

Paying *for* College

The Rising Cost of
Higher Education

MassINC
RESEARCH. JOURNALISM. CIVIC LIFE.
10 YEARS

SPONSORED BY:



MassINC wishes to express its thanks to those individuals and organizations whose financial support makes our work possible. Your generosity is deeply appreciated.

MassINC's Mission

The mission of MassINC is to develop a public agenda for Massachusetts that promotes the growth and vitality of the middle class. We envision a growing, dynamic middle class as the cornerstone of a new commonwealth in which every citizen can live the American Dream. Our governing philosophy is rooted in the ideals embodied by the American Dream: equality of opportunity, personal responsibility, and a strong commonwealth.

MassINC is a non-partisan, evidence-based organization. We reject rigid ideologies that are out of touch with the times and we deplore the too-common practice of partisanship for its own sake. We follow the facts wherever they lead us. The complex challenges of a new century require a new approach that transcends the traditional political boundaries.

MassINC is a different kind of organization, combining the intellectual rigor of a think tank with the vigorous civic activism of an advocacy campaign. Our work is organized within four initiatives that use research, journalism, and public education to address the most important forces shaping the lives of middle-class citizens:

- Economic Prosperity—Expanding economic growth and opportunity
- Lifelong Learning—Building a ladder of opportunity through the continuum of learning
- Safe Neighborhoods—Creating crime-free communities for all
- Civic Renewal—Restoring a sense of “commonwealth”

MassINC's work is published for educational purposes. Views expressed in the Institute's publications are those of the authors and not necessarily those of MassINC's directors, staff, sponsors, or other advisors. The work should not be construed as an attempt to influence any election or legislative action.

MassINC is a 501(c) 3, tax-exempt, charitable organization that accepts contributions from individuals, corporations, other organizations, and foundations.

About MassINC's Lifelong Learning Initiative

Our Lifelong Learning Initiative bears witness to a simple truth: Nothing is more central to the future prosperity of our citizens than education and training. A quality education and effective job training can put the American Dream within reach of almost every citizen. A lack of education and training often divides those who are succeeding in our economy from those who are not.

Through the Lifelong Learning Initiative we work to ensure that every citizen has the tools to succeed in today's dynamic, technology-driven economy. MassINC believes in a continuum approach to learning, and that approach is reflected in the threefold emphasis of our Lifelong Learning Initiative: (1) Ensuring that the state's pre-K and K-12 Education Reform effort stays on track; (2) transforming the state's public college and university system into a powerful catalyst for economic growth; and (3) exploring innovative new ways to educate and train adult workers so that they have the skills in demand by Massachusetts employers.

All of MassINC's research and *Common Wealth* articles are available free-of-charge through our Web site, www.massinc.org.

Paying *for* College

The Rising Cost of
Higher Education

Bridget Terry Long
Harvard Graduate School of Education

with:
Dana Ansel, *MassINC*
Greg Leiserson, *MassINC*

APRIL 2006

MassINC
RESEARCH. JOURNALISM. CIVIC LIFE.
10 YEARS

SPONSORED BY:



April 2006

Dear Friend:

MassINC is proud to present *Paying for College: The Rising Cost of Higher Education*, a report made possible by the generous support of Blue Cross Blue Shield of Massachusetts.

At the same time that a college education has become the ticket to the middle class, college has become less affordable. The situation in New England is worse than it is nationally. Even though incomes are higher in the region, families are likely spending a higher share of their income to pay for college. In 2003-04, families with students attending a community college in New England spent 17 percent of their annual income to cover the costs of college. Families are stretching even more to attend a public four-year college in the region, spending 21 percent of their income. Private colleges are the most expensive, requiring that families spend a stunning 33 percent of their income.

Although family incomes and grant aid have increased over past decade, they have not increased enough to offset the increases in tuition prices. As a consequence, more students and parents are taking out loans to finance their college education, and the amount of debt that students are carrying has increased significantly during the past ten years. The increase in loans has shifted a greater amount of risk to students and their families, and the consequences of this shift deserve more public discussion.

While the long-term value of a college degree may well justify the cost and accompanying debt, a substantial number of students who start college leave without earning a degree. Many, if not most, college dropouts have debt that still must be repaid, without the advantages of a college degree. Thus, a renewed focus on getting students *through* college and not just *into* college is needed.

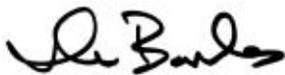
In Massachusetts, there has recently been increased attention to state funding of public higher education. However, unless the state government is prepared to make an open ended commitment to higher education—or students and families are willing to assume even greater amounts of debt—the expenditures side of the ledger must be analyzed anew in order to look for opportunities for greater cost savings.

The challenges around affordability are of national concern, but they deserve particular attention in Massachusetts and New England. The region's community colleges and private four-year colleges are less affordable than those nationally. While our public four-year colleges cost about the same as those nationally, the decline in affordability has been much more steep, and if similar trends continue, they too will be less affordable in short order. In a region already struggling with high cost of living and the out migration of young families, the high cost of college should be of concern to policymakers.

We are grateful to Bridget Terry Long. As this project became more complex than we imagined, she helped us understand its implications and importance, while pushing it to completion. We would also like to thank the many reviewers whose critical insights have strengthened this report. Lastly, we owe special thanks to the research team at MassINC of Dana Ansel and Greg Leiserson for their excellent work in shepherding this research to such a successful conclusion. Finally, we would like to thank our sponsors at Blue Cross Blue Shield of Massachusetts, who have been generous and enthusiastic partners.

We hope you find *Paying for College* a timely and provocative resource. As always, we welcome your feedback and invite you to become more involved in MassINC.

Sincerely,



Ian Bowles
President & CEO



Gloria Cordes Larson
Co-Chair



Peter Meade
Co-Chair

Paying *for* College

The Rising Cost of
Higher Education

TABLE OF CONTENTS

EXECUTIVE SUMMARY	5
Key Facts	6
What Do We Mean by Affordability?	8
CHAPTER 1: INTRODUCTION	25
CHAPTER 2: COLLEGE ACCESS: GOALS, PREPARATION, AND ENROLLMENT TRENDS	30
CHAPTER 3: OUTCOMES IN HIGHER EDUCATION AND THE RETURNS TO COLLEGE	51
CHAPTER 4: COLLEGE COSTS AND EXPLANATIONS FOR RISING TUITION	63
CHAPTER 5: FINANCIAL AID PROGRAMS	80
CHAPTER 6: PAYING FOR HIGHER EDUCATION: IS COLLEGE AFFORDABLE?	93
DATA APPENDIX	110
REFERENCES	123

EXECUTIVE SUMMARY

With a college education increasingly becoming the ticket to the middle class, the number of people earning a college degree has grown substantially. In 1950, only 6 percent of adults in the nation had completed at least four years of college. By 2000, that number had risen to over 25 percent; in Massachusetts it was 33 percent. The number of people entering college has also steadily increased, and Massachusetts has one of the highest rates of college enrollment. In 2000, 57 percent of Massachusetts residents had completed at least some college. Among recent Bay State high school graduates, nearly two-thirds entered college immediately after graduation in 2002, and many more enrolled in college during the years afterward.¹

The boom in higher education has also introduced a new financial responsibility—paying for college. In the United States, in 2005-06, the average annual cost of tuition and required fees was \$2,191 at a public community college, \$5,491 at a public four-year college, and \$21,235 at a private four-year college. Prices are high and have risen rapidly over the past decade. It is then no surprise that students and their parents everywhere are worried about paying for college. A 2003 MassINC poll on the Quality of Life found that 57 percent of parents in the Bay State believe that the issue of higher education affordability needs to be addressed.

As more students seek a college education, a number of questions follow: How affordable is college and how has affordability changed over the last decade? Using the most detailed data possible, this report finds that college has become less affordable.² Why has this happened and how are families coping with the rising costs? How do the costs that families in New

England face compare with those nationally? The report answers these questions and discusses issues related to controlling costs and improving graduation rates.

Across the nation, families are spending more of their income to pay for a college education than they did even ten years ago. Families in New England have been hit especially hard.³ Even though their incomes are higher than the national average, New England families are still likely spending a larger share of their income on college. In 2003-04, families with students attending a community college in New England spent 17 per-

FAMILIES ARE SPENDING MORE OF THEIR INCOME TO PAY FOR COLLEGE

cent of their annual income to cover the total cost of college for one year, while families nationally spent 13 percent.⁴ Families with students at a public four-year college in New England spent 21 percent of their annual income on college. Nationally, families spent the same. And families with students at private colleges in New England spent a stunning 33 percent of their annual income to cover one year of costs, more than the 30 percent that families nationally spent.⁵

There are a number of factors that help to explain why college has become less affordable. First, sources of revenue for colleges have fluctuated considerably. Public colleges rely on state appropriations as a major source of revenue, and the amount of public money allocated per student has risen and fallen with the economic cycle. This has contributed to sharp increases in tuition and fees at public four-year colleges in Massachusetts. From 2001-02 to 2005-06, tuition and fees

increased 69 percent at the UMass campuses and 68 percent at the state colleges. Second, colleges are spending significantly more money per student. While some of these increases are directly related to educational quality, there are concerns that others are not. Finally, although grant aid has increased significantly during this period, it has not increased enough to offset the increases in tuition prices. As a consequence, more students and families are taking out loans to finance their college education, and students' overall debt has increased considerably during the last ten years.

Despite the rising costs, the number of students attending college has increased. For some, this fact indicates that the increased cost is not a problem; students and their families believe that the value of a college degree justifies the expense. This view, however, is incomplete and does not

consider implications of college pricing. As tuition costs increase, they affect who goes to college, with low-income students particularly sensitive to price changes. Research has found that high-achieving low-income students are significantly less likely to attend college than high-achieving high-income students.⁶ High cost and unmet financial need are common reasons cited for not attending college and also for dropping out of school. Thus, the cost of college affects who attends and graduates from college. Students and families have to find a way to cover the cost of college before the benefits of a college degree can be realized.

In addition, demographic trends also explain the increasing enrollment numbers. Thanks to the baby boomers' children, the United States will have the largest cohort of high school graduates ever in 2008. The number of high school

Key Facts:

- After accounting for grant aid, families with students attending private colleges in New England spent 33% of their annual income in 2003-04, up from 25% in 1992-93. Nationally, families spent 30%.
- Families with students attending public four-year colleges in New England spent 21% of their income in 2003-04, up from 18% in 1992-93. Nationally, families spent 21%.
- Families with students attending community colleges in New England spent 17% of their income in 2003-04, up from 16% in 1992-93. Nationally, families spent a smaller percentage of their incomes (13%).
- Students in New England are more likely than their national peers to take out loans (44% vs. 35%). In 2003-04, at private colleges in New England, 56% of students took out loans. Since 1992-93, the share of students at public four-year colleges in New England taking out loans nearly doubled from 25% to 48%. Only 7% of community college students in New England took out loans.
- The total amount of debt that students carry has also increased considerably. The average debt for 4th-year students at private colleges in New England was \$23,491, an increase of 49%, after accounting for inflation, since 1992-93. And the average amount of debt for 4th-year students at public four-year colleges was \$15,399, a 39% increase since 1992-93.
- In 2004, the share of first-time freshmen from Massachusetts who attended a public college in their home state was much lower than the national average (48.9% vs. 67.4%).
- First-time freshmen from Massachusetts are much more likely to go to a private college. In 2004, 43.4% of Massachusetts freshmen attended a private college, compared with 26.4% of their peers nationally.
- In 2004, first-time freshmen from Massachusetts were more likely than their national peers to attend an out-of-state college (28.5% vs. 15.8%). The vast majority of Massachusetts freshmen (86%) stay in New England.

graduates in Massachusetts is expected to peak in 2007 and then begin a steady decline. Starting soon, colleges will be competing to attract a smaller number of high school graduates. A second trend is the increasing number of older, nontraditional college students. The growth of nontraditional students, who have a different set of needs, has implications for colleges and the state.

Finally, while the long-term value of a college degree might justify the cost, the reality is that a substantial number of students who start college leave without earning a degree. Many college dropouts have debt that still must be repaid without the advantages of a degree. Thus, a renewed focus on getting students *through* college not just *into* college is needed, especially in light of the loans students are taking out to finance their college educations.

ES Table 1

Enrollment Trends of First-Time Freshmen

	1994	2004
PERCENT ATTENDING AN IN-STATE PUBLIC COLLEGE		
United States	72.1%	67.4%
Massachusetts	51.7%	48.9%
PERCENT ATTENDING AN OUT-OF-STATE COLLEGE		
United States	14.8%	15.8%
Massachusetts	23.2%	28.5%
PERCENT ATTENDING A PRIVATE COLLEGE		
United States	21.7%	26.4%
Massachusetts	42.0%	43.4%

Source: Integrated Postsecondary Education Data System (IPEDS) Peer Analysis System, National Center for Education Statistics

Enrollment Trends: Where Do Massachusetts Freshmen Go to College?

As students get ready to start college, families face a number of choices about where to attend. There are important differences in the choices that Massachusetts families make. Compared with

- The average cost of tuition and fees in New England and in Massachusetts are higher than the national averages. In 2005-06, the average cost of community colleges in Massachusetts was \$3,477, 59% higher than the national average. The average tuition and fees at the public four-year colleges in Massachusetts was \$7,340, 34% higher than the national average.
- From 2001-02 to 2005-06, tuition and fees increased by 69% at the UMass campuses and by 68% at the four-year state colleges—in real terms. Nationally, they increased by 33% at public four-year colleges during the same period.
- In 2004-05, the state of Massachusetts allocated \$7,712 per FTE student, substantially higher than the national average of \$5,833. While above average, the level of public funding has been volatile and declined in recent years. In 2000-01, the state spent \$9,911 (inflation-adjusted) per FTE student.
- Both family incomes and the amount of grant aid have increased since 1992-93 but not enough to offset increases in tuition and fees.
- The amount of money colleges spend per student has increased significantly. From 1990-91 to 2000-01, expenditures at public colleges per FTE student increased 28% nationally and 29% in Massachusetts, in real terms.
- Total expenditures per student at public four-year colleges in Massachusetts in FY04 were \$24,020, slightly higher than the national average of \$23,880. Expenditures per student at public community colleges in Massachusetts were \$9,775, also higher than the national average of \$8,939.
- The public four-year colleges in Massachusetts are among the smallest in the nation, with an average size of 5,391 FTE students in Fall 2002. The national average of public four-year colleges is 8,527. Massachusetts ranks 41st in the nation, with number 1 representing the state with the largest public four-year colleges.
- Many students leave college without earning a degree. The six-year graduation rate at UMass Amherst for the students who began in the fall of 1998 was 62%. For UMass Dartmouth, it was 50%, 46% for UMass Lowell, and 28% for UMass Boston. At the public state colleges, less than half of students who entered college in 1998 (48%) had graduated six years later.

their national peers, Massachusetts high school graduates are: 1) less likely to attend an in-state public school; 2) more likely to attend an out-of-state college; and 3) more likely to attend a private college. These choices have important implications for cost.

Massachusetts high school graduates are much less likely to attend their own state's public colleges, compared with their national peers. Nationally, 67.4 percent of all first-time freshmen went to a public college in their home state in 2004, while only 48.9 percent of first-time freshmen from Massachusetts went to a public college in the Bay State.⁷ Community colleges are the most common choice, with 30.2 percent of all freshmen attending a Massachusetts com-

munity college and 18.7 percent attending a public four-year college. While the absolute number of freshmen attending Massachusetts public colleges has increased over the last ten years, the overall share of first-time freshmen entering the public system has declined slightly.

Massachusetts freshmen are much more likely as their national peers to attend an out-of-state college. In 2004, 28.5 percent of Massachusetts freshmen went to an out-of-state college, compared with only 15.8 percent of students nationally. Since 1994, the share of Massachusetts students choosing an out-of-state college has increased from 23.2 percent to 28.5 percent. Nearly three-quarters of those leaving the state for college attend a private college, and the vast

What do we mean by affordability?

There are three components to our measure of affordability. The first is the total cost of education, including tuition, required fees, room and board, and other expenses. This is the total student budget as determined by the institution and includes all living expenses. The second piece is the amount of grant aid received from all sources. Because grants do not need to be repaid, they discount the price of college. Finally, we use the median total incomes of families and students. For dependent students, income is parental income. For independent students, income is the student's and spouse's (if married).

We calculate affordability separately for community colleges, public four-year colleges, and private four-year colleges. For each sector, we calculate the net cost of college which equals the total cost of education minus grant aid. We then compare the net cost of college to the median family income of students attending that type of college. Thus, in this measure, we quantify the actual financial burden that families with students in college face. We also compare how the college cost burden has changed over time. It is important to note that the affordability numbers are only based on those

who choose to attend college. We are unable to determine affordability for students who elect not to enroll, and thus, we cannot detail whether or how the population of students at colleges has changed due to the increasing costs.

The data come from the National Postsecondary Student Aid Survey (NPSAS), administered by the federal Department of Education. It is the most comprehensive dataset available that documents the aid that undergraduates receive, but it only allows a regional analysis, and it is based on the location of college. Because the vast majority of students from Massachusetts and New England attend college in New England, our measure accurately reflects the issue for the region's families.

The data also capture trends at Massachusetts colleges. According to the *Digest of Education Statistics*, just over half of students in New England attend college in Massachusetts. Thus, Massachusetts colleges are major drivers for the region. While the numbers are not perfect matches for Massachusetts residents or for Massachusetts schools, they provide the most accurate picture possible.

majority stays in New England. In 2004, 85.6 percent of the freshmen from Massachusetts attended college in New England. On balance, however, Massachusetts imports more college students than it exports, for a net gain of almost 8,000 college students in 2004-05.

A defining characteristic of Massachusetts freshmen is their preference for private colleges, reflecting the state's long tradition of private institutions. In 2004, more than four out of every ten freshman from Massachusetts (43.4%) attended a private college. In sharp contrast, nationally, only 26.4 percent of freshman attended one, although the national share has been increasing in recent years. It is important to note that the majority of students at private colleges in Massachusetts (63.3%) are from other states. For Massachusetts freshmen, Northeastern University is the most common private school choice, followed by Boston University, Suffolk University, and Boston College. The share of Massachusetts freshmen attending private schools has remained roughly constant over the last decade.

The Bottom Line for Families: How Affordable Is College?

The bottom line is that families are required to spend a large share of their annual income to pay for college, and the share of income required has increased since 1992-93. This affordability analysis focuses on colleges in New England, rather than just Massachusetts, due to the unavailability of information at the state level. However, because 86 percent of the Massachusetts high school graduates who go onto higher education attend college in New England, the data capture the affordability issues that the vast majority of Massachusetts families faces. Families of students attending college in New England are likely to spend an even greater share of their income

ES Table 2

Share of Income Required to Cover the Cost of College

	1992-93	2003-04
PUBLIC TWO-YEAR		
United States	10.0%	12.7%
New England	15.9%	16.6%
PUBLIC FOUR-YEAR		
United States	19.9%	20.9%
New England	18.1%	21.4%
PRIVATE FOUR-YEAR		
United States	25.0%	29.9%
New England	25.3%	33.4%

Source: National Postsecondary Student Aid Survey (NPSAS) Peer Analysis System

to pay for college at public community colleges and at private colleges. On average, families with students in the region's public-four year colleges pay roughly the same share of their income as their national peers. Although grant aid and incomes have increased during this period, they have not increased enough to offset the increases in tuition and fees.

Although public community colleges in New England are the most affordable, families still spent 17 percent of their annual incomes for a student to attend these institutions. This is a slight increase from 1992-93 when families spent 16 percent of their annual income. The costs at community colleges in New England require that families spend a greater share of income compared with their national peers, who spent 13 percent of their income.

Families and students are stretching even more to attend the public four-year colleges. In 2003-04, families in New England spent 21 percent of their income for one student to attend a public four-year college. Of course, they are spending much more if they have more than one child in college at the same time. This is a substantial increase from 1992-93, when families spent 18 percent of their income. Nationally, at 21 percent,

the share of income required for students at public four-year schools is the same and a slight increase from 20 percent in 1992-93. The share of income required to attend public four-year colleges has increased more rapidly in New England than in the nation over the past decade.

Private colleges are the most expensive, both nationally and in New England. In 2003-04, families in New England spent a remarkable 33 percent of their income for a student to attend a private college, up significantly from 25 percent in 1992-93. Nationally, families spent 30 percent. The high cost of private colleges is particularly salient for Massachusetts families because of their strong preference for private schools. Recall that 43.4 percent of freshmen from Massachusetts attend private colleges, compared with only 26.4 percent of freshmen nationally. Thus, a much larger share of New England families faces the challenge of paying the bill of private colleges.

College Tuition and Fees

Tuition and fees are high, and they have also increased much faster than inflation. In the United States, the average cost of tuition and fees at a public community college increased 30 percent, after accounting for inflation (i.e. in real terms), to \$2,191 from 1995-96 to 2005-06. During this same period, the average cost of a public four-year college increased 54 percent to \$5,491. And,

the average cost of a private four-year college increased 37 percent to \$21,235.

The average cost of tuition and fees in New England and Massachusetts is even higher. In 2005-06, the average cost of private colleges in Massachusetts was \$27,780, 31 percent higher than the national average. The average cost of community colleges in Massachusetts was \$3,477, 59 percent higher than the national average. The average cost of all the public four-year colleges in Massachusetts was \$7,340, which was 34 percent higher than the national average. In 2005-06, the average tuition and fees at the state colleges—excluding the UMass campuses—was \$5,448. Tuition and fees at our state colleges are comparable to the national average for all public four-year colleges, which includes other states' flagship schools and major research institutions. The average tuition and fees at the UMass campuses was \$8,697. The average tuition and fees of the UMass system surpass those of its peer university systems.⁸

The tuition and fees in Massachusetts have been very volatile. During the recession of the early 1990s, tuition and fees jumped, in real terms, 53 percent at the UMass campuses and 56 percent at the state colleges. After those large increases, there were several years of small increases and then from 1995-96 to 2000-01, there were modest but steady decreases in tuition and

ES Table 3

Average Tuition and Fees, enrollment-weighted (Constant 2005 Dollars)

	PUBLIC TWO-YEAR COLLEGES		PUBLIC FOUR-YEAR COLLEGES			PRIVATE FOUR-YEAR COLLEGES	
	U.S.	MASS	U.S.	UMASS SYSTEM	MASS STATE COLLEGES	U.S.	MASS
1995-96	\$1,686	\$3,195	\$3,564	\$6,281	\$4,227	\$15,489	n/a
2005-06	\$2,191	\$3,477	\$5,491	\$8,697	\$5,448	\$21,235	\$27,780
10 year % change	30.0%	8.8%	54.1%	38.5%	28.9%	37.1%	

Source: College Board and Massachusetts Board of Higher Education

fees, in real terms. Starting in 2001-02, there have been large increases in Massachusetts and the nation. The increases coincided with the national economic recession that resulted in reductions in state appropriations per student. Nationally, tuition and fees at public four-year colleges increased 33 percent over the last four years. The increases in Massachusetts were much more extreme. From 2001-02 to 2005-06, tuition and fees at the UMass system increased, in real terms, by a whopping 69 percent and by 68 percent at the four-year state colleges.

As a consequence, students in the public system have faced an unpredictable bill for college, leaving them with little ability to plan and also with little recourse. Once a student has started college, that student has very limited options to respond to such drastic increases. They can take out more loans, increase their work hours, transfer to another school, or drop out. Moreover, the cost of a college degree will vary considerably depending on the luck of the year of enrollment and how it corresponds to the state's economic cycle.

Tuition and fees are not the only costs students and families face. Our measure of affordability includes tuition and fees as well as living expenses, such as room and board. Room and board adds a substantial cost on top of tuition and fees. Nationally, in 2005-06, the average cost for private colleges, including room and board was \$29,026 and \$12,127 at public four-year colleges.⁹ While these numbers seem shockingly high, it is important to remember that they are the "list" price, or the price advertised in the college catalogue. The majority of students who attend college receive some financial aid in the form of grants, which discounts the price they pay for college.

ES Table 4

Share of Students Receiving Grants

	1992-93	2003-04	CHANGE
U.S. Average	38.1%	50.7%	33%
New England Average	39.6%	56.7%	43%
U.S.			
Public Two-Year	28.4%	39.8%	40%
Public Four-Year	38.5%	51.7%	34%
Private Four-Year	57.9%	73.5%	27%
NEW ENGLAND			
Public Two-Year	33.8%	53.5%	58%
Public Four-Year	33.7%	49.9%	48%
Private Four-Year	45.5%	67.0%	47%

Source: National Postsecondary Student Aid Survey (NPSAS) Peer Analysis System

Grant Aid

Looking at tuition and fees provides only a partial picture because of the substantial amount of grant aid given to students. The majority of grant aid comes from the federal government. States then follow one of two broad strategies in terms of subsidizing public colleges. Either, they greatly subsidize the price of college but give little in student aid ("low price—low aid") or they do less to subsidize the price of tuition but support the stu-

FAMILIES ARE REQUIRED TO SPEND A LARGE SHARE OF THEIR ANNUAL INCOME TO PAY FOR COLLEGE

dents through a lot of direct aid ("high price—high aid"). Massachusetts is a "high price—high aid" state. This strategy has some advantages in that families who can afford to pay for college are not highly subsidized, and financial aid can be targeted to those who need it the most. But, there is also the question of whether the grant aid keeps up with the increases in tuition.

Recently, there has also been a trend of shifting financial aid toward merit-based aid. Until recently, Massachusetts had no significant aid pro-

ES Table 5**State and Local Support for Public Higher Education in Massachusetts**

YEAR	STATE AND LOCAL APPROPRIATIONS PER FTE STUDENT				
	IN CONSTANT 2004 DOLLARS			ADJUSTING FOR INFLATION AND COST OF LIVING	
	U.S. AVERAGE	MASS	RANK	MASS	RANK
1990-1991	\$6,740	\$7,399	13	\$6,065	36
1991-1992	6,358	6,267	23	5,183	43
1992-1993	6,127	6,905	15	5,747	33
1993-1994	6,200	7,440	12	6,225	24
1994-1995	6,406	7,768	13	6,516	24
1995-1996	6,480	8,241	7	6,987	15
1996-1997	6,690	8,761	6	7,492	12
1997-1998	6,891	9,177	6	7,828	11
1998-1999	7,060	9,361	6	7,970	11
1999-2000	7,114	9,723	6	8,175	11
2000-2001	7,121	9,911	6	8,339	9
2001-2002	6,873	8,772	7	7,288	14
2002-2003	6,291	8,421	8	6,913	12
2003-2004	5,949	7,256	9	5,957	20
2004-2005	5,833	7,712	7	6,331	15

Source: State Higher Education Executive Officers (SHEEO), State Higher Education Finance (SHEF) data collection obtained via the NCHEMS Information Center, <http://www.higheredinfo.org/analyses>.

grams based solely on merit. However, in 2005, the John and Abigail Adams Scholarship program began, and this program will shift resources to merit aid. The Governor's office has estimated that the cost of this program will rise to \$34 million by the fall of 2008.¹⁰

There has also been a growing use of institutional financial aid, which is aid that comes from the college. This is especially true in New England. Institutional financial aid allows colleges to differentiate the price that they charge students. Colleges have become adept at targeting financial aid toward students who are financially needy or meritorious in order to discount the price for those students. To fund this financial aid, colleges have increased the tuition prices and are in effect redistributing funds between students.

Over the last decade, the share of students receiving grant aid has increased—both in the

United States and in New England. Between 1992-93 and 2003-04, the share of undergraduate students in the U.S. receiving grants has increased considerably, from 38 percent to 51 percent.¹¹ In 2003-04, an even higher share of students in New England received grants (57 percent), and the share receiving grants in New England increased at a faster rate, from 40 percent to 57 percent.

During this time, grant aid has increased the most at community colleges—both nationally and in New England. While students at private four-year colleges are the most likely to receive a grant (67 percent), more than half (54 percent) of community college students receive a grant. This is up from roughly one-third (34 percent) of students in 1992-93.

In New England and in the nation, the average amount of grant aid has also increased, even after accounting for inflation. Of all the undergraduates in New England in 2003-04 who received a grant, the average grant amount was \$5,942, an increase of 16 percent since 1992-93. It was also substantially more than the national average of \$4,019. Without these increases in grant aid, families and students would be required to pay an even greater share of their income to attend college. But, these increases have done little to stem the increasing cost for families—either in New England or in the nation.

State Appropriations for Public Higher Education

As high as tuition and fees are, they do not fund the full cost of running a university or college. Private schools rely on tuition revenue, donations, and endowment income, while public colleges are highly subsidized by public money. The two main sources of revenue for the operating costs of public colleges are tuition and fees and state appropriations.¹² In Massachusetts, each year the

Legislature approves a single appropriation for the University of Massachusetts system and then single-line-item appropriations for the nine state colleges and 15 community colleges. State appropriations for higher education in Massachusetts reached a peak of \$1,186,500,000 in 2001-02. Then, between 2000-01 and 2003-04, it declined by 16 percent, in real terms, to \$997,800,000. In the most recent year, 2004-05, it increased to \$1,059,700,000.

It is helpful to consider state appropriations in relation to the number of students served by the system.¹³ As noted earlier, the use of the Massachusetts public higher education system is much smaller than elsewhere in the nation. In 2004-05, the state allocated \$7,712 for the equivalent of each full-time student, substantially higher than the national average of \$5,833. Massachusetts ranked 7th highest on this measure in the nation. Because of the state's high cost of living, it follows that the cost of running a public university system would also be higher. After adjusting for our state's high cost of living, Massachusetts drops to 15th highest in its appropriations per full-time equivalent (FTE) student, which is still above the national average.¹⁴

The level of state funding has been volatile, though, rising and falling with the economic cycle. In the recession of the early 1990s, state spending, in real dollars, decreased per FTE student. As the state recovered from the recession, state spending per FTE student steadily increased to \$9,911 in 2000-01. Then, when the state faced the most recent recession, public spending per student declined to \$7,256 in 2003-04 and then just increased to \$7,712 in the most recent year.

The increases and decreases in state appropriations correspond inversely with increases and decreases in tuition and fees. In the recession of the early 1990s, as state appropriations per

ES Table 6

State Support and Tuition and Fees in Massachusetts

YEAR	CHANGE IN REAL STATE APPROPRIATIONS PER FTE STUDENT	CHANGE IN REAL TUITION AND FEES		
		UMASS SYSTEM	STATE COLLEGES	COMMUNITY COLLEGES
1991-1992	-15.3%	20.4%	22.0%	21.4%
1992-1993	10.2%	0.5%	3.1%	0.4%
1993-1994	7.8%	3.4%	-0.3%	7.6%
1994-1995	4.4%	1.8%	-1.1%	10.8%
1995-1996	6.1%	-1.1%	0.3%	-0.8%
1996-1997	6.3%	-4.0%	-4.1%	-2.4%
1997-1998	4.7%	-3.0%	-4.6%	-5.7%
1998-1999	2.0%	-3.7%	-4.4%	-6.9%
1999-2000	3.9%	-3.2%	-6.5%	-7.7%
2000-2001	1.9%	-3.6%	-4.1%	-4.7%
2001-2002	-11.5%	-1.8%	-2.0%	3.7%
2002-2003	-4.0%	20.9%	24.0%	22.0%
2003-2004	-13.8%	14.8%	20.0%	12.8%
2004-2005	6.3%	20.3%	7.8%	0.6%

Source: Tables 39 (page 67) and 41 (page 70).

Notes: The percentage changes are relative to the previous year. Inflation adjustments are made using a producer price index for the real appropriations and the consumer price index for tuition and fees.

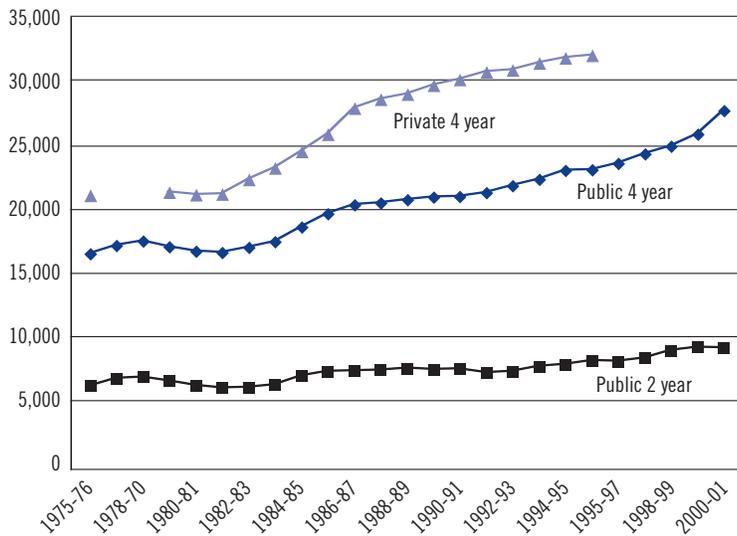
student dropped, tuition and fees at the public colleges increased. In 1996-97, when state appropriations increased by 6.3 percent per FTE student, tuition and fees at the UMass campuses dropped by 4.0 percent. More recently, in 2003-04, state appropriations per FTE student decreased 13.8 percent, and tuition and fees increased 14.8 percent.

Increased Expenditures by Colleges

Fluctuations in state spending partially explain the large increases in tuition and fees in Massachusetts. But, the question of why college has become so costly is tightly connected to the rising costs of running a college. Colleges now spend substantially more money per student than they did in the past. Colleges compete to offer the best product to students, helping to create what some call a "spending arms race." In just one decade (from 1990-91 to 2000-01), the expenditures at

ES Figure 1

Expenditures per FTE Student, United States (constant 2000-01 dollars)



Source: U.S. Department of Education, National Center for Education Statistics, Higher Education General Information Survey (HEGIS), "Financial Statistics of Institutions of Higher Education," 1975-76 through 1985-86, "Fall Enrollment in Colleges and Universities," 1975 through 1985; Integrated Postsecondary Education Data System (IPEDS), "Finance," 1986-87 through 1999-2000, and Spring 2002 survey, "Fall Enrollment," 1986 through 1999, and Spring 2001 survey; and Bureau of Labor Statistics, Consumer Price Index.

public colleges per FTE student increased 28 percent nationally and 29 percent in Massachusetts, in real terms. In Fiscal Year 2004, expenditures per student at public four-year colleges in Massachusetts were \$24,020, slightly higher

THE TOTAL DEBT STUDENTS ARE CARRYING HAS INCREASED SIGNIFICANTLY

than the national average of \$23,880. At community colleges, expenditures per student were \$9,775, also higher than the national average of \$8,939.¹⁵ These figures are clearly much higher than the tuition and required fees.

There are a variety of reasons why the costs have increased. The largest expense that colleges face is personnel costs, including faculty and staff.

As faculty members, many of whom are Baby Boomers, get older, colleges face increases in salaries and benefits. The cost of benefits, such as health care, has also risen dramatically for all employees. In addition, funding technological advancements for teaching, research, and improved student services is costly. Other things, such as government mandates and regulations as well as the upkeep of facilities, have also contributed to increased costs. In the future, the cost of maintenance for public colleges is likely to rise because of a large backlog of deferred maintenance projects. For instance, in Massachusetts, a 2003 report estimated that the capital needs at the state colleges and community colleges would cost \$1.2 billion, and each year that the projects are not done, the costs increase.¹⁶ Finally, there are increasing demands from students for more services and amenities. Colleges across the country are all grappling with these same issues. As schools spend more and then charge higher tuition, their competitor schools follow suit.

Massachusetts is no different from other states in facing these challenges, but there are two noteworthy differences. First, as a high-cost state, the expense of running a college will likely be more costly in Massachusetts than in other places. In general, salaries are higher, and other costs, such as construction and energy costs, are also higher than the national average.

The second difference is the size of the state's public four-year colleges. The public four-year colleges in Massachusetts are among the smallest in the nation. The average size of a Massachusetts public four-year college is 5,391 students, compared with a national average of 8,527. Massachusetts ranks 41st in the nation, with 1st representing the state (Iowa) with the largest public colleges.¹⁷ Small public colleges are common in New England: Connecticut ranks 44th; New

Hampshire ranks 46th; Maine ranks 48th; and Vermont ranks 49th. Rhode Island is the one exception; Rhode Island's two public four-year colleges are larger than the national average.

There are a number of advantages to smaller colleges. They are dispersed throughout the state, guaranteeing that students will not have to travel far to attend college. For nontraditional students who are often working and balancing family demands in addition to attending school, the proximity of college can make a difference in their ability to attend. Smaller schools might also offer a more personalized environment for the student. In addition, public colleges serve an important role within their larger environment, often acting as an economic engine and anchor for the surrounding communities.

At the same time, there are additional costs associated with maintaining a large number of campuses because of the fixed costs associated with running each campus. The UMass campuses act collectively on a number of issues, in order to benefit from economies of scale and create a sense of cohesiveness throughout the system. However, each Massachusetts state college and community college is currently in charge of all of its administrative functions—from registration to technology to purchasing to accounting and finance. This organization increases the fixed costs of running the Massachusetts state and community colleges. The campuses do benefit from the Massachusetts Higher Education Consortium and the volume discounts it offers members, as well as the state contracts that the Commonwealth negotiates. There is likely, however, the potential for additional savings by sharing more services across campuses.

Maine has taken this approach. Maine also has some of the smallest public colleges in the nation, ranking 48th in the country. In order to

ES Table 7

Average Size of the Public Four-Year Colleges, Fall 2002

RANK	STATE	NO. OF PUBLIC FOUR-YEAR COLLEGES	AVERAGE NO. OF FTE STUDENTS
1	Iowa	3	21,380
2	Arizona	5	18,908
3	Michigan	15	15,836
4	California	34	15,519
5	Florida	15	14,916
6	Illinois	12	14,217
7	Kentucky	8	11,715
8	Indiana	14	11,657
9	Utah	7	11,559
10	Tennessee	9	11,453
41	Massachusetts	15	5,391
42	West Virginia	12	5,096
43	Pennsylvania	44	5,081
44	Connecticut	10	5,048
45	Montana	6	4,890
46	New Hampshire	5	4,529
47	North Dakota	7	4,030
48	Maine	8	3,260
49	Vermont	5	2,839
50	South Dakota	9	2,819
	U.S.	634	8,527

Source: *Digest of Education Statistics*

help control costs, 30 years ago, Maine began to implement systems of shared services. For instance, in Maine, information technology (IT) services, accounting and finance, and purchasing are handled jointly. The volume allows for steep discounts in purchase prices, and then the shared systems are easier and cheaper to administer. By their estimates, Maine has annual savings of \$25 million, and they are currently pursuing other opportunities for shared services.¹⁸ Such an approach in Massachusetts could substantially reduce costs while also maintaining the benefits of a system of many small public colleges.

An Increase in Loans: How Families are Paying for College

Students and their families are coping with the rising cost of a college education by taking out loans, allowing them to defer payments into the future. In the United States and in New England, there has been an overall shift in financial aid packages from grants to loans. In 1992-93, the average financial aid package in New England was 55 percent grants and 36 percent loans (including student and PLUS loans to parents, but not other parental loans). By 2004-05, it was 47 percent grants and 48 percent loans. The shift to loans is happening faster in New England than in the rest of the country.¹⁹

In 2003-04, 44 percent of students in New England took out loans. This is a large increase from the 26 percent who took out loans in 1992-93. It is also considerably higher than the national average (44 percent versus 35 percent). While students at private colleges are the most likely to

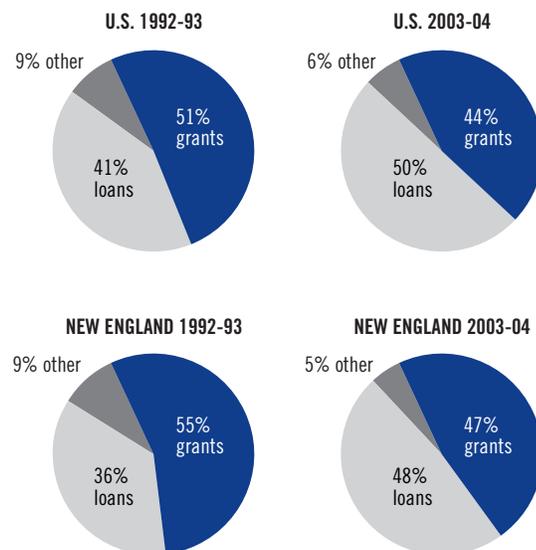
take out a loan, the most notable change occurred at the public four-year colleges in New England. Since 1992-93, the share of students taking out loans at public four-year colleges has nearly doubled from 25 percent to 48 percent. Overall, New England students at four-year colleges are only slightly more likely than their national peers to take out a loan (48 percent versus 45 percent), but there has been a more rapid change over the last decade. In contrast, only 7 percent of community college students in New England took out a loan in 2003-04. Students at New England community colleges are less likely than their national peers to take out a loan (7 percent versus 12 percent).

The size of loans that New England students took out in 2003-04 is larger, on average, than those of their national peers (\$7,842 versus \$6,628). This difference is driven by large loans that students at New England private colleges are taking out—the average amount was \$9,794 in 2003-04. At public four-year colleges, the average loan that New England students took out is actually slightly smaller than the national average (\$6,025 versus \$6,392) and has increased at a slower rate. New England community college students also took out smaller loans, on average, than their national peers (\$3,478 versus \$3,727).

The total debt that students are carrying has increased considerably over the past decade, with students at private colleges carrying the most. As the debt burden of students increases, there is growing concern that students' future career choices will be constrained. In New England, the average total debt for 4th-year students at private colleges was \$23,491, which was 49 percent higher—in real terms—than in 1992-93.²⁰ And, students at private colleges in New England are carrying more debt than their national counterparts (\$23,491 versus \$21,946). At the public four-year

ES Figure 2

Shift in Financial Aid Packages to Loans



Source: National Postsecondary Student Aid Survey (NPSAS)

colleges in New England, the average amount of debt of 4th-year students was less than that of their peers nationally (\$15,399 versus \$17,507), but was still a 39 percent increase, in real terms, from 1992-93. Unfortunately, it is not possible to estimate the overall debt burden for community college students in New England. Nationally, the total debt for 2nd-year students at community colleges was \$8,296. These numbers provide only a partial picture of the growing debt burden, because they do not likely include all private loans or any loans taken out by parents. During this period, there has been a large increase in the share of parents taking out loans to help finance their children's college education. In New England, federal PLUS loans (to parents) accounted for 3.4 percent of the total financial aid package. By 2003-4, federal PLUS loans accounted for 9.3 percent. Thus, the total debt figures have increased substantially over the past decade and are even higher than these numbers suggest.

Performance Outcomes: Who Graduates from College?

As families and students are increasingly stretching themselves to finance a college education, it is equally important to ask what happens to students after they start college. The reality is that many students—and at some schools the majority of students—start college but leave without a degree. For individual students, whether or not they earn a degree has important consequences. Dropouts are often left with substantial debt without the benefits of a college degree. Consider that among students who began college in 1995 but who dropped out, the median debt of those who borrowed money was \$7,000, and about one-fifth of the dropouts with debt defaulted on at least one of their loans.²¹ Concern about outcomes is also a public issue. The taxpayers heavily subsidi-

ES Table 8

Share of Students Receiving Loans in the United States and in New England

	1992-93	2003-04	CHANGE 1992-93 TO 2003-04
United States Average	20.6%	35.3%	71%
New England Average	26.2%	44.2%	69%
UNITED STATES			
Public Two-Year	6.5%	12.2%	86%
Public Four-Year	26.7%	44.9%	68%
Private Four-Year	36.9%	56.8%	54%
NEW ENGLAND			
Public Two-Year	3.2%	6.8%	117%
Public Four-Year	24.8%	47.8%	93%
Private Four-Year	34.4%	55.8%	62%

Source: National Postsecondary Student Aid Survey (NPSAS) Peer Analysis System (<http://nces.ed.gov/das>).

Sample weights were used to reflect the total population of undergraduates.

Notes: The total amount of loans includes: all federal loans to students (Perkins, Stafford, and federal loans through the Public Health Service), state loans, institutional loans (from funds provided by the educational institution), and private/alternative loans (the amount of alternative commercial or private loans received by students including personal loans secured through financial institutions or lenders like TERI or Sallie Mae; does not include loans from family or friends). Also includes PLUS loans (both the Federal Family Education Loan and Direct loan programs).

ES Table 9

Total Debt Burden by Full-Year Students (in constant 2003-04 dollars)

	1992-93	2003-04	CHANGE 1992-93 TO 2003-04
UNITED STATES			
Public Two-Year			
2nd year undergraduates	\$4,031	\$8,296	106%
Public Four-Year			
4th year undergraduates	\$9,928	\$17,507	76%
Private Four-Year			
4th year undergraduates	\$13,939	\$21,946	57%
NEW ENGLAND			
Public Two-Year			
2nd year undergraduates	--	--	--
Public Four-Year			
4th year undergraduates	\$11,052	\$15,399	39%
Private Four-Year			
4th year undergraduates	\$15,722	\$23,491	49%

Source: National Postsecondary Student Aid Survey (NPSAS) Peer Analysis System (<http://nces.ed.gov/das>).

Sample weights were used to reflect the total population of undergraduates. Notes: The symbol "--" indicates the number of cases is too small to produce an estimate. Includes all loans ever borrowed for undergraduate education. Does not include parent PLUS loans. Data were collected from the National Student Loan Data System (NSLDS), a repository of federal loan information. However, because student may also borrow from other sources, self-reported and institutional information were also used.

ES Table 10**Six-Year Graduation Rates — University of Massachusetts Campuses**

	GROUP	1995 COHORT	1996 COHORT	1997 COHORT	1998 COHORT
UMass Amherst	Institution	59	61	64	62
	Peers	63	65	65	NA
UMass Boston	Institution	28	35	34	28
	Peers	37	37	38	38
UMass Dartmouth	Institution	51	53	50	50
	Peers	NA	NA	55	NA
UMass Lowell	Institution	37	44	42	46
	Peers	40	42	42	NA

Source: University of Massachusetts 2005 Report on Annual Indicators.

Notes: Peer data for UMass Boston and Lowell are from *U.S. News and World Report*, and they are four-year averages. Peer data for UMass Dartmouth is a three-year average from *U.S. News and World Report*. Except for UMass Amherst, all of the schools include aspirant peers in their peer group. "NA" indicates the information was not available.

dize higher education. And, from an economic point of view, the investment in higher education is tied to the health of the Massachusetts economy, which depends on a highly educated workforce.

Although measuring student outcomes is complicated, both conceptually and technically, graduation rates are important indicators. The graduation rate for a school will be related to the academic preparation and family background of its students. However, by comparing similar insti-

four years. The six-year graduation rate at UMass Amherst for the students who began in the fall of 1998 was 62 percent. There is a wide range of graduation rates among the other three UMass campuses. The graduation rate for UMass Dartmouth was 50 percent, 46 percent for UMass Lowell, and 28 percent for UMass Boston. Because of the significant differences in the student bodies at the campuses, it is more appropriate to compare individual schools with peer institutions.²² The graduation rates at Amherst and Lowell campuses are roughly on par with their peers, and the graduation rate at Dartmouth is slightly lower. At 28 percent, the average graduation rate for UMass Boston is significantly lower than that of its peers, which is 38 percent.²³

At the four-year state colleges, less than half of students (48 percent) who entered college in 1998 had graduated six years later. There are also considerable differences between the colleges. Westfield State had the highest graduation rate, which was 55 percent, and Salem State had the lowest—38 percent.²⁴ Again, because of the differences among the student bodies at the colleges, it is appropriate to compare colleges with their peer institutions. Compared with their peers,

A RENEWED FOCUS ON GETTING STUDENTS THROUGH COLLEGE AND NOT JUST INTO COLLEGE IS NEEDED

tutions, one can get a sense of an individual college's effectiveness. The graduation rate at private colleges varies significantly and is related to the institution's level of selectivity. Our focus here is specifically on the public colleges and universities in Massachusetts.

There are large differences in the graduation rates of the public four-year colleges in Massachusetts. Looking at the graduation rates over six years is the typical time frame, given that the large majority of students do not graduate in

ES Table 11**Six-Year Graduation Rates—State Colleges**

	GROUP	1996 COHORT	1997 COHORT	1998 COHORT	AVERAGE
Bridgewater State College	Institution	47.0	45.8	51.4	48.1
	Peers	50.6	50.6	51.5	50.9
Fitchburg State College	Institution	44.0	47.7	47.1	46.3
	Peers	36.3	38.1	35.1	36.5
Framingham State College	Institution	38.7	42.0	44.4	41.7
	Peers	33.5	35.4	34.5	34.5
MA College of Liberal Arts	Institution	45.7	46.7	45.0	45.8
	Peers	52.8	50.1	53.2	52.0
Salem State College	Institution	34.1	37.0	42.4	37.8
	Peers	38.1	39.0	40.1	39.1
Westfield State College	Institution	56.4	55.7	53.1	55.1
	Peers	37.8	40.7	41.2	39.9
Worcester State College	Institution	35.6	40.5	43.2	39.8
	Peers	33.1	33.5	33.5	33.4
MA College of Art	Institution	50.7	65.3	65.7	60.6
MA Maritime Academy	Institution	64.5	56.7	61.9	61.0

Source: Massachusetts Board of Higher Education (2005) Performance Report for 2004.

Note: Mass Maritime and Mass Art have special mission status and, for purposes of six-year graduation rates, are not compared to peer institutions.

three state colleges underperformed their peer groups, while four outperformed their peers.²⁵ There has been some improvement in recent years, and the state colleges seem on target to reach a 50 percent graduation rate within five years, the goal set by the Massachusetts Board of Higher Education (BHE). Nonetheless, substantial work remains to be done to improve graduation rates, given the consequences for the students and the state.

The graduation rates at community colleges, which are measured over three years, are much lower. Of the community college students who began in 1999, only 17 percent of students completed a degree within three years. Some student take longer than three years to get a degree, and thus the graduation rates increase when a six-year time frame is used. In addition, the low rates reflect the difficulty in accurately capturing

transfer students as well as the fact that many community college students do not intend to get a degree. While attention to appropriate outcome measures for community college students is important, a consensus that graduation rates matter coupled with a clear strategy to help improve them is needed. The BHE has recently convened a task force to look into these issues.²⁶

To be clear, there is a shared responsibility for improving outcomes. The students themselves must take responsibility for their own success. The state's high schools and workforce development programs must do a better job of preparing students for college. In addition, the colleges must take responsibility for improving graduation rates. Given that graduation rates vary considerably, even among schools with similar students, it is clear that colleges can make a difference in terms of their students' success. The BHE task

force should investigate the policies and practices of colleges with high graduation rates. And, colleges must be adequately supported, financially and otherwise, by the BHE and the state Legislature.

Concluding Thoughts

Over the last decade, college has become less affordable, meaning that families and students are paying a greater share of their incomes to finance a college education. While this research does not examine how access to college has changed as affordability has declined, other research has found that low-income students are particularly sensitive to price increases. Thus, the decline in affordability is likely affecting the composition of college students.

The challenges around affordability are of national concern, but they deserve particular attention in Massachusetts and New England. The region's community colleges and private four-year colleges are less affordable than those nationally. While the region's public four-year colleges cost the same as those nationally (21 percent of a family's annual income), the decline in affordability is much more steep, and if similar trends continue, they too will be less affordable in short order. It is well known that Massachusetts has a high cost of living. As families are required to pay an even larger share of their incomes to attend colleges, it raises important questions about the ability to attract and retain families, both are key to the state's economic vitality.

Students and families are digging deeper and deeper into their pockets to finance a college education. To cover the cost of college, more students and their parents are taking out large loans—at both public and at private colleges. The increase in the loans has shifted a greater amount of risk to students and their families, and the

consequences of this shift deserve more public discussion. Given that the debt burden has increased so much in a short period of time, the consequences of students taking out large loans is not yet known. Who has been most affected by the shift, and what policies can be put in place to help increase the odds of students earning a degree?

The cost of attending community colleges has been the most effectively controlled. In New England, only 7 percent of community college students took out a loan in 2003-04, and the average loan amount was \$3,478. Moreover, the share of the financial aid package that was grants increased for community college students. Nonetheless, the community colleges in New England are still less affordable than those in the nation. This reflects the fact that the typical income of the community college student in New England is quite low, and thus the cost is still high relative to their income.

Students at private colleges are the most likely to take out a loan and are also taking on the largest amount of debt. At the same time, students from Massachusetts disproportionately choose to attend private colleges, which are significantly less affordable than the public colleges. Better information on performance indicators—including graduation rates—that allows for comparisons between schools should be widely available so that families and students can make informed choices.

While there is a long tradition of private colleges in New England, their increasing cost suggests the future could be different. With a price tag that requires families to spend 33 percent of their income, the cost of private colleges could be on the verge of being cost-prohibitive. If private colleges are unable to fill their seats, they might reduce their tuition and fees.²⁷ Alternatively, more

students may seek to enroll in the state's public colleges, offering a real opportunity for the state's public higher education system to expand and play a more prominent role. This opportunity also raises important questions about the potential capacity of the public colleges and whether the institutions are strongly positioned to absorb new students without sacrificing their mission of accessibility.

Recently, public attention has focused on the decline in public dollars dedicated to higher education. There is currently legislation—An Act Supporting Access and Excellence in Public Higher Education in the Commonwealth—being considered to address some of the major challenges facing public higher education in Massachusetts. First, it would change higher education funding to a system based on a formula, which takes into account a comprehensive set of factors that affect the cost of running an institution. Adopting a formula would create a transparency in funding between the different colleges. However, the details of the formula are critical in order to create the right reform incentives.

In addition, the current legislation calls for the creation of a rainy-day fund at each campus, which would help address the volatile funding stream that this research has documented. Such volatility has created an unpredictable environment for schools and ultimately for students and their families, who have been forced to cope with dramatic increases in tuition and fees. Finally, in exchange for a predictable level of funding, the current legislation limits the rate of increase for tuition and fees, with exceptions in extenuating circumstances. It is important to consider the best way to put boundaries around tuition increases, taking into account the many costs colleges face. However, it would make the cost of college for families much more stable.

There are several other important issues that should also be addressed. Unless the state government is prepared to write a blank check for higher education, the expenditures of colleges must be analyzed in order to look for opportunities for greater efficiencies and cost savings. Colleges across the country face the challenges of an aging workforce, skyrocketing health care costs, and other costs associated with providing a quality education. While some of the increases are likely unavoidable and others clearly justified, the expenditures of public colleges must be more transparent and subject to greater public scrutiny.

A place to start is an analysis of the organization of the public higher education system.

THE INCREASE IN LOANS HAS SHIFTED A GREATER AMOUNT OF RISK TO STUDENTS AND THEIR FAMILIES

Massachusetts currently has, on average, some of the smallest public four-year schools in the nation. There are substantial fixed costs associated with maintaining so many campuses. However, there may also be potential savings opportunities by sharing more services across campuses. For instance, Connect, a consortium of the five public colleges in Southeastern Massachusetts, jointly bid for banking services, which allowed for both savings and improved banking services. The Massachusetts Higher Education Consortium also allows the campuses to benefit from volume discounts. But more could be done. A comprehensive cost-benefit analysis of different shared services options would provide important information about the best opportunities for cost savings.

Other cost-control measures should also be considered. Some options may require an initial investment but would ultimately lead to greater

savings in the long term. For instance, dual enrollment programs allow high school students to take college courses and receive both high school credit and college credit. Dual enrollment programs serve a number of purposes, including decreasing the number of credits a college student will need in order to graduate from college, which reduces the cost. In addition, such programs are thought to help ease the transition to college, especially for first-generation college students. More effective advising and use of technology could also help lower costs. For instance, several of the state's community colleges use software to help students track the courses needed for a major, allowing them to make informed decisions. In addition, more effective advising of transfer students could be beneficial, since they often take unnecessary classes, prolonging their time in college and adding to the cost. Finally, careful use of long-distance learning options could help reduce the costs.

Regionally, the New England Board of Higher Education's Regional Student Programs (RSP) allows students in New England to receive steep tuition discounts at out-of-state colleges that offer programs not available in their home states. RSP encourages only a few colleges in the region to develop and run specialized programs, and the other colleges benefit by not investing time and money into running certain high-cost academic programs. A regional summit that discusses other opportunities for regional collaboration could be beneficial. In addition, it is worth asking whether a similar approach could be beneficial within the state. Can course offerings be more effectively shared across campuses, creating areas of expertise at campuses while reducing course offerings at other campuses? Overall, a comprehensive cost-savings strategy should be analyzed and implemented.

Families also need to take responsibility for planning and saving for college. In recent years, federal and state governments have created a number of college savings options for families. Massachusetts has both prepaid tuition plans and a college savings plan (a 529 plan). Both plans have significant tax advantages. There is also often a lack of awareness of financial aid options, meaning that some families do not get the best possible financial aid packages. Colleges, the BHE, and other stakeholders should consider better ways to inform families about the savings and financial aid opportunities available.

At the same time that the state considers a different system of funding for higher education, a more explicit system of accountability should be discussed. There should be accountability to the taxpayers who are subsidizing public higher education as well as to the students and their families, who are assuming greater risk to attend college. Currently, the Performance Measurement reports compiled by the BHE and the UMass system are important sources of information, presenting data on a range of indicators related to access, affordability, and quality. The information presented in these reports should be given much more attention and scrutiny. What types of interventions are needed to help students who are not on track? In addition, strategic plans with benchmarks should be developed for institutions that are not performing adequately and are not improving.

The Legislature should consider changing the way it funds public colleges to create incentives for schools to improve their graduation rates. Instead of considering the total number of enrolled students, funding could be weighted toward seniors, rewarding institutions for retention. Alternatively, the state should consider including money tied to improvements in graduation rates

within the funding formula. Such efforts must be implemented carefully so that the public mission of access is also maintained and that colleges are not pushed into rejecting students that they would have otherwise accepted.

The economic future of individual students and the state are closely related. At the same time that a college degree is more important than ever for workers, the Massachusetts economy is also highly dependent on an educated workforce. The

state relies on the strength of its workforce to attract the critical industries that then drive the state's economic growth. Our state's highly educated population is our competitive advantage. Thus, it is in everyone's interest to increase the number of college graduates in the state.

ENDNOTES

1. See <http://www.higheredinfo.org>. Based on information from Tom Mortenson, "Postsecondary Education Opportunity."
2. This research is based on a variety of data sources. We use the National Postsecondary Student Aid Survey (NPSAS) from the National Center for Education Statistics, the Integrated Postsecondary Data System (IPEDS) from the National Center for Education Statistics, College Board data, data from the Massachusetts Board of Higher Education, as well as data from other sources.
3. Because state-level information is not available, our analyses of affordability focuses on students at New England colleges. More of the reasoning is discussed in the section "What Do We Mean By Affordability?"
4. This analysis includes both traditional and nontraditional students.
5. The affordability data come from the National Postsecondary Student Aid Survey (NPSAS), administered by the federal Department of Education. It is the most comprehensive dataset available that documents the aid that undergraduates receive, but it only allows a regional analysis and it is based on the location of college. The vast majority of students from Massachusetts and New England attend college in New England, so it accurately captures how much they pay for college, and how that differs from their national counterparts. Private colleges are limited to nonprofit four-year institutions, and we use the terms community college and public two-year institution interchangeably to refer to all public two-year institutions.
6. See Bridget T. Long, "How Have College Decisions Changed Overtime? An Application of the Conditional Logistic Choice Model," *Journal of Econometrics*, vo. 121, no. 1-2, pp. 271-296 and Thomas J. Kane, "Rising Public College Tuition and College Entry: How Well Do Public Subsidies Promote Access to College?" National Bureau of Economic Research Working Paper 5164, 1995.
7. U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS). The data include first-time freshmen only. It does not capture returning students or student transfers.
8. According to University of Massachusetts *2005 Report on Annual Indicators*, the peer university systems for the UMass system include: University of Connecticut, University of Colorado, University of Maryland, University of Missouri, University of Illinois, and University of California. In 2004-05, the tuition and fees at these institutions ranged from \$3,500 to \$8,000. The tuition and fees at the different UMass campuses ranged from \$7,800 to \$9,000.
9. College Board, "Trends in College Pricing," 2005. It is worth noting, however, that students would incur costs for room and board, even if they don't attend college.
10. Anand Vaishnav, "Board OK's MCAS Scholarship Plan," *The Boston Globe*, June 16, 2004.
11. These figures come from the National Postsecondary Student Aid Survey (NPSAS). They include all grants and scholarships from the federal government, state government, institution, and other sources including charities and employers.

12. Research universities also receive research grants, but these funds tend to be more restricted in their use.
13. Another way to consider state spending on higher education is to compare the amount of state appropriations dedicated to higher education with the income level of the state. While Massachusetts has one of the highest levels of per capita income, it ranks near the bottom in terms of spending per dollar of personal income.
14. State Higher Education Executive Officers (SHEEO), State Higher Education Finance (SHEF) data. See <http://www.sheeo.org>.
15. This information comes from MassINC calculations using the National Center for Education Statistics Data Analysis System with IPEDS data (<http://nces.ed.gov/das>). The numbers for Fiscal Year 2004 excludes spending for hospitals. Because of a change in the accounting system, the amount of expenditures per student after 2000 are not comparable to earlier years, and private colleges use a different accounting system, which is not directly comparable.
16. "Matching Facilities to Missions: Strategic Capital Program," Prepared by Eva Klein & Associates, Ltd., Prepared for the Massachusetts Board of Higher Education, July 2003.
17. The public community colleges in Massachusetts are average in their size. Their average size is 3,247 students, compared with a national average of 3,366. The state's community colleges rank 17th largest in the nation.
18. University of Maine, "System Services: Supporting Maine's Public Universities," May 2005.
19. The loan data come from the National Postsecondary Student Aid Survey (NPSAS). It includes: federal, state, institutional, and private loans to the students and PLUS loans to the parents. It does not include loans by family and friends to the student. The number of private loans products has increased substantially over the last decade, but it is difficult to get good information on these loans. In addition, credit cards are increasingly providing capital to students for tuition expenses. For these reasons, the numbers reported in this research likely underestimate the true amount of debt families incur to pay for college.
20. The cumulative debt figures, which come from NPSAS data, are based on the year of the student. Thus, 4th year students are not necessarily seniors nor are they necessarily college graduates.
21. Lawrence Gladieux and Laura Perna, *Borrowers Who Drop Out: A Neglected Aspect of the College Student Loan Trend*, San Jose, CA: The National Center for Public Policy and Higher Education, National Center Report #05-2, 2005.
22. For the state and community colleges, the Massachusetts Board of Higher Education worked with individual campuses and the National Center for Higher Education Management Systems (NCHEMS) to identify appropriate peer institutions. The Board of Higher Education approved the final lists of peers. See the University of Massachusetts' *2005 Report on Annual Indicators* for more information about the peer institutions of the UMass campuses.
23. University of Massachusetts, *2005 Report on Annual Indicators*.
24. This is based a three-year average of the students entering college 1996-1998. See Board of Higher Education, *2005 Performance Measurement Report*.
25. The other two colleges—Mass. College of Art and Mass Maritime Academy—have special missions and do not have specific peer institutions.
26. MassINC is participating on this task force and also participated on an earlier task force on graduation rates.
27. Private liberal arts colleges are routinely offering merit aid to students, discounting the price they pay. It helps colleges recruit high-achieving students, and for some colleges, it helps them fill their freshmen classes. See Alan Finder, "Aid Lets Smaller Colleges Ask, Why Pay for Ivy League Retail?" *The New York Times*, January 1, 2006.