

# CONNECTION

THE JOURNAL OF THE NEW ENGLAND BOARD OF HIGHER EDUCATION

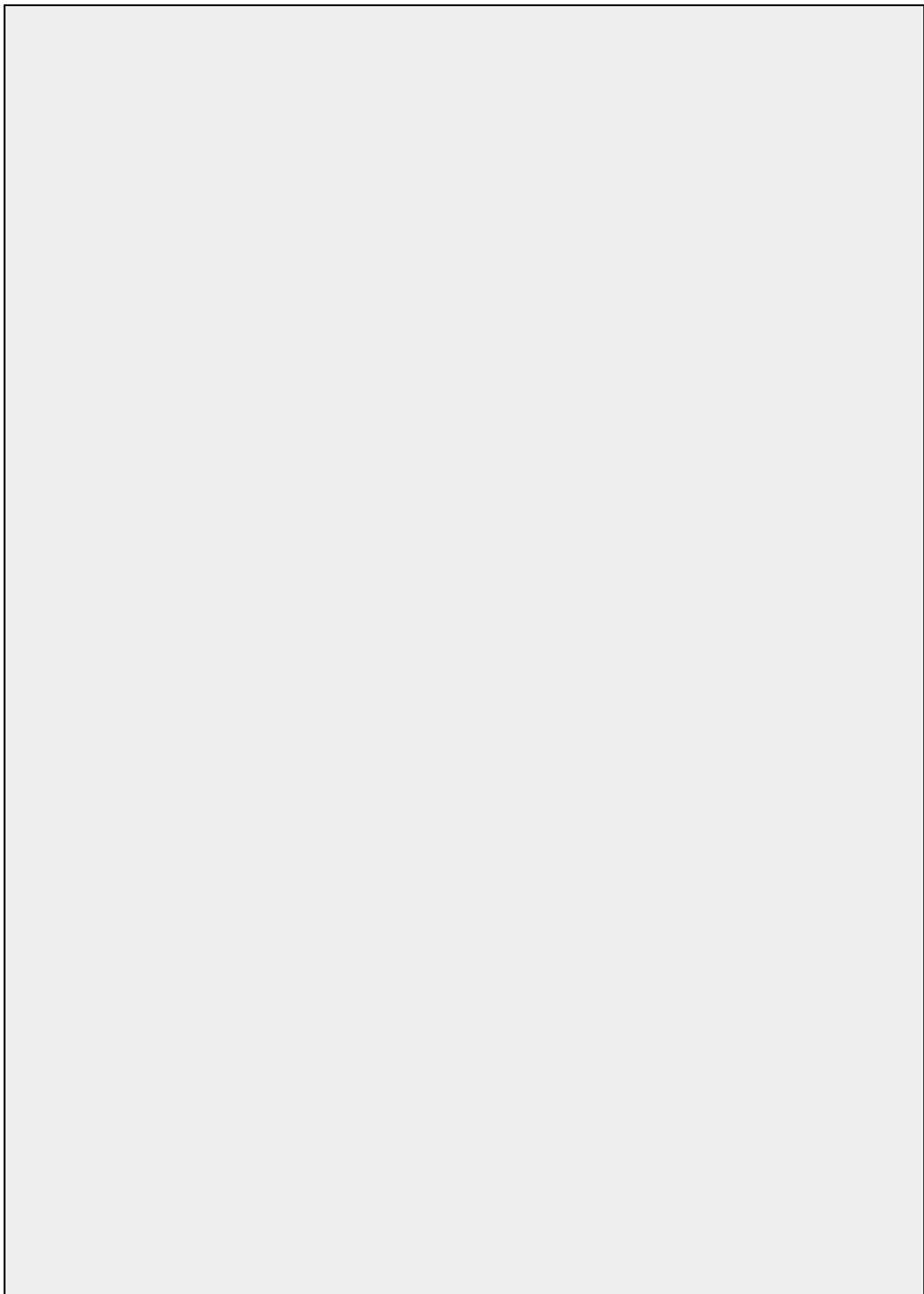
## Trends & Indicators in Higher Education

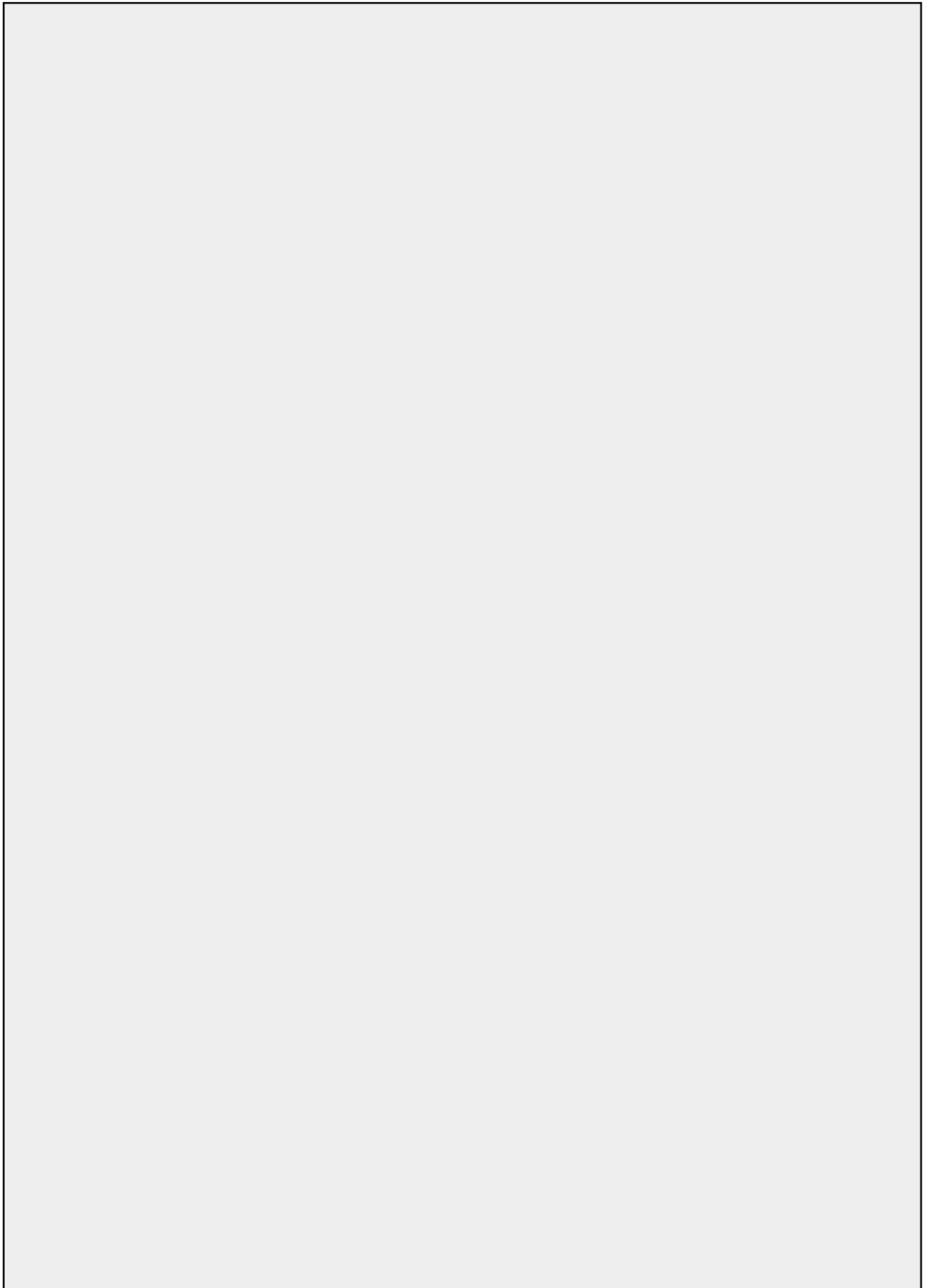
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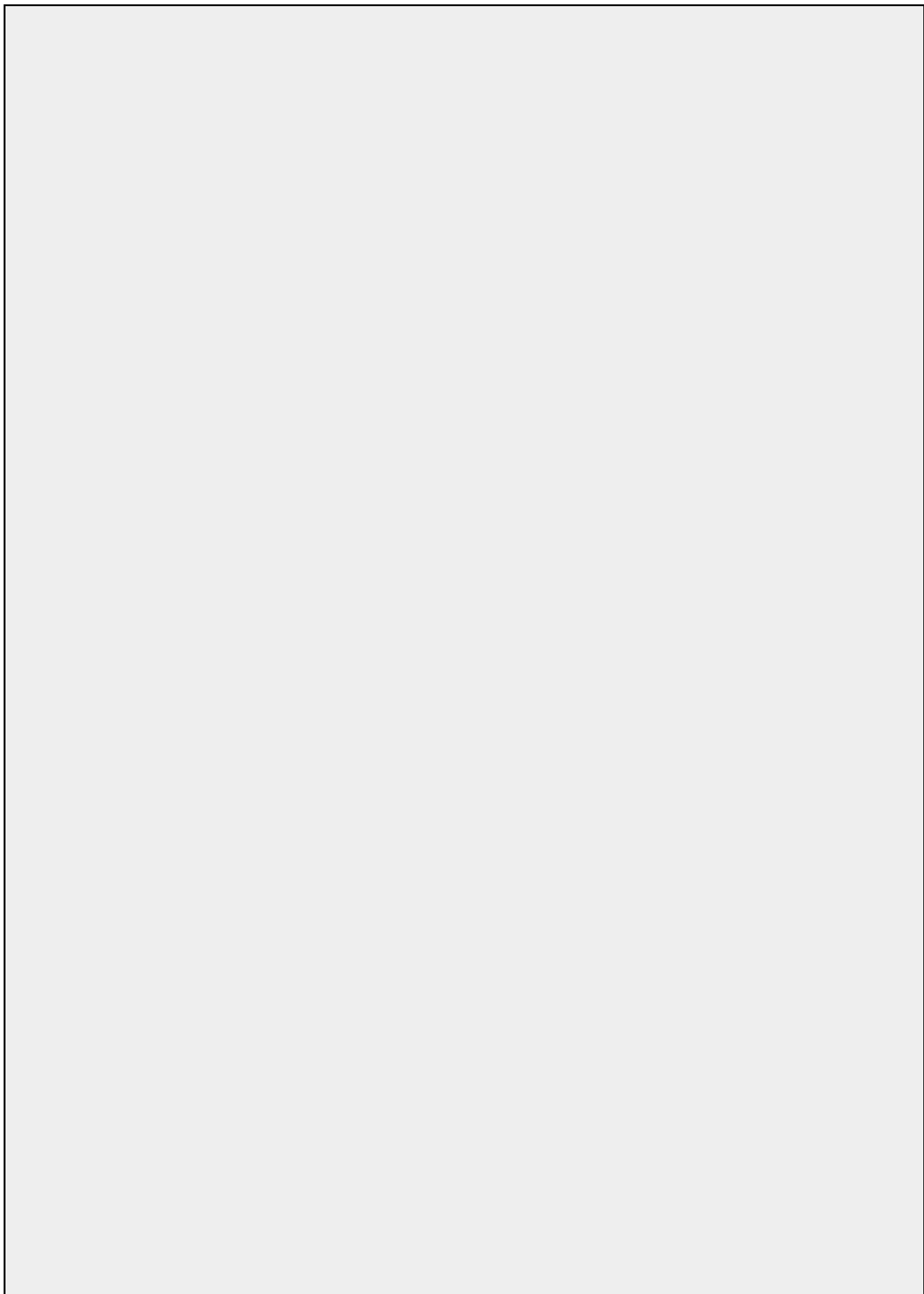
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- Campus Security







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# CONNECTION

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## EDITOR'S MEMO

This issue of CONNECTION is data-packed, brimming with numbers and trends that are tracked (along with the expert commentary our earlier data issues lacked).

Some of these data have much to say, like a batting average or an ERA.

Come to think of it, some higher education numbers have created a whole new sport, like those in the rankings by *U.S. News and World Report*.

(One object of that game is to reject not fewer students, but more. A Hartford college accepted just 29 percent of those who applied and, among all liberal arts colleges, was ranked 24. No wonder the validity, though not the gravity, of the rankings is typically disavowed by all but the very best-endowed.)

To be sure, some trends in higher education elude quantification—like levels of grade inflation, undeserved graduation, student imagination, societal expectation and tuition-paying parent frustration (to say nothing of dissent strangulation and grad student unionization).

We focus on things that we can measure more easily—things like enrollment and R&D, college finance and demography.

Demography, they say, is destiny—from low birth rates to diversity.

Migration data change with the weather and move with people, from brain drain to brain gain, maybe even brain melt so many move to the Sunbelt. To deal with this, some colleges base aid not on need but on merit—the better to attract students with both brains and good credit.

As always, the data tell how New England's R&D numbers are no longer the nation's best—how shifts in population and government policies spread the research wealth to the South and to the West.

But numbers do lie. Some are too low; some are too high. Some are optimistic; some are grimly realistic. Some are not data at all, but just old-fashioned statistic.

Also remember that a lot of higher education data lag by a year or two or sometimes more. Usually, this matters little in determining what's in store. But this year, one senses, it matters a lot because of what September 11 has wrought.

For example, in the months following the attacks, one national survey found long-distance applicants grew a bit more rare, while local ones offered plenty to pare—*U.S. News*, are you listening there?

A Clark University official told me that post-9/11 campus visits surged. Sure, a lot of factors had merged. But none so clearly as the stay-close-to-home in a medium-sized-city urge. Indeed, the Worcestersters of the world that once frightened families of the college-bound, now seemed strangely safe and sound. But of course, data have a way of twisting the truth around.

By year's end, even many anxious international students changed their minds and stayed, some spurred on by new financial aid, as campuses made forward-looking decisions to grant foreign students need-blind admissions.

And by 2002, the question facing New England higher education was not how far students would fly from the nest, but rather where would land Professor Cornel West. The Harvard prof was under fire for, among other things, too much rap. Uh oh, hate to see an editor fall into that trap.

---

*John O. Harney is executive editor of CONNECTION.*

## Fooling the EPA

In its *Campus Compliance Review* newsletter, Somerville, Mass.-based Triumvirate Environmental Inc., offers the following “helpful hints” for colleges facing audits by the U.S. Environmental Protection Agency (EPA):

- *Make the EH&S [environmental health and safety] department seem larger than it is (mention safety committees, recycling programs, green campus programs, environmental courses and student internships).*
- *For every picture the EPA takes, take a duplicate picture with your camera.*
- *Understand what to say and not to say. Discuss things like sports, theater, politics, weather or hobbies to lighten the mood.*
- *Have specific routes to the areas of the campus. Try to limit access through buildings and/or other areas of concern on campus.*

In the past two years, the EPA has levied penalties against eight New England colleges and universities while launching an initiative to help campuses comply with federal pollution laws.

Deception is not the only campus response to environmental enforcement. After being cited for 18 violations of federal hazardous waste laws, the Clean Air Act and the Clean Water Act, the Massachusetts Institute of Technology agreed to fund more than \$400,000 in innovative environmental projects and pay a civil penalty of \$150,000. The EPA noted that MIT “used this enforcement action to spur

environmental initiatives above and beyond what is required by the consent decree,” voluntarily expanding its recycling program, starting a “green buildings” task force to encourage more environmentally sustainable buildings on campus, and instituting a “green goods” procurement program.

## One Chicken Sandwich ... Priceless

Those aren't American Express cards that Burlington, Vt., college students are flashing at places like Chicken Charlies. Not Visa either. They are computerized debit-service cards that give 13,000 University of Vermont students—and now 2,500 students, faculty, and staff at nearby Saint Michael's College—access to libraries and other campus facilities and work like debit cards at about 40 local restaurants and other businesses.

The service provided by Ohio-based Diebold of North America allows students to deposit money into individual accounts and spend down their balances as they make purchases on campus or at participating businesses. Last fall, UVM students put about \$2.5 million in the accounts.

The all-in-one cards are not uncommon at big universities. But the collaboration with the smaller Saint Michael's is something new. With the start of the spring semester, St. Michael's students tossed their old student IDs and began using the all-in-one cards (redubbed “Knight Cards” at St. Michael's) to borrow books, enter dorms, use campus laundry rooms and buy munchies.

Campus officials expect the number of off-campus businesses accepting the card to double to 80 or more over the next few years.

## Higher Ed and the Media

The University of Maine announced it would host eight reporters for five days in May 2002 to explore issues in marine sciences, including aquaculture, ocean monitoring systems, seafood products, fisheries management and beach erosion. The program is sponsored by the Council for the Advancement and Support of Education.

## Comings and Goings

**Joseph Westphal**, a former assistant secretary of the Army and senior policy counselor with the Washington D.C. law firm of Patton Boggs, became chancellor of the University of Maine System. ... **Roy J. Nirschel**, the former president of Newbury College, became president of Roger Williams University. ... **Richard H. Hersh**, the former president of Hobart and William Smith Colleges, became president of Trinity College, succeeding **Evan Dobelle**, who resigned last summer to become president of the University of Hawaii. ... **William A. Nevious**, former president of Reinhardt College in Georgia, became president of White Pines College, succeeding **Mary R. Scerra** who retired in June 2001. ... **Daniel M. Fogel**, an English professor and executive vice chancellor and provost at Louisiana State University, was named president of the University of Vermont, beginning in July 2002. ... **Elaine Tuttle Hansen**, an English professor and provost at Haverford College in Pennsylvania, was named the first woman president of Bates College, effective in July, succeeding **Donald W. Harward**, who is retiring after 13 years as president. ... **Randolph Bromery**, former president of Springfield College and Massachusetts chancellor of higher education, was named president of Roxbury Community College, replacing **Grace C. Brown** who retired after 10 years as president

## Leaders of Color

Of the 38 members of the Congressional Black Caucus, 15 graduated from historically Black colleges and universities such as Alcorn State and Howard universities, while eight of the 17 members of the Hispanic Congressional Caucus graduated from Hispanic-Serving Institutions such as the University of Puerto Rico, according to the Alliance for Equity in Higher Education, a Washington-based consortium representing so-called “minority serving institutions.” A few of the prominent people educated by these institutions:

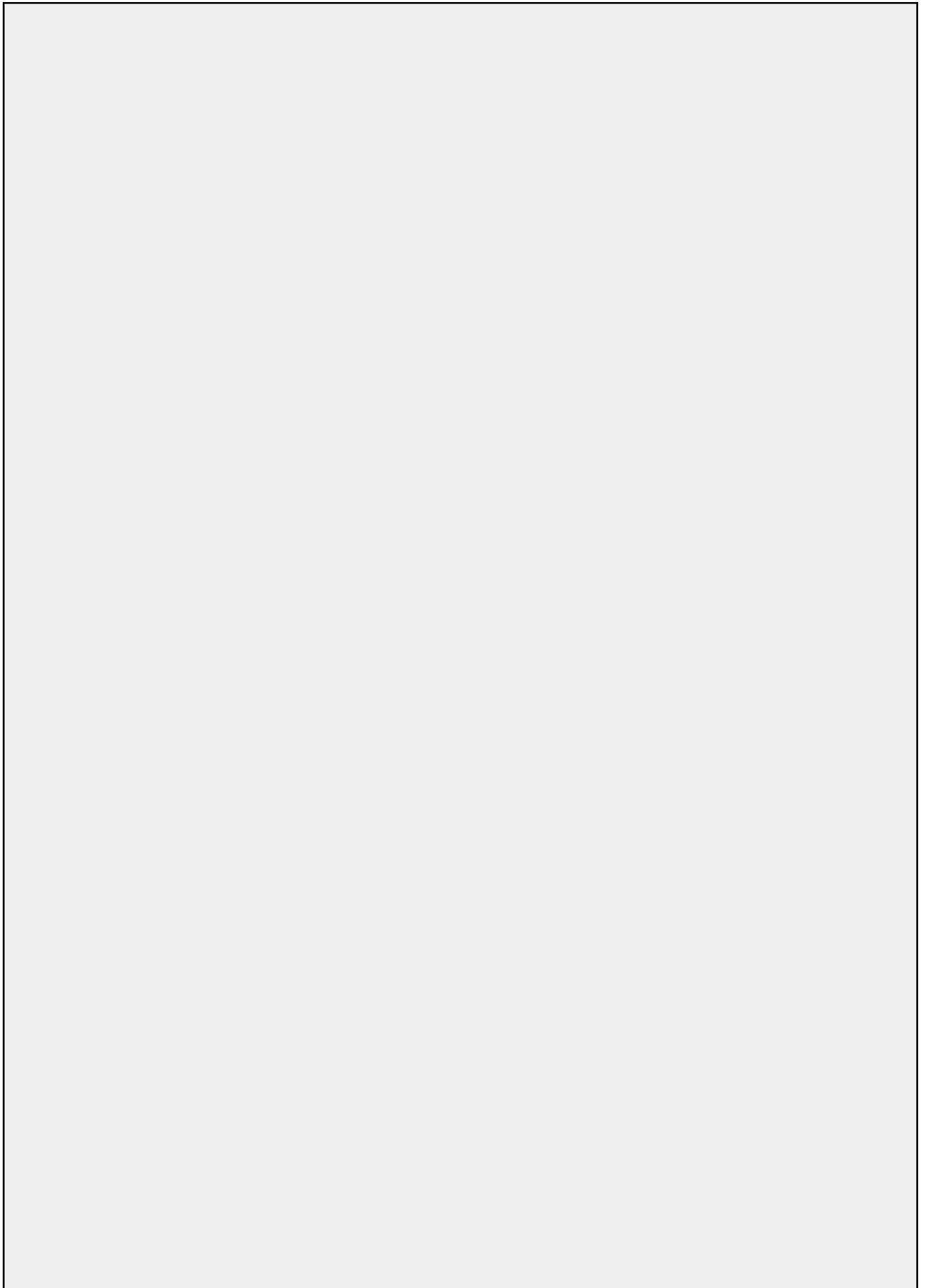
**Rod Paige**, U.S. Secretary of Education, *Jackson State University*

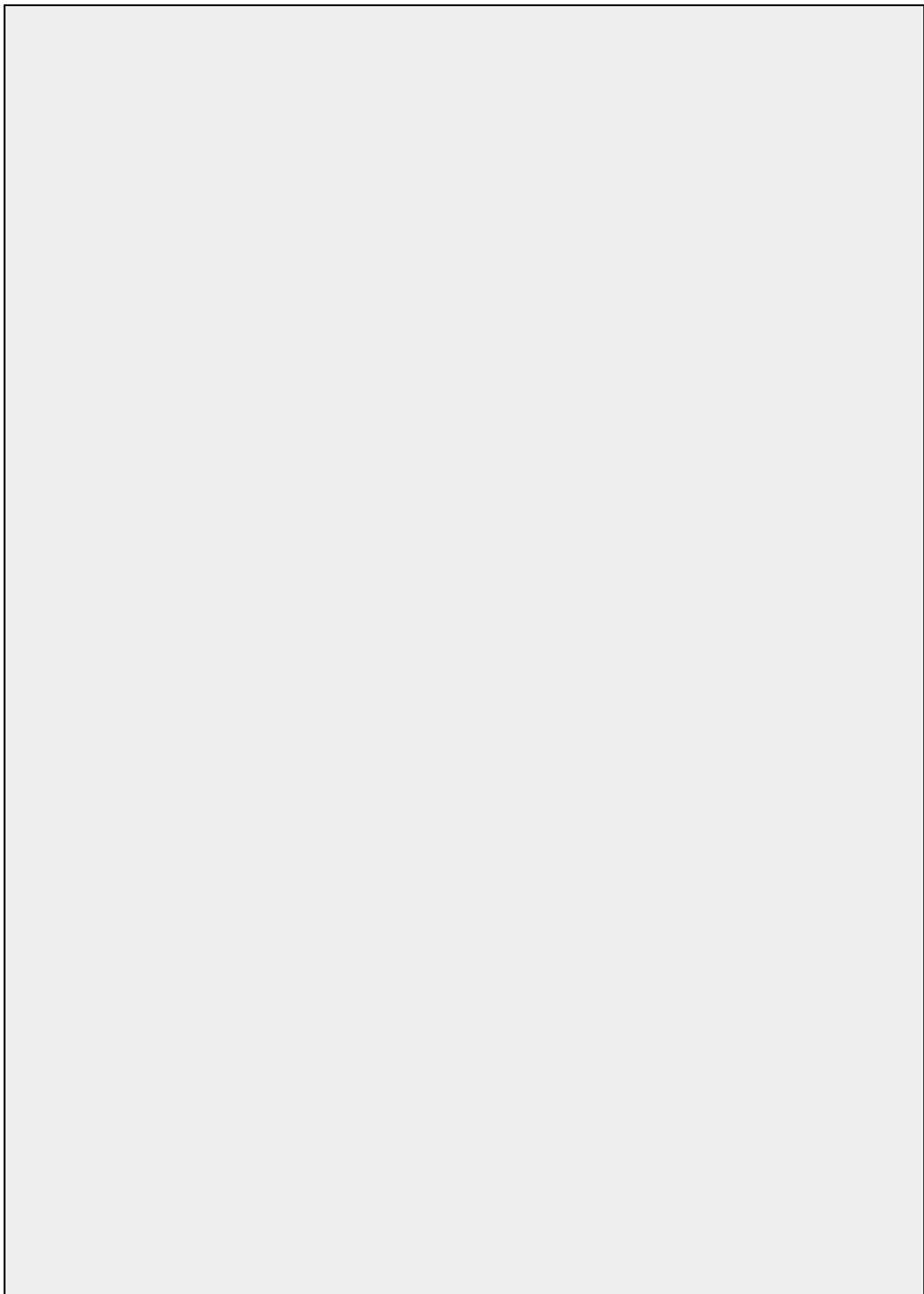
**Antonia Novello**, Former U.S. Surgeon General, *University of Puerto Rico*

**Kweisi Mfume**, President, NAACP, *Morgan State University*

**Ruth Simmons**, President, Brown University, *Dillard University*







of Roxbury Community College. ... **Joan Leitzel** announced she will retire in June 2002 after six years as president of the University of New Hampshire. ... **Thomas D. Aceto** announced he will retire in August 2002 after 11 years as president of the Massachusetts College of Liberal Arts, formerly North Adams State College. ... **James H. Craiglow** announced he will retire in June 2002 after 16 years as president of Antioch New England Graduate School.

### Correction

CONNECTION'S 2002 DIRECTORY OF NEW ENGLAND COLLEGES AND UNIVERSITIES contained an incorrect description of Providence College. The brief narrative should have read: "Founded 1917; Roman Catholic college offers liberal arts, teacher education and professional programs leading to associate, bachelor's and master's degrees; continuing education; summer session for degree credit."

### Snippets

"The voice of dissent was drowned out by the louder, jargon-clotted voices of tenure-seeking scholars. Only meticulously detailed investigations of narrowly defined questions, their results presented in impenetrable jargon, could win preferment in the new system."

—*Princeton University Professor Anthony Grafton writing in "The American Scholar" about American universities swallowing up intellectuals and their small magazines in the 1950s.*

"Institutions must move beyond the disposition that considers a scholarly work addressed to a general audience—such as a textbook or the development of a Web site—to be inherently inferior as evidence of suitability for tenure or promotion."

—*From "Op. Cit," an essay published in the Knight Higher Education Collaborative's Policy Perspectives (December 2001, Vol. 10, No. 3). The essay is based on a national roundtable convened by the Knight Collaborative, the Association of Research Libraries, and the National Humanities Alliance.*

"Holyoke Community College's Nursing Success Program has recently included men as one of its traditionally underrepresented groups and launched the Men's Club for male nursing students. ... the main thing the men usually discuss during the meetings is the pressure of balancing work, school and family."

—*From an article in Holyoke Community College's "Forum" newsletter on the launch of a Men's Club for male nursing students who are outnumbered 96 to 12 at the college.*

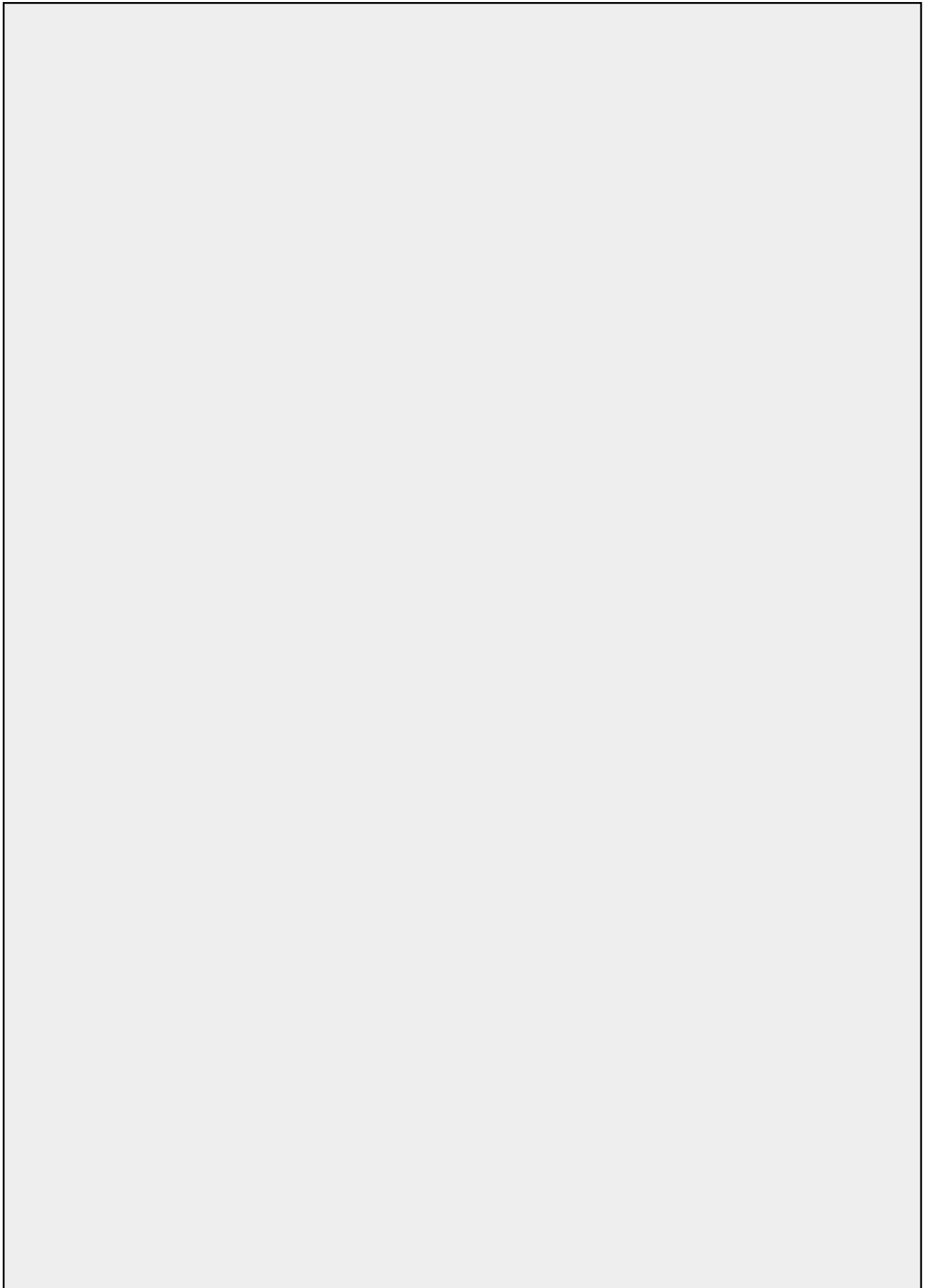
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## Is There a Future for Public Higher Education?

ROBERT A. WEYGAND

**P**lace yourself in the position of the president of a well-established, large New England business. Your company has existed for more than 100 years, serving five generations of local consumers. In some cases, you know them personally. They depend on you and you on them. But now your board of directors has ordered you to take a thorough, critical look at the business. You make the following stunning revelations:

- Between 1990 and 2000, you lost over 4 percent of your customers while your competitors gained 9 percent.
- Your facilities are old, in need of major repair or replacement, not just cosmetic improvements.
- Your competitors are eating into your market with less expensive, more convenient offerings via the Internet.
- Your board increased your funding over the past 10 years, but the increases don't match those of your competitors, who have also raised more outside capital to upgrade their services.
- Your workforce is aging. Some refuse to adapt to the changing marketplace. Some have left for greener pastures.

After a difficult analysis, you summarize the situation: fewer customers, costly repairs, reduced revenue, staffing problems and stiff competition.

Your board says that until you fix the problems, you will not get a dime more. You say the company is pursuing a worthy mission that has done tremendous good for the community and economy. Board members look at you with glazed eyes. You think they

may be pondering whether it is time for a new president.

This could be a typical scenario in today's retail stores, software or technology businesses. But it is also a scenario played out at New England's public colleges and universities.

The public higher education marketplace is much different in New England than in other parts of the country. It is true that some New England public universities have lured very dedicated and talented faculty. Some have invested millions of dollars in infrastructure improvements, launched innovative distance learning programs and responded quickly to workforce demands.

But here are some more troubling facts:

- Between 1990 and 2000, while America's 18-24-year-old population grew by nearly 2 percent, New England's shrank by 17 percent.
- During the same period, enrollment at public colleges and universities grew by 9 percent nationally, but dropped by 4 percent in New England.
- Americans devote \$216 per capita in state tax dollars to higher education; New Englanders devote just \$168 per capita. In addition, Americans direct nearly \$8 of every \$1,000 in personal income to state support for higher education; the New England figure is under \$5.
- New England's tuitions and mandatory fees are America's highest—\$4,892 on average for state residents at public four-year campuses, compared with \$3,754 nationally.
- States across the nation increased their grant aid during the 1990s by 100 percent. But New England nudged up state aid funds by just 17 percent.

These trends have a dramatic impact upon educational opportunity for the many New England students who are not served by the region's

private colleges. Higher education policy analyst Thomas G. Mortenson has noted that inadequate public funding of higher education damages opportunity in three ways: by limiting enrollment, reducing faculty or course offerings and or raising tuition and fees. Underfunding also compromises the quality of facilities available to students.

New England is the birthplace of education in America, steeped in a great tradition of public and private schools. But now some are wondering whether our public colleges will fall victim to problems that plague many urban elementary and secondary schools. There are now calls for charter colleges, vouchers and alternative certification.

Over the past 130 years, when American education reached similar crossroads, policymakers with great foresight gave us the Morrill Act, which created land-grant universities, the G.I. Bill, Pell Grants and student loans, which provided access to those who were previously denied. We are overdue for a technology-focused, federal initiative aimed at public institutions—a 21st century Morrill Act.

But more funding is not the whole answer. Our economy has changed dramatically with new technology and innovation. So too must higher education. We need to develop offerings that fit customers' lifestyles, explore more effective technology-based instruction, focus on public centers of excellence and meet the critical workforce needs of our economy—all this while we continue to meet the primary mission of our public institutions: providing access to quality education for all.

---

*Robert A. Weygand is president and CEO of the New England Board of Higher Education and publisher of CONNECTION.*

# CONNECTION'S Trends & Indicators in Higher Education, 2002...

**T**he story of New England's eroding world leadership in higher education is hardly new. But the changing condition of the enterprise captured new attention in February when the *Chronicle of Higher Education* published a long article headlined "New England Loses Its Edge in Higher Education."

The national higher education tabloid reminded readers that New England "has been the beacon of higher education," but that "the region's dominant hold on the higher education market is fading."

The piece noted further that "at a time when higher education in most of the country is growing, it is declining in New England." The evidence: the region's declining share of U.S. college enrollment, down from 6.2 percent in the late 1980s to just over 5 percent today, and its drooping share of university research & development (R&D) spending, down from over 10 percent in the early 1980s to less than 8 percent today.

No doubt, New England's higher education institutions and its economy are feeling heavy pressure from the demography of low birth rates and out-migration of young people. This, along with the emergence of new types of competitors in the college marketplace, has made tuition-driven, small-endowment institutions particularly vulnerable. The past few years have seen the shuttering of Bradford and Aquinas colleges in Massachusetts, Trinity College in Vermont and Castle College in New Hampshire; Notre Dame College of New Hampshire will close for good this spring.

As for research, the region's universities in 2000 invested in R&D to the tune of \$168 per New England resident. Nationally, university R&D spending equaled \$136 per capita. But this gap has been closing steadily as the region's share of all U.S. university research has shrunk.

All this is complicated by a new recession that threatens to further depress New England's lowest-in-the-nation state funding of higher education—and thus fuel higher public tuitions—even while many families of prospective college students face job uncertainty and pay insecurity.

This issue of CONNECTION looks at New England higher education's vital signs ...

- **Demography.** Who is the *new* New England high school graduate? Who is the new college student?
- **Admissions.** What do college admissions officers look for in college-bound students?
- **Enrollment.** Who goes to college? Which colleges? Public? Private? Full-time? Part-time? How much progress have we made in minority enrollment? Foreign enrollment?
- **Degrees.** How many degrees do New England colleges and universities award? At which levels? What impact does "degree production" have on regional economic success?
- **Educational Attainment and Income.** How does family income influence a person's chance of going to college? How does going to college influence future earnings?
- **Student Migration.** Do New England colleges and universities continue to draw students from outside the six-state region? How many? From where?
- **Retention and Graduation.** At which institutions are freshmen most likely to return for sophomore year? From which community colleges are graduates most likely to transfer and continue on at four-year colleges?
- **Financing Higher Education.** Just how high are New England college and university prices? Has student financial aid kept pace? What is the financial condition of New England's higher education institutions? What about taxpayer support? Endowments?
- **University Research & Development.** How much do New England's fabled research universities spend on research and development compared with up-and-comers across the nation?

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*The data in this issue are gathered from a variety of sources including the U.S. Department of Education, the Institute of International Education, the College Board, Tom Mortenson's Postsecondary Education Opportunity venture and others. Special thanks to Sue Klemer of the NEBHE staff, who assembled much of the data for publication.*

# New England's Higher Education Reputation Is in Jeopardy

FRANK NEWMAN AND JAMIE E. SCURRY

**N**ew England has built a reputation as America's (even the world's) leading center of higher education—a reputation nurtured over more than three centuries. The region's universities and colleges get much of the credit for New England's vibrant economy and its cultural and social attractiveness as a place to live. But New England's place at the head of the academic parade is in jeopardy.

Over the past few years, new demands from society as well as major shifts in the structure of higher education itself have brought inexorable change. New England can no longer rest on past laurels. To preserve—and enhance—New England's leading role, policymakers and academic leaders will have to take the initiative. Governors, legislators and higher education governing boards will have to develop a new policy structure. Academic leaders will need to create new institutional strategies.

The new demands placed on higher education by society stem from the burgeoning desire to create a new national agenda. Every region of the country is striving to develop a new information-based economy as well as a civic rebirth. This requires three things of higher education

First, a greater share of the population needs to attend (and succeed at) college. Attendance, and particularly success, is still closely correlated with family income. By age 24, fully 48 percent of students from high-income families have graduated from college, compared with 7 percent from low-income students, according to the Kellogg Commission on the Future of State and Land-Grant Universities. The commission also reported that 29 percent of African Americans and 31 percent of Hispanics drop out of college after less than one year, compared with 18 percent of whites.

This raises a host of challenges—the need to align higher education more closely with the schools, to improve teacher education, to provide more effective remedial education.

Second, institutions must provide evidence that their graduates have developed the knowledge and skills

needed for both workforce and civic participation. Fewer students are majoring in math and science. Employers are concerned about skill levels. A Business-Higher Education Forum report noted that college graduates are “ill-equipped to effectively contribute” in the workplace, and that there are now “serious gaps ... between the skills possessed by graduates and those required.”

While participation in community service has increased, students continue to be disengaged politically. In 1998, only 20 percent of 18-to-24-year-olds voted, according to the National Association of Secretaries of State. Being involved in democracy and voting, the association noted, are “low priorities” for this group.

As a reaction to these concerns, there is growing pressure on institutions to improve the overall quality of college-level learning. Perhaps the most important step is to assess, and then make public, measures of learner outcomes. As a small, but growing number of institutions are providing learner outcomes, we cannot continue to argue it is impossible to do. Alverno College and the University of Phoenix, for example, have for years instituted rigorous assessments of learner outcomes that are tied to the missions of the institutions. Methods used range from employer and alumni surveys, to tests that measure value added in terms of knowledge held before and after a course, to portfolios of student work.

Third, there is an ever-increasing need for university research in a wider range of fields as well as more effective means to help society apply this research to real problems. Whether developing remedies for diseases or innovations in urban school reform, university research benefits society.

At the same time, the structure of higher education is changing—becoming steadily more competitive. Even as traditional nonprofit institutions are competing ever more intensely among themselves, new providers (for-profit universities and colleges, virtual institutions and corporate universities) are entering into the competitive fray. Today, there are 624 for-profit,

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degree-granting colleges and universities in the United States. There are 2,000 corporate universities. Nearly 300 institutions are granting information technology certificates to students all over the world. And at least 70 percent of traditional institutions offer online courses.

Universities and colleges have asked state governments to use their legislative power to protect the institutions from this growing competition. When the for-profit Katherine Gibbs School challenged a Rhode Island law barring for-profit institutions from granting degrees, the Academic Affairs Committee of the state Board of Governors for Higher Education appeared to be in unanimous support. After much lobbying, however, the board voted against the change. But increasingly, political leaders across the globe—from the United States to Malaysia—have shown less interest in protection and more interest in encouraging market forces as a way to push universities and colleges to become more responsive to society's needs. Many state legislatures are beginning to share Colorado state Rep. Keith King's opinion that it is now time to, "force market realities on higher education."

As higher education, both nationally and internationally, becomes more central to society's purposes and more structured by market forces, how New England will do in the growing competition depends on the skill that the region's leaders bring to bear in creating more thoughtful new policies. As we have seen from the privatization of health care and the deregulation of power in California, markets are not benign. These policies must gain the advantages inherent in market forces, but must also contain the restraints necessary to prevent yet another debacle as one more public arena moves toward the market. One of the most telling examples of competition without restraint is New Zealand's effort to deregulate the higher education system. After 10 years of unfettered competition, the better known institutions have cannibalized the less known, driving them to the brink of bankruptcy.

How New England will do also depends upon the skill and understanding of the issues that university and college leaders bring to the task of helping their institutions avoid defensiveness and move toward change. In particular, institutions must take bolder steps toward assuming a greater responsibility for the quality of learning. Traditionally, the responsibility for

student learning has been placed on the student. It is time for institutions to share in that responsibility—to move teaching and learning back to the center of the university—by assessing what their students know and using those results to improve curricular design and employ better and more successful pedagogies.

If New England is to move forward, it must carefully craft a more effective, market-based higher education system. In this task, it has advantages and disadvantages compared with the rest of the country. Among its advantages:

a.) New England continues to attract students from all over the world. About 25 percent of freshmen at New England campuses hail from outside the region.

b.) Demographic forecasts show that the anticipated growth rate of the population, particularly of high school graduates, will be small in New England. As a consequence, we enter this period with institutions that are not overrun by rapidly escalating numbers of students.

c.) The higher education community in New England has a wealth of talent available to help address these subjects including some of the leading higher education experts in the world, various centers of policy (such as the New England Resource Center For Higher Education, Harvard University's John F. Kennedy School of Government, Jobs for the Future and the New England Board of Higher Education), political leaders familiar with the needs of institutions, etc.

At the same time, New England has disadvantages:

a.) New England is already low on the scale of affordability. Consequently, as New England encourages a larger share of the population to enter college, the task is more daunting than in the rest of the country. (The new Lumina Foundation report on college affordability, though controversial, raises some tough questions for New England institutions.) See Figure 1.

Fig. 1

Percentage of Public and Private Institutions Considered Accessible and U.S. Rank					
For Low-Income Dependent Students			For Median-Income Dependent Students		
State	%	U.S. Rank	State	%	U.S. Rank
Connecticut	60%	24th	Connecticut	74%	22nd
Maine	42%	42nd	Maine	46%	45th
Massachusetts	23%	47th	Massachusetts	34%	49th
New Hampshire	23%	48th	New Hampshire	54%	41st
Rhode Island	18%	49th	Rhode Island	36%	48th
Vermont	10%	50th	Vermont	25%	50th

Source: Lumina Foundation for Education.





allowing the institutions to operate with less bureaucracy by being able to respond more efficiently to societal needs. St. Mary's College of Maryland, and Chalmers University and Jönköping University of Sweden, are examples of public institutions with charter status. Charters are typically customized for each individual institution. When converting to charter status, institutions are given an endowment and allowed to operate more independently of the state system. Ultimately, the state decentralizes control allowing the institution to respond to the market. To ensure more accountability, regulations such as reporting learner outcomes are built into the charter.

• **Policies that encourage broader access and success by a wider range of the population.** To decrease the divide for low-income students, states can adopt policies that essentially create a target market out of students who cannot pay or who are expensive to educate. For example, if a student who can pay arrives with \$5,000, the low-income student financial aid package could be \$6,000, making the low-income

student more attractive to the institution. Further incentives can be used each year, for up to five years—providing an incentive to move beyond access to attainment.

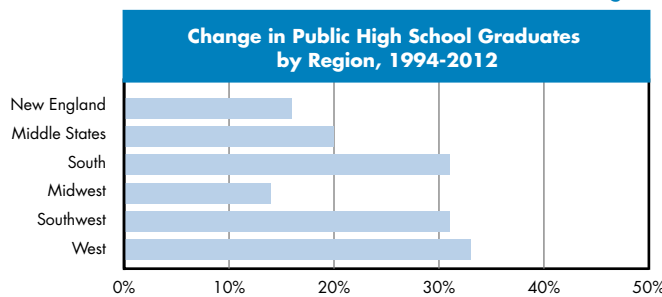
• **Policies that create incentives for institutions to be responsible for student learning and make public the results of assessments of learning outcomes.** States might consider a three-pronged approach to encourage a focus on teaching and learning. First, all institutions must take part in a national assessment of student learning to provide a benchmark. Second, institutions must measure student learning—this can be done through portfolios, alumni and employer survey or formative assessments. Third, institutions must partake in The National Survey for Student Engagement (NSSE). A single assessment measure is not enough—measures must be combined to be fair and accurate. In addition, states need to mandate that results of the assessments and surveys be made public. An interesting example that could be adapted for state use is SwissUp. SwissUp offers an interactive



## TRENDS & INDICATORS:

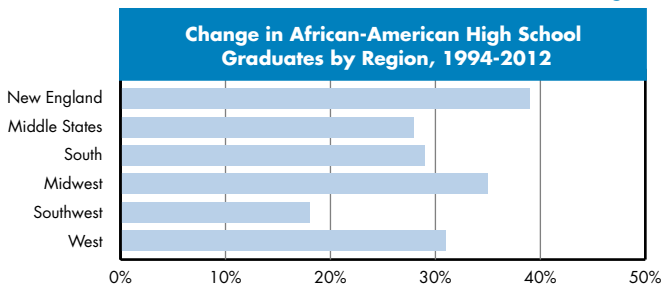
Demography *continued*

Fig. 3



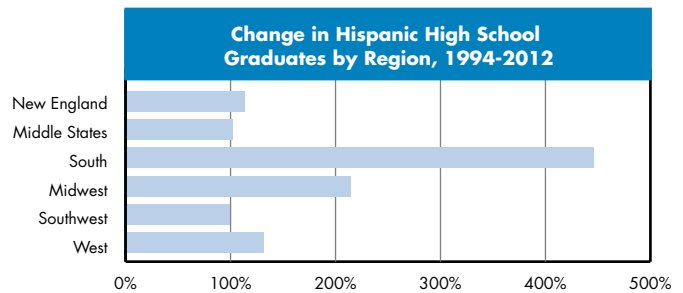
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Fig. 4



Source: "Percent Change in Number of Public High School Graduates, 1994-2012, by College Board Region—Black Students." Copyright © 2001 by collegeboard.com Inc. Reprinted with permission. All rights reserved. www.collegeboard.com.

Fig. 5



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website (<http://www.swissup.com>) that allows the user to rank the universities of Switzerland by discipline according to each user's criteria. Examples of criteria include student-to-faculty ratio, quality and appeal of curriculum, graduation rates and time spent studying. One could imagine a state using a SwissUp-like system that includes national and institutional assessment, and NSSE results. Students could then select the indicators that were important to them and receive a ranking they could then use to help them choose an institution.

• **Policies that provide the incentives and support to improve New England's share of research.** Many states, including several in New England, have already experimented with centers that bring together university researchers and industry product developers.

### Going Forward

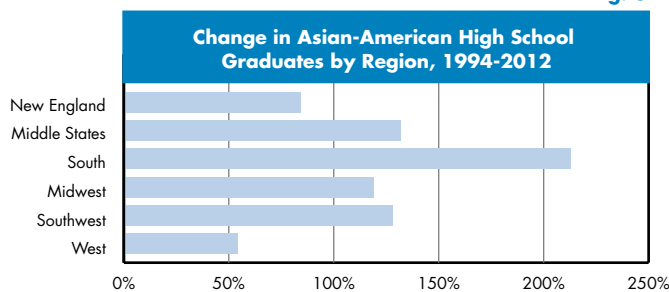
What can institutional leaders do? They can help their institutions prepare for the challenges created by

competition and change. Change is always difficult in higher education. Each institution will need a clear and forceful strategy. Each institution will have to focus—no longer attempting to be all things to all people. Each institution must finally accept the idea that it must measure and improve the quality of learning.

New England needs to commit itself to leading the way in this national and international challenge. Taken together, the New England states and their universities and colleges have the ability and the clout to create a system of higher education that better serves all citizens and acts as a model for other regions. The time is now for New England to put this great resource to the task.

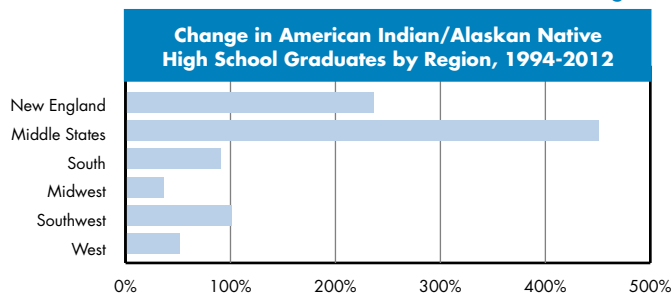
**Frank Newman** is president of the Futures Project: Policy for Higher Education in a Changing World at Brown University ([www.futuresproject.org](http://www.futuresproject.org)) and former president of the Education Commission of the States. **Jamie E. Scurry** is research associate with the Futures Project.

Fig. 6



Source: "Percent Change in Number of Public High School Graduates, 1994-2012, by College Board Region—Asian Students." Copyright © 2001 by collegeboard.com Inc. Reprinted with permission. All rights reserved. [www.collegeboard.com](http://www.collegeboard.com).

Fig. 7



Source: "Percent Change in Number of Public High School Graduates, 1994-2012, by College Board Region—American Indian/Alaskan Native Students." Copyright © 2001 by collegeboard.com Inc. Reprinted with permission. All rights reserved. [www.collegeboard.com](http://www.collegeboard.com).

# What Really Makes a Student Qualified for College?

How BC Promotes Academic Success for AHANA Students

DONALD BROWN

**B**oston College has long championed the view advanced in the 1970s by University of Maryland education professor William Sedlacek and his colleagues that certain non-cognitive variables are better predictors of success among Black and Latino students than more traditional measures such as SAT scores. These predictors of success include: positive self-concept, realistic self-appraisal, understanding and ability to deal with racism, preference for long-term goals, availability of a strong support person, leadership experience, demonstrated community service and the acquisition of non-traditional knowledge.

For some time now, BC has considered these non-cognitive variables in accepting students who have high levels of motivation and potential, but would not have been admitted under traditional admissions criteria.

BC's office of admissions ranks students on a grid from 1 to 10, with 1 being the best prepared student and 10 the least prepared. Students who rank in the 8-to-10 range may be required to participate in a comprehensive six-week summer program called Options Through Education (OTE) offered through BC's Office of AHANA Student Programs. (Coined at BC in 1979, AHANA is an acronym for African-American, Hispanic, Asian and Native American.)

OTE offers academic support, especially in math and English, for AHANA students. The program also teaches students how to negotiate the various facets of the university. During the course of the academic year, these students are required to utilize a broad array of support services such as personal and group counseling, academic and career advising and tutorials.

Non-cognitive variables have worked at Boston College; four years after admission, 95 percent of students who entered BC through OTE stayed in college through to graduation, compared with 88 percent for all BC students and 80 percent for all AHANA students at BC. Consider ...

James Anthony, ranked an 8 by the BC admissions office, was accepted on the condition that he participate in OTE. James wanted to be a doctor and began his journey in earnest during the summer program,

earning two Bs in math and science and an A in chemistry. During the following academic year, James used the range of tutorials and other forms of academic assistance, but still had a difficult time. He was unable to bring his grade point average (GPA) up to a 3.0 in any semester.

Despite his academic trouble, James did not abandon his dream of becoming a doctor. Indeed, upon graduating, James did something unprecedented for AHANA students at Boston College. He essentially started school all over again, enrolling in a post-baccalaureate program at Columbia University. James remained in that program for three years, then applied to the Hahnemann University Hospital Medical School where he was accepted on his second try. After completing his studies at Hahnemann and a residency at a hospital in Buffalo, James realized his goal of becoming Dr. James Anthony—an M.D. with a specialty in urology. Hard work, persistence and commitment to education paid off.

Sharon Hamilton decided to attend college some 20 years after graduating from high school. She wanted to be a role model and create a better life for her three children. BC admissions officers ranked Sharon a 10. Again, her acceptance was conditioned upon participating in OTE.

Sharon did not have an easy time in the OTE program, though she was able to earn two Bs in English and Math. During the academic year, Sharon did not experience the same kind of academic success. She struggled through a very difficult program in business, posting a GPA under 2.0. Sharon's problems were exacerbated by the added pressure of traveling two hours each way to school and working weekends to feed and clothe her children. But Sharon sought out academic advice and assistance and attended summer school each year. She graduated from BC and became a computer scientist with the Trial Court of the Commonwealth of Massachusetts.

Michael Hunter was also rated a 10 by BC admissions. Michael had a good experience in OTE, earning As and Bs in math and English. A year or so before Michael enrolled at BC, his mother, who had raised

him by herself, had gotten married and given birth to a daughter. About two months into the academic year, Michael's mom suddenly passed away. Grief-stricken and feeling tremendous loss, Michael resolved that the best way to thank his mom for all that she had done for him was to get an education. Michael graduated from BC's College of Arts and Science with a GPA of 3.0. He worked for the Kendall Corp. for a couple of years after graduation and then decided what he really wanted to do was earn an MBA. Michael applied to Harvard Business School and after two years graduated at the top of his class.

Jorge Miranda, ranked an 8 on the admissions grid, also entered BC on the condition that he complete OTE. Jorge had graduated from the Hartford public schools, which, at the time had been taken over by the state due to poor performance. Shortly after arriving at BC, Jorge forged relationships with several students who did not take the OTE seriously. He began emulating some of their negative behaviors, including putting forth as little effort as possible. Then something very positive happened.

Jorge was asked to write an essay about something he was excited about. The result was a brilliant piece

of work. His instructor told him his writing was akin to that of a graduate student in English. Following that word of encouragement, Jorge began to apply himself in both English and math. He removed himself from the negative influences of some of the other students. Near the end of the program, he signed up to be paired with one of the Benjamin Elijah Mays Mentors provided by the AHANA office. His mentor was the director of resident life whom Jorge continued to meet with throughout his four years at BC. Jorge graduated with a GPA of 3.7 and was inducted into Phi Beta Kappa. He then had the difficult task of deciding between Harvard Law School and Columbia University Law School. He chose Columbia.

These students, and so many others I have not mentioned, attest to the fact that if a student is given an opportunity, is willing to work hard and take advantage of every resource at his or her disposal, he will not only succeed, but thrive at an institution such as Boston College.

*Donald Brown is director of the Office of AHANA Student Programs at Boston College.*

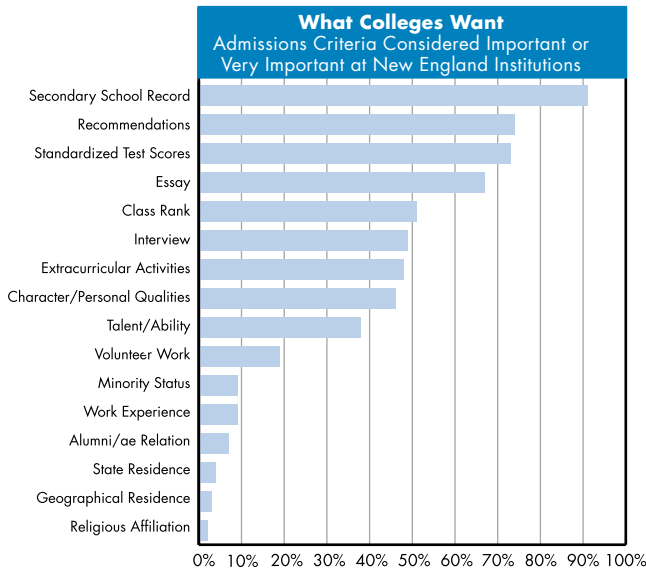


## TRENDS & INDICATORS:

# Admissions

The SAT is under attack from critics. Affirmative admissions policies are under assault too. High-stakes standardized testing, meanwhile, threatens to deny high school diplomas to large numbers of minority students, regardless of special college recruitment efforts. How should colleges decide who gets in and who doesn't?

Fig. 8



Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.

Fig. 9

Institution	Percentage
Massachusetts Institute of Technology	97
Yale University	95
Harvard College	90
Brown University	87
Dartmouth College	86
Amherst College	84
Bowdoin College	75
Middlebury College	73
Tufts University	73
Wesleyan University	68
Wellesley College	67
Colby College	64
Boston College	62
Brandeis University	61
College of the Holy Cross	59
Boston University	57
Bates College	56
Smith College	55
Mount Holyoke College	54
Bennington College	52

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.

Note: The Annual Survey of Colleges of the College Board and Data Base, 2001-2002, includes 221 higher education institutions in New England. The survey does not include graduate schools; law and medical schools or certain small two- and four-year institutions.

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# Diversity Among Equals

Battling Our Past with Affirmative Admissions

DIANE L. SAUNDERS

**O**ur towns, neighborhoods and schools have been racially segregated for so long, that we know little about the lives of those who grew up outside our community. We read old history books and laugh at the ignorance of our forefathers who thought that the world was flat and that non-Europeans were less human than the civilized white cultures. While these extreme perceptions are no longer the norm, we remain victims of a subtler kind of racism that is bred on lack of interaction with people of color in equal relationships as fellow students or as professional colleagues in the workplace.

If only there were a guidebook or better yet a commandment that prescribed how long it takes to bring about a society that treats all its members equally. Then we would not have arguments about whether we still need affirmative action. Some people—among them powerful legislators, judges and other writers and enforcers of policy—believe that 300-plus years of slavery and blatant discrimination against African-Americans can be eliminated through 10 or 20 years of affirmative action policies.

We believe in fast-paced change here in America. We hate the fact that this policy stays around to haunt us, reminding us of our ugly past when everyone was judged by the color of their skin. We would rather jump over the muddy waters of affirmative action and tout that we are now a color-blind society. In fact, some contend that affirmative action is discriminatory against whites. Court cases against affirmative action operate on the premise that if a white man *loses a slot* to a person of color, then some purposeful reverse discrimination must be occurring. Blackperson gets the job or the college

acceptance because of his color. Whiteperson gets it because of his talent.

A recent study by the Massachusetts Institute for Social and Economic Research and the Center for Education Policy, both at the University of Massachusetts Amherst, provide some clarity to the issue of affirmative action as it applies to college admissions in New England. The study, titled *Diversity Among Equals*, finds that students of color who have been admitted to colleges and universities in New England are as qualified academically and otherwise

as are their white counterparts.

This finding flies in the face of those who still believe that *affirmative admissions*—the use of race or ethnic background as one of many criteria to inform admissions decisions and increase minority student representation on campus—amounts to racial set-asides or quotas that allow less qualified minority students into college over the backs of more qualified whites. But it does not erase the subtle, cultural bias that still exists when a good many people—including professors, majority students and parents—see an African-American or Latino on campus and think: *They must be here because they are minorities, not because they are qualified.*

We have such a long history of not seeing African-Americans and Latinos in what had been exclusive white roles, that when people of color fill certain positions the first reaction of many whites is: *How did they manage to get that job? How did they get into this selective college? Was it a set-aside or need to fill a quota?*

Those are uncomfortable thoughts, but they are not so unexpected in a society that has practiced and legislated racism for hundreds of years. Even so-called educated, white people have had to fight hard to

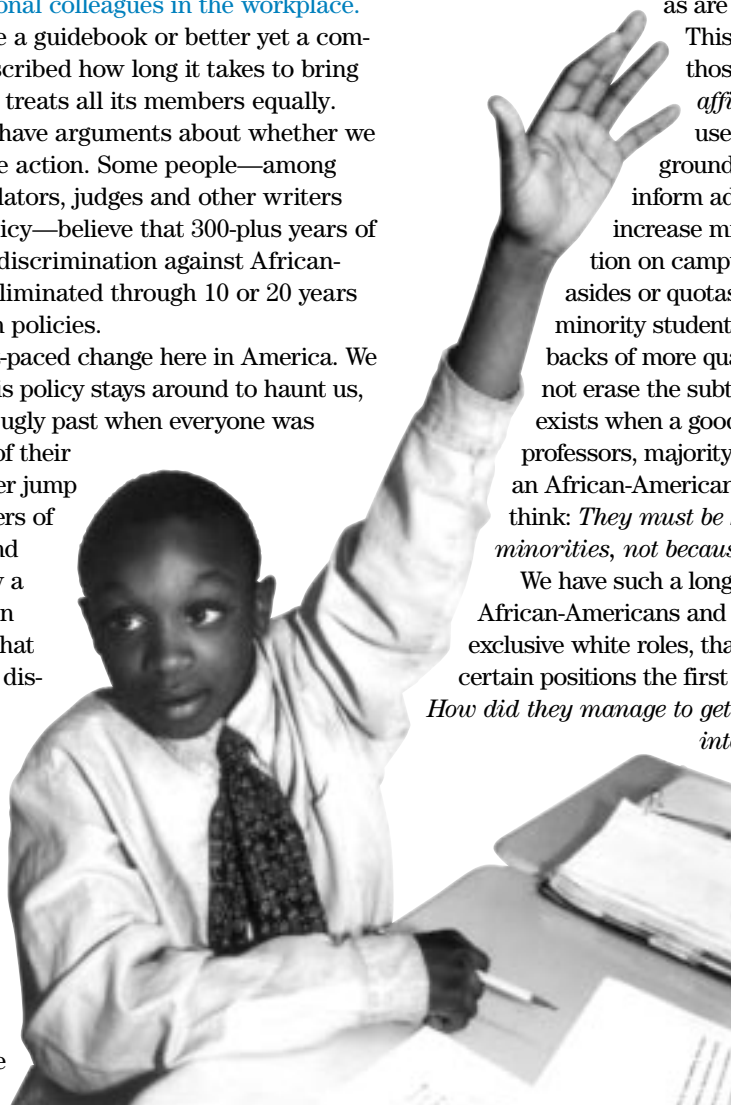


Photo courtesy of Roxbury Preparatory School.

move beyond the cultural whispers in their heads that arise when they see an African-American in a position of power or competing for a desired job or admission to the same college.

Why do we see reverse discrimination when someone of color is selected by an institution to add to the diversity of talent and background on a campus when other factors that influence student selection do not raise an eyebrow? Where is the outrage at filling slots with legacy students? They certainly had an unfair advantage in getting into the college based on their parents' alumni status. Where is the anger against the students from Nebraska going to college in Massachusetts who took those slots from the in-state kids with exactly the same ability profiles? Where are the lawsuits against the colleges who admit students who excel in both cello playing and academics and who take the slots of equally smart kids who cannot read music?

Fully 85 percent of New England four-year institutions believe that recruiting a diverse student body is an institutional priority, according to *Diversity Among Equals*. And indeed, they are using affirmative admissions to create diverse campuses where students of all backgrounds gain exposure to and understanding of one another.

The *Diversity Among Equals* study found that all kinds of institutions throughout New England—public and private, four-year and two-year—practice “enhanced rate” affirmative admissions to some extent in order to increase the number of underrepresented students of color on campus. Using this enhanced rate approach, colleges accept a higher percentage of minority students in order to compensate for the fact that a lower percentage of these accepted students will actually end up enrolling. Minority students in this study applied to a greater number of institutions on average than did their majority counterparts. Without the practice of enhanced rate admissions, colleges would have a difficult time meeting their diversity goals. Even with this practice, minority students continue to be significantly underrepresented as a percentage of the undergraduate population in the region relative to their proportion in the population.

Another type of affirmative admissions, referred to as “reduced threshold” is the practice of reducing admission standards in order to increase the number of minority students on campus. The study

provides very clear evidence that New England’s colleges and universities are *not* engaged in reduced threshold affirmative admissions, despite frequent public misunderstanding that unqualified minority students are being accepted over qualified white students.

Achieving diversity on campus begins in the president’s office. It is the president who allocates the resources needed to transform a predominantly white campus to a level of diversity that represents American society and its workplace. It is the president who must accept criticism that she is focusing too much on creating a diverse campus whose students represent a cross-section of our multicultural and multiracial society and not enough on other priorities. It is a president and a true leader who continues to enrich the campus by balancing the college’s human portfolio with students of every talent, socioeconomic status, color, background, ambition, home state and nationality, and does not put the fear of lawsuits before the vital goal and the many benefits gained by a diverse and inclusive campus community.

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*Diane L. Saunders* is vice president of communications and public affairs at the Nellie Mae Education Foundation, which sponsored the study, “*Diversity Among Equals: Equal Opportunity and the State of Affirmative Admissions in New England*” (available at [www.nmefdn.org](http://www.nmefdn.org)).

# Enrollment Winners, Losers, Turnarounds and New Players

JAMES MARTIN AND JAMES E. SAMELS

**P**ost-September 11 aftershocks are tilting even the most venerable institutions in the New England higher education marketplace. Spiraling costs, rampant tuition discounting, merciless competition and complex, shifting demographic and career trends have combined to make New England an unforgiving, market-driven environment for higher education. That market has created enrollment winners, losers, turnarounds and new players over the past several years.

The following classification is based on traditional measurements such as academic selectivity, enrollment, conversion yield, retention, persistence, graduation and default rates, student academic success, transfer rates, deferred maintenance, capital improvements, endowment and funding, institutional reputation and ranking, and graduate and professional school acceptance rates, as well as continuous environmental scanning, focus groups and field interviews.

## Winners

The winners grasp the gestalt of Spencer Johnson's *Who Moved My Cheese?* Savvy campus leaders accept the fact that much of higher education's cheese is not only moving, but may soon be leaving New England. In turn, most on the list no longer predicate their enrollment marketing strategies on the 17-year-old full-time, liberal arts student. Some of these schools are among the most entrepreneurial institutions in the Northeast.

*Cambridge College* has doubled its enrollment, tripled its endowment, extended its campus infrastructure and developed a growing number of innovative, responsive, "high-tech, high-touch" undergraduate and graduate programs.

*Hebrew College* has ecumenically reinvented its future by co-locating a new campus in partnership with the Andover-Newton Theological School.

*Lesley University*, having successfully achieved university status, has continued to add timely, high-demand graduate and certificate programs in Massachusetts and beyond.

*Middlesex Community College* has emerged from the middle of the community college cohort to become one of New England's largest and most comprehensive public two-year institutions.

*Johnson & Wales University* has grown into America's Career University by developing its impressive downtown Providence main campus, as well as new branch campuses in Colorado, Florida and a number of overseas locations. Along the way, J&W has also garnered top-shelf, brand-name partners like Marriott and Coors.

*Urban College* has established itself as a new alternative—the People's College of urban Boston. With its recently achieved regional accreditation, Urban is well-positioned to act as a racially and ethnically diverse feeder school to major four-year colleges and universities across Greater Boston.

## Losers

Those institutions on the downside of the equation share several telling characteristics. Many are religiously affiliated, small, private, tuition-dependent schools that have been in fragile condition for years.

*Aquinas College* in Newton, Mass.: Small, private, tuition-dependent, single sex, religiously affiliated—closed.

*Castle College* in Windham, N.H.: Small, private, tuition-dependent, single-sex, religiously affiliated—closed.

*Notre Dame College* in Manchester, N.H.: Small, private, tuition-dependent, religiously affiliated—announced its plan to close several months ago.

*Trinity College* in Burlington, Vt.: Small, private, tuition-dependent, single-sex, religiously affiliated—closed.

*Regis College* recently announced major layoffs of faculty and staff with more cuts possibly to come in order to stay afloat.

*Roxbury Community College* has received relentless bad press over audits and fiscal issues, with students and faculty chiming in with recurring no confidence votes in the former administration.

*Harcourt Higher Education* turned belly up, in part because it was unable to profitably market its online degree and certificate programs. Hardworking CEO Bob Antonucci told us that "developing the programs was the easy part, but finding the right branding partners and market streams" were the hidden, finally insurmountable, challenges.



## Turnarounds

Many New England colleges and universities are in the difficult process of turning themselves around. These institutions have distinguished themselves by their willingness to take prudent risks in their steps forward.

*Benjamin Franklin Institute of Technology* has stabilized its enrollments, begun an endowment, developed new state-of-the-art technical career programs, and provided a valuable engineering technology option for Boston high school students on their way to places like Wentworth and Northeastern University.

*Colby-Sawyer College* made a successful transition to coeducation several years ago and has turned this sometimes fraught transformation into an opportunity to strengthen enrollment and endowment and make new investments in campus infrastructure, research facilities, and technology with new residence halls, the Bakers Communication Center and the Cleveland Colby Colgate Archives.

*Endicott College* has significantly broadened its institutional profile through the design, capitalization and construction of new student life, academic, athletic and residential campus facilities while building enrollments and adding bachelors and master's degree programs.

*Maine College of Art*, the centerpiece of Portland's Arts District and the only professionally accredited college of art and design in northern New England, has significantly increased enrollment and made prudent investments in campus infrastructure.

## New Players

Some may remember Hesser College as a regionally accredited private, two-plus-two college in New Hampshire. Well, Hesser was bought out by Quest, and Quest was bought out by *Kaplan.com*. That's right, Kaplan—that test-preparation people—now own Hesser and even has its own fully-accredited online law school, the Concord School of Law.

*Olin College of Engineering* will welcome its first freshman class in the fall of 2002 with a newly constructed, purpose-built campus adjacent to Babson College, 500,000 square feet of academic, living and office space, and specialty accreditation from the Accreditation Board for Engineering and Technology.

Many still remember *New Hampshire College* before it changed its name last year to *Southern New Hampshire University* and extended its campus to locations throughout

New Hampshire and overseas, thus prompting new and international branding opportunities.

Even traditional land-grant, aggie schools like the *University of Massachusetts* have given birth to powerful new distance learning organizations like *UMass Online*.

While the *University of Phoenix* existed “out there” somewhere, no one gave much thought to its entry into the already crowded Massachusetts higher education marketplace. Now one only needs to ride through Braintree, Mass., to note the first foothold—as well as brisk business—for what some traditionalists still view as a for-profit predator.

*York County Technical College* did not exist five years ago. But Maine's newest community-technical college today stands as northern New England's southernmost public institution, poised to capitalize on the growth of southern Maine.

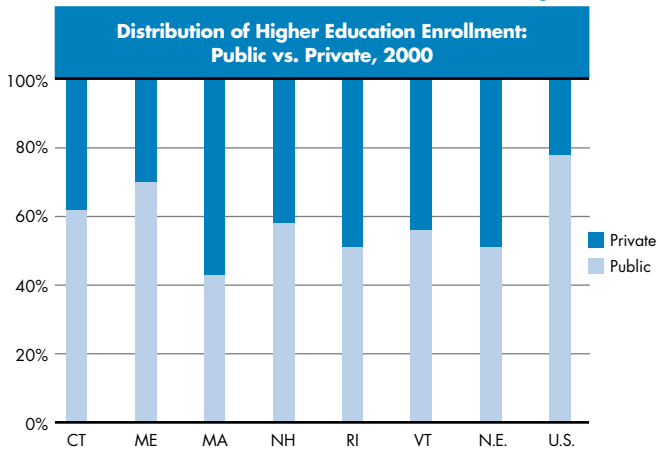
For both institutional and Super Bowl winners and losers, 2003 will be a whole new ballgame—a fresh chance to gain a place on next year's list.

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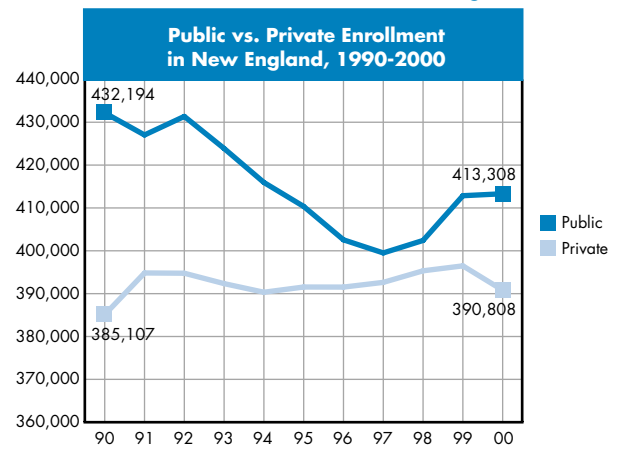


Fig. 13



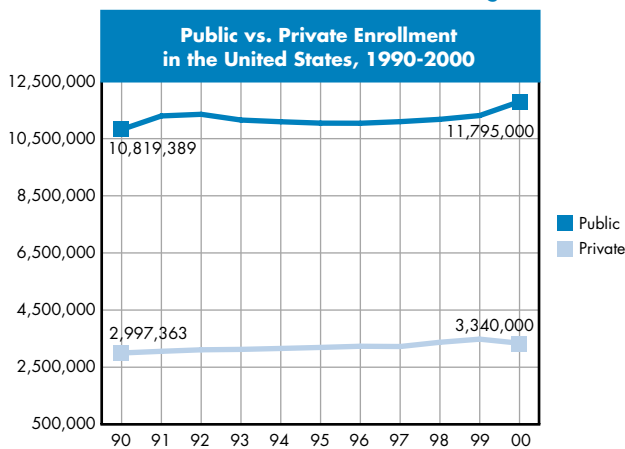
Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.

Fig. 14



Source: New England Board of Higher Education analysis of National Science Foundation (NSF) Web CASPAR Database System. Does not include unknown institutions.

Fig. 15



Source: New England Board of Higher Education analysis of NSF WebCASPAR Database System. Does not include unknown institutions.

Fig. 16

State	Percentage	U.S. Rank
Vermont	93%	1st
New Hampshire	87%	5th
Connecticut	85%	6th
Maine	85%	8th
Rhode Island	76%	19th
Massachusetts	76%	20th
<b>U.S. Average</b>	<b>69%</b>	

Note: Reflects 1998 college freshmen who graduated from high school during the previous 12 months.

Source: Postsecondary Education Opportunity analysis of federal data.

Fig. 17

State	Percentage	U.S. Rank	Change in Public's Share of Freshmen '92-'98
Mississippi	90%	1st	+2%
Louisiana	88%	2nd	+1%
Wyoming	87%	3rd	+1%
Arkansas	86%	4th	0%
Alabama	86%	5th	-1%
<b>U.S. Average</b>	<b>74%</b>		<b>-1%</b>
Rhode Island	60%	43rd	+2%
Main	56%	46th	-2%
Massachusetts	52%	47th	+8%
Connecticut	51%	48th	+1%
Vermont	50%	49th	+4%
New Hampshire	49%	50th	-7%

Note: Reflects 1998 college freshmen who graduated from high school during the previous 12 months.

Source: Postsecondary Education Opportunity analysis of federal data.

Fig. 18

	1988	1999
Four-Year College	46%	57%
Full-Time Job	19%	18%
Two-Year College	19%	12%
Take Time Off	5%	4%
Join Military	4%	3%
Vocational/Technical School	6%	2%

Source: Vermont Student Assistance Corp.

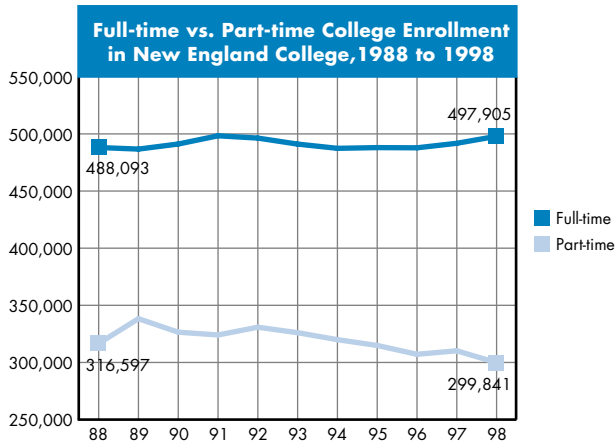
Fig. 19

Class of 2000 One Year after Graduation	
Going to College or Training Program and Working	37%
Going to College or Training Program Only	32%
Working Only	22%
Jobless, But Looking for Work	4%
Not in College, Not Looking for Work	4%
In Military	2%

Source: Boston Private Industry Council, Northeastern University Center for Labor Market Studies

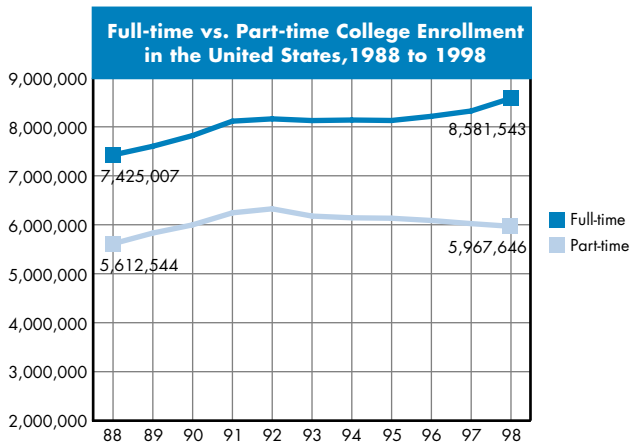


Fig. 20



Source: New England Board of Higher Education analysis of NSF WebCASPAR Database System.

Fig. 21



Source: New England Board of Higher Education analysis of NSF WebCASPAR Database System.

Note: The Annual Survey of Colleges of the College Board and Data Base, 2001-2002, includes 221 higher education institutions in New England. The survey does not include graduate schools; law and medical schools or certain small two- and four-year institutions. The Carnegie Classification system classifies 208 of these New England institutions.

Fig. 22

New England Institutions by Carnegie Classification	
<b>Associate of Arts Colleges (67 Institutions)</b>	<ul style="list-style-type: none"> <li>Offer associate certificate or degree program.</li> <li>With few exceptions offer no bachelor's degrees.</li> </ul>
<b>Baccalaureate (Liberal Arts) Colleges II (32 Institutions)</b>	<ul style="list-style-type: none"> <li>Award 40 percent of their degrees in liberal arts.</li> <li>Less selective in admissions.</li> </ul>
<b>Baccalaureate (Liberal Arts) Colleges I (20 Institutions)</b>	<ul style="list-style-type: none"> <li>Award 40 percent of their degrees in liberal arts.</li> <li>Selective in admissions.</li> </ul>
<b>Master's (Comprehensive) Universities and Colleges II (4 Institutions)</b>	<ul style="list-style-type: none"> <li>Offer full range of bachelor's degree programs.</li> <li>Offer graduate education through masters degree programs.</li> <li>Award 20 or more master's degrees in one or more disciplines.</li> </ul>
<b>Master's (Comprehensive) Universities and Colleges I (41 Institutions)</b>	<ul style="list-style-type: none"> <li>Offer full range of bachelor's degree programs.</li> <li>Offer graduate education through master's degree programs.</li> <li>Award 40 or more master's degrees in three or more disciplines.</li> </ul>
<b>Doctoral Universities II (6 Institutions)</b>	<ul style="list-style-type: none"> <li>Offer full range of bachelor's degree programs.</li> <li>Offer graduate education through doctorates.</li> <li>Award 10 or more doctorates a year in three or more disciplines or 20 or more doctorates in one or more disciplines.</li> </ul>
<b>Doctoral Universities I (1 Institution)</b>	<ul style="list-style-type: none"> <li>Offer full range of bachelor's degree programs.</li> <li>Offer graduate education through doctorates.</li> <li>Award 40 or more doctorates a year in five or more disciplines.</li> </ul>
<b>Research Universities II (4 Institutions)</b>	<ul style="list-style-type: none"> <li>Offer full range of bachelor's degree programs</li> <li>Offer graduate education through doctorates,</li> <li>Award 50 or more doctorates a year.</li> <li>Give high priority to research.</li> <li>Receive between \$15.5 million and \$40 million in federal support annually.</li> </ul>
<b>Research Universities I (8 Institutions)</b>	<ul style="list-style-type: none"> <li>Offer full range of bachelor's degree programs</li> <li>Offer graduate education through doctorates</li> <li>Award 50 or more doctorates a year.</li> <li>Give high priority to research.</li> <li>Receive \$40 million or more in federal support annually.</li> </ul>

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.

Fig. 23

**Selected Enrollment Characteristics of New England Institutions by Carnegie Classification**

	Number of Institutions	Total Undergraduate Enrollment	% Minority Students	% International Students	% Out-of-State Students	Average Age of Students
Research Universities I	8	73,268	23%	36%	57%	20
Research Universities II	4	34,454	20%	38%	53%	21
Doctoral Universities I	1	8,930	19%	20%	73%	21
Doctoral Universities II	6	35,677	30%	24%	33%	21
Master's (Comprehensive) Universities and Colleges I	41	139,655	31%	22%	48%	23
Master's (Comprehensive) Universities and Colleges II	4	6,313	13%	3%	39%	23
Baccalaureate (Liberal Arts) Colleges I	20	32,749	24%	43%	78%	20
Baccalaureate (Liberal Arts) Colleges II	32	36,189	31%	15%	43%	28
Associate of Arts Colleges	67	142,253	28%	21%	23%	27
Professional and Specialized Institutions	25	38,819	26%	70%	49%	21
<b>New England Total</b>	<b>208</b>	<b>548,307</b>	<b>149,665</b>	<b>157,744</b>	<b>240,731</b>	<b>21</b>

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.





Fig. 28

New England Institutions with the Largest African-American Enrollments			
Institution	Total Enrollment	Total African-Amer. Enrollment	Percent African-Amer.
Roxbury Community College	2,699	1,155	43%
Capital Community-Technical College	3,042	1,085	36
Cambridge College	2,733	686	25
Housatonic Community-Technical College	3,902	952	24
Bunker Hill Community College	6,385	1,403	22
Gateway Community-Technical College	4,157	820	20
Springfield College	4,722	867	18
Norwalk Community-Technical College	5,377	880	16
Massachusetts Bay Community College	4,458	553	12
Massasoit Community College	6,706	778	12
Johnson & Wales University	9,172	1,055	12
University of Massachusetts Boston	13,346	1,453	11
Manchester Community-Technical College	5,135	552	11
Southern Connecticut State University	12,127	1,185	10
Springfield Technical-Community College	6,705	551	8
Total of these 15 institutions	90,666	13,975	
Total of all New England institutions	804,711	40,971	
These 15 institutions as a share of all New England institutions	11%	34%	

Source: Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.

Fig. 29

New England Institutions with the Largest Hispanic Enrollments			
Institution	Total Enrollment	Total Hispanic Enrollment	Percent Hispanic
Capital-Community-Technical College	3,042	635	21%
Housatonic Community-Technical College	3,902	812	21
Northern Essex Community College	6,580	1,261	19
Norwalk Community-Technical College	5,377	794	15
Bunker Hill Community College	6,385	859	13
Gateway Community-Technical College	4,157	467	11
North Shore Community College	6,285	586	9
Holyoke Community College	5,754	536	9
Springfield Technical-Community College	6,705	545	8
Community College of Rhode Island	15,583	1,092	7
Middlesex Community College(Mass.)	7,451	498	7
Massachusetts Institute of Technology	10,090	594	6
Johnson & Wales University	9,172	517	6
Tufts University	9,106	471	5
Harvard University	24,279	1,224	5
Total of these 15 institutions	123,868	10,891	
Total of all New England institutions	804,116	33,504	
These 15 institutions as a share of all New England institutions	15%	33%	

Source: Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.

Fig. 30

Minority Enrollment by State and Race/Ethnicity: 1990 and 2000				
	As % of		% Change	
	1990	2000	18- to-24-Year-Old Population 2000	1990- 2000
<b>Connecticut</b>				
African-American	9,955	13,187	12	32
	5.7%	8.3%		
Asian-American	4,364	6,070	3	39
	2.5%	3.8%		
Hispanic	5,651	9,656	15	71
	3.2%	6.0%		
Native American	432	557	1	29
	0.2%	0.3%		
White	143,501	112,743	63	-21
	81.7%	70.5%		
Race Unknown	6,853	11,365	NA	66
	3.9%	7.1%		
<b>Maine</b>				
African-American	296	516	1	74
	0.5%	0.9%		
Asian-American	418	805	1	93
	0.7%	1.4%		
Hispanic	195	409	1	110
	0.3%	0.7%		
Native American	398	770	1	93
	0.7%	1.3%		
White	55,487	49,789	95	-10
	94.7%	85.1%		
Race Unknown	1,424	5,150	NA	262
	2.4%	8.8%		
<b>Massachusetts</b>				
African-American	18,473	22,466	7	22
	4.0%	5.4%		
Asian-American	16,289	23,352	6	43
	3.5%	5.7%		
Hispanic	12,619	18,484	10	46
	2.7%	4.5%		
Native American	1,198	1,569	0.3	31
	0.3%	0.4%		
White	348,206	258,547	71	-26
	74.9%	62.6%		
Race Unknown	47,001	61,922	NA	32
	10.1%	15.0%		
<b>New Hampshire</b>				
African-American	669	803	1	20
	1.0%	1.3%		
Asian-American	760	1,070	2	41
	1.2%	1.7%		
Hispanic	490	908	1	85
	0.8%	1.5%		
Native American	229	265	1	16
	0.4%	0.4%		
White	55,788	46,389	93	-17
	86.0%	75.2%		
Race Unknown	6,107	10,677	NA	75
	9.4%	17.3%		

Note: Percentages below figures reflect share of total enrollment.



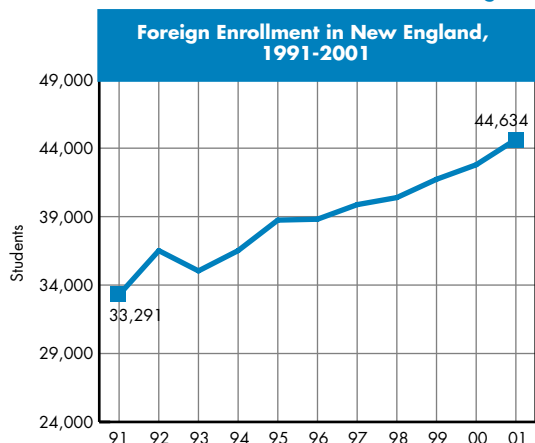


Fig. 33

Foreign Enrollment in New England by State, 1991 to 2001												
State	1991	1995	1996	1997	1998	1999	2000	2001	1-Year % Change	3-Year % Change	5-Year % Change	10-Year % Change
Connecticut	5,219	5,869	6,099	6,444	6,354	6,755	7,110	7,358	3.5	15.8	20.6	41.0
Maine	1,123	1,334	1,240	1,219	1,023	1,192	1,282	1,256	-2.0	22.8	1.3	11.8
Massachusetts	22,639	25,929	25,739	26,568	27,121	27,782	28,192	29,395	4.3	8.4	14.2	29.8
New Hampshire	1,469	1,867	1,928	1,869	1,854	1,898	2,068	2,301	11.3	24.1	19.3	56.6
Rhode Island	1,944	2,886	2,990	3,128	3,174	3,218	3,176	3,375	6.3	6.3	12.9	73.6
Vermont	897	860	815	647	865	883	959	949	-1.0	9.7	16.4	5.8
New England	33,291	38,745	38,811	39,875	40,391	41,728	42,787	44,634	4.3	10.5	15.0	34.1
United States	419,585	452,635	459,787	457,984	481,280	490,933	514,723	547,867	6.4	13.8	19.2	30.6

Source: New England Board of Higher Education analysis of Institute of International Education data.

Fig. 34



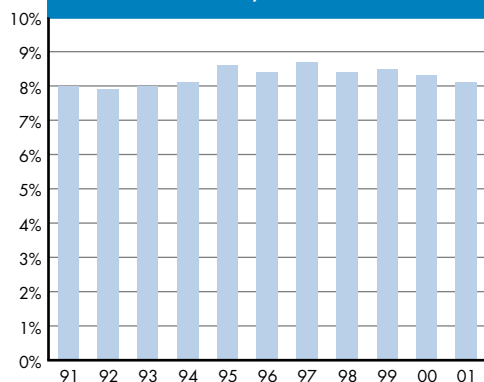
Source: New England Board of Higher Education analysis of Institute of International Education data.

Fig. 35

New England Institutions with More than 150 Students Abroad, 2001		
Institution	Student's Abroad	Students Abroad as % of Total Enrollment
Boston University	959	3%
University of Massachusetts at Amherst	832	3
Boston College	800	6
Dartmouth College	667	12
Tufts University	615	7
Brown University	476	6
University of Vermont	428	4
Middlebury College	399	17
University of New Hampshire	373	3
Wesleyan University	356	11
Wellesley College	347	15
Colby College	346	19
Bates College	286	17
Babson College	264	6
Smith College	258	8
Worcester Polytechnic Institute	255	7
University of Connecticut	243	1
Bowdoin College	229	14
Roger Williams University	224	6
Trinity College	224	10
Johnson & Wales University	204	2
Brandeis University	199	4
Williams College	195	9
Northeastern University	185	1
Amherst College	165	10
Bentley College	165	3
Mount Holyoke College	153	7
Suffolk University	150	2

Source: New England Board of Higher Education analysis of Institute of International Education data.

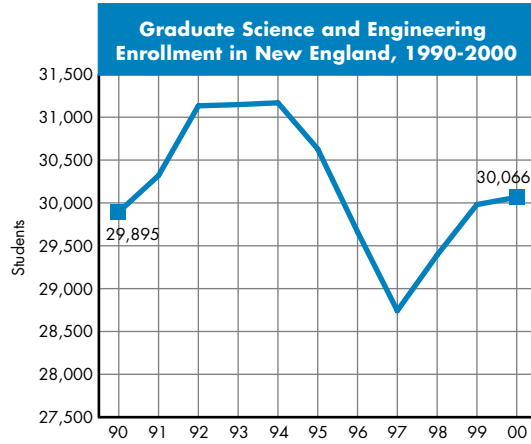
Foreign Enrollment as a Share of U.S. Total, 1991-2001



Source: New England Board of Higher Education analysis of Institute of International Education data.

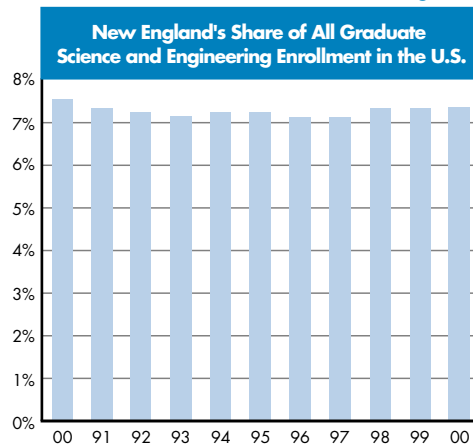


Fig. 36



Source: New England Board of Higher Education analysis of National Science Foundation, *Selected Data on Graduate Enrollment and Support, Early Release Tables, 2000*.

Fig. 37



Source: New England Board of Higher Education analysis of National Science Foundation, *Selected Data on Graduate Enrollment and Support, Early Release Tables, 2000*.

Fig. 38

State	1995	1997	2000	3-Year % Change	5-Year % Change
Connecticut	6,129	5,569	6,266	12.5	2.2
Maine	737	584	588	0.7	-20.2
Massachusetts	20,018	19,274	19,536	1.4	-2.4
New Hampshire	1,110	1,192	1,340	12.4	20.7
Rhode Island	1,901	1,554	1,709	10.0	-10.1
Vermont	734	569	627	10.2	-14.6
New England	30,629	28,742	30,066	4.6	-1.8
United States	422,533	407,656	414,570	1.7	-1.9

Source: New England Board of Higher Education analysis of National Science Foundation, *Selected Data on Graduate Enrollment and Support, Early Release Tables, 2000*.

# New England's Graduate Education Advantage

ROSS GITTELL

**T**hough growing only slowly overall, New England has outperformed the other eight U.S. census regions by virtually every measure of per-capita income and productivity growth. The productivity and income strengths are inter-related and both strongly correlated to New England's advantages in higher education. These relationships—education to productivity and income to education and productivity—are increasingly relevant in a knowledge-based global economy where human capital is the key to industrial and regional economic advantage.

New England ranks first among regions in the percentage of people age 25 and over who have associates, bachelor's and graduate or professional degrees, and first among regions in per-capita income.

All six New England states rank in the top quarter among the 50 states in increase in gross state product per worker from 1979 to 1998. Change in state product per worker is an important indicator of productivity performance, which contributes to both regional business competitiveness and income. All the New England states also rank in the top quarter in percent change in median family income over the past two decades.

The correlation between educational attainment and economic performance is very strong. All the New England states except Maine rank high in the percentage of adults with graduate or professional degrees. On average, the New England states rank higher in the percentage of adults with graduate degrees, 41 out of a possible 50, than they do in the percentage with four-year college degrees, 36 out of 50. At the same time, the average rank among New England states in change in gross state product per worker is 44.

Indeed, over the past two decades, growth in gross state product has been more strongly correlated with high ranks in people with graduate degrees than with high ranks in those with four-year college degrees. The average rank of the New England states when Maine is excluded is 45th in the percentage of adults with graduate or professional degree, 39th in adults with bachelor's or higher and 45th in change in gross state product per worker. In an increasingly knowledge-based economy, competitive advantage will depend increasingly on advanced education beyond the bachelor's degree.

In 1998, the last year for which full data are available, New England colleges awarded 46,700 graduate

degrees, 79,900 bachelor's degrees and 26,700 associates. Eighty percent of the graduate degrees awarded were master's degrees; 12 percent were professional degrees in fields such as law and medicine, and 8 percent were doctorates.

The key to New England's economic advantage is not the absolute numbers of degrees awarded, but rather the relative concentration of degrees granted in the region per capita. New England awards a higher percentage of the nation's total degrees than its share of the U.S. total population at all levels, except associate degrees. New England grants 2 percent fewer of the two-year degrees on a per-capita basis than the U.S. average.

At all degree levels beyond the associate, New England grants at least 35 percent more degrees per capita than the national average. The region's strongest educational advantage is not at the bachelor's level, but in graduate education. In 1998, New England awarded 35 percent more bachelor's degrees per capita than the U.S. average, but 75 percent more master's degrees per capita, 62 percent more doctorates and 40 percent more professional degrees.

New England's degree advantage is particularly high in some key fields linked to the regional economy. For example, the region has a 55 percent advantage in master's degrees in engineering awarded per capita, an 87 percent advantage in MBAs and a 76 percent advantage in law degrees.

In 1998, New England was home to less than 5 percent of the U.S. population, but its campuses awarded 7 percent of all master's, professional and doctoral degrees nationwide. About two-thirds of New England graduate degrees are awarded in Massachusetts, but the overall graduate degree advantage among residents is a regionwide phenomenon. And though not all graduates of New England graduate programs end up staying in the region, many do.

Over the 33-year period for which data are available (1966 to 1998), the ratio of graduate degrees awarded per-capita in New England compared to the United States has remained strong. The increases have been 15 percent for professional degrees and 11 percent for master's degrees. This growth occurred while the New England-to-U.S. per-capita ratio in associate degrees shrank by 28 percent and the ratio in bachelor's degrees remained flat. From 1966 to 1998, the New-England-to-



Supporters of public higher education can make the case that a more significant role for public institutions in graduate education is crucial to regional economic development and the public service missions of public institutions. In particular, stronger links can be developed with in-state businesses, perhaps providing financial support to college graduates who, without assistance, would not advance to graduate education, and thereby helping ensure an appropriately skilled labor supply for the businesses.

Additionally, a strong case can be made for graduate programs in fields that are particularly important to the regional economy but where New England's graduate advantage relative to the nation is in jeopardy. For example, over the past 33 years, the number of master's degrees in engineering awarded in New England per capita has declined by 21 percent relative to the United States. The per-capita awarding of engineering master's degrees at New England public institutions is especially low (over 40 percent below the U.S. per-capita average). A similar case can be made for increased public support of graduate business programs in the region.

The prospects for an increased role of public institutions in graduate education in New England, however, are mixed. Historical experience indicates that it is hard to build strong graduate programs with public support in New England (and elsewhere) particularly with wide fluctuations in state government support from year to year.

**Improve the pipeline to graduate education in New England.** As other U.S. regions and nations recognize links between graduate education and economic development, it will be critical for New England to work on the pipeline into graduate programs and to strengthen the support of the region's graduate students and graduate programs.

How to provide opportunities to enhance New England's graduate education advantage?

**Keep the best and brightest high school students in the region and continue to attract high quality students from elsewhere.** Three New England states—Connecticut, New Hampshire and Vermont—currently rank among the bottom 10 percent nationally in the percentage of high school graduates staying in their home state for postsecondary education.



## TRENDS & INDICATORS:

### Degrees continued

Fig. 41

Degrees Granted in New England by Level, 1998 and 2000						
State	Associate	Bachelor's	Master's	First-Professional	Doctoral	Total Degrees Conferred
<b>Connecticut</b>						
2000	4,298	14,355	7,163	951	667	27,434
1998	4,350	13,578	7,167	884	686	26,665
% Change	-1.2	5.7	-0.1	7.6	-2.8	2.9
<b>Maine</b>						
2000	2,182	5,672	1,195	215	49	9,313
1998	2,336	5,442	1,108	183	49	9,118
% Change	-6.6	4.2	7.9	17.5	0.0	2.1
<b>Massachusetts</b>						
2000	10,306	42,308	24,808	3,862	2,275	83,559
1998	11,912	40,727	23,651	3,948	2,554	82,792
% Change	-13.5	3.9	4.9	-2.2	-10.9	0.9
<b>New Hampshire</b>						
2000	3,071	7,776	2,438	183	116	13,584
1998	2,898	7,600	2,370	189	147	13,204
% Change	6.0	2.3	2.9	-3.2	-21.1	2.9
<b>Rhode Island</b>						
2000	3,550	8,402	1,844	265	258	14,319
1998	3,592	8,169	1,929	231	248	14,169
% Change	-1.2	2.9	-4.4	14.7	4.0	1.1
<b>Vermont</b>						
2000	1,594	4,832	1,453	233	65	8,177
1998	1,442	4,455	1,510	236	62	7,705
% Change	10.5	8.5	-3.8	-1.3	4.8	6.1
<b>New England</b>						
2000	25,001	83,345	38,901	5,709	3,430	156,386
1998	26,530	79,971	37,735	5,671	3,746	153,653
% Change	-5.8	4.2	3.1	0.7	-8.4	1.8
<b>United States</b>						
2000	569,000	1,193,000	444,000	81,000	47,100	2,334,100
1998	558,555	1,184,406	430,164	78,598	46,010	2,297,733
% Change	1.9	0.7	3.2	3.1	2.4	1.6

Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data. U.S. data for 2000 are projected by the U.S. Department of Education.

A “keep the best and brightest in New England” effort could be coordinated with regionwide efforts to attract high school students and transfer students from outside the region through targeted scholarships and promotion of high-quality undergraduate programs. Marketing all New England to students from outside the region—as well as foreign students—as a good place to go to college and then graduate school would be beneficial.

**Strengthen ties between undergraduate and graduate programs.** New England college students could be more strongly encouraged to stay in the region for graduate study. In part, this could be accomplished by forging: a) more five-year combined degree programs; b) joint programs between New England’s small colleges and universities with graduate programs; c) more opportunities for undergraduates to take graduate courses at their home institution and at other institutions in the region; and d) public and private scholarship programs for graduate study in the region.

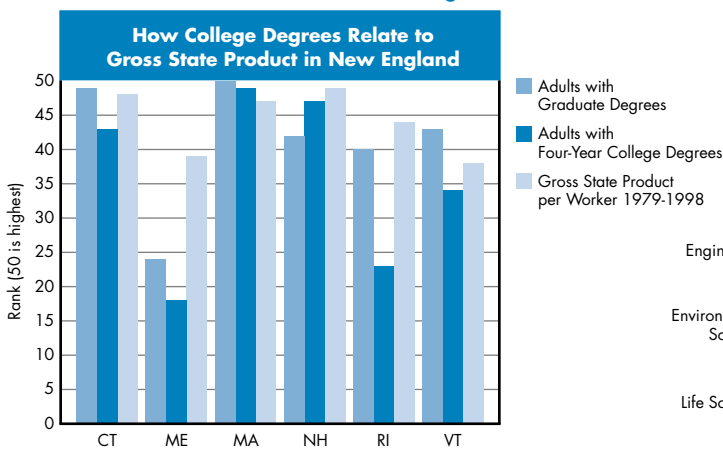
**Work as a region to coordinate areas of regional graduate program strength and to develop**

**specialized degree programs.** In a relatively small geographic region such as New England, it might not be beneficial to have competition in all graduate program areas. Already, the New England Board of Higher Education’s Regional Student Program offers important coordination and sharing of many public graduate programs. The board could also develop “exchange” programs, allowing graduate students to take courses at multiple institutions in the region.

**Strengthen ties between industry/businesses in the region and graduate programs.** Stronger ties to industry can enhance links between higher education and the regional economy through expanded internships and joint industry-university research projects. This would also increase private-sector support of graduate education and aid recruitment of graduate students to the area and the retention of graduates to work in regional firms.

*Ross Gittel is James R. Carter Professor of Management at the University of New Hampshire’s Whittemore School of Business and Economics.*

Fig. 42



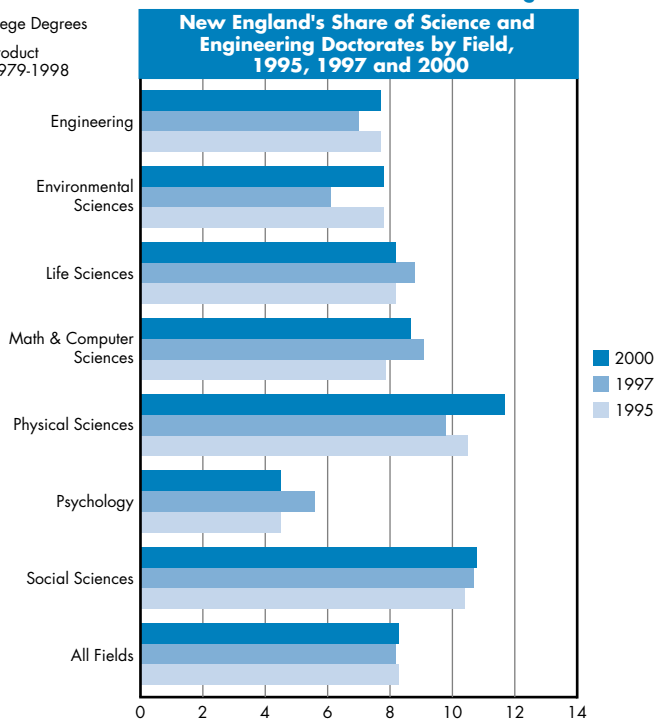
Source: Ross Gittel analysis of federal data for CONNECTION.

Fig. 43

Change in Degrees Granted Per Capita: New England vs. the United States				
Degree Type	New England's Share of U.S. Degrees 1998	Ratio of New England to U.S. Degrees Per-Capita	% Change in Per-Capita Ratio	
			1966-98	1993-98
Associate	4.91%	0.98	-28.3%	-13.5%
Bachelor's	6.74%	1.35	0.8%	-0.5%
Master's	8.80%	1.75	10.7%	4.2%
Professional	7.20%	1.4	15.6%	10.4%
Doctorate	8.20%	1.62	-0.1%	3.9%
Population Share	4.98%			

Source: Ross Gittel analysis of federal data for CONNECTION.

Fig. 44



Source: New England Board of Higher Education analysis of National Science Foundation, Science and Engineering Doctorate Awards: 2000.

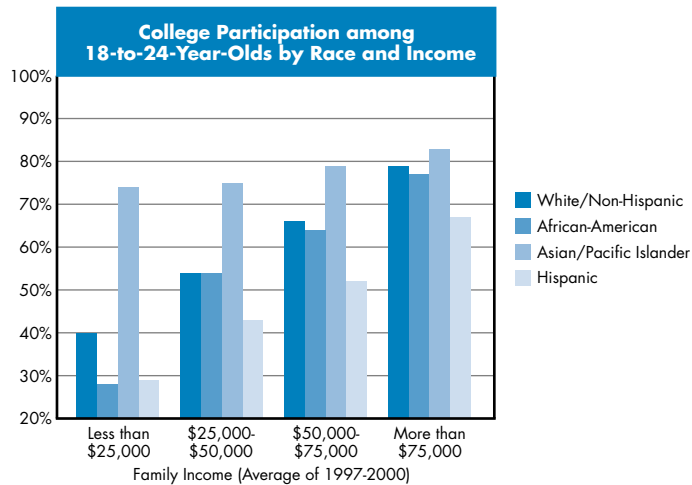


TRENDS & INDICATORS:

# Educational Attainment and Income

The more money your family earns, the more likely you are to go to college. The more educated you are, the more you earn. In fact, educational attainment correlates to a range of measures of economic and social well-being. The more educated you are, the less likely you are to be unemployed and the less likely you are to live below the poverty line. But the role of family income in college participation and, in turn, education's role in future income, varies by race and gender.

Fig. 45



Source: Postsecondary Education Opportunity.

Fig. 46

### How Education Affects Income, Unemployment and Poverty

	Change in Median		
	Income for Males Age 25+, 1973-2000	2000 Unemployment	2000 Poverty Rates
High School Dropouts	-35%	8%	22%
High School Graduates	-24%	4%	9%
Some College	-12%	3%	6%
Bachelor's Degree	5%	2%	3%
Advanced Degree	22%		

Note: Income data separates bachelor's degrees from advanced degrees. Unemployment and poverty data lump bachelor's and advanced degrees together. Unemployment rates are for 2000.

Source: Postsecondary Education Opportunity.

Fig. 47

### Growth in Number of Earners with Two-Year and Four-Year Degrees

State	Two-Year Degrees	Four-Year Degrees
Connecticut	15%	8%
Maine	43%	26%
Massachusetts	5%	12%
New Hampshire	25%	17%
Rhode Island	36%	13%
Vermont	35%	14%

Source: Ralph Whitehead analysis of U.S. Census data for CONNECTION.

Fig. 48

### Earnings Advantage of Two-Year Degrees

Median Earnings of People with Various Levels of Education

State	High School	Two-Year	Four-Year
Connecticut	\$33,075	\$43,400	\$51,000
Maine	\$27,467	\$33,075	\$38,500
Massachusetts	\$30,636	\$39,277	\$47,539
New Hampshire	\$29,974	\$36,176	\$48,373
Rhode Island	\$30,000	\$41,000	\$43,700
Vermont	\$25,840	\$32,960	\$34,109

Source: Ralph Whitehead analysis of U.S. Census data (1999, 2000, 2001) for CONNECTION.

Fig. 49

### Earnings for Women with Four-Year Degrees

State	Earnings
Connecticut	\$40,300
Maine	\$33,000
Massachusetts	\$40,000
New Hampshire	\$43,000
Rhode Island	\$33,200
Vermont	\$29,000

Source: Ralph Whitehead analysis of U.S. Census data (1999, 2000, 2001) for CONNECTION.

# Driving Mobility

## The Three Labors Facing Two-Year Colleges

RALPH WHITEHEAD

**N**ew England's two-year colleges have long toiled in the shadows of the region's fabled research universities and ivy-covered liberal arts campuses. Now, however, these two-year colleges have begun to appear in an important new light.

Those outside the world of two-year colleges have begun to view them as the institutions best positioned to perform three crucial, overlapping tasks. If they perform these tasks successfully, they will merit a new measure of stature and support.

***The first task is chiefly academic. It is to enable high school graduates at the bottom of the economic ladder to get to college.*** Going to college is now the norm for high school graduates. Every fall, some two-thirds of the previous June's high school graduating class go straight on. But this overall rate masks large variations. The classic pattern still holds: The less money your family has, the less likely you are to go to college.

If college is to figure in the lives of high school graduates at the low end of the ladder, it will be because two-year colleges enable them to earn degrees and go on to four-year programs.

***The second task is vocational. It is to help modernize the job training system.*** There are several weaknesses in this chronically underfunded system, and the two-year college can't fix all of them, but it can help to fix one: the system doesn't enable its clients to earn enough money.

Job training's chief purpose has been to help the unemployed and underemployed move into full-time work. But it puts many of them, chiefly those with little formal education, onto the lowest rungs of the full-time earnings ladder. And once they are there, it does little to help them make the climb up to higher earnings.

In Connecticut and Massachusetts, there is now evidence of how much single parents must earn to meet what is called the self-sufficiency standard: an amount of money that is large enough to provide even a fairly austere standard of living for them and their children. The self-sufficiency wage is much higher than the job training system typically enables its graduates to earn. But the two-year degree typically provides earnings that are, for a lone parent with one

child, much closer to the self-sufficiency point.

In every New England state but New Hampshire, the earnings of full-time workers with two-year degrees are at or above the midpoint between the earnings of workers with high school diplomas and the earnings of workers with four-year degrees.

Thus, there is a case for the system to assume an added purpose: continue to put people onto the earnings ladder, but also take them to a higher rung. To this end, the job training system would lead to the two-year college. And the system's crowning credential would be the two-year degree. It might be a vocational degree, but it wouldn't have to be.

TO SERVE MEN AND ESPECIALLY WOMEN,  
TWO-YEAR COLLEGES MUST ENABLE  
STUDENTS TO MOVE ON BOTH TRACKS,  
ACADEMIC AND VOCATIONAL, AND TO GO  
BACK AND FORTH BETWEEN THEM.

***The third task lies on both tracks. It is to address the new economic role of women.*** For generations, two institutions offered women a form of long-term economic support: marriage and welfare. Now, marriage is fragile, and welfare is for only the short-term. More women must earn their own keep by doing paid work, and all women must be prepared to do so. Women have been adjusting to this new reality by turning to higher education, going from one-third of all college students in the 1950s to well over half today. This might also help explain the growth in the percentage of adult earners whose highest degree is from a two-year college.

Census data reveal that in the 1990s, the percentage of working-age earners who are two-year graduates grew at a higher rate than the percentage who are four-year graduates in every New England state except Massachusetts.

To get the skills they need to pay their own way, women at the low end of the economic ladder, especially those in their 20s and early 30s, have turned to two-year colleges. Ask two-year college officials to describe their students and you hear the same thing: they are typically in their late 20s, two-thirds of them are women and many of the women have a child or two. For these women, the offerings of two-year colleges—certificates, vocational degrees and academic degrees—are the initial steps to higher earnings. But these credentials don't make women economically sufficient.

A closer look at the earnings of two-year graduates reveals a large gender gap (as exists at other levels of education). Indeed, in New England, it appears that men with two-year degrees earn at or above the self-sufficiency standard, but women with two-year degrees earn less than the standard.

This is significant, because the vast majority of lone parents are single mothers. To achieve self-sufficiency in the Worcester, Mass., area, for example, a parent with two young children must earn \$42,140 annually. Yet a Massachusetts woman typically needs

a four-year degree to earn close to this amount, even if she works full-time and year-round. A roughly parallel pattern holds in several regions of Connecticut.

For many men, the two-year degree is valuable enough to serve as a destination. For women, however, it is better used as a way station to a four-year degree. To serve men and especially women, two-year colleges must enable students to move on both tracks, academic and vocational, and to go back and forth between them.

Since the 1980s, through trial and error, the region and the nation have tried to devise an engine of upward mobility that fits new economic and social realities. It still isn't clear what form the engine will take. What is clear, however, is that the two-year school can be a crucial part of it.

---

**Ralph Whitehead Jr.** is the public service professor of the University of Massachusetts. **Robert J. Lacey** is a research associate with the Massachusetts Institute for Social and Economic Research at UMass Amherst.







## TRENDS & INDICATORS:

### Student Migration *continued*

Fig. 51

Migration of First-Time Freshmen to New England, 1992-2000								
Total First-Time Freshmen From Outside New England Who Enroll in...					Percent from Outside New England			
State	1992	1994	1996	2000	1992	1994	1996	2000
Connecticut	4,096	4,488	5,395	5,959	18	21	25	24
Maine	782	814	1,069	1,076	9	10	13	13
Massachusetts	12,945	13,364	16,455	16,867	23	20	26	27
New Hampshire	1,669	1,596	1,835	1,901	15	14	17	18
Rhode Island	2,450	3,919	3,768	4,051	21	31	30	29
Vermont	1,327	1,621	1,979	2,196	23	26	30	32
New England	23,269	25,802	30,501	32,050	20	21	25	25

Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.

Fig. 52

New England Public Institutions with the Highest Percentage of Out-of-State Students	
Institution	Percentage
United States Coast Guard Academy	93%
University of Vermont	61
Lyndon State College	44
Plymouth State College	43
Keene State College	43
University of New Hampshire	41
Johnson State College	39
University of Rhode Island	38
Castleton State College	34
Maine Maritime Academy	32
University of Maine at Fort Kent	31
Charter Oak State College	28
New Hampshire Community Technical College/Laconia	25
New Hampshire Community Technical College/Claremont	25
University of Massachusetts/Amherst	24
Massachusetts College of Art	23
University of Connecticut	20
College for Lifelong Learning	20
University of Southern Maine	19
University of Maine at Farmington	17
University of Maine at Machias	16
Massachusetts College of Liberal Arts	16
New Hampshire Community Technical College/Stratham	16
Vermont Technical College	16
University of Maine	15
University of Massachusetts/Lowell	15

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.

Fig. 53

New England Private Institutions with the Highest Percentage of Out-of-State Students	
Institution	Percentage
Dartmouth College	97%
Brown University	96
Landmark College	94
Bennington College	94
Middlebury College	94
Wesleyan University	91
Bates College	91
Massachusetts Institute of Technology	91
Yale University	90
Colby College	89
Green Mountain College	89
Harvard College	87
Bowdoin College	86
Amherst College	86
Franklin Pierce College	86
Williams College	85
Simon's Rock College of Bard	83
Hampshire College	83
New England Conservatory	82
Marlboro College	82
College of the Atlantic	80
Berklee College of Music	80
Connecticut College	79
Wellesley College	79
Roger Williams University	79
Salve Regina University	79

Note: Table excludes institutions with total enrollment less than 200.

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# Retention and Graduation

[continued on page 42]

Retention and graduation have become higher education buzzwords—and for good reason. A decade after Congress passed a law requiring campuses to disclose graduation rates for student athletes, student attrition remains a problem. Nearly half of all four-year college students do not graduate within five years of starting college. Colleges are responding with more mentoring for students at risk of dropping out, more attention to outcomes, more accountability. Policymakers and campuses are also developing transfer articulation agreements between two- and four-year institutions and other ways to create seamless transitions from pre-K through college and beyond.

**Fig. 54**

Percentage of Freshmen Who Return for Sophomore Year, Best and Worst Performers	
Top 25 Institutions	Percentage
Amherst College	98%
Massachusetts Institute of Technology	98
Yale University	98
Bowdoin College	96
Brown University	96
Dartmouth College	96
Harvard College	96
Tufts University	96
Wellesley College	96
Wesleyan University	96
Williams College	96
Colby College	95
College of the Holy Cross	95
Middlebury College	95
Bates College	94
Brandeis University	94
Albertus Magnus College	93
Bentley College	92
Connecticut College	92
Mount Holyoke College	92
Providence College	92
Babson College	90
Massachusetts College of Pharmacy and Health Sciences	90
Trinity College, Connecticut	90
Worcester Polytechnic Institute	90
Bottom 25 Institutions	Percentage
Paier College of Art	53%
Maine College of Art	54
College of St. Joseph, Maine	55
Boston Architectural Center	56
Sterling College	57
University of Maine at Farmington	59
Unity College	59
University of Maine at Fort Kent	60
Notre Dame College	60
Green Mountain College	60
Thomas College	62
Nichols College	62
Johnson State College	62
University of Maine at Presque Isle	64
Franklin Pierce College	64
Daniel Webster College	64
Western Connecticut State	65
Goddard College	66
Bay Path College	66
Salem State College	67
New England College	67
Lyndon State College	67
Eastern Nazarene College	67
Curry College	67
Framingham State College	68

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**Fig. 55**

New England Two-Year Colleges Reporting that 50 Percent or More of Graduates Enter Four-Year Programs	
Institution	Percentage
Dean College	90%
Fisher College	90
Landmark College	90
Quinebaug Valley Community College	80
Greenfield Community College	80
Massasoit Community College	75
Middlesex Community College (Conn.)	70
North Shore Community College	70
Cape Cod Community College	65
Mount Wachusett Community College	61
Northwestern Connecticut Community College	60
Bunker Hill Community College	57
Three Rivers Community College	55
Middlesex Community College (Mass.)	55
Naugatuck Valley Community College	50

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.

**Fig. 56**

New England Private Institutions with the Highest Graduation Rates, 1999	
Top 25 Institutions	Percentage
Harvard University	97%
Amherst College	95
Yale University	95
Williams College	94
Dartmouth College	94
Brown University	93
College of Holy Cross	93
Massachusetts Institute of Technology	91
Bowdoin College	91
Rhode Island School of Design	91
Wellesley College	90
Middlebury College	89
Colby College	88
Wesleyan University	88
Bates College	87
Boston College	87
Tufts University	86
Trinity College	83
Providence College	82
Smith College	82
Connecticut College	82
Babson College	82
Brandeis University	81
Fairfield University	80
Mount Holyoke College	79

Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.



Fig. 57

New England Public Institutions with the Highest Graduation Rates, 1999	
Institution	Percentage
University of New Hampshire	69%
University of Connecticut	68
University of Vermont	67
Massachusetts Maritime Academy	64
Maine Maritime Academy	62
University of Massachusetts Amherst	60
University of Maine Farmington	59
Westfield State College	55
University of Rhode Island	55
University of Maine	53
Keene State College	51
Plymouth State College	48
Bridgewater State College	47
Castleton State College	45
Vermont Technical College	45
University of Massachusetts Dartmouth	44
Framingham State College	44
Massachusetts College of Art	43
University of Massachusetts Lowell	43
Central Connecticut State University	43
Western Connecticut State University	42
Rhode Island College	41
Fitchburg State College	40
University of Maine Fort Kent	38
University of Maine Presque Isle	37

Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.

Fig. 58

New England Institutions Where 10% or More of Graduates Enter MBA Programs	
Institution	Percentage
Albertus Magnus College	30%
Connecticut College	19
Merrimack College	18
University of Bridgeport	15
Rivier College	13
Mount Holyoke College	12
American International College	10
New England College	10
Trinity College	10

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Fig. 59

New England Institutions Where 10% or More of Graduates Enter Law School	
Institution	Percentage
Connecticut College	20%
Albertus Magnus College	15
Brown University	10
Massachusetts Institute of Technology	10
Mount Holyoke College	10
Trinity College	10

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Fig. 60

New England Institutions Where 5% or More of Graduates Enter Medical School	
Institution	Percentage
Harvard College	12%
Yale University	11
Brown University	9
Massachusetts Institute of Technology	8
Simon's Rock College of Bard	8
Amherst College	7
Connecticut College	7
Sacred Heart University	7
Rivier College	6
St. Joseph's College	5
Colby College	5
Eastern Nazarene College	5
Fairfield University	5
Albertus Magnus College	5
Mount Holyoke College	5
University of Bridgeport	5

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# How Washington Can Serve the Student Borrower

PAUL COMBE

**T**he goal of the Higher Education Act of 1965 was to extend postsecondary education to anyone who would benefit from it, regardless of financial circumstances. Part of the Great Society legislation, the law created a number of education financing programs to provide access to higher education to the nation's poorest citizens.

In the early years, this visionary law offered education opportunity primarily through federal and state *grant* programs. What relatively few loans were available were targeted toward less needy families with greater capacity to repay.

But the emphasis changed in the 1980s, as federal budget constraints and politics intervened. There wasn't enough public money for grants to meet the needs of all who could benefit from higher education. As tuitions rose, middle-class Americans demanded their share. Soon, loans became the predominant means of financing access to higher education. The rationale used to justify the policy shift was that since the student is the primary beneficiary of higher education—the median income for families headed by four-year college graduates in 1999 was \$33,000 *higher* than for those headed by high school graduates—the student should pay against new and improved, future earnings. Today, 60 percent of all financial assistance is provided in the form of loans.

Of course, the education of an individual enhances not only the success of one person, but also that of the larger community. If higher education is the key to participation in the information economy and a compelling necessity for the individual and society, then over-reliance on loans is an inexcusable barrier to access. For students whose parents rely on check-cashing services, lack a checking account and can't qualify for credit cards, the very idea of borrowing may create an insurmountable barrier to higher education.

So where are we now? Federal and state grants have not kept pace with fast-growing college costs. As a result, students have had to take out more loans. Between 1990 and 2000, federal and state student loans grew by 186 percent, according to the College Board. The needier the student, the more debt

required to get basic access to higher education. The more debt, the more handcuffed the student will be in terms of post-graduation career and economic choice. Moreover, by relying on loans, society is pushing the responsibility for financing higher education off to the next generation. This intergenerational shift is hardest on students with the greatest financial need.

In and of themselves, loans are not the problem. Loans are a useful tool for financing education as long as they are part of an appropriate mix of grant and work aid tailored to the financial circumstances of the individual. The problem is simply too little grant funding at the state and federal level. According to the congressional Financial Aid Advisory Committee, unmet need is now almost equal to the average annual federal education loan. Until there is a concerted effort to increase the availability of need-based, grant funding, loan limits will continue to grow to keep up with unmet need and rising tuition.

**IF STUDENT LOAN DEFAULT RATES ARE LOW,  
THE LOAN INDUSTRY IS HAPPY TO TAKE  
CREDIT. IF DEFAULT RATES ARE HIGH,  
WE BLAME THE BORROWER.**

Even with more grants, loans will always be a part of the picture. But if, as a society, we rely on loans to pay for college, we should at least provide borrowers with economic literacy and financial support services before during and after graduation to ensure that they successfully complete the financing of their postsecondary education.

With loans, education financing ends with the last loan payment. We must assume greater responsibility for assisting and educating borrowers so that they can complete their education and successfully complete the financing and repayment of education loans.



Most students make their borrowing decisions as teenagers but will have to live with the consequences a decade later as adult wage earners. The 1998 reauthorization of the Higher Education Act did not provide adequate post-graduation support for student borrowers. Indeed, the federal loan program is structured such that the borrower is ignored if in good standing and aggressively pursued if having difficulties. If student loan default rates are low, the loan industry is happy to take credit. If default rates are high, we blame the borrower.

Applying for financial aid can seem daunting to some. Navigating deferments, forbearances and repayment options on multiple loans from multiple lenders after graduation, is genuinely complex. Yet, after graduation, borrowers, for the most part, are left on their own to navigate the system. Default has serious consequences, making a borrower ineligible for a mortgage, car loan, further education loans or other credit. And federal student loan debt cannot be discharged in bankruptcy. There are sufficient repayment options in the program that no borrower, working in good faith, should default. But many borrowers lack information on these options.

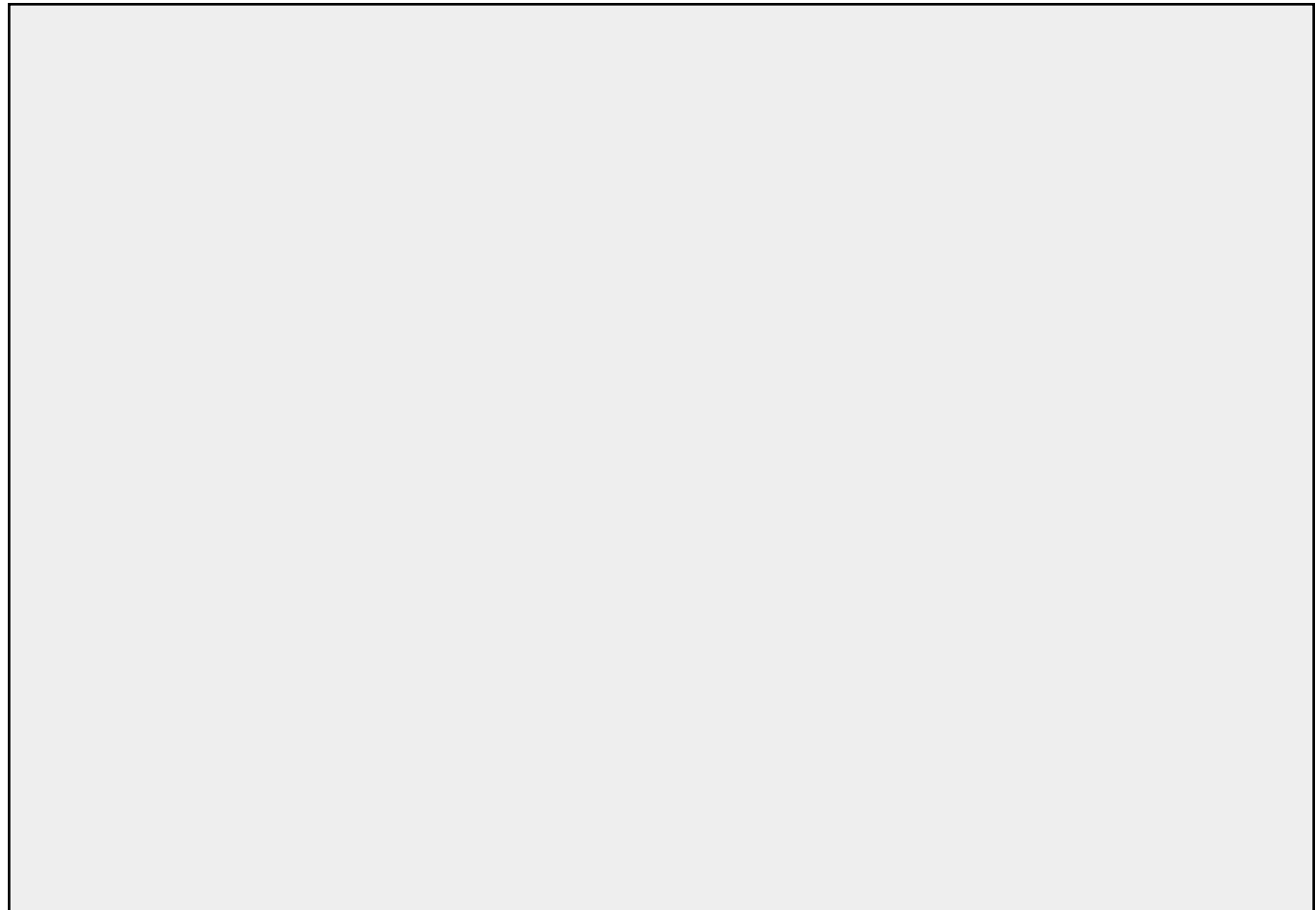
So what can we do to help student borrowers upon graduation?

Employers, who also benefit from education, need incentives to assist employees in repaying their education loans as a fringe benefit. Repayment options need to be simplified with incentives for early and timely repayment.

We must also create incentives for guarantors to work closely with the student from loan inception through successful repayment. The experimental Voluntary Flexible Agreements entered into between a few guarantors and the U.S. Department of Education under the last reauthorization provided important new ways for guarantors to proactively interact with and counsel borrowers to ensure that they repay their loans successfully. The results of these experiments should form a new model for guarantors in the 2003 reauthorization. Rather than rewarding guarantors as a collection agent after the student defaults, rewards should be focused on default prevention and borrower success. We must shift from punitive to supportive, from reacting when a borrower defaults to proactively helping borrowers manage their debt.

---

*Paul Combe is CEO of American Student Assistance.*







## TRENDS & INDICATORS:

### Financing Higher Education *continued*

Fig. 62

Tuition and Mandatory Fees by Region, 1991-2002											
Tuition and Fees											
Sector	1991-1992	1992-1993	1993-1994	1994-1995	1995-1996	1996-1997	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002
<b>National</b>											
Two-year public	\$1,171	\$1,116	\$1,245	\$1,310	\$1,330	\$1,465	\$1,567	\$1,554	\$1,649	\$1,642	\$1,738
Two-year private	5,294	5,754	6,228	6,128	6,339	6,613	7,079	6,940	6,968	7,539	7,953
Four-year public	2,107	2,334	2,535	2,705	2,811	2,975	3,111	3,247	3,362	3,487	3,754
Four-year private	9,812	10,448	11,007	11,719	12,216	12,994	13,785	14,709	15,518	16,233	17,123
<b>New England</b>											
Two-year public	1,750	1,855	2,113	2,204	2,212	2,299	2,357	2,302	2,170	2,150	2,305
Two-year private	7,745	8,209	9,000	10,086	10,372	11,893	11,708	12,237	14,527	14,854	15,023
Four-year public	3,386	3,631	3,949	4,094	4,237	4,315	4,526	4,635	4,677	4,748	4,892
Four-year private	13,155	14,039	14,755	15,539	16,318	17,219	18,418	19,211	20,281	21,215	22,189
<b>Middle States</b>											
Two-year public	1,683	1,820	1,894	1,996	2,358	2,528	2,559	2,622	2,619	2,653	2,746
Two-year private	7,051	7,824	8,453	7,657	7,663	8,231	8,885	9,276	8,858	9,334	10,194
Four-year public	2,770	3,085	3,356	3,523	3,728	3,909	4,057	4,201	4,509	4,686	4,795
Four-year private	10,246	11,011	11,680	12,529	12,816	13,886	14,650	15,381	16,540	17,547	18,459
<b>South</b>											
Two-year public	810	919	976	991	1,037	1,080	1,186	1,235	1,267	1,327	1,604
Two-year private	4,675	5,181	6,116	6,756	6,710	8,137	9,090	9,250	8,260	8,697	9,143
Four-year public	1,875	2,009	2,183	2,257	2,324	2,425	2,544	2,675	2,734	2,906	3,198
Four-year private	8,426	8,952	9,525	10,102	10,472	11,320	12,029	12,636	13,187	13,912	14,688
<b>Midwest</b>											
Two-year public	1,292	1,428	1,499	1,552	1,602	1,702	1,749	1,834	1,830	1,878	1,981
Two-year private	5,338	5,649	5,983	6,305	6,235	6,541	7,501	7,950	7,827	8,541	8,775
Four-year public	2,304	2,616	2,768	2,924	3,104	3,263	3,468	3,647	3,811	3,992	4,266
Four-year private	9,445	10,025	10,593	11,162	11,800	12,670	13,320	14,007	14,609	15,299	16,046
<b>Southwest</b>											
Two-year public	658	678	712	747	826	871	938	995	1,040	1,133	1,118
Two-year private	3,121	3,555	3,710	3,989	3,863	4,343	4,879	###	5,863	6,315	6,586
Four-year public	1,269	1,412	1,547	1,727	1,871	2,160	2,321	2,526	2,721	2,925	3,170
Four-year private	7,018	7,477	8,077	8,562	8,973	9,654	10,075	10,701	11,257	11,965	12,708
<b>West</b>											
Two-year public	917	841	765	776	808	834	925	1,053	###	###	1,022
Two-year private	2,548	2,936	3,322	3,370	3,404	3,337	3,558	3,779	3,908	4,089	###
Four-year public	1,689	1,969	2,236	2,489	2,561	2,588	2,680	2,660	2,680	2,747	2,934
Four-year private	9,718	10,250	10,925	11,565	12,245	12,893	13,587	14,290	15,097	15,878	16,558

Note: All data are enrollment-weighted averages, intended to reflect the average costs that students face in various types of institutions. Number signs (###) indicate that the sample was too small to provide meaningful information.

Source: Table 6, Tuition and Fees by Region and Institution Type, in Current Dollars, 1991-1992 to 2001-2002, (Enrollment-Weighted). *Trends in College Pricing 2001*, (2001); 10. Copyright © 2001 College Entrance Examination Board. Reprinted with permission. All rights reserved. www.collegeboard.com.

Fig. 63

Average In-State Tuition at New England Public Two-Year Colleges, 1993-2001											
State	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00			\$ Change	% Change
								2000-01	2001-02	1993-94 to 2001-02	1993-94 to 2001-02
Connecticut	\$1,398	\$1,520	\$1,646	\$1,722	\$1,814	\$1,814	\$1,892	\$1,678	\$1,680	\$282	20%
Maine	1,907	2,151	2,376	2,588	2,594	2,829	2,586	1,870	2,040	133	7
Massachusetts	2,344	2,437	2,361	2,342	2,221	2,123	1,926	700	750	-1,594	-68
New Hampshire	2,259	2,316	2,419	2,784	3,177	3,740	3,744	3,740	4,080	1,821	81
Rhode Island	1,546	1,686	1,726	1,736	1,746	1,746	1,746	1,616	1,664	118	8
Vermont	2,726	2,196	2,370	2,516	2,616	2,716	2,846	2,688	2,808	82	3
New England	\$2,030	\$2,051	\$2,150	\$2,281	\$2,361	\$2,495	\$2,457	\$2,049	\$2,170	\$140	7%
United States	1,125	1,192	1,239	1,283	1,318	1,328	1,336	NA	NA	NA	NA

Source: 1993-94 to 1999-00 data are from the U.S. Department of Education IPEDS surveys. Tuition for those years were weighted by the number of full-time equivalent undergraduates. IPEDS data do not reflect mandatory fees. The 2000-01 and the 2001-02 data are self-reported as part of the New England Board of Higher Education's annual FACTS survey of New England colleges, and are not weighted to reflect full-time undergraduates and may not be comparable to data reported elsewhere.



Fig. 64

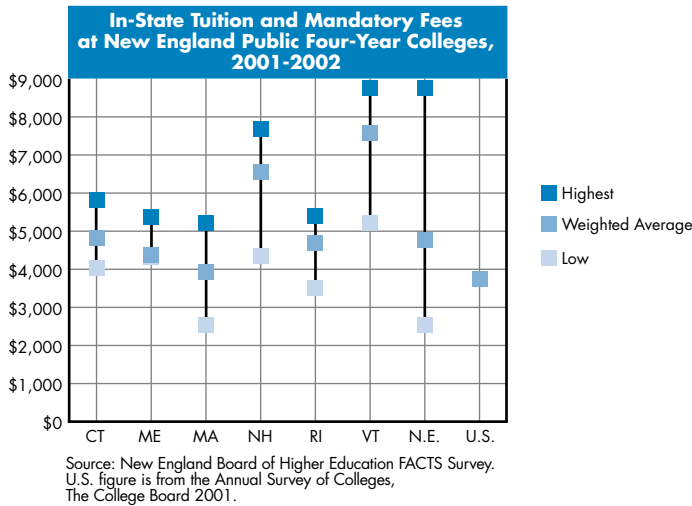


Fig. 65

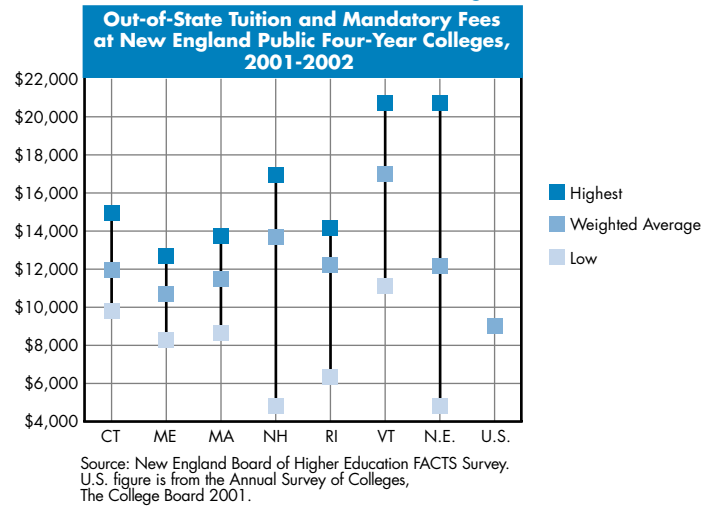


Fig. 66

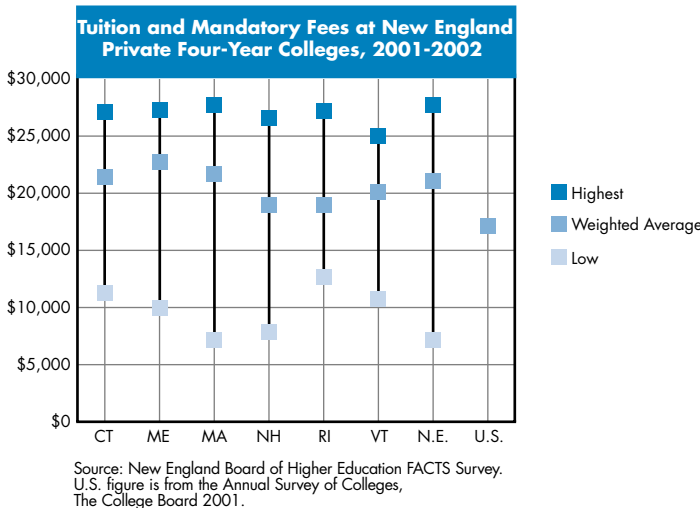


Fig. 67

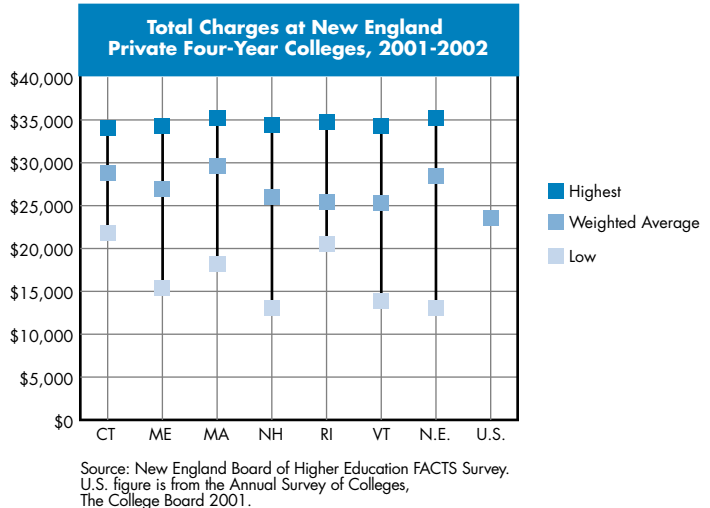


Fig. 68

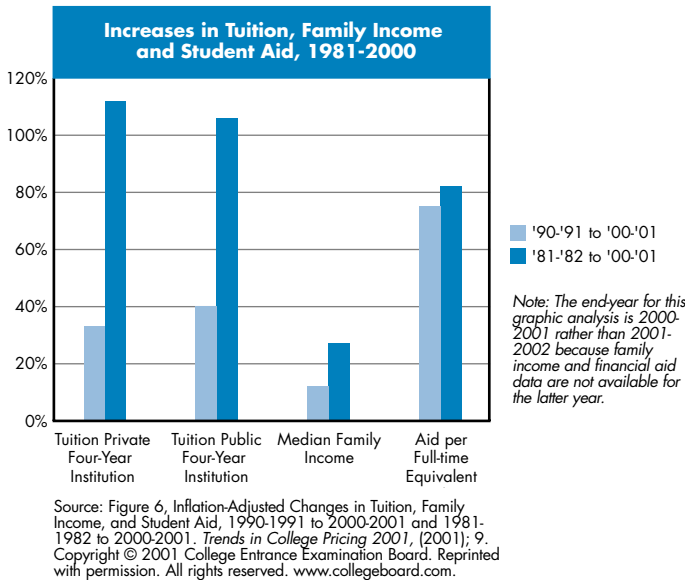
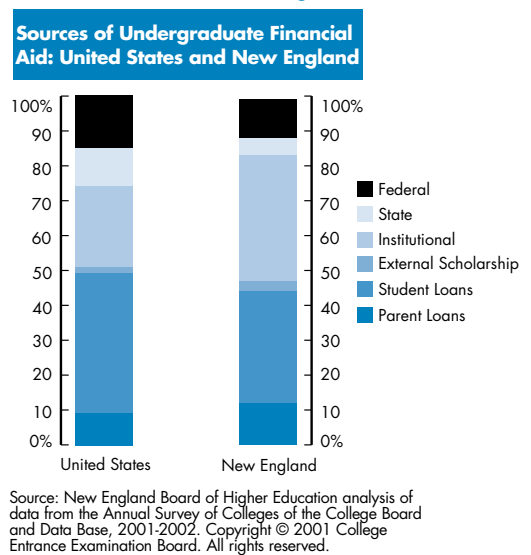


Fig. 69





## TRENDS & INDICATORS:

### Financing Higher Education *continued*

Fig. 70

State Grant Aid Awarded, 1990-2000					
State	1990	1995	2000	5-Year % Change	10-Year % Change
Connecticut	\$32,806,000	\$20,905,000	\$37,401,000	79%	14%
Maine	2,008,000	7,096,000	10,852,000	53	440
Massachusetts	88,314,000	61,945,000	103,301,000	67	17
New Hampshire	1,735,000	1,493,000	1,506,000	1	-13
Rhode Island	11,254,000	6,340,000	6,098,000	-4	-46
Vermont	11,384,000	11,983,000	13,997,000	17	23
New England	\$147,501,000	\$109,762,000	\$173,155,000	58	17
United States	2,092,247,000	2,868,938,000	4,150,039,000	45	98

Note: Massachusetts 2000 figure includes funds from a new previously unreported program, Tomorrow's Teacher Scholarship (non-need-based).

Source: New England Board of Higher Education analysis of National Association of State Student Grant and Aid Programs (NASSGAP) 31st Annual Survey Report.

Fig. 71

Need-Based State Aid Awarded, 1992, 1996 and 2000			
State	1992	1996	2000
Connecticut	57%	100%	99%
Maine	100	92	100
Massachusetts	59	100	99
New Hampshire	54	99	99
Rhode Island	95	100	100
Vermont	99	100	99
New England	68%	99%	99%
United States	75	82	78

Source: New England Board of Higher Education analysis of National Association of State Student Grant and Aid Programs (NASSGAP) 31st Annual Survey Report.

Fig. 72

Pell Grant Expenditures, Recipients and Average Awards, 1999-2000												
State	Public			Private			Proprietary			Total		
	Total Expenditures	Total Recipients	Average Award	Total Expenditures	Total Recipients	Average Award	Total Expenditures	Total Recipients	Average Award	Total Expenditures	Total Recipients	Average Award
Connecticut	\$21,775,007	13,214	\$1,648	\$10,317,151	5,284	\$1,953	\$8,283,479	5,006	\$1,655	\$40,375,637	23,504	\$1,718
Maine	21,843,799	11,440	1,909	4,420,015	2,263	1,953	2,172,124	1,372	1,583	28,435,938	15,075	1,886
Massachusetts	63,547,968	35,538	1,788	49,441,988	25,791	1,917	7,759,011	4,452	1,743	120,748,967	65,781	1,836
New Hampshire	10,257,380	6,074	1,689	5,544,674	3,199	1,733	3,639,875	2,187	1,664	19,441,929	11,460	1,697
Rhode Island	11,648,741	6,562	1,775	13,692,661	7,296	1,877	3,089,562	1,885	1,639	28,430,964	15,743	1,806
Vermont	8,591,427	5,116	1,679	5,880,412	3,085	1,906	553,775	284	1,950	15,025,614	8,485	1,771
New England	\$137,664,322	77,944	\$1,766	\$89,296,901	46,918	\$1,903	\$25,497,826	15,186	\$1,679	\$252,459,049	140,048	1,803
United States	4,920,644,931	2,592,158	1,898	1,341,922,126	662,732	2,025	945,863,434	508,820	1,859	7,208,430,491	3,763,710	1,915
New England as a % of United States	2.8%	3.0%		6.7%	7.1%		2.7%	3.0%		3.5%	3.7%	

Source: New England Board of Higher Education analysis of U.S. Department of Education Office of Postsecondary Education data.

Fig. 73

Federal Campus-Based Aid Program Allocations and Recipients						
State	College Work-Study		Perkins Loans		Supplemental Educational Opportunity Grant Program	
	2001-02 Allocations	2000 Total Recipients	2001-02 Allocations	2000 Total Recipients	2001-02 Allocations	2000 Total Recipients
Connecticut	\$11,957,811	9,909	\$968,158	7,625	\$7,751,833	12,464
Maine	8,046,426	7,133	938,926	6,709	6,738,763	10,180
Massachusetts	46,772,940	39,780	4,690,138	33,989	28,717,070	37,385
New Hampshire	6,897,682	6,732	802,336	5,780	4,966,399	6,993
Rhode Island	7,934,559	7,149	785,588	8,884	6,711,594	9,589
Vermont	6,186,483	6,112	656,227	6,553	5,394,008	5,656
New England	\$87,795,901	76,815	\$8,841,373	69,540	\$60,279,667	82,267
United States	1,003,004,273	732,904	99,849,902	654,860	690,630,617	1,169,668
New England as a % of United States	8.8%	10.5%	8.9%	10.6%	8.7%	7.0%

Source: New England Board of Higher Education analysis of U.S. Department of Education Office of Postsecondary Education data.

Fig. 74

New England Institutions with the Most Freshmen Seeking Financial Aid				
Public Institutions				
Institution	Number of enrolled Freshmen who applied for Aid	Number of enrolled Freshmen with need	Number with need offered Aid	% of Freshmen offered full amount needed
University of Massachusetts Amherst	2,913	1,745	1,688	97%
University of Connecticut	2,152	1,354	1,310	97%
University of Rhode Island	1,947	1,654	1,554	94%
University of New Hampshire	1,832	1,371	1,350	98%
University of Maine	1,340	1,294	1,167	90%
University of Vermont	1,191	974	974	100%
University of Massachusetts Boston	921	655	637	97%
Bridgewater State College	877	574	560	98%
Keene State College	858	614	605	99%
University of Massachusetts Lowell	787	534	520	97%
Central Connecticut State	733	417	417	100%
University of Southern Maine	718	617	587	95%
Eastern Connecticut State	716	609	457	75%
Westfield State College	712	402	402	100%
Plymouth State College of	710	517	517	100%
Salem State College	561	497	426	86%
Framingham State College	467	294	289	98%
University of Maine at Farmington	389	300	299	100%
University of Maine at Augusta	316	295	274	93%
Castleton State College	293	240	231	96%
Private Institutions				
Institution	Number of enrolled Freshmen who applied for Aid	Number of enrolled Freshmen with need	Number with need offered Aid	% of Freshmen offered full amount needed
Northeastern University	2,670	2,320	2,270	98%
Boston University	2,446	2,053	2,045	100%
Johnson & Wales University	1,967	1,758	1,744	99%
Quinnipiac University	1,099	840	833	99%
Harvard College	985	852	852	100%
Massachusetts Institute of Technology	805	670	668	100%
Yale University	757	533	533	100%
Sacred Heart University	739	624	624	100%
Fairfield University	722	560	560	100%
Roger Williams University	714	587	582	99%
Providence College	704	554	554	100%
Bentley College	675	508	504	99%
Tufts University	622	477	477	100%
Dartmouth College	606	484	484	100%
Bryant College	592	506	506	100%
Western New England College	541	485	436	90%
Stonehill College	533	418	418	100%
Brandeis University	533	426	426	100%
Assumption College	497	420	420	100%
St. Anselm College	493	455	450	99%

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.



Fig. 75

New England Institutional Financial Aid by Carnegie Classification: Need-Based vs. Merit-Based, 2000			
	Total Need-Based Aid	Total Merit Aid	Merit Aid as a % of Total
Research Universities I	\$493,849,999	\$148,274,936	23%
Research Universities II	\$234,141,615	\$59,837,741	20%
Doctoral Universities I	NA	NA	
Doctoral Universities II	\$189,836,693	\$86,267,194	31%
Master's (Comprehensive) Universities and Colleges I	\$462,978,828	\$204,986,194	31%
Master's (Comprehensive) Universities and Colleges II	\$28,285,130	\$11,771,102	29%
Baccalaureate (Liberal Arts) Colleges I	\$340,205,311	\$64,552,100	16%
Baccalaureate (Liberal Arts) Colleges II	\$184,457,688	\$68,639,236	27%
Associate of Arts Colleges	\$65,395,852	\$8,044,185	11%
Professional and Specialized Institutions	\$159,667,329	\$88,246,105	36%
<b>New England Total</b>	<b>\$2,158,818,445</b>	<b>\$740,618,793</b>	<b>26%</b>

Source: New England Board of Higher Education analysis of data from the Annual Survey of Colleges of the College Board and Data Base, 2001-2002. Copyright © 2001 College Entrance Examination Board. All rights reserved.

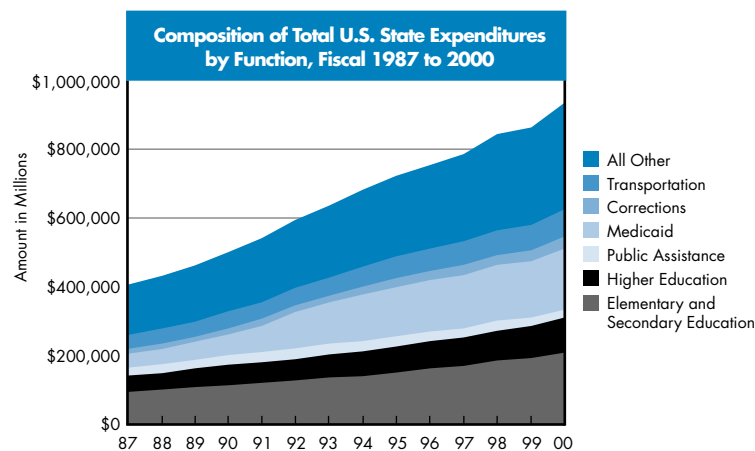
Fig. 76

State Appropriation for Higher Education by State, 2002						
State	Appropriations	1-Year % Change	2-Year % Change	10-Year % Change	Per-Capita Appropriations	Appropriations Per \$1,000 of Personal Income
Connecticut	761,942,000	7.9	9.6	51.9	\$223.73	\$5.71
Maine	239,892,000	4.8	12.6	38.7	179.55	7.54
Massachusetts	1,009,921,000	-6.2	-2.9	73.1	169.67	4.45
New Hampshire	107,608,000	6.9	12.3	43.1	81.46	2.82
Rhode Island	174,939,000	7.4	15.0	65.4	155.34	5.61
Vermont	73,195,000	8.0	15.5	31.3	111.28	4.64
New England	2,367,497,000	1.0	4.8	58.4	168.32	4.96
United States	63,647,105,000	4.6	11.7	59.1	216.17	7.93

Note: 2000 population figures were used to calculate per-capita appropriations. 1999 personal income information was used to calculate appropriations per \$1,000 of personal income.

Source: New England Board of Higher Education analysis of data from Center for Higher Education, Illinois State University.

Fig. 77



Source: National Association of State Budget Officers.

Fig. 78

New England Colleges Endowments that Rank Among the Nation's 500 Largest				
U.S. Rank	New England Rank	Institution	Market Value at End of Fiscal Year 2001	% Change from Fiscal Year 2000
1	1	Harvard University	\$17,950,843,000	-4.7%
2	2	Yale University	\$10,700,000,000	6.1%
6	3	Massachusetts Institute of Technology	\$6,134,712,000	-5.3%
20	4	Dartmouth College	\$2,414,231,000	-3.1%
25	5	Brown University	\$1,436,607,000	1.5%
32	6	Williams College	\$1,207,408,000	-11.1%
33	7	Wellesley College	\$1,135,925,000	-9.4%
41	8	Boston College	\$1,003,832,000	-3.9%
48	9	Smith College	\$917,254,000	1.1%
52	10	Amherst College	\$890,511,000	-2.4%
70	11	Boston University	\$664,581,000	-27.2%
75	12	Middlebury College	\$627,332,000	-5.9%
82	13	Tufts University	\$548,998,000	4.9%
84	14	Wesleyan University	\$520,674,000	-9.1%
89	15	Northeastern University	\$493,926,000	-4.7%
104	16	Bowdoin College	\$433,244,000	-6.9%
112	17	Brandeis University	\$397,046,000	-2.4%
116	18	Mount Holyoke	\$388,472,000	-8.7%
120	19	College of the Holy Cross	\$362,305,000	-1.6%
122	20	Colby College	\$353,383,000	-5.4%
125	21	Trinity College	\$343,242,000	-5.1%
145	22	Worcester Polytechnic Institute	\$299,489,000	-12.9%
177	23	Rhode Island School of Design	\$224,548,000	0.3%
188	24	University of Vermont	\$202,029,000	0.1%
200	25	Babson College	\$181,300,000	-16.1%
206	26	Johnson & Wales University	\$174,715,000	-2.9%
208	27	Bates College	\$173,137,000	-12.7%
217	28	University of Connecticut Foundation	\$165,243,000	-7.9%
219	29	University of New Hampshire System & Foundation	\$164,729,000	-5.0%
225	30	University of Massachusetts & Foundation	\$160,879,000	8.5%
236	31	Clark University	\$153,383,000	0.4%
238	32	Bentley College	\$147,676,000	-11.4%
239	33	Connecticut College	\$146,900,000	-10.4%
243	34	Wheaton College	\$145,548,000	3.5%
245	35	Simmons College	\$144,026,000	-9.1%
250	36	Berkeley College of Music	\$139,766,000	-6.8%
259	37	Bryant College	\$134,748,000	-9.8%
289	38	Fairfield University	\$109,252,000	12.5%
293	39	Providence College	\$106,311,000	-9.4%
295	40	Norwich University	\$106,243,000	-3.4%
316	41	Stonehill College	\$93,106,000	-3.9%
325	42	University of Maine System	\$87,920,000	-9.7%
345	43	University of Maine Foundation	\$80,083,000	1.9%
356	44	Wentworth Institute of Technology	\$74,821,000	-15.7%
375	45	Saint Michael's College	\$64,341,000	-5.5%
385	46	University of Rhode Island Foundation	\$61,118,000	-5.8%
420	47	Suffolk University	\$50,983,000	-9.7%
422	48	Saint Anselm College	\$50,299,000	0.5%
424	49	New England Conservatory of Music	\$47,808,000	-3.6%
449	50	Lesley University	\$42,810,000	-4.1%
468	51	Assumption College	\$39,062,000	2.0%
469	52	Wheelock College	\$38,688,000	-11.4%
497	53	Western New England College	\$33,527,000	-9.6%

Source: New England Board of Higher Education analysis of 2001 National Association of College and University Business Officers (NACUBO) Endowment Study, Preliminary Results.



Fig. 79

State	Revenues and Expenditures at New England Colleges and Universities, 2000					
	Revenues			Expenditures		
	2000	5-Year % Change	10-Year % Change	2000	5-Year % Change	10-Year % Change
Connecticut	6,824,795,848	141%	228%	3,700,973,126	31%	79%
Maine	1,124,783,933	66	101	865,600,020	28	55
Massachusetts	20,390,705,723	147	210	10,096,639,094	23	56
New Hampshire	1,972,713,386	115	201	1,120,826,211	23	72
Rhode Island	1,653,268,967	52	98	1,256,601,747	18	55
Vermont	918,656,041	45	74	802,187,680	28	52
New England	32,884,923,898	128%	193%	17,842,827,878	24%	61%

Note: Revenues include: tuition and fees; federal, state and local appropriations; grants and contracts; private gifts; endowment income; sales and service of educational activity; auxiliary enterprises; hospital revenue; independent operations; and all other sources of income. Expenditures include: expenses for instruction; research; public service; academic and institutional support; student services; auxiliary enterprises; hospital services; financial aid; plant operation and maintenance; transfers; and all other expenses. Since 1996, institutions have been required to report revenues using new accounting standards, resulting in notably larger revenue figures. Without adjustment, such figures are not comparable to pre-1996 revenues.

Source: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.

Fig. 80

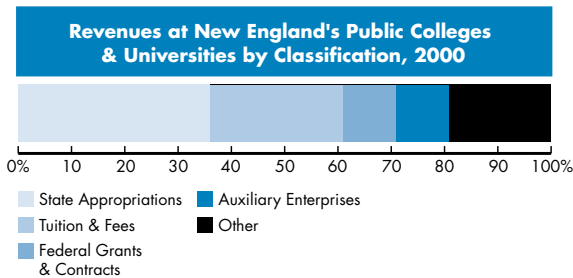
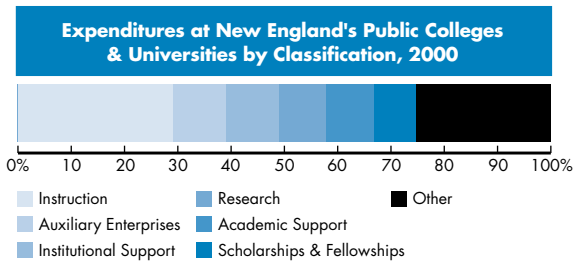


Fig. 81



Note: "Other" category includes endowment income; sales and services of educational activities; independent operations; state and local grants and contracts; federal and local appropriations; private gifts; hospital revenues.

Note: "Other" category includes independent operations; mandatory and non-mandatory transfers; operation and maintenance of plant; student services; hospital operations; public service.

Fig. 82

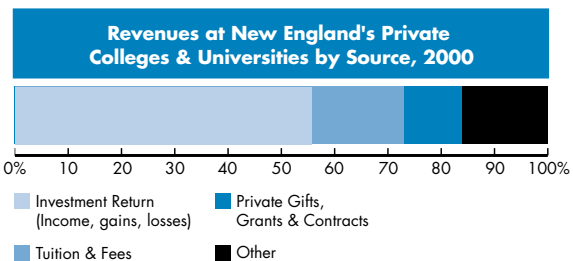
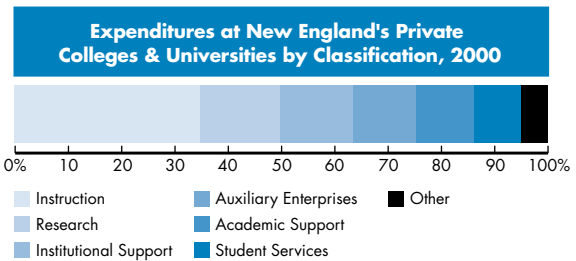


Fig. 83



Note: "Other" category include federal, state and local appropriations, federal, state and local contracts; affiliated entities; sales and services of educational activities; sales and services of auxiliary enterprises; hospital revenues; independent operations.

Note: "Other" category includes financial aid; hospital services; public services; and independent operations.

Fig. 84

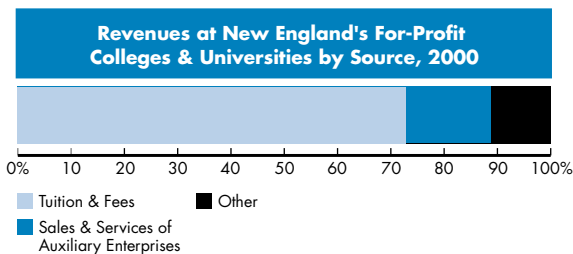
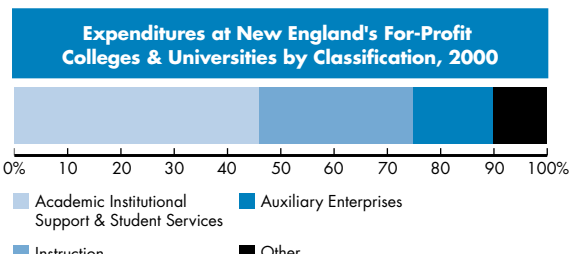


Fig. 85



Note: "Other" category includes sales and services of educational activities; investment income; private grants and contracts; federal, state and local appropriations, grants and contracts; and all other sources of revenue.

Note: "Other" category includes financial aid; research and public service; and all other expenses.

Source for Figures 80-85: New England Board of Higher Education analysis of U.S. Department of Education IPEDS data.



TRENDS & INDICATORS:

# University Research & Development

New England’s university labs spent \$2.3 billion last year studying everything from tick-borne diseases to whale-avoidance systems. Yale researchers are manipulating jellyfish genes to better understand a devastating brain virus. University of Massachusetts scientists are developing a way to store the equivalent of 25 full-length DVDs on a disc the size of a quarter. Indeed, New England remains the nation’s most research-intensive region. But New England’s share of all research and development (R&D) expenditures by U.S. universities slid from over 10 percent in 1983 to under 8 percent today. Billions of dollars more would have flowed into the six-state region in the 1990s had New England captured the share of U.S. university R&D it claimed during the early 1980s.

**Research and Development Expenditures by Region, 1995 and 2000**

Region	Total Expenditures		5-Year % Change	Per-Capita Expenditures			
	1995	2000		1995	2000	1995 U.S. Rank	2000
East North Central	\$3,076,543,000	\$4,214,128,000	37.0	\$70.75	\$93.33	8	7
East South Central	883,136,000	1,289,819,000	46.0	55.04	75.77	9	9
Middle Atlantic	3,315,031,000	4,344,524,000	31.1	86.90	109.51	4	3
Mountain	1,459,758,000	1,862,854,000	27.6	92.67	102.51	2	6
<b>New England</b>	<b>1,806,255,000</b>	<b>2,332,485,000</b>	<b>29.1</b>	<b>135.97</b>	<b>167.53</b>	<b>1</b>	<b>1</b>
Outlying Areas	69,636,000	74,529,000	7.0	NA	NA	NA	NA
Pacific	3,493,109,000	5,201,607,000	48.9	83.33	115.53	5	2
South Atlantic	4,131,463,000	5,515,978,000	33.5	87.98	106.55	3	4
West North Central	1,477,904,000	1,996,661,000	35.1	80.52	103.79	6	5
West South Central	2,079,216,000	2,764,050,000	32.9	72.15	87.90	7	8
United States	\$21,792,051,000	\$29,596,635,000	35.8	82.93	105.17		

Fig. 86

Source: New England Board of Higher Education analysis of National Science Foundation data.

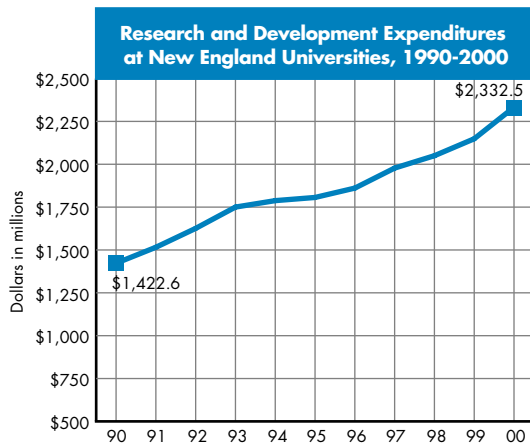


Fig. 87

Source: New England Board of Higher Education analysis of National Science Foundation data.

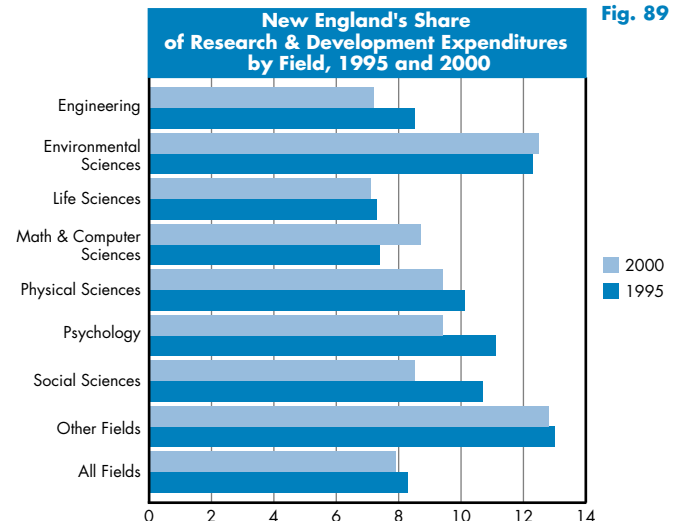


Fig. 89

Source: New England Board of Higher Education analysis of National Science Foundation data.

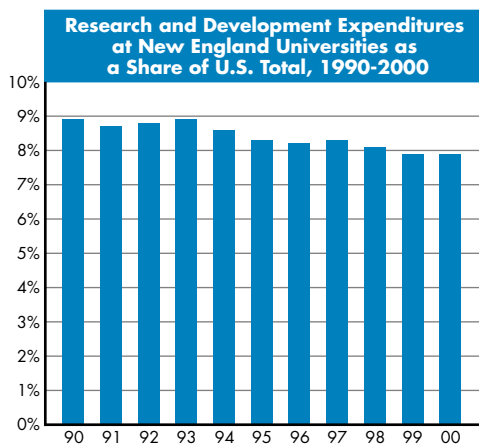


Fig. 88

Source: New England Board of Higher Education analysis of National Science Foundation data.

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# Middle East Experts

New England Higher Education's Links to the Middle East and Islamic World

ABIGAIL E. LOOTENS

Since September 11, U.S. colleges have been criticized for under-emphasizing the Middle East and Islamic world—producing too few Arabic translators, underplaying Arab-American and Middle Eastern studies and generally neglecting Islamic culture and politics. But New England universities boast extraordinary connections to the Middle East and Islamic World. Those connections are likely to prove crucial as Americans try to understand yet another new world order and the U.S. government prepares to spend an additional \$21 million this year on languages considered key to national security.

In the months following the attacks, the CIA turned to Harvard for expertise on Islamic finance, according to a report in the *Boston Globe*. The Boston University Afghan Media Project, which had attracted little attention since the Soviet occupation of Afghanistan, was suddenly flooded with requests for video and photos taken by BU-trained Afghan refugees. Tufts University opened its Fares Center for Eastern Mediterranean Studies, which is dedicated to creating a better understanding of the region.

University news offices pitched lists of scholars available to discuss topics ranging from Middle East politics to psychological and emotional reactions to terrorism. When American John Walker Lindh was captured fighting for the Taliban, a media advisory from the University of New Hampshire asked “Is the Taliban a Cult,” and offered the opinions of Associate Professor David Frankfurter, an expert on religious sects and charismatic leaders.

Ingrid Mattson, an American

Muslim on the faculty at the Macdonald Center for the Study of Islam and Christian-Muslim Relations of Hartford Seminary discussed “Religion and the War on Terrorism” on National Public Radio’s *Talk of the Nation*. Her colleagues did interviews, speeches, Web courses and town meetings on issues from gender in Islam to American foreign policy in the Muslim world.

Northeastern University began offering a course in Arabic. The course filled up quickly and was forced to turn many students away. Campus-based Muslim student associations offering daily prayer drew new curiosity.



## Student exchange

New England’s links to the Middle East and Islamic world are well established.

Of the 40,000 foreign students from the Middle East and Islamic nations enrolled at U.S. college campuses during the 2000-2001 academic-year, 4,000 study in New England, according to a New England Board of Higher Education (NEBHE) analysis of data from the New York City-based Institute of International Education (IIE). And not all these international students travel to New England’s famous research universities. Of the 400 international students enrolled at Bunker Hill Community College in Boston, 80 are from the Middle East.

“New England has a more liberal atmosphere especially in academia,” says John S. Schoeberlein, a professor in Harvard’s Department of Near Eastern Languages and Civilizations. “People come here expecting more understanding and tolerance.”

The region has attracted quite prominent figures from the Middle East. Former Pakistani Prime Minister Benazir Bhutto and former Saudi oil minister Sheik Yamani both attended Harvard University.

But September 11 has taken its toll on foreign enrollment. Some foreign students, particularly from the Middle East, returned home. Boston University, which draws one of the highest numbers of international students with close to 4,400, reported that 35 of 354 students from the

## Harmony

At Dartmouth College, Muslim and Jewish student groups last year began working with faculty to plan a new dining hall that would meet the religious dietary laws of Islam and Judaism, known respectively as halal and kosher. Dartmouth’s Hindu students asked that the strict vegetarian diet known as “sakahara” also be provided. In January, The Pavilion celebrated its grand opening. All students religious or not, and the general public, are welcome.



Middle East chose to return home after September 11, though 25 returned for the spring semester.

Myrian Fizazi-Hawkins, a program officer with AMIDEAST, a U.S.-based organization that promotes academic exchange between the United States and Arab world, says new challenges could further restrict foreign enrollment. “New visa regulations for students coming from the region are going to make it difficult to obtain a student visa,” says Fizazi-Hawkins, “and the discourse after September 11 about intolerance will deter people from even thinking of coming to the United States.”

The number of American students traveling to the Middle East was already small. Just 4,000 students from all of the United States traveled to the Middle East during the 1999-2000 academic-year, and most of them studied in Israel, according to the NEBHE analysis of data from the IIE.

Again, the outlook is grim. “We’re going to see the number of Americans going over to Arabic countries plummet from an already low amount,” says Fizazi-Hawkins.

## Enduring mark

The Middle Eastern students who have studied in New England have left an enduring mark on the region, often building business partnerships with friends they met in college or making big gifts to their alma maters.

Aga Kahn, who became the spiritual leader of the Shia Ismaili Muslims a year before his graduation from Harvard, donated \$11.5 million in 1979 to establish the Aga Kahn Program for Islamic Architecture at MIT and Harvard. Aga Kahn’s brother, Prince Ayn, and daughter, Princess Zahra, also graduated from Harvard. His eldest son, Prince Rahim, graduated from Brown University and his younger son from Williams College.

When Prince Feisal Hussein of Jordan graduated from Brown in 1985, his father, the late King Hussein, delivered a commencement speech. (New England’s prestigious secondary schools also attract Middle Easterners; for example, King Abdullah II of Jordan, another son of the late King Hussein, attended Eaglebrook School and Deerfield Academy in Massachusetts.)

Fig. 90

Foreign Student Enrollment in the United States from Selected Middle Eastern And Islamic Countries, 2000-01	
Country	Enrollment
Afghanistan	75
Algeria	220
Cyprus	2,217
Egypt	2,225
Gambia	386
Guinea	237
Iran	1,844
Iraq	155
Israel	3,402
Kuwait	3,045
Lebanon	2,005
Mali	439
Mauritania	73
Morocco	1,917
Nigeria	3,820
Oman	702
Saudi Arabia	5,273
Senegal	732
Somalia	96
Sudan	366
Syria	713
Turkey	10,983
United Arab Emirates	2,659
Yemen	411
<b>TOTAL</b>	<b>43,995</b>

Source: New England Board of Higher Education analysis of data from the Institute of International Education.

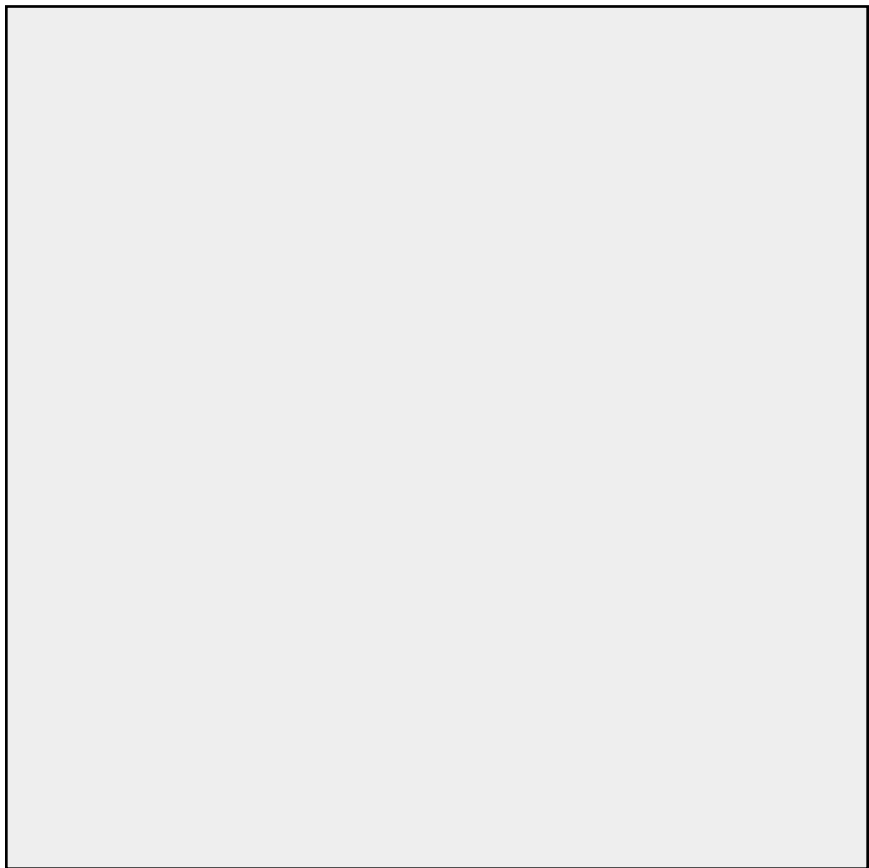
Former Lebanese Prime Minister Rafik B. Hariri, whose son attended Boston University, donated \$10 million toward the construction of BU’s new school of management. The state-of-the-art building, named for Hariri, opened in 1996.

Even Osama bin Laden’s family had enduring connections with New England. In 1994, Sheik Bakr Mohammed bin Laden, Osama bin Laden’s brother, made large scholarship donations to Harvard Law School to fund research in Islamic legal studies.

## Courses

New England’s Middle East connections are rooted in academic programs. Yale University offered courses in Arabic and Sanskrit as far back as 1841. Today, New England colleges account for more than one quarter of U.S. institutions offering bachelor’s degrees in Arabic, according to a NEBHE analysis of College Board data.

The analysis also found New England campuses account for more than a quarter of U.S. institutions offering bachelor’s degrees in Middle Eastern and Islamic Studies and other Middle Eastern languages. Dartmouth and Harvard are the only U.S. colleges



offering bachelor's degrees in Middle Eastern languages other than Arabic.

Harvard established its Center for Middle Eastern Studies in 1954 and continues to offer lectures and seminars, research projects and over 200 Middle East and Islamic related courses. The Center's Teaching Resource Center, established in 1979, educates educators, media and individuals across the country. Yale's Council on Middle East Studies coordinates research and encourages academic debate on relevant issues.

Middlebury College's Arabic School, founded in 1982, is a unique nine-week summer immersion program in Arabic that attracts students from all over North America. Michael Katz, the dean of Language Schools at Middlebury, says, "There is a dearth of Arabic programs in the country. Some schools have courses in Arabic, but Middlebury offers the only intensive immersion program." The School developed the *Al-Kitaab* textbooks, which have become the most widely used Arabic language textbooks in universities in the United States and abroad.

Last year, Bunker Hill Community College was accepted as the first community college member of the Middle Eastern Studies Association (MESA), a U.S.-based organization that promotes study of the Middle East, North Africa and Islamic world. As Bunker Hill's number of Middle Eastern students grew, college officials realized a need for programming in Middle East



and Arabic studies. "We wanted to help everyone understand the culture and religion of that group of people," says Lourdene Huhra, who oversaw the development of the program.

Other programs are dedicated to developing relations with the Middle East and Islamic world. The International Center for Ethics, Justice, and Public Life at Brandeis University, for example, hosts a Middle East Youth Leaders Exchange Project, in which young people from Israel, Jordan and Palestine work on cross-border research projects.

### Future connections

As old and strong as some of the connections between the United States and the Middle East and Islamic world are, their future is uncertain. Foreign student exchange between the Middle East and New England has already begun to decline. "The number of students coming from the region has been increasing over the years but

I will bet that next year's numbers will be much lower," says Fizzazi-Hawkins.

Americans are now more interested in study of the Middle East and Islamic world. Consider that Middlebury added its German School in 1915 during World War I, its Russian School in 1945 at the onset of the Cold War and the Japanese School in 1970 when Japan was emerging as an economic competitor. Arabic, ironically, was not added in response to a perceived threat but because of the realization of the size of the Arabic-speaking world.

Middlebury has already seen a 60 percent increase in inquiries about the Arabic School, according to Katz. "Increased study of a country or region is the typical American pattern of reacting to a military or economic threat," he says.

"We don't have statistics yet," says Nancy Dishaw of MESA, "but the number of programs and classes in Middle Eastern studies is definitely up and they're growing much more popular."

"After the end of the Cold War, we focused on our country and didn't worry about our relationship with the rest of the world, especially the countries of that region because they were considered inaccessible and essentially not important," says Schoeberlein, "Now there's a need to know."

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*Abigail E. Lootens was a fall 2001 NEBHE/CONNECTION intern. She is a senior at Boston College.*



Collage by John O. Harney.

# Terror: Is the Campus Changed Forever?

A CONNECTION survey assesses campus responses to new risks, new regulations and new fears that will change the way institutions operate

ALAN R. EARLS

**O**n Tuesday, Oct. 16, 2001, in the midst of the nationwide anthrax scare, a faculty member at Naugatuck Valley Community College in Waterbury, Conn., notified the public safety department of a white powder on the floor and spilling from a coffee cup style container. Campus police evacuated the building while a hazardous materials unit from the Waterbury Fire Department responded. The hazmat team removed the material, and fire officials cleaned up the area.

The fire department, along with the state Department of Environmental Protection and FBI ultimately determined that the incident was a “low credibility scare.”

A similar incident, one of many, occurred at a campus in suburban Boston, when a faculty member received what she deemed to be a suspicious package. Local police and emergency teams responded, but the package turned out to be an inter-campus mail item in a recycled envelope.

While both instances were false alarms, either one could have been an actual bio-chemical incident.

The events of September 11, 2001, and subsequent weeks will have a significant impact on New England campuses. Many lost alumni or parents of students; some lost students, faculty and staff. Free speech and civil liberties were thrown into jeopardy.

And direct threats to campus security—real or illusory—were everywhere.

## Assets and liabilities

What are the real risks? Which precautions should campuses take?

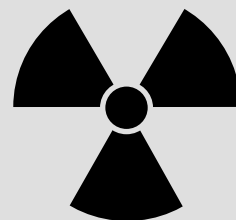
New England’s colleges and universities are stewards of many things that are both valuable and vulnerable. For instance, New England universities operate four of the 50 licensed research reactors in the United States. These nuclear facilities don’t pose the danger of a large commercial reactor, but they don’t enjoy the same degree of security or structural integrity either. Like all nuclear reactors, these campus facilities were directed on September 11 to dramatically increase security.

Similar kinds of Promethean fire exist, until now with even less government oversight, at scores of chemical and biological laboratories at New England universities. These facilities too could be targets of terror or deadly weapons for an errant member of the scientific community.

Meanwhile, on the cultural side of the equation, New England’s 100 campus-based museums are keepers of priceless assets ranging from

# CAUTION

## RADIOACTIVE MATERIALS HANDLING AREA



scientific curios to art and cultural treasures. Peter Tirrell, the University of Oklahoma official who is a former president of the Association of College and University Museums, says he believes museums are under threat. “People have blown up post offices and commercial buildings, what’s next?” he asks. “Museums represent social capital, they are close to our hearts and crucial to our communities.” The region’s university libraries, some with invaluable collections of books and documents, are also vulnerable.

Then there are college activities with a more public face. In recent years, NCAA college football games alone attracted more than 37 million attendees. Division I-A teams averaged more than 42,000 attendees per game!

## COPS on Campus

In September 1994, President Clinton signed the most comprehensive federal crime control legislation in history. The measure authorized \$8.8 billion over six years to add 100,000 community policing officers to the nation’s streets. That is the origin of the Community Oriented Policing Services (COPS) grants, which continue to be funded by the federal government. New England campuses have been major recipients of these grants. Some institutions like the University of Maine Augusta, Eastern Connecticut State University, the University of Massachusetts Dartmouth, University of New Hampshire captured grants worth half a million dollars or more.

## Who's doing what?

A CONNECTION survey of New England campus leaders during October and November 2001 found that only 25 percent of the campuses had contingency plans for a terrorist attack prior to September 11. Weeks after the attacks on the World Trade Center and Pentagon, that figure had risen to only 37 percent, despite the fact that at least a few campuses reported threats they deemed to be credible and several others grappled with terror hoaxes. To be sure, virtually all campuses had and have a crisis response plan that includes many elements likely to be faced in a terror incident but few seem ready or able to address the possibility of terror directly.

One particularly prescient campus in Northern New England put a protocol in place on Sept. 1, to deal specifically with anthrax letters, bomb threats and suspicious packages. The same campus also has its own bio-hazmat team, a rarity among campuses. But prescience is not the dominant note.

Three-quarters of New England campuses have chemical or biological labs on site, according to the CONNECTION survey. But just one-quarter of campuses reported having hazmat capability on campus. More than 85 percent of campuses, however, reported that they could depend upon a local hazmat team.

One Connecticut institution reported that it has equipped all its labs with new electronic card access systems since September 11.

Though a national survey by Noel-Levitz and Sallie Mae showed that almost half of all U.S. campuses were spending more on added security, most campuses told CONNECTION they were not spending more. Only one New England campus put a price tag on the cost of added security—an additional \$20,000 for a Worcester institution just through October 2001. One campus respondent speculated, perhaps optimistically, that federal funds might soon be available to help.

Security concerns don't end at the campus gates. Half of the institutions surveyed operate programs in dozens of foreign countries. After September 11, several canceled programs planned for troubled areas such as Israel and India.

At least one canceled an overseas program due to lack of enrollment, though this could not be specifically linked to terrorism. Another flew its students back from Rome at the start of military action in Afghanistan to avoid risk, and 8 percent reported that at least some of their students returned from overseas voluntarily in the wake of the attacks. But most institutions kept programs intact with stepped-up emphasis on personal security.

## What must be done?

The federal Nuclear Regulatory Commission holds campuses accountable for the security of their reactors, and may levy fines for lax security. And Congress may soon require that labs possessing certain biological and chemical agents be registered with the federal government. "That will mean a lot more paper work but above all it will mean going through each

### Nuclear Reactions

In the wake of the September 11 terror attacks, the federal Nuclear Regulatory Commission required new, undisclosed security measures for New England's four operating research reactors as well as 46 others around the country.

The MIT Research Reactor, the largest such facility in the region, is a small non-power nuclear reactor used by MIT to support medical, environmental, geologic, physics and materials research done by MIT and many other institutions, ranging from Children's Hospital to Caltech and the state universities of Massachusetts, Alabama and Utah. It is also a teaching laboratory for MIT's nuclear engineering department.

According to MIT, it is the only facility in the United States doing advanced radiation treatment for brain cancers such as melanoma that has metastasized to the brain and glioblastoma multiforme, a highly malignant form of brain cancer. Clinical trials have been conducted by Beth Israel Deaconess Hospital at the MIT Research Reactor.

MIT has operated its research reactor since 1958 without incident. MIT says the reactor is inherently safe because of its minimal use of heat, pressure and fuel. It operates at low atmospheric pressure (14.7 pounds per square inch) and at the low temperature of dishwasher water (122° F) with a small amount of aluminum-uranium fuel. It does very precise work in medical treatments and technical assessment of materials and their properties.

What would happen if a large plane attempted to hit the research reactor, as happened at the World Trade Center? In a posted statement, MIT says:

The facility was built to a very high standard of safety, although it was not built with such an attack in mind. Following the September 11 airliner attacks on the World Trade Center and the Pentagon, a preliminary engineering assessment of such an attack was made. The MIT Research reactor is a small building nestled among neighboring buildings. It is close to the ground and exceedingly difficult to hit with a large jetliner. In contrast, the Pentagon stands by itself, and the World Trade Center's twin towers stood alone at an altitude of more than 1,360 feet.

MIT experts in construction and engineering conclude that, in the improbable event that a pilot could hit the target, it is very unlikely that any plane part would strike the radioactive core. It is believed that one or possibly two engines might penetrate the outer two feet of concrete and steel, but not the biological shield's five feet of concrete or the floor's three feet of concrete. The plane's wings would likely break off on impact with the outside of the building. The jet fuel would spill and by itself cause an intense fire, as it would wherever it happened.

New England's other research reactors are considerably smaller and have varying degrees of protection from such an attack, depending on their proximity to other structures. These other reactors are located at the Rhode Island Nuclear Science Center, UMass Lowell and Worcester Polytechnic Institute.

lab, freezer by freezer to see whether or not you have any of those agents,” says Dr. Jonathan Richmond, director of the office of health and safety at the Centers for Disease Control.

The Patriot Act, signed into law in October, requires institutions to determine who has access to such materials, and some experts wonder how this provision will affect foreign students.

Campuses are vulnerable not only to terror, but also to legal liability

related to attacks. Eugene Propper, a partner with Holland & Knight LLP, (who recently held a seminar on campus security issues in Boston), says “The whole issue with regard to terrorism is whether it is foreseeable ... Before September 11, it wasn’t foreseeable. But with the World Trade Center, the Pentagon, the anthrax attacks and the shoe bomber and the government telling us to be on the alert for more attacks—if you aren’t

properly prepared, you face real potential liability.” Propper says the same dynamic could undermine insurance coverage too.

The breadth of issues Propper worries about is daunting. To the list of vulnerable sites like campus nukes, laboratories, museums and libraries, Propper adds oversight of campus food services, which are often staffed by poorly paid people, some of them recent immigrants. He notes that the Food and Drug Administration has recommended worker background checks to ensure that food does not become a weapon of terror. If students became ill or died as a result of deliberate food contamination, Propper says, liability could now point squarely at the educational institution.

“If you have a stadium, you may have obligations to third parties attending games; if you have a biological lab, you may have obligations to the government and the community,” Propper adds. “If a terrorist based at a campus ruptured a tank car full of chlorine on a neighboring railroad track, the institution would face potential liability for allowing the incident to occur.”

The Patriot Act places a particular onus on campuses to ensure the security of students and make sure that students and campus facilities are not being used to support terrorist activities. “Campuses are a logical place for terrorists to hang out,” says Propper, since there is lots of freedom of movement and comparatively few obligations.

Propper’s is by no means the last word on the subject. Early this year, U.S. Homeland Security Director Tom Ridge urged colleges to take responsibility for safeguarding research and ensuring campus safety but also to reorient their efforts toward projects that contribute to national security.

The tectonic changes wrought by September 11 are likely to present a challenge to campus leaders for years to come.

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*Alan E. Earls is a freelance writer based in Franklin, Mass.*

## CONNECTION Campus Survey Highlights Issues of Tolerance

CONNECTION’S survey of campus responses to terrorism asked several questions related to tolerance and the treatment of foreign students.

Approximately one quarter of campuses said they had shared data on foreign students with the FBI or other authorities since September 11—one in response to a subpoena. Other campuses reported they received no requests but that law enforcement officials had gone directly to certain students.

Most colleges say in the past they responded to routine requests for information from government agencies requesting background and verification information concerning students, usually in the context of an employment screening and always with proper release documentation. Now, at least one Massachusetts community college, reports that checking up on the activities of foreign students is “being done proactively in response to instructions from the governor.”

In the future, Uncle Sam will do more checking, too, through SEVIS (Student and Exchange Visitor Information Systems), which supplies the Immigration and Naturalization Service (INS) with information on international students. This system, formerly known as CIPRIS, was developed over the past five years, and piloted at Duke University and other southern colleges. The program will directly link INS and the U.S. State Department with institutions that issue student and exchange visa applications. It will provide information such as date of enrollment, date of graduation, field of study and any change in status. The new record-keeping system is due to be launched nationally in 2003.

How welcoming will New England campuses be to international students in the future? The CONNECTION survey also asked whether there had been any instances of intolerance related to September 11 on campus or in the neighboring community. Almost one-quarter of the institutions reporting said there had been instances of intolerance on their campuses—and 37 percent reported intolerance issues in their local communities. In response, virtually all campuses reported undertaking efforts to encourage tolerance including lectures, discussions, teach-ins, intercultural events and interfaith gatherings.

## Links

Campus Hate Crimes Registry

<http://www.ed.gov/offices/OPE/PPI/hatecrimes.xls>

Travel Warnings

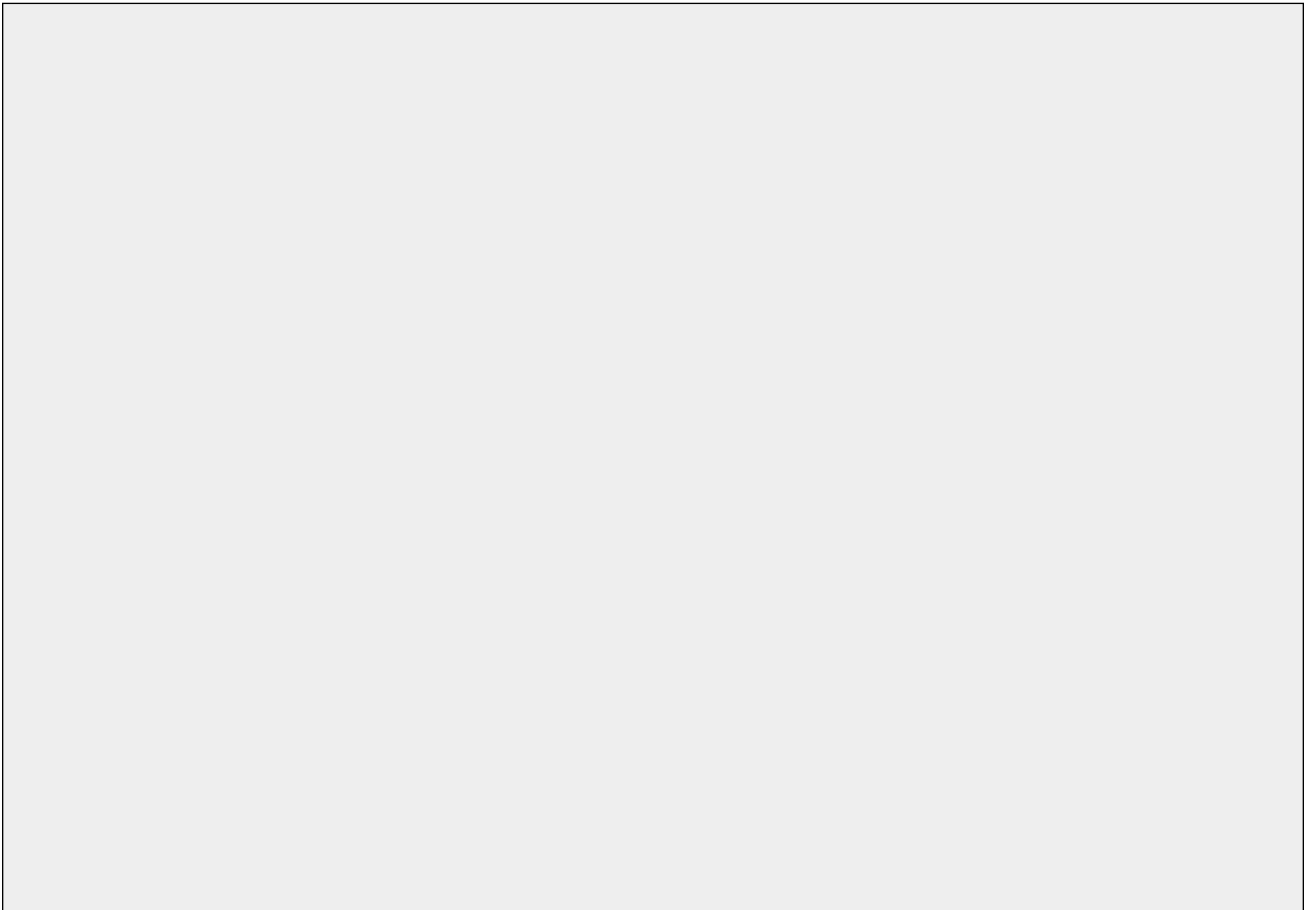
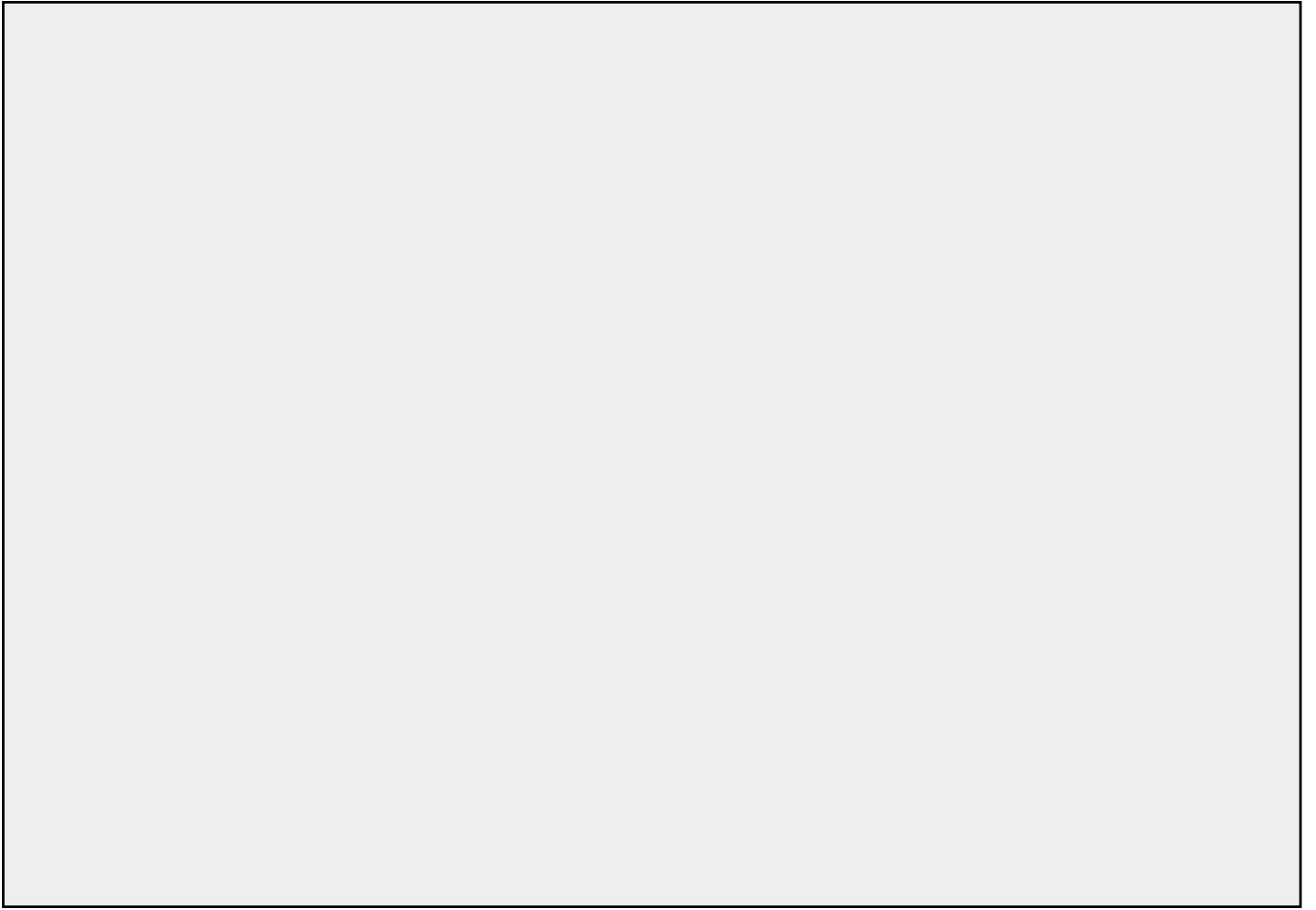
[http://travel.state.gov/travel\\_warnings.html](http://travel.state.gov/travel_warnings.html)

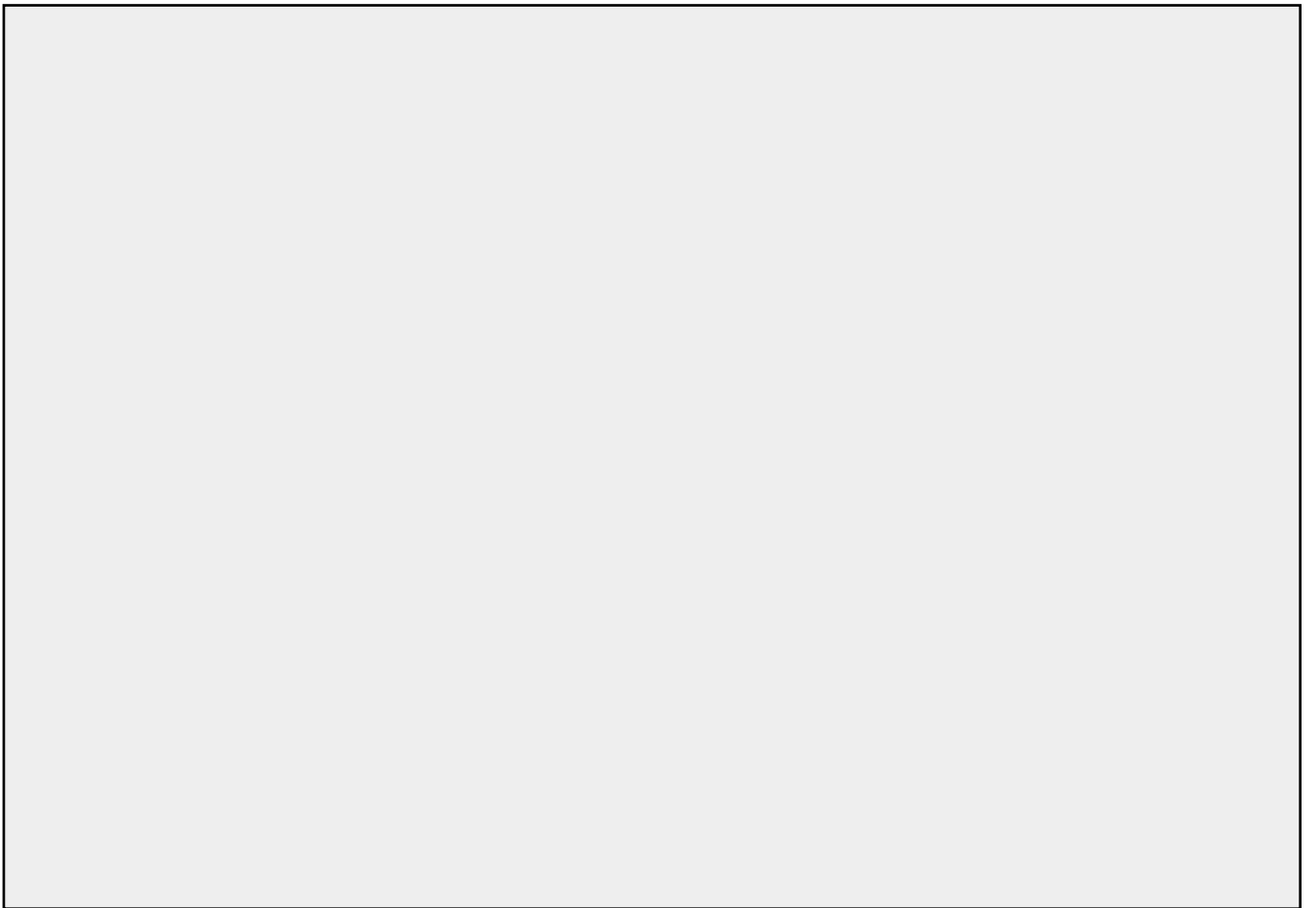
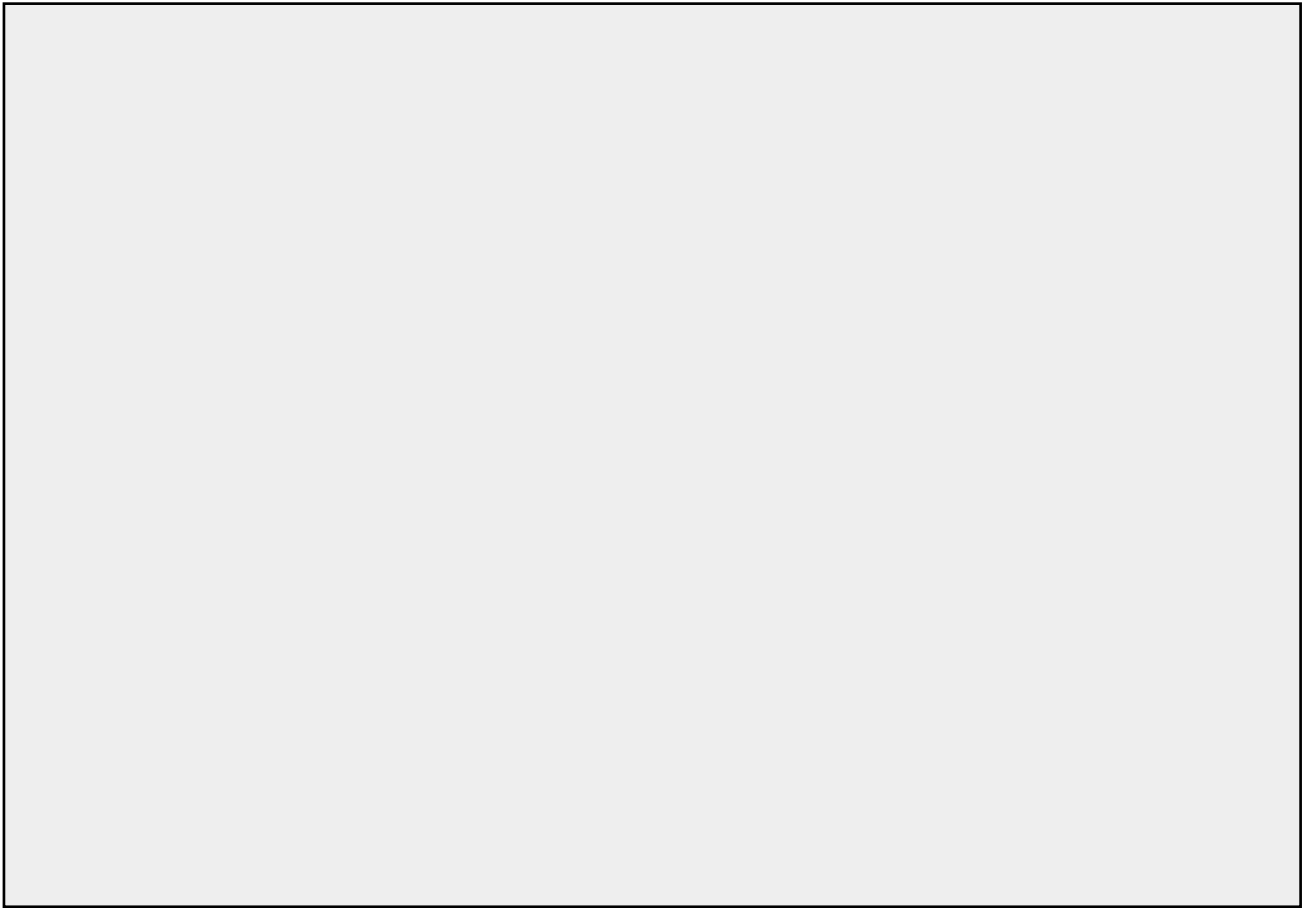
Community oriented policing service

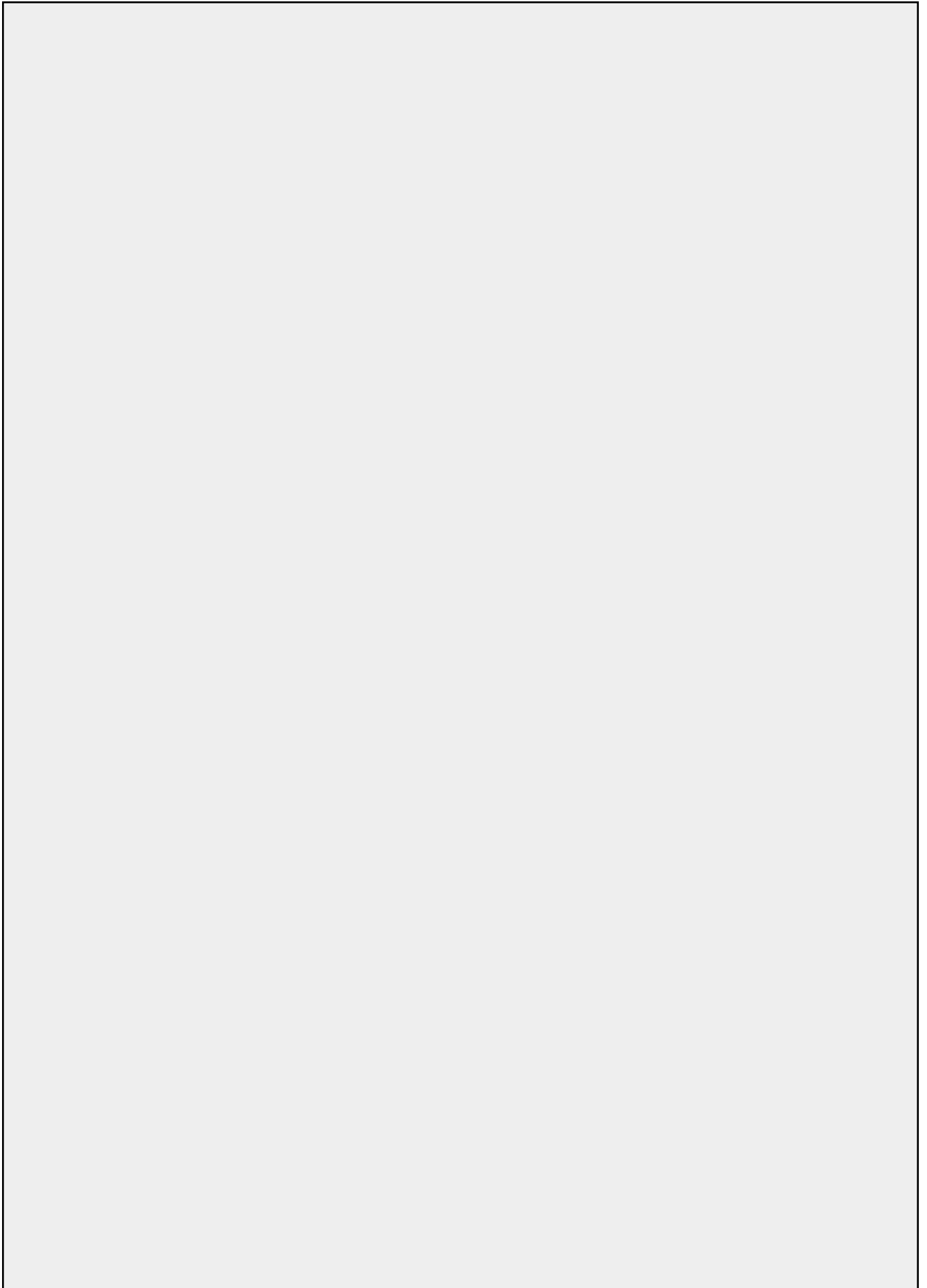
<http://www.usdoj.gov/cops/>

American Society for Industrial Security (recommended practices for museum security)

[www.asisonline.org](http://www.asisonline.org)









# Books

## A Good Defense

Andrew G. De Rocco

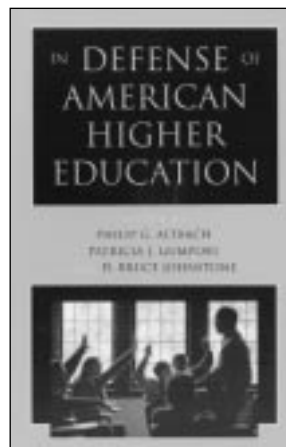
*In Defense of American Higher Education*, Philip G. Altbach, Patricia J. Gumport and D. Bruce Johnstone Eds., *The Johns Hopkins University Press*, 2001, \$19.95

The higher education agenda must accommodate a variety of new pressures including an increasingly heterogeneous student body, the potential conflict between a demanding encounter with the liberal arts and training for entry into the labor force and the pressure for structural change that modern technologies invite. For this reason, among others, this collection of about a dozen essays “in defense of” higher education is well-timed, for it offers a broadly gauged analysis of higher education’s history, present condition and future prospects.

Despite inevitable overlaps among them, the essays hang together better than most similar collections. Each essay is sufficiently focused that the redundancies add to the whole. Several are lively, well-written and sufficiently insistent to compel a serious reflection on the condition of higher education. Additionally, each is supported by an extensive bibliography, permitting the reader to follow his own path through the issues.

The first half of the book focuses on the university in society. Boston College higher education professor Philip G. Altbach traces the history of the higher

education enterprise and the distinctly American notion that “service” is a vital component of an academic career alongside teaching and research.



Martin Trow, professor emeritus at the University of California at Berkeley, places higher education within the context of its European origins and distinguishes the differences inherent in *elite*, *mass* and *universal* institutions. Discussing the role of information technologies (IT), Trow cites historian Gertrude Himmelfarb’s persuasive argument that the capacity to judge has been a crucial aspect of liberal learning and that: “It is just this sense of discrimination that the humanities have traditionally cultivated, and that they must now cultivate even more strenuously, if the electronic revolution is to do more good than harm.”

Columbia Teachers College President Arthur Levine, former president of the now shuttered Bradford College, posits that higher education

has evolved from a “growth industry” to a “mature industry,” opening it up to a range of demands such as accountability and productivity. He appears confident that the power of IT will compel higher education to change or perish as we know it. Levine’s proposal for survival is predicated on forming alliances with the private sector and coming to the table not as a “supplicant” but with “very real assets.” His optimism for IT appears to be as strong as his pessimism toward traditional higher education’s responsiveness.

Patricia J. Gumport, associate professor at Stanford University’s education school, addresses the distinctions inherent in characterizing higher education as an “industry,” mature or otherwise, rather than a social organization. But a reader unfamiliar with sociological literature will find some of the theoretical constructs, to which Gumport refers without explanation, to be less than helpful.

Former State University of New York Chancellor D. Bruce Johnstone assesses the economics of higher education, including an analysis of which costs are externally driven and largely mandated and which are internal and discretionary. Johnstone concludes his well-reasoned analyses of the drivers of academic economics by noting: “there is abundant evidence that much or most (but not all) of higher education is both well-managed and lean, particularly given what it is being asked by society to accomplish.”

The second half of the book looks inward, beginning with Duke University President Nannerl Keohane's spirited portrayal of the liberal arts as the core experience of a fully empowering education, the markers of which include the "ability to read, write and converse with supple ease and interest." The former Wellesley president warns, nonetheless, that such an education may not be appropriate for all students, given the need for "mental acuity, curiosity and intellectual stamina." It also depends on committed teaching and, where the prevailing ethos is one of teaching *loads* and research *opportunities*, the incentives to teach—to equip students with Montaigne's well-furnished "backroom of the mind" are subordinate to research.

Jack M. Wilson, now director of the UMass Online distance learning program at the University of Massachusetts, offers a thorough account of what IT can mean for higher education, especially the option to "mass customize" the "product." Although not all readers will be as comfortable as Wilson with the potential impact of IT, his remarks are crucial to the debate. And his "Ten Commandments for Technology in Higher Education" are quite practical.

Indiana University higher education professor George Kuh provides a critical yet affectionate view of undergraduate education. Given the pressures brought on by growth and access, variously prepared entrants and the shift in perception concerning the value (let alone, *value added*) of higher education, Kuh cites studies that strongly suggest more than 40 percent of undergraduates "are not engaged in a reasonable balance of educationally purposeful activities." Such an observation merits the attention of faculty and administrators, for the undergraduate years can (and *should*) be more than "seat time" and a credential. The strategies for engagement and persistence must be broadband enough to meet the task.

George Keller, former chair of higher education studies at the University of

Pennsylvania, focuses on governance, citing "structural fault" that sociologist James Coleman saw in academic organizations. In Coleman's words: "The effect of this structural fault is to create a status with special privileges, a status with the autonomy of a community member, the security of a corporate employee and the obligations of neither."

Jules B. LaPibus, former president of the Council of Graduate Schools, examines the growth, transformation and international reputation of U.S. graduate education. Notably, he explores how best to prepare students so their career options are not restricted by the narrow confines of academic disciplines.

The pleasures and frustrations of the college presidency occupy the attention of Richard M. Freeland. The Northeastern University president notes that while patterns of influence on campus have changed, presidential leadership remains crucial to institutional development. Whether we could ever again see an Eliot transform Harvard, or a Harper transform the University of Chicago is uncertain. Yet we can surely cite institutions that have more recently enjoyed a remarkable evolution strongly dependent on a determined, resourceful and imaginative president.

Seton Hall higher education professor Martin J. Finkelstein attempts to dispel the notions that faculty have "scurrilous motives" and a "poor work ethic," among other sins. Employing survey data, he concludes that given the pressures to accommodate a variety of agendas, faculty both work long and hard to meet their responsibilities; and, opinion to the contrary, have only recently regained their economic status of 1970.

If this volume has a limitation, it is that none of the essays concerns itself with the competing claims as to what should be the core of liberal learning and the relationship of education to the idea of "truth." (This change that has reshaped academic culture is admirably assessed by Louis Menand of the City University of New York

Graduate Center in the Autumn 2001 issue of *The Wilson Quarterly*.)

Nevertheless, this collection of essays should prove of interest and value to practicing scholars, administrative officers, lay boards and others in higher education. The editors are to be commended for providing an opportunity to consider what condition our condition is in.

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*Andrew G. De Rocco is the former commissioner of higher education in Connecticut.*

## Triple A Jane Sjogren

*The States and Public Higher Education Policy: Affordability, Access, and Accountability, Donald E. Heller, Ed., The Johns Hopkins University Press, 2001, \$38*

These are tough times for states. A January Op Ed piece in the *New York Times* noted that: "the effect of the (current) recession on state finances is staggering." Forty-three states report revenues below forecasts; an additional 26 face budget overruns.

This does not bode well for state support for higher education, especially because spending for higher education is too often considered discretionary and takes a back seat to more immediate spending priorities such as Medicaid and other social support programs. At a time when issues of affordability, access and accountability in higher education are increasingly important in the public's eye, the nine expert essays pulled together in this book by University of Michigan higher education expert Donald Heller suggest that the outlook for state support of higher education is guarded at best.

Fully 80 percent of students in higher education attend public institutions. This means that what public colleges and universities do or don't achieve in terms of both equity and efficiency is widely felt. Affordability, access and accountability, the topics *du jour* in

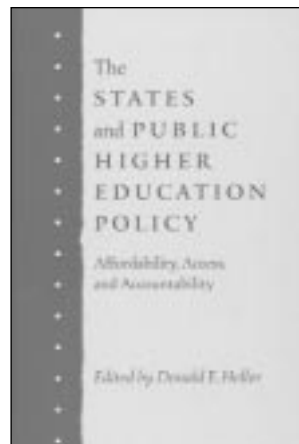
higher education, are not really new, but they are pressing both in and of themselves and because of the uncertain economic climate. While good economic times may have improved affordability from both the student and institutional perspectives, issues of access and accountability—the bases for equity and efficiency—have fared less well. Contributors to the Heller book explain why.

The opportunity to get a college education has increased significantly in the past five decades. Despite rising costs, growth in enrollments is expected to continue. Why then the concern over affordability?

In the introductory chapter, Heller lays out the reasons, namely that despite increases in total student financial aid, a college education has become more expensive, both absolutely and relative to household incomes, thus pricing lower-income students out of higher education. Enrollment has grown nonetheless as a result of rising aspirations, increased college-going by women and older students and affirmative action, according to Heller, who notes that with increased demand, prices can and do increase. Buttressed by a large and useful list of references, the chapter reminds us that markets do have a way of working, even if the outcomes are not as equitable as we might wish.

In the next chapter, Ohio University political scientist Michael Mumper explores the underlying reasons for the substantial increases in public tuition costs. (Along with Pennsylvania and New Jersey, New England is at the top of the list for pricey public colleges and universities—no surprise there.) He argues that state policies intended to address affordability reflect different state-level views of what causes college price inflation. His review of commonly used explanations elucidates the underpinnings of the various kinds of policies. But in the end, he arrives at the frustrating conclusion that the causes of rising public tuitions are inherently political.

Arthur Hauptman, the independent consultant and co-author of *The College Aid Quandary*, points out that the three components of state higher education funding—tuition-setting, state appropriations and state student aid—are not coordinated. This lack of coordination, Hauptman contends, results in initiatives such as merit-based student aid that may increase student choice but do little to increase affordability.



The section of the book on access, while interesting, is less coherent than the review of affordability. Patrick Callan, president of the National Center for Public Policy and Higher Education, cogently notes that a form of state (and federal) support which we have not yet seen in New England—the tax credit—helps those who are already going to college in high tuition states and who are from higher income families, but does little for those deciding whether to go to college at all.

Two other chapters on access offer detailed accounts of the *Hopwood* case in Texas and Proposition 209 in California, but say little about implications for public colleges and universities nationally.

The final section on accountability is the most interesting part of this book. “Accountability,” as applied to public colleges and universities, is a slightly officious word for efficiency. Calls for accountability—which tend to come most frequently from state legislators voicing taxpayers’ concerns—usually

mean to express concern that public colleges and universities are spending public funds cavalierly. Whether or not you crave accountability (certainly none of us wants to see inefficient resource use), this is an important concern considering the deteriorating fiscal condition of so many state governments.

A chapter by University of Washington higher education policy professor William Zumeta provides particularly good discussion of the issues around the movement for improved accountability. As Zumeta points out, we can’t have accountability without some means of performance assessment (yet another A-word), a major conceptual and practical challenge as well as a potentially valuable endeavor. Efforts to incorporate various definitions and measures of accountability and apply them to funding have been undertaken in several Southern states as well as New York, but not tried (yet?) in any substantive way in New England. The chapter by Indiana University higher education professor Edward St. John and colleagues lucidly suggests that efforts to improve accountability by linking it to student choice and educational outcomes are likely to spread as public higher education increasingly operates in a market-based context that stresses efficiency. If the focus is on accountability rather than affordability, he argues, affordability may suffer unless it is consciously and explicitly incorporated into state policy.

While the final chapter by Heller is an interesting review of the increasing role of technology, I couldn’t help wishing he had extended Zumeta’s and St. John’s discussions instead. More people want a college education than ever before. Affordability and access are so dependent on the availability and efficient use of resources. And those are the big issues for public higher education in the next five years.

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*Jane Sjogren is a Massachusetts higher education consultant and faculty member in the doctoral program in Education Leadership at Johnson & Wales University.*

**HAVERTHILL, MASS.**—Northern Essex Community College was awarded a four-year, \$122,464 grant by the U.S. Department of Education to offer evening child care to working parents taking classes at the college's Lawrence, Mass., campus. The program, open to children ages 2.9 to 6 years, will be paid for with the grant and fees up to a maximum of \$2 per child.

**ORONO, MAINE**—The University of Maine was awarded a three-year, \$1.9 million grant from the National Imagery and Mapping Agency to create prototypes of intelligent maps called iMaps for the military. UMaine researchers will develop intelligent spatial technologies that use existing satellite sensors, digital libraries, miniature global positioning system receivers, wireless communication and palmtop and pen-based computers to move geospatial information technology into the hands of soldiers.

**NEWPORT, R.I.**—Salve Regina University was awarded \$1 million by the U.S. Department of Education for a program designed to educate nurses to serve Rhode Island's rapidly increasing immigrant population. Rhode Island will need 1,300 new nurses by 2008, according to state labor officials. And the state's Hispanic population has doubled in the past decade. As part of the new Rhode Island Minority Nursing Scholarship Program, Salve Regina will provide training facilities and tuition assistance to minority nursing candidates. Five collaborating hospitals from Newport to Providence will provide internships, mentoring and clinical placement of nursing recruits.

**WORCESTER, MASS.**—Worcester Polytechnic Institute received a \$2.5 million gift from 1959 graduate James P. Tyler to endow a chair in photonics networks and help create a WPI Center for Nano-Photonics. The center will provide research opportunities for students and faculty in the nano-photonics field, which makes it possible to engineer all-optical data processing systems. Tyler is the former CEO of California-based Optivision.

**HARTFORD, CONN.**—Trinity College received its largest-ever private gift, a \$39 million unrestricted cash bequest from the estate of the late Henry Melville Fuller, who graduated from Trinity in 1938 before going on to become a Wall Street stockbroker. Fuller also left the college an extensive collection of Russian books and artifacts.

**ORONO, MAINE**—The University of Maine was awarded a \$530,873 grant from the U.S. Department of Agriculture's Fund for Rural America to help small, rural grocery stores survive in an age of large supermarkets. The UMaine Department of Resource Economics and Policy will gather information about consumer preferences, train store owners and develop new networks that could benefit small and independently owned stores. The researchers note that the number of U.S. grocery stores decreased by 12 percent from 1990 to 2000, while total sales grew by 34 percent.

**DURHAM, N.H.**—The University of New Hampshire's N.H. Institute for Health Policy and Practice was awarded a one-year \$153,245 grant by the Concord-based Endowment for Health to create a substate-level data system allowing New Hampshire residents to compare the health of various communities to state and national norms. A collaboration with the N.H. Department of Health and Human Services, the project has received in-kind support from Dartmouth Medical School, the New Hampshire Business and Industry Association and Leadership New Hampshire. The Endowment for Health is a nonprofit created after the acquisition of New Hampshire Blue Cross & Blue Shield by Anthem Insurance Cos.

**BURLINGTON, VT.**—The University of Vermont received a \$7.5 million gift to house the Institute for Ecological Economics, which had been located at the University of Maryland since its founding in 1991. UVM renamed the institute for the Gund family of Princeton, N.J., which made the gift. Led by a team of eight ecologists, mathematicians and economists, the

institute sponsors interdisciplinary study and research that integrates the ecological and economic aspects of environmental issues. The gift also endows a professorship in ecological economics at UVM and a fund for experiential learning opportunities such as student research and service-learning projects, and establishes an incentive fund to encourage institute faculty to teach in other parts of UVM.

**WILMANTIC, CONN.**—Eastern Connecticut State University received a \$3.5 million challenge grant from the Connecticut Clean Energy Fund and \$500,000 from the Connecticut Light and Power Co. to develop energy education programs through the campus-based Institute for Sustainable Energy. Established in 2001, the institute focuses on conservation and efficient use of energy, dissemination of technical information to energy users and providers and environmental protection. University officials say the grants will also pay to train students to be leaders in energy fields and help the state attract key energy companies.

**BOSTON, MASS.**—Boston University received \$1 million from the Balfour Foundation to bring former presidents of African nations to lecture and study at BU for six months, then host public policy forums around the United States for another six months. The residency program will be operated through BU's year-old African Presidential Archives and Research Center headed by Charles Stith, the former U.S. ambassador to Tanzania.

**NORTH DARTMOUTH, MASS.**—University of Massachusetts Dartmouth biochemist Bal Ram Singh was awarded a three-year, \$1.1 million grant by the U.S. Army Medical Research and Materiel Command to design a new antidote to botulism. Considered a major bioterrorist threat, botulism attacks the nervous system, eventually causing respiratory failure and death, if untreated. An existing antidote has limited supply and shelf life and works only once the disease has reached a serious point.

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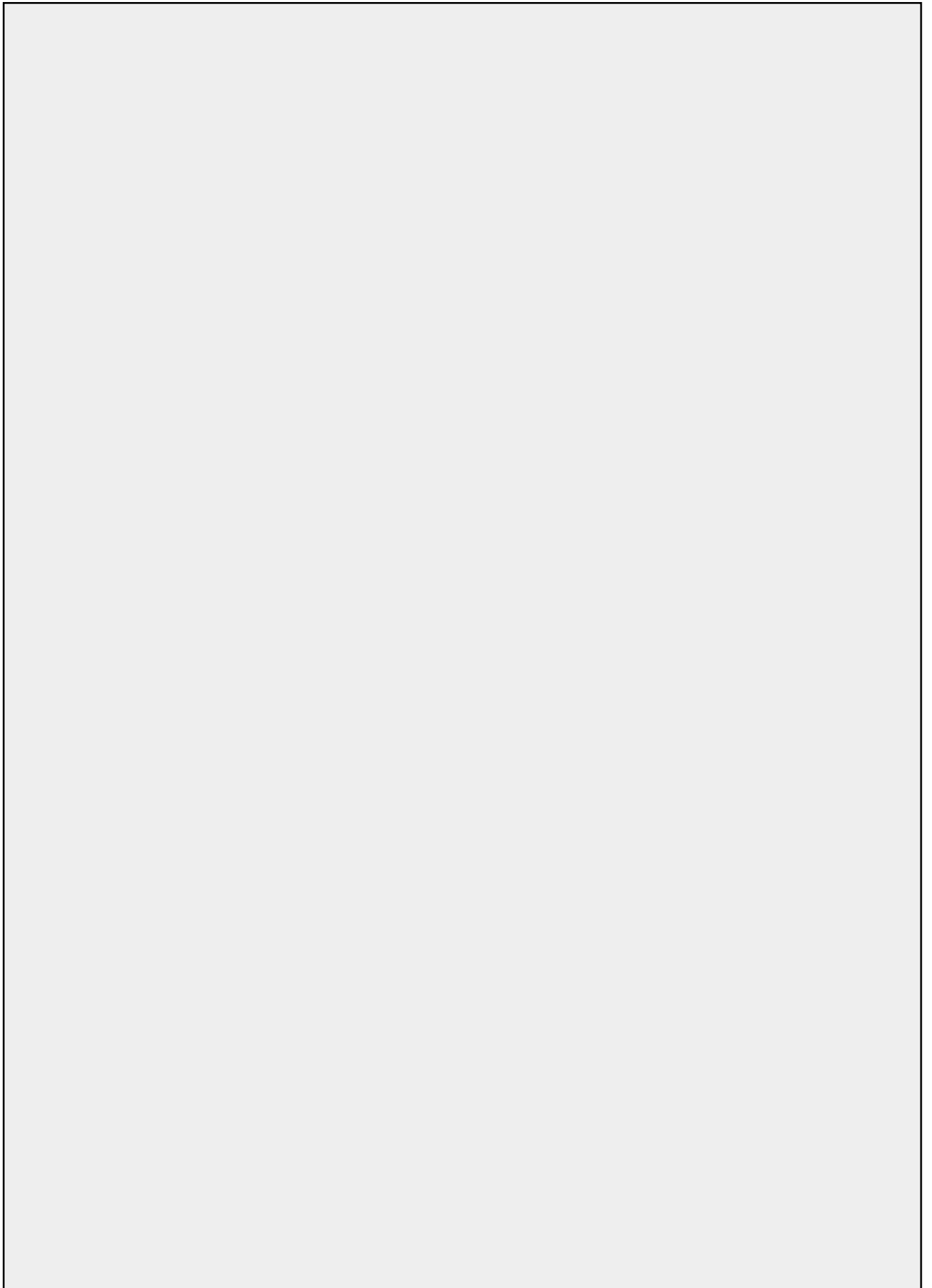
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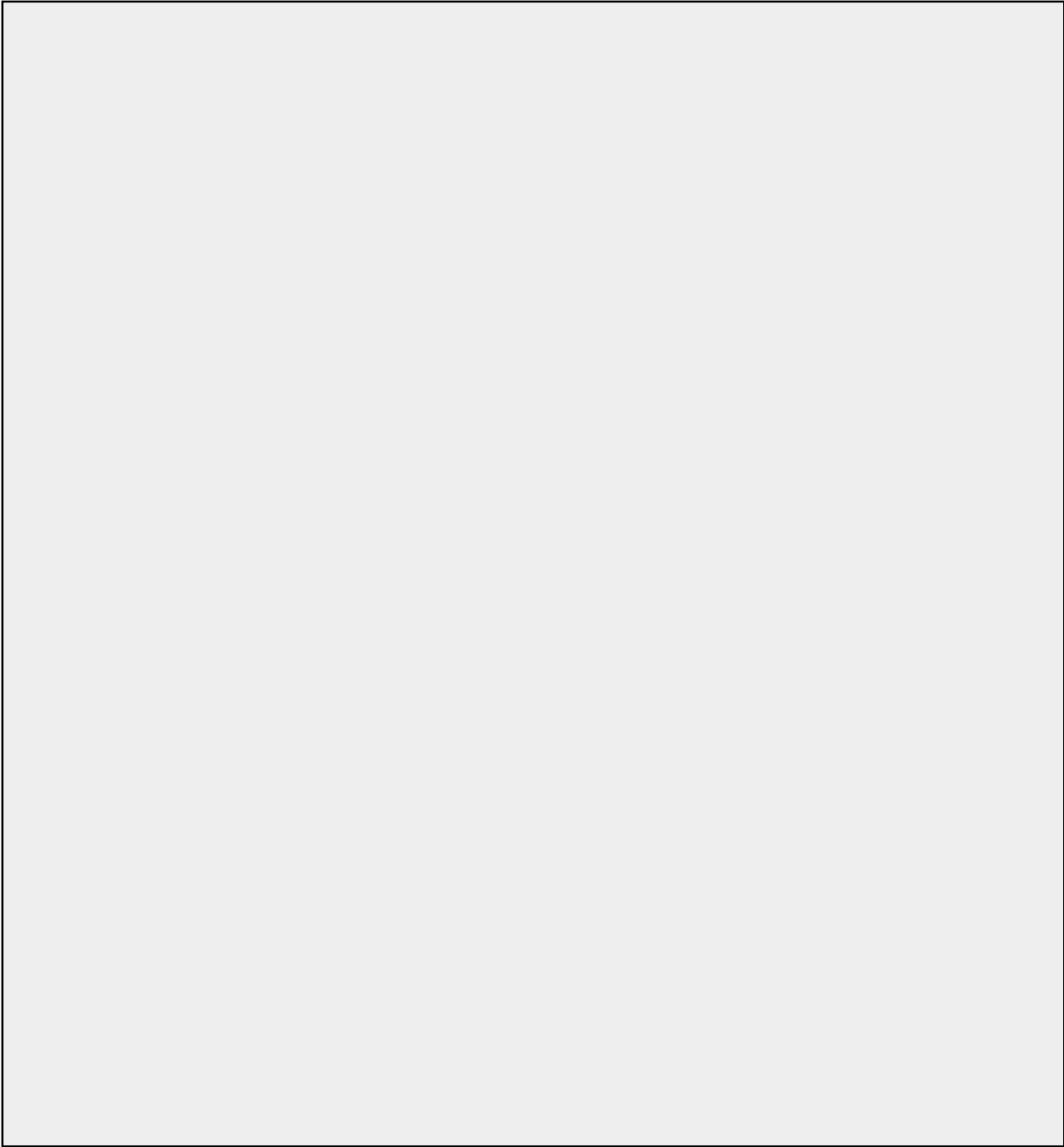
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- Number of months from July 2000 through June 2001 that the unemployment rate in Rhode Island equaled or exceeded the national rate: **5**
- Change in number of Help Wanted ads in the *Hartford Courant* newspaper from the third quarter of 2000 to the third quarter of 2001: **-31%**
- Rank of Greater Boston among U.S. metro areas in high-tech jobs as a percent of all jobs: **3**
- Number of New England universities among the top 50 nationally in awarding bachelor's degrees in engineering: **1**
- Percentage of U.S. engineering bachelor's degrees awarded to women: **21%**
- Percentage of U.S. biomedical engineering bachelor's degrees awarded to women: **39%**
- Number of the 25 largest Massachusetts law firms that are headquartered in the city of Boston: **25**
- Number of the 25 largest Massachusetts accounting firms that are headquartered in Boston: **13**
- Number of the 25 largest Massachusetts biotech firms that are: **0**
- Percentage of students with federal College Work Study jobs who have grade point averages above 3.5: **27%**
- Percentage of students who don't work who have grade point averages above 3.5: **16%**
- Approximate number of years that Harvard University has recommended that incoming freshmen take a year off before starting college: **30**
- Approximate number of students who follow the advice each year: **60**
- Amount of unpaid minimum wage, overtime payments and other legally due wages recovered from Connecticut companies by the Connecticut Department of Labor's Division of Wage and Workplace Standards in fiscal 2001: **\$6,021,000**
- Number of correction notices issued by the division for violation of child labor laws: **1,693**
- Percentage of U.S. ninth-graders who report reading from textbooks when they study social studies: **89%**
- Percentage who report debating and discussing issues when they study social studies: **45%**
- Percentage of students ages 13 to 15 who report that their teachers talked in class about the September 11 terrorist attacks during the month following the tragedy: **70%**
- Percentage of U.S. college undergraduates polled in October 2001 who said they trusted the federal government to do the right thing most or all the time: **60%**
- Percentage who said so in 2000: **36%**
- Approximate number of members the U.S. Congress would have if it had the same legislator-to-citizen ratio as the New Hampshire state Legislature: **82,000**
- Increase in number of volumes held by the Middlebury College library from 1860 to 1980: **430,000**
- Increase from 1980 to 2001: **460,000**
- Estimated growth in number of U.S. private companies between 1997 and 2002: **7%**
- Estimated growth in number of minority women-owned companies: **32%**
- Respective ranks of Maine, Vermont and New Hampshire among states with fastest growth in number of minority women-owned firms from 1997 to 2002: **3,6,9**
- Change in number of Massachusetts juvenile arrests during the 1990s: **-23%**
- Change in number of girls held in Massachusetts juvenile detention centers during the 1990s: **+227%**
- Number of Massachusetts human services workers laid off during the first six weeks of 2002: **740**

**Sources:** 1,2 U.S. Department of Labor; 3 Connecticut Center for Economic Analysis, University of Connecticut; 4 Northeast-Midwest Institute (Science, engineering and computer professionals jobs as of 1997; San Jose and Seattle ranked Nos. 1 and 2.); 5,6,7 American Society for Engineering Education (Massachusetts Institute of Technology ranked No. 14 in academic year 1999-2000.); 8,9,10 NEBHE analysis of *Boston Business Journal* data; 11,12 Nellie Mae Education Foundation; 13,14 Harvard University; 15,16 Connecticut Department of Labor; 17,18 U.S. Department of Education; 19 Harris Interactive; 20,21 Harvard University Institute of Politics; 22 Josiah Bartlett Center for Public Policy; 23,24 Middlebury College; 25,26,27 Center for Women's Business Research; 28,29 State House News Service; 30 Massachusetts Executive Office of Human Services





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