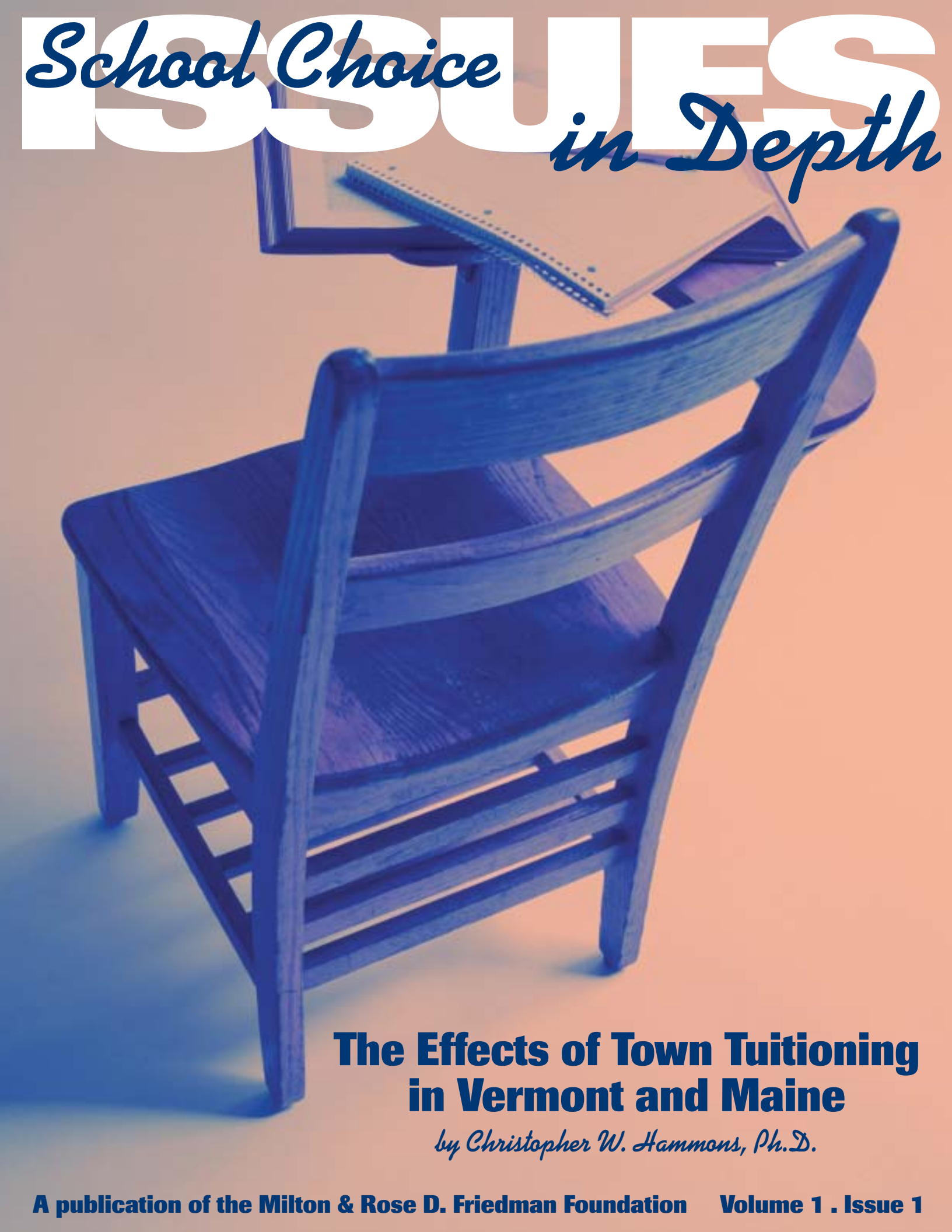
School Choice ISSUES in Depth



The Effects of Town Tuitioning in Vermont and Maine

by Christopher W. Hammons, Ph.D.

A publication of the Milton & Rose D. Friedman Foundation Volume 1 . Issue 1

About the Author

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Acknowledgements

The author would like to acknowledge the many people who provided invaluable assistance with this project. In particular Jay Greene from the Manhattan Institute, Libby Sternberg for her insight into the educational system of Vermont, and the staff at the Departments of Education in both Maine and Vermont for help with data collection, mapping, and enrollment information.

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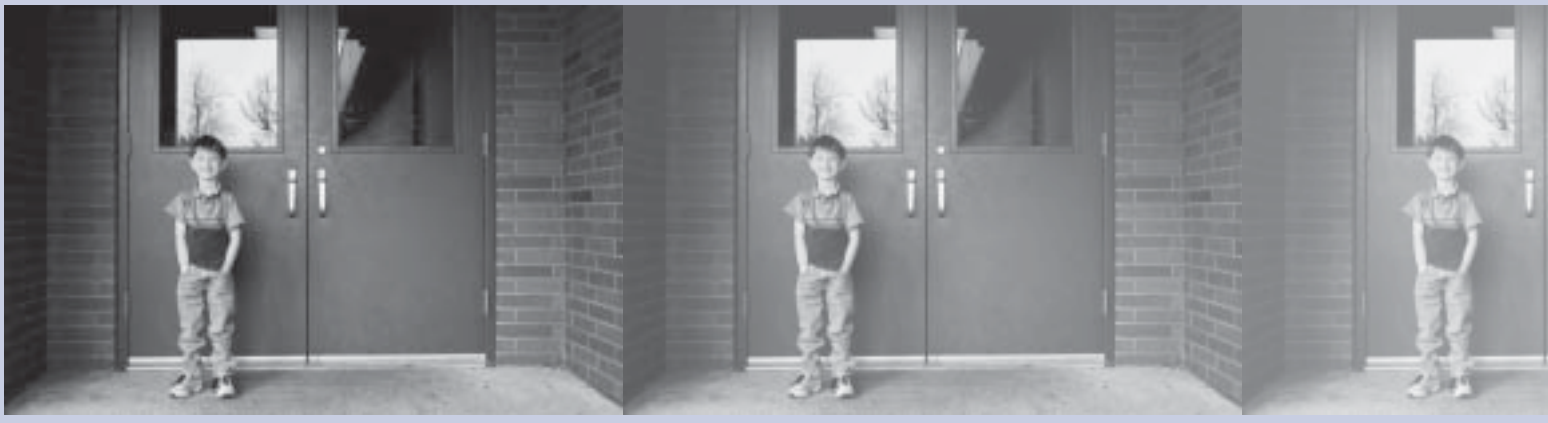
Executive Summary

If students are thought of as education customers seeking to spend their dollars in the local education market, what effect does this have on potential suppliers of education such as public and private schools? Advocates of school choice have long maintained that competition for students forces all schools to improve their programs to attract more money. We test this assertion, looking specifically at the states of Maine and Vermont.

To provide educational opportunities for its children, many of whom live in rural and non-urban areas, Vermont and Maine long ago instituted a practice known as "town tuitioning." The practice allows parents living in districts that do not own and operate elementary or secondary schools to send their children to public or non-sectarian private schools in other areas of the state, or even outside the state, using funds provided by the child's home district. **The practice has been in effect since 1869 in Vermont and 1873 in Maine, meaning that voucher programs have existed in the United States for over 100 years but are often adapted to reflect local needs.**

Our investigation of the town tuitioning process in Maine and Vermont yields three specific conclusions.

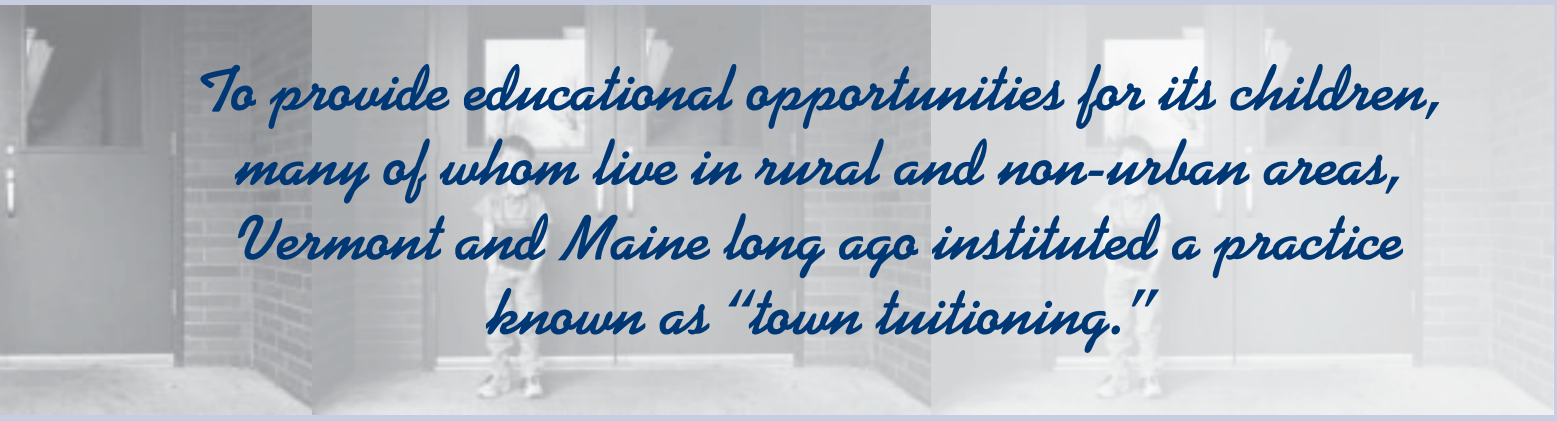
First, schools perform better in a choice environment. In a choice environment, schools have a strong incentive and desire to improve their performance to attract more students and



with them valuable tuition dollars. Our analysis shows that schools that have higher standardized test scores attract more tuition money from parents. We interpret the positive relationship between tuition money and test scores as compelling evidence that schools are willing to work harder when competing with each other for tuition dollars. To test this idea further, we looked at each high school in Vermont and Maine and found that test scores were highest in areas with a greater concentration of tuition towns and high schools. That is, test scores were higher in areas with the greatest possible competition and lower in areas with little or no competition for tuition dollars.

Second, the benefits of competition among schools are not limited to any particular demographic group. While there is not much racial diversity in Maine and Vermont (both states are over 95% white) our analysis indicates that the benefits of choice cut across existing socio-economic differences. Schools that are closer to tuition towns — whether affluent or poor, rural or urban — have higher standardized test scores than schools that are more distant from tuition towns. Our model indicates that if a town one mile away from a school decided to tuition its students, we would expect that the percentage of students passing the state test at that school would increase by 3.4 points — a gain of 12 percent over existing scores — regardless of the demographics of the school. To this end, higher tests scores might be achieved by expanding school choice to towns that do not currently have it, increasing the incentives for nearby schools to attract tuition dollars.

The third specific conclusion of our investigation is that there is a financial benefit to school choice that extends beyond school performance. The effects of competition, when measured in dollars, illustrate that a significant amount of money would be required to achieve the same effects that occur in a choice environment as a result of competition. To buy the same 3.4 point gain in test scores mentioned above would require Maine and Vermont to increase current per-pupil spending by an average increase of $909 per student. Given the tremendous amount of money already spent on education, an additional $909 for every student in Maine and Vermont would cost the states roughly $300 million dollars a year extra in combined spending. Hence, existing voucher programs provide a substantial economic benefit to both states with minimal costs, in essence providing a greater return on current education spending.



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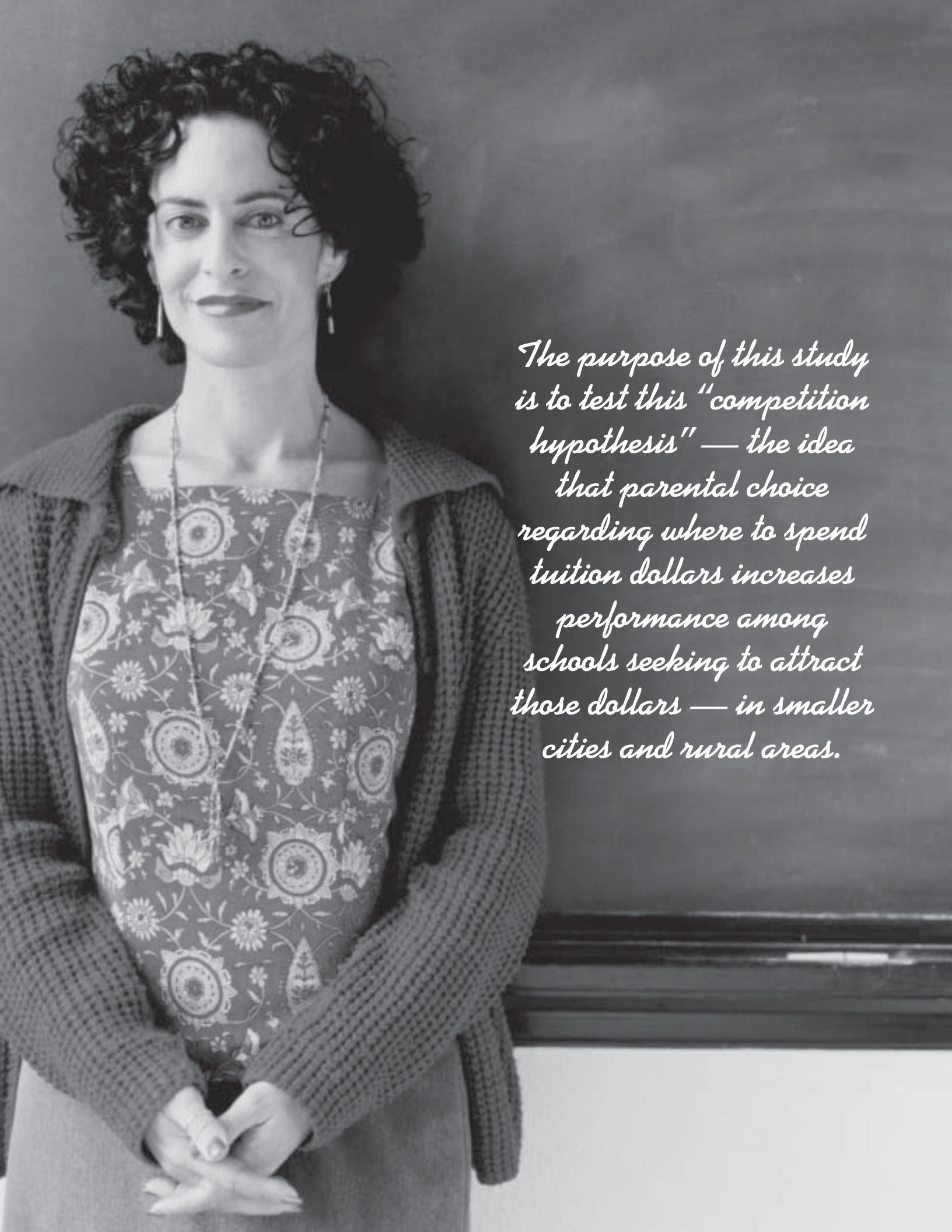


The purpose of this study is to test this "competition hypothesis" — the idea that parental choice regarding where to spend tuition dollars increases performance among schools seeking to attract those dollars — in smaller cities and rural areas.

Introduction

Maine and Vermont both offer schools that outperform the national average. According to the National Center for Education Statistics, public schools in both Maine and Vermont score above average in reading, writing, math and science.[1] While critics point out that "above average" scores may still be too low given the relatively poor level of national achievement, it does indicate that these states are doing something right with regards to getting better than average results from their public schools and education dollars.

Part of the success in Maine and Vermont may stem from a tradition in both states that allows parents to choose where their children attend school. Both states allow parents to use public funds to send their children to public or non-sectarian private schools of their choice. Advocates contend that this voucher-like system creates an environment of competition where schools, seeking to attract tuition dollars from parents, work harder to improve test scores and other aspects of education. Critics of such programs often denounce them as ineffective, wasteful and exclusive.

While extensive research has been conducted on the effects of voucher type programs in large metropolitan areas (Howell, et. al. 2001, Greene 2001, Goldhaber 2001), very little effort has been made to examine the effect of vouchers outside of big cities. The purpose of this study is to test this "competition hypothesis" — the idea that parental choice regarding where to spend tuition dollars increases performance among schools seeking to attract those dollars — in smaller cities and rural areas. We focus on the states of Vermont and Maine because the rural nature and smaller cities of both states distinguishes them from many of the more urbanized areas that are too often the focus of voucher studies. In addition, both states offer a unique opportunity to examine the results of a voucher-type program that has been in effect for over 100 years.

We begin with a brief history of the town tuitioning process, explain how the process currently works and to what extent it is used, and end by assessing the effects of these programs on school and student performance. Our hope is that the analysis will provide an insightful examination of Vermont's and Maine's unique educational systems, clarify the extent to which these states have incorporated school choice, and examine the impact of competition among schools on parents, students and teachers in areas other than large cities.

The History and Impact of Town Tuitioning

A nationwide survey of America's public school system would reveal tremendous variation in how schools are organized. The simplest method of organization is through use of regional school districts, which build and operate their own schools. Many states with sizeable rural areas often face additional challenges that make traditional school districts less efficient. Fewer facilities, smaller populations and longer distances to town centers often necessitate creative solutions that are both fiscally efficient while still providing sufficient educational facilities to meet demand.

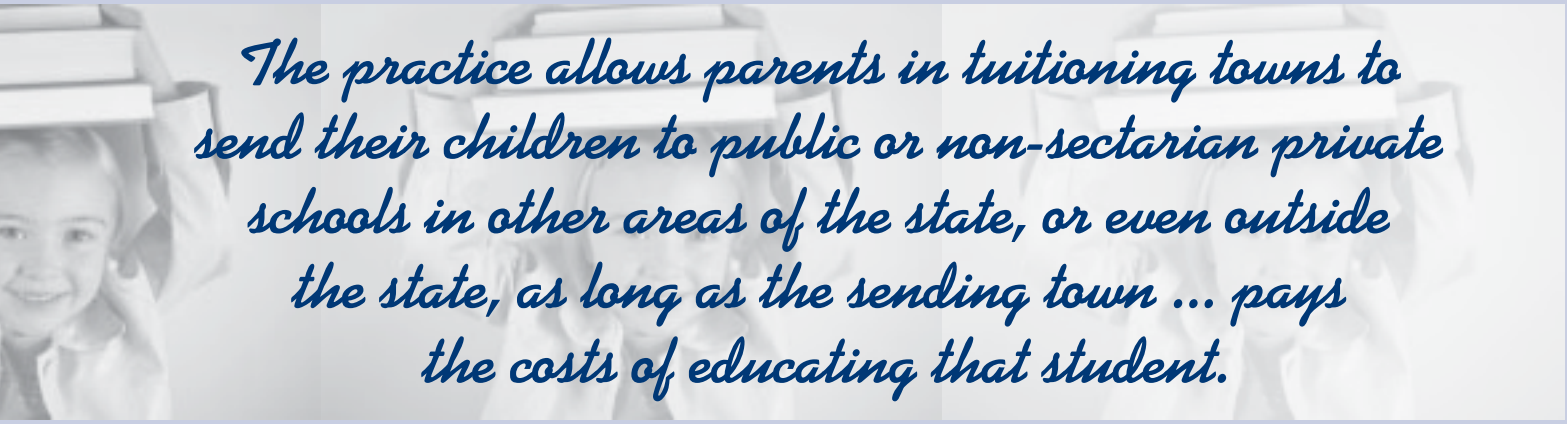
Vermont and Maine, both states with sizeable rural and non-urban areas, are good illustrations of innovative solutions. **To provide educational opportunities for its children, many of whom live in rural and non-urban areas, Vermont and Maine long ago instituted a practice known as "town tuitioning." The practice allows parents in tuitioning towns to send their children to public or non-sectarian private schools in other areas of the state, or even outside the state, as long as the sending town (the town or district where the parents reside) pays the costs of educating that student. The practice has been in effect since 1869 in Vermont and 1873 in Maine.** Because of the unusual name and the modern trend towards introducing limited voucher programs in urban areas, "town tuitioning" has largely been overlooked in previous studies of vouchers and school competition.

How did this form of school vouchers come about? The origin lies in the town-hall orientation of New England governments and the Protestant emphasis of education as a means of personal enlightenment. Traveling through the United States in the early 19th century, Alexis de Tocqueville noted that in New England there was an emphasis on education stronger than in any other part of the Union (de Tocqueville 1988, 301). Education, de Tocqueville noted, was seen a means of perpetuating both civic and religious responsibility. It was, in essence, part of human salvation.

This emphasis on education was so important to colonial New Englanders that when statehood arrived education found its way into the Vermont constitution of 1777 and the Maine constitution of 1819. Both constitutions imparted the importance of education as a means of preserving political freedom and personal enlightenment, with the Vermont constitution encouraging local towns to establish schools (Article 38) and the Maine constitution requiring it (Article 8). De Tocqueville, having come from a society where education was reserved for the children of aristocrats, found the New England emphasis on education fascinating (de Tocqueville 1988, 302).

This emphasis on education combined with another historical pattern of the region. New England has a long-standing tradition of placing responsibility for political affairs at the local level. This was partly a result of the historical development of the New England region, which was a collection of very small towns uniting to form larger colonies. Early colonial legislatures in New England were often based on representation from the various towns, villages or plantations throughout the colony. It was, as many historians and political scientists have pointed out, an early form of American federalism where most political powers were retained locally and only a few important ones delegated to the colonial legislature (Lutz 1988, Elazar 1972).

Colonial legislators, then, had a natural disposition to defend local autonomy back home since politics was fashioned from a bottom-up rather than top-down perspective. Indeed, de Tocqueville commented also on this aspect of the New England life when he wrote that politics in New England was based on local interest and passions and that loyalty to local attachments superceded everything else (de Tocqueville 1988, 44). New England life was essentially ordered from the town level up. This local autonomy, combined with a Protestant emphasis on education as a means of human development, led most towns to establish small academies with the intent of educating local children.



The practice allows parents in tuitioning towns to send their children to public or non-sectarian private schools in other areas of the state, or even outside the state, as long as the sending town ... pays the costs of educating that student.

These academies, most of them private, sprung up in small towns throughout the countryside. The term private school had a different connotation in the early part of our nation's history. Private academies during this early period typically referred to schools that were supported by a town to provide a school where one might not otherwise exist. These schools were private only in the sense that the town contracted with an individual schoolmaster to run the school. While these schools were independently run for profit, they were rarely offered as the alternative to state-funded schools but rather were usually the only means of bringing a school to a remote or rural area. "Public" or "common" schools did not become widespread until later in our history.

The result of this movement was that most New England states had schools or academies that predated the state or the modern inception of public schools. Any formal attempt to organize or establish a school system at the county level (as is done in most states) was largely a moot exercise at later dates. "The result," as Mike Kucsma at the Maine Department of Education points out, was that "the entire organizational structure of our educational system was designed around the concept of local control."[2]

As the push for compulsory education began to develop in the late 19th century, small towns in Vermont and Maine often found it less expensive to ship students to existing private academies rather than build public schools to accommodate local students. Some extremely small towns also made arrangements to send their elementary students to neighboring schools if it was economically more viable than building their own. Tuitioning was particularly useful for secondary education, however, which was still dominated by private academies and involved only a small segment of the population. In many states, existing private academies provided a cheaper alternative than construction of public high schools for a relatively small number of students.

In Vermont

In Vermont, the recognition that private academies were a practical and efficient means of educating the public led to the passage of the state's first tuitioning statutes in 1869. The law allowed school "districts" or "units" without any schools to use public funds to pay a student's tuition to a nearby academy in order to educate that child. While the law applied to education in general, it was particularly aimed at providing secondary education, which was less extensive. The law provided an immediate and practical solution to the problem of not having enough

public high schools for a growing number of students. In some instances, even towns that already had established their own secondary schools found that it was cheaper to send these students to private academies and convert their existing high school into something else.[3]

The Vermont tuitioning practice was expanded twice in the 20th century. In 1902, the Vermont legislature passed Act 27, declaring that students could be "tuitioned" to neighboring schools even outside the state lines. In 1927, the practice was expanded further by Act 31, allowing parents to tuition students to other schools even if a local school was available. In this sense, parental ability to determine where his or her child attended schools effectively superceded the collective decision of the community to build its own school. Initially, parents could even elect to use public funds to send their children to religious schools. The Vermont Supreme Court ruled the practice unconstitutional in 1981.[4] "Not being able to tuition children to parochial schools definitely limits choices," says Libby Sternberg, Executive Director of Vermonters for Better Education, "especially in areas of the state where parochial schools are located in or near tuition towns."[5]

In Maine

Maine has had a similar experience, starting with the passage of the Free High School Act in 1873. The act encouraged towns to offer free secondary education to its students rather than charge for it as most private academies did. The act offered three options to towns: (1) create free public high schools with state subsidies of up to fifty percent by the state; (2) make arrangements with a private academy to offer its services free of charge; or, (3) pay tuition for students to attend a private academy. By 1909, the legislature required that each town operate a secondary school or make arrangements "to pay the tuition of its students to attend an approved secondary school" (Chapter 62; cited in Maddaus and Mirochnik, 1991).

Many towns chose to tuition their students to local private schools simply because it was the cheapest option. The advent of the school bus, and the increasing number of public high schools, eventually allowed many towns to tuition their students out to neighboring public schools operated by other districts. Starting in 1957, following the direction of the Sinclair Act, or School Administrative District Act, many towns joined together to build district high schools, effectively reducing the necessity to tuition out students to private schools or neighboring public schools. This action had the effect of not only

As the push for compulsory education began to develop in the late 19th century, small towns in Vermont and Maine often found it less expensive to ship students to existing private academies rather than build public schools to accommodate local students.

reducing the number of schools which tuitioned out their students, but also put many private schools out of business (Maddaus and Mirochnik 1991, 31).

A second blow to private schools came in 1981 when the state Supreme Court ruled that students could not be tuitioned to parochial schools on the grounds that mixing public funds with religious education was unconstitutional. In effort to stay afloat, some private schools with a religious affiliation reorganized as secular institutions to avoid further constitutional challenges. The case of John Bapst Memorial High School, formerly a private Catholic school, is a case in point (Maddaus and Mirochnik 1991, 31). It closed it doors after the 1981 ruling, and reopened the following fall as an independent private school governed by local parents.

The Current Practice of Town Tuitioning in Maine and Vermont

While the tuitioning process has a long history in both states, tuitioned students are the exception to school enrollment rather than the norm. These students now reside mostly in small, rural towns that still find it cheaper to tuition out their students rather than construct their own facilities. In Maine, out of 492 municipalities there are 55 towns that operate no schools at all and tuition out all of their students.[6] There are 93 municipalities that offer elementary schools but no secondary schools.[7] In total, these areas tuition out almost 11,000 students out of a total of 225,997 public and private school students enrolled during the fall 2000 semester.[8]

While initial reaction may be that such a small group of students does not represent a sufficient number to influence the behavior of schools, the numbers are more impressive when viewed from different vantage points. For example, **Figure Two indicates that slightly less than one in three (30%) of Maine towns tuition out some or all of their students while almost 4 in 10 (39%) of Vermont towns do the same**.

From a planning perspective, the high number of towns that tuition out all or some students likely influences administrative decisions as to where to open new schools and accordingly where public funds will be spent. It is interesting to note that in some extremely rural areas where public schools are few and far between — particularly in Maine — many private schools meet local demands in absence of any public school alternative. Appendices A and B on pages 26 and 27 respectively provide a list of towns that tuition out all or some students.

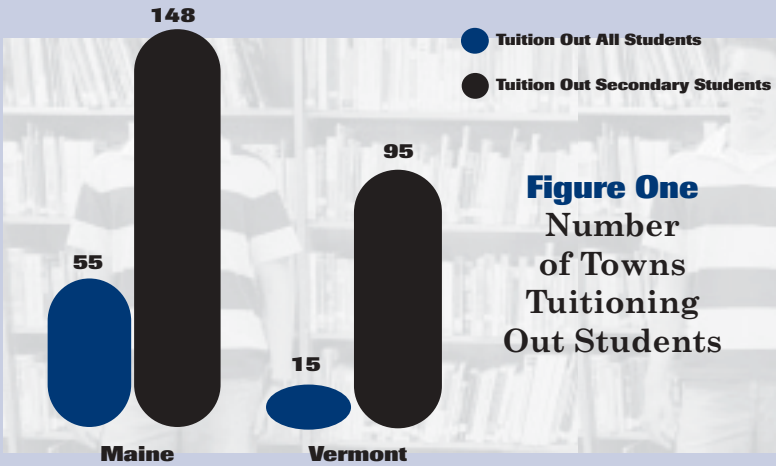


Figure One
Number of Towns Tuitioning Out Students

Figure Two
Percentage of Towns that Tuition Out All or Some Students

More telling is Figure Three, which indicates the percentage of school districts that enroll tuitioned students. Of Vermont's 61 supervisory unions — the basic administrative unit of the state, analogous to school districts — 58, or 95%, of them receive tuitioned students. The Maine system is more difficult to assess because it has 120 "School Administrative Units," some of which overlap and contain different numbers of schools.[9] In Maine, 91 units (76%) tuition in students from units other than their own. The lower percentage is a result of a greater number of units, not all of which are capable of receiving students from all grades.

Since the intent of the program in both states was to provide secondary schools for the states' students, aggregate data at the state level masks the true influence of the tuitioning program on state enrollment. If we look just at secondary school enrollment figures in both states — the intended objective of the program — we find that 88 public high schools, or 76% of 116 public high schools in Maine, enroll students who are tuitioned in from other areas. Vermont has 60 public high schools, 85% of which (51 schools) tuition in students from surrounding areas.

As a percentage of all *secondary* students in the state of Vermont, Figure Four indicates that tuitioned high school students account for about 20% of 32,263 public secondary students.[10] In Maine, tuitioned students comprise almost 18% of 61,540 public secondary students.[11]

The effects of this program are perhaps best illustrated, however, by the impact this program has on school finances. In both states, an average tuition rate is set by the state regarding the amount of money that will be provided to educate a student tuitioned in from another district or school. In Maine, that figure for the 2000-2001 school year is $5,732 for most public schools. For Vermont, the figure is $7,347 for the 2001-2002 year. Multiplying these figures by the number of tuitioned students in each state reveals that a minimum of $63 million dollars in Maine and $47 million dollars in Vermont changes hands during the tuitioning process. These costs might even be higher given differences in tuition rates between schools and states.[12] **If schools can attract those students who have a choice of where they attend, it represents a potential windfall of revenue.**

In short, secondary education in Vermont and Maine is greatly influenced by the town tuitioning program. In both states a majority of school districts and schools enroll tuition students, almost one in five high school students is a "tuition student," and a substantial amount of money changes hands in the process. This is particularly true at the secondary level, the main beneficiary of the tuition program. The larger

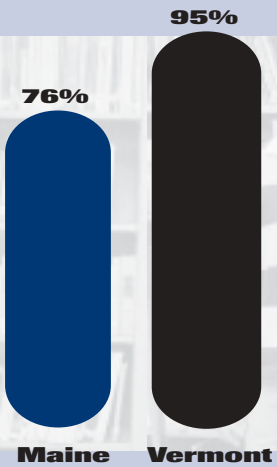


Figure Three
Percentage of School Districts that Receive Tuitioned Students

Figure Four
Percentage of Secondary Students with Choice to Which High Schools They Will Attend

question is whether or not this program has any benefit to the students beyond simply expanding their choice of schools. In the next section of our study, we address the concept of school choice, the mechanics of the Vermont and Maine programs and their effect on school performance.

School Choice and Competition

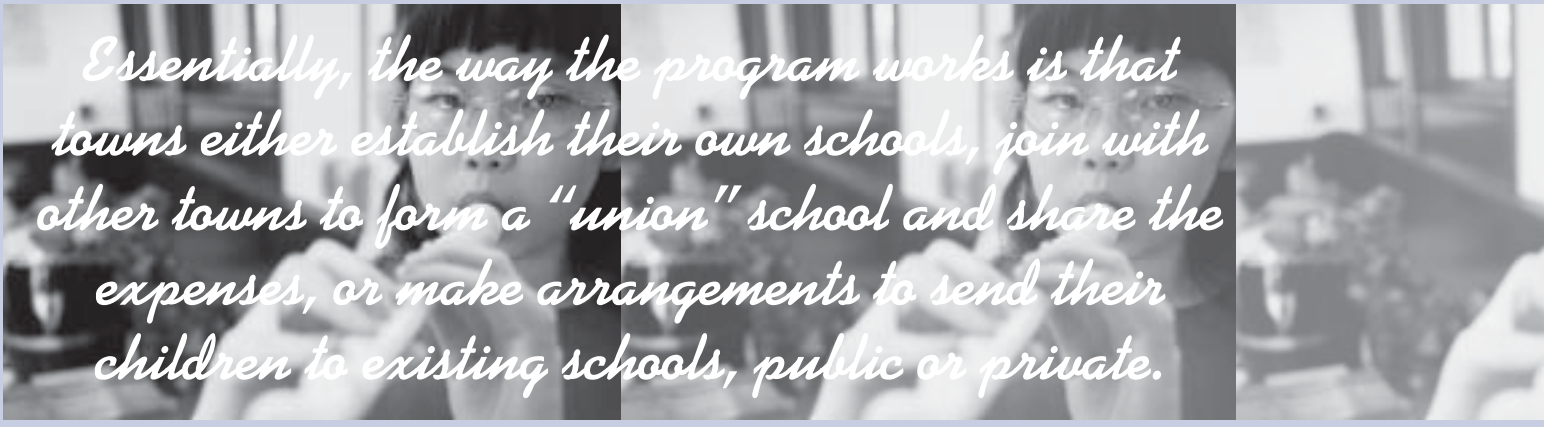
Advocates of school vouchers make the argument that competition among schools for students improves the quality of education as schools do their best to attract and retain students and tuition money. It becomes, for lack of a better term, a "free market" for schools as consumers (parents) browse for the best product they can purchase — in this case an education for their children. Competition, so economic theory goes, would spur all schools to create the best product possible to attract as many "customers" as they can. The end result of school choice would be that "the quality of all schooling would rise so much that even the worst, while it might be relatively lower on the scale, would be better in absolute quality (Friedman 1980)."

An Assessment of Town Tuitioning in Maine and Vermont

In Maine and Vermont, school choice has been part of the educational landscape for over 100 years, but the effects of the program have never before been assessed. Essentially, the way the program works is that towns either establish their own schools, join with other towns to form a "union" school and share the expenses, or make arrangements to send their children to existing schools, public or private. In many cases, the decisions are made by local school boards who, as elected officials, take into consideration the desires and needs of local parents.

While some towns via contract will "designate" schools to receive their tuitioned students, the ability to change schools when the contract expires remains true to the school choice model. In Vermont, the towns of Lyndon, St. Albans City, St. Albans Town, Thetford and West Fairlee all designate local private schools to receive their high school students. In Maine, 52 out of 148 sending towns contract with local high schools, as evident in Figure Five.

The influence of parental choice comes either indirectly via the school board, or in many cases the parents simply make their own decision about where to send their children. The influence of parents on school boards is best seen in the



case of Chittenden, Vermont. The local school board, following the bequest of parents, attempted to send 15 of the town's students to a private Catholic school using the tuition program. Parents argued that the state already allowed tuitioned students to attend private schools, and hence there should be no conflict. The case wound up in the Vermont Supreme Court where the use of tuition money at parochial schools was once again ruled unconstitutional.[13] Interestingly enough, many parents in Chittenden who did not support the school board in their Catholic school efforts mobilized and elected a new school board the following year.

In towns that tuition, or send, out all of their students, much of the choice is left directly to parents and their children. Both states allow parents to send their kids either to public or private schools, but neither will allow the use of tuition money to attend parochial institutions. Both states' high courts have ruled on this issue in the last few years. Three families in Minot — a small town of roughly 1,700 people in southwestern Maine — attempted to enroll their children at private Roman Catholic schools. In this case, a U.S. Federal District court judge ruled that the families had the right to enroll their students at any school they wanted, but not at taxpayer expense.

In either case — a school board decision or parental decision — the transfer of money is handled by the towns or districts involved and the parents never actually see any of the funds. Both states established a maximum tuition rate — the amount allocated to cover the cost of educating a tuitioned student — which is based on the average per pupil costs of education in the public school system. If a town or parent elects to send their children to a private school, the sender must cover any additional costs beyond the state tuition rate. Appendices C and D on pages 28 and 30 respectively provide the legal statutes from both states governing the tuition process.

Transportation policy varies from district to district within both states. Some tuition towns provide bus service to local schools or at least bus students to sites where they will be picked up by a second bus on its normal route. Other towns leave transportation solely to the parents, with some towns reimbursing parents for the expense. In either case, transportation has been a relatively minor issue in the tuitioning program. Patrick Dow, at the Maine Department of Education, does note that parents tend to have a preference for schools located closer to them. "The choice of going to a private school may depend on the fact that the private school is only five miles away, while the nearest public high

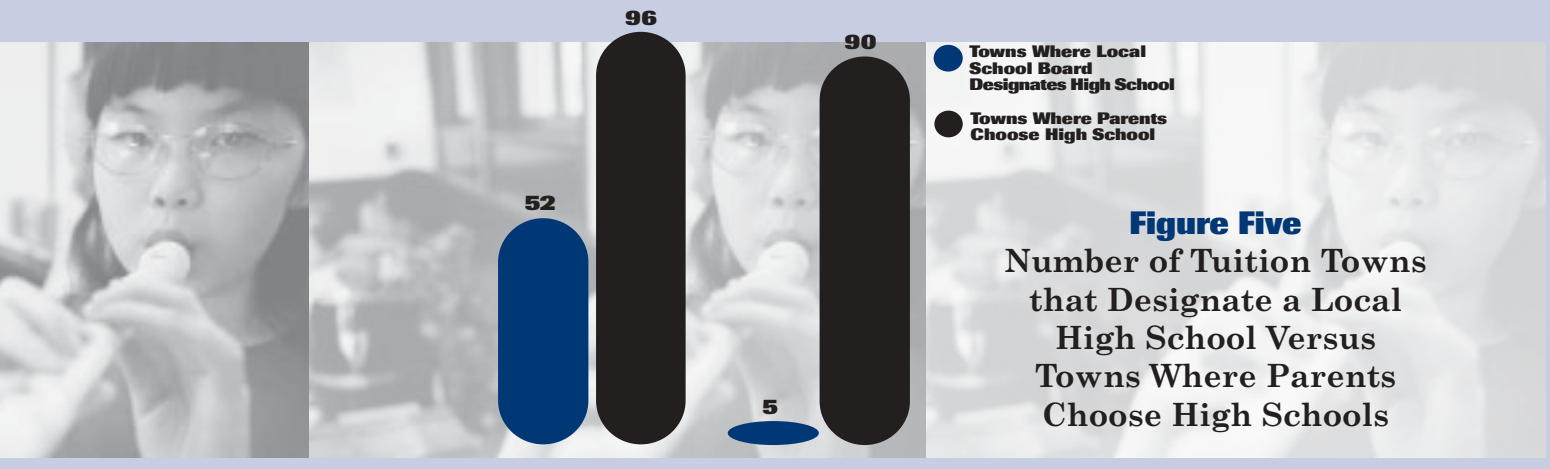


Figure Five
Number of Tuition Towns that Designate a Local High School Versus Towns Where Parents Choose High Schools

school is twenty," he said[14]. Figure Six indicates where exactly parents in Maine and Vermont are sending their children.

According to Figure Six, **roughly two out of three tuitioned students choose public schools while the remaining third choose private schools**. In Vermont, about 53% of town tuitioned secondary students choose to enroll in one of the states' public high schools. This compares to about 41% of high school students who choose private schools. The remaining 6% enroll in schools in other states, with New Hampshire and Massachusetts being the most popular states. Students have also enrolled in states as far as California and Utah and schools in Canada as well.[15] A few years back, two students from the town of Kirby were tuitioned out to exchange programs in France and Finland.

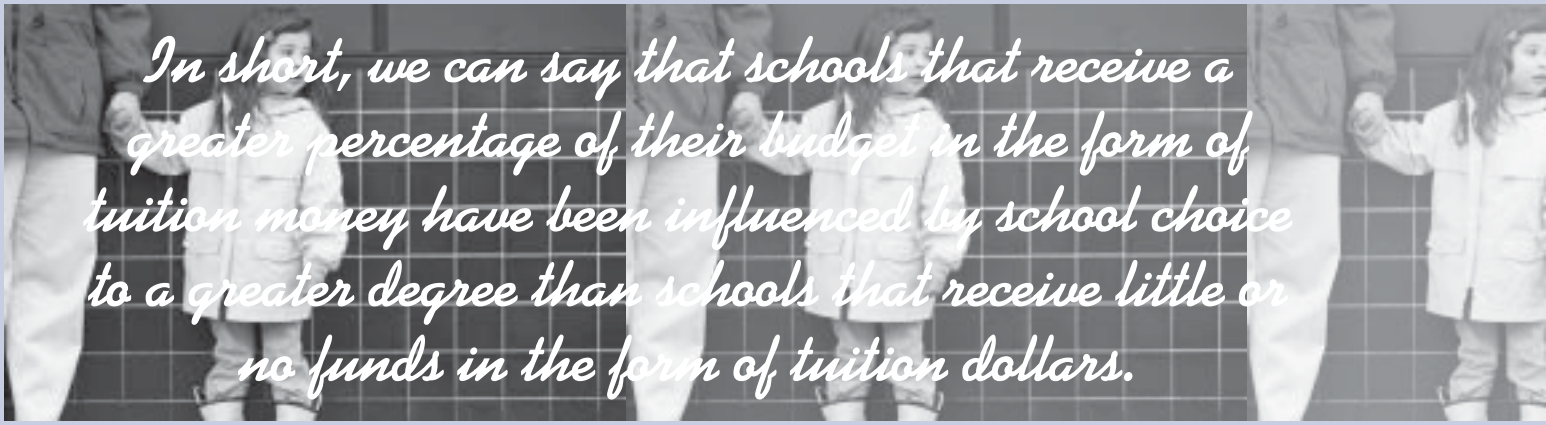
Of the roughly 8,148 secondary students in Maine who choose their own schooling options, 66% of them choose public schools while 32% of them enroll in private schools. Only a very small 1% enroll in schools in other states, which may be due to the remote location of Maine more than anything else.[16]

In sum, there is a great deal of choice — both at the community level and individual level — as to where children will attend school. In addition, the programs seem to be popular among parents. "No surveys exist to gauge parental support, but I think it's safe to assume that parents like having choices," says Mrs. Sternberg, a long time resident of Vermont and advocate of school choice. "Some real estate companies note in advertisements whether a house is located in a tuition town. It's obviously a marketable feature."[17] To this end, while parents may opt to send their kids to the nearest school due to convenience, it is interesting that parents would seek out neighborhoods that provide them with school choice. In these towns, if local schools are not adequate, the parent can always select a better school for their kids.

Town Tuitioning and School Performance

While there is little doubt that the opportunity to decide where a child will be educated increases and empowers parents, the larger question is does it make any difference in the performance of schools? Does exposure to school choice programs, as many choice advocates suggest, create an environment where school performance improves in order to attract more students?

To address these questions we designed two models to examine the effects of school choice on school performance. In the first model we



examine whether schools that attract a greater number of town tuitioned students actually perform better than schools that attract few or no town tuitioned students. To determine the extent to which a particular high school is influenced by the town tuitioning program, we examined the finances of every school district in the state of Maine and Vermont. We use the term "district" in the generic sense. Both states have different names for their administrative units, and many of these units have overlapping jurisdiction.

From our investigations we were able to determine what percentage of a district's overall budget came from students tuitioned in from other areas.[18] Since the overwhelming majority of tuitioned students are secondary students, and the major administrative units typically have only one public secondary school each, the resulting figures provide a good indicator of how exposed a school is to the town tuitioning program. In short, we can say that schools that receive a greater percentage of their budget in the form of tuition money have been influenced by school choice to a greater degree than schools that receive little or no funds in the form of tuition dollars.

To measure school performance we use the percentage of students meeting the standard level of competency on each state's standardized test. In Maine, the Maine Education Assessment (MEA) is given to 11th graders in three fields — math, English, and science. The Vermont Comprehensive Assessment System (VCAS) tests 10th graders in English and math and 11th graders in science. A single composite score was calculated for each high school in both states by adding the math, reading and science portions of each exam. The resulting figure provides an overall indicator of what percentage of high school students possess minimum basic competencies in the three test subjects. These composite scores are included in Appendix E on page 33.

We also investigate the effects of three additional variables. First, to test the possibility that improved test scores are simply a function of more money rather than competition, we included in our analysis a measure of per pupil spending for each high school. There is much debate over the effects of spending on educational success, with many arguing that more funding is the key to educational reform while others contend that spending has little to do with educational success. This variable will allow us to determine what influence overall spending has on school performance compared to the effects, if any, of school choice.

Second, we include in our analysis a measure of local poverty rates. Much research has shown

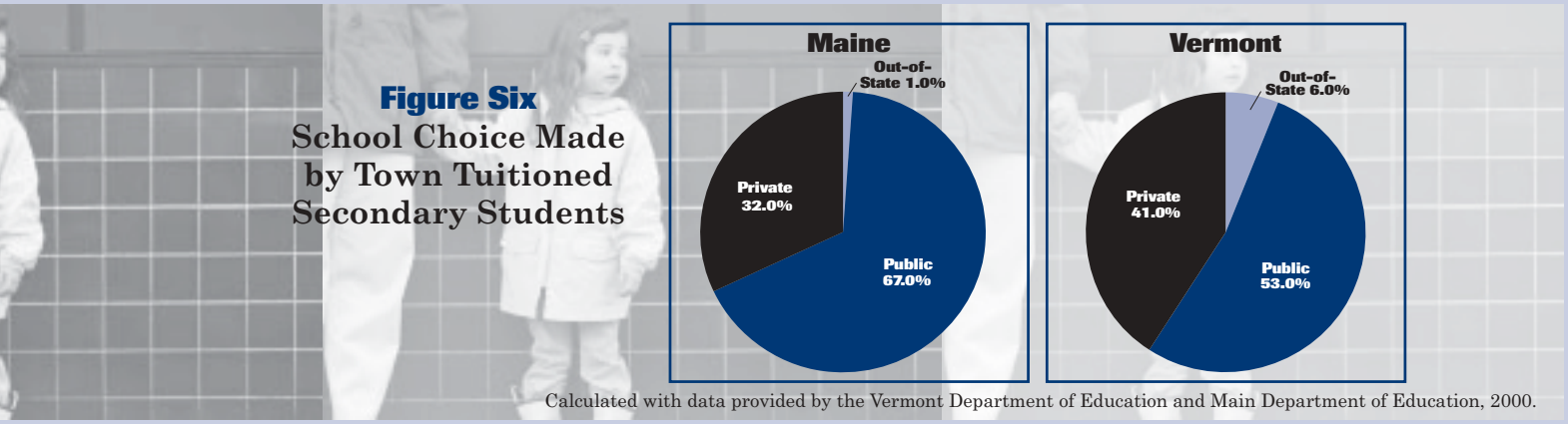


Figure Six
School Choice Made by Town Tuitioned Secondary Students

Calculated with data provided by the Vermont Department of Education and Main Department of Education, 2000.

that educational success is often a product of socio-economic status and that poor children do not do as well in school as children from more affluent families. To control for this possibility, we use county-level poverty data from the 2000 census. While this is not as ideal a measure of poverty as school specific data, such as the percentage of students on free or reduced lunch programs, the latter was not available for many of the private schools included in the analysis.

Third, areas with greater populations, wealth and social problems often produce different results than rural areas which are typically smaller, less affluent and have fewer of the forces which lend themselves to a poor school climate. While both Maine and Vermont do have some urban areas, both states remain fairly rural and the cities and towns are small on average. Nonetheless, we measure urbanization using 2000 census data regarding the number of people per square mile at the county level. While this is a rough indicator of urbanization, more specific measures were not available.

What do the data reveal? Table One indicates a positive relationship between greater exposure to the town tuitioning program (measured as tuition dollars as a percentage of a district's budget) and higher test scores at the high school level. Given the fact that the great majority of tuition dollars flow to secondary schools, **our findings indicate that high schools that are more exposed to the town tuitioning process tend to perform better than high schools with little involvement in the town tuitioning process**. The relationship is the same looking at both states combined or individually. This relationship holds true even given differences in local poverty rates, urbanization, and overall school spending.

Given the results of this analysis, it appears that schools in a choice environment perform better than schools in areas with little or no choice. To this end, proponents of vouchers who contend that school choice leads to better schools may be on to something. The difficulty here is that while the analysis indicates that schools that are more exposed to school choice programs typically perform better on standardized tests, the link between school choice and school performance is still somewhat debatable. There are two methodological issues that must be addressed.

First, there could be other factors involved — geography, number of surrounding schools, teacher pupil ratio, school climate — that all influence the flow of tuition dollars. This does not mean we should dismiss the findings. To the contrary, the finding is insightful in that it indicates a positive relationship between school performance and school choice. If there had been

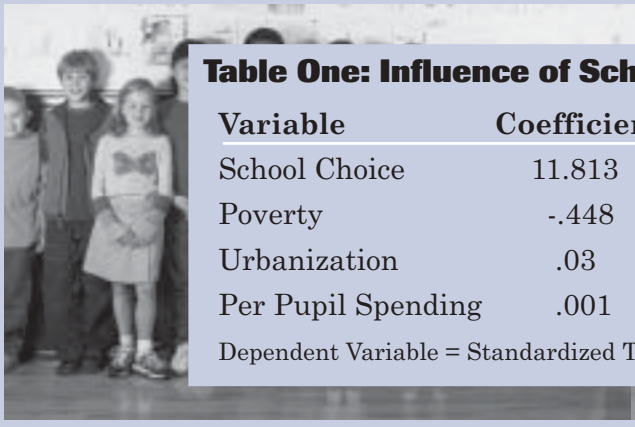
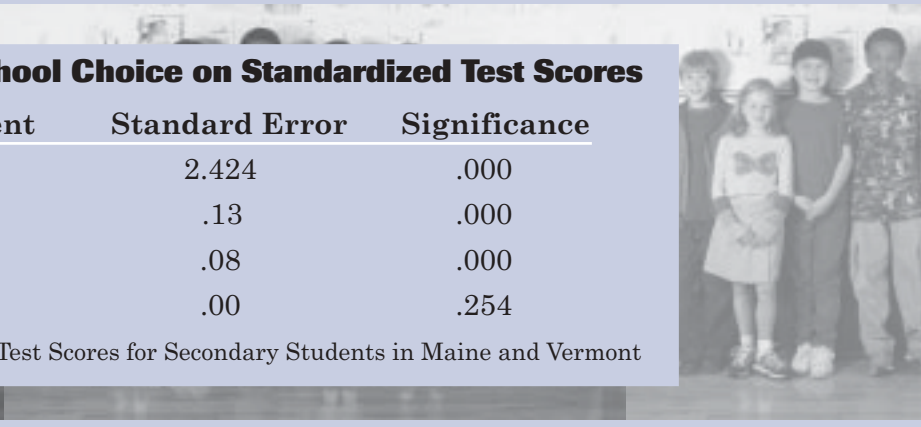


Table One: Influence of School Choice on Standardized Test Scores

Variable	Coefficient	Standard Error	Significance
School Choice	11.813	2.424	.000
Poverty	-.448	.13	.000
Urbanization	.03	.08	.000
Per Pupil Spending	.001	.00	.254

Dependent Variable = Standardized Test Scores for Secondary Students in Maine and Vermont



no significant relationship — if the flow of tuition dollars was unrelated to school performance — then the theory that school choice would produce better school performance would be harder to substantiate. The data indicate that this is not the case.

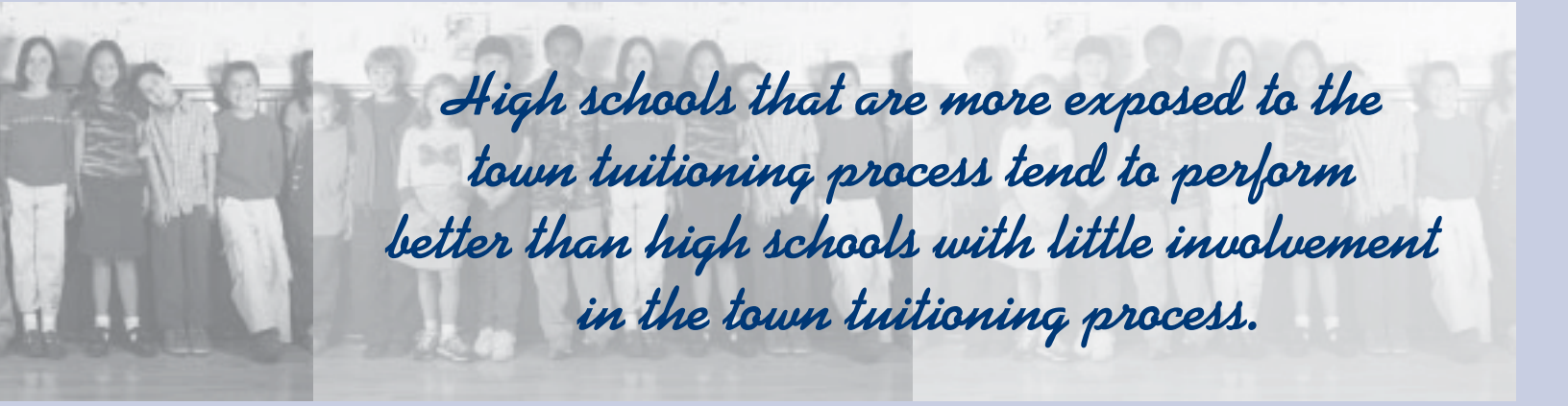
Of greater concern is reverse causality. Reverse causality is the idea that parents are simply choosing the best schools for their kids, rather than school performance improving as a *result* of choice programs. It could be the case that some schools attract more students because they are able to provide better services, have more extracurricular activities, newer facilities, better teachers, or more money. In this case, it's not school choice that improves test scores but rather high test scores that attract more students. In other words, better schools attract more kids.

One of the reasons we do not think that reverse causality is a factor is because we have measured tuition dollars here as a *percentage* of the total budget of the school, and have controlled for the total amount of spending in a school. If we equate "better" schools with more money, more urbanized areas, and lower poverty, the data reveals that schools that attract a greater percentage of tuition money typically outperform on standardized tests schools that attract less tuition money — regardless of all these other factors. It is the exposure to school choice that seems to matter, not school demographics, location, or total spending.

Nonetheless, even if we are wrong in this assessment, the possibility of reverse causality is not really an indictment of the school choice model. Our analysis of Maine and Vermont indicates that when parents choose where to spend their tuition dollars they seem to choose wisely. Either parents are sending their kids to schools that respond to competition, *or* parents have made a rational calculation as to which schools will use their tuition money most effectively. **The positive relationship between tuition money and test scores reveals that at a minimum parents are choosing those schools that can produce better scores with their tuition money rather than schools that produce lower scores or schools where the money makes no difference.** This is the very heart of the school choice model.

The Positive Effects and Competitive Advantages of Town Tuitioning

If we really want to measure the effects of school choice, however, we have to look beyond students. We have to look instead at competition



High schools that are more exposed to the town tuitioning process tend to perform better than high schools with little involvement in the town tuitioning process.

among schools, which choice advocates claim is responsible for improved school performance. In theory, improvements in school performance are products of competition among schools struggling to attract the same students. In an effort to recruit those students, schools seek to improve their performance to attract more student dollars. While our first analysis shows that schools that bring in more tuition dollars typically perform better on standardized tests, it provides little insight into whether or not this is a product of competition.

To test the competition aspect of school choice we constructed a second model. We again measure school performance using the composite score for science, math and English standardized tests in both states. We included private schools in our model this time, since tuition dollars can be spent with either public or private schools, hence increasing the number of "competitors" for students. Not all private schools make their test scores available, and some private schools in Maine do not assess their students with the MEA. These cases were excluded from the analysis.

To measure competition we created an "education market" score for each high school in the analysis. These scores represent how exposed a particular high school is to towns that tuition their students out. A score was derived for each school by calculating the distance to all tuition towns within a seven-mile radius around a particular school. The seven-mile radius is a reasonable distance most parents would be willing to travel to transport their children to school.[19] Distance was measured in miles and converted to fractions, so that nearby towns received a higher score than distant towns.

The scores for all tuition towns within a seven-mile radius were then summed to arrive at a single competition score for each high school. The resulting score is a proxy for the intensity of the local education market produced by the concentration of tuition towns in a certain area. Schools with very low scores have weak markets while schools with high scores have strong markets. Market scores range from a low of 0 to a high of 1.98. The mean is .30. These scores are presented in Appendix F on page 35.

To take into account the opportunity for competition surrounding each school, each case was weighted by the total number of high schools within a ten-mile radius. In theory, a school surrounded by only one other high school would have less competition than a school surrounded by nine other high schools. Areas with no competing schools were excluded from the analysis since they lack competition. The weighted data results in a model that considers not only the local market created by school choice

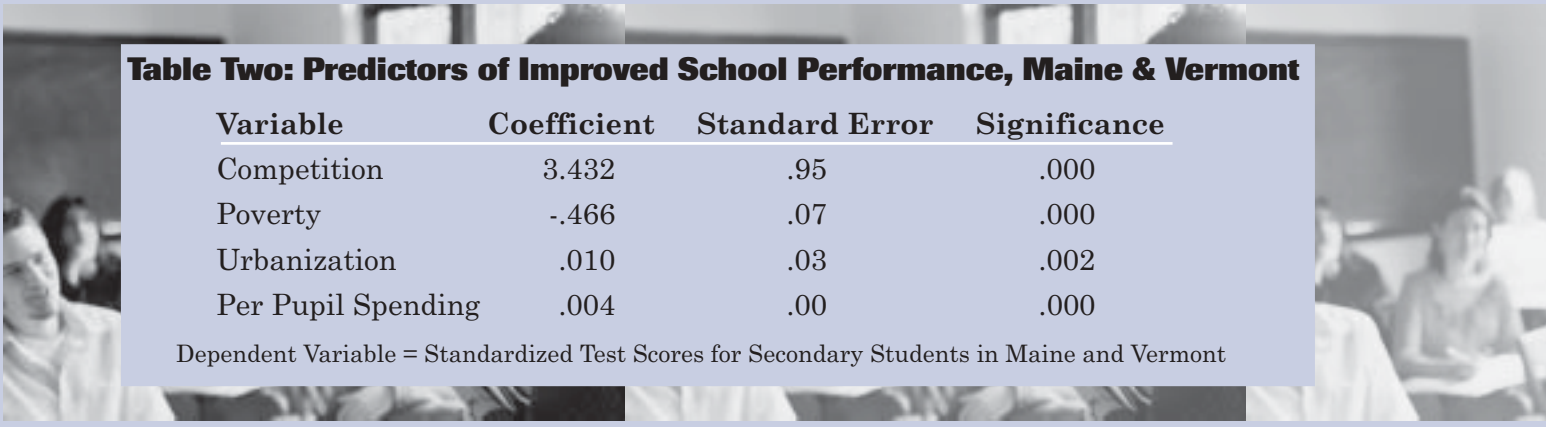


Table Two: Predictors of Improved School Performance, Maine & Vermont

Variable	Coefficient	Standard Error	Significance
Competition	3.432	.95	.000
Poverty	-.466	.07	.000
Urbanization	.010	.03	.002
Per Pupil Spending	.004	.00	.000

Dependent Variable = Standardized Test Scores for Secondary Students in Maine and Vermont

— in this case the concentration of tuition towns — but also competition by other schools seeking to attract a limited number of tuitioned students within a given geographic area. Theoretically, areas with greater competition should exhibit the greatest changes in school performance if competition really makes a difference.

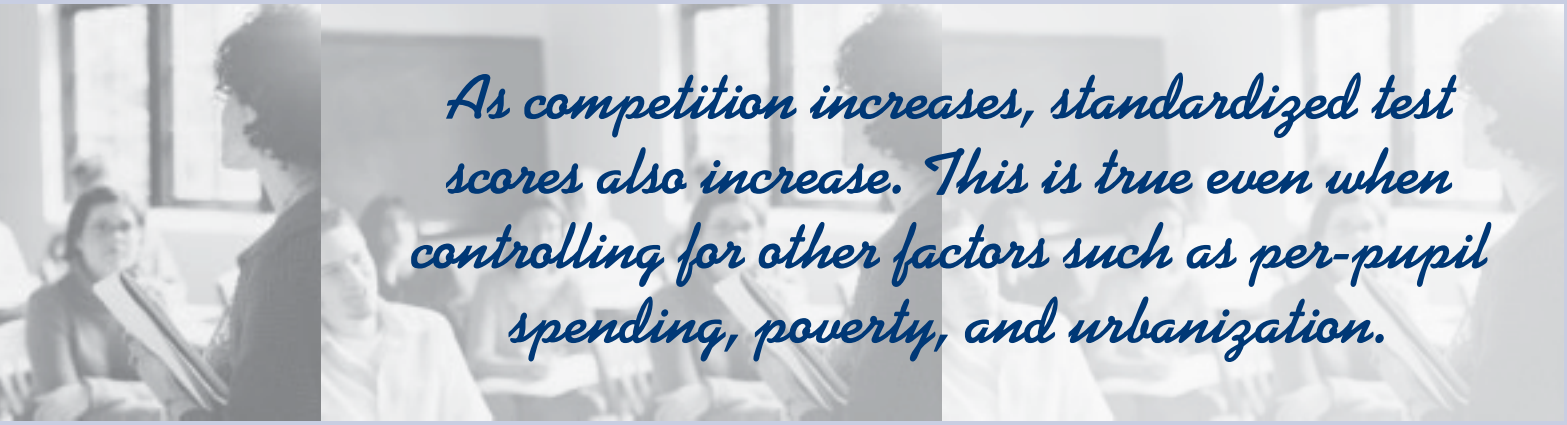
What does the data reveal? Table Two provides the answers. **Multiple regression analysis reveals that as competition increases, standardized test scores also increase. This is true even when controlling for other factors such as per-pupil spending, poverty, and urbanization.** The coefficient for the competition variable is 3.432, significant at the .01 level. This means that if a competition score for a given school increased by 1 point (say from a .30 to a 1.30), that school would gain 3.4 points on standardized tests. Any additional increase in competition scores would result in a corresponding increase in test scores. The lesson to be learned here is that anything that increases competition also increases test scores.

The other variables in the model are also significant, but much weaker. In fact, the effects of per pupil spending and urbanization, while statistically significant, are very weak — indicating that they do not have a very strong influence on standardized test scores. The poverty variable is more influential and behaves as expected. As is usually the case, students in less affluent areas do not perform as well on standardized tests. However, the effects of competition exist even in the face of poverty with poor students in competitive areas performing better than poor students in non-competitive areas.

In sum, these results provide compelling evidence that competition resulting from voucher type programs has a positive impact on school performance. The desire to attract tuition dollars is a sufficient incentive for schools to market themselves — as seen in the increase in standardized tests scores — when competition exists for a limited number of students.

The Financial Bonus/Benefit of Town Tuitioning

What is the effect of competition worth? One way to think about the effects of competition on school performance is to determine how much it would cost in dollars to achieve the same benefits that are produced for free as a result of competition. We know from Table Two that a one-point increase in competition yields a gain of 3.4 percentage points on standardized tests. Since



we have measured competition in fractionalized numbers, a one-point increase could be obtained by adding more tuition towns around a school.[20] We don't literally mean building new towns around a school, but rather providing more towns with school choice. If we were to locate a particular high school that had two non-tuitioning towns two miles away and provide those towns with school choice (giving the school a competition score of .50 + .50 = 1.00), we would expect a 3.4 point improvement (3.4 x 1.00) on standardized test scores for that school. This improvement is a result of increased competition in the area for the towns' students.

How much would it cost for that school to buy that same increase in test scores? If the school simply wanted to purchase that gain in test scores by increasing per pupil spending, it would require an additional $909 in spending per pupil (gain in test scores 3.4 divided by the change in spending per gain in scores .003737). This additional spending would require Maine and Vermont to increase current per pupil spending by 13% on average to create the same effect that competition already produces for free.[21] Given the tremendous amount of money already spent on education, an additional $909 for every student in Maine and Vermont would cost the states roughly $300 million dollars a year extra in combined spending. This figure is reached by multiplying the monetary cost of a 3.4 point gain on standardized tests ($909) by the total number of students in each state. If we break this figure down by state, the cost for Maine would be roughly $200 million dollars and Vermont $100 million dollars.[22] **Hence, the effects of existing voucher programs provide a substantial economic benefit to both states with minimal costs, in essence providing a greater return on current education spending.**

In sum, there is strong evidence that competition among schools does indeed improve school performance. Our analysis indicates that as competition for students increases, overall scores on standardized tests improve. This effect occurs in both rural and urban areas, regardless of how much money schools already spend on students, and regardless of the socio-economic status of the community. In addition, the financial value of this effect is of sufficient magnitude to merit serious attention by those concerned about both fiscal responsibility and improving education.

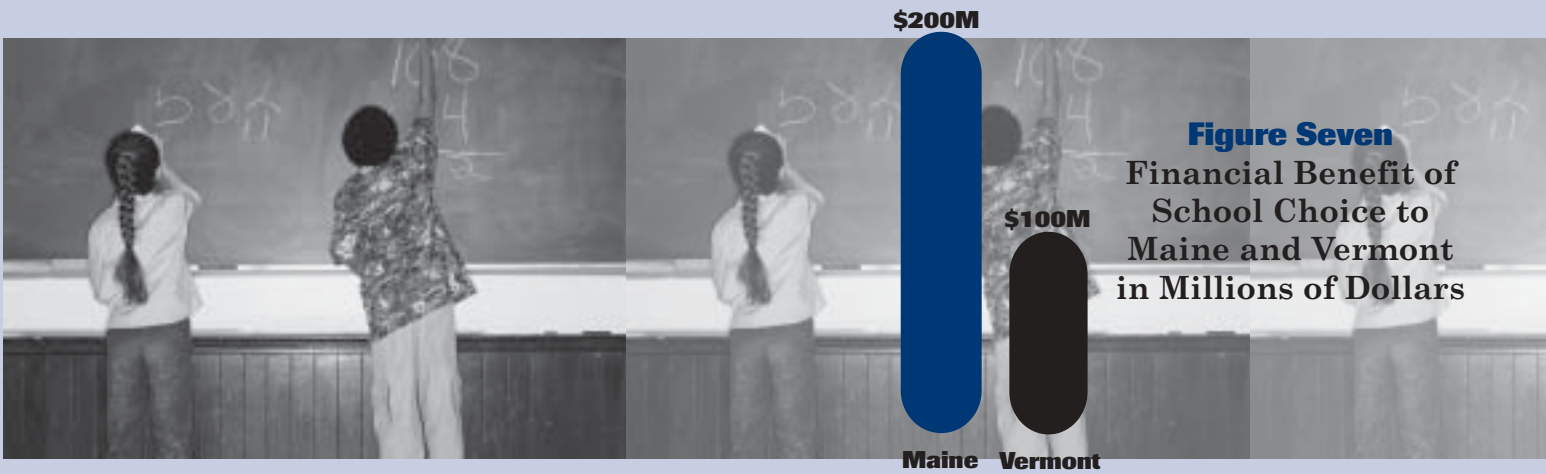


Figure Seven
Financial Benefit of School Choice to Maine and Vermont in Millions of Dollars

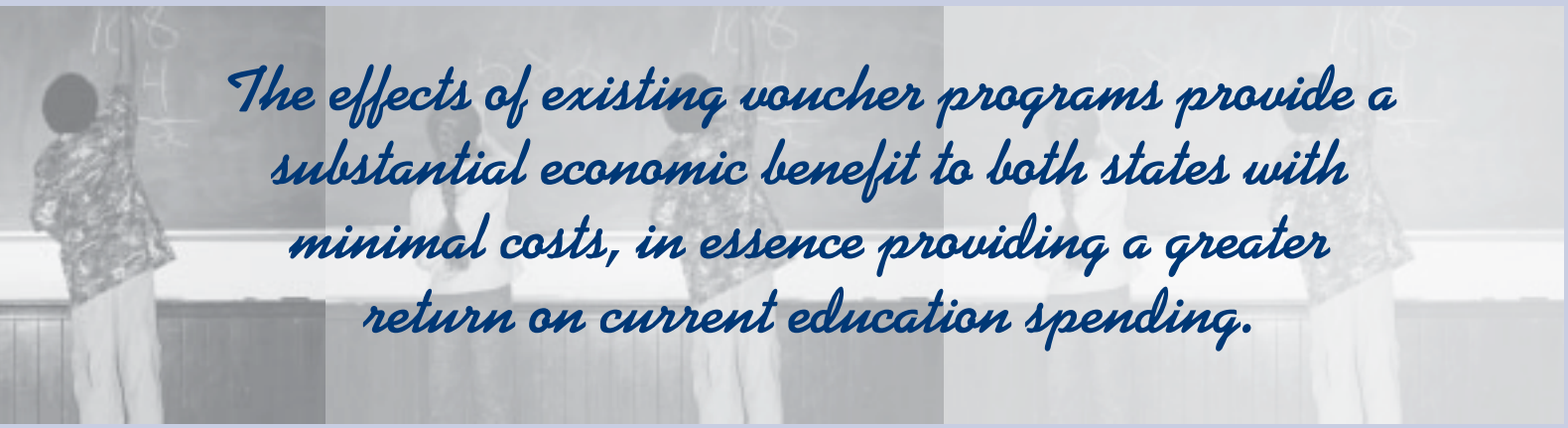
Discussion

Our investigation of the tuitioning process in Maine and Vermont yields three specific conclusions.

First, competition among schools results in better school performance. In a choice environment, schools have a strong incentive to improve their performance in order to attract more students and their valuable tuition dollars. Our analysis shows that standardized test scores increase when parents have a choice as to where their children go to school. We can also imagine other means by which schools might try to attract students, including more extracurricular activities, safer environments and a more positive school climate. In short, when schools compete for dollars educators are often the first to find innovative and positive ways to make the school more attractive.

Ironically, the ability of parents to choose where their children will attend school may actually be an asset to America's teachers. The decision to enroll a child in a particular school is an explicit endorsement of the school, its program and its faculty. Enrolling students by choice rather than compulsion empowers educators to fulfill the school's mission, innovate and educate with the knowledge that they already have parental support. This level of support may provide an additional explanation for the increased performance of schools in a choice environment.

A second specific conclusion of our investigation is that the benefits of school choice are not limited to any particular demographic group. While there is not much racial diversity in either state (the latest census



The effects of existing voucher programs provide a substantial economic benefit to both states with minimal costs, in essence providing a greater return on current education spending.

figures indicate that both are over 95% white) our analysis indicates that the effects of choice are present in less affluent areas of both states and in rural areas as well as urban. While critics of choice programs are rightfully concerned that school choice opportunities might benefit more affluent students at the expense of less affluent students, there is no evidence to support this claim in Maine and Vermont.

In our investigation, many of the areas that participate in choice programs do so precisely because they are rural and less affluent. The town of Granby in Essex county Vermont has a median family income of roughly $27,000 a year (40% lower than the statewide average) and some of the highest poverty levels in the state. It tuitions out all of its secondary students, distributing them almost equally between public and private schools. For these students, choice provides an opportunity that might normally be reserved for the children of more affluent families. In Vermont and Maine, school choice allows children from lower economic backgrounds to escape those conditions and mix with children from many different economic backgrounds.

There is no reason to think that a similar effect might not also occur in states that are more racially diverse. The ability of low-income parents to remove their kids from failing schools presents not only an opportunity to benefit from the hard work of good teachers, but also an opportunity to enter a more racially diverse environment. A recent study by Harvard University found that black children who attended private schools by their parents' choice were more likely to have friends of other races than black students who attended public schools by compulsion. In essence, choice can allow parents not only to move their children from schools that perform poorly, but also from schools that have become racially segregated due to location or economics.

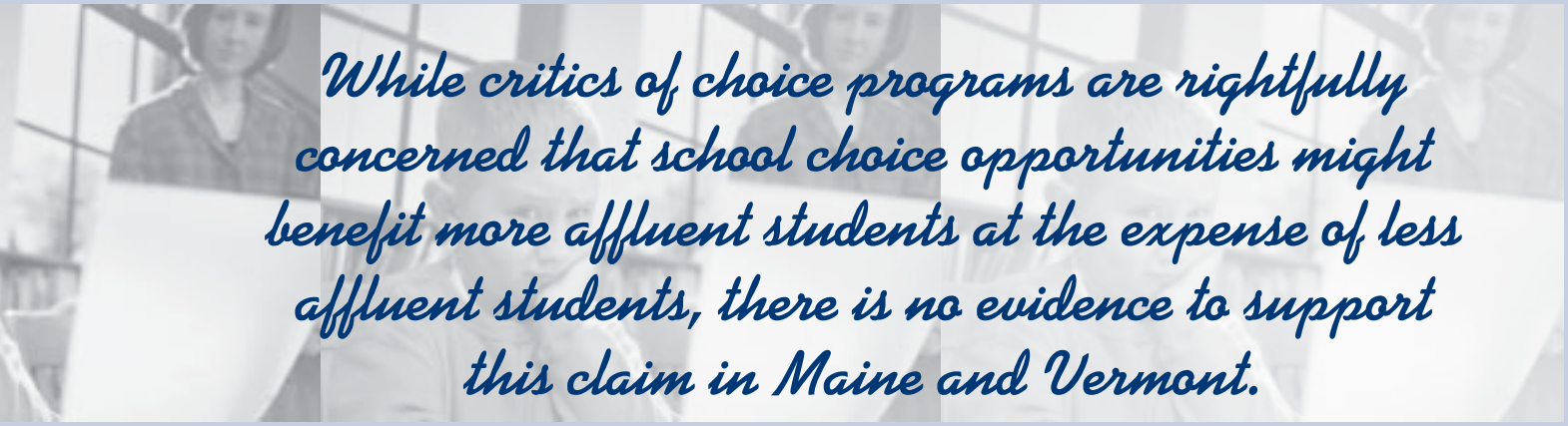
The third specific conclusion of our investigation is that there is a financial benefit of school choice that extends beyond school performance. The effects of competition, when measured in dollars, illustrate that a significant amount of money would be required to achieve the same effects that occur in a choice environment as a result of competition. For states already facing funding problems with regards to education, the return on education dollars spent as a part of school choice programs yields a greater return than money spent in a non-competitive environment. Rather than seeking more funds for education, states should be aware that competition for funds provides a viable means of increasing the effect of every dollar spent.

What this means is that one way of improving school performance on limited funds is to increase the school choice options available to parents. By increasing competition between schools for funds, the return on those dollars is increased. In Maine and Vermont, where some debate had taken place over the future of the town tuitioning process, lawmakers should consider not only the improvements in test scores that result from school choice but also the financial benefits of such programs. In effect, lawmakers seeking better schools should expand school choice options in order to maximize the effectiveness of every dollar spent.

Expanding the scope of school choice options given to parents also benefits parents who choose not to participate in such programs for a variety of reasons. This is particularly important in rural states like Maine and Vermont. According to Patrick Dowe of the Maine Department of Education, school choice in Maine is often limited by geography and distance. In a competitive environment, with all schools competing for students regardless of location, parents with limited options should still benefit from the effects of competition as schools seek to improve their performance in order to recruit and maintain students. In this sense, local schools may improve precisely because schools down the road are now competing for the same students.

In sum, the effect of competition among schools provides benefits to students, parents and educators. While Maine and Vermont have a long tradition with school choice, the programs have come under criticism recently by those concerned about cost control, efficient use of limited resources and educational opportunities for the less fortunate. Ironically, the very goals they strive for seem compatible with — if not a result of — expanded school choice. ■

Lawmakers should consider not only the improvements in test scores that result from school choice but also the financial benefits of such programs. In effect, lawmakers seeking better schools should expand school choice options in order to maximize the effectiveness of every dollar spent.



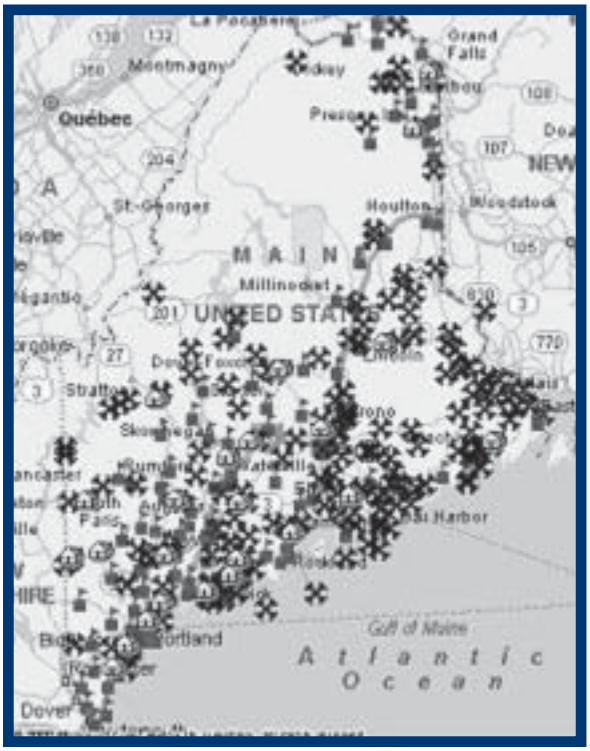
While critics of choice programs are rightfully concerned that school choice opportunities might benefit more affluent students at the expense of less affluent students, there is no evidence to support this claim in Maine and Vermont.

Maine

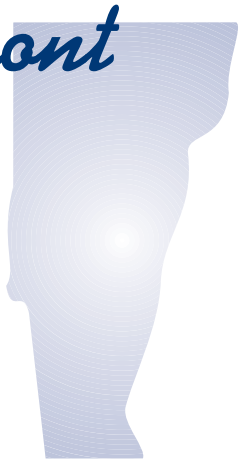
At a Glance

State Population: 1, 274,923
State Size: 35,387 Square Miles
Capital City: Augusta
Key Industry: Manufacturing, agriculture, fishing

- Town Tuitioning Since 1873
- 492 Towns; 55 Towns Tuition all Students; 93 tuition out high school students only
- 156,159 elementary students, 69,838 secondary students
- 35% of Maine towns tuition out all of some of their students
- 75% of Maine school districts tuition in students from other districts
- 18% of secondary students participate in the town-tuitioning program
- 52 towns designate via contract high schools to receive their students, 98 leave it completely up to parents
- 66% of secondary students involved in the town tuition program choose one of Maine's public high schools, 32% choose a private school, less than 1% go out of state.



Vermont



At a Glance

State Population: 608,827 (49th in United States)
State Size: 9615 Square Miles
Capital City: Montpelier
Key Industry: Manufacturing, tourism, agriculture

- 246 Towns; 15 Towns Tuition all Students; 95 tuition out high school students only
- 72,296 elementary students; 32,263 secondary students
- 39% of Vermont towns tuition out all of some of their students
- 95% of Vermont school districts tuition in students from other districts
- 20% of secondary students participate in the town-tuitioning program
- 5 towns designate via contract high schools to receive their students, 90 leave it completely up to parents
- 53% of secondary students involved in the town tuition program choose one of Vermont's public high schools, 41% choose a private school, less than 6% go out of state.

Appendices

Appendix A: Vermont Towns that Tuition Out All or Some Students*

1. Alburg (s)
2. Athens (s)
3. Bakersfield (s)
4. Baltimore (e,s)
5. Barnet (s)
6. Berkshire (s)
7. Bloomfield (e,s)
8. Brownington (s)
9. Brunswick (e,s)
10. Burke (s)
11. Chittenden (s)
12. Coventry (s)
13. Danby (s)
14. Dorset (s)
15. Dover (s)
16. East Haven (s)
17. Elmore (e,s)
18. Fairfield (s)
19. Fairlee (s)
20. Fletcher (s)
21. Georgia (s)
22. Goshen (e)
23. Grafton (s)
24. Granby (s)
25. Grand Isle (s)
26. Granville (s)
27. Guildhall (s)
28. Halifax (s)
29. Hancock (s)
30. Hartland (s)
31. Hubbardton (s)
32. Ira (e,s)
33. Isle La Motte (s)
34. Kirby (e,s)
35. Landgrove (s)
36. Lemington (e,s)
37. Londonderry (s)
38. Lunenburg (s)
39. Lyndon (s)
40. Maidstone (e,s)
41. Manchester (s)
42. Marlboro (s)
43. Mendon (s)
44. Middletown Springs (s)
45. Millers Run USD #37 (s)
46. Montgomery (s)
47. Mt. Tabor (s)
48. Newark (s)
49. North Hero (s)
50. Norton (s)
51. Orange (s)
52. Pawlet (s)
53. Peacham (s)
54. Peru (s)
55. Pittsfield (e,s)
56. Plymouth (s)
57. Readsboro (s)
58. Roxbury (s)
59. Rupert (s)
60. Rutland Town (s)
61. Sandgate (e,s)
62. Searsburg (e,s)
63. Sharon (s)
64. Sheldon (s)
65. South Hero (s)
66. St. Albans City (s)
67. St. Albans Town (s)
68. St. George (e,s)
69. St. Johnsbury (s)
70. Stamford (s)
71. Stannard (s)
72. Stockbridge (s)
73. Strafford (s)
74. Stratton (e,s)
75. Sunderland (s)
76. Sutton (s)
77. Thetford (s)
78. Tinmouth (s)
79. Tunbridge (s)
80. Vershire (s)
81. Victory (e,s)
82. Waits River Valley USD #36 (s)
83. Walden (s)
84. Wardsboro (s)
85. Washington (s)
86. Waterford (s)
87. Weathersfield (s)
88. Wells (s)
89. West Fairlee (s)
90. West Windsor (s)
91. Westford (s)
92. Weston (s)
93. Winhall (e,s)
94. Wolcott (s)
95. Woodford (e)

(e) = tuition out elementary
(s) = tuition out secondary
*These figures as of 1999. The list varies annually as the number and age of students changes in a town.

Appendix B: Maine Towns that Tuition Out All or Some Students*

1. Acton (s)
2. Alexander (s)
3. Allagash (e,s)
4. Alna (e,s)
5. Alton (s)
6. Arrowsic (e,s)
7. Arundel (s)
8. Bancroft (e,s)
9. Baring Plantation (e,s)
10. Beaver Cove (e,s)
11. Beddington (e,s)
12. Blue Hill (s)
13. Bowerbank (e,s)
14. Bradley (s)
15. Bremen (e,s)
16. Bridgewater (s)
17. Bristol (s)
18. Brooklin (s)
19. Brooksville (s)
20. Carrabassett Valley (e,s)
21. Carrol Plantation (e,s)
22. Castine (s)
23. Caswell (s)
24. Centerville (e,s)
25. Charlotte (s)
26. Chealsea (s)
27. China (s)
28. Cooper (e,s)
29. Coplin Plantation (e,s)
30. Cranberry Isles (s)
31. Crawford (e,s)
32. Dallas Plantation (e,s)
33. Dayton (s)
34. Deblois (e,s)
35. Dedham (s)
36. Dennistown Plantation (e,s)
37. Dennysville (e,s)
38. Dresden (s)
39. Drew Plantation (e,s)
40. Durham (s)
41. Edgecomb (s)
42. Fayette (s)
43. Frenchboro (s)
44. Gilead (e,s)
45. Glenwood Plantation (e,s)
46. Gorham (s)
47. Grand Isle (s)
48. Great Lakes Plantation (e,s)
49. Greenbush (s)
50. Hancock (s)
51. Hanover (e,s)
52. Harmony (s)
53. Hersey (e,s)
54. Highland Plantation (e,s)
55. Isle Au Haut (s)
56. Jefferson (s)
57. Jonesboro (s)
58. Kingsbury Plantation (e,s)
59. Lakeville (e,s)
60. Lamoine (s)
61. Lincoln Plantation (e,s)
62. Long Island (s)
63. Macwahoc Plantation (e,s)
64. Madrid (e,s)
65. Magalloway Plantation (e,s)
66. Mariaville(e,s)
67. Marshfield (e,s)
68. Meddybemps(e,s)
69. Medford (e,s)
70. Medway (s)
71. Milford (s)
72. Minot (s)
73. Monhegan Plantation (s)
74. Moro Plantation (e,s)
75. Nashville Plantation (e,s)
76. New Sweden (s)
77. Nobleboro (s)
78. Northfield (e,s)
79. Orient (e,s)
80. Orland (s)
81. Orrington (s)
82. Otis (s)
83. Palmero (s)
84. Pembroke (s)
85. Penobscot (s)
86. Perry (s)
87. Peru (s)
88. Phippsburg (s)
89. Pleasant Ridge Plantation (e,s)
90. Poland (s)
91. Portland (s)
92. Princeton (s)
93. Prospect (e,s)
94. Rangeley Plantation (e,s)
95. Raymond (s)
96. Reed Plantation (s)
97. Robbinston (s)
98. Rome (e,s)
99. Roque Bluffs (e,s)
100. Saco (s)
101. Sandy River Plantation (e,s)
102. Sedgewick (s)
103. Shirley (s)
104. Somerville (s)
105. South Bristol (s)
106. Southport (s)
107. Stockholm (s)
108. Surry (s)
109. Talmadge (e,s)
110. The Forks Plantation (e,s)
111. Trenton (s)
112. Upton (e,s)
113. Vanceboro (s)
114. Vassalboro (s)
115. Veazie (s)
116. Verona (e,s)
117 Waite (e,s)
118. Wesley (s)
119. West Bath (s)
120. Westmanland (e,s)
121. Westport (e,s)
122. Whitefield (s)
123. Whitneyville (e,s)
124. Willimantic (e,s)
125. Windsor (s)
126. Woodland (s)
127. Woodville (e,s)
128. Woolwich (s)
129. SAD 10 (e,s)
130. SAD 18 (e,s)
131. SAD 23 (s)
132. SAD 26 (s)
133. SAD 30 (s)
134. SAD 38 (s)
135. SAD 53 (s)
136. SAD 62 (s)
137. SAD 63 (s)
138. SAD 65 (s)
139. SAD 68 (s)
140. SAD 72 (s)
141. SAD 76 (s)
142. SAD 77 (s)
143. Indian Island (s)
144. Peter Dana Point (s)
145. Pleasant Point (s)
146. Airline CSD (s)
147. East Range CSD (s)
148. Great Salt Bay CSD (s)

(e) = tuition out elementary
(s) = tuition out secondary
*These figures as of 1999. The list varies annually as the number and age of students changes in a town.

Appendix C: Vermont Statutes Regarding Tuitioning

Vermont Title 16

§ 571. Contracts to construct and operate joint schools.
By a majority vote of the voters present and voting at a meeting, duly warned for that purpose, a town school district or incorporated school district may authorize its school directors to enter into a contract or contracts with other towns and parties for the financing, construction, maintenance and operation of a competent school or schools to provide means and facilities for the convenient and adequate development, education and training of the youth of such town.

§ 711c. Tuition rate for union school district.
Any student, a resident of a nonmember town may, in the discretion of the board of union school directors, be admitted equally with participating member students, provided, however, that the tuition paid is a rate not greater than the calculated net cost per pupil as defined under section 825 of this title.

(a) Each school district shall provide, furnish, and maintain one or more approved high schools in which high school education is provided for its pupils unless

(1) The electorate authorizes the school board to close an existing high school and to provide for the high school education of its pupils by paying tuition in accordance with law. Tuition for its pupils shall be paid to an approved public or independent high school, to be selected by the parents or guardians of the pupil, within or without the state; or

(2) The school district is organized to provide only elementary education for its pupils

(b) For purposes of this section, a school district which provides, furnishes and maintains a program of education for the first eight years of compulsory school attendance shall be obligated to pay tuition for its pupils for at least four additional years.

(c) The school board may both maintain a high school and furnish high school education by paying tuition to a public school as in the judgment of the board may best serve the interests of the pupils, or to an approved independent school if the board judges that a pupil has unique educational needs that cannot be served within the district or at a nearby public school. Its judgment shall be final in regard to the institution the pupils may attend at public cost.

§ 824. High school tuition.
(a) Tuition for high school pupils shall be paid by the school district in which the pupil is a resident.

§ 825. Maximum Tuition rate, calculated net cost per pupil defined:
(a) Calculated net cost per pupil for the purposes of this chapter shall be defined by the commissioner. Expenditures shall include those for equipment and school building construction, additions, or renovations. Expenditures excluded shall be:
(1) Transportation costs incurred by the receiving school district for its resident pupils;
(2) Transportation costs for which the receiving school district receives reimbursement;
(3) That portion of the total cost which is provided by direct grants from state or federal sources for salaries or other specific expenses;
(4) Expenditures for maintenance, and payments of principal and interest for buildings used exclusively for boarding students, if any;
(5) Expenditures for special education.

Appendix C: Vermont Statutes Regarding Tuitioning Continued

(b) In no case shall the tuition charged be such that the ratio of the total tuition received to the total cost of operation of the receiving school, or school district, exceeds the ratio of the number of tuition paying pupils to the total number of pupils enrolled in the receiving school or school district.

(c) The commissioner shall investigate complaints by a school board regarding tuition and may, within the limits of funds appropriated for this specific purpose, contract for limited scope audits of the annual statistical reports submitted by school districts for the purpose of determining the accuracy of the allocation of revenues and expenditures to elementary and secondary tuition rates.

§ 836. Tuition overcharge or undercharge.

(a) Annually, on or before November 1, the commissioner shall inform each school board of a receiving public school, each board of trustees of a receiving approved independent school for which the commissioner has calculated a net cost per pupil, and each sending school district in Vermont of the calculated net cost per elementary or secondary pupil in the receiving schools. Each school board or board of trustees of a receiving school shall then determine whether it overcharged or undercharged any sending district for tuition charges.

(b) If the sending district has paid tuition charges in excess of three percent of the calculated net cost per elementary or secondary pupil and is not sending enough students to the receiving school to use the overcharge funds as credit against tuition, the school board or board of trustees of the receiving school shall refund the overcharge money by July 31. However, interest owed the sending district on overcharge monies shall begin to accrue on December 1, at the rate of one-half percent per month.

(c) If the receiving district has undercharged tuition in an amount three percent or more than the calculated net cost per elementary or secondary pupil, the school board or the board of trustees of the sending school shall pay the amount of the undercharge. If payment is not made by July 31 of the year following the year in which the undercharge was determined, interest owed the sending district on undercharge monies shall begin to accrue on August 1, at the rate of one percent per month.

Appendix D: Maine Statutes Regarding Tuitioning

§ 5204. Secondary students right to attend school in another administrative unit
The following provisions govern the right of secondary students to attend school in another school administrative unit other than the one in which they are resident. [1981, c. 693, § § 5, 8 (new).]

1. Units with a secondary school. A secondary student may attend an approved private school or a public secondary school in any school administrative unit with the consent of the receiving school's school board. The student's parent or guardian shall pay the cost of tuition and transportation. The receiving school shall notify the superintendent of the school administrative unit where the student's parents reside of the name and grade of the accepted student. [1981, c. 693, § § 5, 8 (new).]

2. Living remote from public schools in a school administrative unit. Secondary students whose parents live remote from a public school in their school administrative unit may, with the consent of the school board in their unit, attend public school in an adjoining school administrative unit in Maine or a neighboring state if the adjoining unit accepts tuition students. The school administrative unit where the students' parents reside shall pay tuition. [1981, c. 693, § § 5, 8 (new).]

3. Contract school. Students whose parents reside in a school administrative unit which contracts for school privileges under section 2701 may attend the contract school. The school administrative unit in which their parents reside shall pay the cost of the contract. [1981, c. 693, § § 5, 8 (new).]

4. No secondary school. Secondary students whose parents reside in a unit which neither maintains a secondary school nor contracts for secondary school privileges may attend a private school approved for tuition purposes, a public school in an adjoining unit which accepts tuition students, or a school approved for tuition purposes in another state or country upon permission of officials of the receiving school. The school administrative unit where the students' parents reside shall pay tuition in the amount up to the legal tuition rate as defined in chapter 219. [1985, c. 797, § 32 (amd).]

5. Units with 10 or fewer students. Secondary students whose parents reside in a school administrative unit with a total April 1st resident student count of 10 or less may attend public school as tuition students in a nearby school administrative unit. The school board of the nearby school administrative unit shall accept the students if requested by the school board of the unit in which the students' parents reside. The school board where the students' parents reside shall pay tuition. [1981, c. 693, § § 5, 8 (new).]

6. Insufficient courses; time limitations. If the secondary school does not offer 2 approved foreign language courses, then its students may attend another secondary school approved for tuition purposes to take the language courses provided that:

A. The receiving school accepts tuition students; [1981, c. 693, § § 5, 8 (new).]
B. The students meet the qualifications for attending their own secondary school; and [1981, c. 693, § § 5, 8 (new).]
C. The students have notified their own school administrative unit by April 1st, before the start of each school year, that they wish to take the foreign language not being offered by their school administrative unit. Their school administrative unit shall notify them on or before July 15th of that year when the language course will be offered in the next school year. [1983, c. 859, Pt. C, § § 6, 7 (amd)][1983, c. 859, Pt. C, § § 6, 7 (amd)]

Appendix D: Maine Statutes Regarding Tuitioning Continued

TITLE 20-A: § 5805. Secondary school students; public schools

§ 5805. Secondary school students; public schools.
Tuition charges for secondary school students in public schools shall be governed by the following. [1981, c. 693, § § 5,8 (new)]

1. **Computation of tuition rate.** The tuition rate at a public secondary school shall be the sum of all expenditures divided by the number of students. These figures shall be determined as follows.

   A. Expenditures shall be all expenditures for public secondary education for the period July 1st to June 30th of the year immediately before the school year for which the tuition charge is computed, except expenditures for:
      (1) Special education;
      (2) Vocational education;
      (3) Community services;
      (4) Major capital outlay;
      (5) Debt retirement; and
      (6) Tuition and transportation. 1981, c. 693, § § 5,8 (new)

   B. The number of students shall be the average number of public secondary pupils enrolled on October 1st and April 1st of the same year. [1981, c. 693, § § 5, 8 (new)]

   C. The figure obtained by using the figures established in paragraphs A and B shall be divided by the average number of secondary students on October 1st and April 1st of the year immediately prior to the year for which the tuition charge is computed. [1981, c. 693, § § 5,8 (new)]

   D. The tuition rate thus determined shall be adjusted by the average change in public secondary education costs for the 2 years immediately before the school year for which the tuition charge is computed. This adjustment shall be limited to a 6% increase. [1981, c. 693, § § 5,8 (new)] [1981, c. 693, § § 5,8 (new)]

2. **Maximum allowable tuition**. The maximum allowable tuition charge by a public secondary school is the rate computed under subsection 1 or the state average per public secondary student cost as adjusted, whichever is lower. The school board of the sending unit may vote to pay a higher tuition rate. [1997, c. 266, § 10 (amd).]

3. **Maine School of Science and Mathematics.** [1995, c. 368, Pt. LL, §1 (rp).]

4. **Debt service factor.** Notwithstanding subsections 1 and 2, beginning with the 1999-2000 school year, a school administrative unit may charge a debt service factor for newly incurred capital outlay and debt service, as defined in section 1, subsection 19-A. The debt service factor must be an amount agreed upon by both the sending and receiving units, with the approval of the commissioner, and may not exceed 10% of a school's legal tuition rate per student in any one year. The debt service factor adjustment must be limited to a period of time not to exceed the receiving unit's repayment period for newly incurred capital outlay and debt service. The percentage of the debt service factor must be proportional to the cost of the project and the number of tuition students. [1997, c. 787, § 5 (new).]

Appendix D: Maine Statutes Regarding Tuitioning Continued

§ 5806. Secondary school students; private schools.
Tuition charges for secondary school students in private schools shall be governed by the following. [1981, c. 693, § § 5, 8 (new).]

1. **Private schools.** Tuition rates for a private school shall be computed as provided under section 5805, subsection 1, except that expenditures and number of students shall be based on the expenditures and students of that school. [1981, c. 693, § § 5, 8 (new).]

2. **Maximum allowable tuition.** The maximum allowable tuition charged to a school administrative unit by a private school shall be the rate established under subsection 1 or the state average per public secondary student cost as adjusted, whichever is lower, plus an insured value factor. The insured value factor shall be computed by dividing 5% of the insured value of school buildings and equipment by the average number of pupils enrolled in the school on October 1st and April 1st of the year immediately before the school year for which the tuition charge is computed. It may not exceed 10% of a school's legal tuition rate per student in any one year beginning with the 1988-89 school year.

   For the 1988-89 school year only the state share of the increase in the insured value factor shall be paid in the year of allocation. [1987, c. 463 (amd).]

3. **Tuition charge above allowable maximum.** A private school may charge tuition above the allowable maximum established in subsection 2, to a maximum excess charge of 15% above the otherwise allowable maximum, in those cases when the private school has a tuition contract with a public school unit or in those cases when the student has an alternative choice for attending secondary school at the allowable maximum tuition rate. The amount above the allowable maximum may be paid in whole or in part by the school administrative unit if the legislative body of the administrative unit votes to authorize its school board to pay a higher tuition rate. [1987, c. 816, Pt. KK, § 16 (amd).]

§ 5810. Tuition payments to receiving schools.
The following provisions apply to tuition payments. [1981, c. 693, § § 5, 8(new)]

1. **Payment date.** Tuition shall be paid within 30 days of the billing date. [1981, c. 693, § § 5, 8(new)]

2. **Nonpayment.** If tuition is not paid according to subsection 1, the superintendent of the school administrative unit, or the principal of the private school to whom payment is due, shall inform the commissioner. The commissioner shall pay the tuition due and shall deduct that amount from the state school subsidy to the school administrative unit owing tuition. [1981, c. 693, § § 5, 8(new)]

Appendix E: Composite Test Scores

VERMONT	
Middlebury Sr. UHSD #3	40.22
Mount Abraham UHSD #28	32.33
Vergennes UHSD #5	30.56
Fair Haven UHSD #16	30.00
Spaulding HSUD #41	30.78
Arlington Memorial	18.89
Blue Mountain USD #21	24.78
Burlington Senior High School	38.78
Danville School	23.44
Essex Comm. Ed. Ctr. UHSD #4	45.56
Champlain Valley UHSD #15	49.44
Colchester High School	35.89
Concord School	16.67
Canaan Schools	21.78
Enosburg Falls Jr/Sr High School	19.78
Richford Jr/Sr High School	31.11
Missisquoi Valley UHSD #7	22.56
Bellows Free Academy	27.89
Hartford High School	31.22
Lamoille UHSD #18	31.67
Peoples Academy	30.22
Stowe Middle/High School	47.89
Milton Sr High School	29.78
Montpelier High School	38.22
Oxbow UHSD #30	30.78
Williamstown Middle/High School	27.89
Randolph UHSD #2	27.33
Chelsea Elem. High School	35.11
So. Royalton Elem/High School	28.78
Lake Region UHSD #24	24.89
North Country Sr UHSD #22	29.89
Craftsbury Schools	44.67
Hazen UHSD #26	28.11
Proctor Jr/Sr High School	50.89
West Rutland School	14.89
Rutland Senior High School	40.33
Otter Valley UHSD #8	34.00
Mill River USD #40	35.67
Poultney High School	21.56
Black River USD #39	36.33
So. Burlington High School	43.00
Mt. Anthony Sr. UHSD #14	27.22
Springfield High School	25.56
U-32 High School (UHSD #32)	43.00
Cabot School	——
Twinfield USD #33	29.11
Northfield Middle/High School	37.11
Harwood UHSD #19	39.33
Leland & Gray UHSD #34	37.89
Bellows Falls UHSD #27	23.56
Brattleboro Sr. UHSD #6	37.22
Whitingham School	29.67
Wilmington Middle High School	33.78
Woodstock Sr. UHSD #4	46.22
Rochester Elem/High School	29.89
Whitcomb Jr/Sr High School	26.22
Windsor High School	26.22
Green Mountain UHSD #35	36.67
Winooski High School	13.33
Bellows Free Academy	28.44
Burr & Burton Academy	42.22
Lyndon Institute	31.78
St. Johnsbury Academy	43.67
Thetford Academy	28.89

MAINE	
Cony High School	23.00
Woodland Jr-Sr High School	10.33
Bangor High School	34.00
Morse High School	25.67
Biddeford High School	16.33
Boothbay Region High School	29.67
Brewer High School	26.67
Brunswick High School	30.33
Bucksport High School	24.33
Calais High School	18.33
Cape Elizabeth High School	39.33
Caribou High School	29.67
Deer Isle-Stonington Jr-Sr H S	28.67
Easton Junior-Senior High School	26.67
Ellsworth High School	20.00
Falmouth High School	43.33
Camden Hills Regional H S	34.67
Sumner Memorial High School	20.00
Freeport High School	31.67
Gorham High School	31.67
Hermon High School	24.67
Jay High School	22.33
Robert W Traip Academy	22.67
Lewiston High School	18.00
Madawaska Middle/High	19.67
Maranacook Community	31.33
Stearns High School	17.67

Monmouth Academy	44.33
Jonesport-Beals High School	6.33
Presque Isle High School	28.33
Mt View High School	22.33
Piscataquis Community H S	29.67
Rockland District High School	22.67
Bonny Eagle High School	21.00
Mt Blue High School	27.00
Gardiner Area High School	21.00
Upper Kennebec Valley Jr-Sr	26.33
Gray-New Gloucester High	22.00
Hall-Dale High School	24.00
Oxford Hills Comprehensive	21.67
Fort Fairfield Middle/High School	18.33
Dirigo High School	19.67
Hampden Academy	28.33
Van Buren District Secondary	30.00
Katahdin High School	12.67
Fort Kent Community High	24.00
Houlton High School	11.67
Penobscot Valley High School	15.00
Ashland Community High	23.00
Wisdom Middle High School	17.33
Belfast Area High School	24.33
Marshwood High School	31.33
Livermore Falls High School	17.67
Narraguagus High School	17.33
Buckfield Jr-Sr High School	15.33
Medomak Valley High School	22.00
Penquis Valley High School	15.33
Central Aroostook Jr-Sr H S	16.00
Mountain Valley High School	24.67
Telstar High School	18.00
Washburn District High School	42.33
Dexter Regional High School	20.67
Messalonskee High School	24.33
Nokomis Regional High	19.00
Lawrence High School	20.33
Georges Valley High School	23.67
Greely High School	36.67
Leavitt Area High School	20.33
Skowhegan Area High School	17.33
Sacopee Valley Jr-Sr High School	16.33
Searsport District High School	20.00
Massabesic High School	27.33
Mt Abram Regional High	21.33
Madison Area Memorial H S	18.33
Noble High School	19.67
Lake Region High School	21.33
Central High School	26.67
Mattanawcook Academy	23.67
Hodgdon High School	18.67
Kennebunk High School	26.00
Carrabec High School	20.33
Mt Ararat High School	26.00
Mt Desert Island High School	37.67
Oak Hill High School	16.67
Old Orchard Beach High	21.67
Old Town High School	18.33
Deering High School	26.00
Portland High School	23.67
Richmond High School	33.33
Sanford High School	24.33
Scarborough High School	34.00
So Aroostook CSD School	5.67
Machias Memorial High	21.67
Shead High School	11.33
Schenck High School	16.33
Lisbon High School	16.67
Winslow High School	28.00
Greenville High School	29.33
Orono High School	34.33
Poland Regional H S	22.00
Waterville High School	25.00
Wells High School	24.67
Westbrook High School	19.00
Windham High School	16.00
Winthrop High School	19.00
Wiscasset High School	23.00
Yarmouth High School	37.33
York High School	30.33
Maine School of Science & Math	——
Erskine Academy	19.00
Foxcroft Academy	27.00
Fryeburg Academy	26.00
George Stevens Academy	33.00
John Bapst Memorial High	53.33
Lee Academy	25.00
Liberty School Inc	44.67
Lincoln Academy	18.33
Maine Central Institute	23.00
Thornton Academy	28.00
Washington Academy	22.33

Appendix F: Competition Scores

VERMONT	
Middlebury Sr. UHSD #3	.00
Mount Abraham UHSD #28	.00
Vergennes UHSD #5	.00
Fair Haven UHSD #16	.11
Spaulding HSUD #41	1.20
Arlington Memorial	.42
Blue Mountain USD #21	.00
Burlington Senior High School	.14
Danville School	.54
Essex Comm. UHSD #4	.50
Champlain Valley UHSD #15	.11
Colchester High School	.14
Concord School	.31
Canaan Schools	.20
Enosburg Falls Jr/Sr High School	.20
Richford Jr/Sr High School	.20
Missisquoi Valley UHSD #7	.00
Bellows Free Academy	.59
Hartford High School	.00
Lamoille UHSD #18	.17
Peoples Academy	.39
Stowe Middle/High School	.00
Milton Sr High School	.34
Montpelier High School	.00
Oxbow UHSD #30	.00
Williamstown Middle/High School	.14
Randolph UHSD #2	.00
Chelsea Elem. High School	.31
So. Royalton High School	.42
Lake Region UHSD #24	.42
North Country Sr UHSD #22	.00
Craftsbury Schools	.00
Hazen UHSD #26	.48
Proctor Jr/Sr High School	.37
West Rutland School	.39
Rutland Senior High School	.50
Otter Valley UHSD #8	.13
Mill River USD #40	.34
Poultney High School	.31
Black River USD #39	.14
So. Burlington High School	.33
Mt. Anthony Sr. UHSD #14	.00
Springfield High School	.31
U-32 High School	.00
Cabot School	.25
Twinfield USD #33	.00
Northfield Middle/High School	.00
Harwood UHSD #19	.00
Leland & Gray UHSD #34	.00
Bellows Falls UHSD #27	.14
Brattleboro Sr. UHSD #6	.00
Whitingham School	.48
Wilmington High School	.56
Woodstock Sr. UHSD #4	.00
Rochester Elem/High School	.56
Whitcomb Jr/Sr High School	.39
Windsor High School	1.25
Green Mountain UHSD #35	.14
Winooski High School	.25
Bellows Free Academy	.31
Burr & Burton Academy	1.04
Lyndon Institute	.34
St. Johnsbury Academy	1.20
Thetford Academy	.00

MAINE	
Cony High School	.20
Woodland Jr-Sr High	1.54
Bangor High School	.76
Morse High School	.92
Biddeford High School	1.14
Boothbay Region High	.82
Brewer High School	.70
Brunswick High School	.00
Bucksport High School	.70
Calais High School	.34
Cape Elizabeth High School	.14
Caribou High School	.14
Deer Isle-Stonington Jr-Sr H S	.45
Easton Junior-Senior High	.00
Ellsworth High School	.17
Falmouth High School	.17
Camden Hills Regional H S	.17
Sumner Memorial High	1.01
Freeport High School	.20
Gorham High School	.00
Hermon High School	.20
Jay High School	.00
Robert W Traip Academy	.00
Lewiston High School	.82
Madawaska /High School	.00
Maranacook Community	.25
Stearns High School	.00
Monmouth Academy	.17
Jonesport-Beals High School	.92

Presque Isle High School	.00
Mt View High School	.00
Piscataquis Community H S	.14
Rockland District High School	.00
Bonny Eagle High School	.00
Mt Blue High School	.00
Gardiner Area High School	.25
Upper Kennebec Valley Jr-Sr	.17
Gray-New Gloucester High	.17
Hall-Dale High School	.20
Oxford Hills	.00
Fort Fairfield Middle/High School	.00
Dirigo High School	.33
Hampden Academy	1.00
Van Buren District Secondary	.00
Katahdin High School	.00
Fort Kent Community High	.00
Houlton High School	.00
Penobscot Valley High School	.00
Ashland Community High	.17
Wisdom Middle High School	.00
Belfast Area High School	.00
Marshwood High School	.00
Livermore Falls High School	.00
Narraguagus High School	.00
Buckfield Jr-Sr High School	.00
Medomak Valley High School	.00
Penquis Valley High School	.14
Central Aroostook Jr-Sr H School	.00
Mountain Valley High School	.00
Telstar High School	.14
Washburn District High School	.00
Dexter Regional High School	.00
Messalonskee High School	.14
Nokomis Regional High	.00
Lawrence High School	.00
Georges Valley High School	.00
Greely High School	.14
Leavitt Area High School	.00
Skowhegan Area High School	.00
Sacopee Valley Jr-Sr High School	.00
Searsport District High School	.29
Massabesic High School	.00
Mt Abram Regional High	.00
Madison Area Memorial H S	.00
Noble High School	.00
Lake Region High School	.00
Central High School	.00
Mattanawcook Academy	1.34
Hodgdon High School	.00
Kennebunk High School	.33
Carrabec High School	.00
Mt Ararat High School	.00
Mt Desert Island High School	1.01
Oak Hill High School	.67
Old Orchard Beach High	.50
Old Town High School	1.98
Deering High School	.17
Portland High School	.20
Richmond High School	.50
Sanford High School	.00
Scarborough High School	.00
So Aroostook CSD School	.37
Machias Memorial High	1.89
Shead High School	.50
Schenck High School	.33
Lisbon High School	.00
Winslow High School	.29
Greenville High School	.37
Orono High School	1.25
Poland Regional HS	.53
Waterville High School	.14
Wells High School	.00
Westbrook High School	.00
Windham High School	.00
Winthrop High School	.00
Wiscasset High School	.99
Yarmouth High School	.14
York High School	.00
School of Science & Math	.25
Erskine Academy	.53
Foxcroft Academy	.53
Fryeburg Academy	1.25
George Stevens Academy	.70
John Bapst Memorial	.56
Lee Academy	1.17
Liberty School Inc	.70
Lincoln Academy	1.75
Maine Central Institute	.33
Thornton Academy	.48
Washington Academy	.67
Bridgton Academy	.00
Carleton Project	.00
Community School	.42
Deck House School	1.23
Gould Academy	.14
Hyde School	1.96
Kents Hill School	.33
The New School	.20
Catherine McAuley High	.17
Cheverus High School	.17

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Endnotes

[1] Rankings based on NAEP scores. Often called the "Nation's Report Card," the National Assessment of Educational Progress (NAEP) is the only nationally representative, continuing assessment of what America's students know and can do in various subject areas. It is administered by the National Center for Education Statistics, U.S. Department of Education. Tests are administered in different years, and not all tests are administered in each state. In terms of Vermont and Maine, the most recent tests scores are from 1998-2000.

[2] Telephone interview with Mike Kucsma.

[3] See the history of St. Johnsbury and St. Johnsbury's Academy in McClaughry, 1987.

[4] See Swart vs. South Burlington Town School District, 122 Vt. 177 (1981).

[5] Telephone interview with Libby Sternberg.

[6] Document — Municipalities by County that Do Not Operate Schools, 4/3/01, Maine Department of Education. Document — Distribution of School Administrative Units in Maine, 6/1/01, Maine Department of Education.

[7] Calculated from document "Resident Per Pupil Operating Costs (K-12)," Maine Department of Education.

[8] Calculated from data provided by Maine Department of Education, 2001.

[9] This figure is derived by adding the number of School Administrative Districts and the number of cities and towns with individual supervision. The authors are aware that there are numerous other "administrative units" in the state, but many of these overlap. The two types of units used here are the dominant form.

[10] As of fall 2000.

[11] As of fall 2000.

[12] Economics Professor and longtime Vermont resident Art Woolf notes that in Vermont if a student goes to a public high school, the sending town pays the full announced tuition of that school. If the student chooses an independent or private school in or out of state, the sending town pays the average statewide tuition figure with parents picking up any additional costs. There are some exceptions, such as that a town can pay a higher amount if it votes to, as some towns do. For example, Burr and Burton Academy in Manchester charges about $9,000 and most surrounding towns vote to pay that amount even though it exceeds the state average. To this end, the exchange of money based solely on tuition rates probably underestimates the real exchange of dollars.

[13] Chittenden Town School District v. Vermont Department of Education, 1999.

[14] Telephone interview with Patrick Dow.

[15] Data provided by Vermont Department of Education, for fiscal year 2000.

[16] Data provided by Maine Department of Education and Maine Department of Education for fiscal year 1999-2000.

[17] Telephone interview with Libby Sternberg.

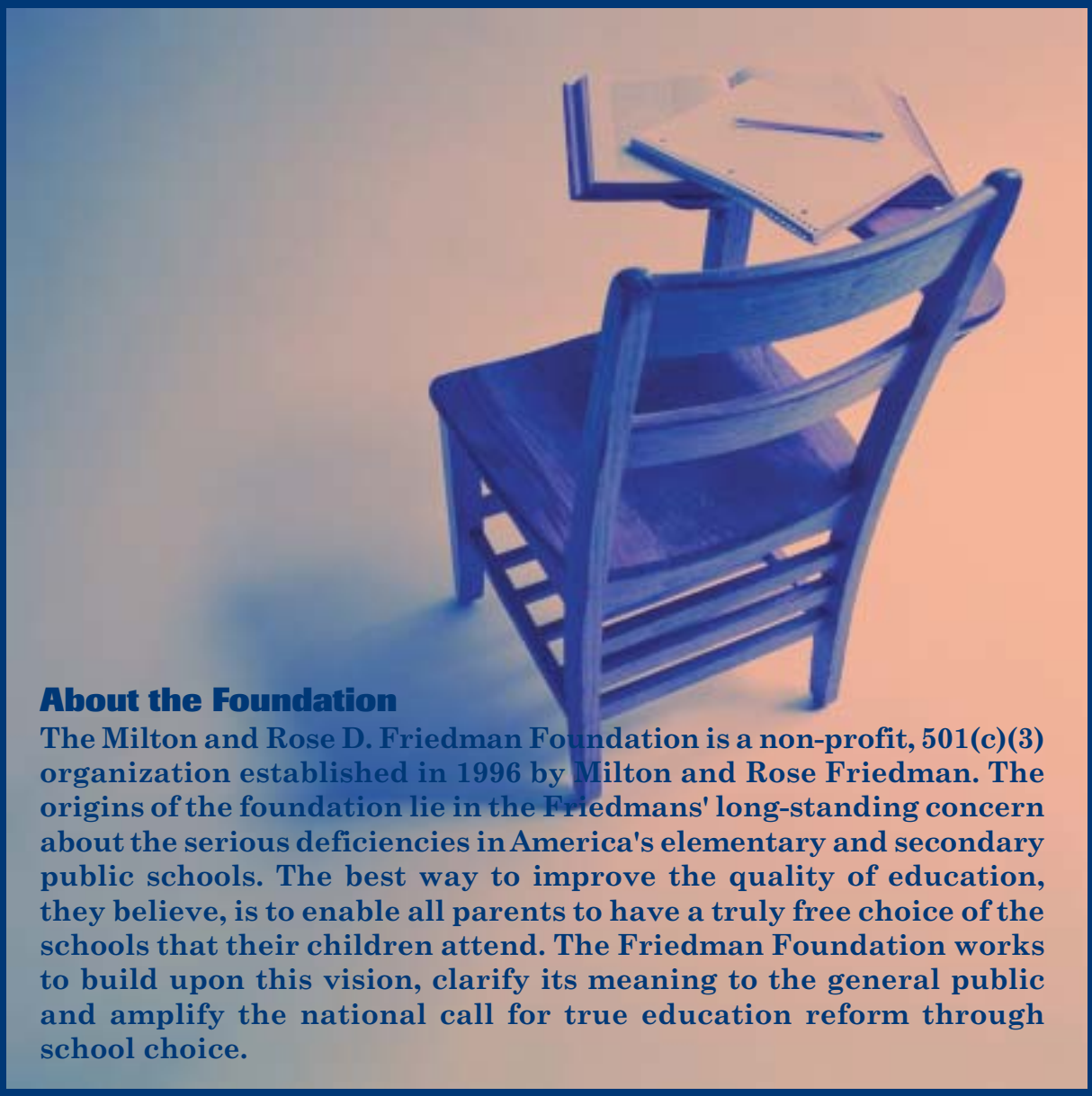
[18] Calculated from data provided by the Vermont Department of Education and Maine Department of Education for fiscal year 1999-2000.

[19] This decision rule was made based on a review of maps of both states. Towns in both Maine and Vermont are close together. Professor Art Woolf of the University of Vermont notes that in Vermont towns are roughly six squares miles in size. Our assessment of Maine is that the towns are of similar size. Therefore, we chose a radius of seven miles on the premise that driving one mile past the outskirts of town would constitute a relatively lengthy commute given that parents tend to prefer schools that are closer to them rather than more distant. We figure parents would prefer to stay within their towns if at all possible.

[20] A one-point increase could be achieved by adding a tuition town one mile from a school question (which would be given a market score of 1/1), or two tuition towns at a half mile distances (1/2+1/2=1), or 10 schools at a distance of 10 miles each (1/10 x 10), or various other permutations that add up to 1 point.

[21] This figure derived by averaging per pupil expenditures in Maine for 2000 ($5818) with per pupil expenditures in Vermont in 2000 ($8458) and calculating how much a $909 per student increase would amount to on the average expenditures for both state combined.

[22] The authors acknowledge that the cost per point would actually vary by state. If we use the more complex results of regression analysis for each state, the costs to Maine run roughly $209 million dollars while the costs to Vermont run closer to $167 million dollars when differences between the states are taken into consideration.



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The Milton and Rose D. Friedman Foundation is a non-profit, 501(c)(3) organization established in 1996 by Milton and Rose Friedman. The origins of the foundation lie in the Friedmans' long-standing concern about the serious deficiencies in America's elementary and secondary public schools. The best way to improve the quality of education, they believe, is to enable all parents to have a truly free choice of the schools that their children attend. The Friedman Foundation works to build upon this vision, clarify its meaning to the general public and amplify the national call for true education reform through school choice.

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