

GENERAL ASSEMBLY OF NORTH CAROLINA

Session 2011

Legislative Fiscal Note

BILL NUMBER: House Bill 41 (First Edition)

SHORT TITLE: Tax Fairness in Education.

SPONSOR(S): Representatives Stam, Hager, Collins, and Brawley

FISCAL IMPACT (\$ in millions)					
	Yes (X)	No ()	No Estimate Available ()		
	<u>FY 2011-12</u>	<u>FY 2012-13</u>	<u>FY 2013-14</u>	<u>FY 2014-15</u>	<u>FY 2015-16</u>
<u>STATE IMPACT</u>					
Revenue (tax credits):	(\$14.6)	(\$28.6)	(\$28.1)	(\$27.9)	(\$27.8)
Operational Savings:	\$0	\$58.3	\$57.3	\$56.3	\$55.8
Net State Impact:	(\$14.6)	\$29.7	\$29.1	\$28.4	\$28.0
<u>LEA IMPACT</u>					
Revenue:	N/A	N/A	N/A	N/A	N/A
Operational Savings:	\$0	\$22.5	\$22.1	\$21.7	\$21.5
Net LEA Impact:	\$0	\$22.5	\$22.1	\$21.7	\$21.5
<u>POSITIONS</u>					
(cumulative):	N/A	N/A	N/A	N/A	N/A
 NOTE: This fiscal note relies on numerous assumptions that could result in the actual fiscal impact differing significantly from the numbers in the table above. Please see Assumptions & Methodology for likely ranges of fiscal impact.					
 PRINCIPAL DEPARTMENT(S) & PROGRAM(S) AFFECTED: North Carolina Department of Revenue, North Carolina Department of Public Instruction, Local Public Schools					
 EFFECTIVE DATE: This bill is effective for taxable years beginning January 1, 2011, and applies to semesters beginning on or after July 1, 2011. Certain changes to tax credit eligibility become effective January 1, 2016, and apply to semesters beginning on or after July 1, 2016.					

BILL SUMMARY:

The legislation creates a new tax credit for parents of children who choose to educate those children in a nonpublic school (including home schools). The credit amount is set at \$1,250 per semester, up to two semesters a year (a maximum of \$2,500 for a full academic or taxable year). The credit is refundable. For initial eligibility, the child must have been enrolled in and attended at least two semesters in a public school in the immediately preceding taxable year prior to first receiving the tax credit. The initial eligibility requirement is reduced to one semester beginning with the 2016-17 school year.

The taxpayer will not qualify for the tax credit for a given semester if the dependent child spends any time enrolled in a public school, spends any time as a full-time student at a postsecondary educational institution, or is 18-years old or older for the entire semester. The taxpayer will also not qualify if his or her taxable income exceeds the limits established in the table below:

Filing Status	North Carolina Taxable Income
Married, filing jointly	\$100,000
Head of Household	\$80,000
Single	\$60,000
Married, filing separately	\$50,000

The legislation also amends G.S. 115C-429(b) to allow local boards of county commissioners the discretion to appropriate up to \$1,000 per child for the educational expenses of resident children educated in nonpublic schools.

ASSUMPTIONS AND METHODOLOGY:

Evaluating the fiscal impact of this bill requires separate analyses examining how this bill would potentially affect enrollment at private schools and home schools. Because there is existing data on how a change in the price of private schools affects enrollment, it is possible to provide an educated estimate of how this bill will affect private school enrollment. Unfortunately, no such data exists for home schools, making that estimate much more difficult.

Students Leaving Public Schools for Private Schools

Estimating the fiscal impact of this bill for children leaving public school to attend private school requires the following variables:

1. Elasticity of demand for private education;
2. Estimated State and local taxes paid per eligible parent;
3. Projected average private school tuition costs in North Carolina;
4. Projected enrollment at North Carolina's private schools, absent the tax credit;
5. Projected expenditures (State and local) per student in North Carolina's public schools; and
6. Estimated number of public school children falling under the income thresholds.

1. *Elasticity of Demand for Private Education*

The elasticity of demand for private education versus public education answers the question: as the price for private schools goes down, how many students would be expected to leave public schools and enter private schools?

A review of the relevant economic literature indicates a range of 0.32¹ to 0.48.² An elasticity of 0.10 means that for every 10% decrease in the cost of private education, one would expect a 1% increase in the number of children attending private schools. Because there is a debate as to the proper elasticity, this analysis presents a range of results.

It is important to note that, in the calculation described above, “cost of private education” includes tuition as well as the taxes a parent pays for public education. These taxes get paid whether the parent uses public school or not, and are therefore part of the “cost of private education.”

2. Estimated State and Local Education Taxes Paid Per Eligible Parent

The estimated average State and local taxes for public education per household is \$3,930. This number is derived from estimates from the US Census Bureau using data from the 2007-08 fiscal year, adjusted by data in the Fiscal Research Division’s North Carolina Individual Income Tax Model. During the 2009-10 fiscal year, the average household paid \$10,622 in State and local taxes. Approximately 37% of General Fund revenues go towards public education. Therefore this analysis assumes that the average household pays \$3,930 (\$10,622 times 37%) for public schools. This figure is forecasted to increase at a rate of 1% per year over the time period of this analysis.

This amount is added to the tuition costs when determining the size of the discount for private school enrollment created by the tax credit.

3. Estimating Average Private School Tuition Costs in North Carolina

There are no organizations that comprehensively track current tuition prices in North Carolina. The most comprehensive source for national data is the US Department of Education’s National Center for Education Statistics.³ Their most recent data from the 2007-08 school year indicates that private school tuitions across the country averaged \$8,549 per year.

This analysis estimates that average private school tuition in North Carolina is \$7,694 for the 2011-12 school year. The average tuition charged in private schools in the 2007-08 school year was \$8,549. Given the economic downturn, it is unlikely that private school tuitions have risen since the 2007-08 school year. This number is then adjusted to account for North Carolina’s below-average cost of living. Analysis from the South Carolina Department of Commerce indicates that North Carolina’s cost of living is approximately 90% of the national average.⁴ Therefore, to estimate the private school tuition in North Carolina for the 2011-12 school year, this analysis multiplies \$8,549 by 90%. To estimate how tuitions will increase in

¹ David M. Brasington, “School Choice and the Flight to Private Schools: To What Extent Are Public and Private Schools Substitutes?” *Departmental Working Papers* 2006-04, Department of Economics, Louisiana State University.

² Barry Chiswick and Stella Koutroumanes, “An Econometric Analysis of the Demand for Private Schooling,” *Research in Labor Economics*, 15, pp. 209-237, 1996.

³ National Center for Education Statistics, *Digest of Education Statistics: 2009*, Table 59, March 2010. The appropriate table was found at: http://nces.ed.gov/programs/digest/d09/tables/dt09_059.asp.

⁴ Wang, Masoudie, and Gunnlaugsson, “Annual Cost of Living Index Applied to South Carolina Sub-State Areas,” South Carolina Department of Commerce – Division of Research, p. 3, January 2009. As found at: http://greenwoodpartnershipalliance.com/site/wp-content/themes/golden_essence_261/images/pdf/Cost%20of%20Living%20SCDOC2009.pdf.

future years, this analysis utilizes forecasted inflation numbers for Salaries & Wages from Moody's economy.com.⁵

4. Projected Enrollment at North Carolina's Private Schools

This analysis projects private school enrollments based on the actual enrollments over the last 5 years. The North Carolina Division of Non-Public Education does not project enrollment at North Carolina's private schools. This analysis projects private school enrollment based on the historic growth rate in private school enrollment from 2003-04 to 2009-10. Over this period, private school enrollment in North Carolina has grown at an average rate of 0.98% per year.⁶

5. Projected Expenditures per Student in North Carolina's Public Schools

For 2010-11, North Carolina appropriated \$5,006 per public school student, a number that has increased at an average annual rate of 3.2% since 1997-98. However, given the current budget outlook, it is unlikely that the State will experience such increases in per student funding over the time period covered by this fiscal analysis. During the prior recession (beginning with the 2001-02 school year), per student appropriations decreased. Per student appropriations did not return to the 2000-01 level until the 2005-06 school year. As such, this analysis assumes that expenditures per student in North Carolina public schools will remain flat.

State average local expenditure per child for operational expenses is \$1,931. Per the reasons above, this number is also anticipated to remain flat over the period covered in this fiscal analysis.

6. Number of School-Aged Children Meeting Income Threshold

Under normal circumstances, an elasticity of 0.10 would mean that for every 10% decrease in the cost of private education, you would expect a 1% increase in the number of children attending private schools. This relationship, however, assumes that the lower cost of private schools would be available to all public school students. Because of the income thresholds set forth in this bill, only a certain subset of public school students will be able to take advantage of the tax credit.

As a result of the income thresholds, it is necessary to discount the expected increase in private school enrollment. Consider the above example, where elasticity is still 0.10, but now only 50% of public school children are eligible for the tax credit. Under this situation, a 10% decrease in the cost of private education would be associated with a 0.5% increase. The new equation is as follows:

$$\% \text{ increase in private school enrollment} = \frac{\% \text{ change in private school costs}}{\text{times elasticity}} \times \text{times \% of children eligible for the tax credit}$$

Analysis using the Fiscal Research Division's North Carolina Individual Income Tax Model indicates that approximately 92% of school-aged children would be eligible for the tax credit established by this bill. As such, the elasticity is discounted by 8% when estimating increases in private school enrollment. The model uses 2009 estimates grown by North Carolina-

⁵ January 2011 projections found at: <http://www.economy.com/default.asp>.

⁶ Private School Statewide Statistical History as found at: <http://www.ncdnpe.org/documents/aaa104a.pdf>.

specific Moody's forecast factors. By comparing the total number of tax returns claiming a dependent child versus the subset whose North Carolina Taxable Income fell below the income thresholds set forth in this bill, it was determined that 92% of children claimed as dependents reside in families meeting the income thresholds set forth in this bill.

Estimating the Fiscal Impact of Increased Private School Enrollment

Applying all of the above figures related to potential transfers from public schools produces the following estimate of potential annualized costs/savings to State and local governments. The State experiences a loss in revenue for each tax credit granted. However, with a smaller public school population, State expenditures on public schools decrease.

It is important to note that State and local governments do not realize savings from reduced expenditures/enrollments until the 2012-13 school year. This delay is because allotted average daily membership (ADM) is based off of the higher of projected ADM or prior year actual ADM. Therefore, the reduced enrollment experienced in the 2011-12 school year will impact allotted ADM – and therefore State and local budgeting decisions – beginning with the 2012-13 school year.

Note that the maximum tax credit granted in April 2012 is \$1,250, reflecting those students moving out of public schools during the Fall 2011 semester.⁷ In future years, the full tax credit of \$2,500 per year is used.

⁷ For simplicity's sake, this analysis assumes that all taxes are filed, and credits granted, in April.

Estimated Fiscal Impact on State and LEAs - Increased Private School Enrollment

	2011-12*		2012-13		2013-14		2014-15		2015-16	
Inflation Rate	7.20%		8.87%		8.68%		6.64%		5.24%	
Avg. Private School Tuition	\$7,694		\$8,376		\$9,104		\$9,708		\$10,217	
Avg. Education Taxes Paid	\$4,009		\$4,049		\$4,090		\$4,131		\$4,172	
Total Cost of Private Education	\$11,703		\$12,426		\$13,193		\$13,839		\$14,389	
Tax Credit	(\$2,500)		(\$2,500)		(\$2,500)		(\$2,500)		(\$2,500)	
Net Avg. Private School Tuition	\$9,203		\$9,926		\$10,693		\$11,339		\$11,889	
Tuition Discount (percent)	21.36%		20.12%		18.95%		18.07%		17.37%	
Projected Private School Attendance	98,320		99,284		100,257		101,239		102,231	
Elasticity	0.32	0.48	0.32	0.48	0.32	0.48	0.32	0.48	0.32	0.48
Predicted % Change in Pvt. School Attendance	6.84%	10.25%	6.44%	9.66%	6.06%	9.10%	5.78%	8.67%	5.56%	8.34%
Discount for Income Eligibility	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%
Discount for Initial Eligibility Requirement**	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%	92.00%
Net % Change in Pvt. School Attendance	5.79%	8.68%	5.45%	8.17%	5.13%	7.70%	4.89%	7.34%	4.71%	7.06%
Revised Private School Enrollment	104,009	106,853	104,694	107,399	105,402	107,975	106,193	108,670	107,042	109,448
Tax Credits Granted	5,689	8,533	5,410	8,115	5,145	7,718	4,954	7,430	4,811	7,216
Value of Tax Credits Granted	(\$7,110,756)	(\$10,666,134)	(\$13,525,803)	(\$20,288,704)	(\$12,863,727)	(\$19,295,591)	(\$12,384,006)	(\$18,576,009)	(\$12,027,351)	(\$18,041,027)
Avg. Public School Exp. Per Child	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006
Reduced Public School Expenditures***	N/A	N/A	\$28,477,155	\$42,715,733	\$27,084,067	\$40,626,100	\$25,758,328	\$38,637,492	\$24,797,734	\$37,196,600
Net Fiscal Impact on State	(\$7,110,756)	(\$10,666,134)	\$14,951,353	\$22,427,029	\$14,220,339	\$21,330,509	\$13,374,322	\$20,061,483	\$12,770,382	\$19,155,574
LEA Exp. Per Eligible Student	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931
LEA Operational Savings***	N/A	N/A	\$10,984,696	\$16,477,044	\$10,447,330	\$15,670,995	\$9,935,943	\$14,903,915	\$9,565,406	\$14,348,109
Net Fiscal Impact on LEAs	\$0	\$0	\$10,984,696	\$16,477,044	\$10,447,330	\$15,670,995	\$9,935,943	\$14,903,915	\$9,565,406	\$14,348,109

*Maximum tax credit in FY11-12 is \$1,250. Maximum tax credit in all future years is \$2,500.

**Because initial eligibility requires at least 2 semesters of public school attendance in the prior year, the tax credit would not apply to kindergarteners. Kindergarteners account for approximately 8% of the student population, hence the 92% discount applied here.

***Because allotted ADM is based off of the higher of projected ADM or prior year actual ADM, savings from reduced expenditures are not realized until the 2012-13 school year.

Students Leaving Public School for Home School

It is much more difficult to estimate how these tax credits would impact the number of children who would transfer out of public school to become home schooled. Most notably, a literature review was unable to uncover estimates of the elasticity of demand for home schooling. As such, this analysis presents a wide range for the estimated fiscal impact resulting from children transferring from public school to home school.

Because there are no elasticity estimates off of which to base projections, estimating the fiscal impact for home school students requires estimates of the following variables:

1. Estimated increase in home school enrollment;
2. Projected home school enrollment, absent the tax credit; and
3. Projected expenditures (State and local) per student in North Carolina's public schools

1. Estimated Increase in Home School Enrollment

As mentioned above, there are no available estimates for the elasticity of demand for home schools. Therefore, it is difficult to make an educated guess as to how this bill would impact home school enrollment. This analysis therefore presents a wide range of results, assessing the fiscal impact of increases in home school enrollment from 3.0% to 7.5%.

2. Projected Enrollment at North Carolina's Home Schools

Enrollment in home schools has grown substantially over the last decade, increasing from 46,909 students in 2001-02 to 81,509 students in 2009-10.⁸ Over this same period, the rate of increase has been falling. The annual increase from 2000-01 to 2001-02 was 39%. The annual increase from 2008-09 to 2009-10 was under 6%. While the rate of increase in home school enrollment is clearly trending downwards, it is difficult to project home school enrollment in future years. This analysis assumes that, absent the tax credit created by this bill, home school enrollment would increase at a rate of 3% per year.

3. Projected Expenditures per Student in Public Schools

For the reasons explained in the prior section this analysis estimates that State expenditures per student at \$5,006 and local expenditures at \$1,931.

Estimating the Fiscal Impact of Increased Home School Enrollment

Applying the above figures related to potential transfers from public schools into home schools produces the following estimate of potential annualized costs/savings to State and local governments. As with the analysis for private schools, the State experiences a loss in revenue for each tax credit granted. However, with a smaller public school population, State expenditures on public schools decrease. Timing issues affecting 2011-12 tax credit size and realization of savings remain.

⁸ Home School Statewide Statistical History as found at: <http://www.ncdnpe.org/documents/hhh201.pdf>.

Estimated Fiscal Impact on State and LEAs - Increased Home School Enrollment

	2011-12*		2012-13		2013-14		2014-15		2015-16	
Projected Home School Attendance	86,473		89,067		91,739		94,491		97,326	
Range of Enrollment Increases	3.0%	7.5%	3.0%	7.5%	3.0%	7.5%	3.0%	7.5%	3.0%	7.5%
Revised Home School Enrollment	89,067	92,958	91,739	95,747	94,491	98,620	97,326	101,578	100,246	104,625
Tax Credits Granted	2,594	6,485	2,672	6,680	2,752	6,880	2,835	7,087	2,920	7,299
Value of Tax Credits Granted	(\$3,242,734)	(\$8,106,834)	(\$6,680,031)	(\$16,700,078)	(\$6,880,432)	(\$17,201,081)	(\$7,086,845)	(\$17,717,113)	(\$7,299,451)	(\$18,248,627)
Avg. Public School Exp. Per Child	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006
Reduced Public School Expenditures**	N/A	N/A	\$12,986,500	\$32,466,250	\$13,376,095	\$33,440,237	\$13,777,378	\$34,443,444	\$14,190,699	\$35,476,748
Net Fiscal Impact on State	(\$3,242,734)	(\$8,106,834)	\$6,306,468	\$15,766,171	\$6,495,663	\$16,239,156	\$6,690,532	\$16,726,331	\$6,891,248	\$17,228,121
LEA Exp. Per Eligible Student	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931
LEA Operational Savings**	N/A	N/A	\$5,009,375	\$12,523,437	\$5,159,656	\$12,899,141	\$5,314,446	\$13,286,115	\$5,473,879	\$13,684,698
Net Fiscal Impact on LEAs	\$0	\$0	\$5,009,375	\$12,523,437	\$5,159,656	\$12,899,141	\$5,314,446	\$13,286,115	\$5,473,879	\$13,684,698

*Maximum tax credit in FY11-12 is \$1,250. Maximum tax credit in all future years is \$2,500.

**Because allotted ADM is based off of the higher of projected ADM or prior year actual ADM, savings from reduced expenditures are not realized until the 2012-13 school year.

Estimated Fiscal Impact on State and LEAs - Total Estimated Impact

	2011-12*		2012-13		2013-14		2014-15		2015-16	
Range of Enrollment Increases	Low	High	Low	High	Low	High	Low	High	Low	High
Tax Credits Granted	8,283	15,018	8,082	14,796	7,898	14,599	7,788	14,517	7,731	14,516
Value of Tax Credits Granted	(\$10,353,490)	(\$18,772,968)	(\$20,205,834)	(\$36,988,782)	(\$19,744,160)	(\$36,496,672)	(\$19,470,851)	(\$36,293,122)	(\$19,326,802)	(\$36,289,653)
Avg. Public School Exp. Per Child	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006	\$5,006
Reduced Public School Expenditures**	N/A	N/A	\$41,463,655	\$75,181,983	\$40,460,162	\$74,066,337	\$39,535,706	\$73,080,936	\$38,988,433	\$72,673,348
Net Fiscal Impact on State	(\$10,353,490)	(\$18,772,968)	\$21,257,821	\$38,193,201	\$20,716,002	\$37,569,665	\$20,064,854	\$36,787,814	\$19,661,631	\$36,383,694
LEA Exp. Per Eligible Student	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931	\$1,931
LEA Operational Savings**	N/A	N/A	\$15,994,071	\$29,000,481	\$15,606,986	\$28,570,135	\$15,250,389	\$28,190,029	\$15,039,285	\$28,032,808
Net Fiscal Impact on LEAs	N/A	N/A	\$15,994,071	\$29,000,481	\$15,606,986	\$28,570,135	\$15,250,389	\$28,190,029	\$15,039,285	\$28,032,808

*Maximum tax credit in FY11-12 is \$1,250. Maximum tax credit in all future years is \$2,500.

**Because allotted ADM is based off of the higher of projected ADM or prior year actual ADM, savings from reduced expenditures are not realized until the 2012-13 school year.

TECHNICAL CONSIDERATIONS:

There are many technical considerations that should be considered as this fiscal note is based on a number of assumptions. The fiscal impact presented here is an estimate, and any number of factors could move the fiscal impact up or down significantly.

Estimated Elasticities

The existing research on the elasticity of demand for private education is not terribly robust. To the extent that actual elasticity is lower or higher, one would expect savings to be lower or higher.

Private School Capacity to Absorb Additional Students

There is no data on the available capacity in private schools to absorb additional students. It is possible that capacity issues would prevent private school enrollment to rise in the manner predicted by this analysis. To the extent that capacity issues would constrain enrollment, the analysis will overstate the savings created by this bill.

Enrollment Shifts to Attain Eligibility

It is possible, but unlikely, that some parents of potentially eligible children who have never attended public schools would enroll their children in public schools for the required two semesters in order to then be able to avail themselves of the credit in a subsequent year. It seems unlikely, however, that a significant number of parents who have already made a decision not to send their children to public schools would make this choice, even in the face of potential financial gain. The analysis therefore assumes that any costs associated with this group of children will be negligible. To the extent that this assumption is incorrect, the analysis will understate total cost and overstate total savings created by the bill.

SOURCES OF DATA:

- North Carolina Department of Public Instruction (DPI)
- David M. Brasington, "School Choice and the Flight to Private Schools: To What Extent Are Public and Private Schools Substitutes?" Departmental Working Papers 2006-04, Department of Economics, Louisiana State University
- Barry Chiswick and Stella Koutroumanes, "An Econometric Analysis of the Demand for Private Schooling," *Research in Labor Economics*, 15, pp. 209-237
- National Center for Education Statistics, *Digest of Education Statistics: 2009*, March 2010
- Wang, Masoudie, and Gunnlaugsson, "Annual Cost of Living Index Applied to South Carolina Sub-State Areas," South Carolina Department of Commerce – Division of Research, p. 3, January 2009.
- Economy.com, January 2011.
- North Carolina Division of Non-Public Education
- The Fiscal Research Division's North Carolina Individual Income Tax Model

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DATE: April 13, 2011



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