

AN EVALUATION OF VERMONT'S EDUCATION FINANCE SYSTEM

EXECUTIVE SUMMARY



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Working Draft

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January 4, 2012

Stephen Klein
Vermont Joint Fiscal Office
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Dear Steve:

Please find attached a preliminary draft of our final report as part of our evaluation of Vermont's education finance system. We have revised our initial draft based on the comments we received from your office, the Vermont Department of Taxes and the Vermont Department of Education. It is our understanding that this document will be made available for public review and comment including my conference calls with Legislative Committees on January 4 and two public hearings in Vermont on January 9. We will then revise this document as necessary for final submission by January 18.

The intent of this document is to provide you with our findings and to give Vermont's education stakeholders the opportunity to review and comment on those findings.

Our overall finding from this study is that the Vermont school funding system is working well and meeting the goals established in Acts 60 and 68. Using a series of objective measures, we find:

- Vermont's schools benefit from among the highest levels of per pupil spending in the United States
- The state has designed an equitable system. We found virtually no relationship between wealth (measured by both district property wealth and personal income) and spending levels
- Disparities in per pupil spending across districts meet or nearly meet well established benchmark standards for school finance equity

- The “tax price” or cost per additional dollar of education spending drives a relatively small amount of the differences in per pupil spending suggesting that the income adjustments to homestead property taxes have not led to large resource disparities
- Spending levels continue to be determined annually by each town’s voters
- Vermont’s student performance ranks among the highest in the country, although compared to other New England states, student performance is about average
- An in depth study of five schools that have shown substantial improvements in student performance over the last five years shows that Vermont schools, even those with high proportions of low income children, can produce large gains in student learning. The case studies also identified a number of promising practices for improving student performance

In the course of our work, including a series of public hearings, a number of concerns with the way schools are funded were identified. These represent genuine issues that impact the resources available to schools and the ability of Vermont citizens to pay for those schools. However, it is our strong view that none of those issues are so serious that the state needs to completely replace its approach to funding schools – rather each needs serious and careful consideration by the Legislature, which should consider modifications to those components of the system that create these issues. It is our sense that most of the individuals who shared their views and concerns with us at the public hearings concur that the overall system is working well and the needed changes can be made within the existing framework.

The need to make minor modifications to the system should not be seen as surprising, it is impossible to develop something as complex as a school finance system that spends over \$1.3 billion to meet the needs of some 87,000 children and meets the concerns of everyone. Moreover, school finance systems need to be flexible enough to accommodate changes in local economic conditions that cannot be predicted when the systems are initially designed. Our view is that Vermont’s system can accommodate the needs of today’s economy and continue to meet the standards established in Acts 60 and 68 provided the Legislature continues to monitor its many components and makes adjustments as circumstances warrant.

We have not made recommendations regarding tax rates, spending levels, or the distribution of tax efforts across individuals and classes of property. Those are, in our view, policy decisions that rest with the Vermont Legislature and the citizens of your state.

We want to thank you, your staff, and the staffs of the Vermont Department of Education and the Vermont Department of Taxes for their help in collecting and helping us to understand the tremendous amount of data available and necessary for our study. While we have vast experience in working with state agencies across the United States, it is

unusual to find such a consistently high level of staff capability uniformly across so many state agencies and at so many different levels. All of the members of our team have enjoyed the opportunity to work with Vermont state agency staffers. Moreover, we appreciate the time and energy representatives of individual school districts and supervisory unions as well as education support groups have provided us throughout this work.

We hope our findings will be useful to the Legislature in its future deliberations on the important issue of education finance, and look forward to the opportunity to work with you again in the future.

Sincerely,

A handwritten signature in black ink that reads "Lawrence O. Picus". The signature is written in a cursive style with a large, stylized initial 'L'.

Lawrence O. Picus
Lawrence O. Picus and Associates

CONTENTS

Letter of Transmittal	ii
Executive Summary	viii
1. Introduction	1
2. Vermont's School Funding System	5
3. Interstate Comparisons	13
4. Equity Analysis	33
5. Economic Analysis	55
6. Common Themes in Vermont's Significantly Improving Schools	71
7. Public Testimony	81
8. Conclusions and Issues for Further Consideration	87
References	93
Appendix 1: 50 State Data Tables	97
Appendix 2: Equity Analysis Tables	107
Appendix 3: Summary of Tax Prices by School District	111
Appendix 4: Definitions of Pupil Counts	127
Appendix 5: School Case Studies	129

AN EVALUATION OF VERMONT'S EDUCATION FINANCING SYSTEM

EXECUTIVE SUMMARY

This report, submitted to the Vermont Legislature, provides a comprehensive evaluation of Vermont's education funding system. The study was conducted pursuant to House Bill No. 436 of the 2011 session of the Vermont Legislature, and was conducted by Lawrence O. Picus and Associates, LLC. The findings described in this report are based on work conducted by our team between August and December 2011 and provide a comprehensive analysis of the financing of Vermont's public PK-12 schools, describing the extent to which the funding system meets the goals established by Acts 60 and 68 – the two major pieces of legislation that establish the current funding model.

Our overall finding is that the current funding system meets the goals established by the Court and Acts 60 and 68. The system established through that legislation provides that each town determines the budget for its schools on an annual basis and, through a combination of residential and non-residential property taxes and other state sources of revenue, funds those schools so that each town has access to the same level of funding for a given tax rate. Moreover, the design and operation of the system has resulted in relatively little disparity in per pupil education spending related to property wealth and household income, created substantial equality in the level of per pupil spending across the state's 277 school districts, and has reduced the variation in student achievement in reading and mathematics across schools, as measured by NECAP tests. One result of these reforms is that today, Vermont's school children enjoy one of the highest levels of per pupil funding in the United States, as well as one of the lowest ratios of pupils to teachers among the 50 states.

This analysis was conducted by a team of five school finance experts under the auspices of Lawrence O. Picus and Associates. As part of this study, we communicated extensively with Vermont education officials at the state and local level, as well as with other state officials responsible for administration of parts of what is a very complex funding system. We used traditional school finance and economic analytic techniques to develop our findings, and frequently interacted with state officials to ensure the accuracy of our data. We conducted extensive case studies of five improving schools across the state and developed a comprehensive comparison of Vermont's current education system with the education systems in the five other New England states as well as with all 50 states more generally. We held two public hearings in Vermont where representatives of local school districts and the general public had the opportunity to share their thoughts and concerns about Vermont schools. Finally, we met with a number of Legislative Committees to share our progress and to understand their concerns about the funding system.

Our reports contains detailed sections that describe the state’s school funding system; offers a series of interstate comparisons with all 50 states in general and with New England states more specifically; describes the findings from a traditional school finance equity analysis within the unique funding system in Vermont; conducts an economic analysis of the impact of the current system on town education spending decisions; identifies common themes in Vermont’s significantly improving schools; summarizes the testimony received at two public hearings, and offers conclusions and a list of issues the state may want to consider as it reviews the education funding system in the future. Our overall findings for each of these sections are summarized below.

VERMONT’S SCHOOL FUNDING SYSTEM

In fiscal year 2012 (FY 2012) Vermont will spend an estimated \$1.353 billion to educate approximately 85,000 students in 307 schools operated by 277 districts through 46 supervisory unions, 12 supervisory districts, and 2 interstate districts. This spending amounts to approximately \$17,000 per pupil. Vermont’s system for allocating revenue to school districts is unique among the 50 states in that local towns and districts annually determine the spending level for their schools, and the state – through a complex system of property and income taxes and other state sources of revenue – funds the schools in a manner designed to treat taxpayers choosing the same level of spending for the students in their schools equally regardless of their location across the state.

It is important to point out at this juncture that many Vermont policy makers, stakeholders and citizens view the State’s funding system under Acts 60 and 68 as an income tax based system that raises money through income sensitive adjustments to property taxes. However, documents and legislation describing the system describe it more in terms of a property tax based system with adjustments for income. Moreover, all other states – with the exception of Hawaii, which is a state, funded system – view their education finance systems through a property tax lens. Consequently, the substantial school finance literature upon which we rely in this evaluation, combined with the property tax based description of Vermont’s system have led us to describe the system from the perspective of the property tax and income based adjustments to that tax. While this may run counter common views of Vermont’s system, this approach is, in our view, the only way to comprehensively evaluate the performance of the system within the context of the goals of Acts 60 and 68.

The funding system in use today emerged in response to the 1997 Vermont Supreme Court ruling in *Brigham v. State* and was implemented through Act 60 in 1997 and Act 68 in 2004. The funding system in Vermont is a unique blend of local control and equalized state funding. While each town chooses the level of education spending for its schools annually, the revenue for education comes from a number of state sources. Primary among them is over \$900 million in residential (with adjustments) and non-residential property taxes, all of which are treated as state revenues. In addition, funds for education come from the state’s general fund, one-third of the sales and use tax

receipts, one third of the state's purchase and use tax, the state lottery, Medicaid reimbursements and the Vermont Yankee power plant.

The non-residential property tax rate is set by the Legislature annually. In addition, the Legislature establishes a base per pupil spending level and a residential property tax rate to fund that level of spending. The property tax rate for towns choosing to spend above that level increases proportionally with the increase in per-pupil spending above the base level. However, individual property taxes are limited to a legislatively determined percentage of household income for taxpayers with incomes below \$97,000. The income percentage is similarly increased proportionally for per-pupil spending above the base amount. Finally, for towns that elect to spend a per-pupil amount that exceeds 125% of the state average per pupil expenditure from the previous year, the property tax rates and income adjustment tax percentages double for the portion above that level. Property tax rates (residential and non-residential) are also adjusted by the common level of appraisal (CLA), which is designed to equalize assessment practices across the state and ensure properties with the same market value are treated equally regardless of where they are located. For FY 2012 the rate is \$1.36 per \$100 of fair market value, and the base homestead tax rate is \$0.87 per \$100 for districts spending at or below the base level.

INTERSTATE COMPARISONS

An analysis of education finance systems in the United States and New England identified the following comparisons with Vermont:

Educational Expenditures

- State and local per pupil expenditures for PK-12 education increased by almost 83.7% between FY 2001 and FY 2011 (NEA Rankings and Estimates, 2011)
- This increase is due in part to declining enrollments, and in part to substantial increases in state education revenues
- Vermont maintained a continued commitment to education funding as measured through both the state's relative tax effort (highest in the nation) and the percentage of state resources devoted to K-12 schools (6th highest)

Student Population

- Vermont has experienced the second greatest percentage decrease in student population (18.1%) over the time frame of the study. Only North Dakota has had a greater decline
- Average school district size has dwindled to 299 students – making the state's school districts the smallest in the nation with an average enrollment that is less than 10% of the size of the average school district in the United States.

Staffing

- Vermont has seen an increase in the number of new teachers, administrators and support staff

- When combined with the decline in student enrollments the result is that Vermont has the lowest teacher to student and staff to student ratios in the country
 - In Vermont from 1999-2000 to 2009-10 the number of full-time equivalent (FTE) teaching positions increased by 250, or 3.1%.
 - Nationally the number of teachers increased by 10.3% and in the New England states they increased by 12.7%.
 - Vermont's increase in teaching positions (3.1%) combined with the decrease in the state's K-12 population (18.1%) led to a reduction in the student to teacher ratio from 12.3 to 1 to 10.6 to 1 in 2009-10 (NEA, 2011).
- The reduced teacher and staff to student ratios are a major cause of the state's increases in per pupil expenditures
- **Student Achievement**
 - Vermont's scores on the National Assessment of Educational Progress (NAEP) continually rank among the top ten in the nation
 - While there have been slight increases in NAEP math and reading scores for 4th and 8th grade students, the increases are less than the national average increase in these scores, and also lower than improvements observed in other New England states over this time period
 - Student performance on most aspects of the New England Common Assessment Program (NECAP) has only modestly increased.
 - The state has observed a steady increase in high school graduation rates

EQUITY ANALYSIS

We conducted a traditional school finance equity analysis over the time frame in which Acts 60 and 68 were in effect. We found that the Vermont school funding system has achieved a high degree of equity, even though it did not meet every standard equity benchmark established in the school finance literature, all of which are quite rigorous and rarely met by any of the 50 states. Acts 60 and 68 focused on achieving a high degree of fiscal neutrality – reducing the linkage between disparities in per pupil spending and local fiscal capacity – and have met that goal.

Our analysis focused on four main issues: the extent to which education spending is related to property and/or income wealth, the equality of education spending across districts and towns, the changes in education spending over time, and the disparity in education outcomes. We found that spending in Vermont has tended to be weakly related to wealth (at an acceptable degree under standard school finance equity benchmarks) and that there is virtually no relationship between property wealth and spending in the earliest years covered in this study. In technical language, we find that the Vermont school funding system is fiscally neutral.

Measures of the equality of spending in Vermont remained consistent over the years covered in the study. The funding system did not meet the accepted benchmarks of

equality, but came very close throughout the period of study. We also found that the state currently spends 87% more per pupil on PK-12 education today than it did in the year 2000, with the greatest increases coming in support services for students.

Using a combined NECAP measure of both reading and math performance across grades 3-8, we also found that the disparity in student outcomes also declined over the time period the NECAP test has been used.

ECONOMIC ANALYSIS

An important consequence of Act 60 and Act 68 has been its impact on educational spending. These Acts revamped the educational finance system in Vermont, and changed the incentives facing taxpayers. We conducted an economic analysis of these factors and found:

- Act 60 and Act 68 altered the linkage between taxpayer benefits and costs of education by shifting from a shared state and locally funded system to a state centered system.
- Prior to Act 60 local jurisdictions were largely responsible for raising education funds above the state determined foundation level. Subsequently, local responsibility was diluted by the shift of non-residential property tax collections to the state level – along with establishment of the non-residential property tax rate – and by the separation of local budget setting and state revenue collection.
- Vermont has moved increasingly to an income-based system, with over 2/3 of residential taxpayer liability at least partially determined through income adjustments and the circuit breaker program. In FY 2011 it is estimated that over \$165 million in residential property tax collections will be replaced by income related tax adjustments.¹
- The consequence of these policy shifts has been to reduce the average marginal price of an additional dollar of per pupil educational services by approximately 70% since prior to Act 60. In other words, on average, towns that want to increase education spending must raise only 30 cents locally, with the remainder covered by other revenue sources.
- In the most recent time period we have data for, FY 2008 – 2010, changes in the marginal price of an additional dollar of per pupil educational services has been more modest, averaging approximately 3% statewide. However, the statewide average masks the experience of individual towns, some of which faced much different price changes.

¹ As noted above, many Vermont stakeholders view the system as an income tax based system, not a property tax based system.

- In line with economic theory, we would expect changes in price to have an impact on the level of demand for educational services. In fact, towns that experienced price declines increased their educational spending by \$550 more per ADM than towns that experienced price increases. The differences were even greater for those towns that experienced the 10% largest and 10% smallest price changes, a difference of \$1,248 per ADM.
- The change in tax price² has an independent effect on school spending, even after we have controlled for other determinants of school spending.
- We find that the price elasticity of demand for educational services is -0.072 in small towns and -0.028 in large towns. This implies that school spending is 2-5% higher than it otherwise would be in the absence of the 70% change in tax price.
- School enrollments have a powerful effect on per pupil spending. The historical decline in Vermont enrollments have driven up the cost of education. A 10% decline in student enrollments is estimated to have a \$1,500 increase in spending per ADM.

COMMON THEMES IN VERMONT'S SIGNIFICANTLY IMPROVING SCHOOLS

We conducted case studies of five schools that had significantly improved student performance over the past several years. These were not necessarily the highest scoring schools, but rather schools that had made large gains in the NECAP reading and math tests between 2005 and 2010. The goal of these cases was to understand strategies schools used to boost student learning, and over time, the resource needs of those strategies. This information can serve as a beginning step towards forming a closer connection between the state funding formula, school use of resources and student performance. Among the key themes that emerged from this study are:

- Our findings align with recent other studies of effective schools in Vermont, including *Roots of Success* (2009) and *Vermont Schools Closing Achievement Gap* (2011)
- The strategies we identified in our five case studies align with national studies of schools that have significantly improved student learning, including studies we have conducted in other states (Odden, 2009; Odden & Archibald, 2009).
- We identified 11 common themes that were in place across the five schools, and note that several of the 11 elements represent significant augmentations of the findings

² As used in this document, tax price refers to the town's average marginal cost of each additional dollar spent for schools. We compare the increased tax liability of local residential taxpayers to the cost of raising school spending \$1 per pupil to arrive at the "tax price."

from recent Vermont studies of improving schools (*Roots of Success* and *Vermont Schools Closing the Achievement Gap*). The 11 themes are:

1. Talent
2. High expectations
3. Ambitious goals
4. Curriculum
5. Instruction
6. Use of data
7. Multiple interventions
8. School schedule
9. Professional culture
10. Leadership
11. Small class sizes.

- A key in the five schools we studied was the knowledge and skill of the staff to implement the various strategies effectively.
- Not every school was strong on all of the eleven elements, but all were strong on most of them.

In addition, an appendix to our report provides detailed case studies describing how each of the five schools achieved their significant improvements in student achievement.

PUBLIC HEARINGS

We conducted a series of public hearings to identify concerns and suggestions from the public regarding the State's school finance system. A number of concerns and issues were identified, some pertaining to the school funding and taxation system and others to the performance of the state's schools. However, it is our sense that the problems identified are not of a magnitude that would require establishing a new or alternative funding system, but rather are the kinds of issues that develop overtime in any school funding system and require thoughtful research and development of policy options that can resolve specific issues in the framework of a generally successful system.

The need to make minor modifications to the system should not be seen as surprising, it is impossible to develop something as complex as a school finance system that spends over \$1.3 billion to meet the needs of some 87,000 children that meets the concerns of everyone. Moreover, school finance systems need to be flexible enough to accommodate changes in local economic conditions that could not be predicted when initially designed. Our view is that Vermont's system can accommodate the needs of today's economy and continue to meet the standards established in Acts 60 and 68 provided the Legislature continues to monitor its many components and makes adjustments as circumstances warrant.

CONCLUSIONS AND ISSUES FOR FURTHER CONSIDERATION

Our overall finding from this study is that the Vermont school funding system is working well and meeting the goals established in Acts 60 and 68. Using a series of objective measures, we find that Vermont's schools benefit from among the highest levels of per pupil spending in the United States. We also found that the state has designed an equitable system with limited disparities in per pupil spending, and virtually no relationship between wealth (measured by either district property wealth and personal income) even though spending levels are determined annually by each town.

Further, Vermont's student performance compares favorably with the nation overall, although compared to other New England states, student performance is about average. Because of concerns about how well Vermont students do compared not only to others in New England and the United States, but also to the performance of students in other countries, we also conducted in depth studies of five schools that have shown substantial improvements in student outcomes in the last five years. Our findings from these schools identified a number of promising practices for improving student performance and found that they can be implemented with the level of funding available to school districts today.

Through a series of public hearings, a number of concerns with the way schools are funded were identified. These represent genuine issues that impact the resources available to schools and the ability of Vermont citizens to pay for those schools. However, it is our strong view that none of those issues are so serious that the state needs to completely replace its approach to funding schools – rather each needs serious and careful consideration by the Legislature who should consider modifications to those components of the system that create these issues. It is our sense that most of the individuals who shared their views and concerns with us at the public hearings concur that the overall system is working well and the needed changes can be made within the existing framework. The issues we identified include:

- Consideration of the income adjustment cut off \$90,000 for full adjustments and the “slide” to \$97,000 for partial income adjustments. We heard a great deal of discussion over the appropriate level for the income adjustment as well as concern over the limited differential between the level for a full adjustment and the complete cutoff of adjustment support. Our sense is there are substantial income distribution implications for various decisions about the level of household income qualifying for the adjustment and the differential between the full level of adjustment and the elimination of adjustment.
- There was concern expressed about the \$500,000 cap on homesite property value to qualify for the income adjustment. A number of individuals felt that an increasing share of Vermonters with fixed incomes were suddenly faced with dramatic (and potentially unaffordable) increases in property taxes as a result of

where they live. Before taking action on this, our view is a clear understanding of how many individuals are impacted by this is needed, and a careful analysis should be conducted about the range of solutions available before the system is changed.

- One of the potential sources of high per pupil spending in Vermont is the limited “price” of increased spending to the average town voter. While our estimates of the price elasticity are low, it seems likely that over time, local voting on school budgets has been one of the reasons for Vermont’s rapid increase in per-pupil spending. Efforts to reduce the growth in future spending need to consider the tradeoffs between local control over annual budgets and more state control over how much towns can spend for education.
- One potential source of Vermont’s high spending is the large number of very small schools – average school district size is the lowest in the nation by a substantial amount. Tradeoffs between local and state control over school district size are also an issue. Strong consideration should be given to the role of supervisory unions (either through state mandates or more market based solutions) as part of the discussion on these dis-economies of scale.
- There was concern that despite Vermont’s highest in the region per pupil expenditures, student performance was only average in New England. Research on the linkage between spending and student outcomes has not found direct and consistent relationships between the two. We note that Wyoming, with the 4th highest per pupil spending in the United States (Vermont is 3rd) has even lower student performance. On the other hand we did find schools that had dramatically improved student outcomes during the past five years, and they deployed strategies that other Vermont schools also could deploy.
- Finally, to facilitate future studies of this nature, we recommend that state databases contain a common identity variable for each district to facilitate merging data from different state agencies. Additionally, education data bases should be designed so that it is feasible to cross link between the three main levels of local school funding, supervisory union, district, and town. There are some straightforward analyses that we could not do because the three levels could not be linked.

