for expenses incurred for qualifying educational expenses of dependent children

a. Notwithstanding any other law, in each tax year, a taxpayer shall be allowed a credit against the tax otherwise due under the New Jersey Gross Income Tax Act, N.I.S.A. 54A:1-1 et. seq. of:

(1) fifty (50%) percent of the amount of qualified educational and qualified tutoring expenses paid by the taxpayer on behalf of a dependent child or children during the tax year, provided that the allowable tax credit in each tax year shall not exceed five hundred dollars (\$500.00) for each dependent child; and

(2) one hundred (100%) percent of the amount of qualified computer hardware and software expenses paid by a taxpayer on behalf of a dependent child or children during the tax year, provided that the aggregate allowable tax credit for all of the dependent children of the taxpayer shall not exceed one hundred fifty dollars (\$150.00) in each tax year.

b The maximum allowable tax credits in each tax year, as provided for in subsection a. of this section, shall be increased, as of the January 1 next following the date of enactment of this act and as of each January 1 thereafter, by the amount of the monthly increases, if any, expressed as a decimal, in the United States Department of Labor Consumer Price Index for the New York City and Philadelphia areas.

c. If the credits against the tax allowed pursuant to subsection a. of this section reduce the tax liability of a taxpayer to zero during the tax year in which the credits are claimed, the remaining amount of the tax credits, if any, may be carried over for use as credits against the tax due in succeeding tax years.

ASSEMBLY, No.___

STATE OF NEW JERSEY

INTRODÚCED _____, 2000

By Assemblymen

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AN ACT providing for tax credits against the income taxes imposed by the New Jersey Gross Income Tax Act, <u>NJ,SA</u>. 54:1-1 et. seq. and the Corporation Income Tax Act, <u>NJ,SA</u>. 54:10E-1 et seq., of not more than seventy five (75%) percent of the amount of contributions made in a tax year by taxpayers to certain qualifying nonprofit tax exempt entities that provide educational scholarships to low-income children in New Jersey, provided that the tax credit shall not exceed ten thousand (\$10,000.00) dollars, adjusted annually for inflation, for individuals, estates and trusts or, for corporations, shall not exceed ten (10%) of a corporation's annual tax liability.

WHEREAS, children vary in their interests and educational goals and each child is unique, capable of thriving in a variety of educational environments; and

WHEREAS, parents know their children and are best suited to select those educational environments that will best nurture their children to pursue educational excellence so as to allow the intellectual potential of each child to be maximized; and

WHEREAS, the United States Supreme Court has affirmed that although the State may mandate education, parents of children have a prior legal right over the State to determine the appropriate environment in which that education is to be obtained; and

WHEREAS, even though the U.S. Internal Revenue Code currently provides for deductions from gross income for contributions made to qualified charities that provide educational scholarships, partial tax credits under the New Jersey Gross Income and the Corporation Income Tax Acts are urgently needed to ensure the availability of sufficient scholarship funds to allow poor and less affluent parents the opportunity to make sound educational choices for their children; and

WHEREAS, educational justice for each child, regardless of the wealth or poverty of a child's parents, must be the law and policy of this State; and

WHEREAS, because of the difference between State per student costs in Abbott School Districts and the maximum scholarship amount per child permitted under this Act, only approximately 75% of which will be charged as a tax expense to the State, it is possible for low income children to attend schools of their choice while simultaneously saving State taxpayers many hundreds of millions of dollars annually.

BE IT ENACTED by the Senate and General Assembly of the State of New Jersey:

1. 54A:4A-1. Short Title

Sections 1 through 3 of this act shall be known and may be cited as the "Educational Options Act."

2. 54A:4A-2. Definitions

As used in this act:

a. "Household income" means income as defined in 7 CFR 245.2 and 245.6 or any subsequent superseding federal law or regulation.

b. "Low income child" means those children from households with incomes up to 1.85 times the level of income of households qualifying for the "free meals or milk or reduced price meals" school lunch federal program, based upon federal gross annual, monthly, or weekly household income eligibility guidelines, promulgated for each State fiscal year by the State Bureau of Child Nutrition Programs for the school year preceding the school year for which an educational scholarship is to be distributed.

c. "Oualifying entity" means a nonprofit corporation, association or organization that is exempt from the tax imposed by the Corporation Business Tax Act (1945), under the provisions of N.J.S.A. 54:10A-3(c) or that is exempt from federal income taxes under the provisions of U.S.C. 501 c and that:

i requires that any tax creditable contributions accepted by the qualifying entity under this act are so designated by the taxpayers at the time of the contributions, as "Educational Options Act" tax creditable contributions:

ii. distributes not less than one-hundred percent (100%) of the tax creditable "Educational Options Act" contributions accepted from taxpayers as educational scholarships to children with not less than two-thirds (%) of those scholarship distributions to low income children;

iii requires that any child receiving an educational scholarship from the qualifying entity is a resident of this State and is receiving instruction from a school as that term is defined in this act;

iv. prohibits any child, who is receiving instruction from a school in K-12th grade, from receiving an educational scholarship from the qualifying entity in any school year, that is greater in amount than either two-thirds (3%) of the average per child spending in New Jersey's public schools or ninety, percent (90%) of one year's tuition at the school from which the child is receiving instruction, whichever amount is less.

v. prohibits any child from receiving more than one (1) educational scholarship from the qualifying entity for any school year or from receiving an educational scholarship from the qualifying entity for any school year in which the child is already receiving or is approved to receive an educational scholarship, regardless of amount. from any other qualifying entity; provided that, in addition to the educational scholarship that a child may receive from a qualifying entity, the child may also simultaneously receive additional financial assistance from persons, entities or other sources that are not tax creditable "Educational Options Act" scholarship distributions;

vi. is in compliance with the provisions of this act and any administrative procedures and regulations that may be promulgated by the director of taxation to implement this act and to monitor the nonprofit entity's continuing status as a qualifying entity; and

viii. has been approved by the director of taxation as a qualifying entity in accordance with the provisions of this act.

d. "School" means a public or non-public school or a program of equivalent instruction other than at school, offering on or offsite education or programs of instruction, for kindergarten through the 12th grade, or any combination of them, wherein any child may legally fulfil State compulsory school attendance requirements. e. "Taxpaver" means an individual, estate, trust, or corporation required to report or to pay income taxes, or whose income in whole or in part is subject to the tax imposed by either the New Jersey Gross Income Tax Act, N.J.S.A. 54A:1-1 et. seq. or the Corporation Income Tax Act (1972), N.J.S.A. 54:10E-1 et. seq.

3. N.J.S.A. 54:4A-3 Tax credit for contributions made to nonprofit qualifying entities that provide educational scholarships to resident low-income children

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a. Notwithstanding any other law, in each tax year, a taxpayer shall be allowed a credit against the tax otherwise due under the New Jersey Gross Income Tax Act, N.J.S.A. 54A:1-1 et. seq., or the Corporation Income Tax Act (1972), N.J.S.A. 54:10E-1 et. seq., of seventy-five (75%) percent of the amount of contributions made by the taxpayer during the tax year to any qualifying entity as defined in this act provided that the tax credit allowable to taxpayers under this act shall not exceed:

(1), for individuals, estates, and trusts, ten thousand (\$10,000.00) dollars for each tax year in which a tax credit is claimed under this act.

(2), for corporations, ten (10%) of the corporation's total tax liability for each tax year in which a tax credit is claimed under this act.

c. The maximum allowable tax credits for each tax year, as provided for in subsection a of this section, shall be increased, as of the January 1 next following the date of enactment of this act and as of each January 1 thereafter, by the amount of the monthly increases, if any, expressed as a decimal, in the United States Department of Labor Consumer Price Index for the New York City and Philadelphia areas.

b. To qualify as a tax creditable contribution under this act a contribution to a qualifying entity must be designated by the taxpayer at the time of the contribution as an "Educational Options Act" contribution and be recorded as such on the records of the qualifying entity.

c. If the credits against the tax allowed pursuant to subsection a. of this section reduce the tax liability of a taxpayer to zero during the tax year in which the tax credits are claimed, the remaining amount of the tax credits, if any, may be carried over for use in succeeding tax years.

Appendix 2 Estimating the Price Elasticity of Demand for Private Schooling

While a lower price generally leads to larger quantities of a good or service being consumed, the relationship between price and demand varies. In some cases, very large changes in prices are necessary to bring about even a small changes in consumption; in other cases, small changes in price can lead to large changes in consumption.

The ratio of the change in the quantity consumed and the change in the price per unit consumed is called the price elasticity of demand. When the elasticity of demand for a product or service is low (i.e., when the ratio of the change in quantity consumed and the change in price per unit is less than one), a given percent decrease in price will produce a smaller percent increase in the quantity demanded. Is this true of the demand for private schools?

The most comprehensive analysis performed to date of the factors influencing the decision to choose a private school is by Barry R. Chiswick and Stella Koutroumanes published in 1996 in *Research in Labor Economics*.³⁴ Parents may be motivated by

Tuition, or price, is only one of many factors that influence a family's decision to choose a private school.

religious conviction, by concern over discipline or violence in public schools, or by the convenience of having their children attend a school nearby. The choice between public and private school may differ when the child is of elementary-school age and when he or she is of high-school age. Tuition, finally, is not a complete description of the cost of choosing a private school. If choosing a private school increases travel time for students and parents (which is likely given that public schools outnumber private schools by a margin of about 8 to 1 nationwide), the complete cost of the decision (time + money) is higher than the price of tuition alone. For all these reasons, the rate at which parents choose private schools may increase more slowly than the decline in tuition.

Using regression analysis, Chiswick and Koutroumanes found many factors to have statistically significant positive effects on the probability of parents choosing private schools,³⁵ including the following:

- < higher family income
- < lower cost of tuition

³⁴ B.R. Chiswick and S. Koutroumanes, "An Econometric Analysis of the Demand for Private Schooling," *Research in Labor Economics*, Vol. 15 (1996), pp. 209-237.

³⁵ Ibid., p. 214.

- < race (non-black)
- < live in New England states
- < Catholic ancestry
- < higher population density
- < higher averaged age of parents, and
- < mother does not work outside the home.³⁶

Chiswick and Koutroumanes also found several factors did not have a significant effect on the probability of parents choosing private schools:

- < student's gender
- < average public school test scores
- < Hispanic-origin

A 10 percent increase in the price of private schooling will reduce demand by 4.8 percent, while a 10 percent reduction in price should lead to a 4.8 percent increase in demand. The database (drawn from the 1990 Census of Population) used by Chiswick and Koutroumanes for their study is representative of the population of New Jersey. Approximately 13 percent of their sample of students was enrolled in private schools, compared with 16 percent in New Jersey. The "reference student" lives in a central city in the East North Central

region. Mean average private school tuition used in the study was \$2,654 (1990), close to the New Jersey figures for parochial schools that appear in the first column of Table 1.

According to Chiswick and Koutroumanes, "a price elasticity of .48 overall was calculated for private schools. The 95% confidence interval for the price elasticity was {.59, .38}."³⁷ In other words, a 10 percent increase in the price of private schooling reduces the probability of a family choosing private schooling by 4.8 percent, while a 10 percent reduction in price causes a 4.8 percent increase in the probability of choosing private schools. The 95 percent confidence interval means if repeated independent samples were taken, in 95 percent of these samples the price elasticity would be between .38 and .59.³⁸

³⁶ The authors explain, "Holding income constant, a working mother means lower full family income (less time in home production). Thus, this is consistent with a positive income effect." Ibid., p. 226.

³⁷ Ibid., p. 229.

³⁸ In addition to the standard Ordinary Least Squares (OLS) analysis that generates the 0.48 figure, the authors performed a probit regression analysis that generated a series of estimated probabilities consistent with the OLS analysis. For example, a decrease in price from \$4,000 to \$1,000 (75%) results in an increase in the probability of

This estimate is lower but more credible than the estimate of 1.0 made by an undergraduate economics textbook cited in past studies of the cost of tax credit plans.³⁹ Chiswick and Koutroumanes comment on what their research means regarding tuition tax credits and scholarship (or voucher) plans:

The analysis indicates that school choice is systematically related to economic and demographic variables. The significant price effects indicate that educational vouchers and tuition tax credits would expand educational opportunities and increase enrollment in private schools, particularly non-parochial or independent schools.⁴⁰

choosing parochial schools from 0.22 to 0.29 (32%), implying an elasticity of .43.

³⁹ The other source is James Gwartney and Richard Stroup, *Economics: Private and Public Choice* (New York, NY: Dryden Press, various editions).

⁴⁰ B.R. Chiswick and S. Koutroumanes, op cit., p. 234. The authors found that demand for independent schools is more elastic than the demand for parochial schools, perhaps because parents who choose parochial schools are willing to sacrifice to obtain religious instruction for their children.

Appendix 3. Estimating the Price Elasticity of Supply of Private Schooling

The price elasticity of supply is the ratio of the change in quantity supplied over the change in price per unit. If the elasticity of supply of private elementary and secondary schooling is high (ratio of 1 or higher), then the increased number of parents able to pay tuition at private schools would lead to investment in new schools and personnel sufficient to provide a place for every child, without an increase in tuition partly or entirely offsetting the value of the credits. Reasons to believe the elasticity of supply for private schooling is high include the following:

None of the inputs needed for K-12 schooling is especially scarce or specialized.

< None of the inputs needed for K-12 schooling is especially scarce or specialized. Schools can and do operate in a variety of buildings, including shopping malls and office buildings.⁴¹ Approximately 200,000 new teachers enter the market every year, with a

growing portion of them certified through alternatives to traditional teachers colleges.⁴² New Jersey has, in the Provisional Teacher Program, one of the nation's premier alternative certification programs,⁴³ so there is little barrier to entry into the teaching profession.

- < The private K-12 schooling sector constitutes a very small part of the education marketplace that includes public pre-kindergarten and K-12 schools, public and private technical and business training, and public and private higher education.⁴⁴ Therefore, even if they were to grow rapidly, private K-12 schools would have little effect on wages or rent.
- < The tax credit programs may not increase in total the amount of schooling demanded, but merely reallocate the shares of the public and private sectors.⁴⁵ Resources would be *released* from the

⁴⁴See Chiswick and Koutroumanes, p. 217.

⁴¹Richard C. Seder, *Satellite Charter Schools: Addressing the School-Facilities Crunch Through Public-Private Partnerships* (Los Angeles, CA: Reason Public Policy Institute, April 1999).

⁴²C. Emily Feistritzer, *Alternative Teacher Certification: A State-by-State Analysis 2000* (Washington, DC: National Center for Education Information, 2000).

⁴³Leo Klagholtz, *Growing Better Teachers in the Garden State* (Washington, DC: Thomas B. Fordham Foundation, January 2000).

⁴⁵Increased expenditures for educational activities at home may increase the tendency to homeschool, which might reduce the demand for formal schooling, though homeschooling starts with a very small share (2%) of the current market. Parochial schools have shown a superior ability to keep low-income students from dropping out,

public sector in amounts roughly equal to their acquisition by the private sector.⁴⁶

- < Introduction of competition and choice in the delivery of other public services has led to more efficient use of resources.⁴⁷ If tax credits bring the same effect to schooling, the same number of children could be taught with fewer resources than are currently used, resulting in less demand and lower prices for those resources.
- Finally, college and university enrollment growth following passage of the Servicemen's Readjustment Act of 1944 (the "G.I. Bill") suggests that schooling capacity can be added quickly. In the space of just two years, enrollment in the nation's colleges and universities rose 33 percent above pre-war levels and 45 percent over the previous (war-time) period.⁴⁸

In the space of just two years, enrollment in the nation's colleges and universities rose 33 percent above prewar levels and 45 percent over the previous (war-time) period.

But there are also some reasons to believe the elasticity of supply of private elementary and secondary schooling is low (ratio of less than one):

- < Many private schools, especially parochial schools, might raise tuition rather than increase their enrollments. These schools often rely on staffs that work for very low wages and have deferred maintenance on their facilities to keep spending low. The tax credit and scholarship plans would make it difficult for some school administrators to say no to long-deserved wage increases and long-wanted improvements in facilities. Enlarging a successful school may also make it less attractive to the most active parents.
- < Revenue from the tax credit programs might simply displace current charitable giving to private schools, resulting in a smaller net increase in investment in, and hence the supply of, private

⁴⁷See Charles Wolf, Jr., *Markets or Governments: Choosing between Imperfect Alternatives* (Cambridge, MA: The MIT Press, 1988).

which would increase the number of students enrolled in schools by a similarly small amount.

⁴⁶The qualifier "roughly" is necessary because the tax credit proposals themselves do not require that spending on public schools fall at the same pace as public school enrollment. State aid is provided on a per-pupil basis, so unless that formula is changed, state funding of public schools should track enrollment trends. Local funding, provided by property taxes, would not automatically decline.

⁴⁸David Barulich, "Fiscal Impact Analysis of the Parental Choice in Education Amendment for the California Constitution," June 23, 1992, p. 7, also Appendix 4. Note that this was *new* demand for schooling, whereas the New Jersey tax credits only *shift* demand from public to private schools. This makes the case for supply being highly elastic even stronger.

schooling. Private school managers may find it more difficult to raise money from traditional sources if philanthropists believe, with some justification, that other needs are now more pressing.

< Most private schools, being nonprofits, lack access to capital markets to finance the acquisition of new or expanded facilities. This has been a frequent problem for charter schools in many states.⁴⁹

Some of the new investment made possible by the tax credits would never find its way into classrooms. < Opponents of tax credits and other vehicles for school choice claim that some of the new investment made possible by the tax credits would never find its way into classrooms, and would be used instead for advertising, for paying

or rewarding a new class of "tax credit entrepreneurs" who start schools and broker deals, or to build redundant new facilities across the street or just blocks away from underused facilities.⁵⁰

The case for assuming a low elasticity of supply seems weak. If existing private schools don't choose to open their doors to new students, the charter school movement has demonstrated that there are many parents, teachers, and entrepreneurs willing start new schools.⁵¹ Tax credits to encourage charity have a good record of generating more net giving, rather than less. Worries about wasted money on advertising or fraud are raised every time privatization is proposed, regardless of the field in which it is applied, yet privatized enterprises almost invariably result in higher quality services and lower prices.⁵²

Insight into the possible effects of tax credits and other demand-side subsidies to education can be gained by looking at the effects of Pell Grants on college tuition and access to post secondary education. Begun in 1973 under the name Basic Education Opportunity Grants (and renamed Pell Grants in 1980), the program provides about \$6 billion in aid to about 4 million students each year. Thomas J. Kane compared enrollment data for the three years before the program was established with data for 1973 and the next four years and found no increase in overall college enrollment rates and an

⁴⁹Chester E. Finn, Jr., et al., *Charter Schools in Action: A Final Report* (Washington, DC: Hudson Institute, 1997).

⁵⁰These allegations appear often in the literature on school vouchers. See Stephen Arons, "Equity, Option, and Vouchers," and Eli Ginzberg, "The Economics of the Voucher System," both in George R. La Noue, ed., *Educational Vouchers: Concepts and Controversies* (New York, NY: Teachers College, Columbia University, 1972); David C. Berliner and Bruce J. Biddle, *The Manufactured Crisis* (New York, NY: Addison-Wesley Publishing Company, 1995), chapter 5; and Paul Hill, Lawrence Pierce, and James Guthrie, *Reinventing Public Education* (Chicago, IL: University of Chicago Press, 1997), chapter 4.

⁵¹New Jersey had 52 charters and 47 charter schools in operation in 1999.

⁵²Charles Wolf, Jr., op cit; E.S. Savas, *Privatizing the Public Sector* (Chatham, NJ: Chatham House Publishing, Inc., 1982).

actual decrease in enrollment rates for lower-income students.53

Kane attributes the failure of Pell Grants to increase college enrollment rates to a lack of awareness among low-income families that they qualified for financial aid, to the complexity of the applications forms, and to auditing procedures used by the Department of Education that resulted in the rejection of a disproportionate number of applications from low-income families.⁵⁴

Interestingly, Kane does *not* suggest that Pell grants enabled or forced colleges to charge higher tuition. He presents data showing that the cost of attending an average public university *fell* by about 15 percent, in inflation-adjusted 1993 dollars, between 1973 and 1980, at a time when the real value of Pell Grants was at its highest, e.g., \$3,628 in 1975. Between 1980 and 1993, the average cost of college attendance increased 41 percent, from about \$4,800 to \$6,500, while the value of the maximum Pell Grant fell 22 percent, to about \$2,300 in 1993.⁵⁵

On balance, the case for assuming a high rather than low price elasticity of supply is most convincing. The experiences in higher education, first with the GI bill and more recently with Pell Grants, seem to confirm that subsidizing the demand for schooling increases supply at least proportionately.

Worries about wasted money on advertising or fraud are raised every time privatization is proposed, regardless of the field in which it is applied.

For the current study, assuming that the supply for schooling is highly elastic means every parent and child who wants to shift from public to private school will find room in a suitable school. It also means the price of tuition will not go up either as schools compete for scarce inputs (personnel and buildings) or as parents compete for a limited number of available seats.

⁵³Thomas J. Kane, op cit., pp. 173-185.

⁵⁴Ibid., pp. 179-180.

⁵⁵ Ibid., pp. 174-175.

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