

Vermont in Transition:

A Summary of Social Economic and Environmental Trends

A study by

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for the

Council on the Future of Vermont

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Chapter 11: EDUCATION



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Chapter 11: EDUCATION

In an increasingly complex and competitive world, the importance of education cannot be overemphasized. The process of globalization demands more creative, adaptable and highly educated workers than ever before. The movement from a rural agrarian economy to a manufacturing-based economy, and now to an increasingly service-based economy has not been easy. Not all Vermonters have been able to successfully navigate this transition. But we do know that Vermonters with higher levels of education have been in the best position to benefit from the new opportunities that present themselves with changing economic conditions.

Education increases options and opportunities, but the value of education goes well beyond simply opening doors to society's better jobs. Survey results from a 2005 Vermont Business Roundtable study of quality of life in Vermont, for example, show that perceived levels of life satisfaction are higher for those with more education. Those that are better educated not only have higher incomes, but also are more likely to feel that life is exciting and are more satisfied with many of the key domains of life.¹

By most educational measures, Vermont is in the top quintile of the national rankings. For example, in 2007, Vermont was ranked 11th in the nation in the percent of adults (Vermonters over the age of 25) who graduated from high school and 6th in the proportion with a bachelor's degree.²

Education has been studied extensively, both nationally and in Vermont, and the interpretation of educational trend data is particularly complex. As will be shown below, analysts examining the same trends can reach very different public policy conclusions. This chapter begins with an analysis of educational issues at the K-12 level and is followed by an examination of higher education trends in Vermont.

¹ "Pulse of Vermont: Quality of Life Study 2005," Vermont Business Roundtable, Bolduc and Kessel.

² Thomas Mortenson, *Interstate Migration of College Graduates 1989 to 2007*. Postsecondary Education OPPORTUNITY. August 2008

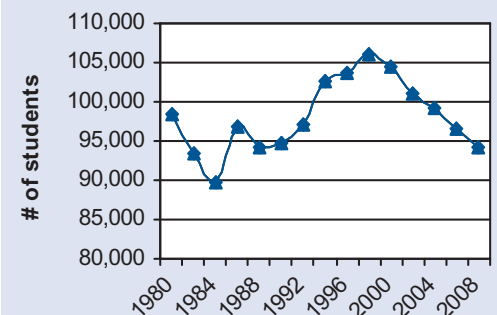
Trends in Education in Vermont

Trends in K-12 Education

Trend Number 1: The number of students enrolled in K-12 public schools has declined in Vermont since the year 2000. The change in the number of students varies across the state. Chittenden County has held fairly steady, while the rest of the state has lost students. Although low compared to national averages, there is an upward trend in the number of minority and ESL students.

Vermont K-12 enrollments have been affected by the same demographic shifts that have been at work nationally. In the early 1980s, enrollments were declining. As the children of the baby boom arrived, the state's enrollments increased by approximately 18% between 1984 and 1999. Since then, enrollments have been falling. Though population projections should always be viewed with caution, the consensus is that K-12 enrollments will decline over the next 10 years

Enrollment Trends in Vermont Public Schools 1980 to 2008



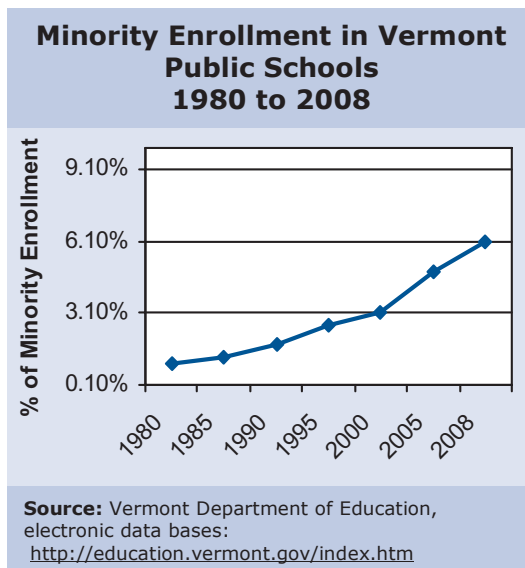
Source: Vermont Department of Education, electronic data bases: <http://education.vermont.gov/index.htm>

and not hit its previous peak for 20 years. As might be expected, the enrollment changes are spread disproportionately across the state. Over the last decade, the bulk of the decline has been outside of Chittenden County.³

Changing enrollment levels are neither inherently negative nor positive but provide challenges along with opportunities. When enrollment is increasing, there is the need for greater resources. On the positive side, growth makes it easier to apply new assets where they are needed most and to fund innovative programs.

At first glance, it might appear that falling enrollments would ease financial pressures, but that is often not the case. For political, contractual, and/or economic reasons it is difficult to reduce or reassign personnel to where the need is greatest. This dilemma is compounded when needs shift between districts or areas of the state. The cost per student may rise while services may not be delivered where they are needed most. These problems are played out on many fronts. School finance formulae and district consolidation are two prominent examples of related issues subject to continuous debate.

Though the number is still quite small, there has been an increase in minority enrollment in Vermont. The percentage of all students who are minorities in K-12 has increased from 1.8% in 1990 to over 6% in 2008. This change is reflected in the rising percent of students whose first language is not English. Once again, these changes have not been uniformly distributed across the state. Winooski and Burlington, for example,

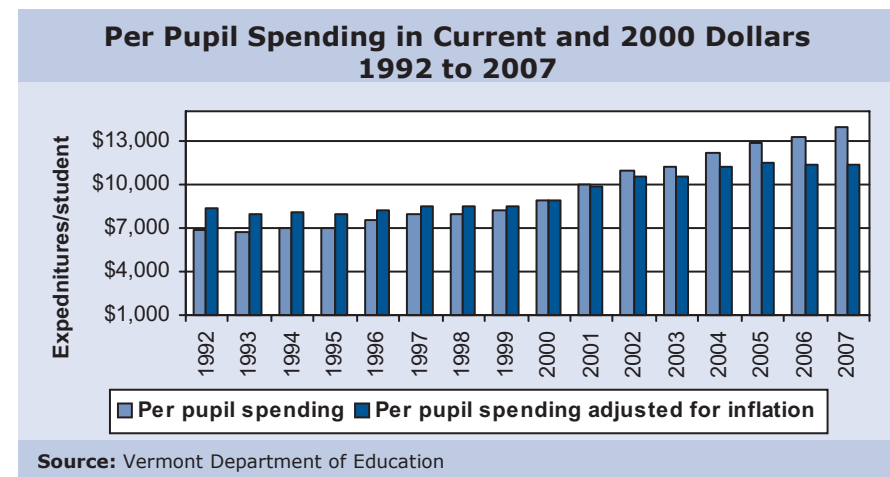


³ Vermont Department of Education, electronic data bases: <http://education.vermont.gov/index.htm>

have seen a 60% increase in the number of English as a second language (ESL) students since 2000. In the Burlington schools, there are students with 47 different languages as their primary dialect, and in Winooski one-quarter of the students are “English language learners.”^{4,5}

Trend Number 2: Expenditures per student have been rising.

Statewide, expenditures per student have increased from \$6,800 in 1992 to \$13,885 in 2007, an increase of 104%. Adjusted for inflation (in 2000 dollars), expenditures increased 36% over this time period. According to the National Educational Association, Vermont expenditures in 2005 per student were 6th highest in the nation.⁶ The changes in expenditures vary by district type and size (see Appendix, Charts 11-1 and 11-2).



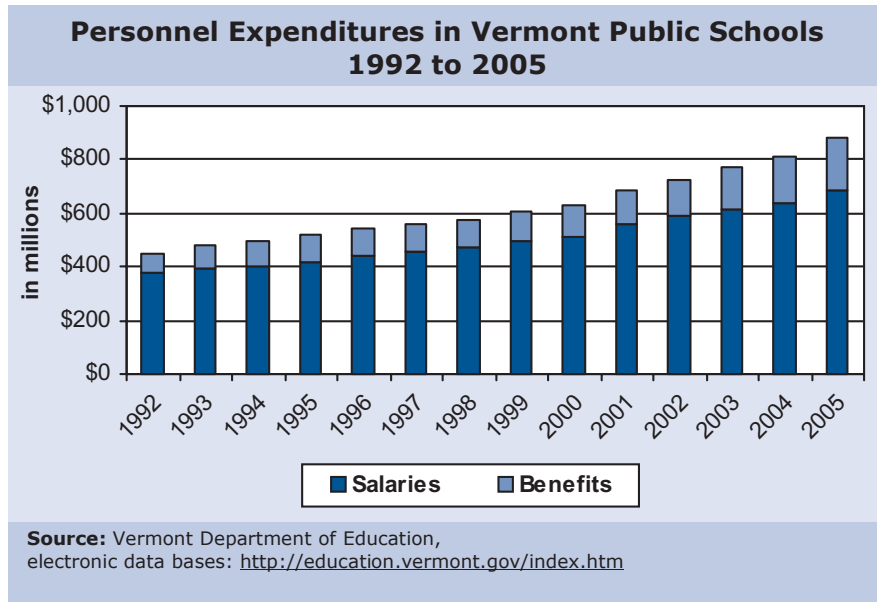
Rising expenditures per student are sometimes viewed as a strong commitment to education or as an example of extravagant government spending. In constant dollars, the increase in expenditures was quite modest throughout the 1990s. The dramatic increases took place after 1999, a period when enrollments began to decline without a concurrent decrease in educational personnel.

⁴ Superintendent’s Office, City of Burlington Public Schools.

⁵ [Burlington Free Press](#), *Non-English Speakers Increase*, October 10, 2008.

⁶ NEA Research, Estimates Database (2006). K-12 = “Elementary and Secondary” <http://www.nea.org/edstats/RankFull06b.htm>

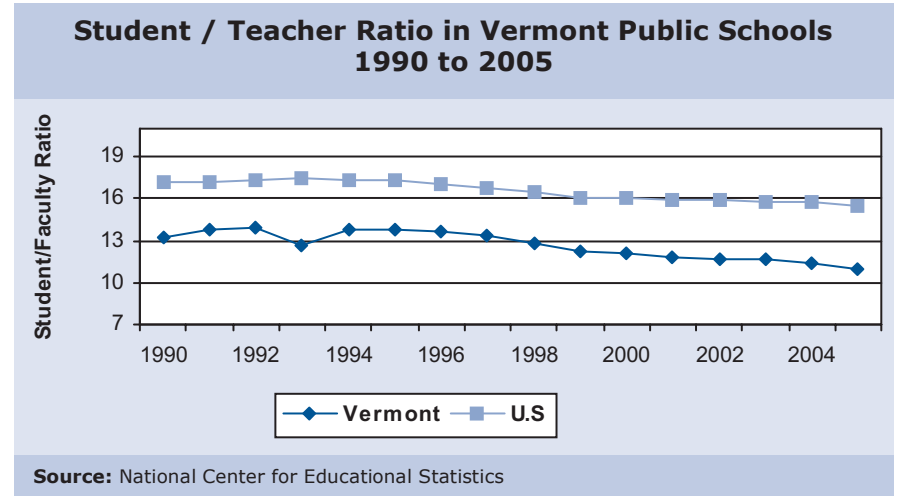
Analysts have put forward several reasons that explain why expenditures are rising. Per pupil personnel cost is the major component of this increase. In 2005, expenditures for salaries and benefits accounted for approximately 71% of total Vermont K-12 educational expenditures, and from 1992 to 2005, personnel expenditures increased by 91%.⁷



The level of teacher salaries does not appear to be driving the increase in expenditures per student. In 2005, Vermont teacher salaries were ranked 21st in the nation and 4th in New England. Between 1993 and 2003, the growth in Vermont salaries was only 22% (the percent change was ranked 45th lowest in the nation). The average growth of teacher salaries nationally was 30% during this time period.⁸

⁷ Vermont K-12 Public Education, Hugh Kemper, June 2007

⁸ National Center for Educational Statistics,, U.S. Department of Education



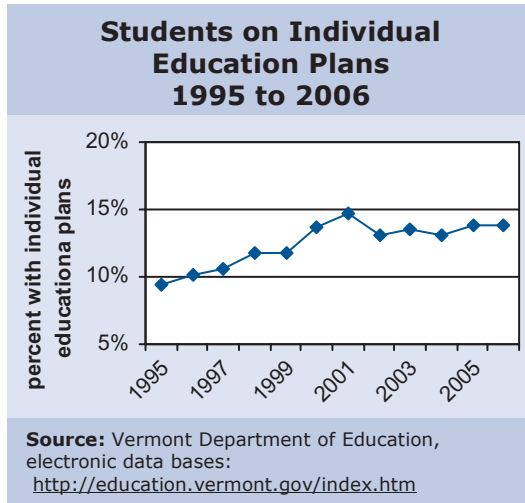
Trend Number 3: The number of personnel in public schools has increased, leading to a declining student-teacher ratio.

The most notable change in Vermont’s K-12 educational system is the growth in the number of personnel. From 1996 to 2006, total public school employment, instructional, administration, and support, grew by 22.2% during a period of declining student enrollments (6.7% during this period). The growth in instructional employment or teachers and aides alone was slightly higher at 22.8%.⁹ Consequently by 2005, the student-teacher ratio had dropped to 10.9 to 1, the lowest in the country (the nationwide average ratio was 15.5 to 1).¹⁰ Is Vermont’s student-faculty ratio a cause for concern or a source of pride? Reports that have examined Vermont’s educational system answer this question differently, some quite vehemently.

⁹ Vermont State Public Education Expenditure Overview and Analysis Phase I, Nicholas Rockler and Thomas Kavet, Kavet Rockler, and Associates, September 2006

¹⁰ Average class size in Vermont, closely correlated with student teacher ratios, is also the lowest in the nation. In elementary schools, the average class is 16 students in Vermont in comparison to 20.4 nationally. In high schools, Vermont’s average class size is 18.9 students in comparison to 24.7 students nationally. “Vermont Education: Costs, Staffing and Quality,” *The Vermont Economy Newsletter*, October 2007.

One factor that partially explains rising personnel expenditures is the 48% increase between 1995 and 2006 of students classified as qualifying for special education services. Between fiscal year 1996 and 2001, special education inflation adjusted expenditures grew at 7.03% a year, double the adjusted growth rate of regular education, 3.83%.¹¹ Most of the growth in special education plans occurred from 1995 to 2001, after which the trend flattens out.



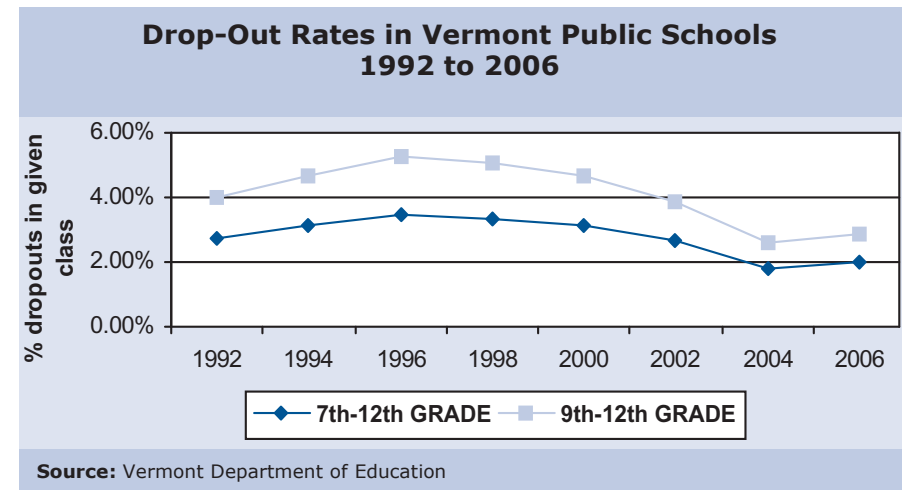
Kavet and Rockler point out that school districts are also facing cost pressure from the substantial increases in health care benefits and energy costs. Between 1997 and 2005, health care costs more than doubled and between 1998 and 2008, the price of crude oil increased more than eight times.^{12, 13}

School expenditures will always have an inflationary bias. The salaries and benefits of those who work in public schools are loosely tied to general trends in compensation outside of the school system. When compensation rises in the private sector, increased cost can often be offset by productivity increases. These increases are harder to achieve in educational settings. Adding students to a classroom is one way to reduce costs, but the result may not be educationally sound. Some analysts have suggested that substantial productivity increases can be achieved through school and district consolidation. Vermont has 260 town school districts, each requiring its own set of administrators and support facilities. Since it is difficult to measure educational outputs, school district efficiency is not

easy to quantify. In fact, Vermont's larger districts spend more per student than smaller districts (see Appendix, 11-2).¹⁴

Trend Number 4: The K-12 dropout rate has been declining over time.

One measure of educational outcomes is the percent of students who graduate from high school or its converse, the drop out rate. The percentage of students dropping-out in Vermont is slightly lower than the national average.¹⁵ Since the mid 1990s, the drop-out rate has declined. Why these changes have taken place is still an open question. It should be noted that the state has recently implemented a more accurate system that tracks cohorts over a number of years. This report relies on information using the older methodology, which measures dropouts by the number of students in a given grade who dropout as a percent of all students enrolled in the same grade range. Longer-term trend data is only available using this older methodology.



¹¹ A Review of Vermont Education Expenditures From FY96 to FY 2001, Young, Altemus, and Talbott, Vermont Department of Education

¹² Vermont State Public Education Expenditure Overview and Analysis Phase I, Nicholas Rockler and Thomas Kavet, Kavet Rockler, and Associates, September 2006

¹³ United States, Department of Energy

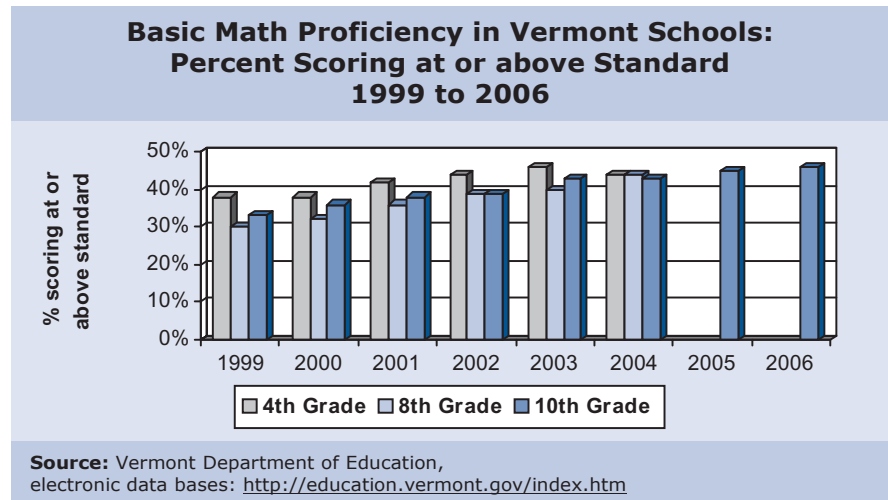
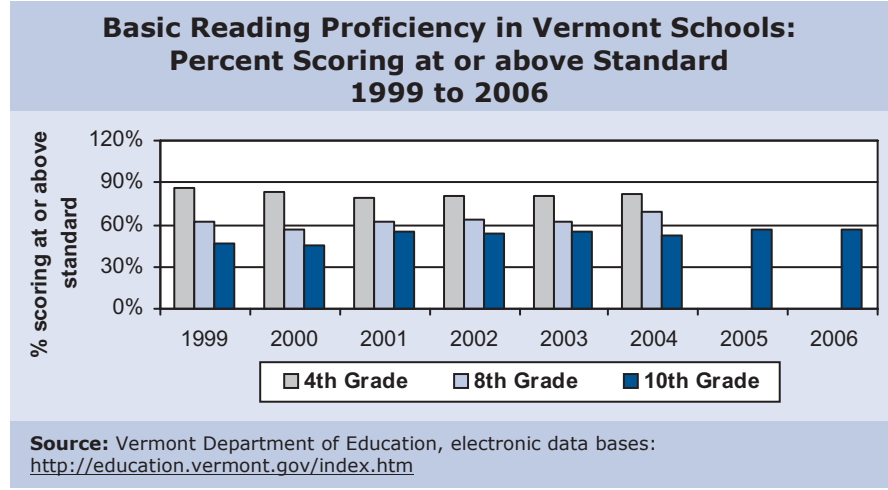
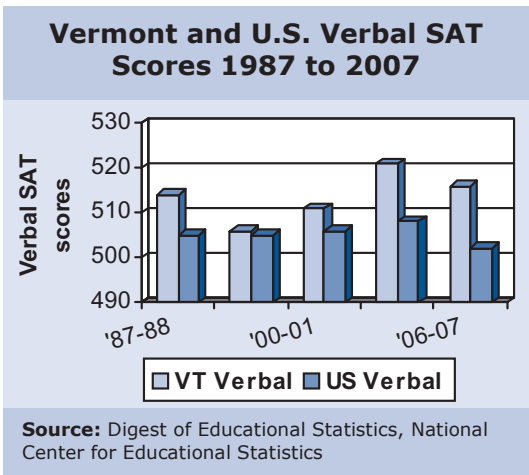
¹⁴ For detailed information about district expenditures see: FY 2008 Per Pupil Spending by School District, http://education.vermont.gov/new/pdfdoc/data/per_pupil/per_pupil_08.pdf

¹⁵ National Center for Educational Statistics

Trend Number 5: The trend in educational testing shows modest student improvements in a number of areas.

Vermont students often score well in standardized tests, and the state is not lacking in educational data. However, the interpretation of this data is not straightforward. Over the years, the state has used a variety of assessment instruments. Some were statewide, some were regional, and currently Vermont participates in the nationwide evaluation of student learning. The changing methodology makes it very difficult to make comparisons over time. There are also questions about the validity of the instruments. Changes observed in student results might be the result of the educational system, or social and demographic characteristics of the test takers themselves.

Based on the raw scores, Vermont has traditionally scored higher than the national average on the SAT verbal tests. Recently, it has also scored slightly above average on the SAT math tests. Though these distinctions are often reported in the media when they are first released, they may not be significant. To the extent that the tests live up to the claims that they measure “scholastic aptitude” (as opposed to academic achievement), the educational system and other factor can share the credit (or blame) for SAT results. Depending how an analyst adjusts test results for socio-economic variables, different conclusions will emerge. In some instances, Vermont’s scores are either equal to or lower than the national average.¹⁶ It is also important to remember that not all students take the SAT tests; some take no college entrance tests at all, while others take only the ACT’s. A quick appraisal of the raw data shows little in the way of a 20-year trend for verbal scores, but math scores are slowly rising.



The State of Vermont has been participating in the New England Common Assessment Program (NECAP) for reading, mathematics and writing. The tests, which are administered annually, are designed to test knowledge and skills proficiency that students are expected to achieve at each grade level.¹⁷ While it is very difficult to analyze long-term trends since testing methodologies often change, casual observation of some of the results from these tests suggest that the 8-year trend has been positive; both math

¹⁶ For a skeptical reading on the value of Vermont test scores go to Hugh Kemper’s, Vermont Tiger .com, <http://www.vermonttiger.com/content/2007/10/the-real-story.html>

¹⁷ The Vermont Department of Education publishes multiple pages of assessment results each year. The are available at Vermont Department of Education, electronic data bases: <http://education.vermont.gov/index.htm>

and reading proficiency have improved, but only modestly.¹⁸ Whether these results are meaningful is very difficult to ascertain. There are a host of methodological and statistical issues that muddy the water, including changing test instruments.

As part of the “No Child Left Behind” legislation, the federal government has mandated the National Assessment of Educational Progress (NEAP). Opinion is divided about whether this is a step in the right direction or not. Vermont students generally score higher than national norms, but the significance of and reasons for these differences are impossible to discern by simply observing the raw data (see Appendix, 11-11).

Trend Number 6: The variation in spending between districts has been reduced over the last decade.

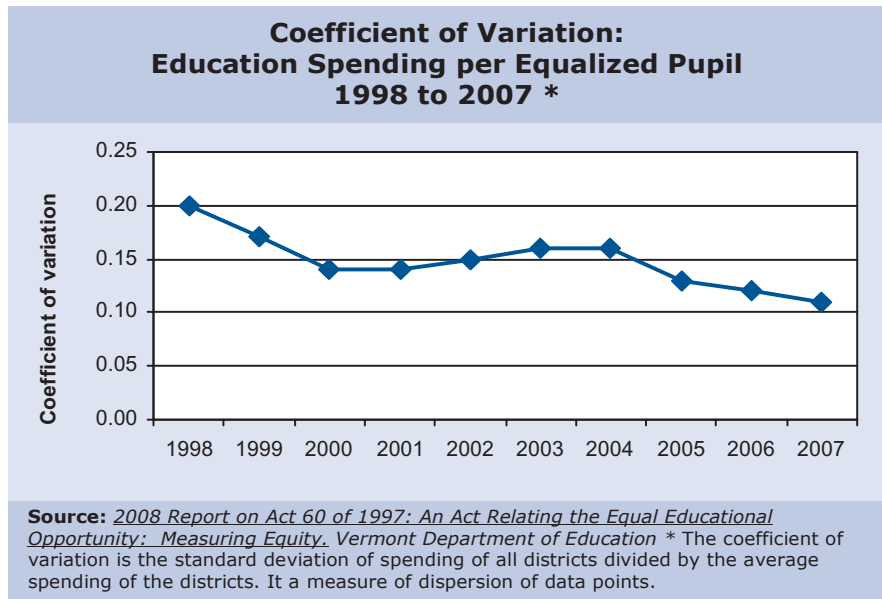
Perhaps the most analyzed and contentious issue facing public schools today is the educational finance system. In 1997, the Vermont legislature passed Act 60 in response to a Vermont Supreme Court decision finding the existing educational finance system, based upon local property taxes,

to be unconstitutional. Act 60 was the legislative response. While Act 60 was very complex, essentially the purpose of the act was to reduce the correlation between a district’s property wealth and its per pupil spending.¹⁹ Though the educational finance pot is always boiling, it appears that the controversy has declined since 2004.²⁰ The chart on the left indicates that the variation in spending between districts has been reduced over the last decade.

Trends in Higher Education

The quality of Vermont’s higher education system is as central to the economic future of the state as is its primary and secondary public schools. To compete successfully in the global market place, the state will need creative and dynamic leaders and skilled employees, the type of people former Secretary of Labor Robert Reich referred to as symbolic analysts.²¹ Historically, many of Vermont’s leaders, both native and non-native born, have had been inspired and nurtured in Vermont’s colleges and universities, the focus of the remainder of the chapter.

Higher education is a big business; it’s the 4th largest “industry” in the state. A recent study by the New England Association of Schools and Colleges (NEASC) estimates that the direct and indirect impact of higher education on the state’s GDP is over two billion dollars a year.²² Additionally, higher education is a green industry with numerous external benefits for all the citizens of the state. Vermont’s quality of life and many of its civic, cultural and recreational opportunities are directly connected to the state’s colleges and universities. However, a number of the recent trends in higher education



¹⁹ Several elements of Act 60 were quite controversial from the onset, foremost of which was the idea that wealthier school districts that spent more than a set amount per student would need to send additional funds to the state that would be passed on to poorer receiving towns. In response to the controversy, Act 68 was passed in 2004. See 2008 Report on Act 60 of 1997: An Act Relating the Equal Educational Opportunity: Measuring Equity. Report to the House and Senate Committee on Education, January 2008, Submitted by Vermont Department of Education.

²⁰ There is a great deal of literature available discussing these changes and whether greater equity in spending translates into improved educational outcomes for Vermont students. For example, see 2008 Report on Act 60 of 1997: An Act Relating the Equal Educational Opportunity: Measuring Equity.

²¹ In the Work of Nations, Robert Reich describes symbolic analysts as the well educated who engage in processing information and symbols for a living.

²² Economic Impact Report 2008: New England Association of Schools and Colleges.

¹⁸ Fourth grade reading proficiency is one area where there were no noticeable long-term improvements.

suggest that the industry will be facing significant challenges in the coming years, most of which are not unique to state.

Vermont has 6 public and 18 private colleges and universities chartered by the state. These institutions provide both residents and non-residents with a rich variety of educational options. The public institutions, especially the state's flagship institution, the University of Vermont, dwarf the size of any single private institution. In terms of the combined number of students, however, the schools in the private sector approach the size of the public institutions. The public institutions offer a range of programs in a number of specialized areas of study that are not available in private colleges, while at the same time, providing lower priced educational opportunities. This is especially true for the Community College of Vermont with over 5,500 full and part-time students (full time equivalent of 2,546).

Each of the private institutions has carved out a unique place in the spectrum of colleges and universities in America. Middlebury College, Norwich University, Champlain College, Saint Michael's College, Green Mountain College, Bennington College, Goddard College, Vermont Law School, the New England Culinary Institute and Landmark College are among the larger of these Vermont based institutions, each with a distinctive and well-known mission. Among

Enrollments in Vermont's Colleges and Universities 1980 to 2007				
Institution Name	1980 Total FTE*	1990 Total FTE*	2000 Total FTE*	2007 Total FTE*
Public				
University of Vermont	9,317	9,320	8,731	10,956
Community College of Vermont	244	1,438	1,835	2,546
Castleton State College	1,438	1,632	1,436	1,851
Johnson State College	1,021	1,431	1,214	1,357
Lyndon State College	1,007	1,159	1,059	1,276
Vermont Technical College	642	841	942	1,244
Private				
Norwich University	1,495	2,352	2,579	3,374
Middlebury College	1,909	2,014	2,262	2,483
Champlain College	1,046	1,503	1,817	2,266
Saint Michael's College	1,790	2,068	2,238	2,184
Green Mountain College	476	596	622	811
Bennington College	593	580	631	710
Goddard College	1,051	708	589	677
Vermont Law School	384	288	560	618
New England Culinary Institute	0	330	177	456
Landmark College	0	21	193	364
Southern Vermont College	399	484	340	361
School for International Training	592	721	297	350
Marlboro College	207	281	393	312
College of St Joseph	256	264	356	288
Burlington College	86	106	144	140
Sterling College	0	83	29	104
Woodbury College	0	0	119	86
Marlboro College Graduate Center	0	0	0	27
Source: Integrated Postsecondary Education Data System (IPEDS): http://nces.ed.gov/IPEDS/ * FTE: Full Time Equivalents				

Vermont's colleges and universities, most have seen sizable growth in student enrollments since 1980. The schools that have grown the fastest include the Community of College of Vermont, Champlain College, Vermont Technical College and Norwich University.

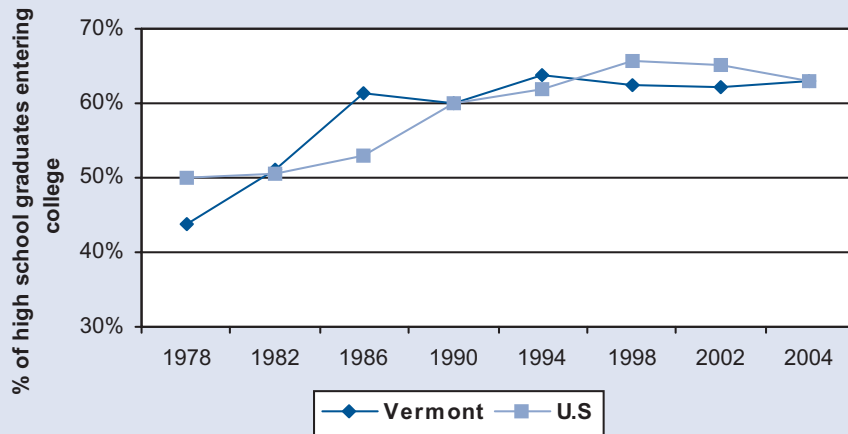
Vermont is a well-educated state. In 2007, 35.5% of the citizens over 25 years of age have earned at least an undergraduate degree, considerably higher than the national rate of 28.7%.²³ Moreover, the percent of Vermonters over 25 with a college education has increased fairly rapidly since 1990, when only 24% of the population had a bachelor's degree. Only five states in the nation have higher levels of educational attainment.

Trend Number 7: From the late 1970s to the mid 1990s, the percentage of Vermont high school graduates participating in post-secondary education rose, but the rate has remained flat since then.

From the late 1970s to the mid 1990s, the percentage of Vermont high school graduates deciding to continue their education past high school

²³ Thomas Mortenson, *Interstate Migration of College Graduates 1989 to 2007*. Postsecondary Education OPPORTUNITY. August 2008

Percent of Vermont High School Graduates Entering Secondary Education 1978 to 2004

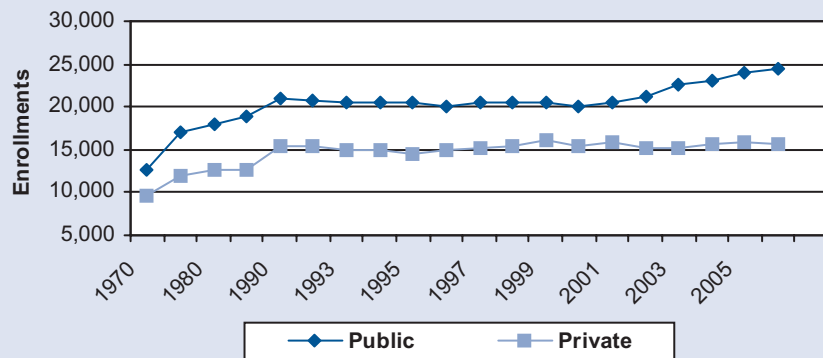


Source: Vermont Higher Education Council

rose from 44% to 64%.²⁴ Since 1990, the percentage of high school graduates entering post secondary education has remained flat, mirroring national trends.

Total enrollment in private Vermont institutions has fluctuated between 15,000 to 16,000 students. The enrollment in public institutions has held

Total Enrollments in Vermont Higher Education: Public and Private 1970 to 2006



Source: Vermont Higher Education Council

steady between 1990 and 2000, and then rose by about 4,500 students in the last eight years. About one-half of this growth is due to more students attending Vermont Technical College and CCV. While a number of private institutions have experienced rising enrollments, the closing of Trinity College and small enrollment reductions in other schools have offset these increases; since 1990, overall private school enrollments in Vermont have remained largely flat.

Trend Number 8: The percentage of female undergraduates and graduate students has been increasing, while the percentage for males has been decreasing. In four of the past five years, women have constituted the majority of recipients for every advanced degree from the Associate's to the Doctorate.

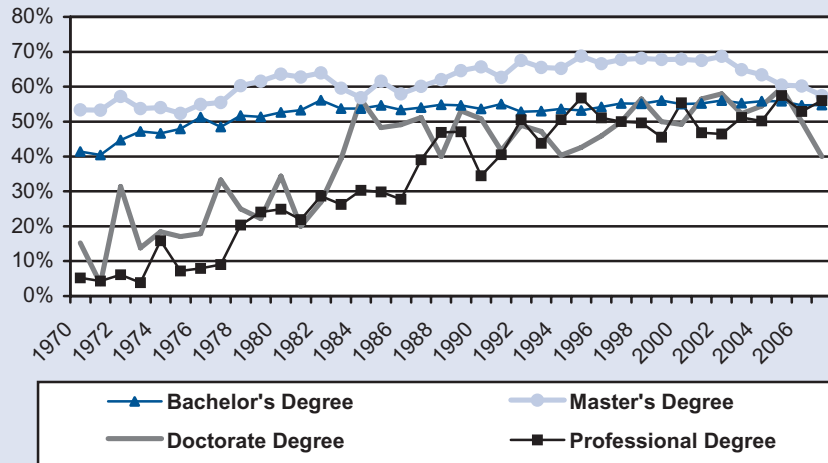
As discussed earlier in Chapter 4, women in Vermont were among the leaders among all states in the labor force participation rates and in the declining male-female wage gap. There are many reasons that explain these statistics, one of which is that women in Vermont now constitute the solid majority of recipients of Associate's, Bachelor's and Master's degrees, and in recent years, they have also equaled or exceeded the proportion of men earning Doctorates as well as Professional degrees (see chart on next page). For example, at the University of Vermont College of Medicine, 52% of enrolled medical students in the class of 2011 were women.²⁵ These ratios are precisely parallel to the national proportions. In 2007, women nationally earned 62% of Associate's degrees, 57% of Bachelor's degrees, 61% of Master's degrees, and 50% of both Doctorate and professional degrees.²⁶ This is the first time nationally that women have earned 50% or more of all levels of higher degrees. In 2007, Women made up 55% of undergraduates in Vermont (see Appendix, 11-3).

²⁵ University of Vermont College of Medicine Annual Report, 2007, <http://www.med.uvm.edu/admissions/TBI+BL+I+C.asp?SiteAreaID=625>

²⁶ Postsecondary Education OPPORTUNITY www.postsecondary.org

²⁴ Vermont Higher Education Council

Percent of Each Degree Received by Women At Vermont Institutions 1970 to 2007



Source: Source: Postsecondary Education OPPORTUNITY: www.postsecondary.org

This trend towards higher levels of education for women should continue to reduce the male-female wage gap as increasing numbers of women enter higher paying professions that once were dominated by males.²⁷ For example:²⁸

	Women's Share of Employment in 2005	Women's Share of New Graduates in 2004
Dentistry	23%	42%
Medicine	32	46
Pharmacy	48	67
Law	30	49
Clergy	16	34

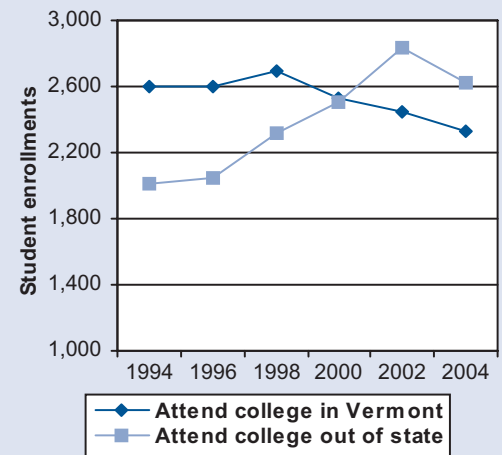
²⁷ In 2007, 49% of all Ph.D. and 59% of all masters degrees were awarded to women.

²⁸ "Women's Progress Stalled? Just Not so?" *The New York Times*, October 18, 1992 Updated National Center for Educational Statistics, 2002, Table 274 and *Statistical Abstracts of the United States*, 2007, Table 602.

Trend Number 9: In recent years, more high school graduates are selecting higher educational programs outside of Vermont. Yet Vermont imports more students per capita than any other state except Rhode Island.

The issue of the "brain drain" of college educated Vermonters, discussed in some detail in Chapter 1, has been raised repeatedly in the media and in the Governor's Office as a potential threat to the future health of Vermont's economy.²⁹ Yet, on balance, the number and proportion of college graduates in the state has still been growing steadily from 91,000 in 1989 to 150,000 in 2007.³⁰ In the past 18 years, the percent of native born undergraduates in the state's public institutions has fallen slightly from 67% to 64%. Among the private colleges, the drop of native born undergraduates has been more dramatic, from 44% in 1995 to 27% in 2005.³¹ Vermont students are increasingly deciding to enroll in out of state colleges and universities. The number of recent high school graduates attending in-state colleges has dropped by 300 students in the decade between 1994 and 2004, while the number attending college out of state has increased by over 600 students. Yet, the drop in Vermont students

Vermont Student Geographic Choice of Higher Educational Institutions 1994 to 2004



Source: IPEDS: Residence and Migration Files

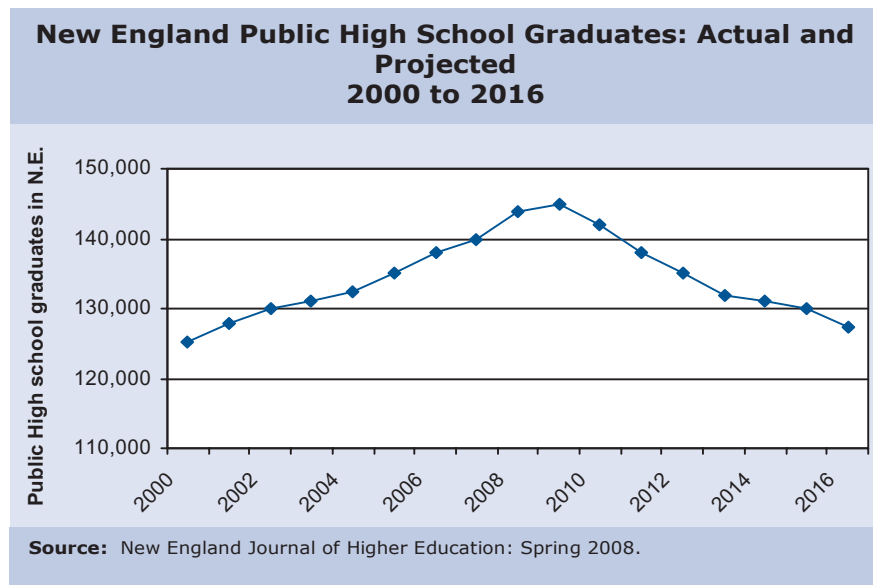
²⁹ In 2006, Vermont Governor Jim Douglas campaigned unsuccessfully to pass a 15 year, \$175 million Promise Scholarship Program. The program was designed to make college more affordable and to encourage students to remain in Vermont after graduation. Instead the Legislature passed the Next Generation Scholarship program, which was smaller in scope and only focused on the issue of affordability.

³⁰ Thomas Mortenson, *Interstate Migration of College Graduates 1989 to 2007*. Postsecondary Education. OPPORTUNITY. August, 2008

³¹ *Ibid*.

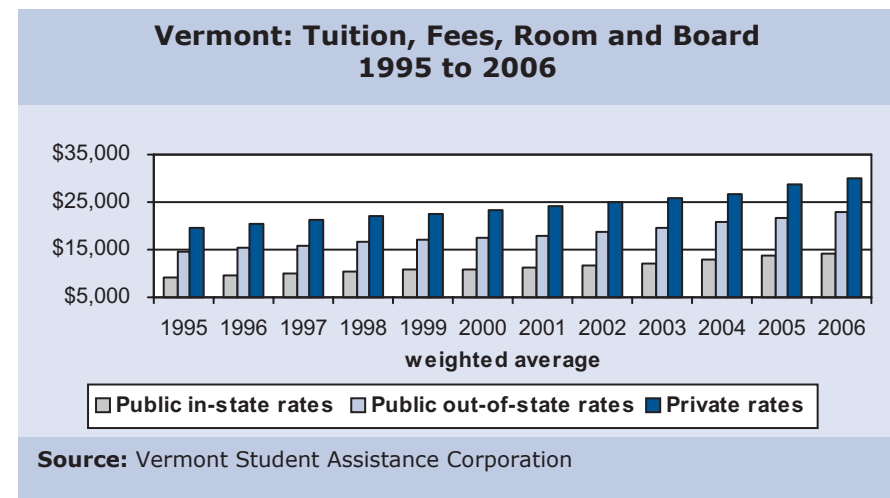
attending college in state has been more than offset by the influx of out-of-state students to Vermont colleges. If there is a problem, it's the loss of human capital potential; many talented students who came from out of state to study in Vermont leave after graduation and many of our native born students who enroll in out-of-state colleges do not return. There is a strong positive correlation between the proportion of a state's population that has a college degree and per capita income.

One of the biggest challenges facing higher education in Vermont is that enrollment in secondary education has peaked in the state and is expected to fall for the next 10-15 years. New England enrollments are predicted to drop by 17,000 students in the next 7 years.³² It is also estimated that within a decade, 90% of Vermont high school graduates would have to go to post-secondary education to maintain the same absolute number of Vermonters participating in higher education.³³



Trend Number 10: *The cost of higher education in Vermont is rising more rapidly than the rate of inflation, and federal and state financial aid is not keeping up with the rising cost.*

The cost of higher education in Vermont, like in other areas of the country, has been rising each year for many decades. On average, between 1996 and 2006, Vermont institutions, both public and private, have increased their tuition and fees by about 50%, a rate that's considerably faster than the rate of inflation. Between 1996 and 2006, the increase in constant dollars has been about 16%.³⁴



Notwithstanding the substantial increases in the cost of a college education, it still remains a good investment. People with higher levels of education have much lower rates of unemployment (see Appendix, 11-4). In addition, among those aged 25 to 34 years of age, the incomes of male college graduates are 77% higher than male high school graduates, while the comparable percentage for females is 70% (see Appendix 11-5). Moreover, these differences have been increasing in recent years.³⁵

³⁴ Vermont Student Assistance Corporation

³⁵ Higher education also has a significant social return; others in the broader community benefit from a more highly educated population. For example, the results of research conducted by scientists yield benefits to all members of society, not just to themselves. The more education people have, the more likely they are to contribute to charities, volunteer, and be able to adapt to changes in the labor market conditions.

³² New England Journal of Higher Education: Spring 2008

³³ The Next Generation Commission: Lining Learning To Earning in Vermont, William Stenger, et. al., December 2006

There are a number of reasons why higher education costs have risen faster than inflation. As a very labor-intensive industry, productivity gains are difficult to come by, even though wages in higher education increase with the general trends in the broader economy. In order to improve their national rankings in publications like the *U.S. News and World Reports*, higher education institutions often find themselves in a costly competitive race to offer a wider range of amenities as a way of attracting more applicants and generating higher student yield rates.³⁶ Also, financial aid budgets have been increasing rapidly. Lastly, a first class education is simply expensive. Colleges need to recruit faculty, many in fields with labor shortages, and continuously upgrade their technological infrastructure, both of which are costly.

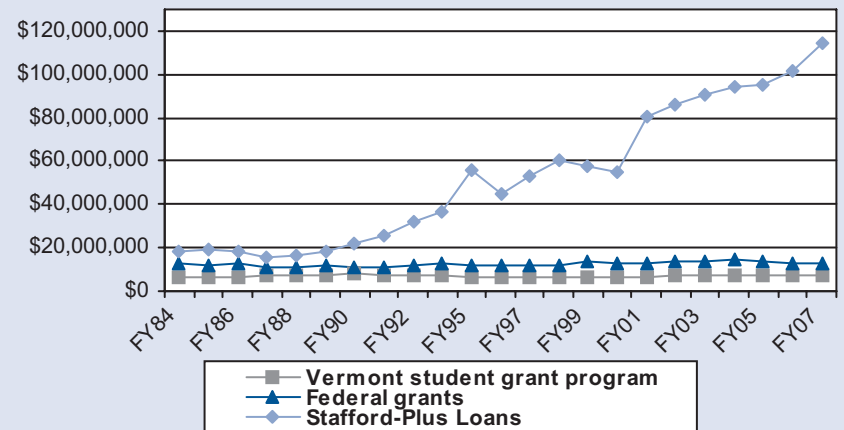
The posted price of college is misleading since it does not for account for scholarship and grants. Most students do not pay the full retail price. The amount of aid should be included in the analysis to distinguish the “net” cost from the “list” cost. A scholarship is in effect a discount off the quoted cost, analogous to the difference between the MSRP sticker price on a new car and the actual price a consumer pays the dealer. National data from *The College Board* shows that between 1995 and 2007, the average net cost at private institutions was between 25% and 30% lower than the listed price (see Appendix, 11-6).³⁷ While this appears to be good news, the net price of these institutions still increased by 26%, at about the same rate as the list price.

An indication that the average student is facing a financial squeeze is the increase in the amount of debt that they are taking on to pay for their education. The average accumulated debt of VSAC loan recipients increased by 150% between 1993 and 2005.³⁸ According to VSAC, the average student with VSAC loans will graduate with a debt of just over \$30,000 (see Appendix, 11-7).

Federal and state aid for higher education, either through subsidized or unsubsidized loans, grants (money that doesn’t have to be paid back), work study, and tax credits or deductions play an essential role in helping students fund their education. The Government Accounting Office

estimates that over 70% of undergraduate students and their families receive some assistance from an array of federal programs.³⁹ It’s beyond the scope of this study to go into detail about the complex network of federal financial aid programs, but a cursory overview of national trends shows that over the last decade loans and grant dollars from all sources have covered about two-thirds of the increased costs of attending a private college and almost all the costs of public colleges (see Appendix, 11-8).⁴⁰ The chart below displays, in constant 1980 dollars, federal and state grant monies for Vermont students and Stafford and Plus loans funded by VSAC from 1984 to 2007. The amount of grant money from the state and federal government available in real terms in Vermont has increased only marginally for nearly two and a half decades. This is a conservative figure

**Federal and State Educational Grants and Loans*
In 1980 Constant Dollars
FY1984 to FY2007**



Source: Vermont Student assistance Corporation * Federal grants include Perkins Loans, Pell Grants, Work Study, and Federal Supplemental Educational opportunity Grants. The Perkins loans, are not outright grants, but are reserved for students with “exceptional financial need,” with the Federal government paying the interest on the low interest loans while students are in enrolled in school. Stafford and Plus Loans are for students studying in Vermont colleges regardless of their home residence. Vermont student grants are funded by the state and are for Vermont residents only.

³⁶ Yield rates, one of the indicators tracked by national rating services, reflects the percent of admitted students who enroll.

³⁷ *Trends in College Pricing: 2007*, The College Board

³⁸ In constant dollars the increase was 85%.

³⁹ U.S. Government Accounting Office, “Student Aid and Tax Benefits: Better Research and Guidance Will Facilitate Comparison of Effectiveness and Student Use.” 2002, GAO-02-751. Washington, DC

⁴⁰ *Trends in Student Aid 2007*, College Board.

since the inflation adjustments were based upon the overall CPI, and not an inflation factor for college expenses (if the latter had been used to adjust the data, the trends in grants would have been negative). In contrast, college loans have risen dramatically, especially since 2000. It should not be surprising why Vermont students, on average, have been incurring high levels of debt to attend college in the state. Vermont has some of the most expensive institutions of higher education in the country, both public and private, while family incomes have grown considerably more slowly than tuition expenses.

Most Vermont colleges and universities have been able to achieve their enrollment goals each year in spite of the financial pressures discussed above. In part, colleges have had to increase their own institutional grants substantially to accomplish this objective. However, there is a genuine concern that higher education will at some point reach a “tipping” point, where some segments of the population will conclude that higher education is simply beyond their means. As a consequence, colleges will no longer provide, as they have in the past, the critical engine for social mobility and more equitable opportunities for citizens.⁴¹

Trend Number 11: State support for higher education has been declining for a number of years.

Given the size and wealth of Vermont, the allocation of public resources is intensely contested; there are always more competing needs than the state resource base. Over the last two decades, public higher education has received a decreasing share of the State budget. In 1990, State appropriations for higher education were 9.5% of the general fund. The share fell to 6.9% in 1998. Since that time, it has risen to 8.5% in 2003, then settling in at 7.6% (see Appendix, 11-10).

Appropriations to higher education per thousand dollars of personal income have dropped dramatically over the last 30 years. In 1975, the State appropriated the equivalent of \$9.44 for every thousand dollars in personal income, dropping to \$4.30 in 2006. The majority of states are also spending less relative to income than they were decades ago, but

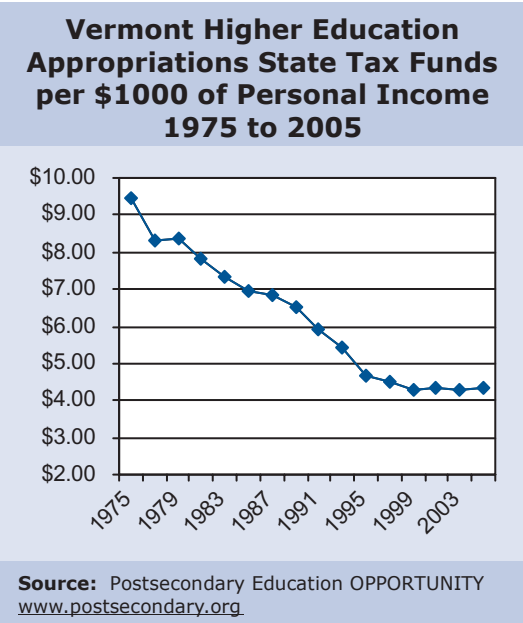
Vermont’s drop is among the sharpest in the country. The national average of state public education expenditures per thousand dollars fell 34% from 1990 to 2005. The drop in Vermont was over 50%, the third largest decrease among the 50 states.⁴²

Some readers may note a paradox in educational funding. Local financial support for K-12 education is among the highest in the country, while public support for post secondary education is among the lowest.

Given the fact that there are many claims on Vermont’s limited resources, a call for more spending on higher education is easy to make but difficult to implement. But given the critical role that higher education plays in Vermont, the problem cannot be disregarded.

In sum, the most notable trends in K-12 and higher education in Vermont’s are as follows:

1. Since the turn of the century, enrollments in public schools have fallen. This drop is expected to continue in the immediate future. The change in the number of students varies across the state. Chittenden County has held fairly steady, while the rest of the state has lost students. Although low compared to national averages, there is an upward trend in the number of minority and ESL students.
2. Expenditures per student have continued to increase at a rate higher than inflation.



⁴¹ The rise in enrollments in less expensive community colleges, such as CCV, at least in part, reflects the cost pressures that many Vermont students face.

⁴² Postsecondary Education OPPORTUNITY www.postsecondary.org

3. The growth of personnel per student appears to be the primary driver behind this increase in cost in public education, leading to a declining student-teacher ratio. School districts are also facing cost pressures from the dramatic increase in special education expenses, health insurance and energy costs.
4. The K-12 dropout rate has been declining over time.
5. The assessments of Vermont students indicate that the state is doing reasonably well compared to the rest of the country. This conclusion is at best tentative; it is very difficult to measure educational performance in a meaningful and consistent manner.
6. The variation in educational expenditures between schools districts has declined over the last decade.
7. From the late 1970s to the mid 1990s, the percentage of Vermont high school graduates participating in post-secondary education rose, but the rate has not varied substantially since that time.
8. The percentage of female undergraduates and graduate students has been increasing, while the percentage for males has been decreasing. In four of the past five years, women have constituted the majority of recipients for every advanced degree from the Associate's to the Doctorate.
9. A smaller percentage of Vermont students are attending the State's colleges and universities, with high school graduates selecting educational programs outside of Vermont. This out-migration has been more than offset by an inflow of students from other states.
10. The cost of higher education in Vermont is rising more rapidly than the rate of inflation, and federal and state financial aid is not keeping up with the rising cost.
11. State support for higher education, relative to the total state budget and income, has been declining for a number of years.

For the appendices, and for pdf versions of this report, please visit the Council on the Future of Vermont's website; www.futureofvermont.org. or visit Vermont Council on Rural Development at www.vtrural.org.

The Appendix for this chapter contains the following charts:

1. Per Pupil Spending, by District Type, FY01 to FY08.
2. Per Pupil Expenditure by School Size, FY05 to FY08.
3. Vermont Total Headcount by Gender, 2001 to 2007
4. Unemployment Rate by Educational Attainment in the U.S. in 2004.
5. Education and Earnings in the U.S. in 2004.
6. National Private Four Year Institutions: Net vs. Gross Tuition, Fees, Room, and Board, in 2007 Dollars, 1995 to 2007.
7. Average Cumulative Debt of VSAC Grant Recipients, Attending 4-Year Institutions, 1993 to 2005.
8. Tuition and Fees, Family Income and Aid, 1986-87, 1996-97, 2006-07
9. University of Vermont: Tuition, Room, Board and Fees, 1978 to 2006.
10. State Appropriations to Higher Education in Vermont, as a Percent of Total State General Fund, 1990 to 2006.
11. Percent Achieving Competency: Vermont and the United States, 2007

Vermont in Transition:

A Summary of Social Economic and Environmental Trends

A study by

Center for Social Science Research at Saint Michael's College

Vince Bolduc, Ph. D. and Herb Kessel, Ph. D.

for the

Council on the Future of Vermont

December 2008

Chapter II: EDUCATION ~ APPENDIX

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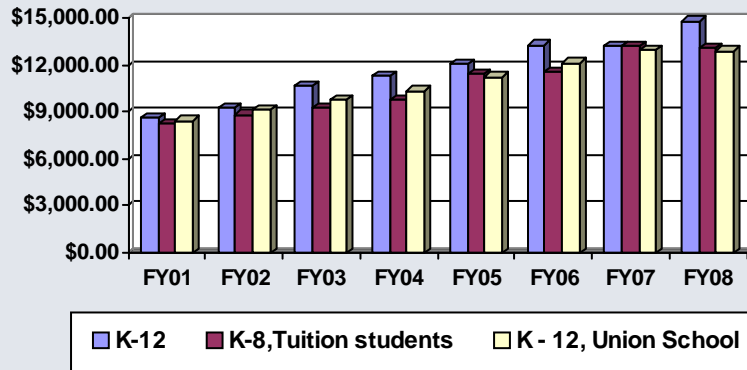
**Vermont Council on
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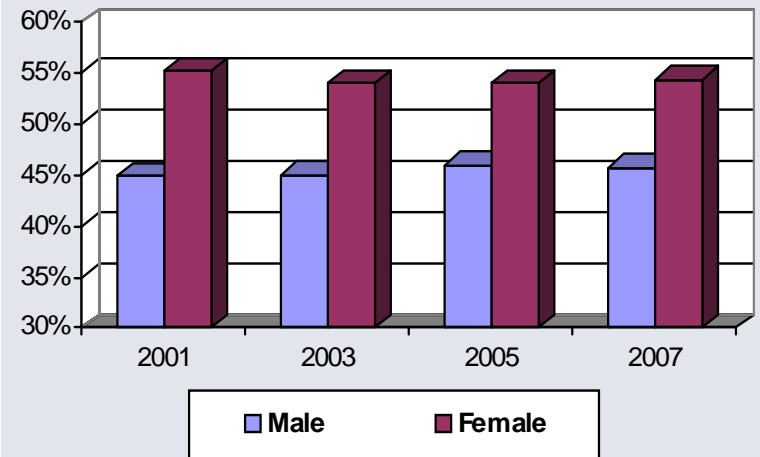
<http://www.vtrural.org>

**Chart 11-1
Per Pupil Spending by District Type
FY01 to FY08**



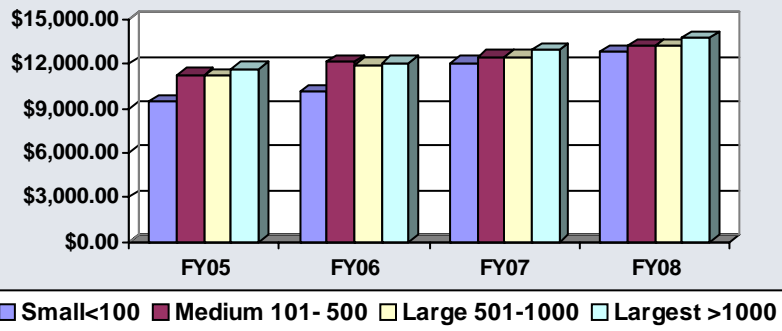
Source: Vermont Department of Education, electronic data bases:
<http://education.vermont.gov/index.htm>

**Chart 11-3
Vermont Total Undergraduate Headcount by
Gender**



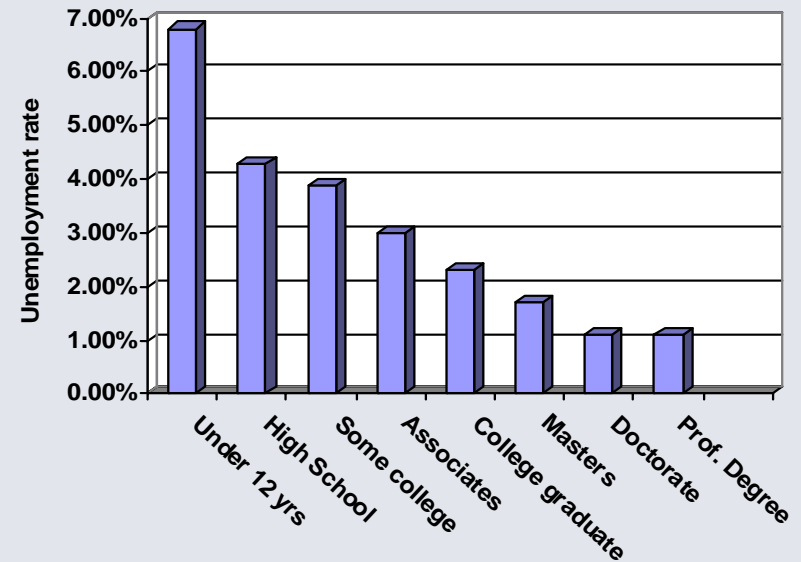
Source: Vermont Higher Education Council

**Chart 11-2
Per Pupil Expenditure by School Size**



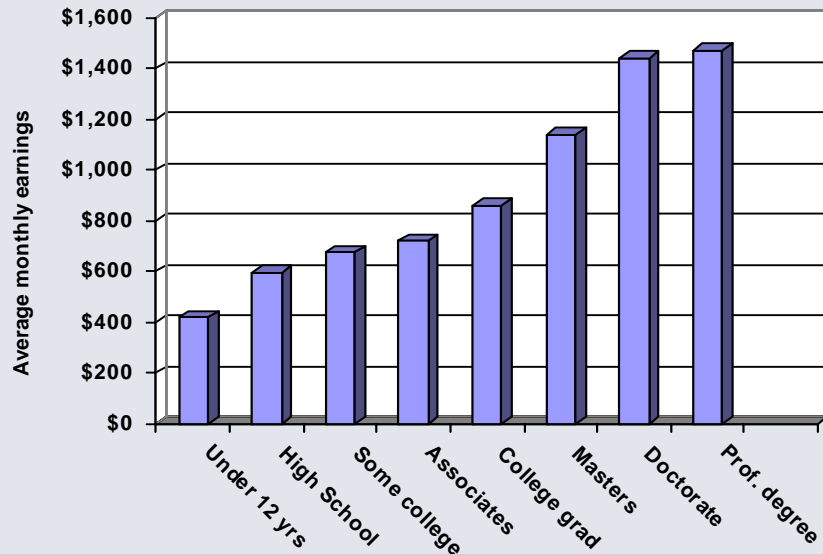
Source: Vermont Department of Education, electronic data bases:
<http://education.vermont.gov/index.htm>

**Chart 11-4: Unemployment Rate by
Educational Attainment in the U.S.
in 2004**



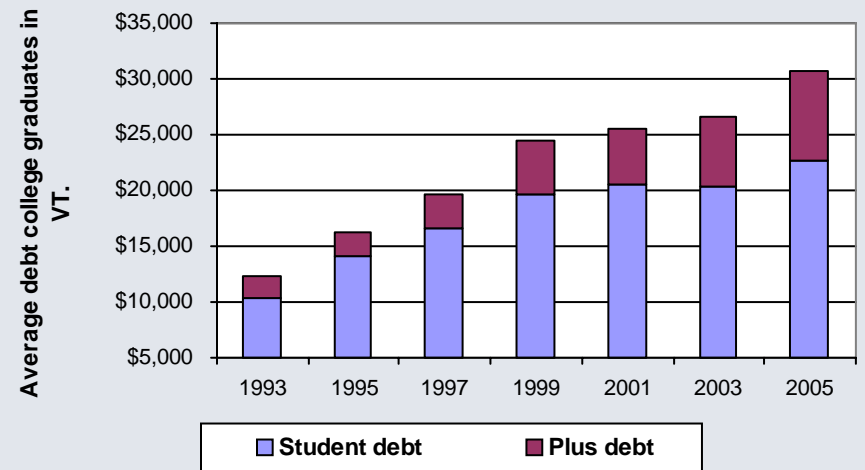
Sources: FY2004, IPEDS Finance Survey

**Chart 11-5
Education and Earnings in the U.S. in 2004**



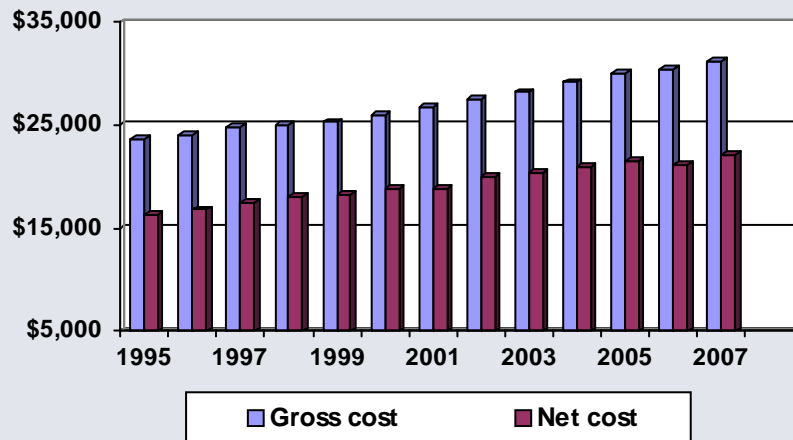
Sources: U.S. Department of Education. National Center for Educational Statistics. FY2004, IPEDS Finance Survey

**Chart 11-7
Average Cumulative Debt of VSAC Grant Recipients
Attending 4-Year Institutions, 1993 to 2005**



Source: Vermont Student Assistance Corporation

**Chart 11-6: National Private Four Year Institutions:
Net vs. Gross Tuition, Fees, Room, and Board, in 2007
Dollars
1995 to 2007**



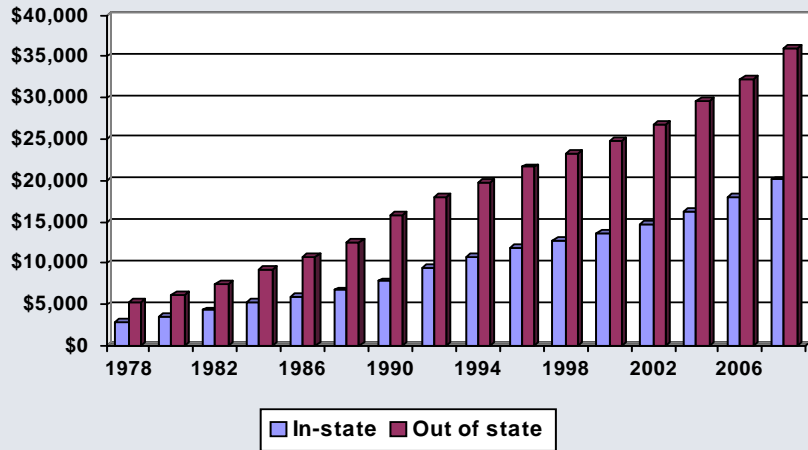
Source: Trends in College Pricing: 2007, The College Board

**Table 11-8
Tuition and Fees, Family Income and Aid
1986-87, 1996-97 and 2006-07**

	Private 4 year College	Public 4 year College	Median Income (ages 45-54)	Total Aid per FTE Student	Grant Aid per FTE Student	Federal Loan per FTE Student
1986-87	\$12,218	\$2,595	\$71,482	\$3,967	\$2,014	\$1,826
1997-97	\$16,695	\$3,822	\$73,446	\$6,627	\$3,120	\$3,415
2006-07	\$22,308	\$5,804	\$72,881	\$9,499	\$4,648	\$4,337

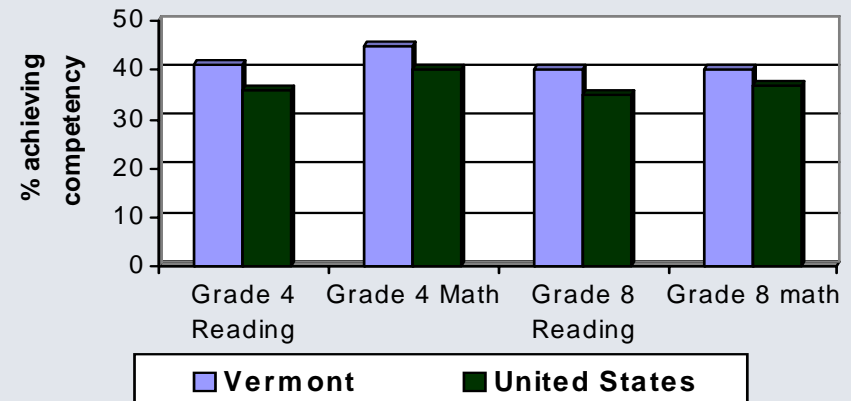
Source: Trends in Student Aid 2007, College Board

Chart 11-9
University of Vermont:
Tuition, Room, Board and Fees
1978 to 2006



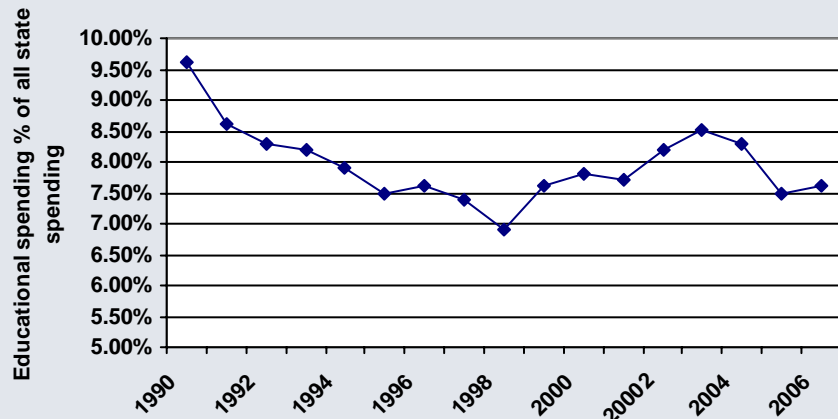
Source: University of Vermont, <http://www.uvm.edu/~isis/?Page=costs0.html>
 IPDES (FTE: Full Time Equivalents)

Chart 11-11
Percent Achieving Competency:
Vermont and the United States
2007



Source: Vermont Department of Education and U.S. Department of Education

Chart 11-10
State Appropriations to Higher Education in Vermont
as a Percent of Total State General Fund
1990 to 2006



Source: Vermont Legislative Joint Fiscal Office