Higher Education and the Future of Wisconsin

Presented to the

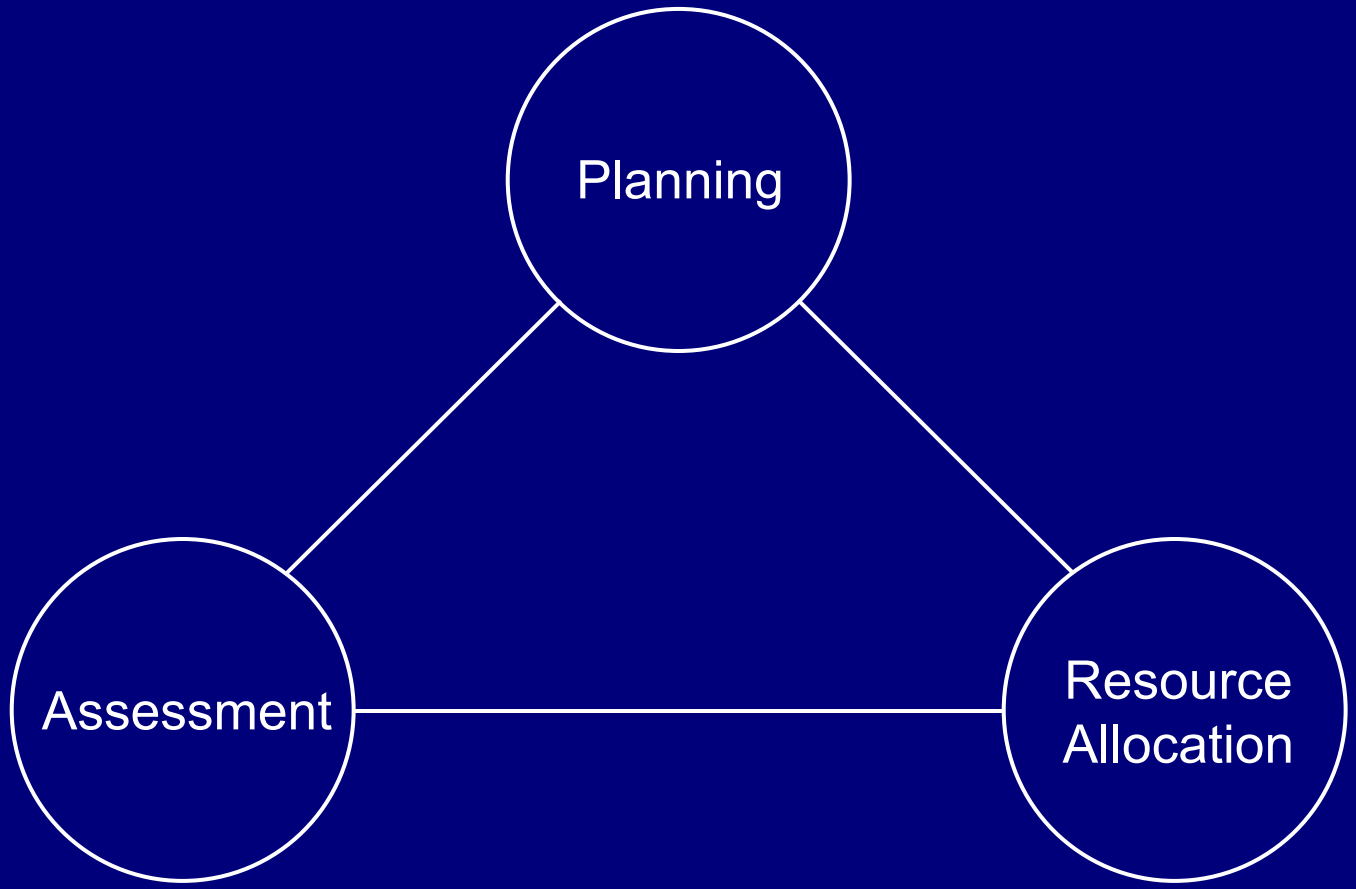
Board of Regents of the University of Wisconsin System

Milwaukee, Wisconsin

June 7, 2007

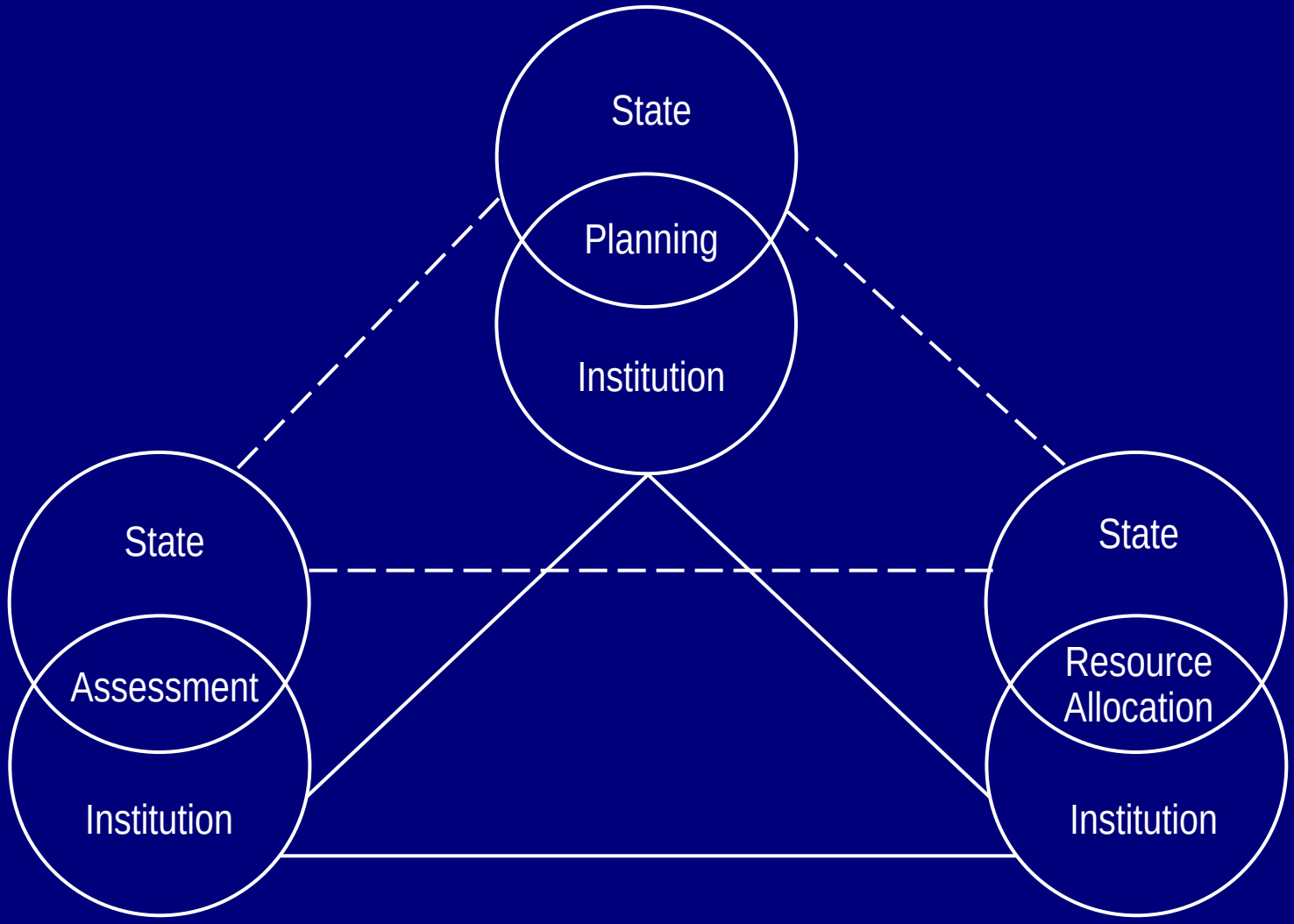
NCHEMS
National Center for Higher Education Management Systems
3035 Center Green Drive, Suite 150 Boulder, Colorado 80301-2251

The Management Cycle



Strategic Management —The allocation of resources to programmed activities calculated to achieve a set of goals.

The Management Cycle in a Public Institution



Strategic Planning at the State/System Level

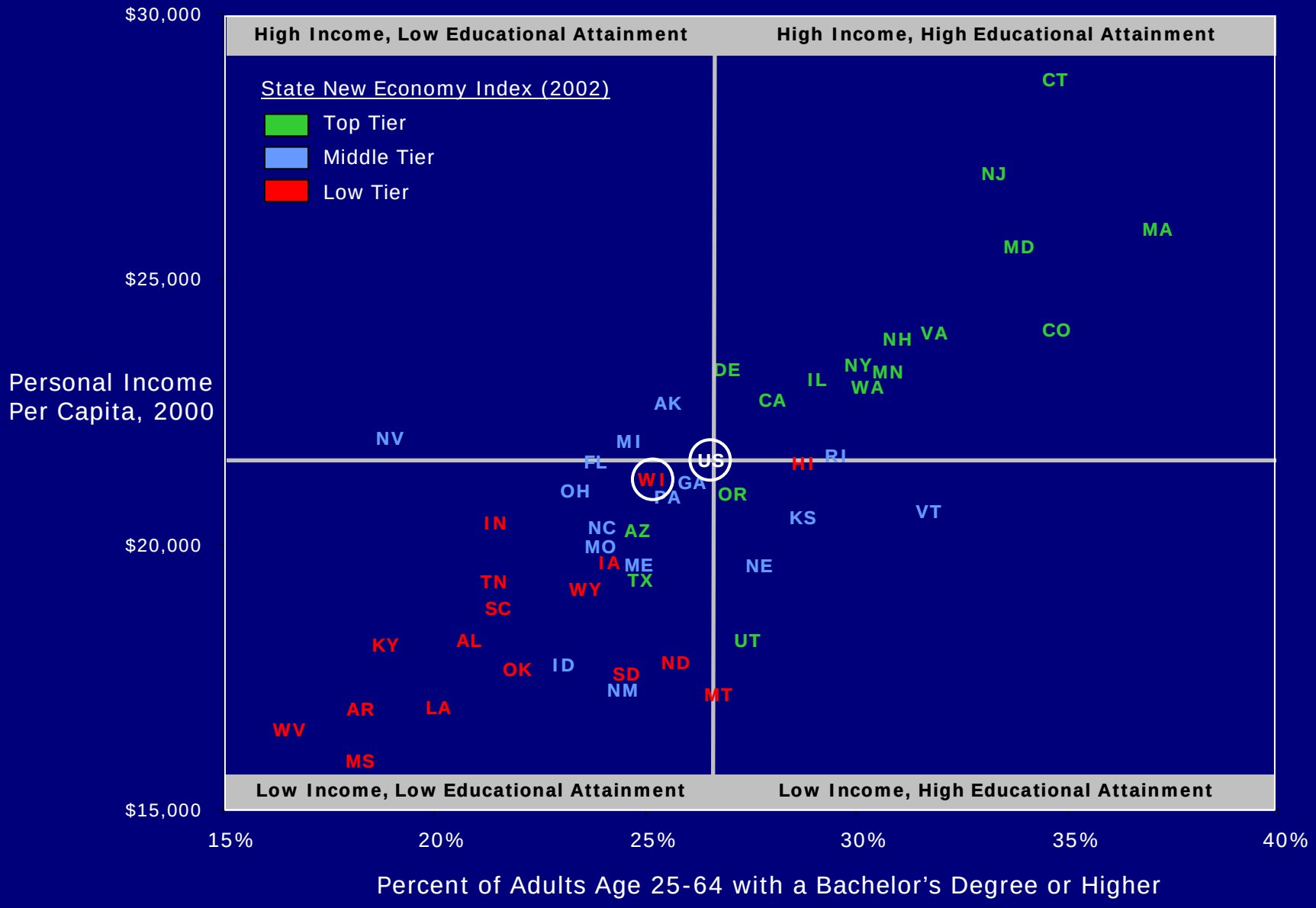
Creating a “Public Agenda”—

Identifying Those Key Issues Facing

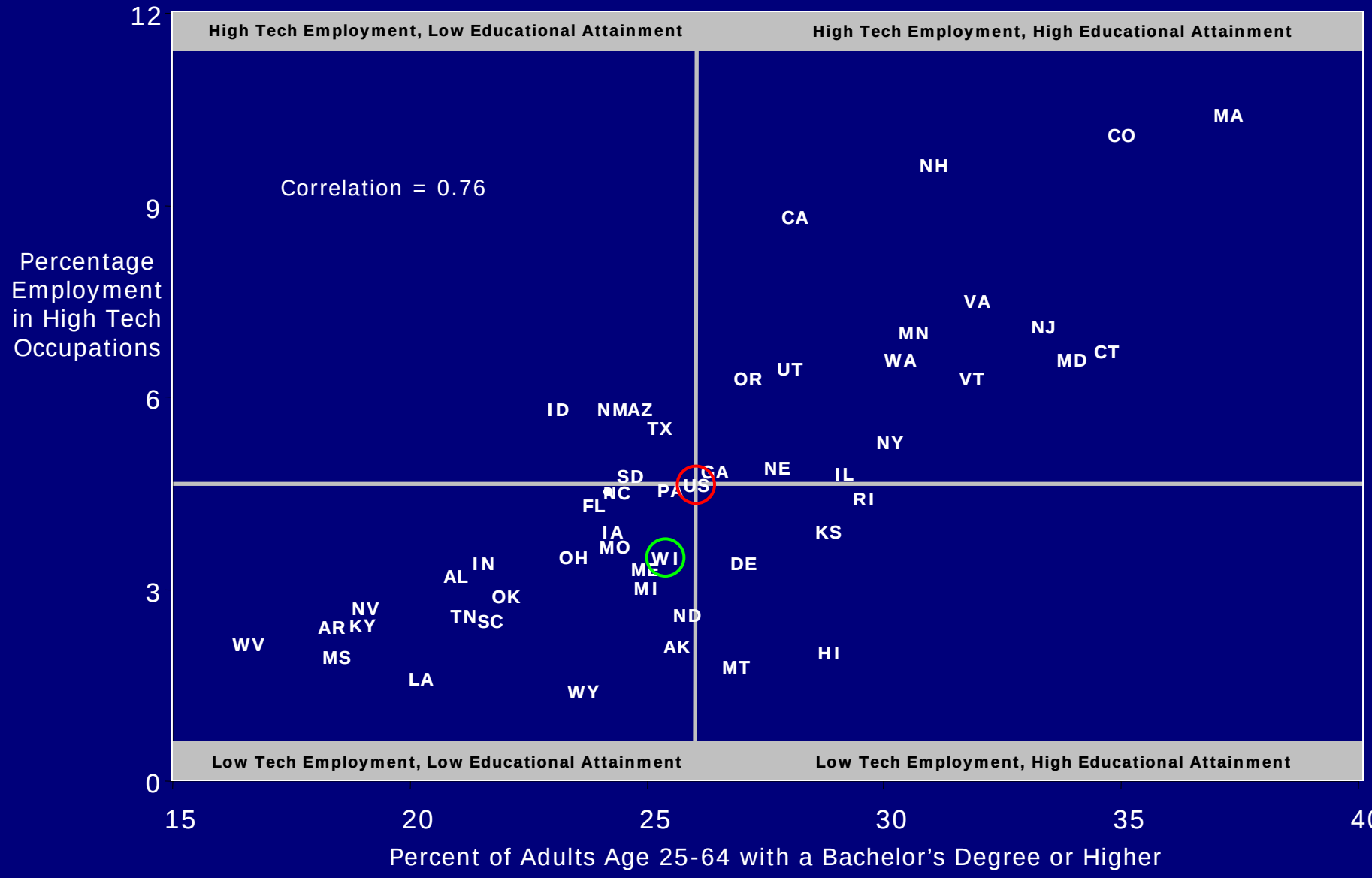
the State Which the System of

Higher Education Can Help Address

Relationship Between Educational Attainment, Personal Income, and Economic Strength

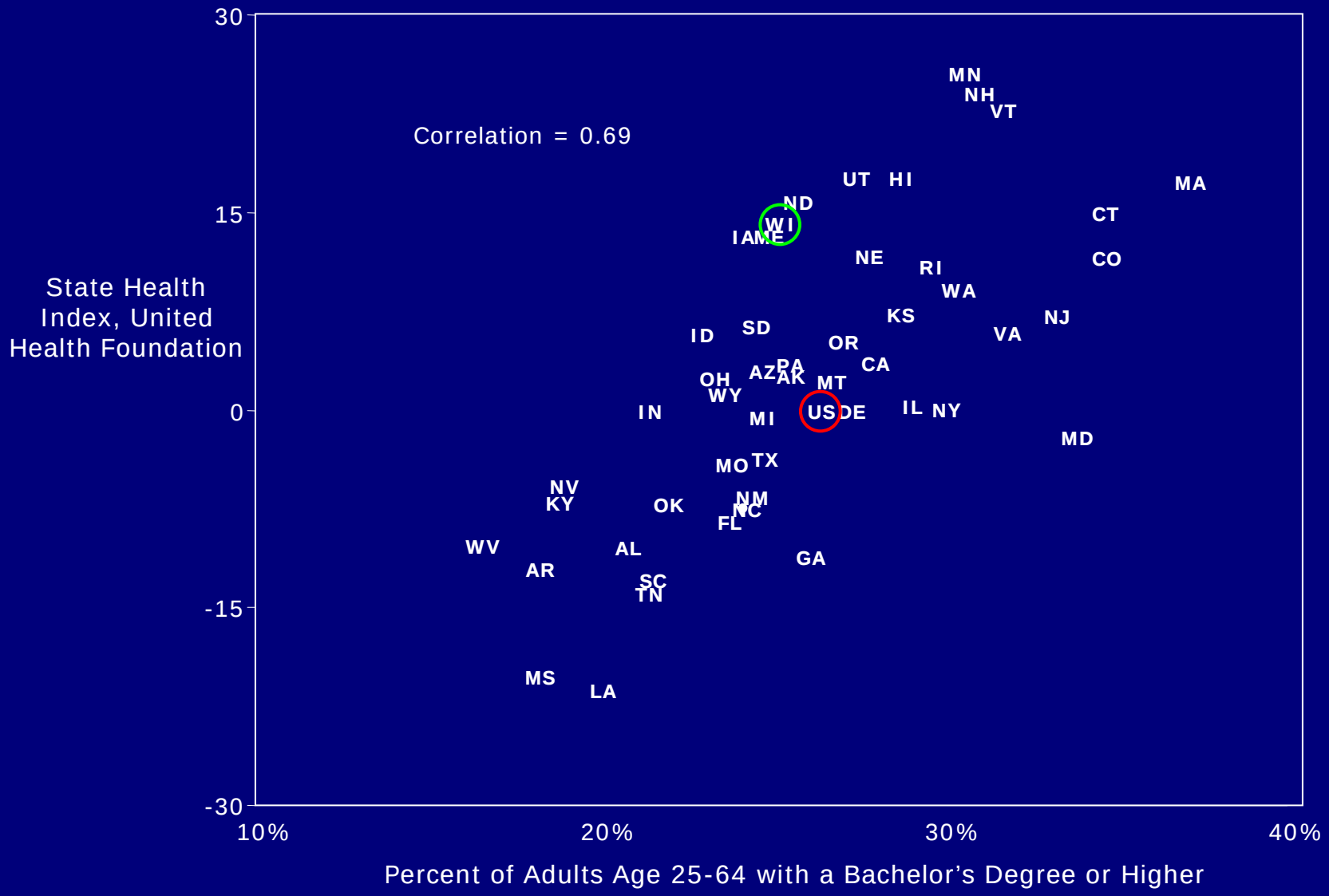


Relationship Between Educational Attainment and High Tech Employment



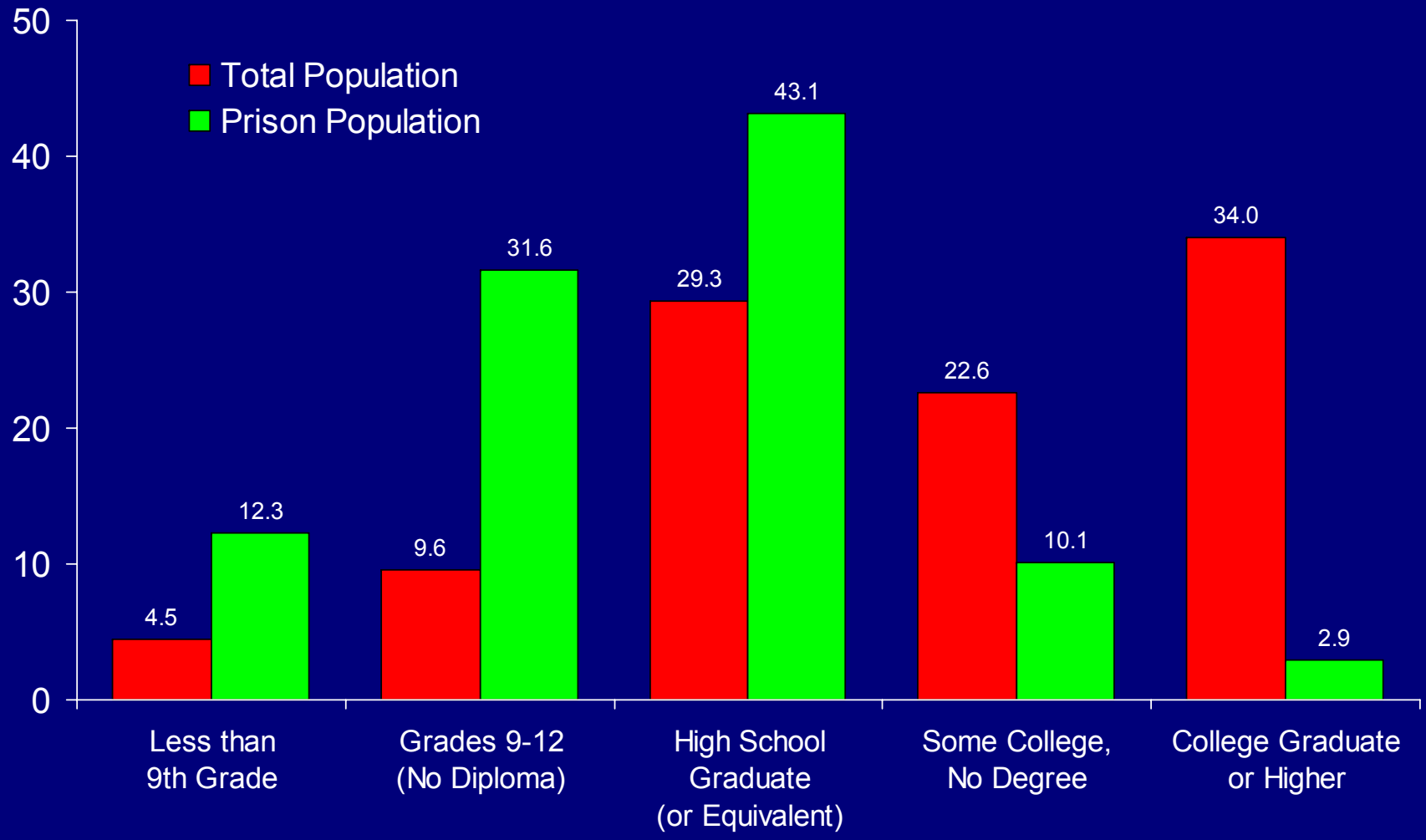
Source: State New Economy Index, U.S. Census Bureau

Relationship Between Educational Attainment and Health



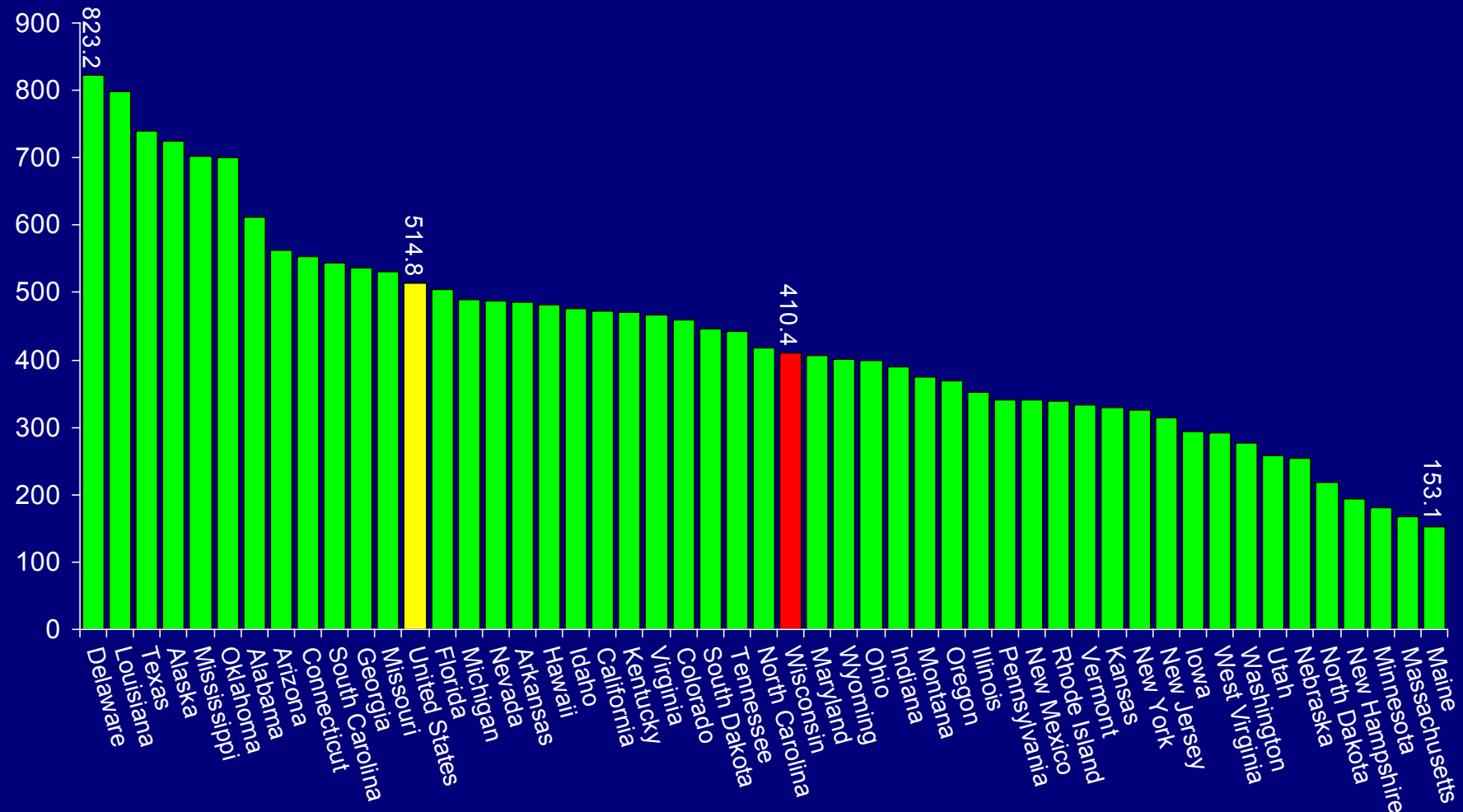
Source: United Health Foundation, U.S. Census Bureau

Educational Attainment of Adults Age 18-64—Total U.S. Population vs. Prison Population (Percent)



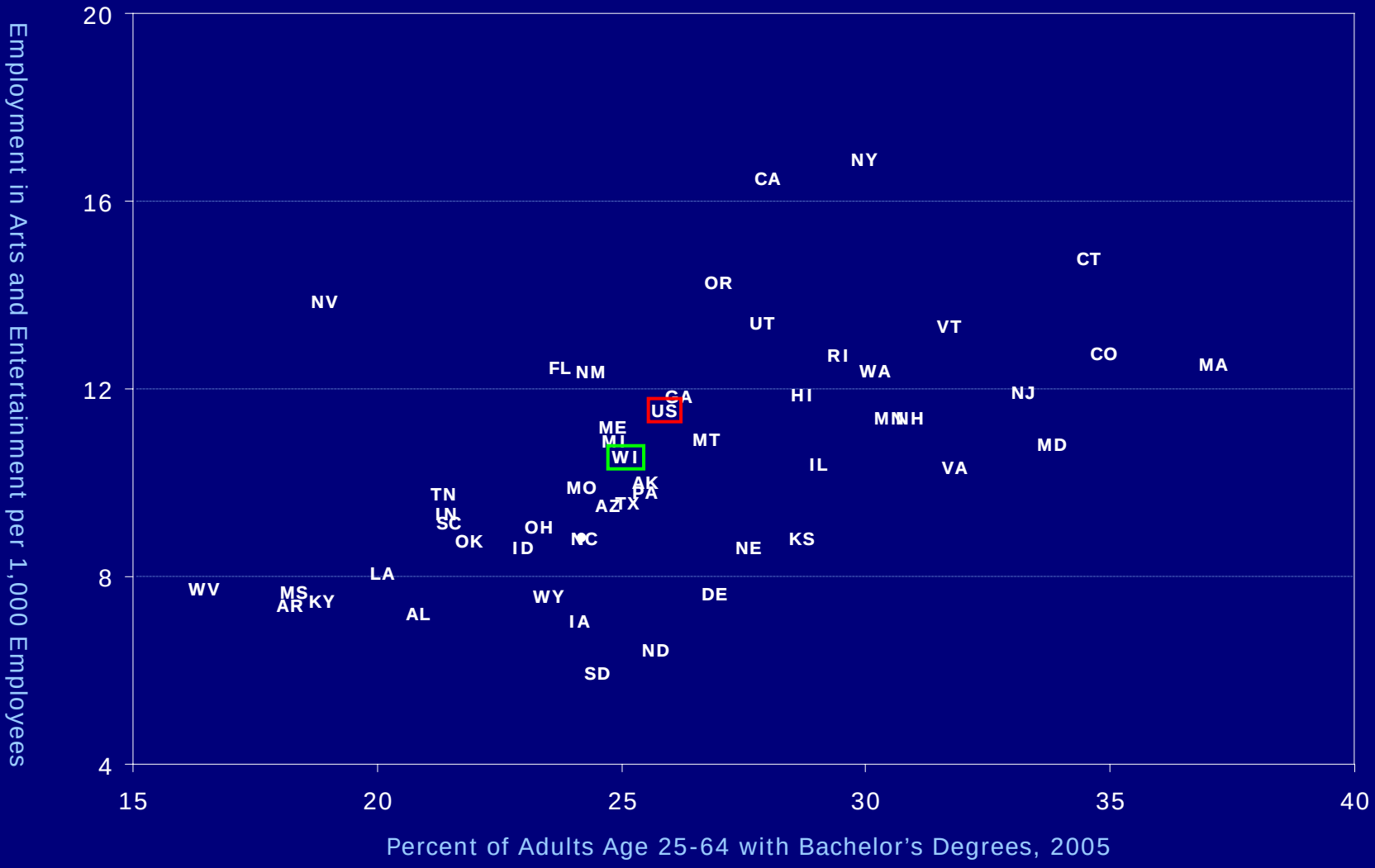
Source: U.S. Bureau of Justice Statistics 2002 data, U.S. Census Bureau 2005 data

Incarceration Rate by State in 2005—Prisoners Under Federal and State Jurisdiction per 100,000 Residents



Source: U.S. Bureau of Justice Statistics, U.S. Census Bureau

The Relationship Between Educational Attainment and Employment in the Arts, 2005



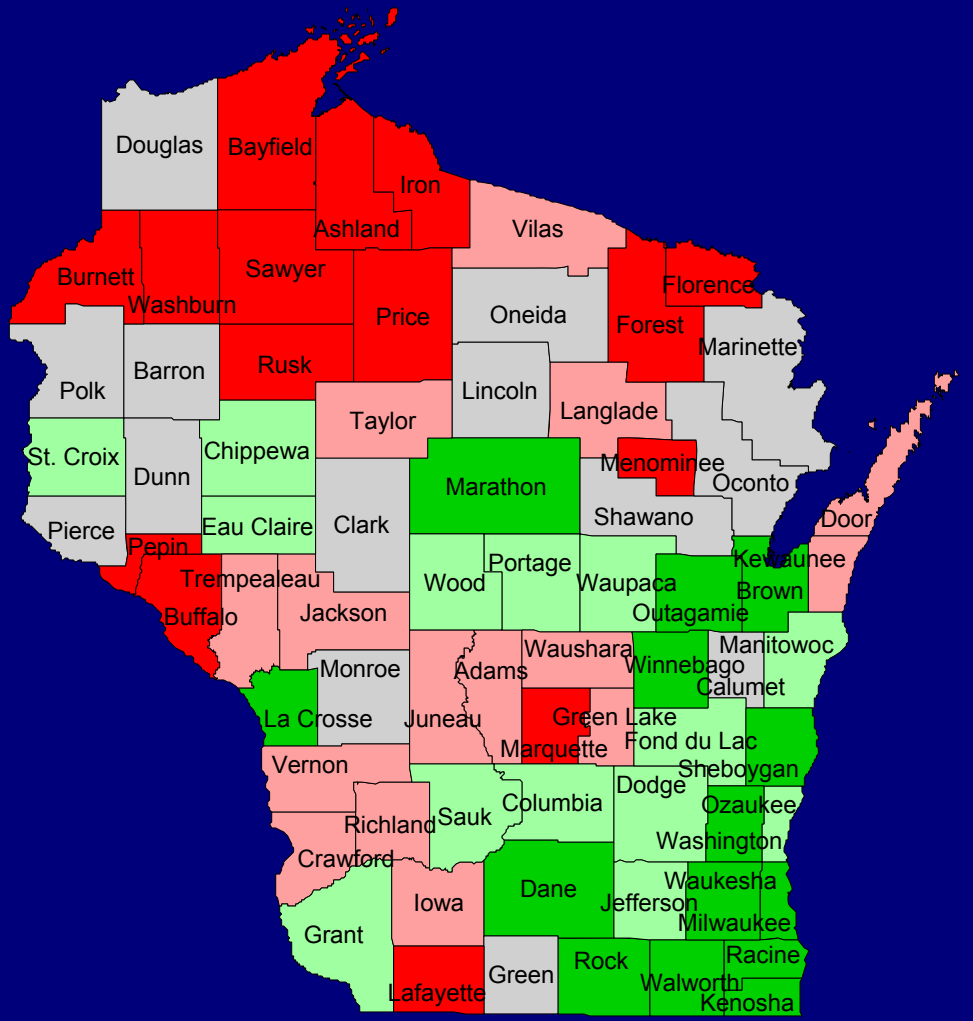
Source: U.S. Census Bureau, 2005 American Community Survey

Strategic Decision Areas

Basic Mission	Basic Purposes of the Enterprise and Its Guiding Principles for Behavior
Clientele	Target Audiences to Be Served
Program/ Service Mix	Program Offerings and Priorities of the Enterprise
Comparative Advantage	"Differential Advantage" Sought Over Other Organizations Engaged in Similar Activities
Assets	Changes Needed in Human, Physical, Information or Intangible Assets of the Enterprise
Objectives	What the Organization Must Accomplish in Order to Move from ***Existing*** to ***Desired*** State of Affairs

Population

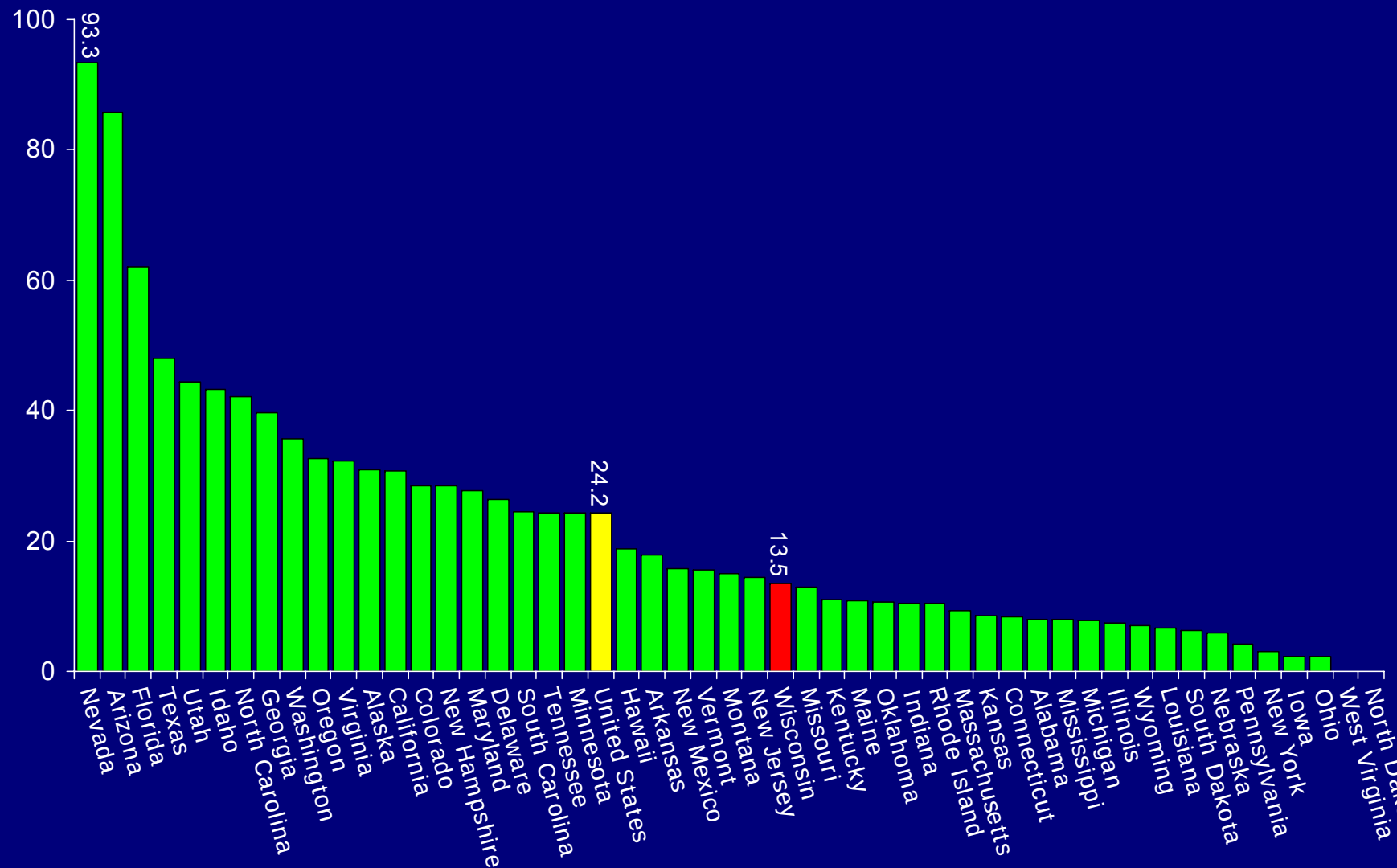
Total Population, 2005



99,844 to 921,654
49,671 to 99,844
30,319 to 49,671
17,134 to 30,319
4,580 to 17,134

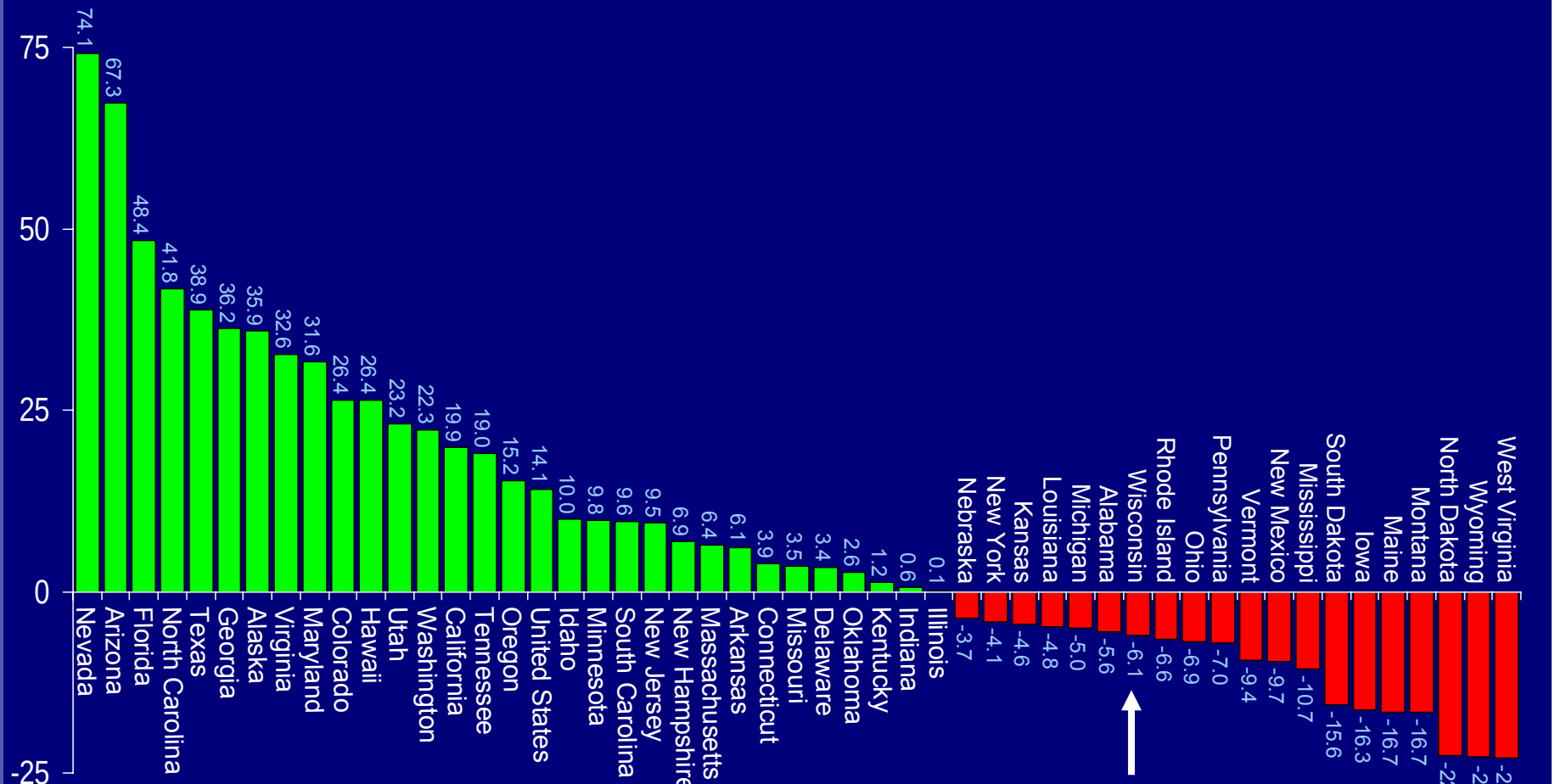
Wisconsin = 5,536,201
Source: U.S. Census Bureau, Population Estimates

Population Projections—Percent Change, 2000-25



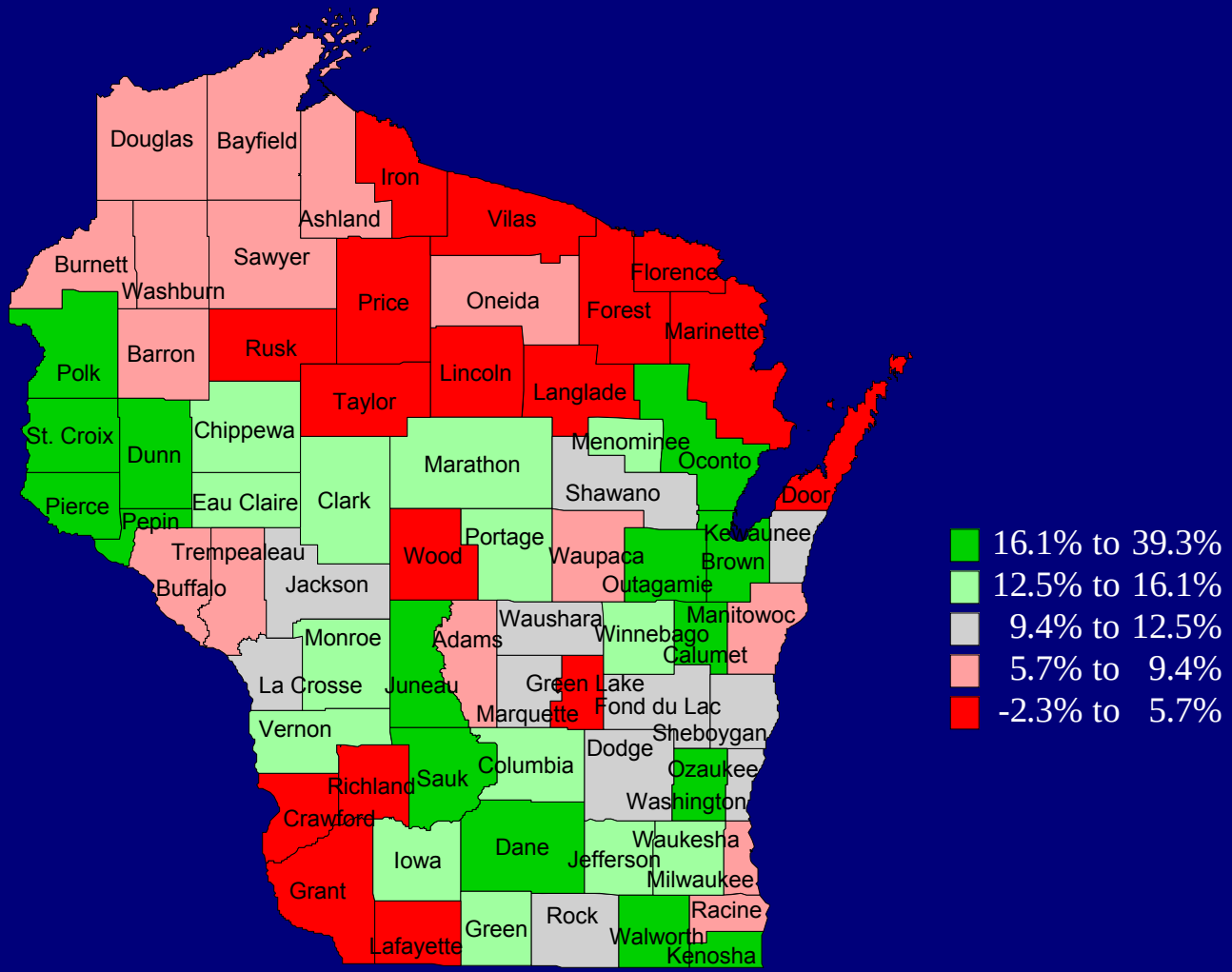
Source: U.S. Census Bureau

Population Projections, College-Age Residents (Age 18-24)—Percent Change from 2000 to 2025



Source: U.S. Census Bureau

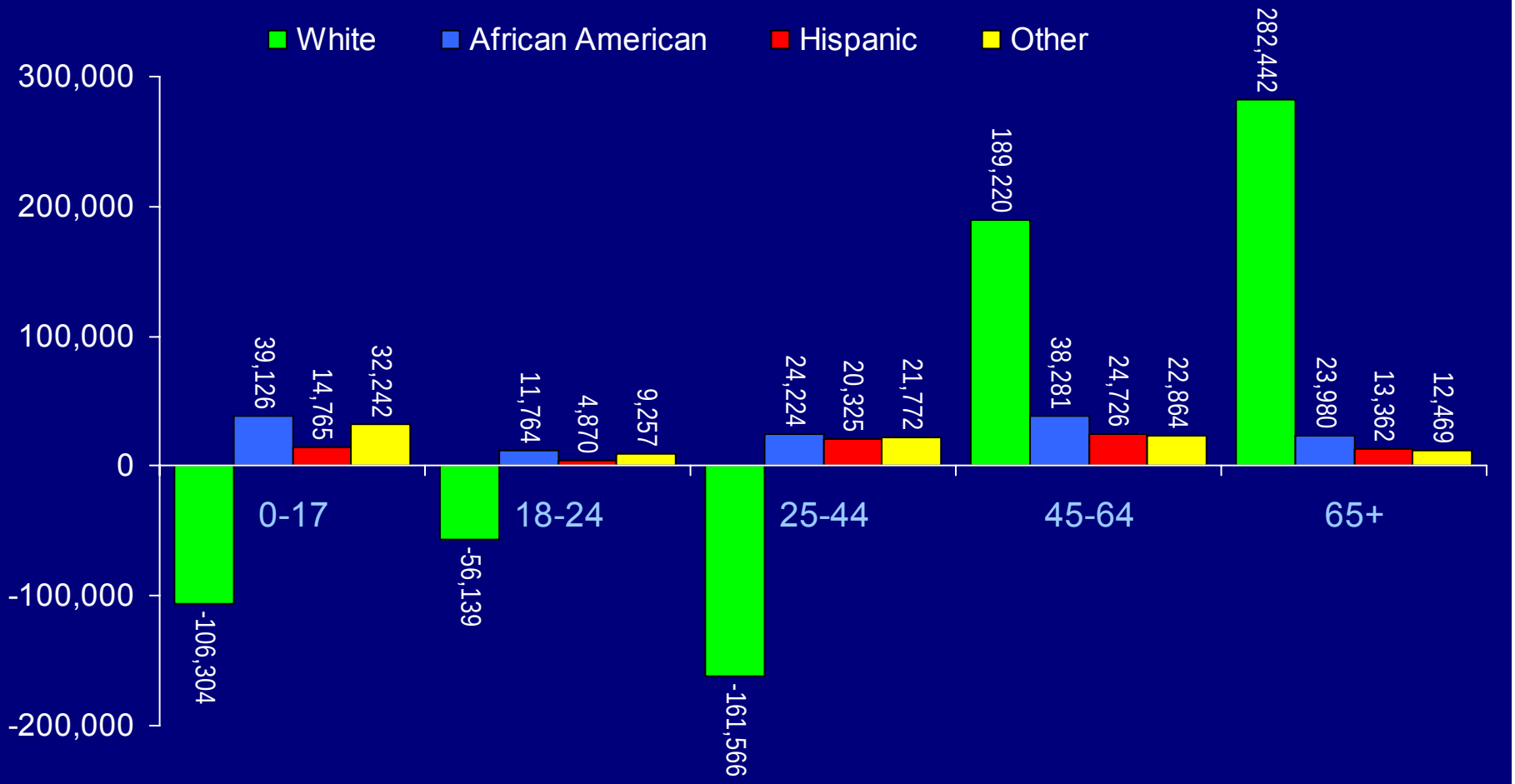
Percent Change in Total Population, 2005-2025



Wisconsin = 12.8%

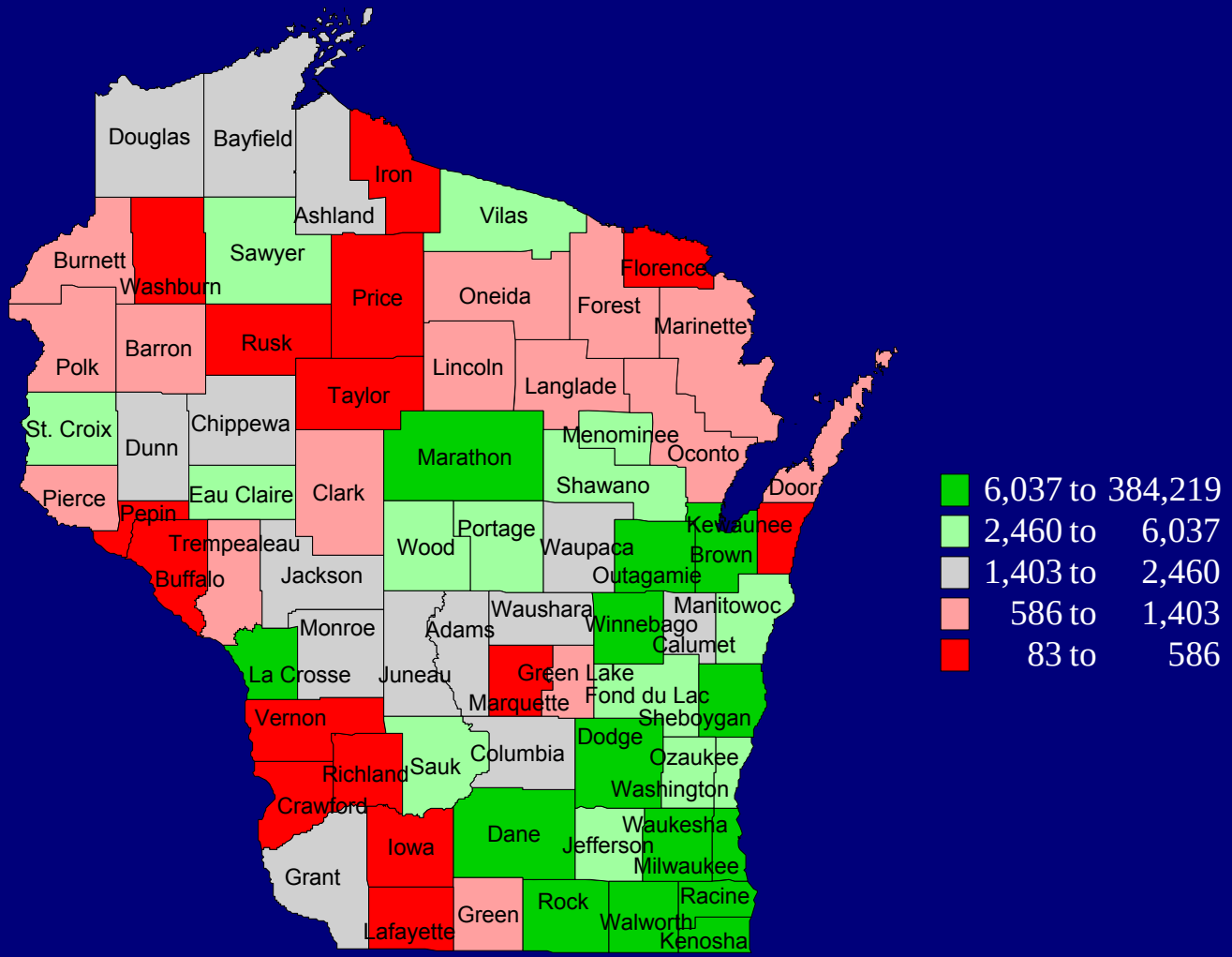
Source: Wisconsin Department of Administration, Population and Household Projections 2000-30

Projected Change in Wisconsin Population by Age and Race/Ethnicity, 2000-20



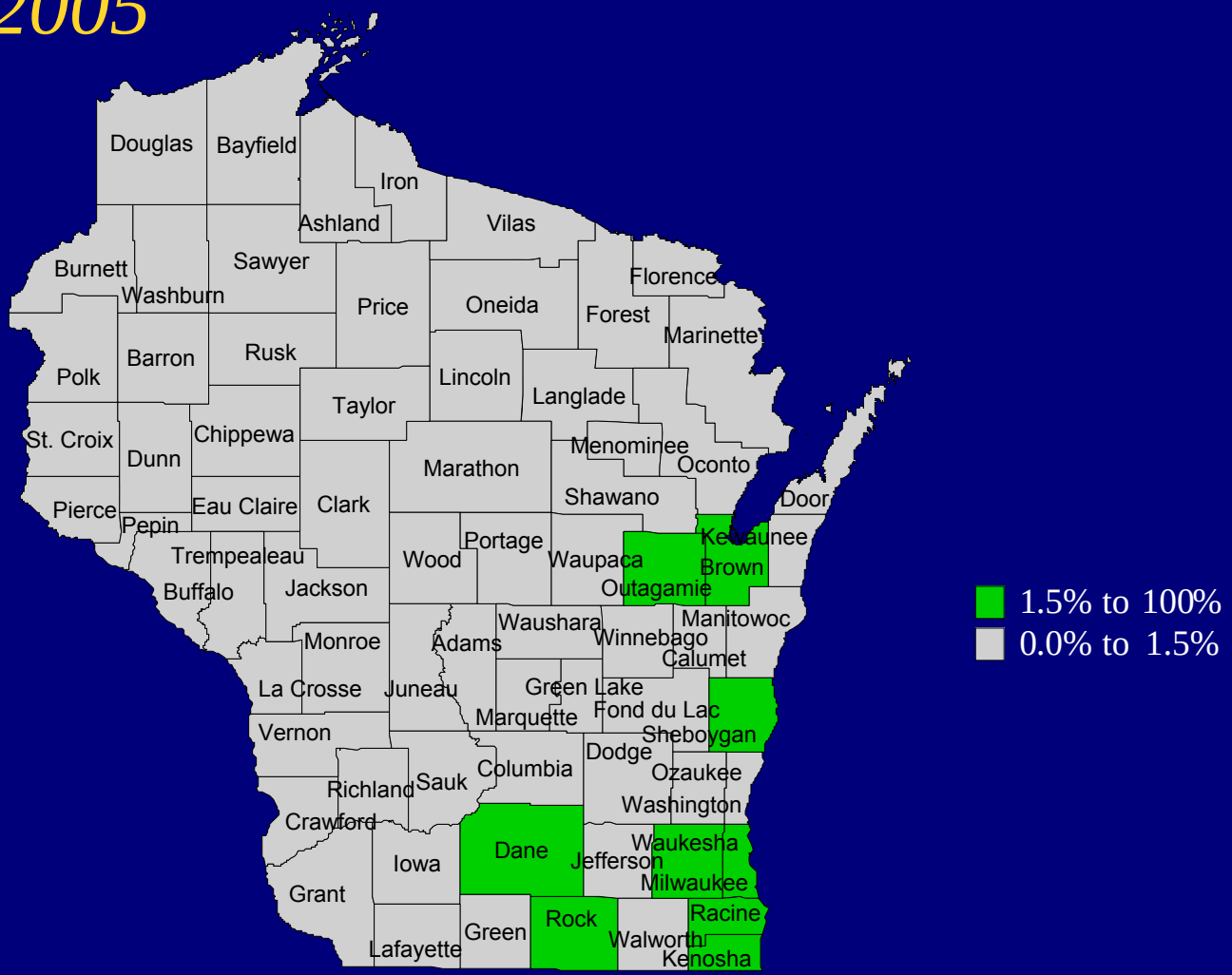
Source: U.S. Census Bureau

Total Minority Population, 2005



Wisconsin = 777,003
Source: U.S. Census Bureau, Population Estimates

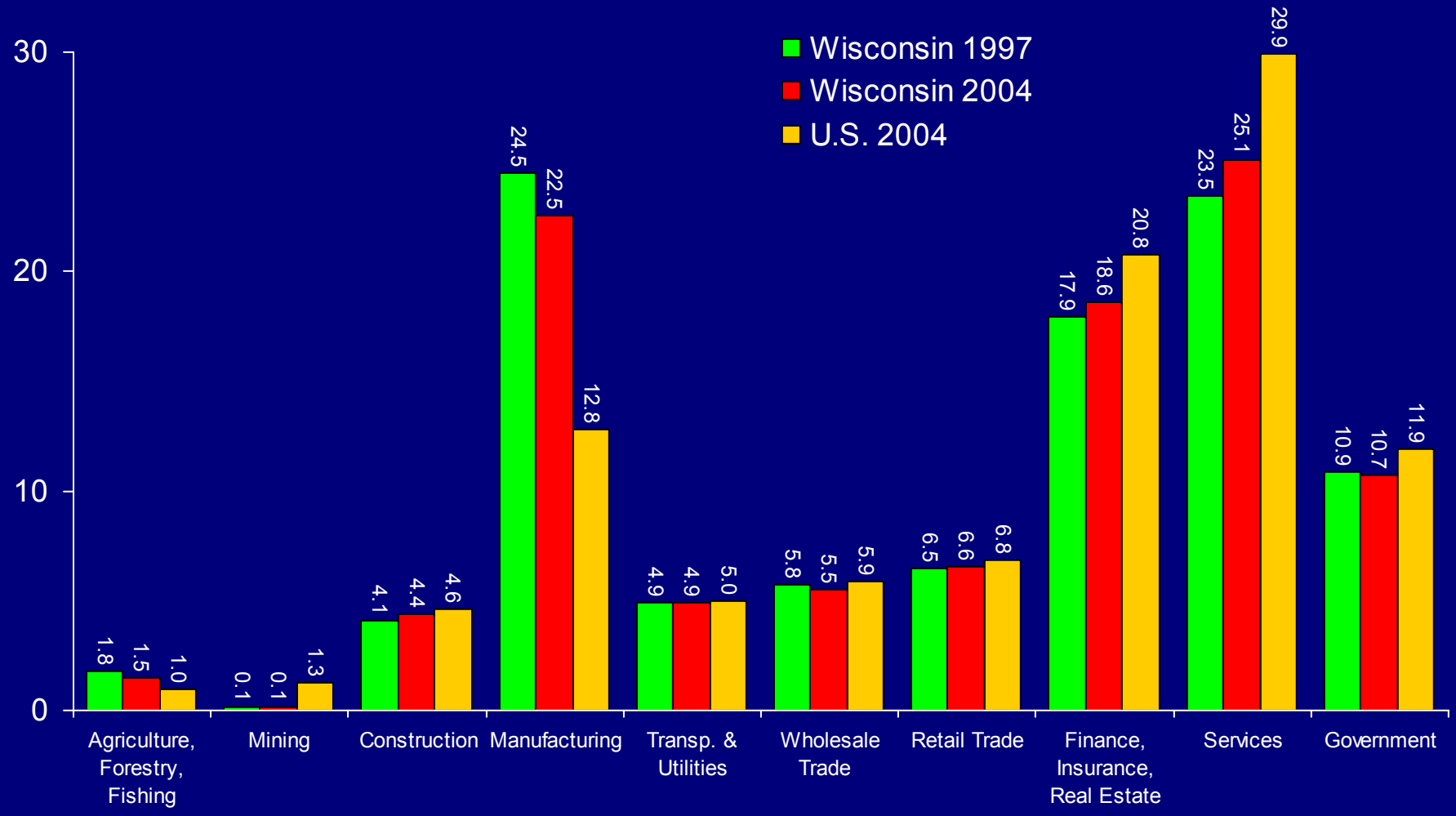
Counties Where 80% of Minority Population Reside, 2005



Source: U.S. Census Bureau, Population Estimates

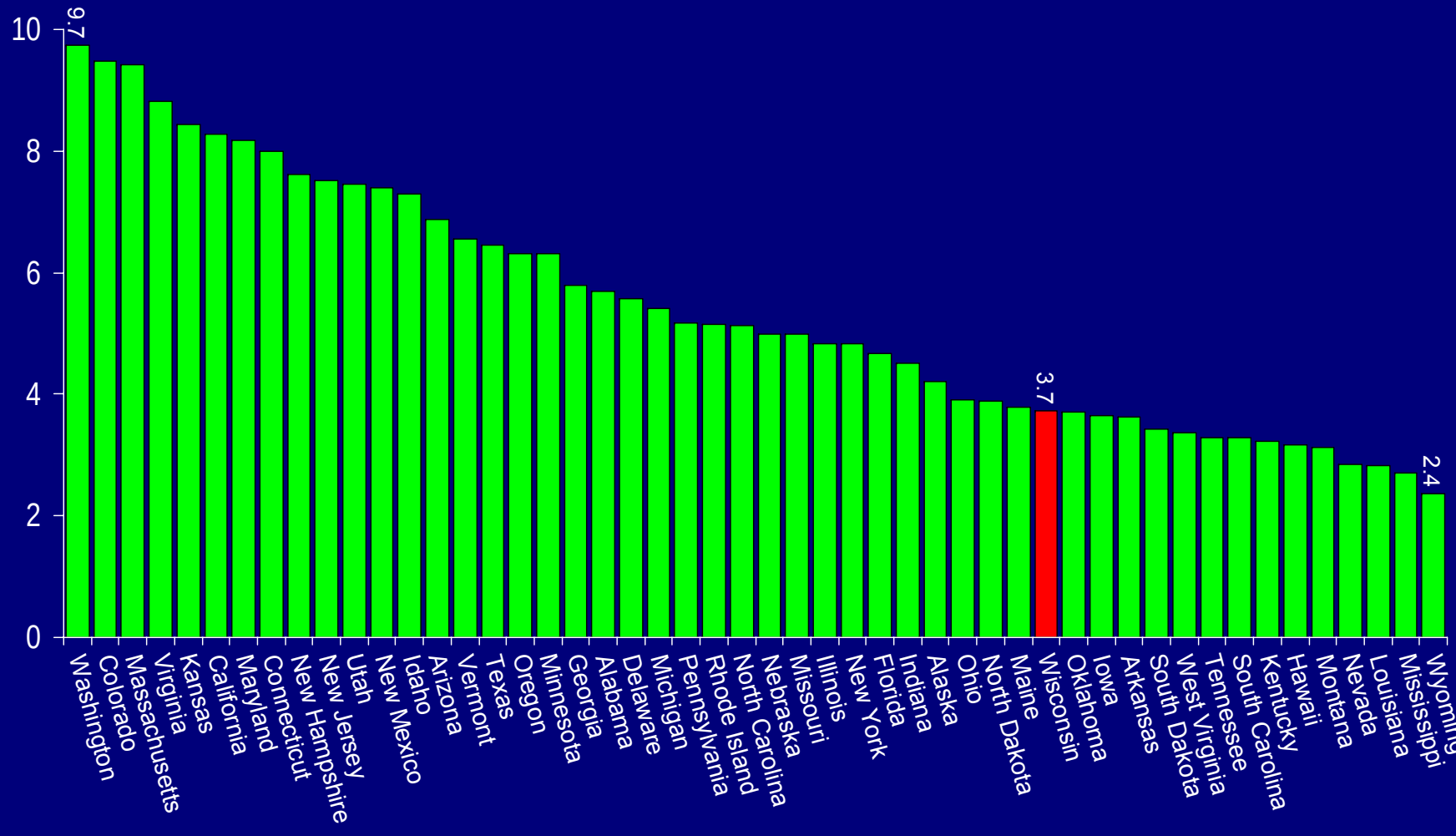
Economy and the Workforce

Percent of Total Gross State Product by Industry and Comparison to U.S.



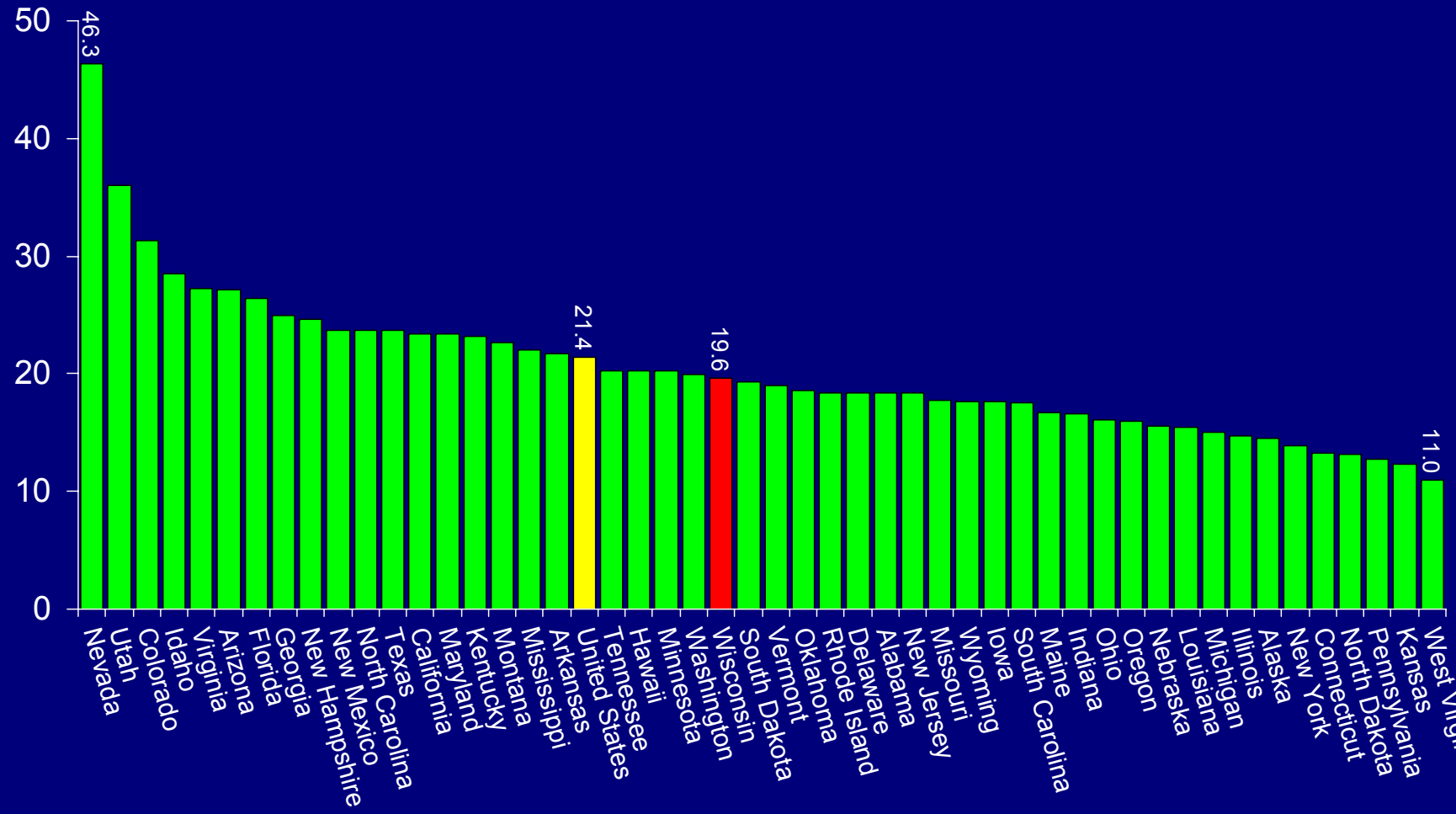
Source: Bureau of Labor Statistics

Employment in High-Technology Establishments as Share of Total Employment by State, 2004



Source: U.S. Bureau of Labor Statistics, CFED

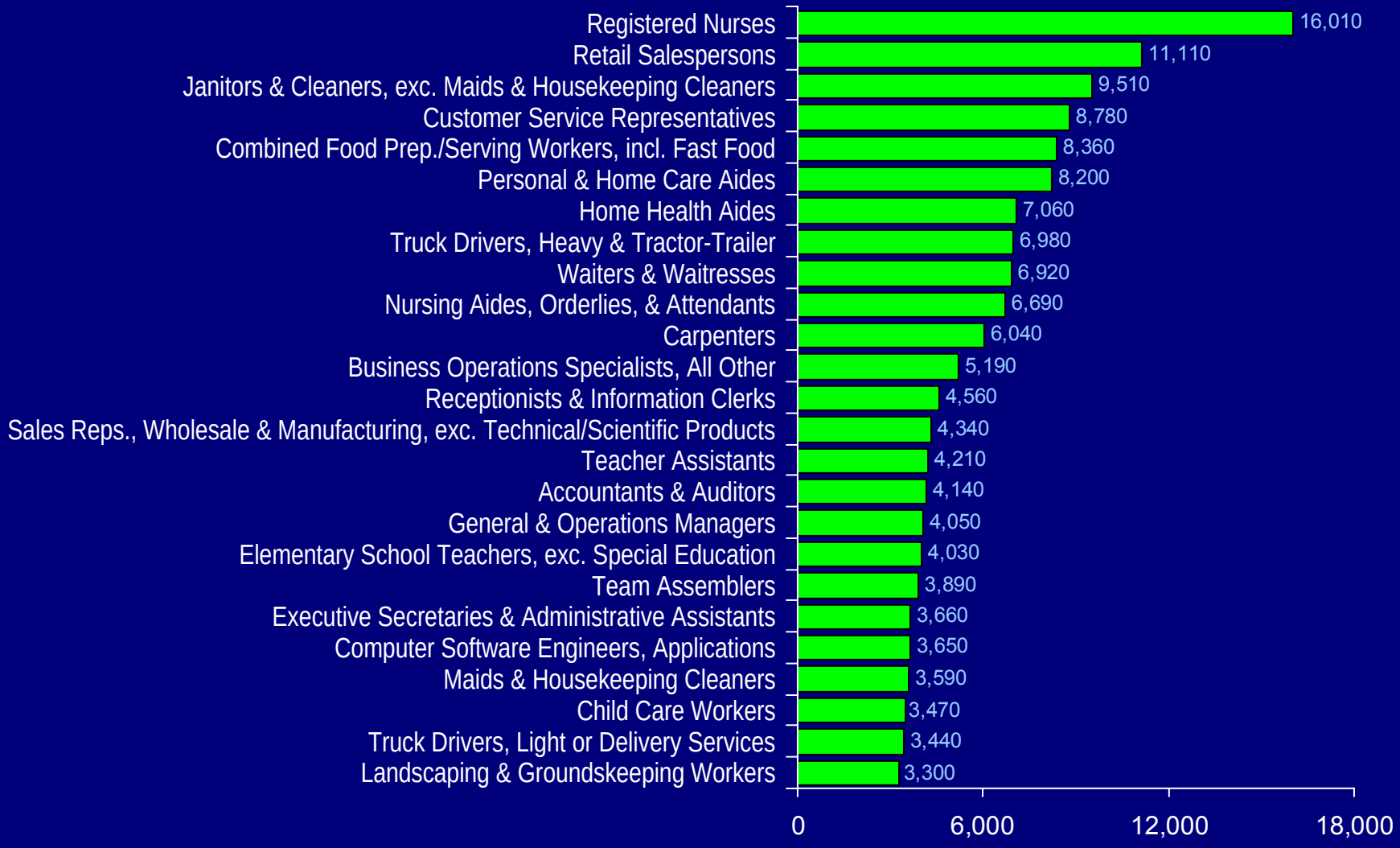
Projected Percent Change in Occupations Requiring Some Postsecondary Training, 2002-2012



Note: Some college, Associate, Bachelor's and higher.

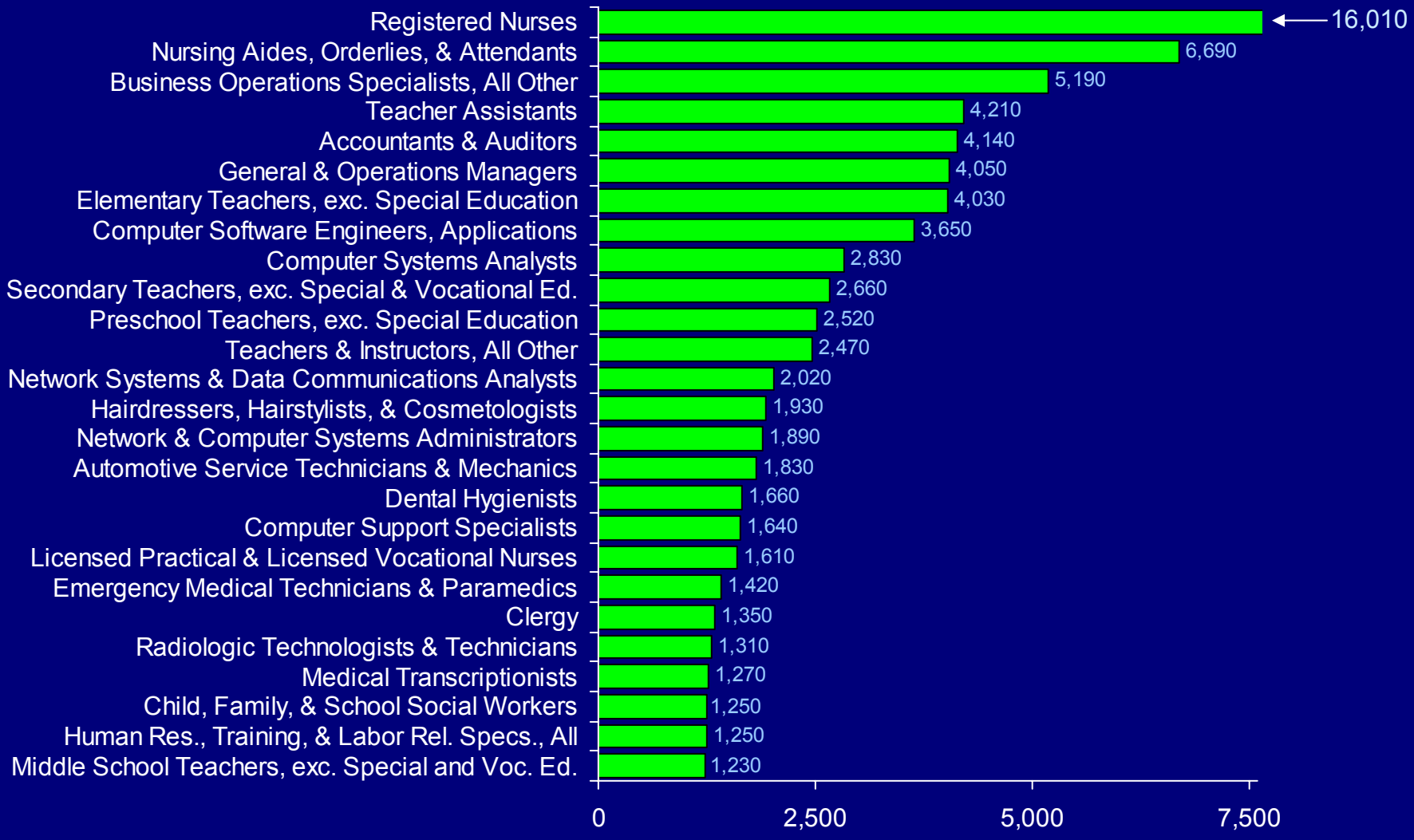
Source: ACINet, *Career InfoNet*

Wisconsin Projected Occupation Growth, Top 25 Occupations 2004-2014



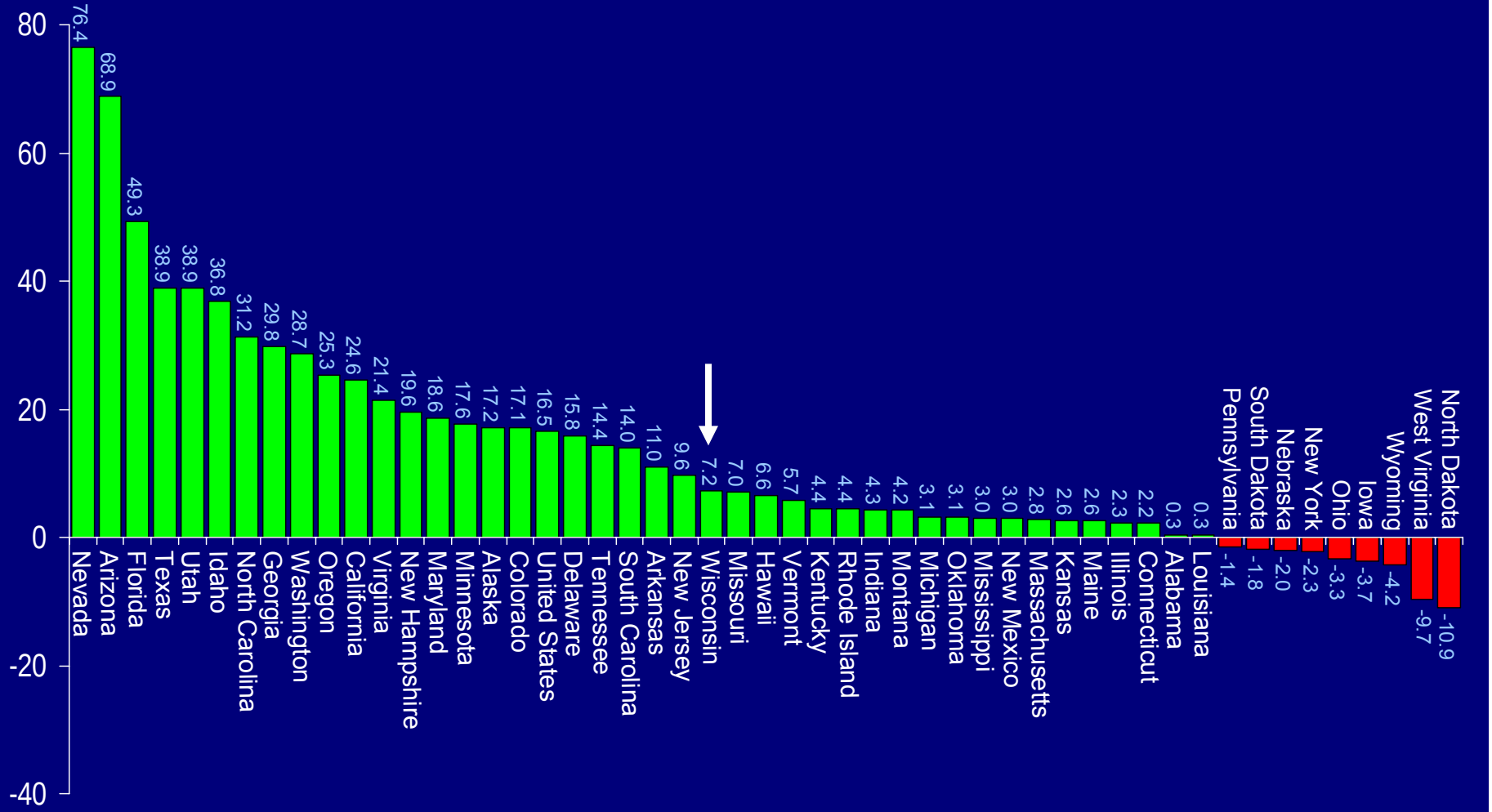
Source: Wisconsin Department of Workforce Development, Office of Economic Advisors

Wisconsin Projected Occupation Growth, Top 25 Occupations Typically Requiring Postsecondary Education 2004-2014



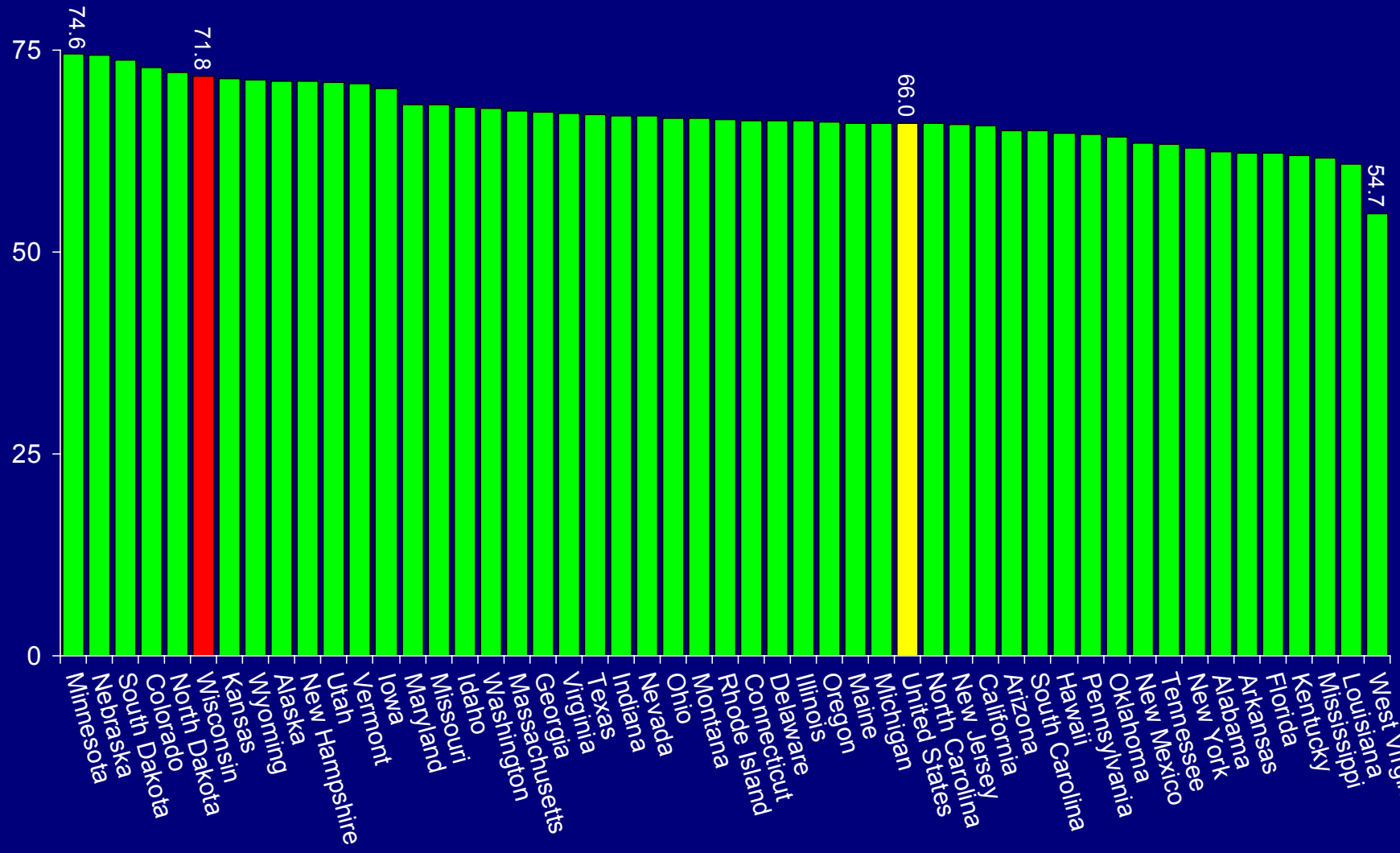
Source: Wisconsin Department of Workforce Development, Office of Economic Advisors

Projections of Working-Age Population (Age 18-64)—Percent Change from 2000 to 2025



Source: U.S. Census Bureau

Percent of Civilian Population Participating in the Workforce, 2004



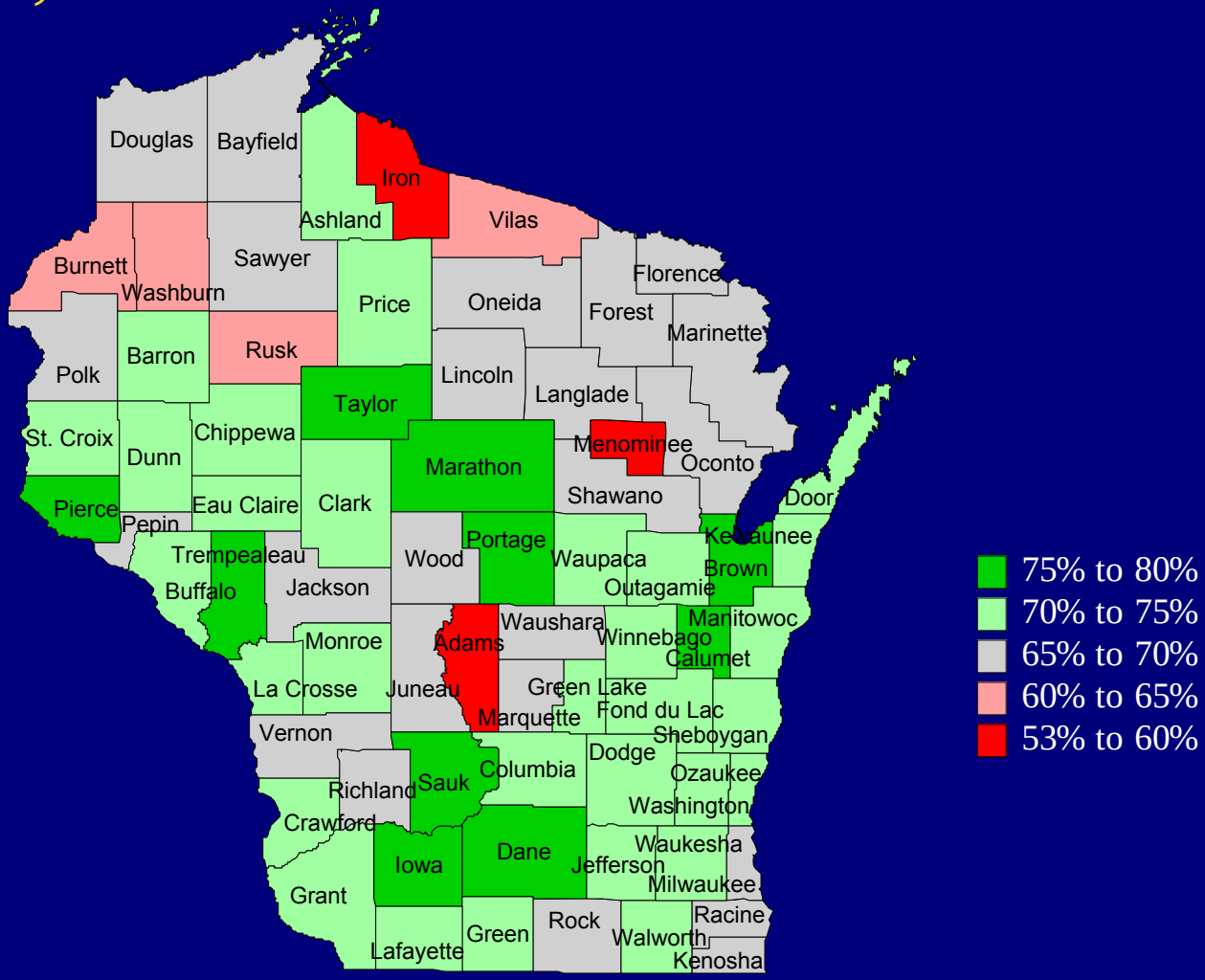
Source: U.S. Census Bureau

Percent of Civilians Age 25-64 Not in the Workforce By Education Attainment, 2005

	U.S.	Wisconsin
Less than High School	43.2	31.3
High School	27.0	20.5
Some College	20.7	17.2
Associate Degree	17.3	12.6
Bachelor's Degree	15.4	14.2
Graduate/Prof. Degree	12.4	12.8

Source: U.S. Census Bureau, PUMS (based on 2000 Census)

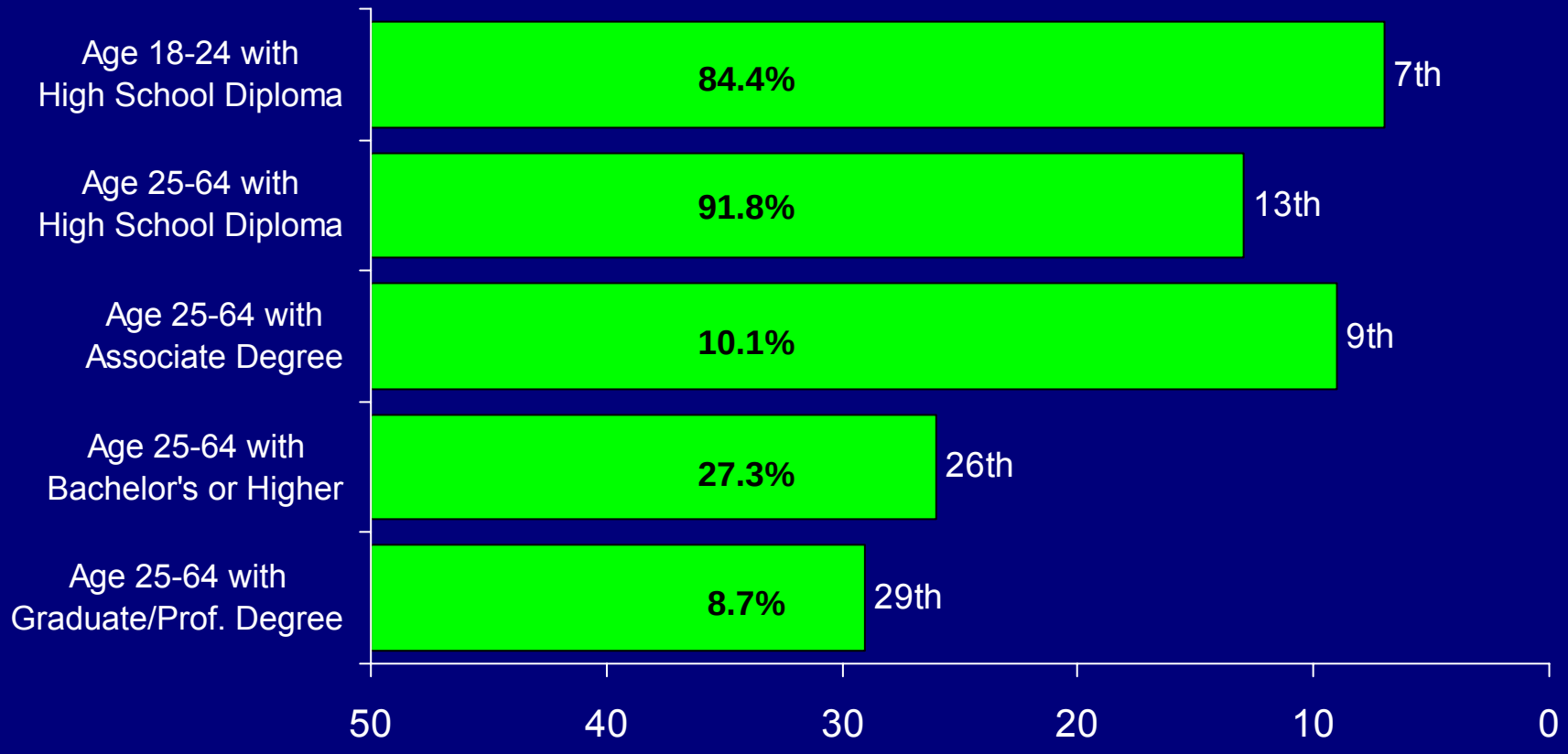
Percent of Civilian Population Participating in the Workforce, 2004



Wisconsin = 70.8%

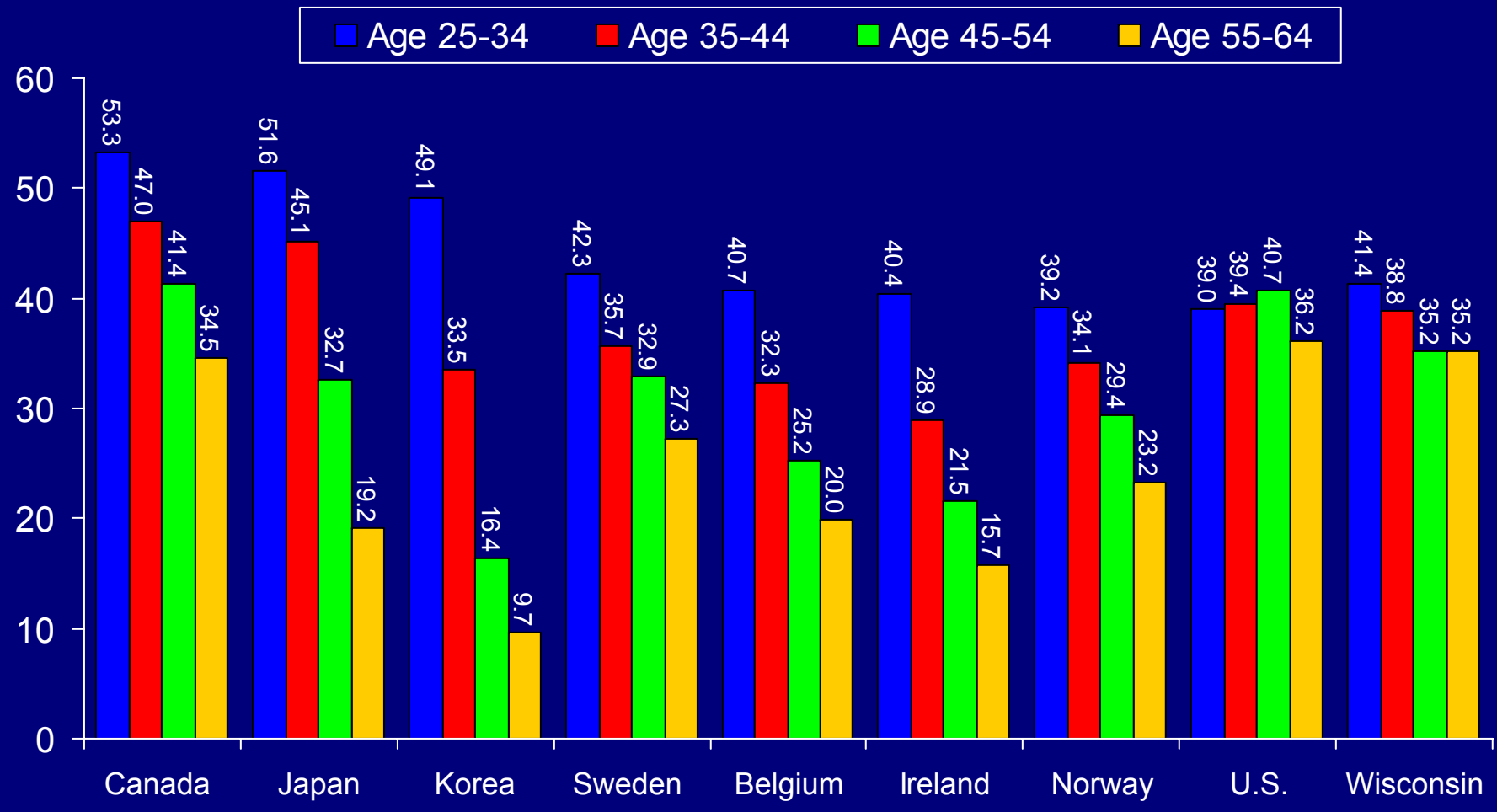
Source: State of Wisconsin Department of Workforce Development

Educational Attainment and Rank Among States—Wisconsin, 2005



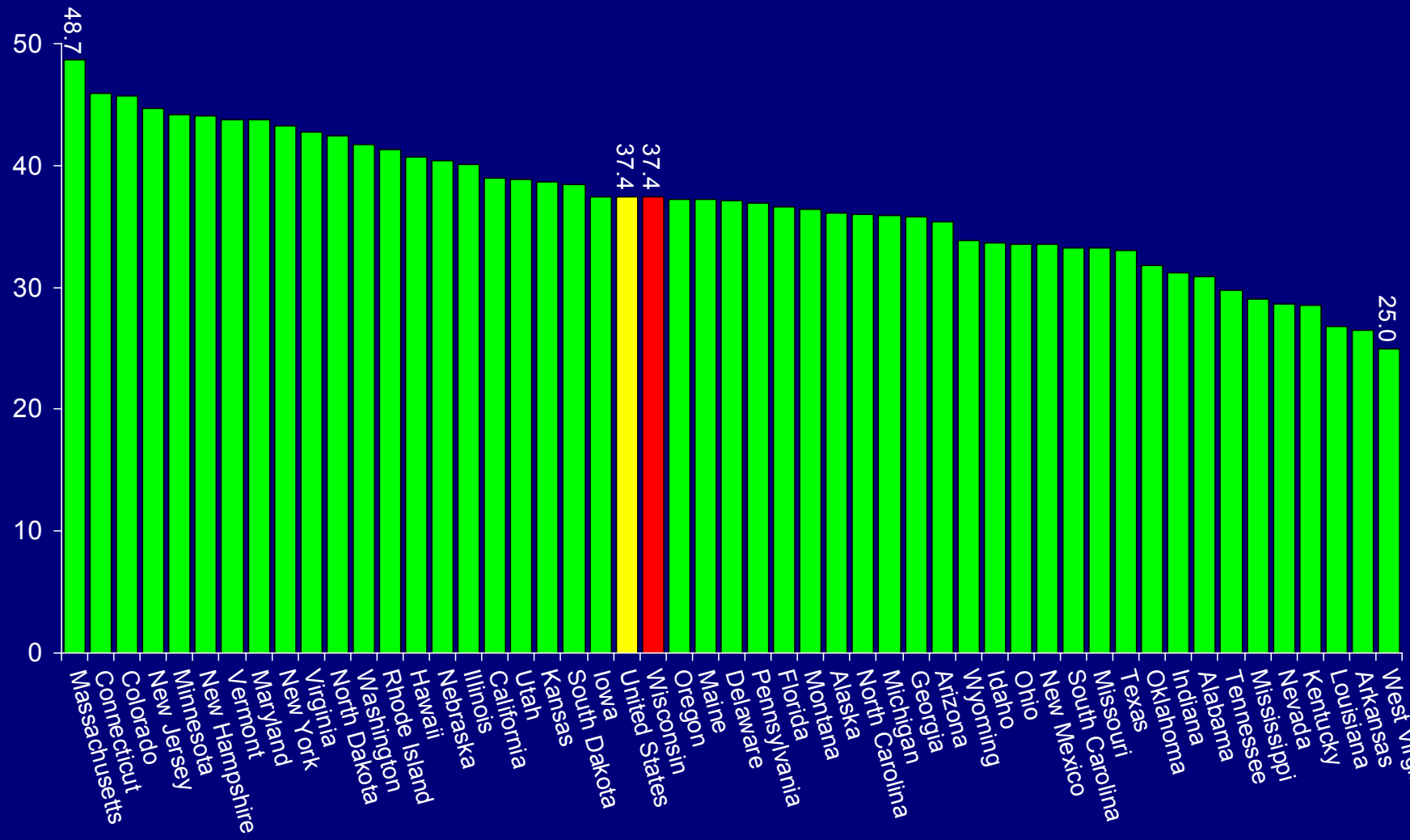
Source: U.S. Census Bureau, 2005 American Community Survey (ACS)

Percent of Adults with an Associate Degree or Higher by Age Group—Wisconsin, the U.S. and Leading OECD Countries, 2004



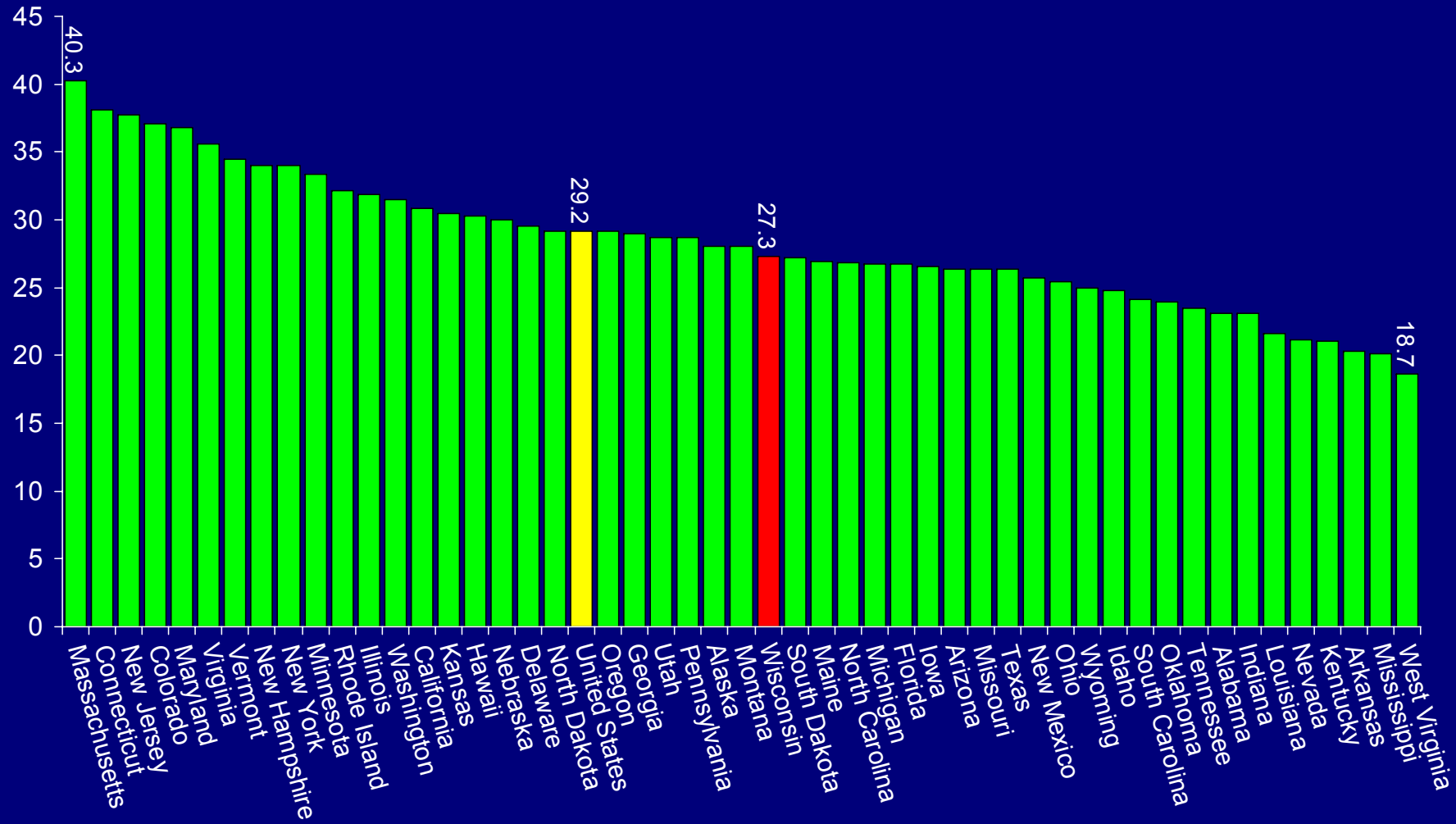
Source: *Education at a Glance 2005*, OECD

Percent of Population Age 25-64 with an Associate Degree or Higher, 2005



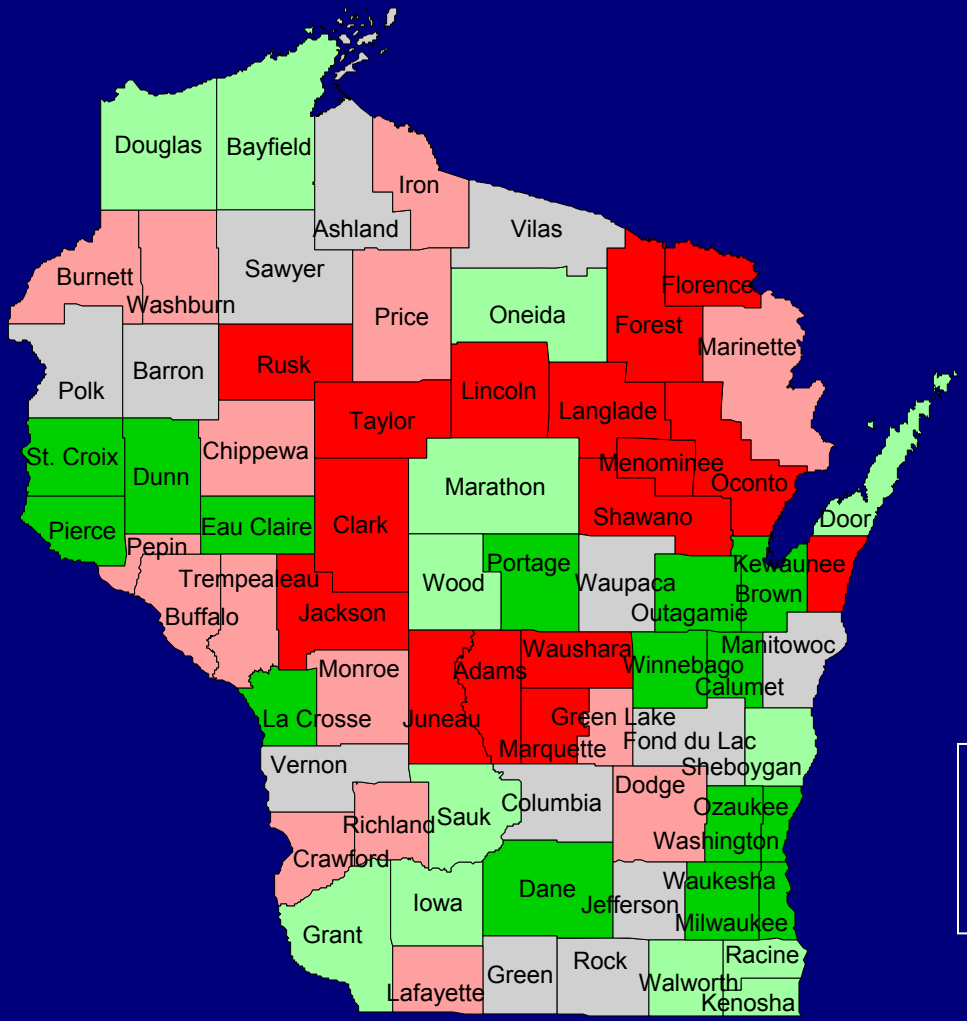
Source: U.S. Census Bureau, 2005 ACS

Percent of Population Age 25-64 with a Bachelor's Degree or Higher, 2005



Source: U.S. Census Bureau, 2005 ACS

Percent of Population Age 25-64 with at Least a Bachelor's Degree, 2000

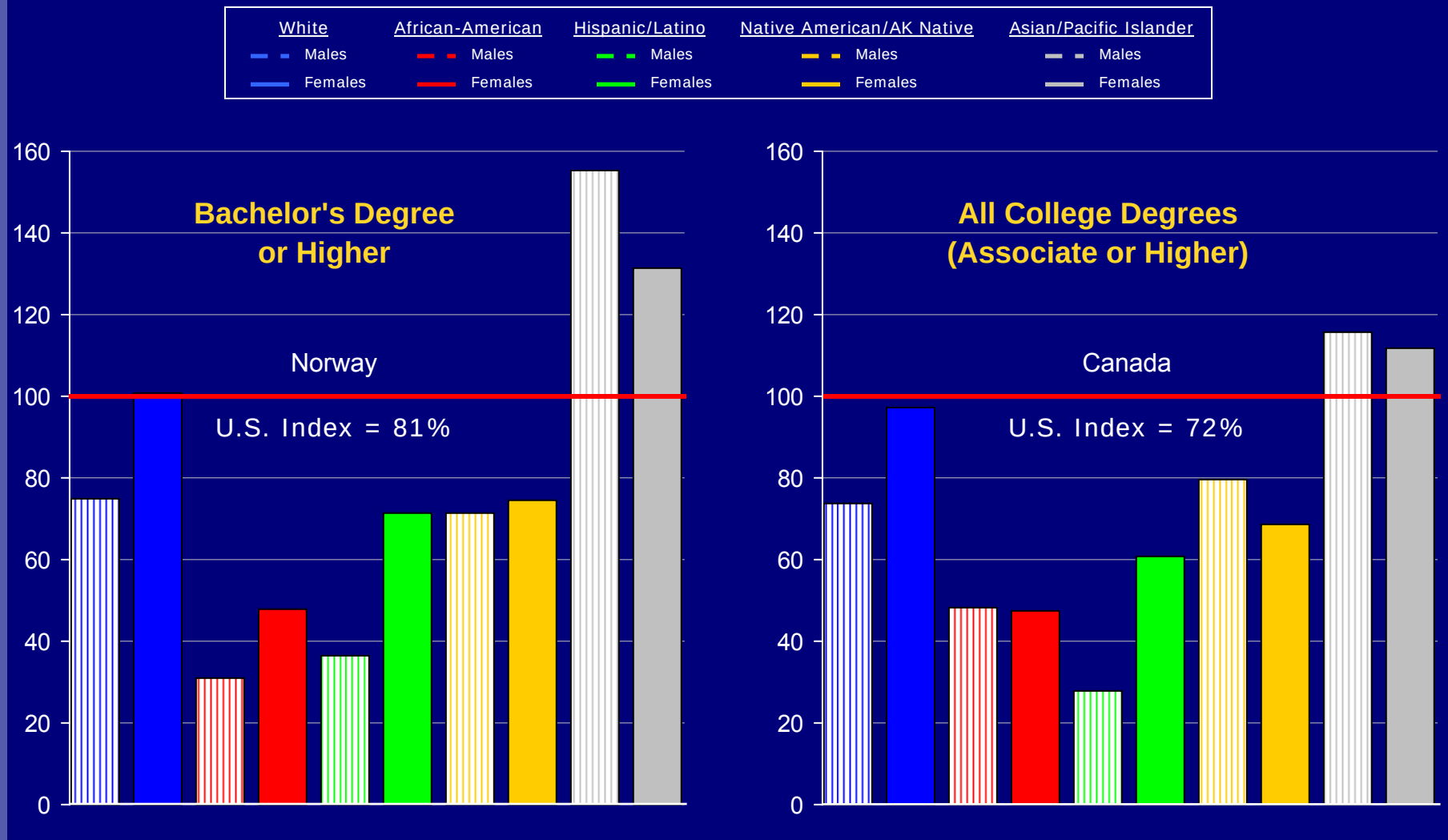


- 23.3% to 43.5%
- 19.2% to 23.3%
- 16.7% to 19.2%
- 14.2% to 16.7%
- 10.1% to 14.2%

Dane	=	43.5
Wisconsin	=	24.9
Menominee	=	10.1

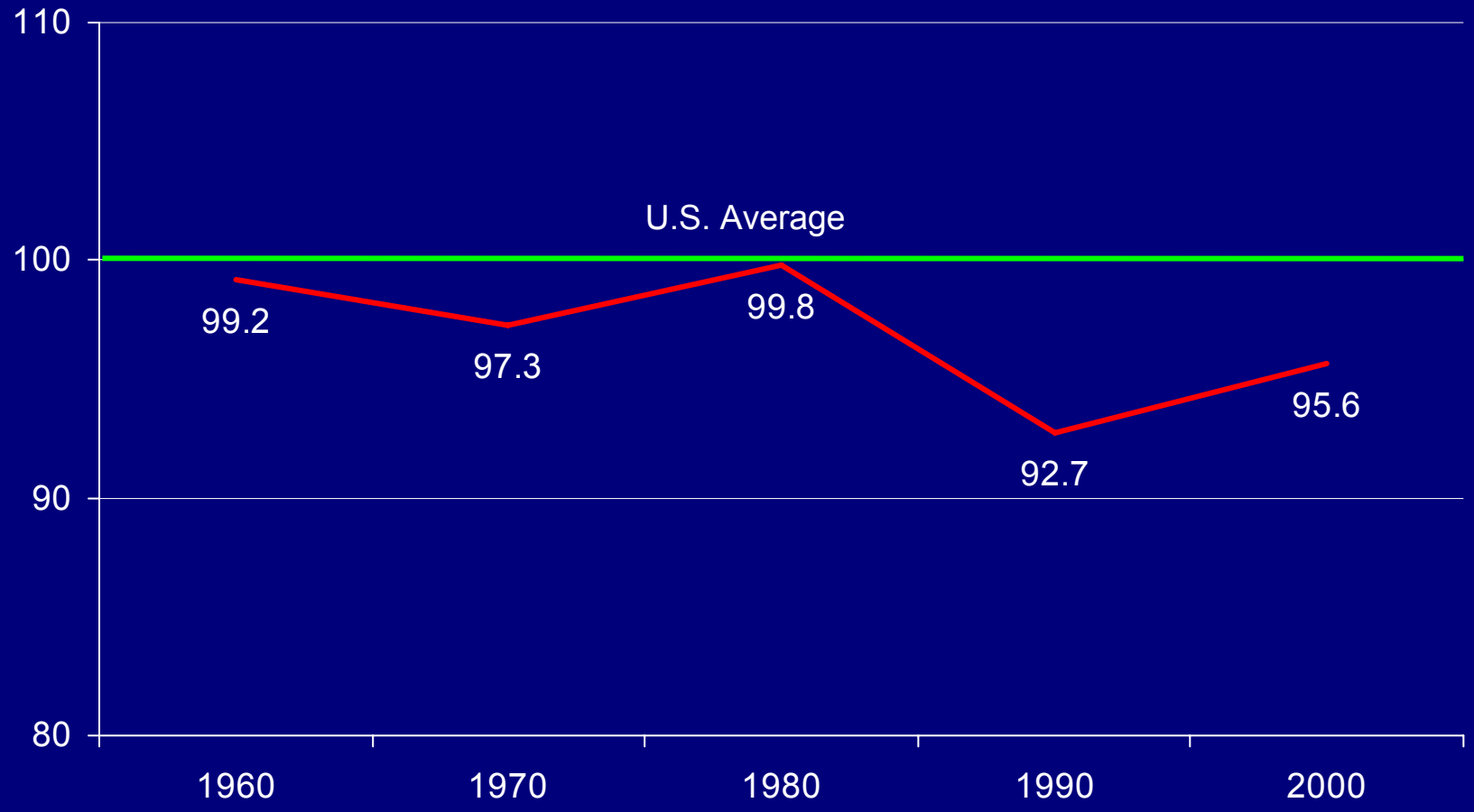
Source: U.S. Census Bureau, 2000 Census

Educational Attainment of Young Workforce (Age 25-34) in Wisconsin—Indexed to Most Educated Country, 2005



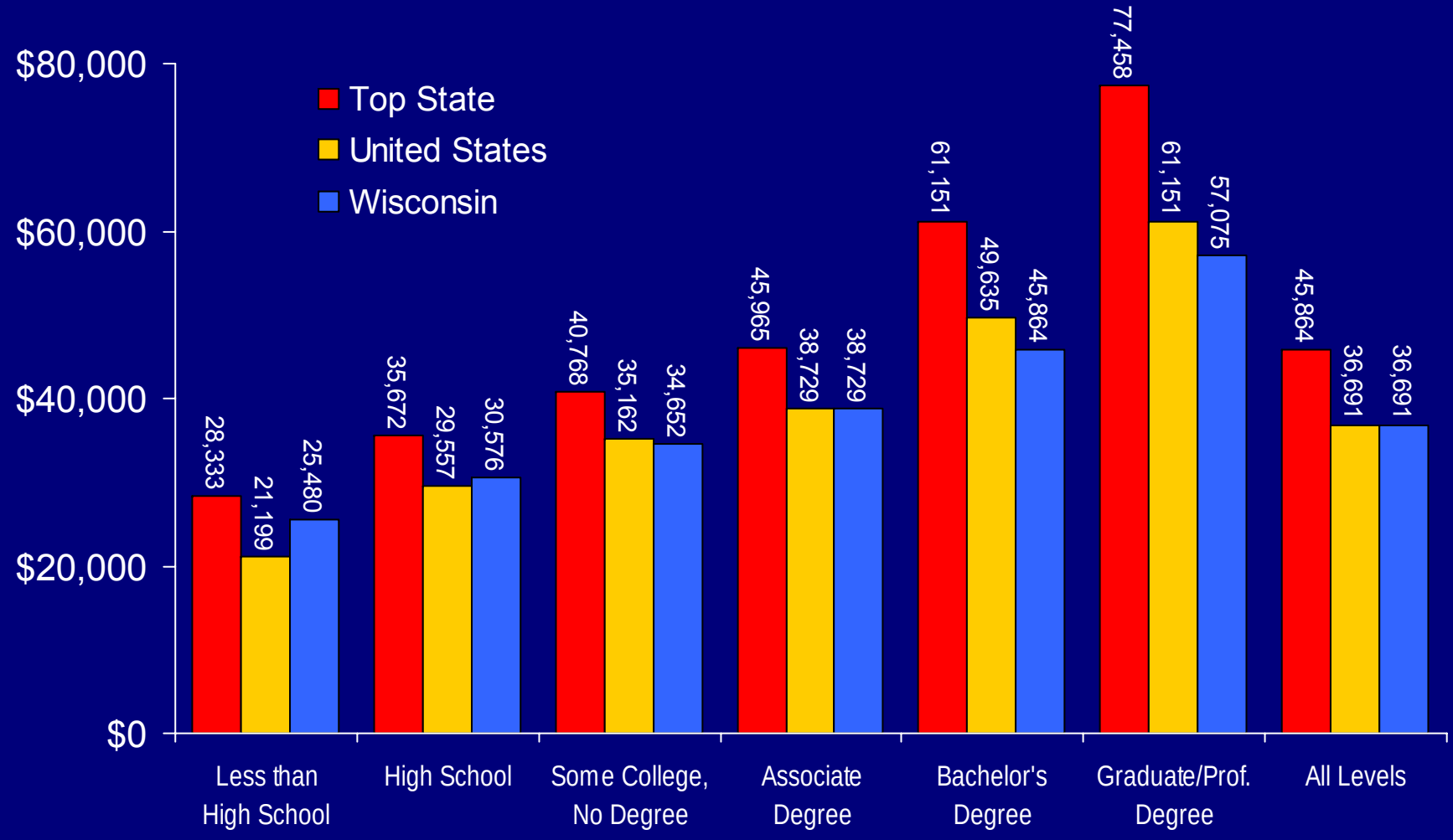
Source: U.S. Census Bureau, 2005 ACS; OECD

Per Capita Personal Income as a Percent of U.S. Average—Wisconsin, 1960-2000



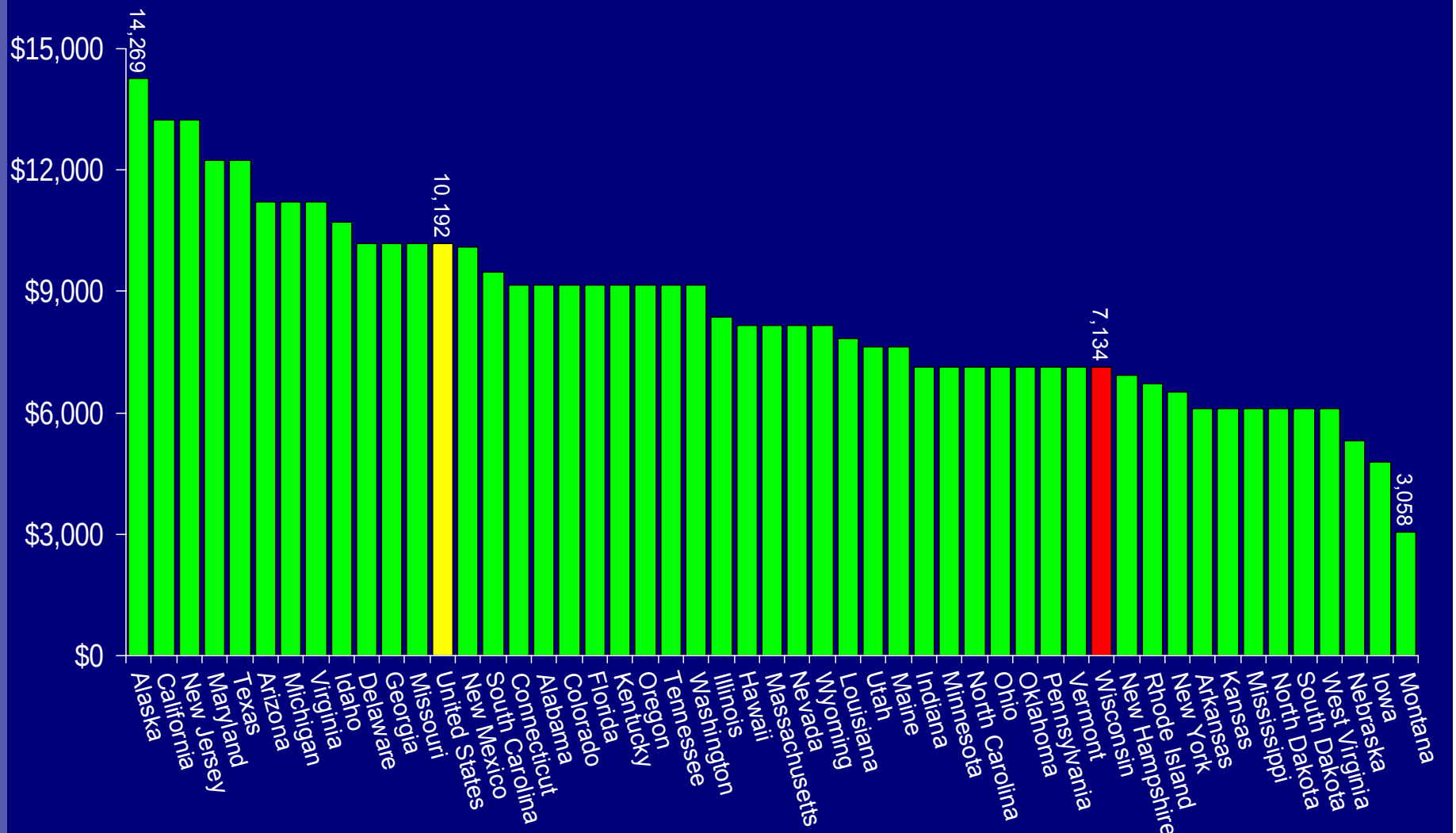
Source: U.S. Census Bureau's Current Population Survey (1960, 1970, 1980, 1990, and 2000)

Wisconsin Median Earnings Age 25-64 by Degree Level, 2005



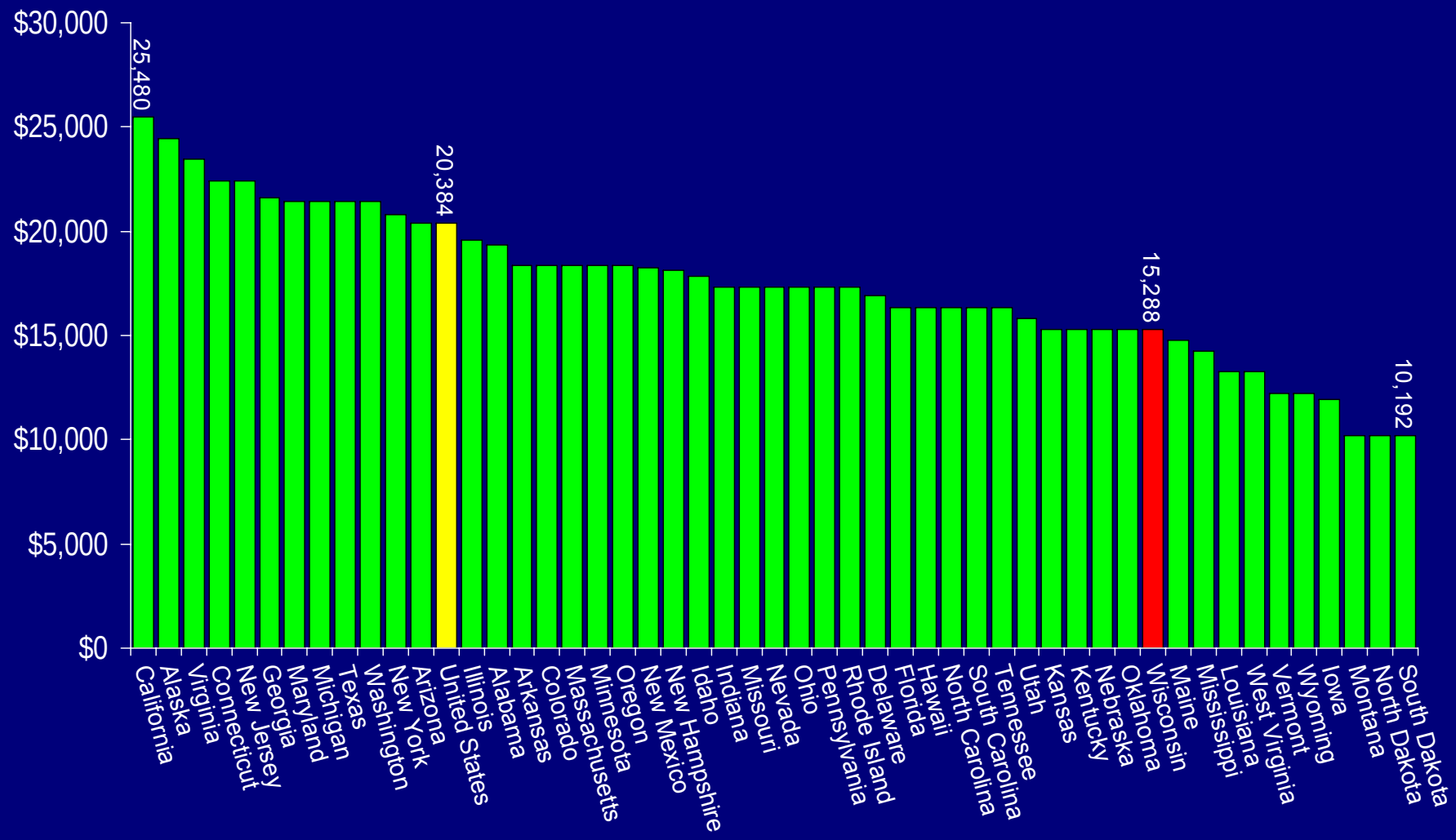
Source: U.S. Census Bureau, 2005 ACS PUMS File

Difference in Median Earnings Between a High School Diploma and an Associate Degree—Population Age 18-64, 2005



Source: U.S. Census Bureau, 2005 ACS PUMS File

Difference in Median Earnings Between a High School Diploma and a Bachelor's Degree—Population Age 18-64, 2005



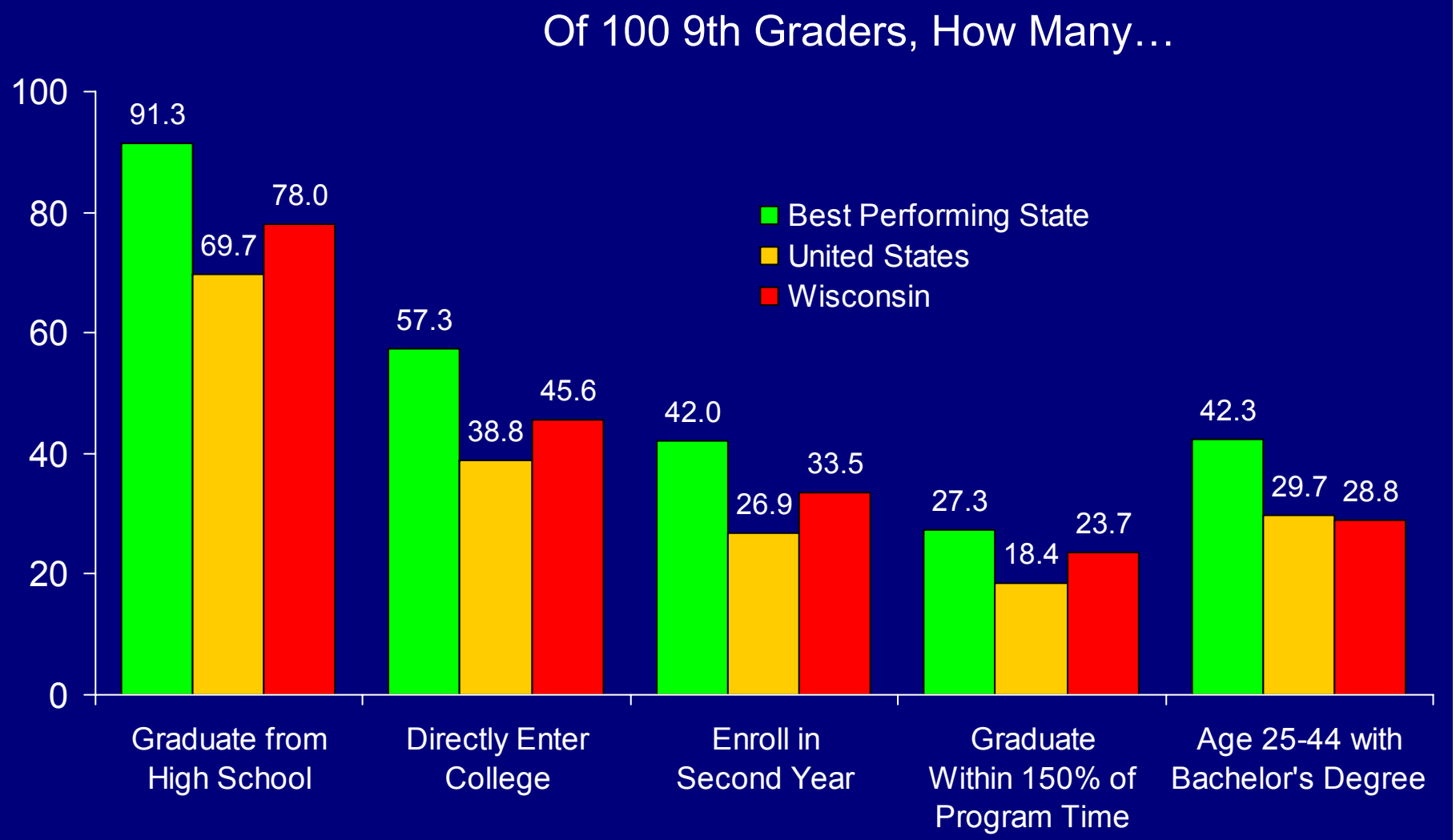
Source: U.S. Census Bureau, 2005 ACS PUMS File

The Education Pipeline

Key Transition Points in the Education Pipeline

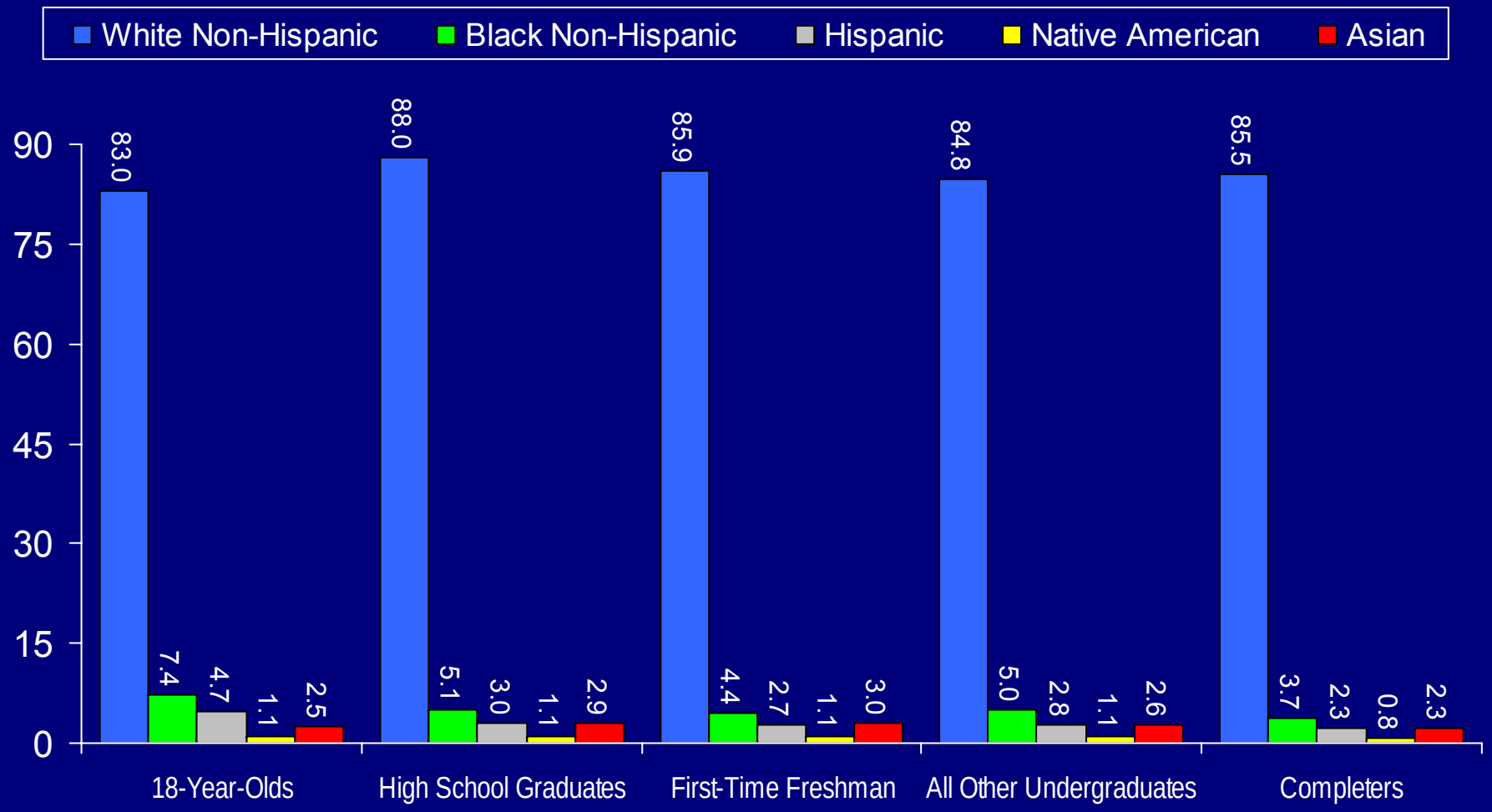
- Complete High School
- Enter College
- Finish College
- Enter the Workplace

Student Pipeline, 2004



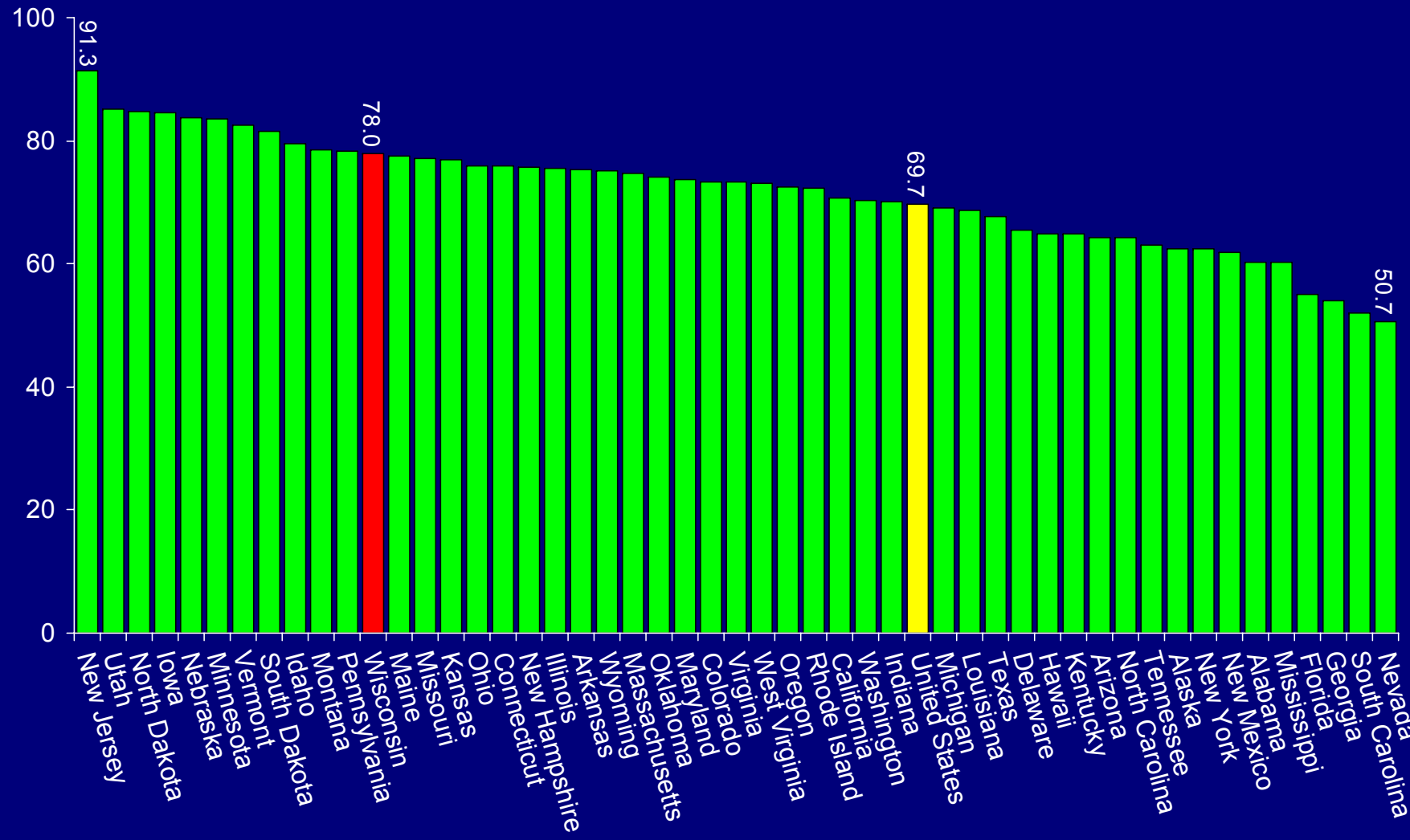
Source: NCES Common Core Data, IPEDS Residency and Migration Survey, IPEDS Enrollment Survey, IPEDS Graduation Rate Survey

Percent of Racial/Ethnic Groups at Each Stage of the Education Pipeline, 2004—Wisconsin



Source: U.S. Census Bureau; WICHE High School Graduates; NCES College Participation and Completion

High School Graduation Rates—Public High School Graduates as a Percent of 9th Graders Four Years Earlier, 2004



Source: Tom Mortenson, Postsecondary Opportunity (rev. 071106)

MEASURING UP 2006

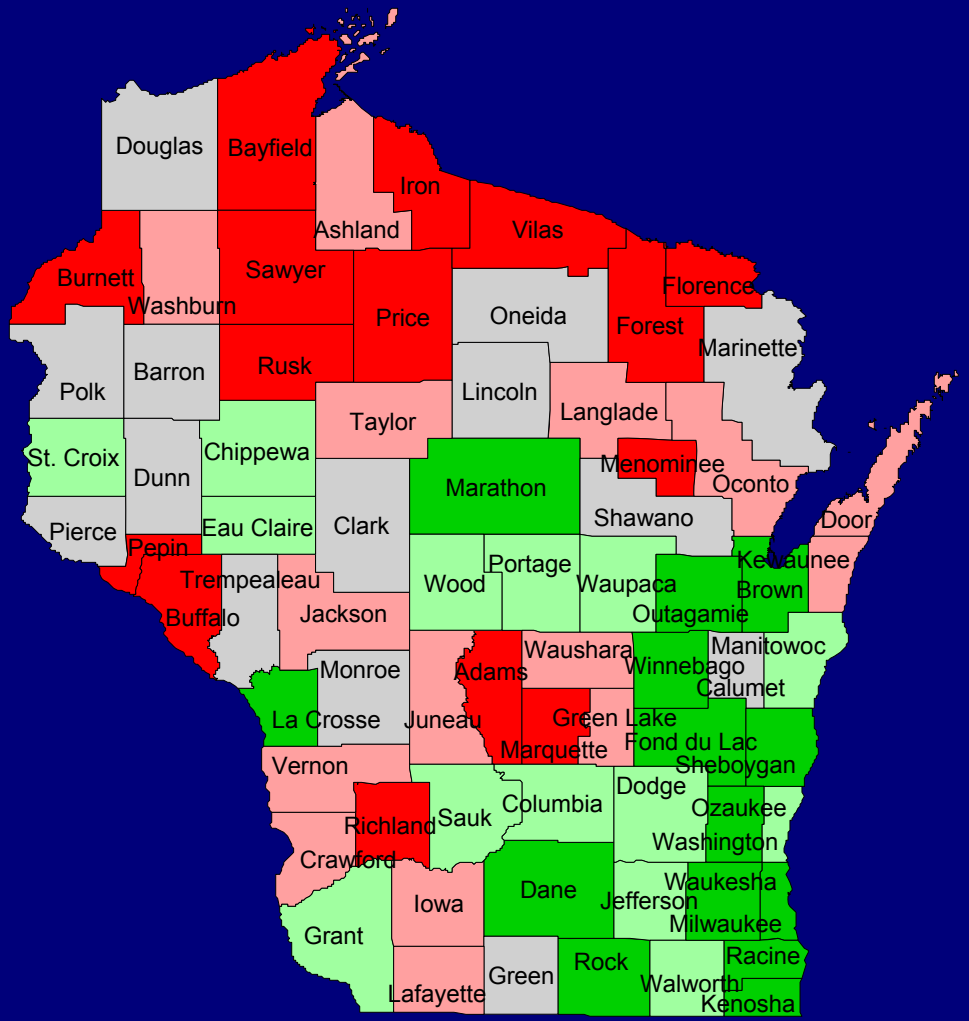
THE STATE REPORT CARD ON HIGHER EDUCATION

PREPARATION	WISCONSIN		Top States 2006
	1992*	2006	
High School Completion (20%)			
18- to 24-year-olds with a high school credential	93%	91%†	94%
K–12 Course Taking (35%)			
9th to 12th graders taking at least one upper-level math course	47%	61%	64%
9th to 12th graders taking at least one upper-level science course	30%	38%	40%
8th grade students taking algebra	12%	19%	35%
12th graders taking at least one upper-level math course	n/a	59%	66%
K–12 Student Achievement (35%)			
8th graders scoring at or above "proficient" on the national assessment exam:			
in math	27%	36%	38%
in reading	33%	35%	38%
in science	39%	39%	41%
in writing	28%	n/a	41%
Low-income 8th graders scoring at or above "proficient" on the national assessment exam in math	12%	15%	22%
Number of scores in the top 20% nationally on SAT/ACT college entrance exam per 1,000 high school graduates	164	195	237
Number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 high school juniors and seniors	42	137	217
Teacher Quality (10%)			
7th to 12th graders taught by teachers with a major in their subject	65%	81%	81%

*The indicators report data beginning in 1992 or the closest year for which reliable data are available. See the *Technical Guide for Measuring Up 2006*.

†Eighty-seven percent of 18-24-year-olds have a regular high school diploma; 4% have a GED. The numbers shown for a regular high school diploma and a GED may not exactly equal the number for a high school credential due to rounding.

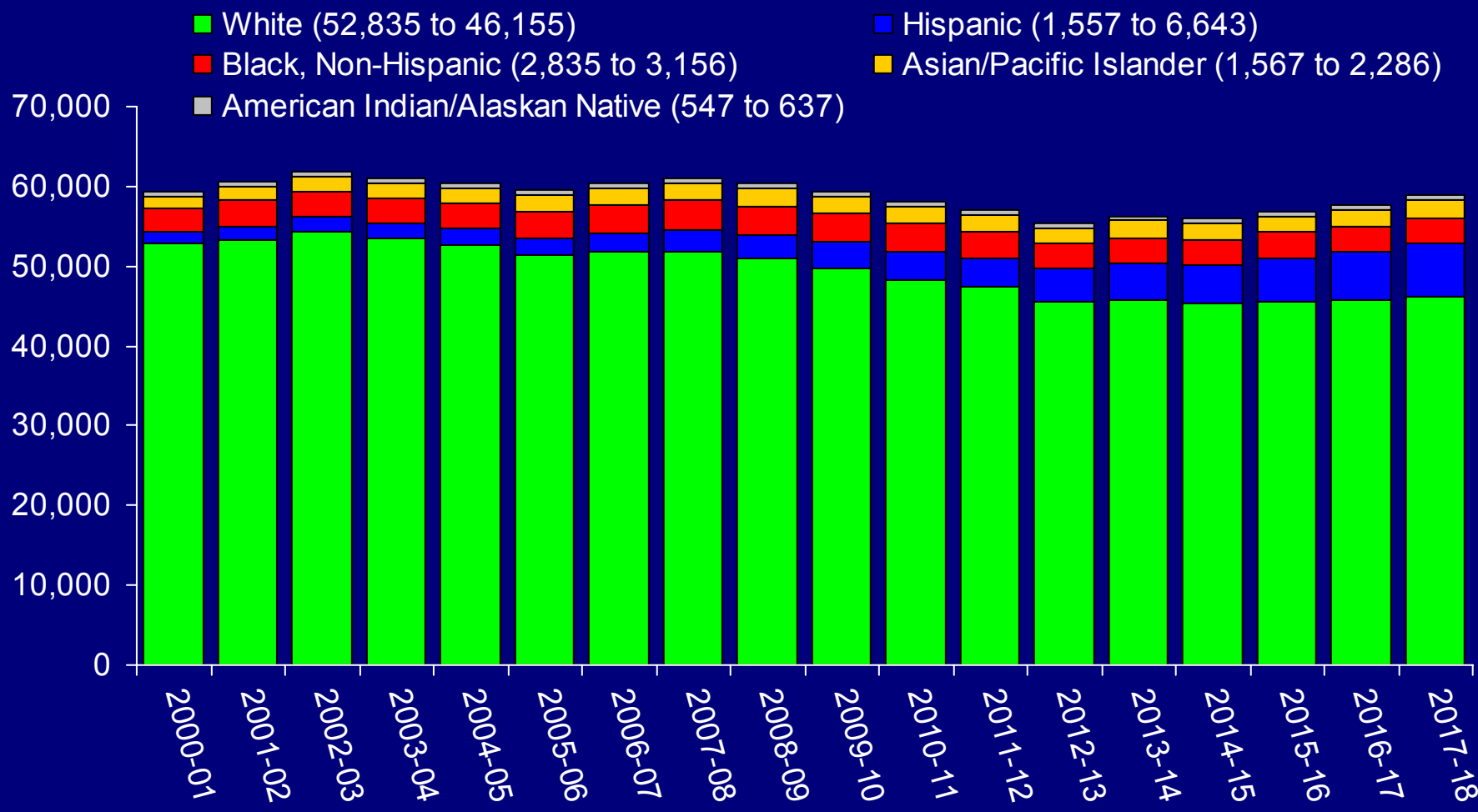
Public High School Graduates, 2002-2003



Wisconsin = 67,057

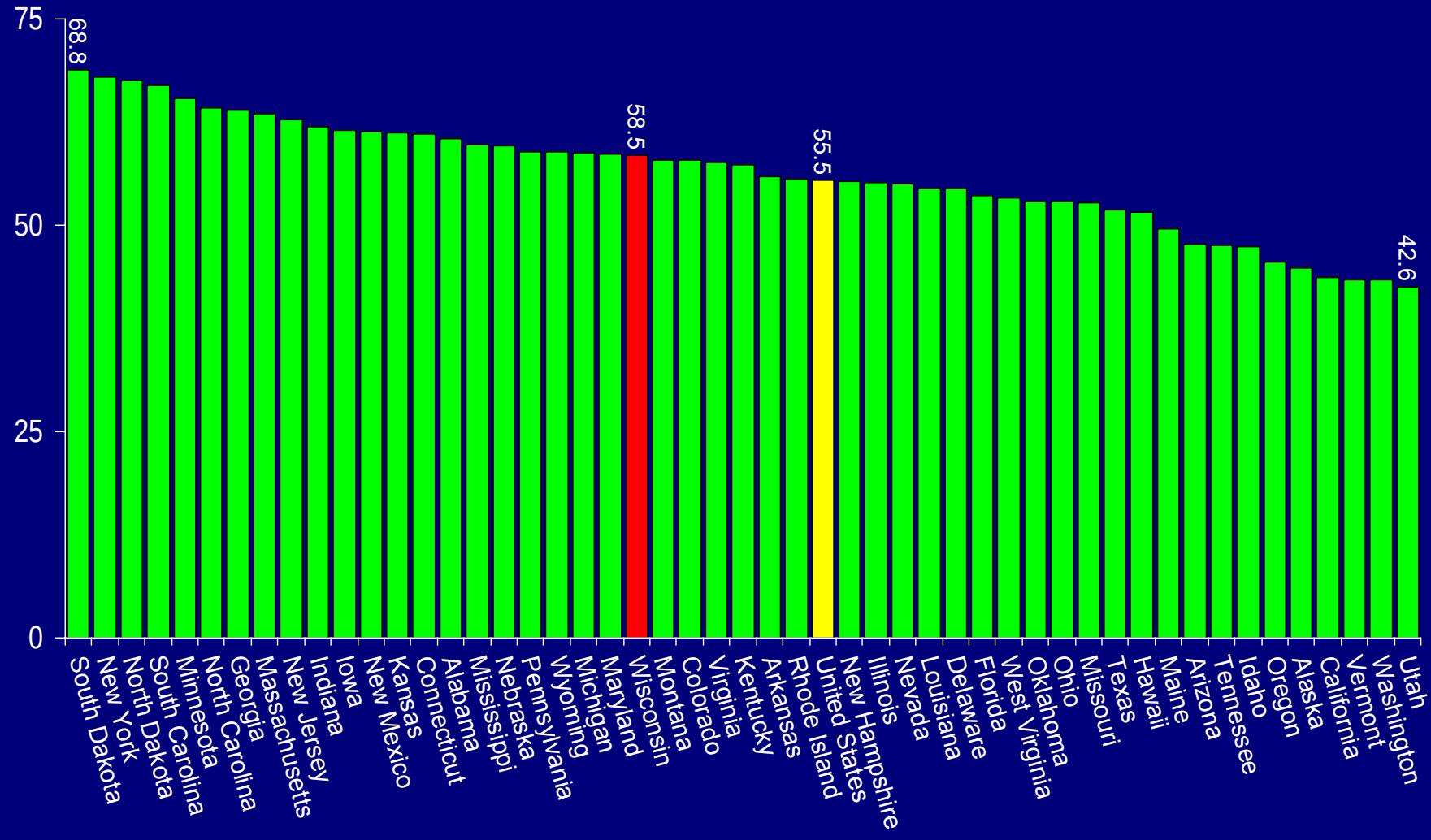
Source: University of Wisconsin System Administration

Projections of High School Graduates to 2018 By Race/Ethnicity—Wisconsin



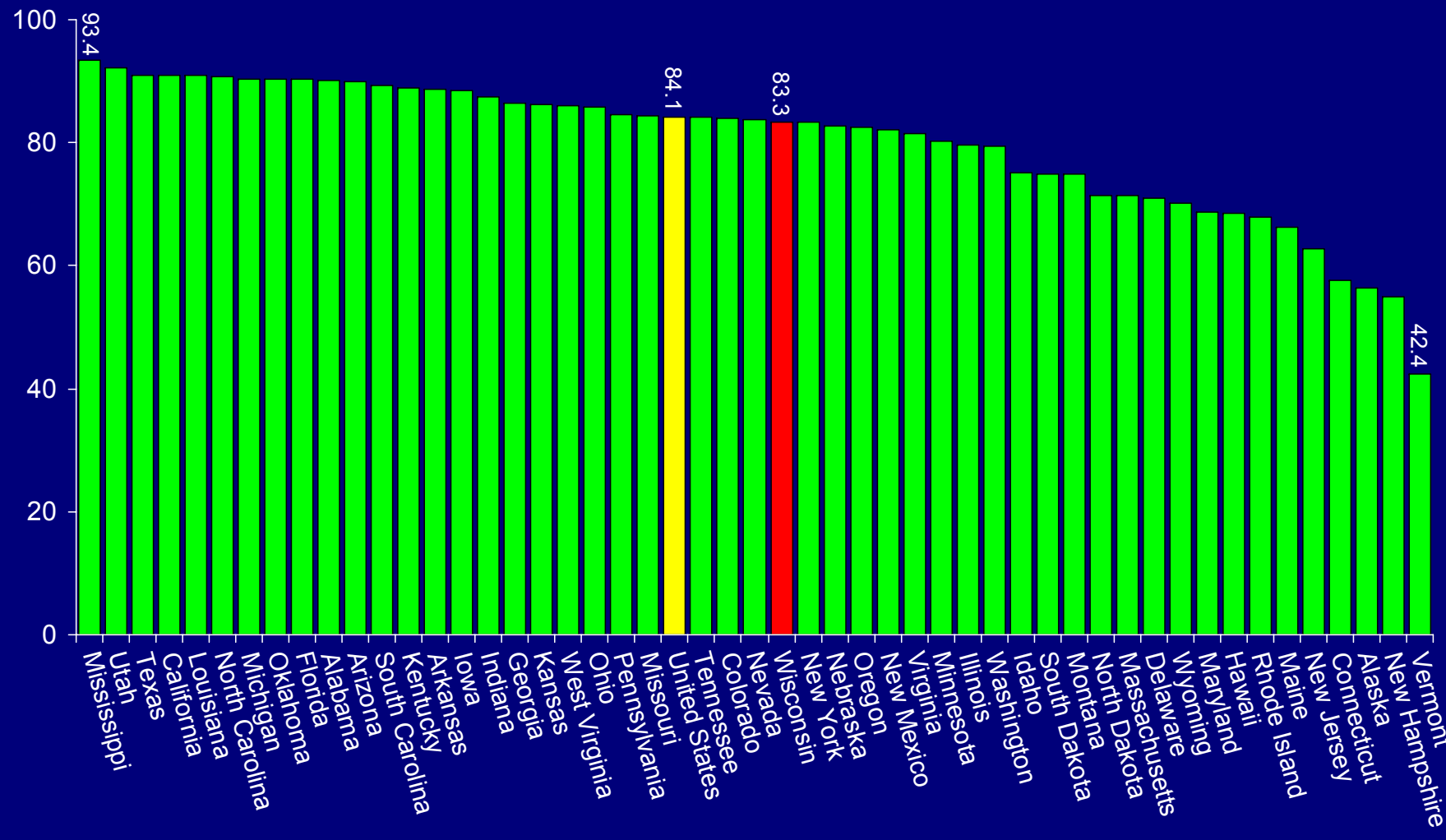
Source: WICHE Projections of High School Graduates

College-Going Rates—First-Time Freshmen Directly Out of High School as a Percent of Recent High School Graduates, 2004



Source: Tom Mortenson, Postsecondary Opportunity (2004 data update 02-06-07)

Percent of First-Time Freshmen Who Attend College Within Their Reported State of Residence, Fall 2004



Source: NCES, IPEDS Fall 2004 Enrollments; ef2004c Final Release Data File

Out-of-State Institutions Attended by Wisconsin First-Time Degree/Certificate Seeking Undergraduate Students, Fall 2004

Institution	State	Sector	No. of Students
University of Minnesota-Twin Cities	MN	Public 4-Year	1,333
Winona State University	MN	Public 4-Year	485
University of Minnesota-Duluth	MN	Public 4-Year	243
Northern Michigan University	MI	Public 4-Year	230
Michigan Technological University	MI	Public 4-Year	184
Century Community and Technical College	MN	Public 2-Year	156
Saint Cloud State University	MN	Public 4-Year	148
Minnesota State College-Southeast Technical-Winona	MN	Public 2-Year	143
Minnesota State University-Mankato	MN	Public 4-Year	110
Lake Superior College	MN	Public 2-Year	106
University of St Thomas	MN	Private Non-Profit 4-Year	95
Martin Luther College	MN	Private Non-Profit 4-Year	92
Brown College	MN	Private For-Profit 4-Year	90
University of Iowa	IA	Public 4-Year	84
Luther College	IA	Private Non-Profit 4-Year	80
Saint Olaf College	MN	Private Non-Profit 4-Year	74
Wyo Tech	WY	Private For-Profit 2-Year	74
Arizona State University at the Tempe Campus	AZ	Public 4-Year	73
Loyola University Chicago	IL	Private Non-Profit 4-Year	67
Northwestern University	IL	Private Non-Profit 4-Year	64
Purdue University-Main Campus	IN	Public 4-Year	64
Iowa State University	IA	Public 4-Year	59
Bethel University	MN	Private Non-Profit 4-Year	59
Saint Louis University-Main Campus	MO	Private Non-Profit 4-Year	56
Dakota County Technical College	MN	Public 2-Year	54

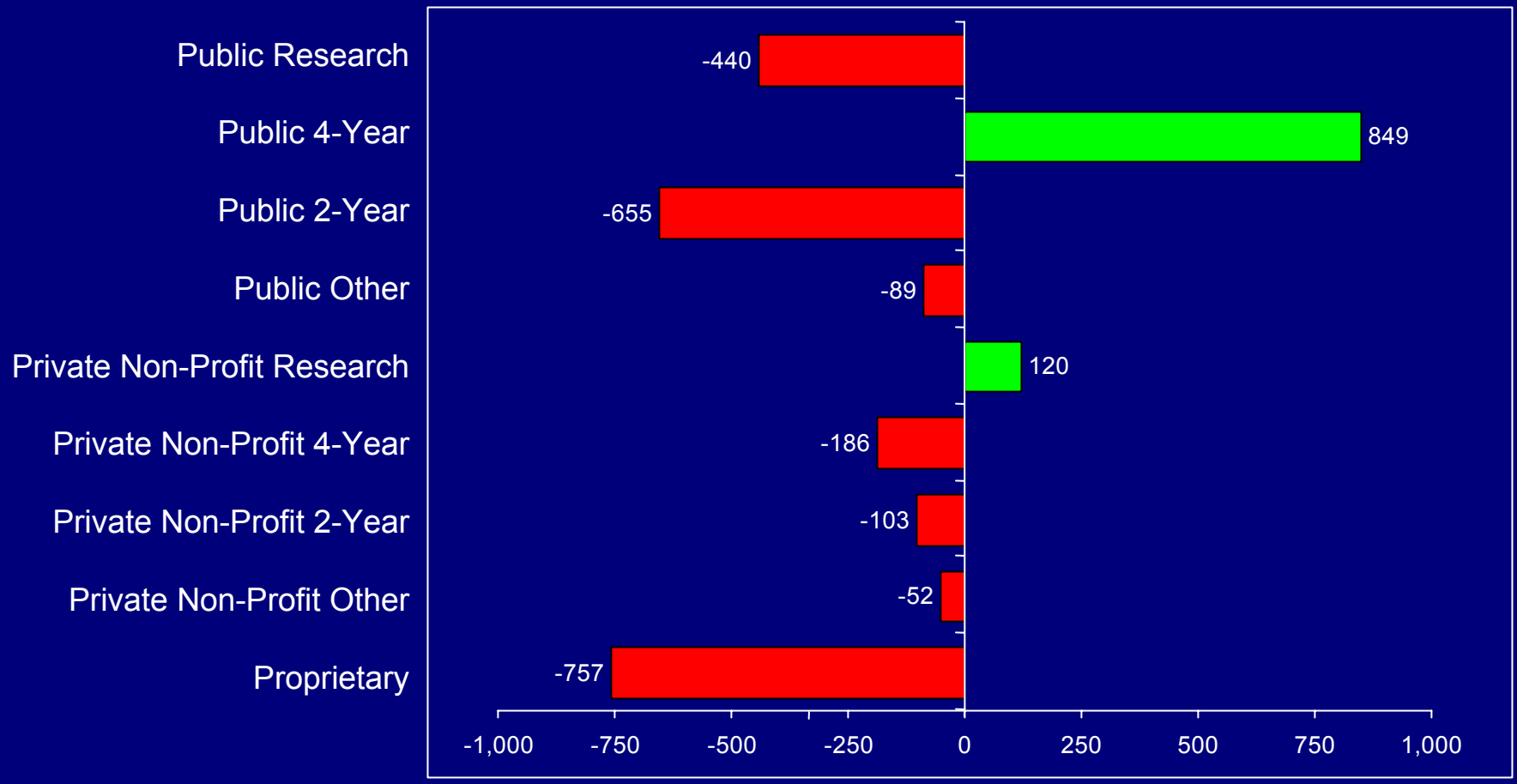
(continued)

Out-of-State Institutions Attended by Wisconsin First-Time Degree/Certificate Seeking Undergraduate Students, Fall 2004 (continued)

Institution	State	Sector	No. of Students
Columbia College Chicago	IL	Private Non-Profit 4-Year	53
Northwestern College	MN	Private Non-Profit 4-Year	52
University of Phoenix-Online Campus	AZ	Private For-Profit 4-Year	50
Valparaiso University	IN	Private Non-Profit 4-Year	49
Depaul University	IL	Private Non-Profit 4-Year	48
American Intercontinental University	GA	Private For-Profit 4-Year	46
Gogebic Community College	MI	Public 2-Year	45
University of Notre Dame	IN	Private Non-Profit 4-Year	43
Rochester Community and Technical College	MN	Public 2-Year	42
University of Colorado at Boulder	CO	Public 4-Year	41
Indiana University-Bloomington	IN	Public 4-Year	40
North Central University	MN	Private Non-Profit 4-Year	40
Kaplan University	IA	Private For-Profit 4-Year	40
Northeast Iowa Community College-Calmar	IA	Public 2-Year	37
Minneapolis Business College	MN	Private For-Profit 2-Year	37
University of North Dakota-Main Campus	ND	Public 4-Year	37
The Illinois Institute of Art	IL	Private For-Profit 4-Year	36
University of Dubuque	IA	Private Non-Profit 4-Year	35
Macalester College	MN	Private Non-Profit 4-Year	35
Saint Paul College - A Community and Technical Col	MN	Public 2-Year	35
Trinity International University	IL	Private Non-Profit 4-Year	33
Drake University	IA	Private Non-Profit 4-Year	33
Vermilion Community College	MN	Public 2-Year	33
Hamline University	MN	Private Non-Profit 4-Year	31
Minnesota State University-Moorhead	MN	Public 4-Year	31

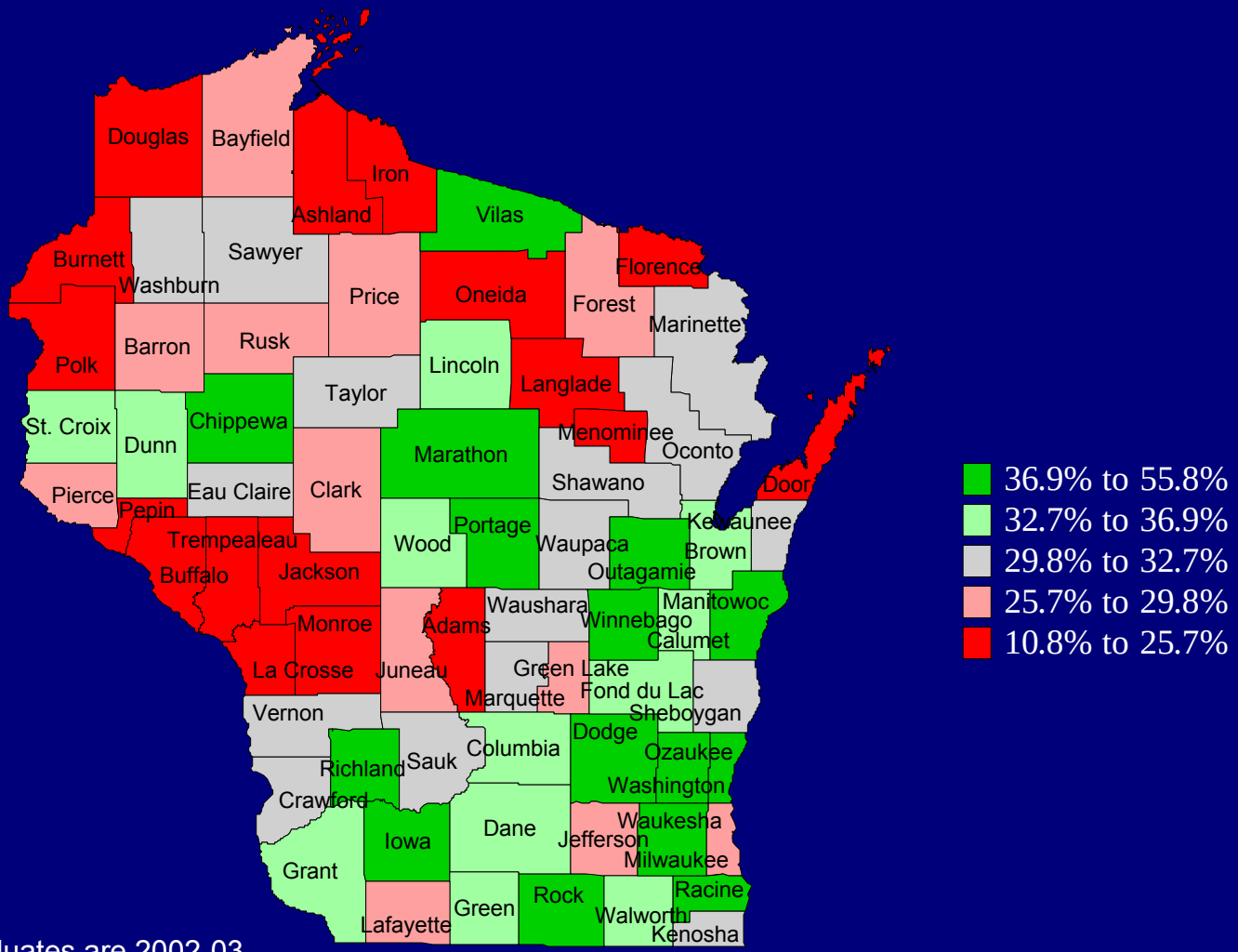
Source: NCES, IPEDS Fall 2004 Enrollments; ef2004c Final Release Data File

First-Time Freshmen Net Imports by Institution Type for Wisconsin, Fall 2004



Source: NCES, IPEDS Fall 2002 Enrollments, Residency and Migration File

New Entering College Students as a Percent of Public High School Graduates, 2006

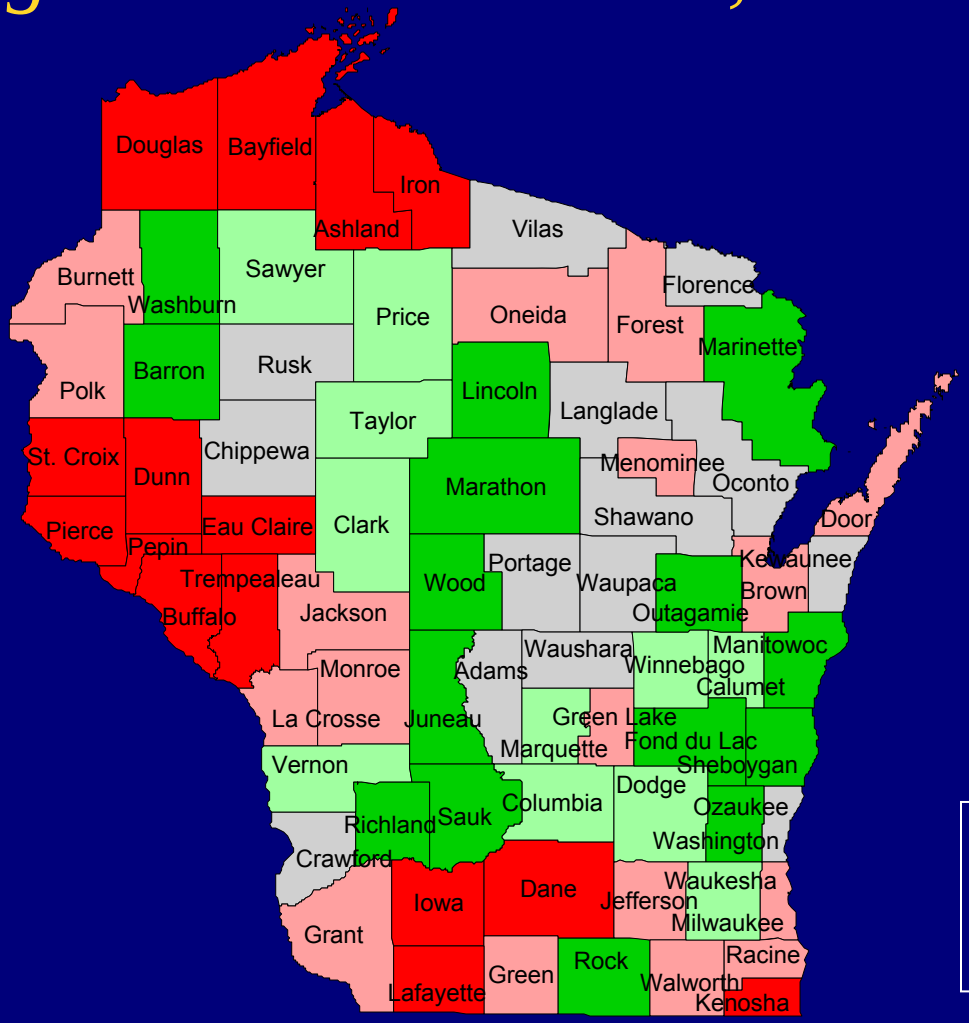


Note: High school graduates are 2002-03.

Wisconsin = 34.4%

Source: University of Wisconsin System Administration

Two-Year New Entering Students as a Percent of Public High School Graduates, 2004



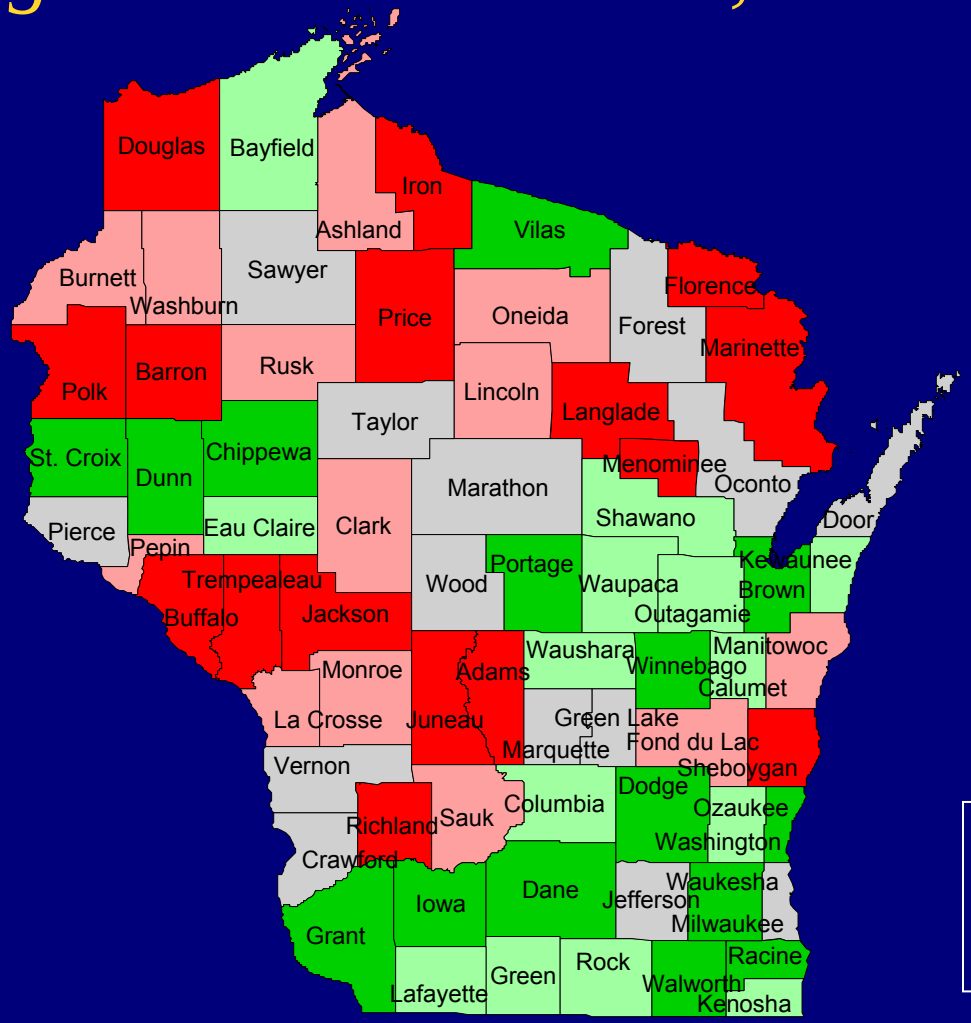
9.1% to 35.5%
5.6% to 9.1%
2.5% to 5.6%
0.8% to 2.5%
0.0% to 0.8%

Richland	=	35.5
Wisconsin	=	5.2
Kenosha	=	0.15

Note: High school graduates are 2002-03.

Source: University of Wisconsin System Administration

Four-Year New Entering Students as a Percent of Public High School Graduates, 2004



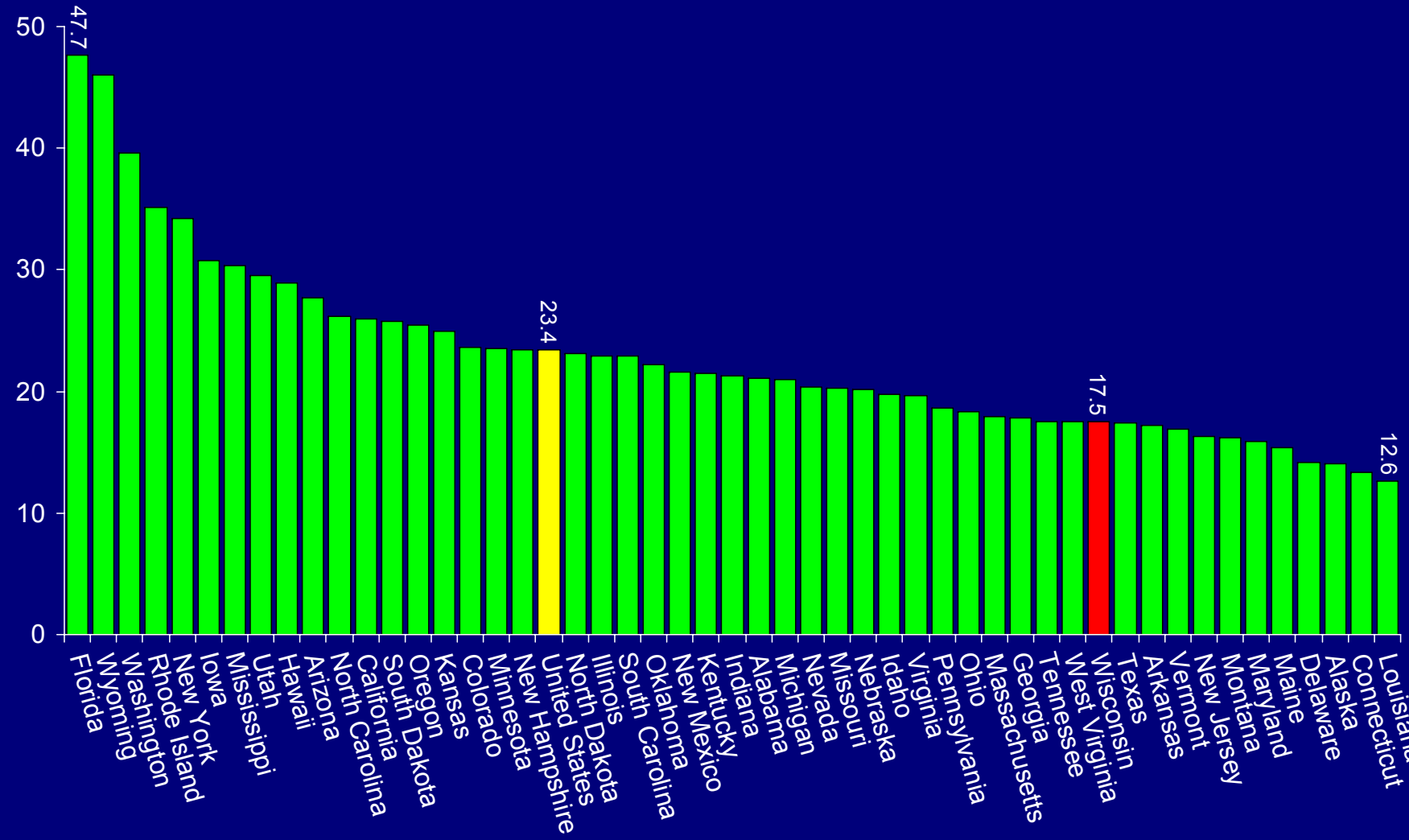
32.2% to 44.1%
26.5% to 32.2%
24.1% to 26.5%
21.2% to 24.1%
10.8% to 21.2%

Vilas	=	44.1
Wisconsin	=	29.2
Iron	=	10.8

Note: High school graduates are 2002-03.

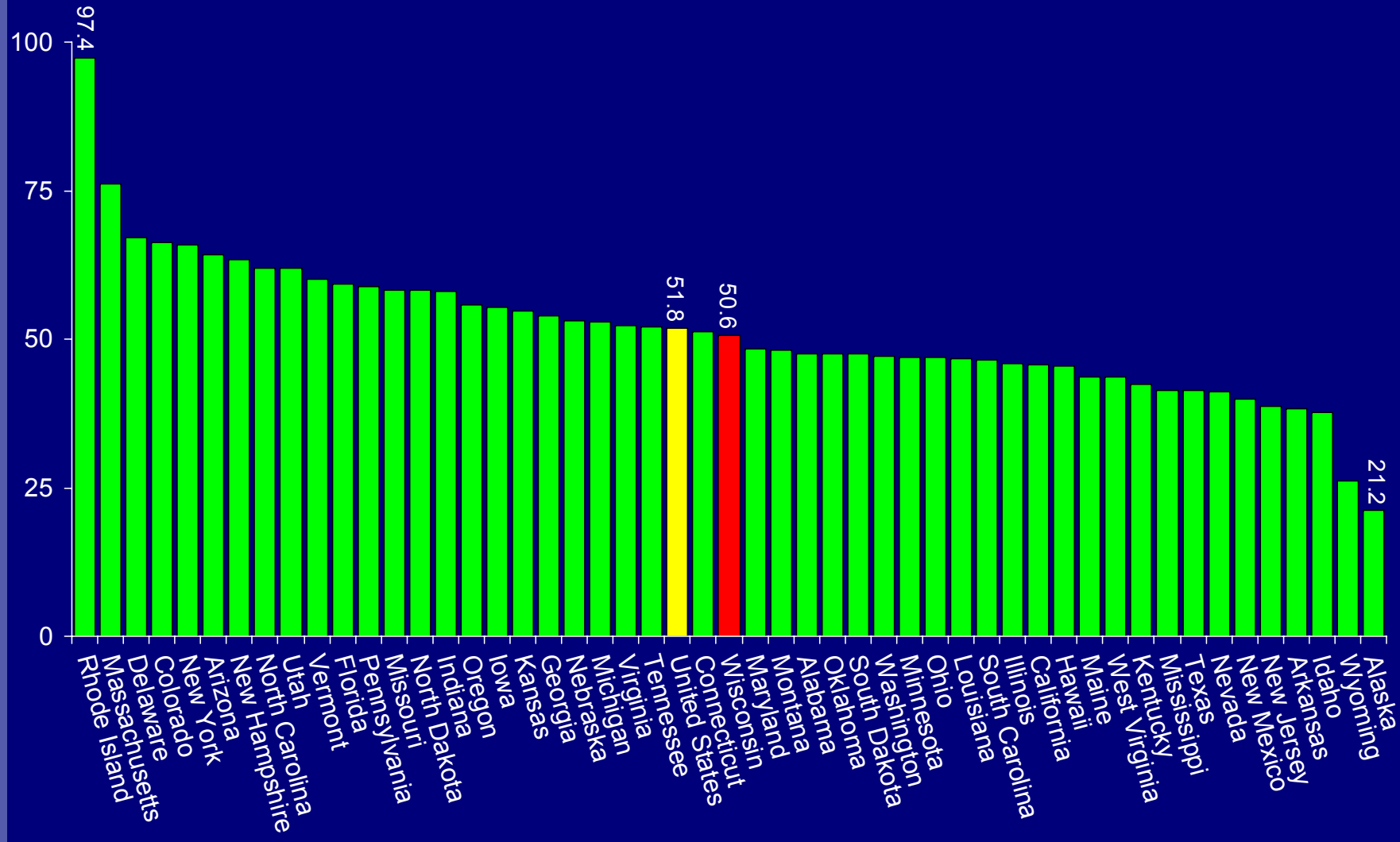
Source: University of Wisconsin System Administration

Associate Degrees Awarded per 100 High School Graduates Three Years Earlier, 2004



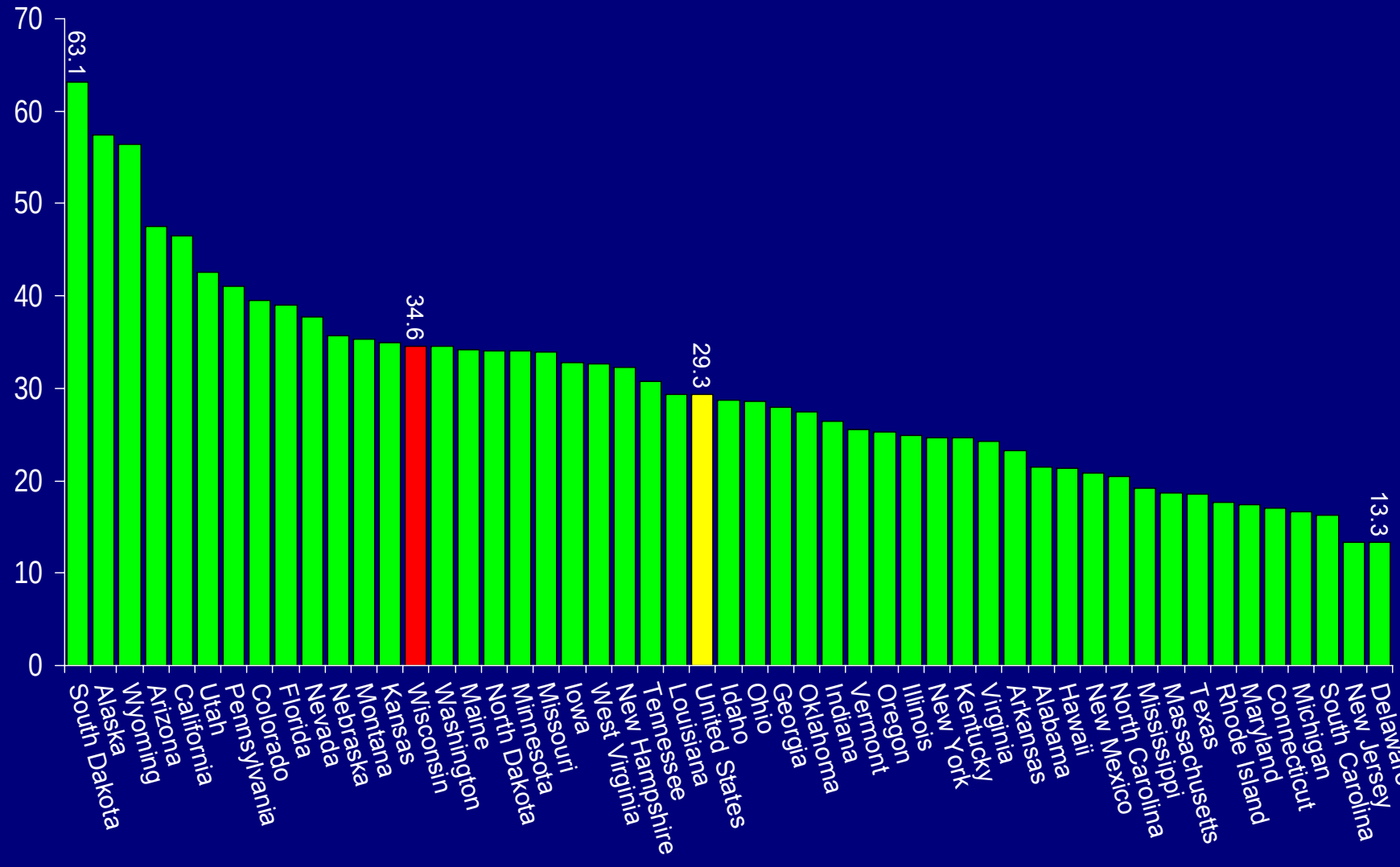
Source: NCES-IPEDS Completions Survey, WICHE

Bachelor's Degrees Awarded per 100 High School Graduates Six Years Earlier, 2004



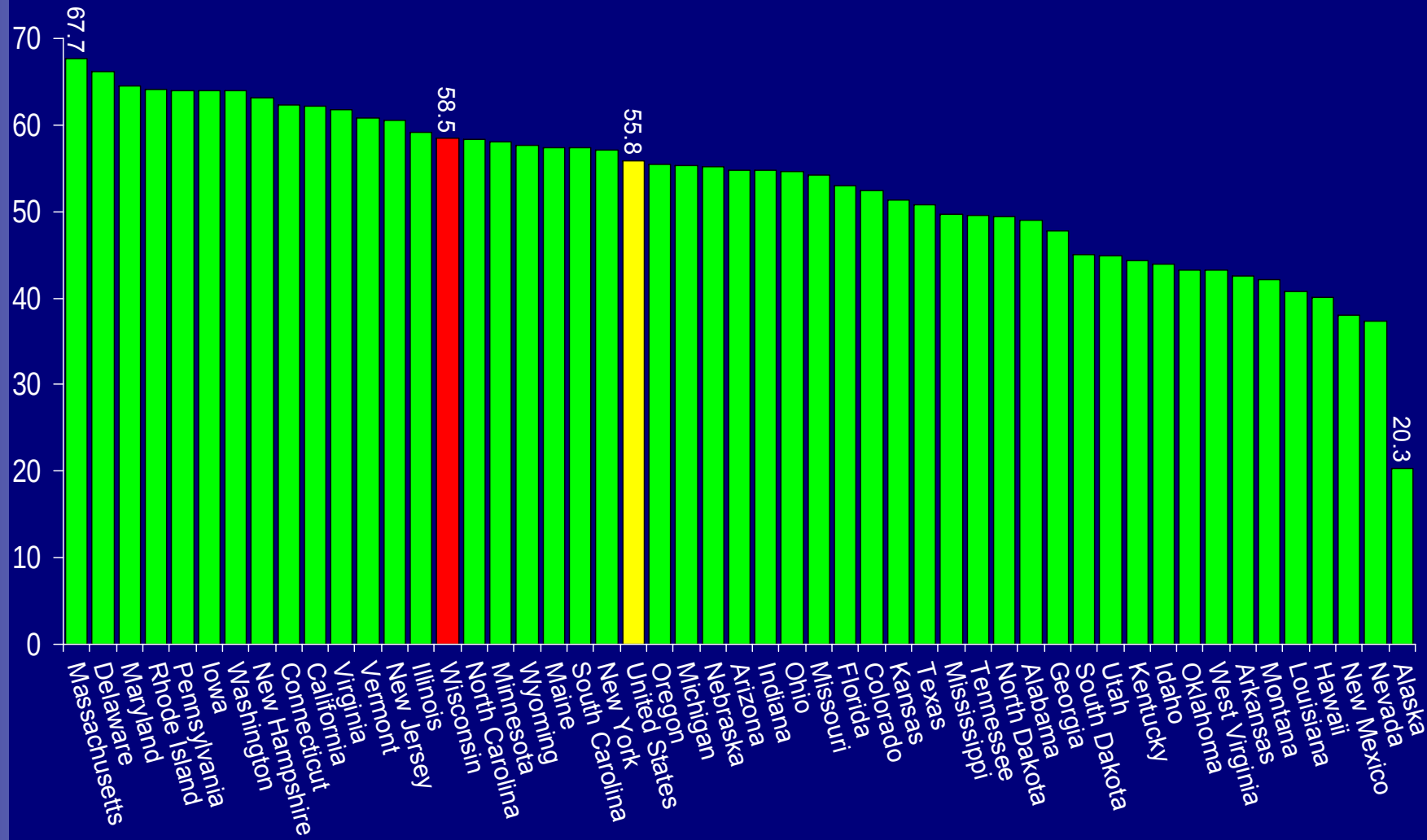
Source: NCES-IPEDS Completions Survey, WICHE

Three-Year Graduation Rates at Two-Year Colleges, 2005 (Percent)



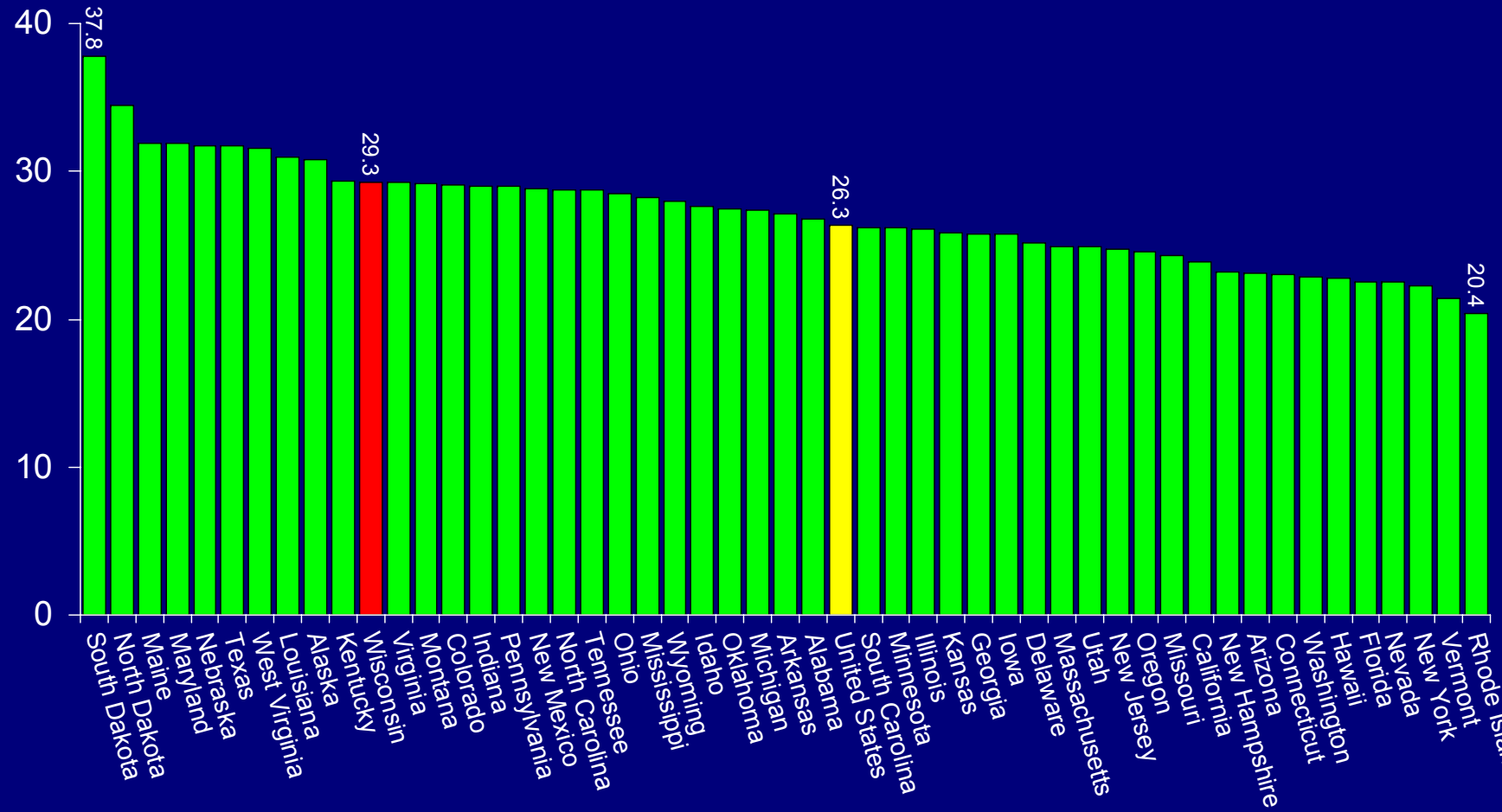
Source: NCES, IPEDS Graduation Rate Survey

Six-Year Graduation Rates at Four-Year Colleges, 2005 (Percent)



Source: NCES, IPEDS Graduation Rate Survey

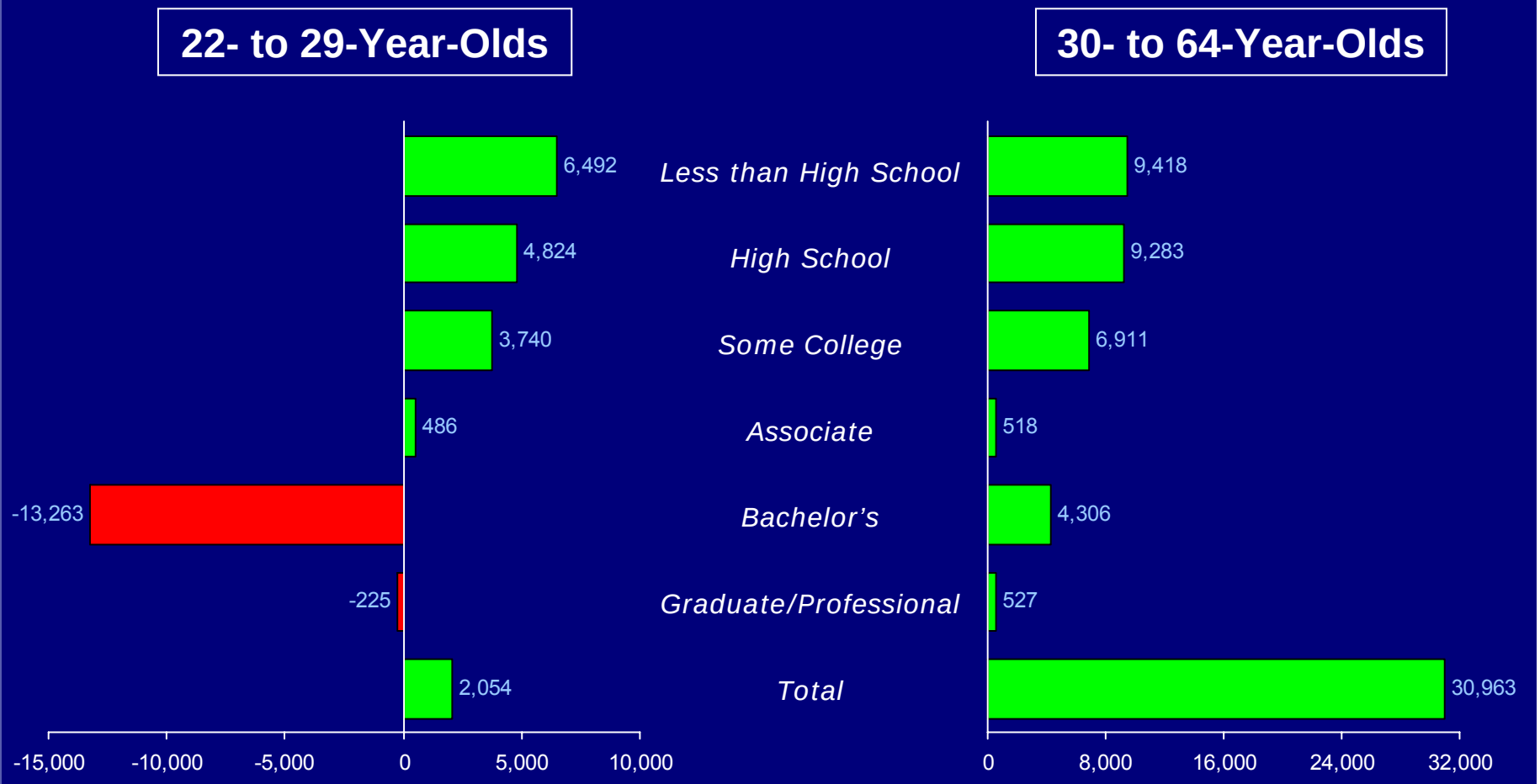
Science and Engineering Degrees as a Share of Higher Education Degrees Conferred by State, 2004-05



Note: Science and Engineering include Agricultural Sciences, Biological and Biomedical Sciences, Physical Sciences, Science Tech, Health Sciences, Computer Science, Mathematics and Statistics, Engineering, and Engineering Tech. Degrees include Associate, Bachelor's, Masters and Doctorate Degrees.

Source: NCES, IPEDS 2005 Completions File; c2005_a Final Release Data File

Net Migration by Degree Level and Age Group—Wisconsin



Source: U.S. Census Bureau, 2000 Census; 5% PUMS Files

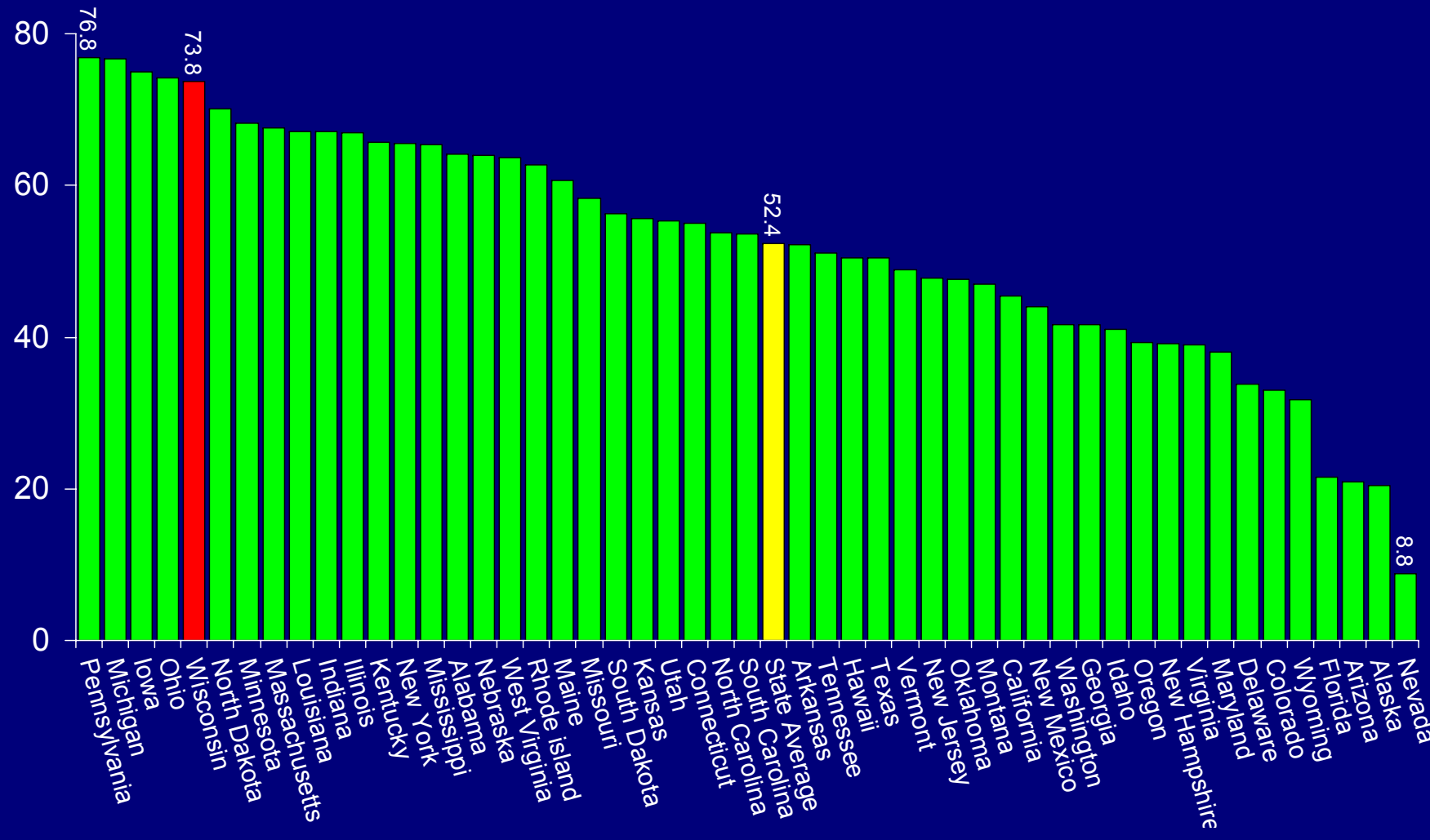
Wisconsin Occupations with High Net Imports and Exports, 1995-2000—Residents Age 22-29 with College Degrees

Source: U.S. Census Bureau, 2000 Census; 5% PUMS Files

Wisconsin Occupations with High Net Imports and Exports, 1995-2000—Residents Age 30-64 with College Degrees

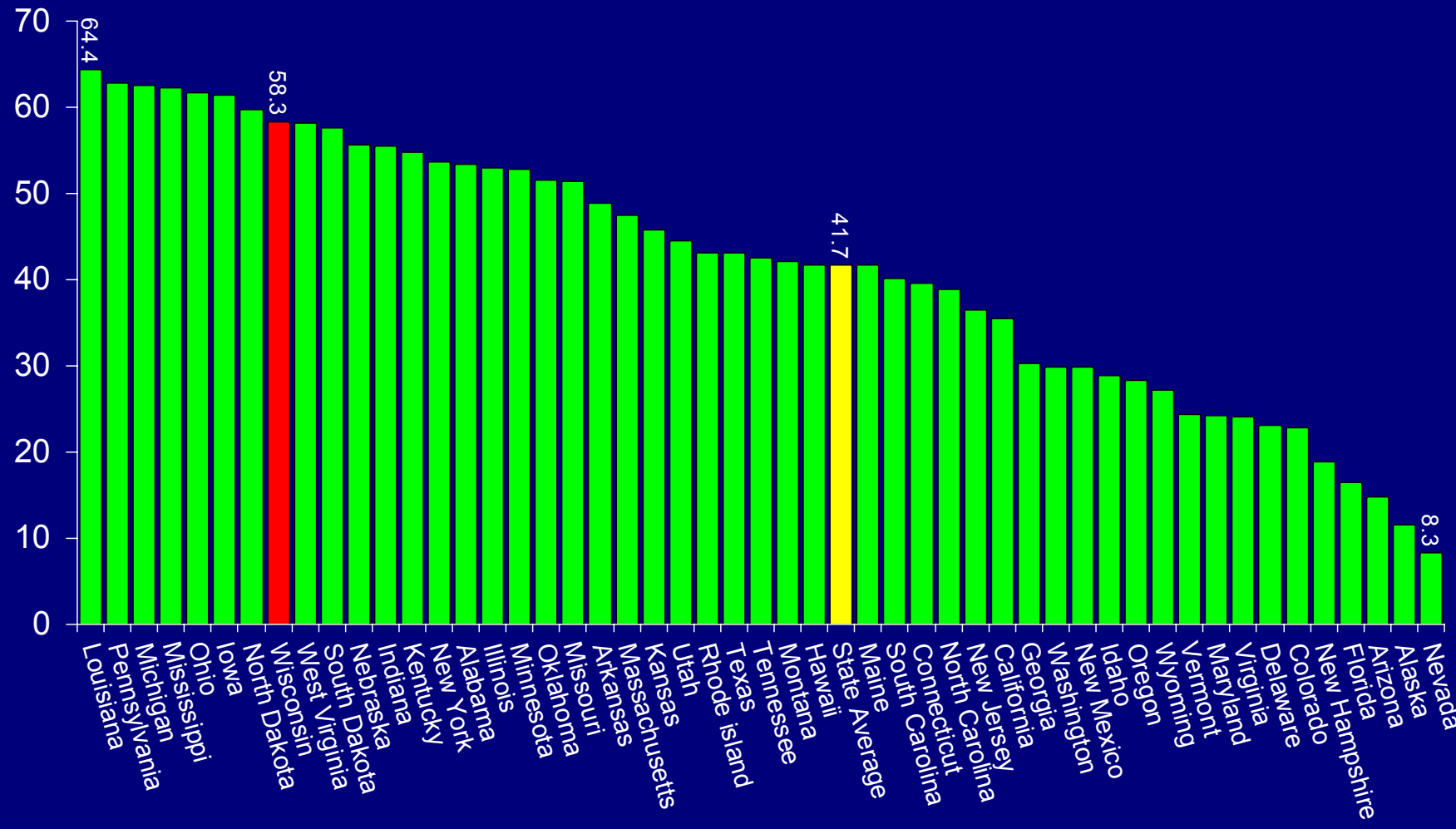
Source: U.S. Census Bureau, 2000 Census; 5% PUMS Files

Percent of Residents Age 25-64 with an Associate Degree Born In-State, 2005



Source: 2005 ACS

Percent of Residents Age 25-64 with a Bachelor's Degree or Higher Born In-State, 2005



Source: 2005 ACS

Innovation Assets

Development Report Card for the States, 2007—Wisconsin

A	**Performance**	Employment	D
		Earnings and Job Quality	B
		Equity	A
		Quality of Life	A
		Resource Efficiency	B
B	**Business Vitality**	Competitiveness/Existing Businesses	A
		Entrepreneurial Energy	C
B	**Development Capacity**	Human Resources	C
		Financial Resources	C
		Infrastructure Resources	A
		Amenity Resources and Natural Capital	C
		Innovation Assets	C

STRENGTHS (Top 10 Rank)

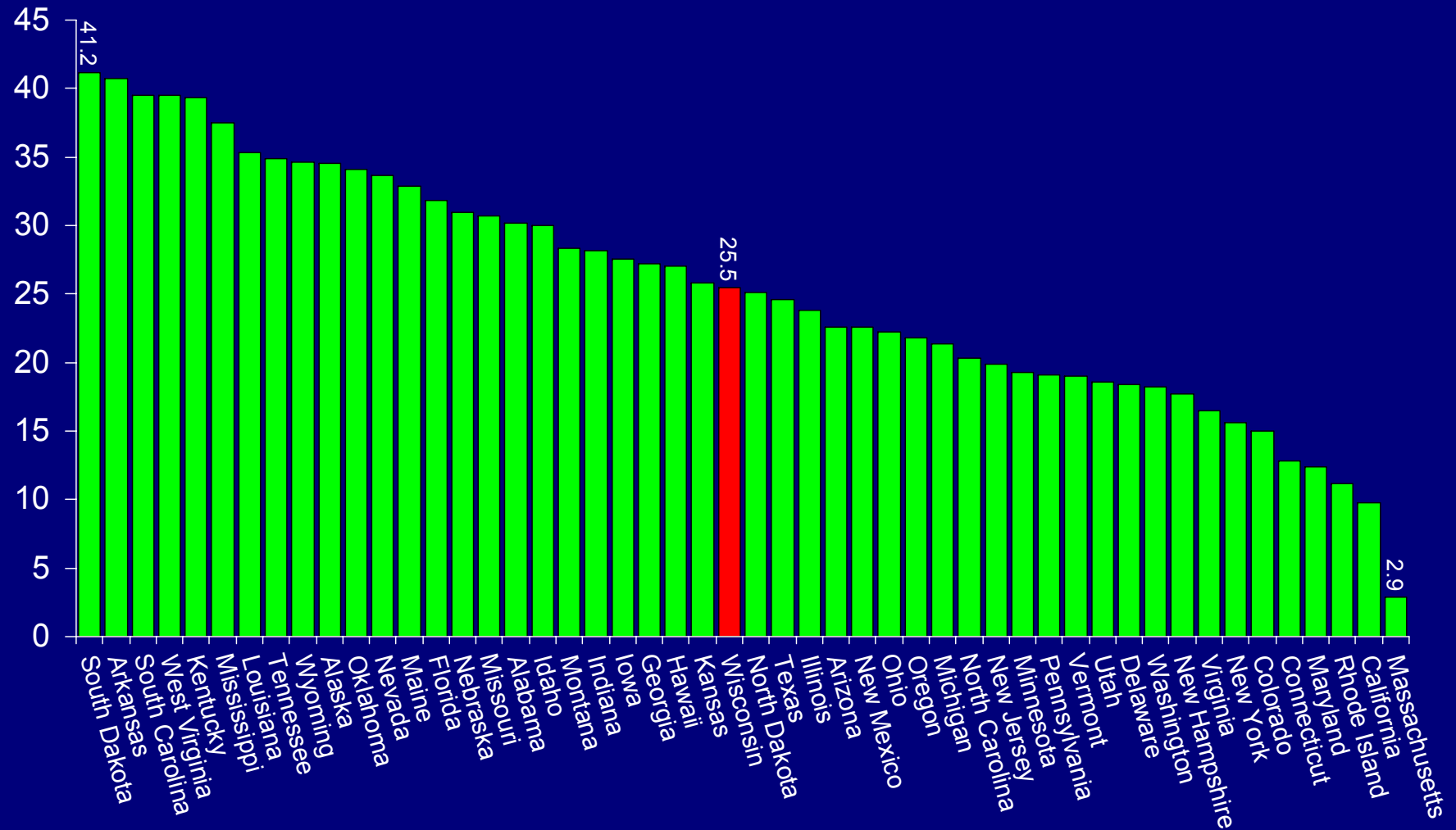
Rank	Measure
2	Disparity between Rural and Urban Areas
2	Voting Rate
5	Bridge Deficiency
5	Royalties and Licenses
6	Income Distribution
7	Loans to Small Businesses
8	Uninsured Low-Income Children
9	Working Poor
9	Affordable Urban Housing

WEAKNESSES (Bottom 10 Rank)

Rank	Measure
43	Conversion of Cropland to Other Uses
43	Business Created Via University R&D
44	Employment Growth: Long Term
45	Employment Growth: Short Term
46	Change in Energy Costs
46	New Companies
48	Private Sector Layoffs

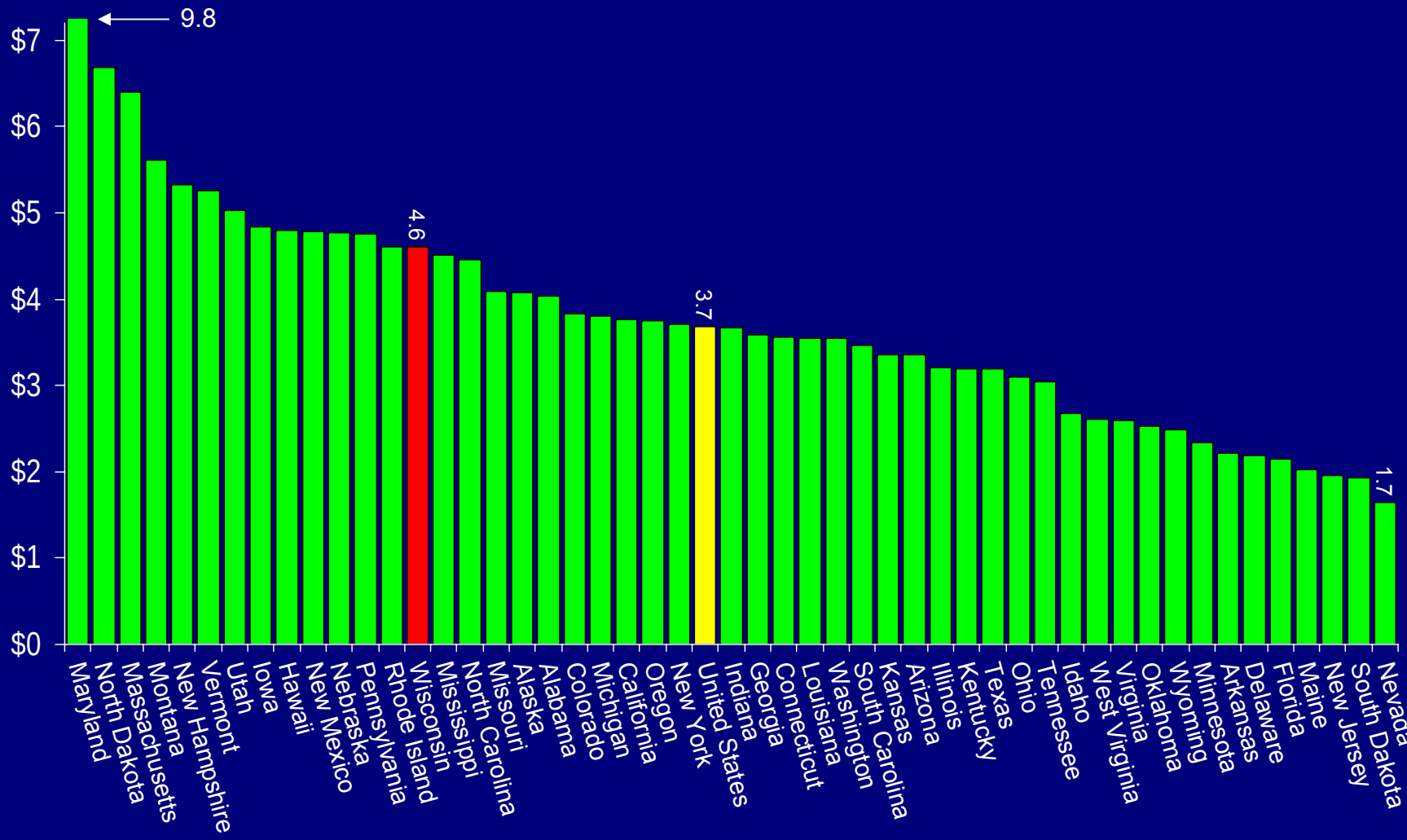
Source: *Development Report Card for the States*, Corporation for Enterprise Development (CFED)

Overall State Scores on Measures of Innovation Assets, 2004



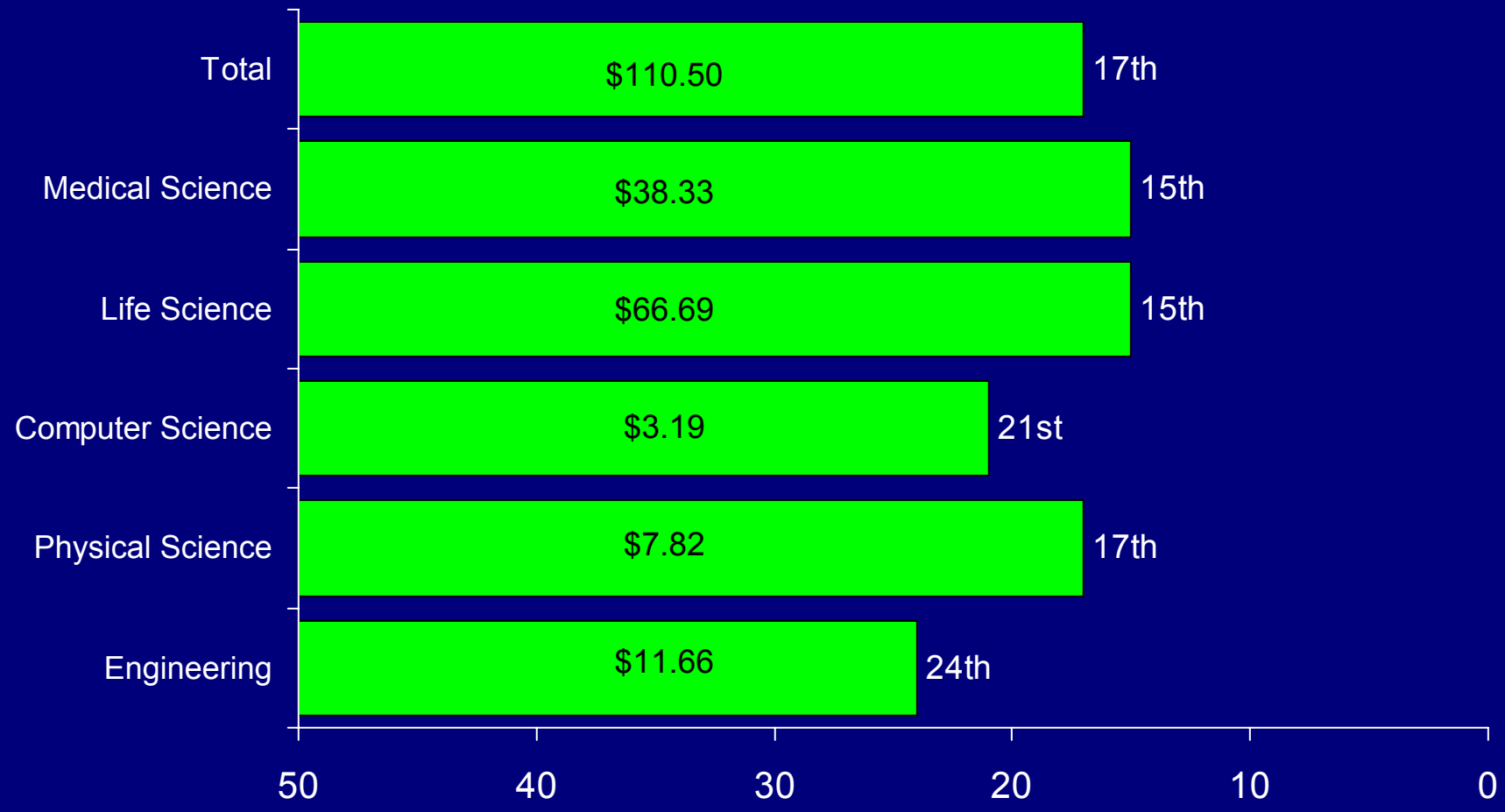
Source: *Development Report Card for the States*, CFED

Academic Research and Development per $1,000 Gross State Product, 2004



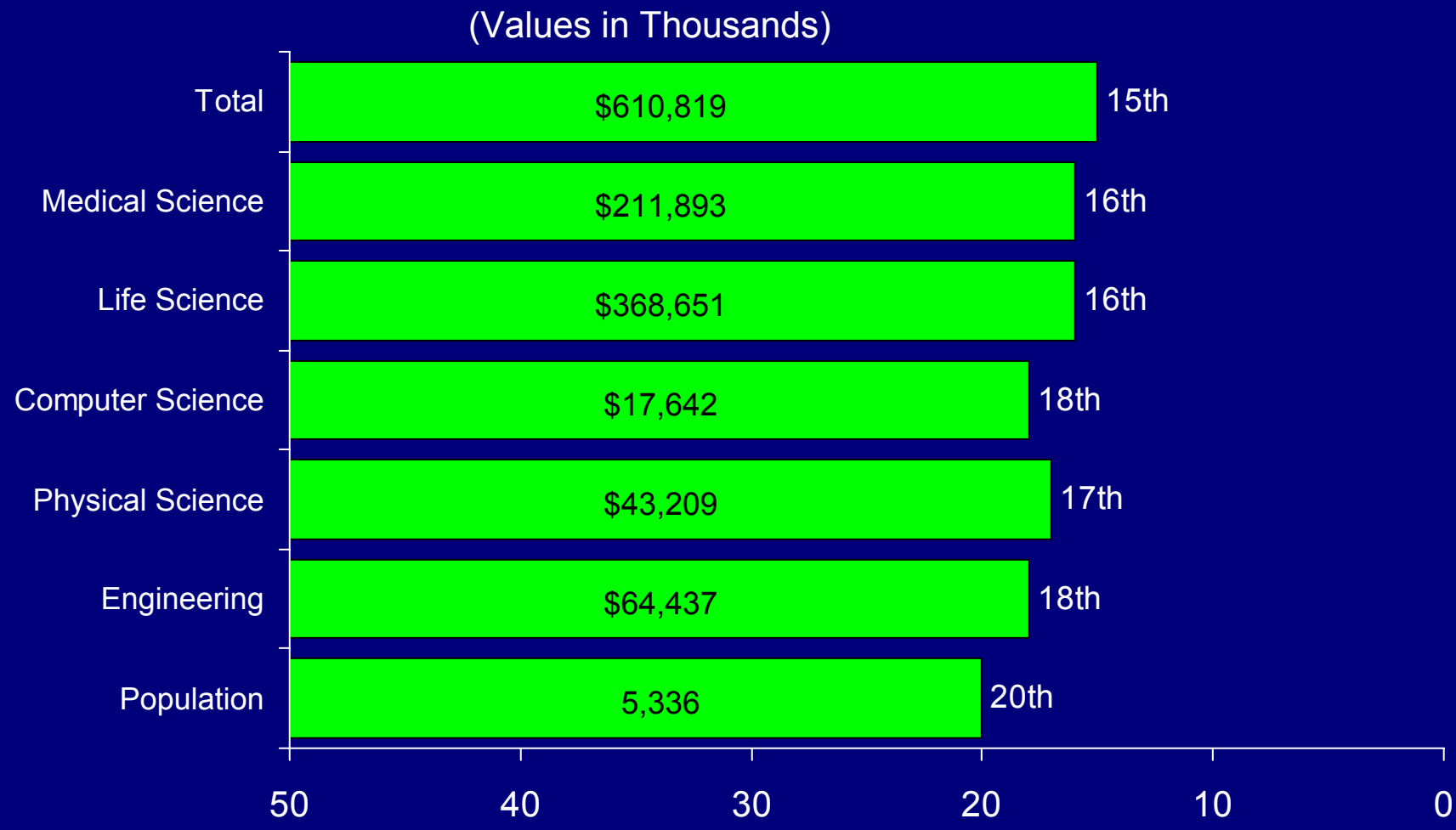
Source: National Science Foundation; Bureau of Economic Analysis

Wisconsin Rank—Federal Research and Expenditures Per Capita, 2005



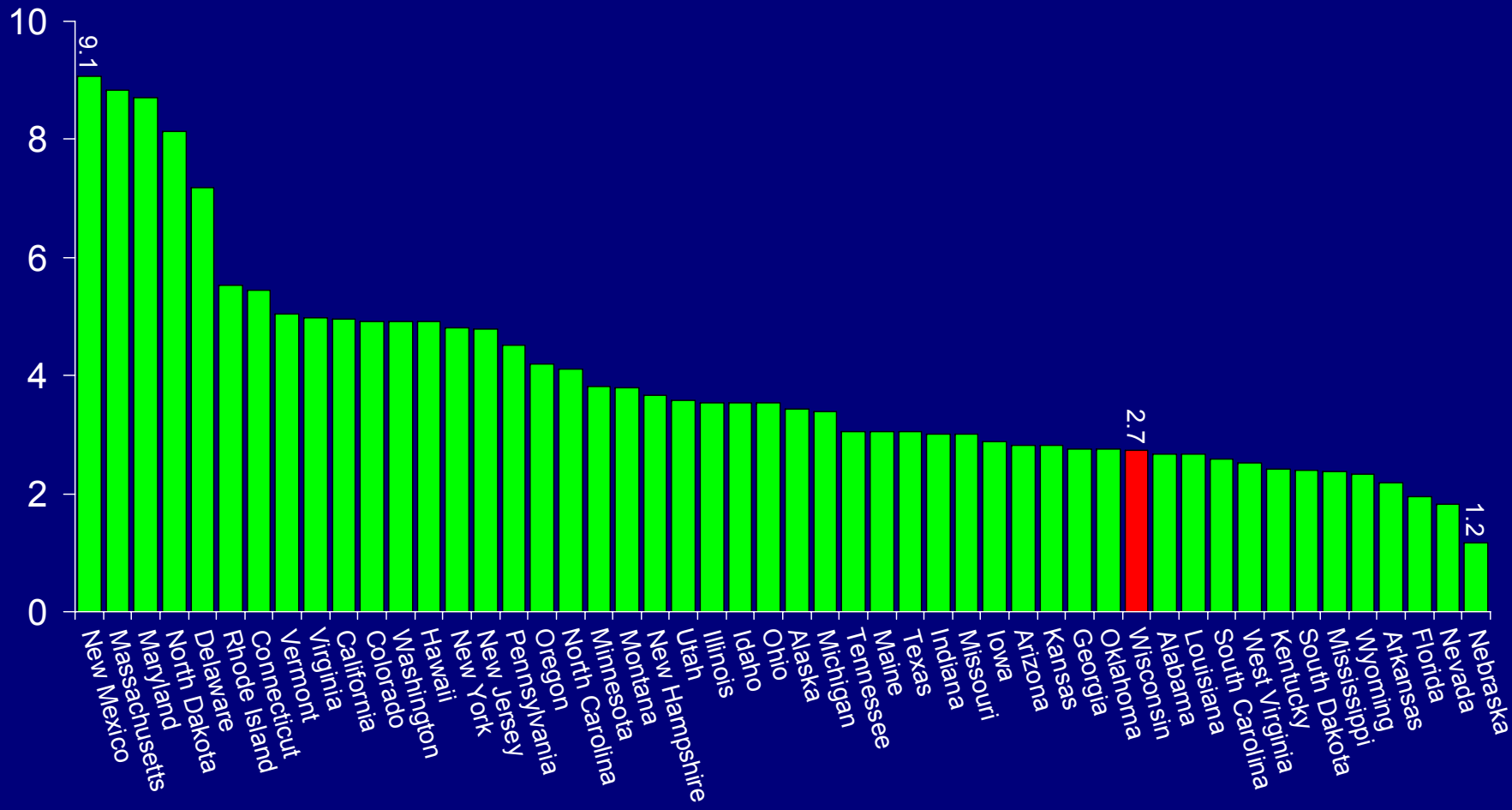
Source: National Science Foundation; U.S. Census Bureau Population Estimates

Wisconsin Rank—Federal Research and Expenditures, 2005



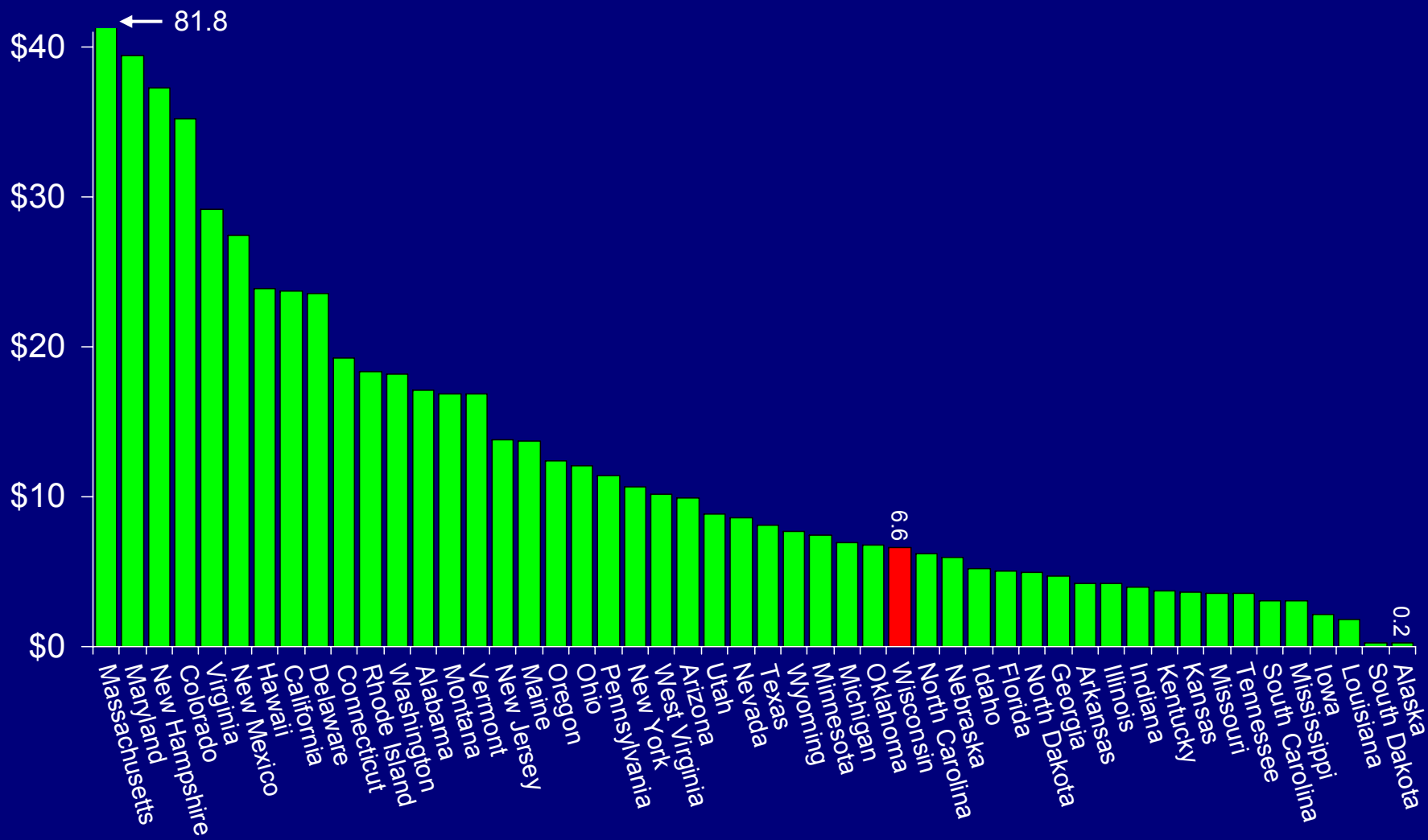
Source: National Science Foundation; U.S. Census Bureau Population Estimates

Number of Doctorates per 1,000 Workers—Science and Engineering, 2004



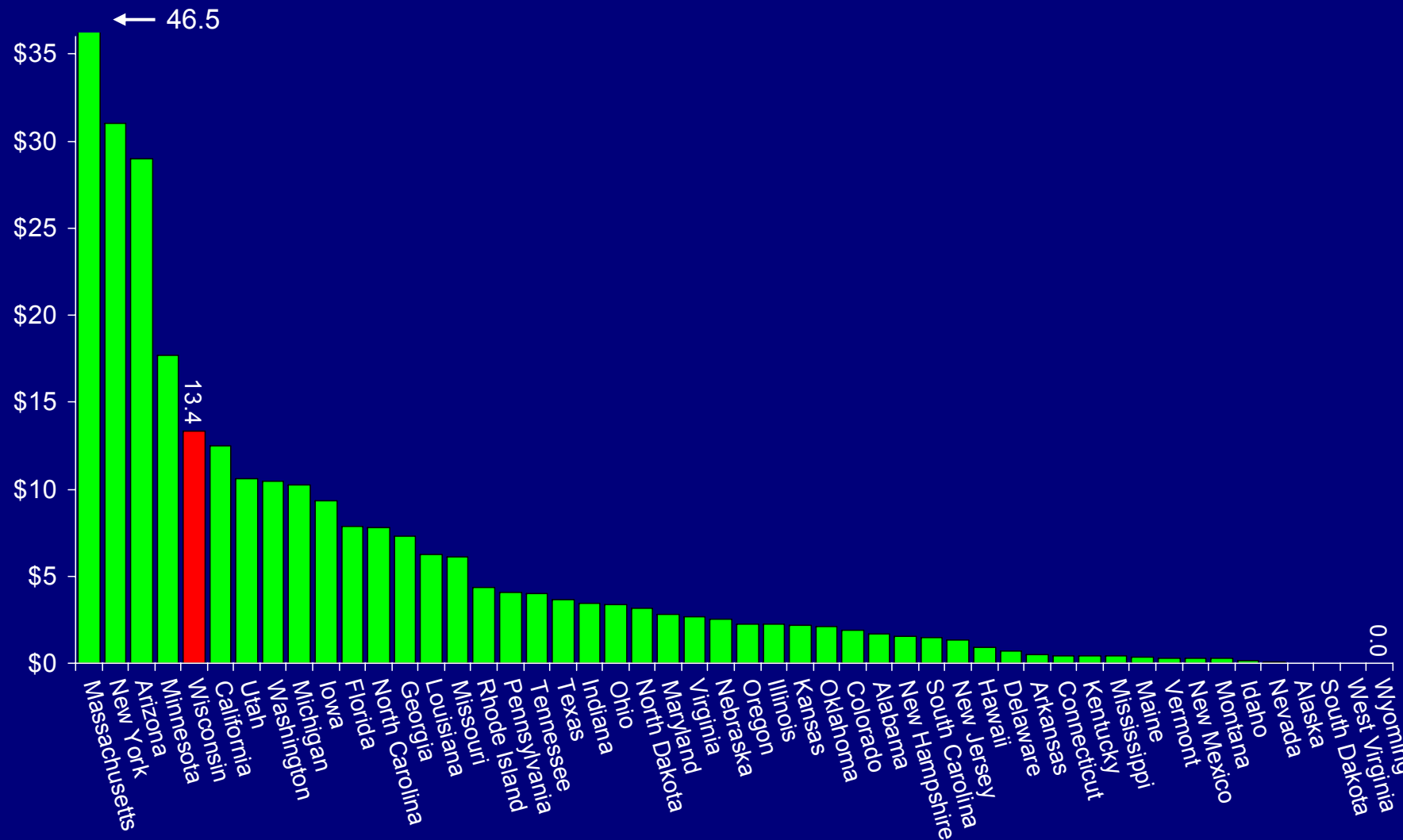
Source: *Development Report Card for the States*, CFED

Dollar Value of SBIR Grants Per Worker, 2004



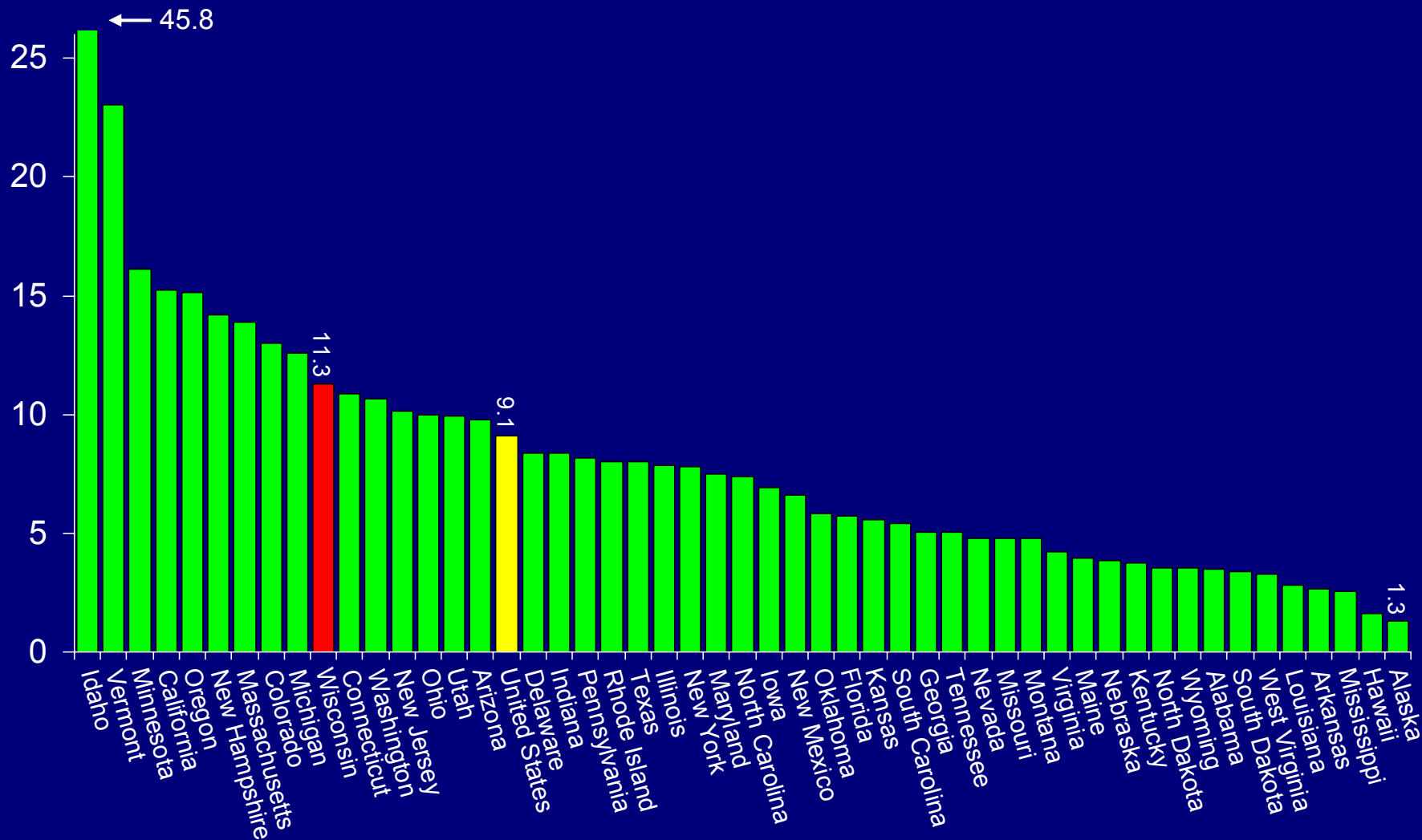
Source: *Development Report Card for the States*, CFED

Gross License Income Per Worker, 2004



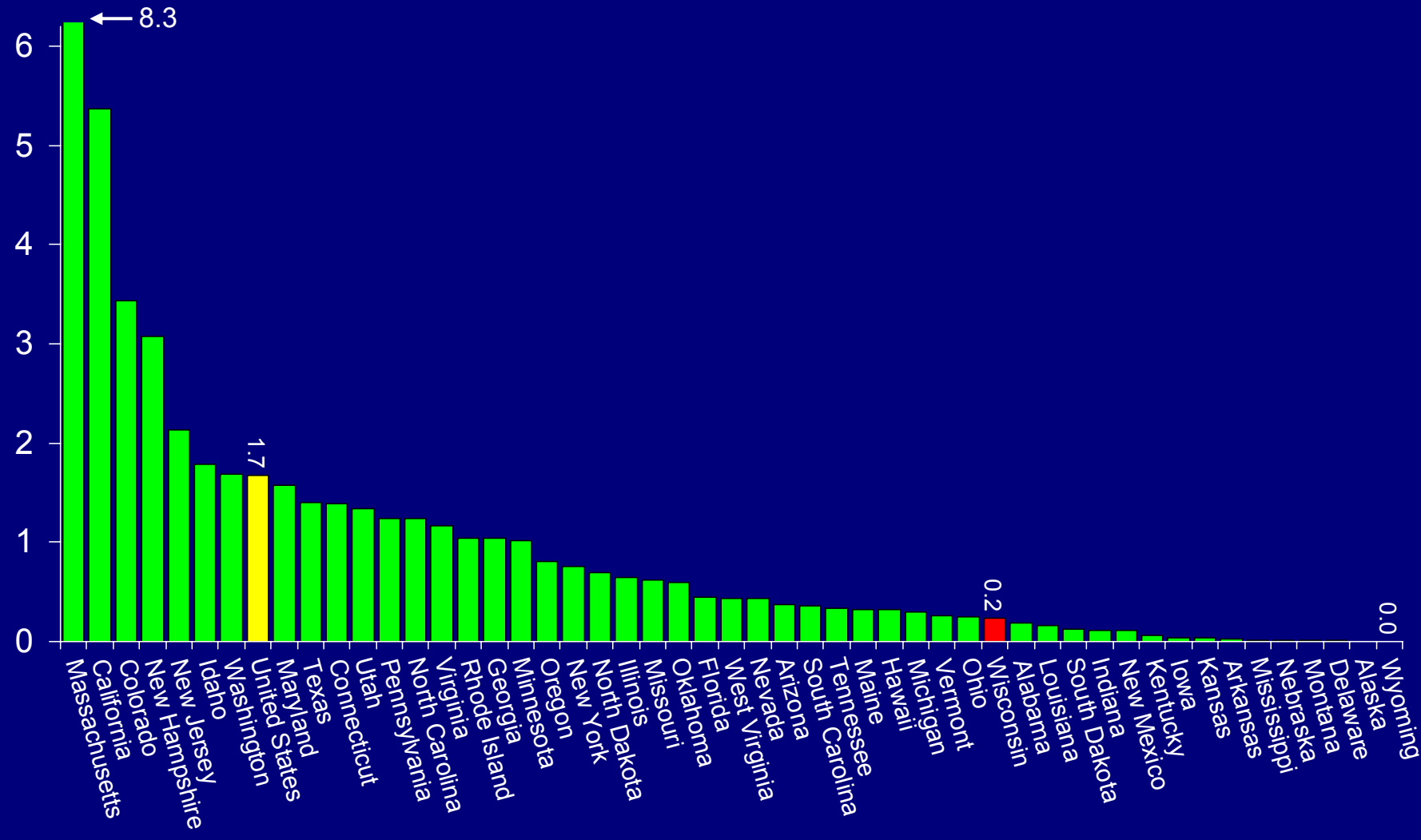
Source: *Development Report Card for the States*, CFED

Number of Patents Issued Per $1,000 Gross State Product



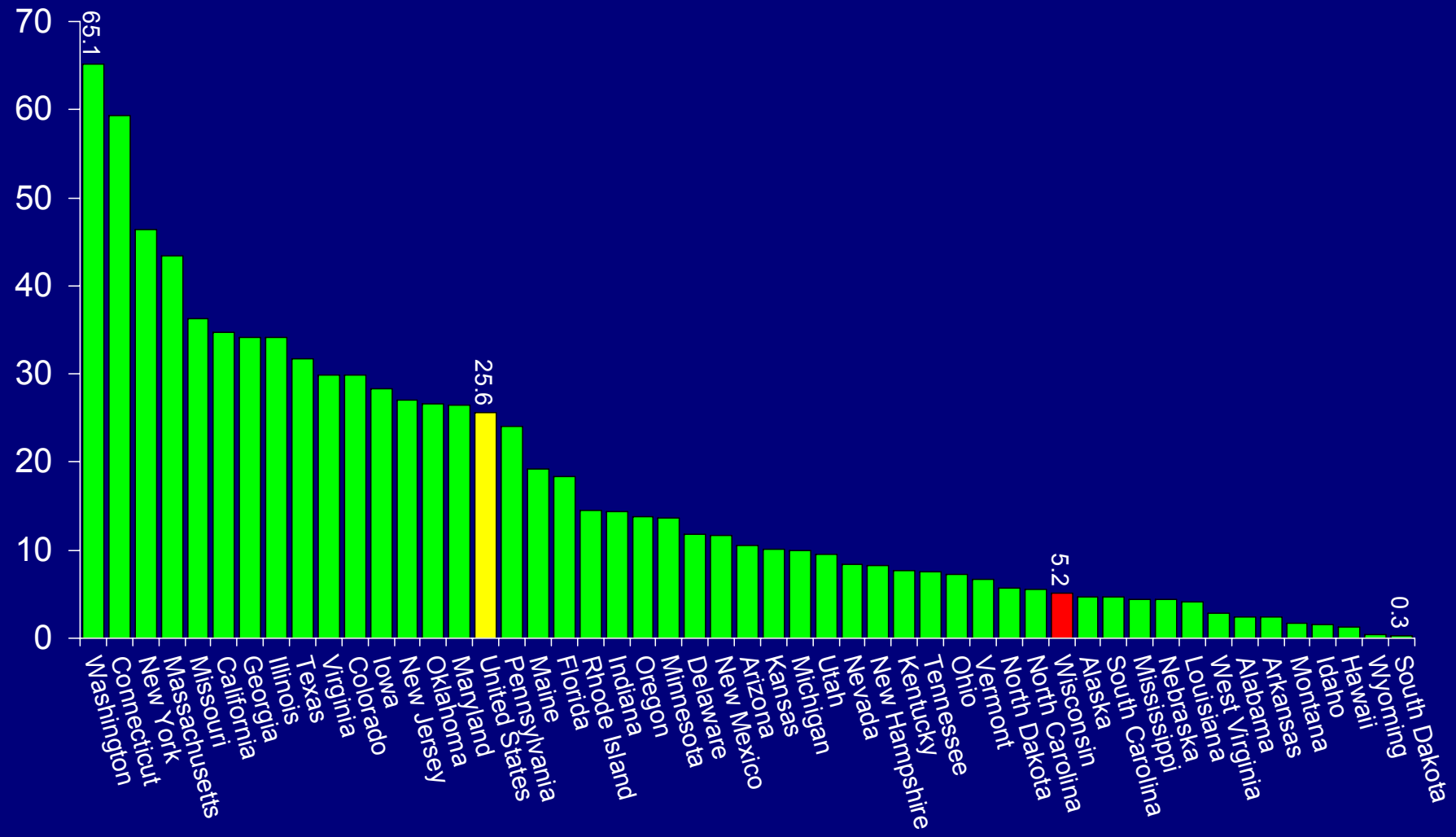
Source: *2004/2005 Economic Vision 2010 Report Card,* Indiana Chamber

Venture Capital—Financing Per $1,000 Gross State Product, 2003



Source: *2004/2005 Economic Vision 2010 Report Card,* Indiana Chamber

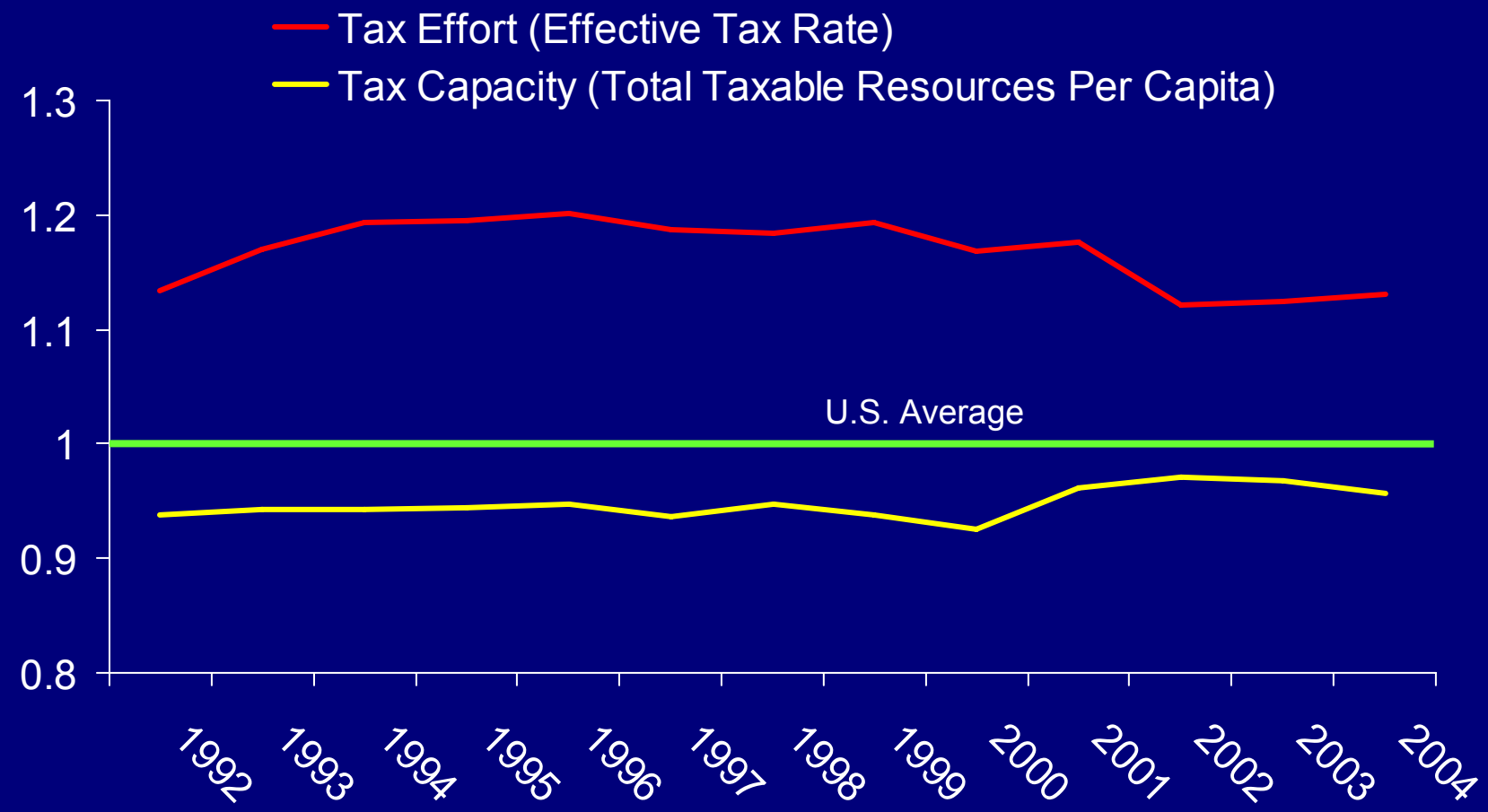
Number of Initial Public Offerings—Financing Per $1,000 Gross State Product, 2002



Source: *2004/2005 Economic Vision 2010 Report Card,* Indiana Chamber

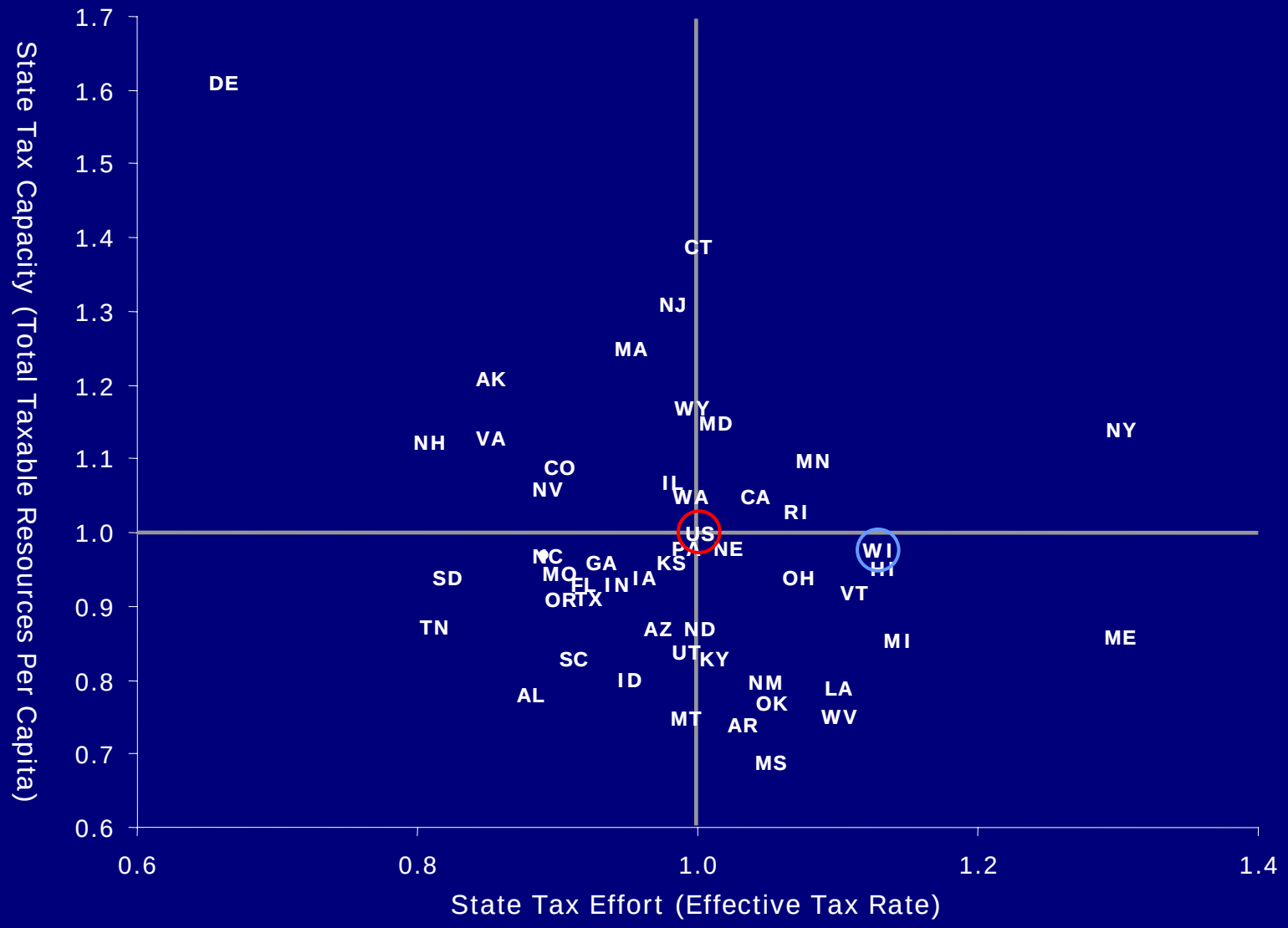
The Fiscal Environment

State Tax Capacity and Effort—Wisconsin Indexed to U.S. Average



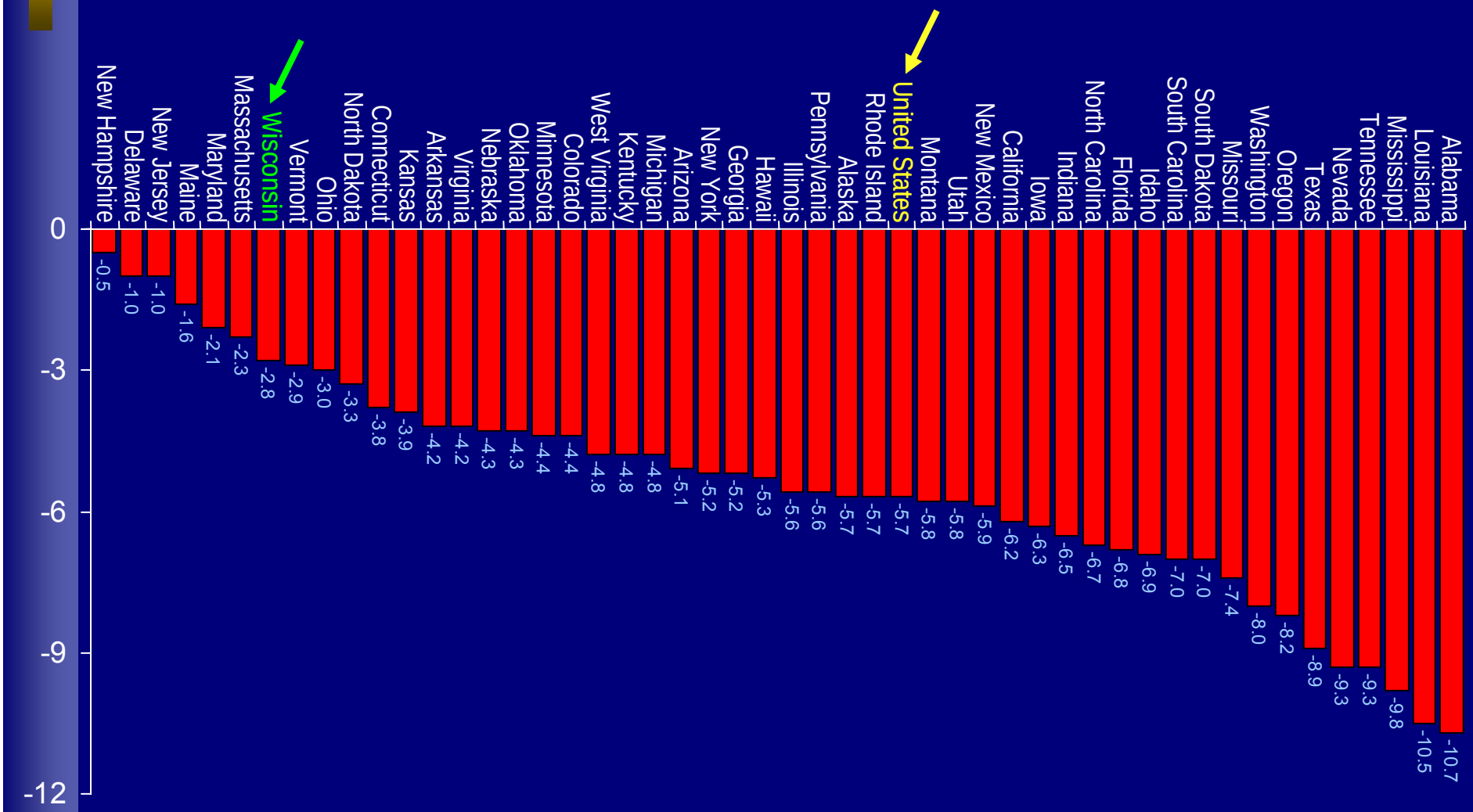
Source: State Higher Education Executive Officers (SHEEO)

State Tax Capacity and Effort—Wisconsin Indexed to U.S. Average



Source: State Higher Education Executive Officers (SHEEO)

Projected State and Local Budget Surplus (Gap) as a Percent of Revenues, 2013



Source: NCHEMS; Don Boyd (Rockefeller Institute of Government), 2005

Summary Observations

Key Issues Facing Wisconsin

- Expansion and Diversification of State's Economy
- Variations in:
  - Regional Access
  - Access and Success of Minorities
- Revitalizing Milwaukee
- ???

Conditions for Developing and Pursuing a Public Agenda

- A Process for Creating—and Building Consensus Around—the Short List of State Priorities that the State's "System" of Higher Education Should Be Addressing
- A Mechanism for Keeping the Focus on this Agenda Over an Extended Period of Time
- Accountability Measures that Allow Monitoring Progress Toward Achieving Priority Goals
- An Approach to Resource Allocation that Creates Incentives (and Removes Disincentives) for Pursuing Priority Goals
- A Regulatory Environment Consistent with Objectives

Given the Criteria for Success, What Might the Board of Regents Expect Over the Next Several Months?

- Deep Involvement in Identifying Key Issues to Be Addressed and Building Coalitions Supportive of the Agenda
- Participation in Development of an Appropriate Accountability Mechanism
- Requests to Change the Financing and Resource Allocation Mechanisms to Better Align Them with Goals
- A Review of State and University of Wisconsin System Policies, Regulations, and Statutes to Identify Barriers to Progress