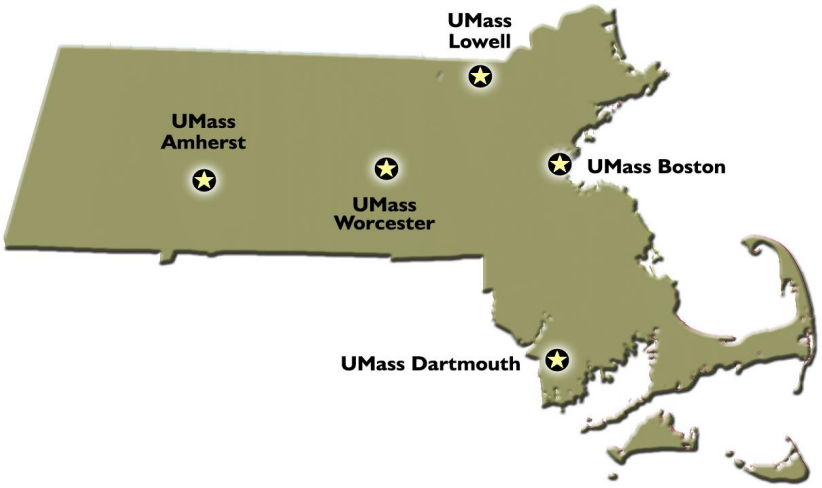
University of Massachusetts
UMASS Amherst Boston Dartmouth Lowell Medical UMassOnline

Future Students at the University of Massachusetts



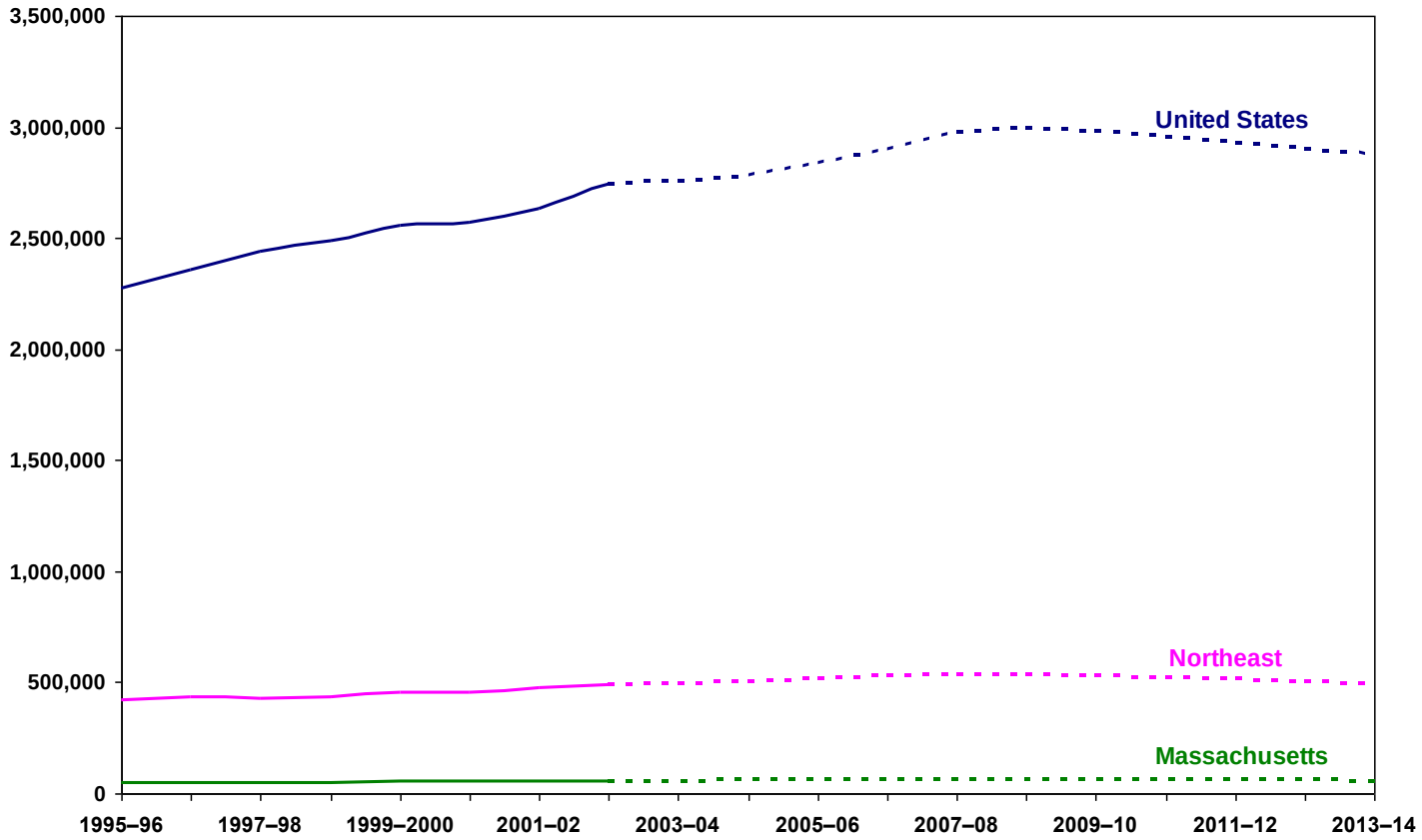
Board of Trustees
Committee of the Whole
August 22, 2006

Presented by:
Dr. Jack M. Wilson, President
University of Massachusetts

Overview

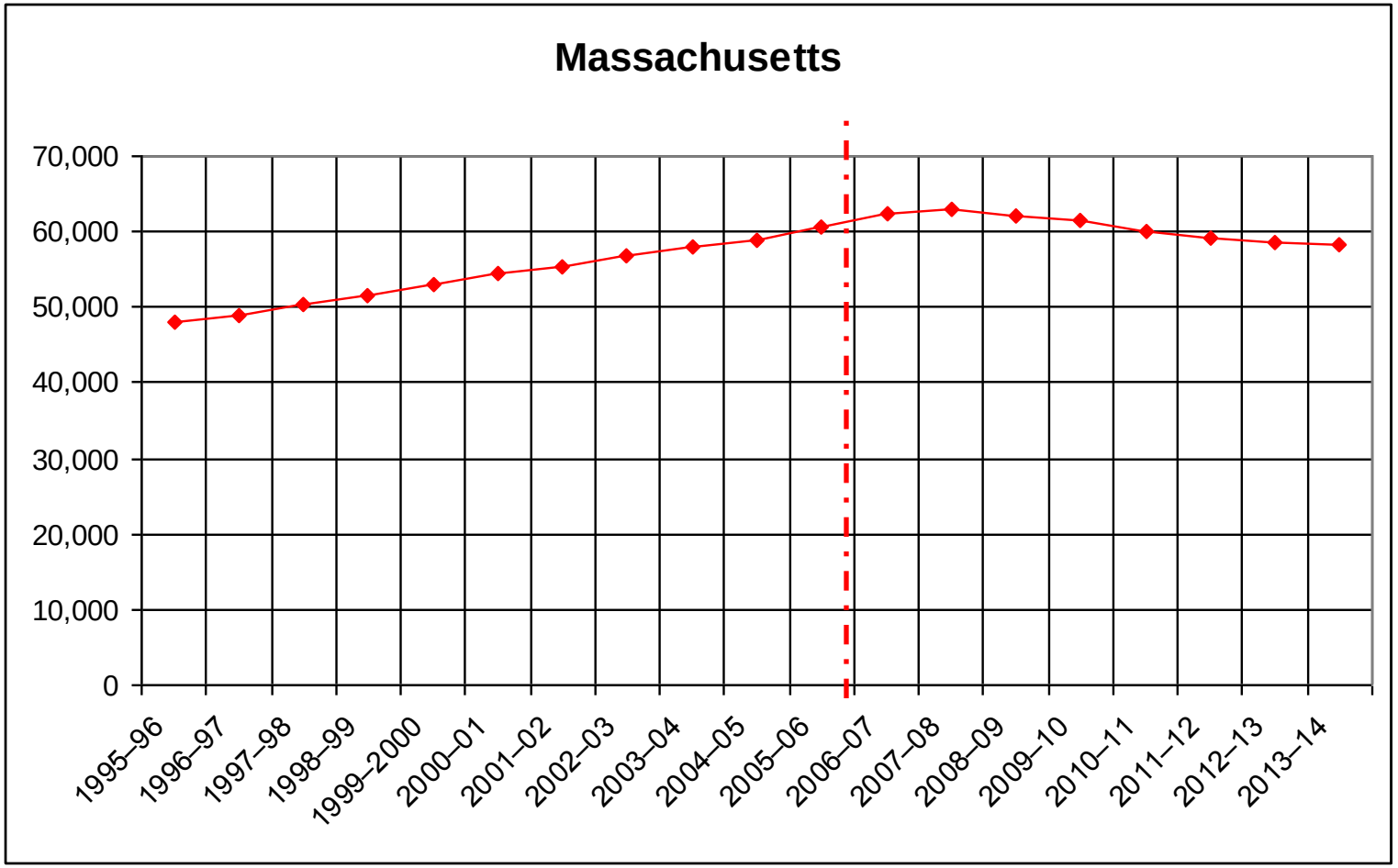
- Students are our future. Who are they?
- Will they be prepared to compete in a changing global and local economy?
- What are we doing to improve the K-12 pipeline and prepare Massachusetts students for the next decades?

Public High School Graduates Peak in 07-08



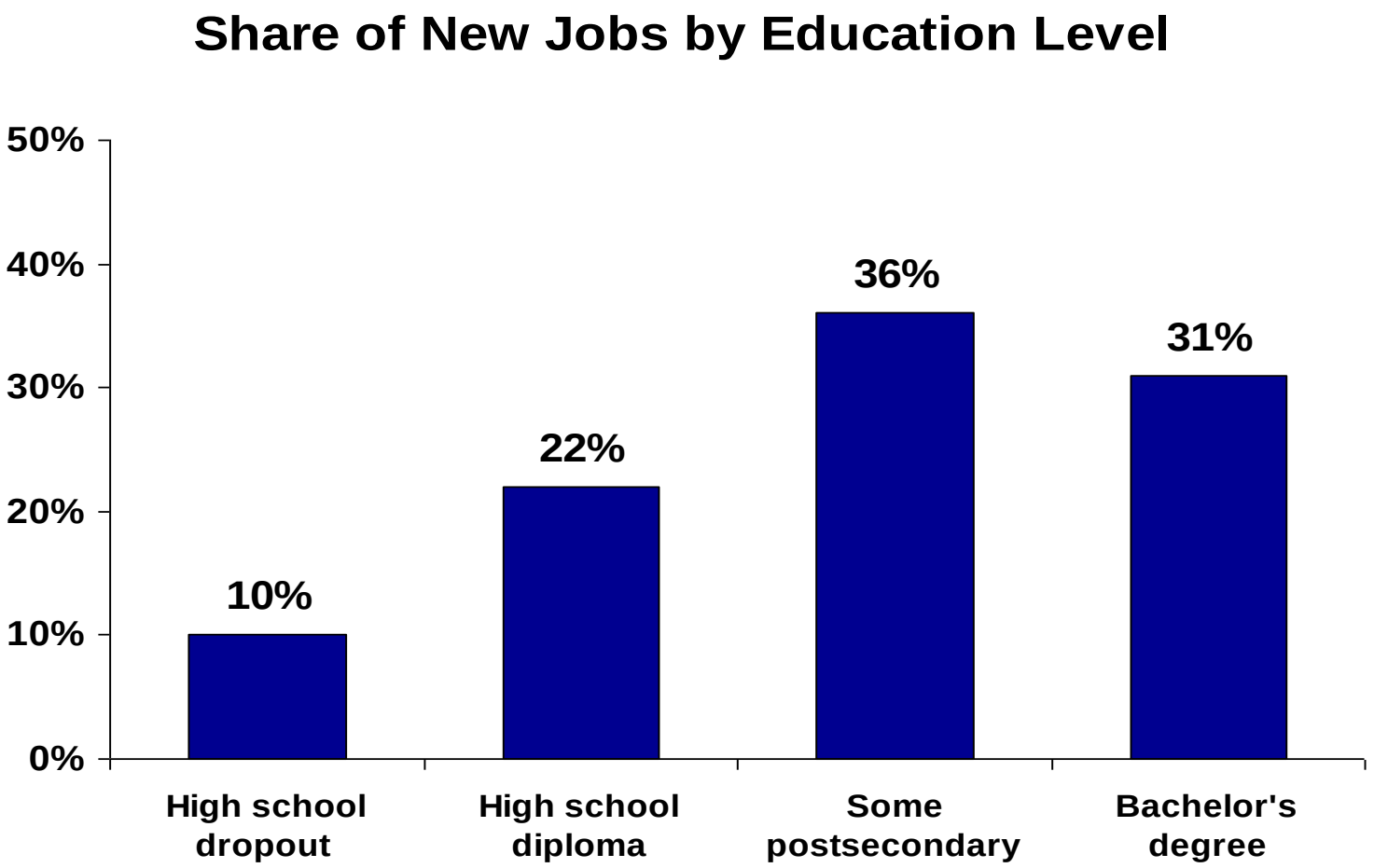
NOTE: 1995-96 to 2001-02 are actual numbers; 2002-03 to 2013-14 are projected numbers.
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2001–02; and State Public High School Graduates Model, 1980–81 through 2001–02.

Massachusetts Peak is More Pronounced



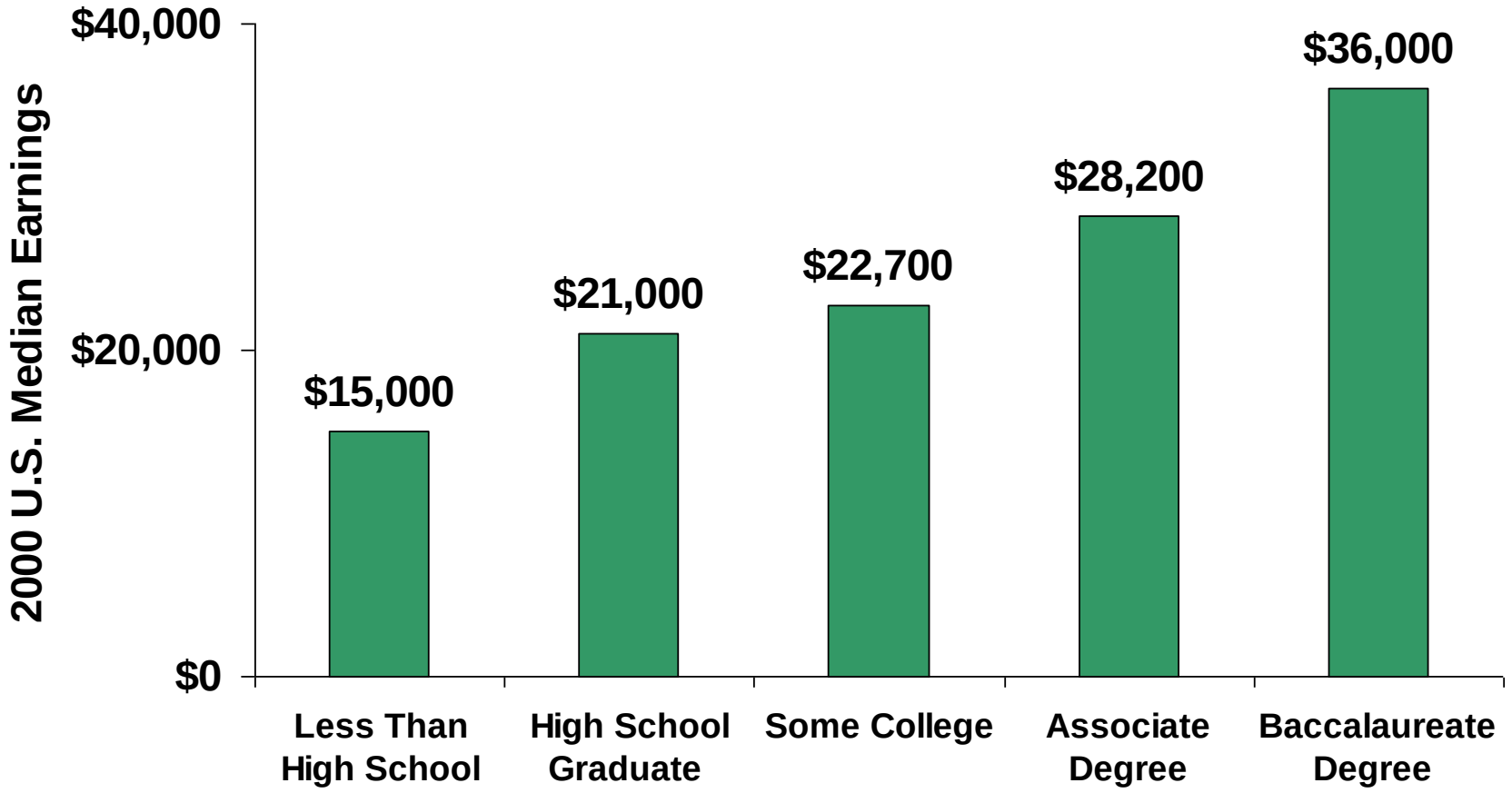
NOTE: 1995-96 to 2001-02 are actual numbers; 2002-03 to 2013-14 are projected numbers.
SOURCE: U.S. Department of Education, National Center for Education Statistics: Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1988–89 through 2001–02; and State Public High School Graduates Model, 1980–81 through 2001–02.

New Jobs Require More Education 2000-2010



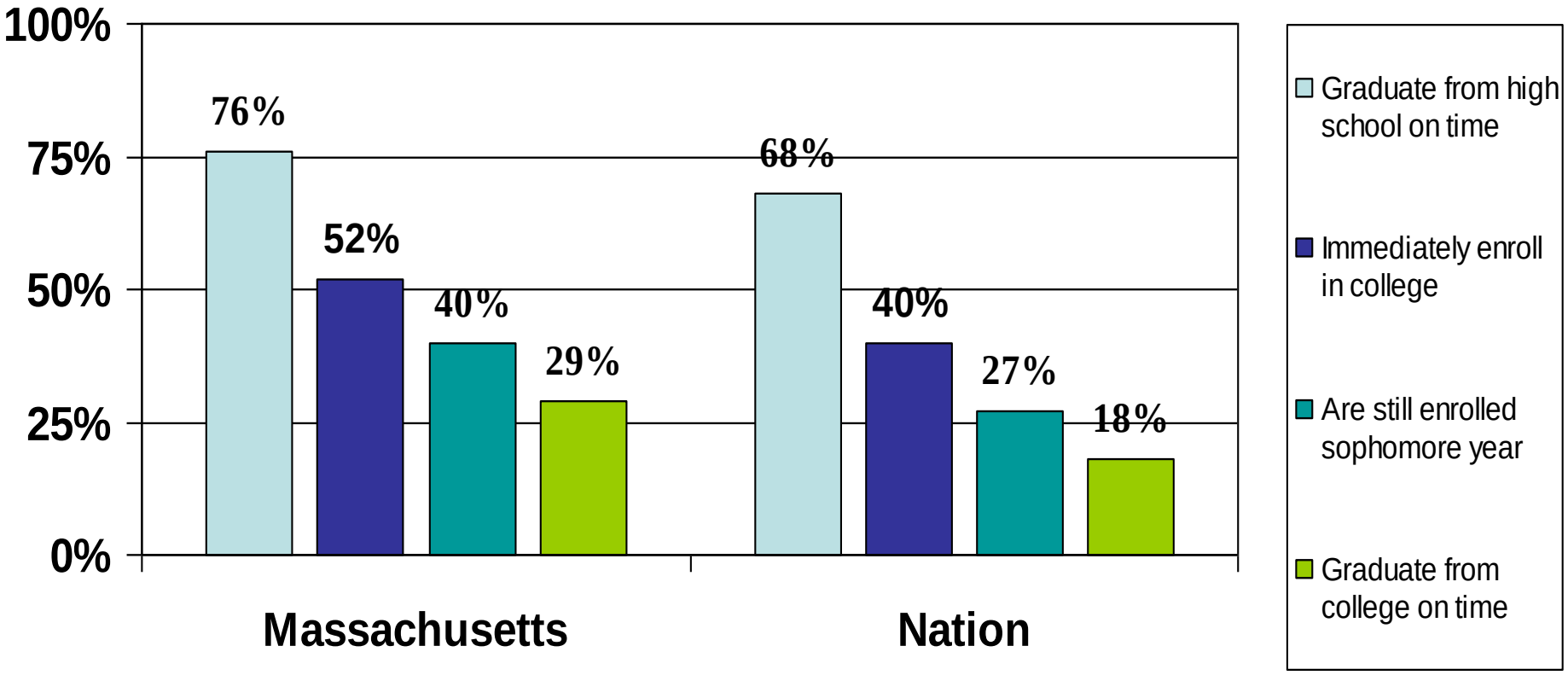
Source: Carnevale, Anthony P. and Donna M. Desrochers, *Standards for What? The Economic Roots of K–16 Reform,* Educational Testing Service, 2003.

Higher Education pays



Source: U.S. Census Bureau, 2000 Public Use Microdata Samples (based on the 2000 Decennial Census)

Percent of 9th Grade Students who…



Source: National Center for Public Policy and Higher Education, Policy Alert, April 2004. Data are estimates of pipeline progress rather than actual cohort.

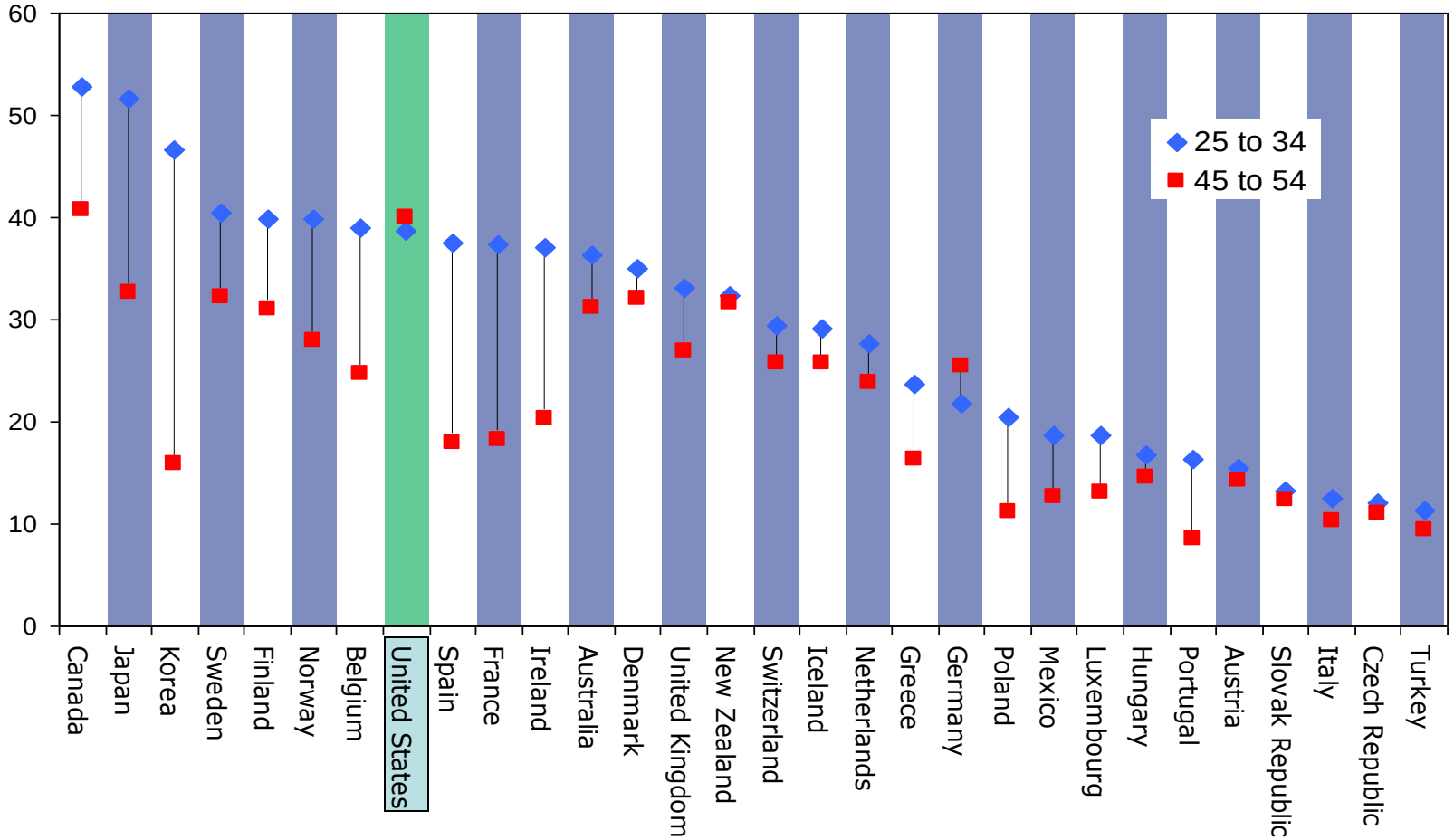
They Will Face Increasing Global Competition…

- **Cost** – lower costs and R&D, technical services and manufacturing financial incentives
- **People** – some foreign nations are now graduating more physical science and engineering students than the U.S. every year.
- **Market access** – perceived market possibilities in rapidly developing nations such as China and India, with over 2.4 billion people between them and proximity to customers
- **Infrastructure** – foreign governments are investing in university and lab research facilities, transportation, energy and telecommunications to compete more effectively.
- **Business climate** – top-tier innovative companies explain moves to Asia by pointing to its less burdensome taxation, regulation and litigation environments – reflecting both bottom-line and speed-to-market concerns
- **Proximity to offshore manufacturing** – movement of manufacturing work often portends the movement of the more innovative activities

Source: MassInsight, Choosing to Lead, 2004

A Closer Look at their Competition

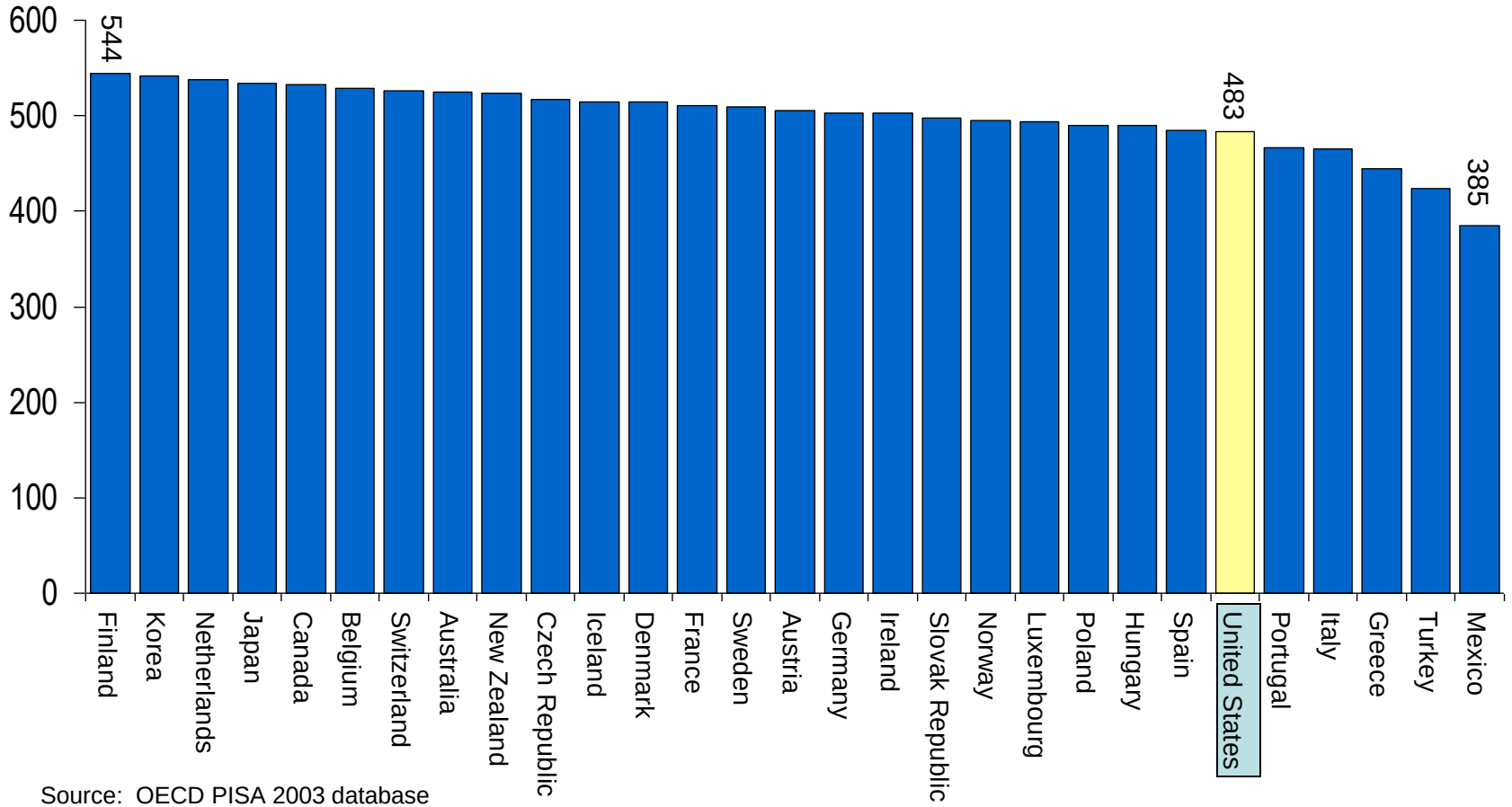
Percent of Adults with an Associate Degree or Higher, 2003



Source: Organisation of Economic Cooperation and Development, American Community Survey

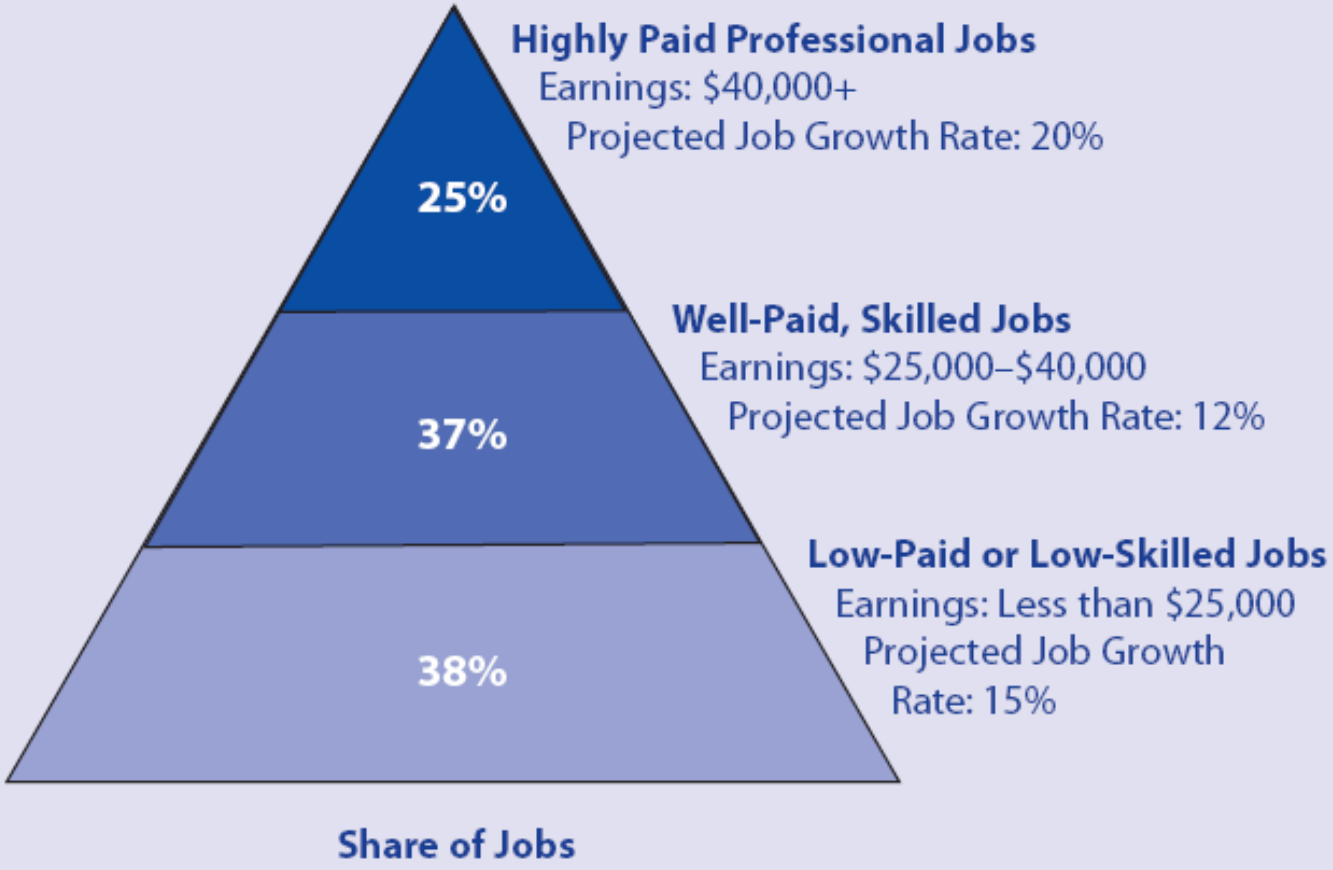
International Student Performance on the OECD PISA Mathematics Scale

Mean Score & Variation, 2003



Source: OECD PISA 2003 database

More Jobs Are Highly Paid or Skilled, Require More Education



Source: American Diploma Project, 2002

Will students be ready for these jobs?

A Dramatic Transformation of the New England Workforce

- Massachusetts and Connecticut will suffer the largest drops in the percentage of young workers holding a Bachelor's degree or higher. The Bay State's forecast calls for a decline from 43% in 1993 to less than 40% by 2020. Connecticut's forecast calls for a drop from 34% to roughly 30%. While seemingly modest in percentage terms, **each point drop represents a loss of many thousands of young educated workers**.

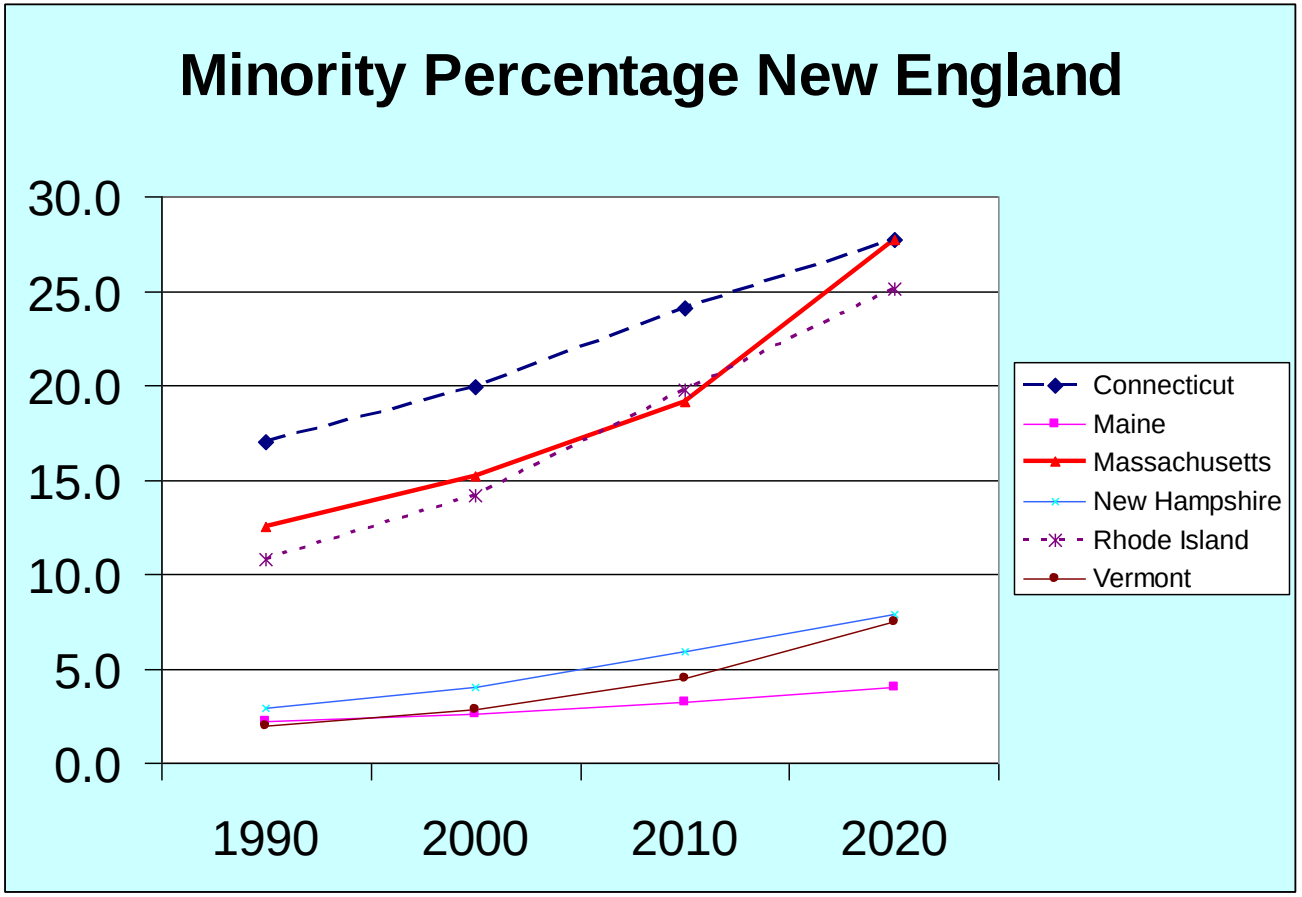
- There will be marked **declines in the size of the working-age population** in Massachusetts, Maine, Connecticut, and Rhode Island, with insignificant gains forecast for Vermont and New Hampshire.

- All six states will witness **dramatic increases in the percentage of their workforces composed of minorities**. For example, 28% of the Massachusetts working-age population will be minority by the year 2020 (up from 15% in 2000).

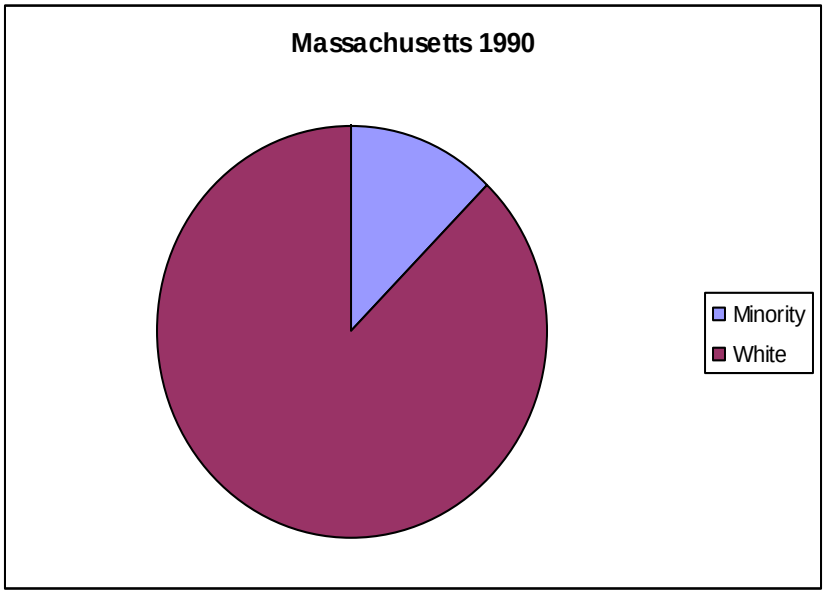
- An expanded minority presence in the workforce will be especially visible among young workers. By 2020 nearly **half the 25-29 year-olds in the three southern New England states (CT, MA, RI) will be minorities**.

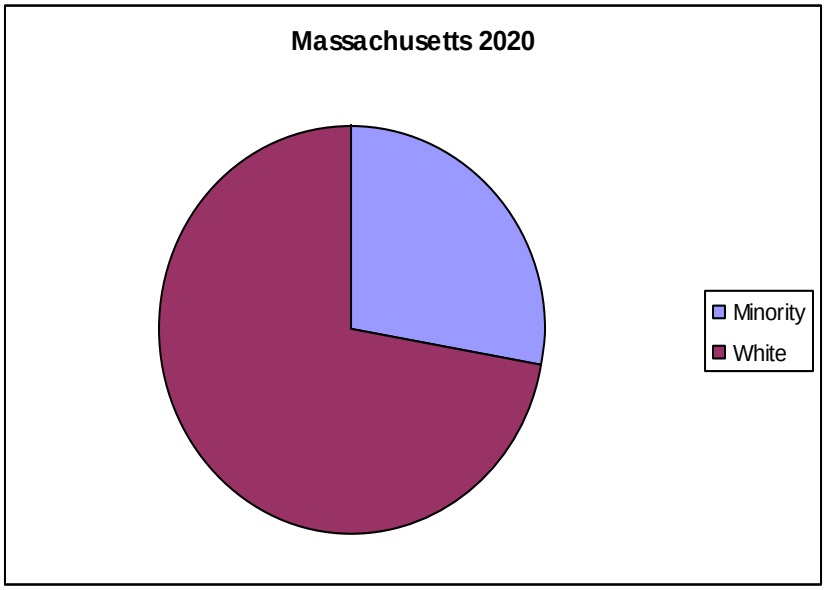
Source: New England 2020, Nellie Mae Ed. Foundation

New England 2020 – Nellie Mae Ed. Foundation



Changes in Minority Population from 1990-2020





Source: New England 2020, Nellie Mae Ed. Foundation
http://www.nmefdn.org/uploads/NE_2020_FR.pdf

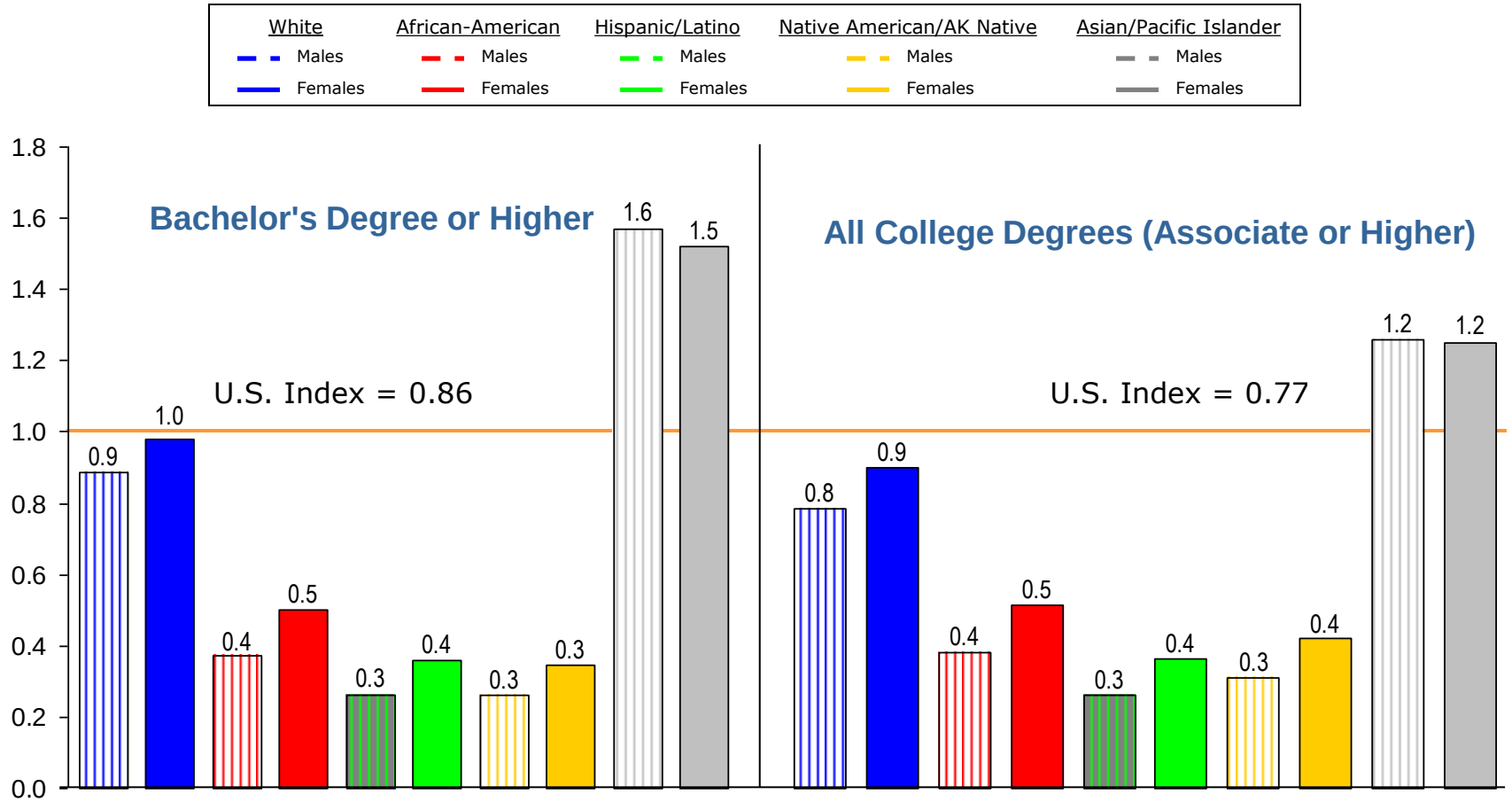
Approximate Growth In Massachusetts Population 1990-2000

- Hispanic 135,000
- Asian 100,000
- Black 60,000
- White -10,000 (decrease)

  – Source: Census Data as reported in New England 2020, Nellie Mae Ed. Foundation,
    - http://www.nmefdn.org/uploads/NE_2020_FR.pdf

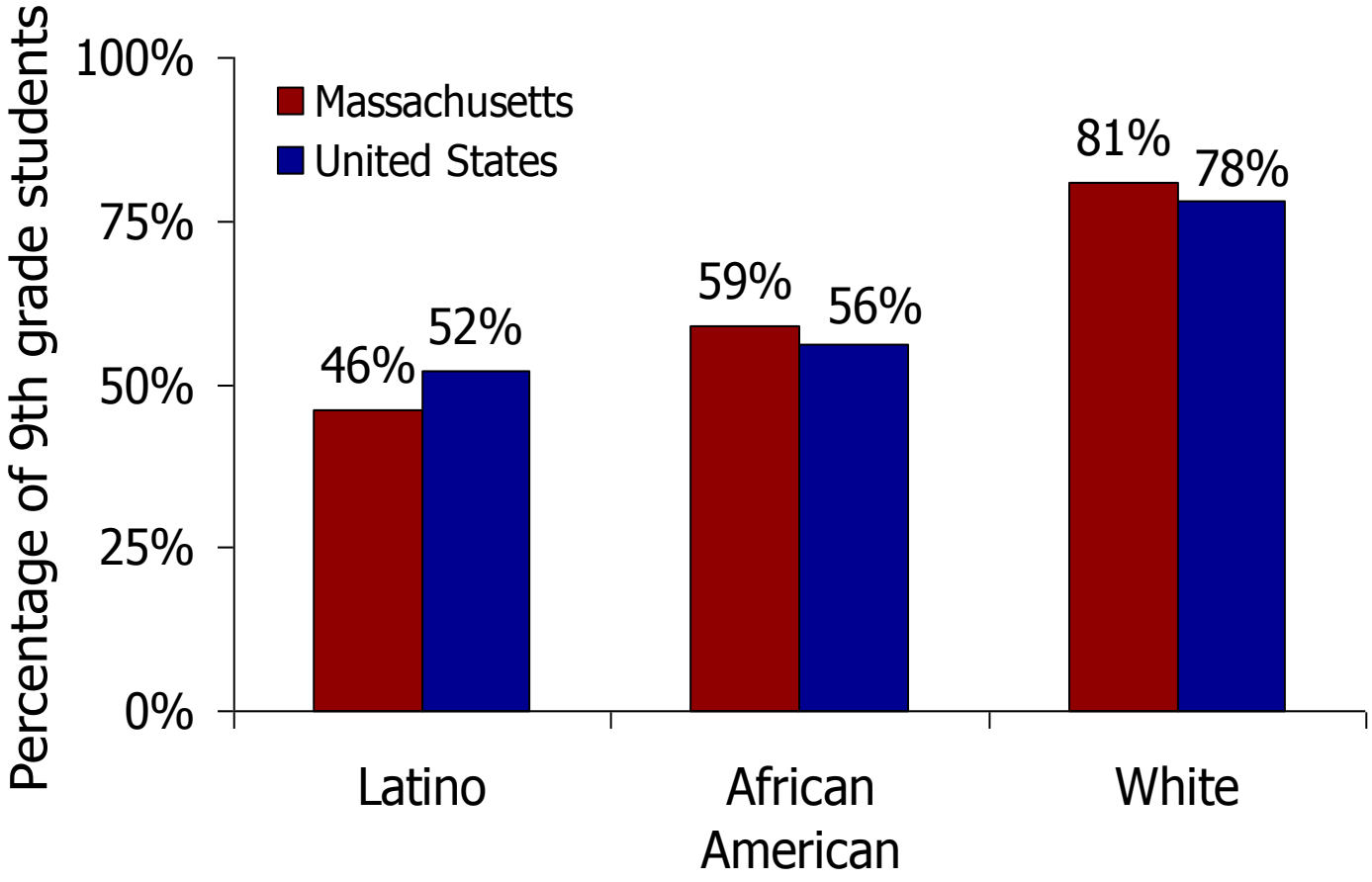
Educational Attainment in U.S. of Young Workforce (Age 25-34)

Indexed to Most Educated Country (Norway for BA or higher and Canada for AA or higher), 2000



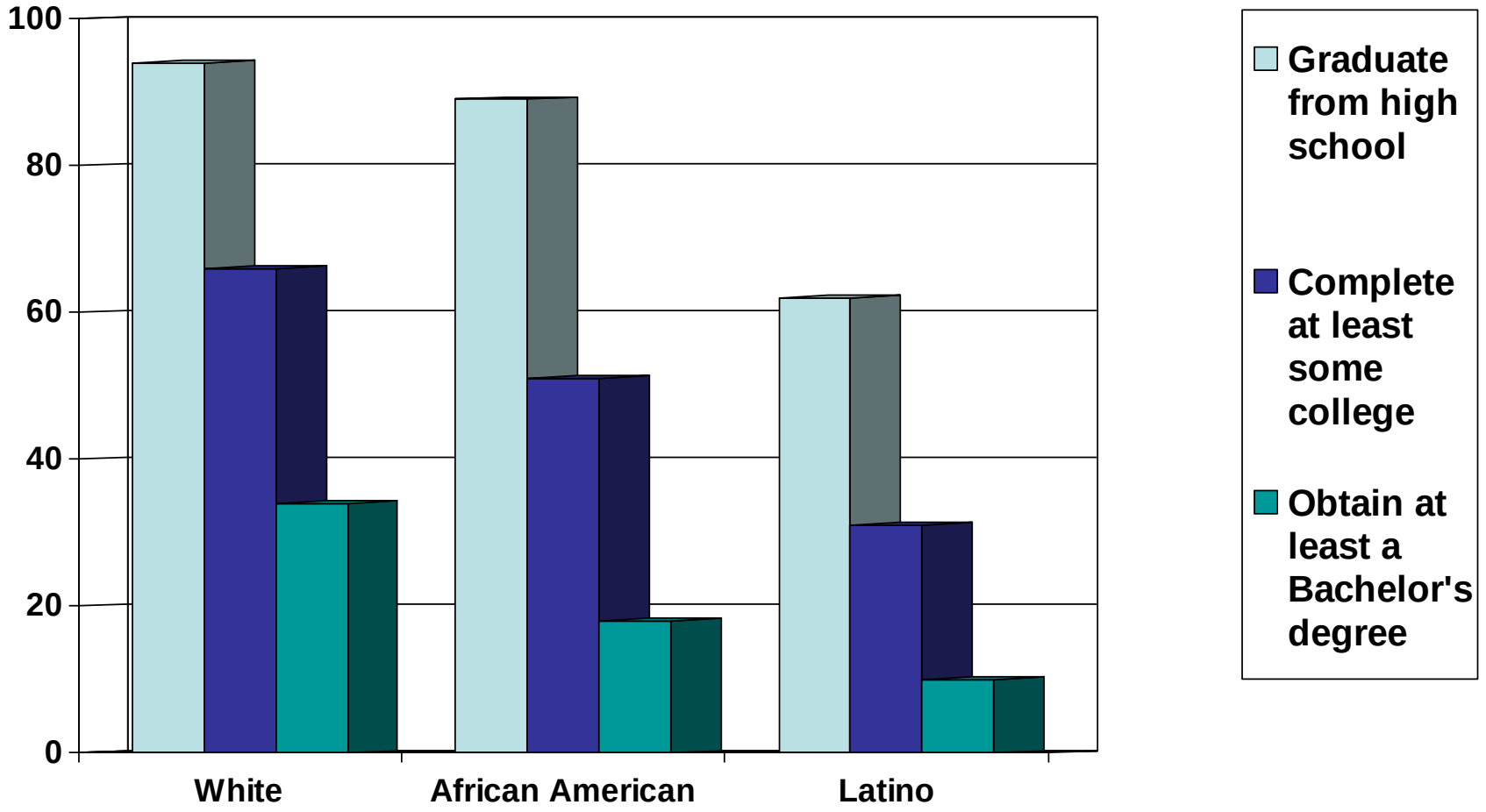
Source: U.S. Census Bureau, Public Use Microdata Samples (based on 2000 Census),
Organisation for Economic Co-operation and Development (OECD)

In 2002: Percent of 9th graders who graduated from H.S.



Source: Manhattan Institute
Public High School Graduation and College-Readiness Rates: 1991–2002, February 2005

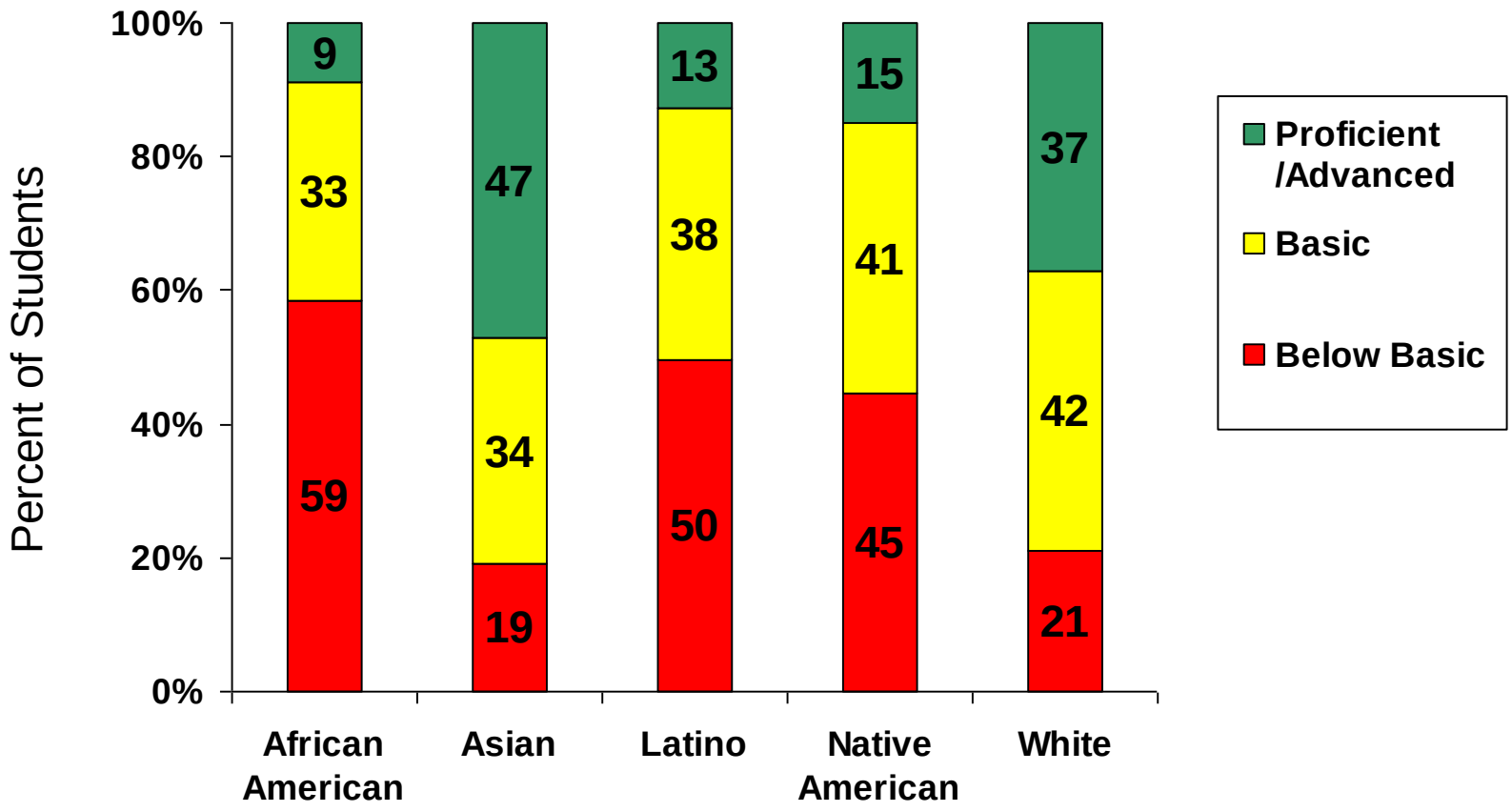
Percent of Kindergartners who…



Source: US Department of Commerce, Bureau of the Census. March Current Population Surveys, 1971-2003, in The Condition of Education 2005. http://nces.ed.gov/programs/coe/2005/section3/indicator23.asp#info

Grade 8: Math by Race & Ethnicity

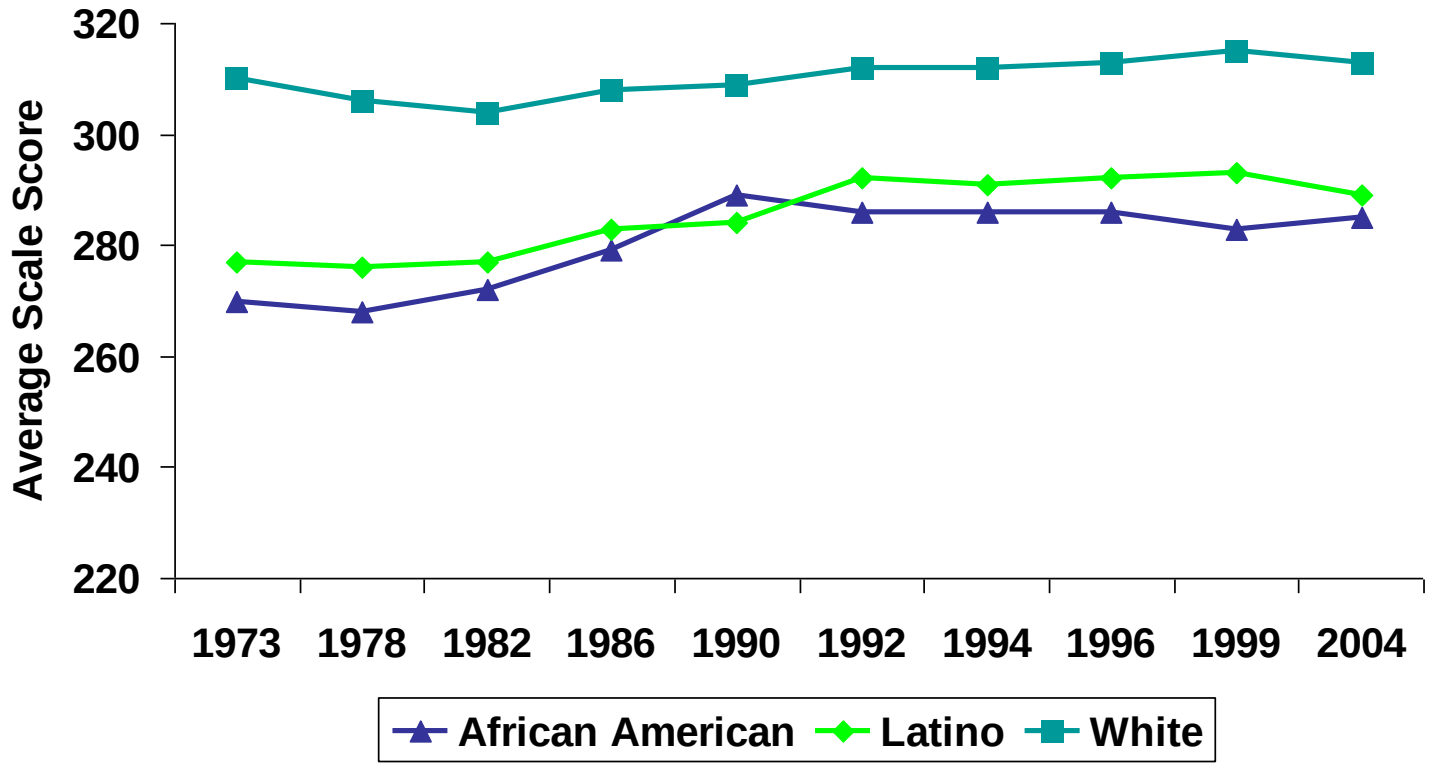
U.S. NAEP, 2005



Source: National Center for Education Statistics, NAEP Data Explorer, http://nces.ed.gov/nationsreportcard/nde/

Age 17: Math

NAEP Long-term Trends

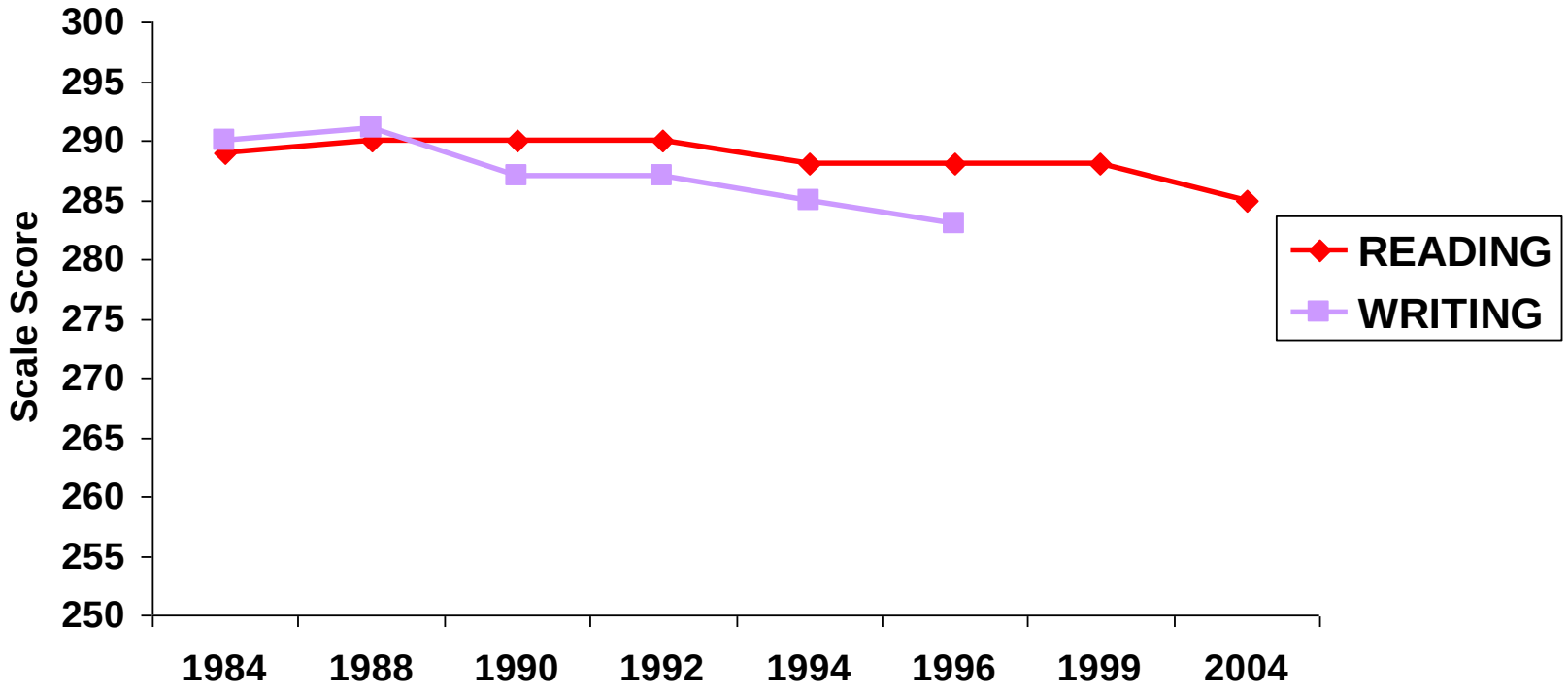


Note: Long-Term Trends NAEP

Source: National Center for Education Statistics, NAEP 2004 Trends in Academic Progress

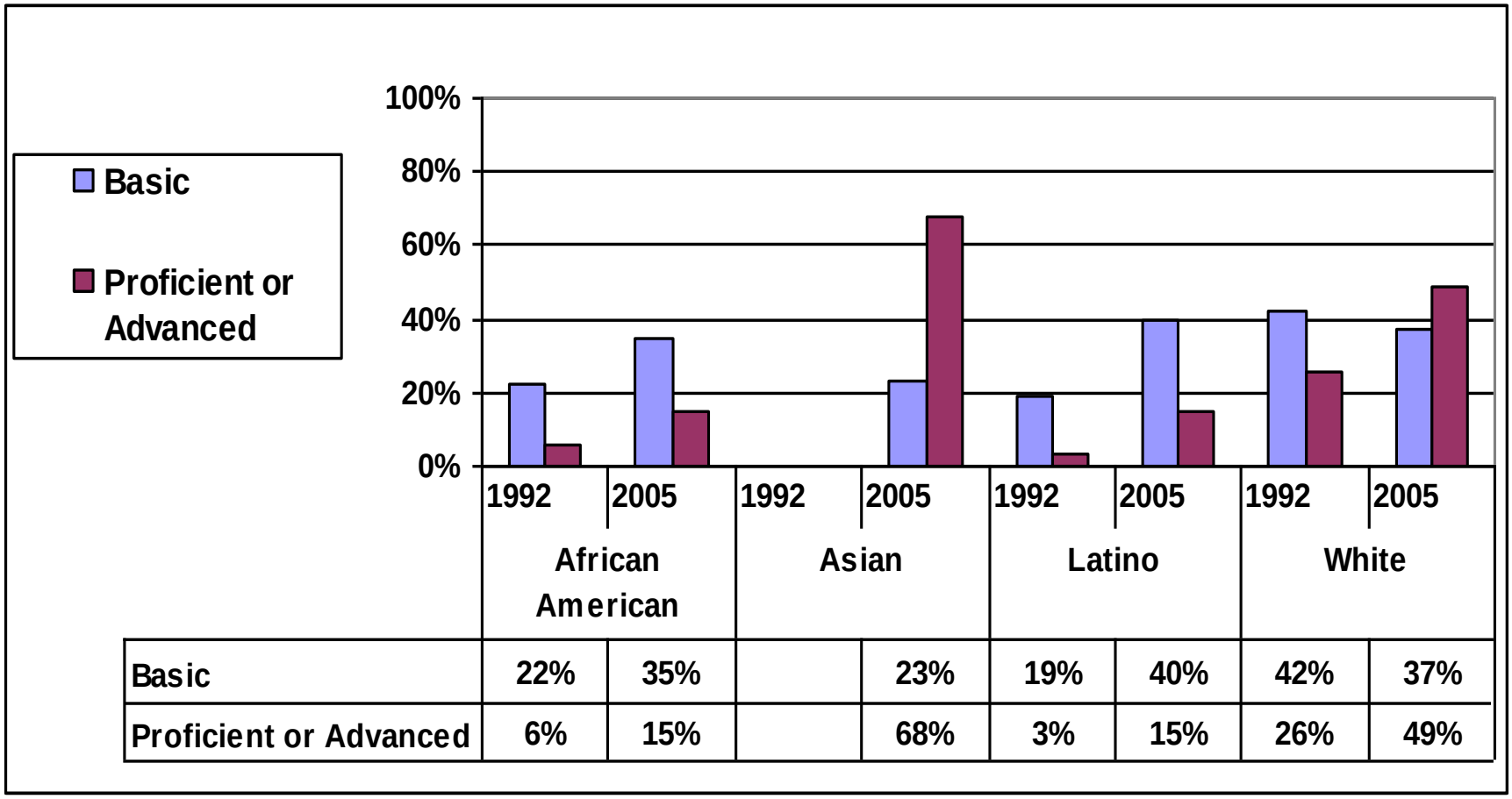
Age 17: Reading and Writing

NAEP Long-Term Trends



Note: Long-Term Trends NAEP
Source: NAEP 2004 Trends in Academic Progress.

Are there inequities in math achievement in Massachusetts?

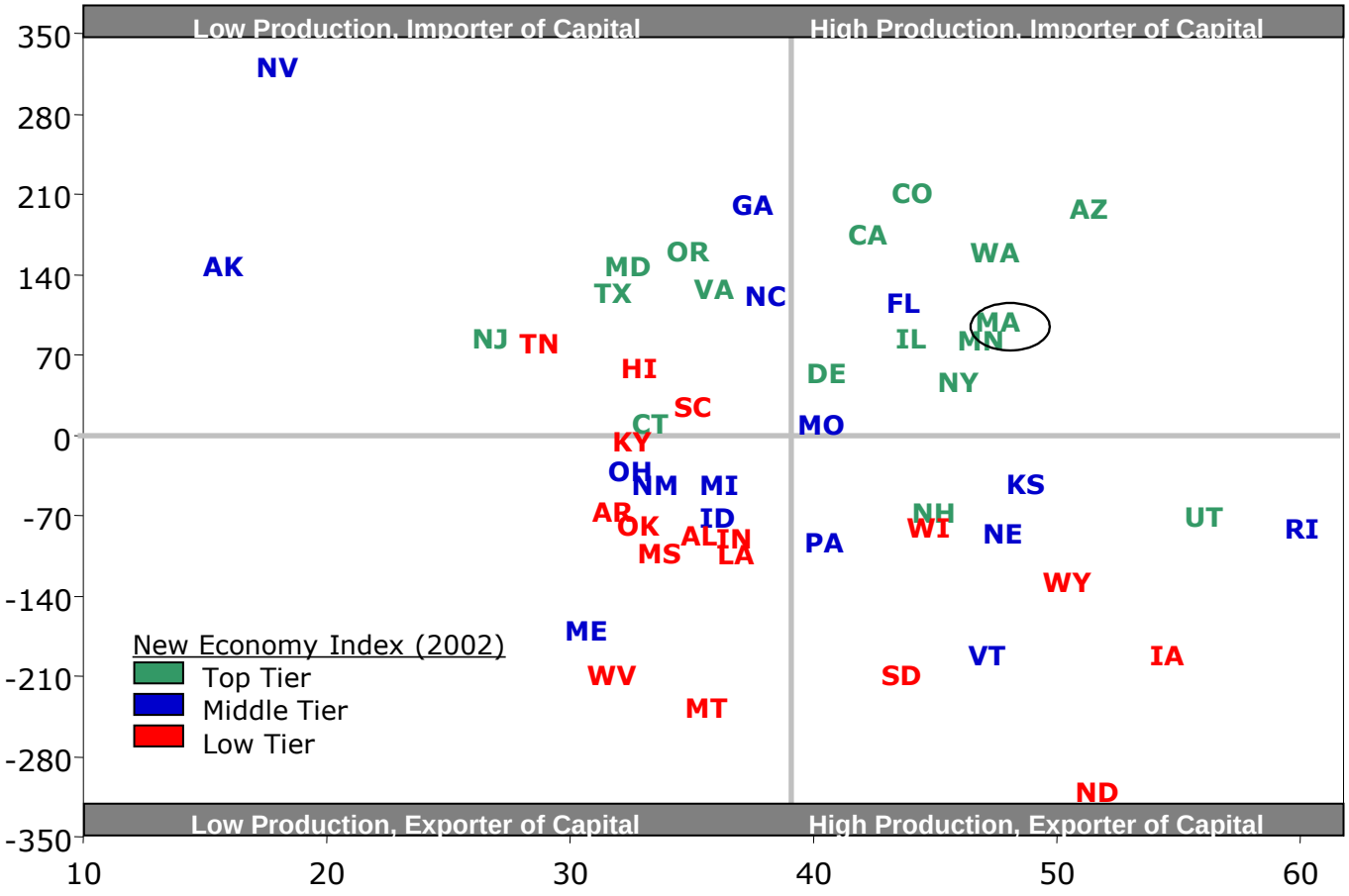


	African American 1992	African American 2005	Asian 1992	Asian 2005	Latino 1992	Latino 2005	White 1992	White 2005
Basic	22%	35%		23%	19%	40%	42%	37%
Proficient or Advanced	6%	15%		68%	3%	15%	26%	49%

Source: National Assessment of Educational Progress. Analysis of data downloaded from www.nces.ed.gov/nationsreportcard/nde/

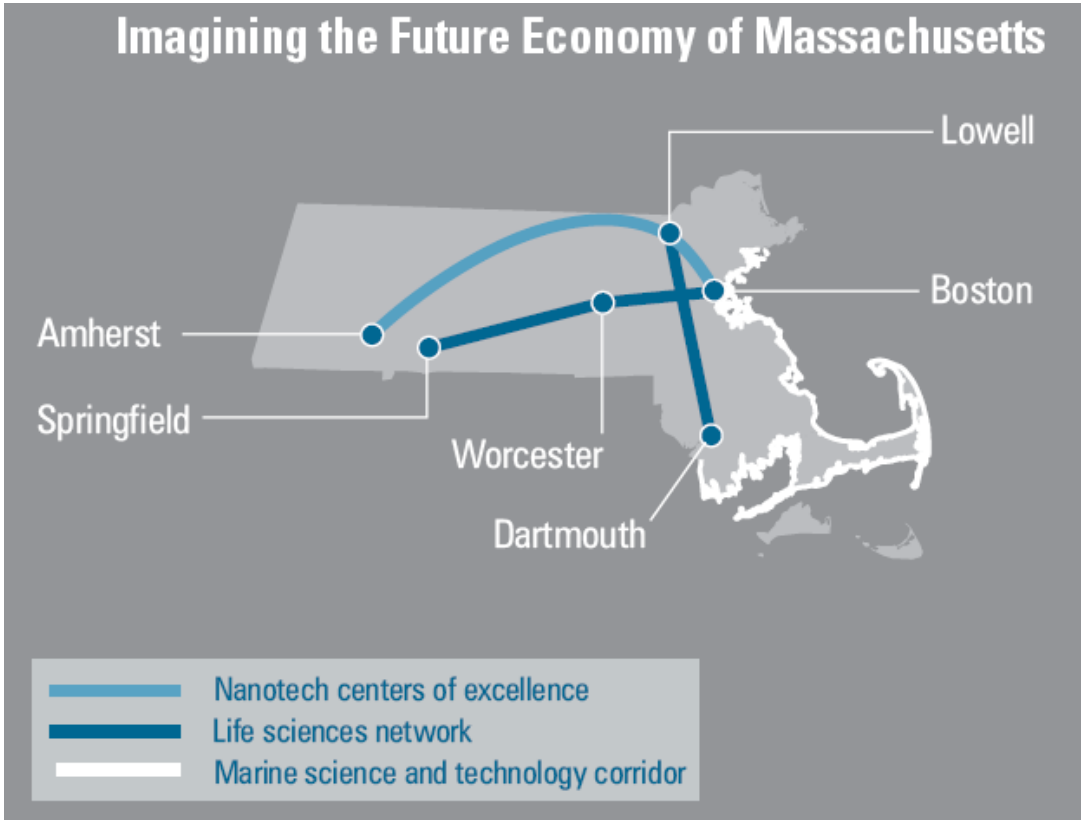
States' Ability to Produce Graduates vs. Ability to Keep and Attract Graduates

Migration Rate of Residents Age 22-29 with a College Degree



Note: Production of College Graduates (Undergraduate Credentials and Degrees Awarded Per 1,000 Residents Age 18-44 with High School Diploma or Some College but No College Degree)

The Path to Social and Economic Development is Through the University



UMass Involvement in National Pipeline Programs

- Alliance for Science Technology Research in America (ASTRA) – State STEM Ed Report Cards
- U.S. Council on Competitiveness – Innovation Summit
  - New England Innovation Summit on Thursday, November 16, 2006 at MIT
- Government-University-Industry Research Roundtable (GUIRR) – The University-Industry Partnership under NAS/NRC
- U.S. Department of Education – Academic Competitiveness Grant Program
- Education Commission of the States (ECS)
- “Rising Above a Gathering Storm,” National Academy of Science

American Diploma Project

- Achieve Inc., Washington D.C. – American Diploma Project
  - funding from The Hewlett Foundation, the organizations—Achieve, Inc., The Education Trust, The Fordham Foundation and The National Alliance of Business—have worked with Indiana, Kentucky, Massachusetts, Nevada and Texas to build constituencies and develop policies to support a coherent K-16 system.

UMass Involvement in Regional Collaborations

- **Great Schools Initiative** – I Co-chaired the Massachusetts Great Schools Campaign S&T Task Force with Blenda Wilson of Nellie Mae. The Governor, Speaker, and Senate President all took part in the launch of the effort. Many Op-eds.
- **Global Mass 2015** – I Co-Chair this. MassInsight and others focusing on Global Issues
- **College Ready New England Initiative –** New England Board of Higher Education
- **Goddard Institute –** Formed by Legislature. Chancellor Collins to represent us.
- **National Governors Association Grant** (NGA) – Obtained through Governors Office in partnership with BHE and others.

UMass Involvement in Regional Pipeline Programs

There are literally dozens and dozens of pipeline programs on every campus, here are some samples:

- **Boston Science Partnership** – A $12.5 Million partnership between UMB and the Boston Public Schools to enhance opportunities in science, technology, engineering, and mathematics in the minority-majority schools
- **CITI Project** – Lead by Amherst and the UMass Donahue Institute that has transformed information technology education across all of the public higher education institutions and begun to infuse technology into the K-12 curriculum
- **STEM Pipeline –** MA Board of Higher Education –
  - all campuses are involved as lead campus or part of every regional stem pipeline;
  - University is leading planning for STEM Summit III
- **SouthCoast Teacher Corps Partnership –** A collaboration among UMass Dartmouth, Fall River Public Schools, New Bedford Public Schools, and the SouthCoast Education Compact, five-year $1.75 million grant under the Transition to Teaching Program of the Department of Education
  - Also Jim Kaput Center projects

NGA State Honors Grant

Goals

1. Increase high school graduation rate
2. Increase the proportion of high school students who are college and career ready

Strategies

1. Strengthen the value of the high school diploma.
2. Close the college completion gap of white and minority students
3. Use data to hold ourselves accountable

What are the Implications of this for the University?

- K-12 Outreach
- STEM Programs
- Admission
- Financial Aid
- Undergraduate Experience
- Corporate Relations
- Philanthropy
- And ……

Thank You