

## THE INFORMATION GAP: WHAT AMERICA DOESN'T KNOW ABOUT STATE PERFORMANCE IN HIGHER EDUCATION

**INDEPENDENT NONPARTISAN** organizations regularly publish report cards comparing the states in such areas as the quality of their K–12 schools, their participation in the global economy, and the welfare of their children. *Measuring Up 2000*, for the first time, provides Americans with comparative information about state performance in higher education.

In providing a state-by-state look at higher education, *Measuring Up* relies on publicly available information that has been collected by government agencies and by nationally recognized private organizations. These public and private agencies are charged with responsibilities for national data collection. Had the National Center sought to collect data, the process of asking states to provide information for the sole purpose of evaluating and grading them might compromise the results. In all cases, the National Center has used the most up-to-date information available.

The search for publicly available data revealed many areas in which we as a nation do not know much about state-by-state performance in higher education. These gaps in information are of three types: data that are collected for some states, but not all; data that are collected but not in a form that captures an important concept or that allows for comparisons among the states; and areas for which there is no consensus on the best method for measuring performance.

The National Center encourages dialogue—and action—on the collection of information that Americans need to know about state performance in higher education.

### Preparation

In grading the states on their preparation of students for education beyond high school, *Measuring Up 2000* focuses on three concepts: high school completion, K–12 course taking, and K–12 student achievement. Completing high school—by earning a traditional or a General Education Development (GED) diploma—is a requirement for those who aspire to college. Statewide data on coursework and student achievement in grades 8–12 indicate whether a state's K–12 schools are adequately preparing stu-

dents for the rigors of a college curriculum. But there are two crucial gaps in what we as a nation know about the preparation of students for postsecondary education.

**1. High-level course taking in the humanities and social sciences.** Most states, but not all, participate in surveys that indicate how many 8th graders take algebra, how many 9th–12th graders take at least one upper-level math or science course, and how many high school students take Advanced Placement courses. But we do not know how many students are taking high-level courses in the humanities and social sciences—information that would allow us to broaden our picture of students' preparation for college.

**2. Student achievement in the 8th and 12th grades.** Most states, but not all, participate in national assessments of academic achievement for 8th graders. Efforts to encourage all states to participate in the collection of this information would be very useful. We have far less information, however, about the achievement of 12th graders in each state. National information about the academic achievement of 12th graders is available, but comparative state information is not. If states were to participate in national assessments of 12th graders, we would know a good deal more about the “stock of learning” that students acquire in high school.

### Participation

*Measuring Up 2000* grades the states on the extent to which young adults and working-age adults have the opportunity to enroll in higher education programs in their state. There are two important gaps, however, in what we know about opportunities for participation.

**3. Rates of college participation for recent high school graduates, by income group.** State-by-state participation rates can be calculated for all students and for students of different racial groups. We also have state-by-state data on how many high school freshmen enroll in college four years later, but this information is not sorted by family income. Such information is essential for policymaking in areas such as access, admissions and student aid.

“The search for publicly available data revealed many areas in which we as a nation do not know much about state-by-state performance in higher education.”

#### 4. Migration of students across state lines.

Only one of the existing measures of participation (high school freshmen who enroll in college four years later) tracks students across state lines. The other measures of participation do not “credit” a state for those of its students who attend out-of-state colleges. In many states the out-migration of students is a major policy issue and comparative data would be most useful.

### Affordability

In grading the states on the affordability of higher education for students and families, *Measuring Up 2000* looks at three concepts: the ability of families to pay for higher education, state strategies to promote affordability, and the degree to which students rely on loans to finance their education. Additional data and more precise information would greatly enhance our understanding of affordability.

**5. Unmet financial need for eligible and qualified students.** The available data estimate unmet financial need on a national basis, but not at the state level. Such information, reported for different income groups, is crucial to understanding the extent to which economic factors affect rates of participation.

**6. Distribution of student aid.** More precise and comparable data are needed, from the states and from institutions of higher education, about who benefits from need-based and non-need-based financial aid programs and about the income phase-outs for receiving student aid.

**7. Undergraduate student loans.** Available data lump together borrowing by undergraduate and graduate students in each state, making it difficult to determine the indebtedness of undergraduates.

### Completion

*Measuring Up 2000* focuses on two overall concepts related to completion: the number of first-year college and university students who return for their second year and the number who complete their certificate or degree program in a timely manner. The inadequacies of the available data are several.

**8. The progression of individual students through the higher education system.** We know from national longitudinal studies that large numbers of students attend more than one institution before earning a degree, but current national data do not allow us to track students who move from one institution to another. A data system that tracks the paths of individual students would allow us to determine the characteristics of students and to chart their progress across institutional and state lines. This information

would enhance our ability to determine how student migration affects state performance. It would also aid our understanding of issues related to the transfer policies of various types of colleges and universities.

#### 9. Degree completion in six and ten years.

Working-age adults, many of whom have family and professional responsibilities, typically take more than five years to complete their educational goals. Thus in addition to the existing data on completion of a baccalaureate within five years, we would like to have data on completion after six and even ten years.

### Benefits

States receive both economic and civic benefits as a result of having a highly educated population. Four concepts are included in this category: the educational attainment of the population, the economic benefits that accrue from having a bachelor's degree, the civic benefits to the state, and the skill level of adults.

#### 10. Educational attainment.

Available data indicate the percentage of adults who have a bachelor's degree, but not the number who earned their degree in the state in which they reside. Data of this type would enhance our understanding of educational attainment.

#### 11. Measures of civic engagement.

The measures of voting and philanthropic giving that are included in the report card are useful, but they are surrogates for measures that would better capture civic engagement, such as levels of civic volunteerism and leadership by college graduates in comparison with individuals who did not graduate from college.

**12. Adult skills.** We have reliable data from the National Assessment of Adult Literacy for many states. The literacy survey will be readministered within the next two years. We encourage all states to participate in this effort to assess adults' mastery of high-level literacy skills. Equally valuable would be an oversample of college graduates in each state that would speak specifically to the literacy skills of graduates.

### Learning

Each of the states received an Incomplete grade in the area of student learning. This grade is a call for public attention to this important policy issue.

**“If states were to participate in national assessments of 12th graders, we would know a good deal more about the ‘stock of learning’ that students acquire in high school.”**

**13. Academic achievement.** Measures of actual student learning in key fields should be explored at two stages: when college students make the transition from the lower division to the upper division and again when students receive their baccalaureate degree—perhaps on a “value-added” basis. Measurements of high-level literacy skills among adults who have completed various levels of postsecondary education would also be useful.

“Current national data do not allow us to track students who move from one institution to another.”

**14. Attainment of basic workplace skills.** Literacy surveys tend to focus on assessing literacy as defined in “academic” terms (for example, communication and quantitative skills). In many states, however, a key issue is the attainment of high-level skills that are necessary for work-related education and training.

## Cost Effectiveness

Cost effectiveness is not a category that is graded in *Measuring Up 2000*, but we hope that it can be included in future report cards.

**15. Measures of cost effectiveness in relation to performance outcomes.** Data on broad measures of state spending related to specific public policy outcomes will allow states to assess their comparative level of performance, given the available resources.

Over the next several months the National Center will encourage and participate in dialogues on initiatives to expand and improve the collection of information regarding state performance in higher education.

### SOURCES

#### PREPARATION

**High School Credential:** 18- to 24-year-olds with a high school credential. U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Math Course Taking:** 9th to 12th graders taking at least one upper-level math course. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

**Science Course Taking:** 9th to 12th graders taking at least one upper-level science course. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

**Algebra in 8th Grade:** 8th grade students taking algebra. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

**Math Proficiency:** 8th graders scoring at or above “proficient” on the national assessment exam in math. U.S. Department of Education, *National Assessment of Educational Progress*, 1996.

**Reading Proficiency:** 8th graders scoring at or above “proficient” on the national assessment exam in reading. U.S. Department of Education, *National Assessment of Educational Progress*, 1998.

**Writing Proficiency:** 8th graders scoring at or above “proficient” on the national assessment exam in writing. U.S. Department of Education, *National Assessment of Educational Progress*, 1998.

**Math Proficiency among Low-Income:** Low-income 8th graders scoring at or above “proficient” on the national assessment exam in math. U.S. Department of Education, *National Assessment of Educational Progress*, 1996.

**College Entrance Exams:** Number of scores in the top 20% nationally on SAT/ACT college entrance exam per 1,000 high school graduates. ACT data from ACT tabulations, 1999; SAT data from College Board tabulations, 1999.

**Advanced Placement Exams:** Number of scores that are 3 or higher on an Advanced Placement subject test per 1,000 high school juniors and seniors. Data provided by Westat, 1999.

#### **Performance Gaps (Preparation)**

**High School Credential:** 18- to 24-year-olds with a high school credential. U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Math Course Taking:** 9th to 12th graders taking at least one upper-level math course. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

**Science Course Taking:** 9th to 12th graders taking at least one upper-level science course. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

#### **Change over Time (Preparation)**

**High School Credential:** 18- to 24-year-olds with a high school credential. U.S. Bureau of the Census, Current Population Survey, October 1985, 1986 and 1987 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Math Course Taking:** 9th to 12th graders taking at least one upper-level math course. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

**Science Course Taking:** 9th to 12th graders taking at least one upper-level science course. Council of Chief State School Officers, *State Indicators of Science and Mathematics Education*, 1999.

#### PARTICIPATION

**High School to College Rate:** High school freshmen enrolling in college within 4 years in any state.

*Public 9th grader data* from the National Center for Education Statistics, *Digest of Education Statistics*, 1995.

*Public high school graduate data* from the National Center for Education Statistics, *Public Elementary and Secondary Education Statistics Report, School Year 1997–98*, 1999.

*College enrollment data* from the *Residence and Migration of First-time Freshmen Enrolled in Degree Granting Institutions*, Fall 1996, 1998.

Indicator as reported by Thomas Mortenson, “Chance for College” *Postsecondary Education Opportunity*, March 1998.

**Young Adult Enrollment:** 18- to 24-year-olds enrolling in college. U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Working-Age Adult Enrollment:** 25- to 44-year-olds enrolled part-time in some type of postsecondary education.

*Enrolled population data* from National Center for Education Statistics, Integrated Postsecondary Education Data System, 1998. State-level analysis provided by Pinkerton Computer Consultants, 2000.

*Total population data* from U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

#### **Performance Gaps (Participation)**

**Young Adult Enrollment:** 18- to 24-year-olds enrolling in college. U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

### **Change Over Time (Participation)**

**Young Adult Enrollment:** 18- to 24-year-olds enrolling in college. U.S. Bureau of the Census, Current Population Survey, October 1985, 1986 and 1987 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

### **AFFORDABILITY**

**Family Ability to Pay:** Percent of income needed to pay for college expenses minus financial aid:

- At community colleges
- At public 4-year colleges/universities
- At private 4-year colleges/universities

*Tuition data* from the National Center for Education Statistics, *Digest of Education Statistics*, 1999.

*Room and board data* from the National Center for Education Statistics, *Digest of Education Statistics*, 1999.

*Pell grants data* from the U.S. Department of Education, *Pell Grant End of the Year Report*, 1998–99, 2000.

*State grants data (need- and non-need-based)* from the National Association of State Student Grant and Aid Programs, *30th Annual Survey*, 2000.

*Institutional aid data* from the National Center for Education Statistics, *Ed Tabs: Institutional Finance*, 1996.

*Income information data* from U.S. Bureau of the Census, Current Population Survey, March 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Need-Based Financial Aid:** State grant aid targeted to low-income families as a percent of federal Pell Grant aid to low-income families.

*Pell grants data* from the U.S. Department of Education, *Pell Grant End of the Year Report*, 1998–99, 2000.

*State grants (need- and non-need-based) data* from the National Association of State Student Grant and Aid Programs, *30th Annual Survey*, 2000.

**Low-Priced Colleges:** Share of income that poorest families need to pay for tuition at lowest priced colleges.

*Tuition data* from the National Center for Education Statistics, *Digest of Education Statistics*, 1999.

*Income data* from U.S. Bureau of the Census, Current Population Survey, March 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Low Student Debt:** Average loan amount that students borrow each year.

*Loan data* from the U.S. Department of Education, *Federal Family Educational Loan Program End of the Year Report*, 1998–99, 1999.

### **COMPLETION**

**Students Returning at Two-Year Colleges:** First-year community college students returning their second year. ACT, ACT Institutional Data Questionnaire, 1999.

**Students Returning at Four-Year Colleges:** Freshmen at four-year colleges/universities returning their sophomore year. ACT, ACT Institutional Data Questionnaire, 1999.

**Bachelor's Degree Completion:** First-time, full-time students completing a bachelor's degree within five years. ACT, ACT Institutional Data Questionnaire, 1999.

**All Degree Completion:** Certificates, degrees and diplomas awarded at all colleges and universities per 100 undergraduate students. National Center for Education Statistics, Integrated Postsecondary Education Data System, 1998–99. Special tabulations provided by Pinkerton Computer Consultants, 2000.

### **Performance Gaps (Completion)**

**All Degree Completion:** Certificates, degrees and diplomas awarded at all colleges and universities per 100 undergraduate students. National Center for Education Statistics, Integrated Postsecondary Education Data System, 1998–99. Special tabulations provided by Pinkerton Computer Consultants, 2000.

### **BENEFITS**

**Adults with Bachelor's Degree or Higher:** Population aged 25 to 65 with bachelor's degree or higher. U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Increased Income from Education:** Increase in total personal income as a result of the percentage of the population holding a bachelor's degree.

*Median Earnings data* from U.S. Bureau of the Census, Current Population Survey, March 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

*Total population with bachelor's degree or higher data* from the U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

*Total personal income data* from the U.S. Department of Commerce, Bureau of Economic Analysis, State Personal Income, Annual and Quarterly for All States and Regions, 1999.

**Population Voting:** Eligible residents voting in 1996 and 1998 national elections. U.S. Bureau of the Census, Current Population Survey 1996, 1998, November 1996, 1998 Supplements.

**Charitable Contributions:** Of those who itemize on federal income taxes, the percentage declaring charitable gifts. Internal Revenue Service, Statistics of Income Series, 1999.

**Quantitative Literacy:** Adults demonstrating high-level quantitative literacy skills. Educational Testing Service, *National Adult Literacy Survey*, 1992.

**Prose Literacy:** Adults demonstrating high-level prose literacy skills. Educational Testing Service, *National Adult Literacy Survey*, 1992.

**Document Literacy:** Adults demonstrating high-level document literacy skills. Educational Testing Service, *National Adult Literacy Survey*, 1992.

### **Performance Gaps (Benefits)**

**Adults with Bachelor's Degree or Higher:** Population aged 25 to 65 with bachelor's degree or higher. U.S. Bureau of the Census, Current Population Survey, October 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

### **Adult Literacy Skills**

**High-level quantitative literacy**, as defined by the *National Adult Literacy Survey*, consists of performing arithmetic operations which must be inferred from text or drawn from prior knowledge.

**High-level prose literacy** involves understanding essays and other prose forms and being able to integrate multiple pieces of information.

**High-level document literacy** involves being able to integrate and make inferences about information from sources such as lists, tables and maps.

**Earnings and Attainment Projections.** U.S. Bureau of the Census, Current Population Survey, Annual Demographic File, 1999. Special analysis by David Wright, Wichita State University.

### **Change Over Time (Benefits)**

**Adults with Bachelor's Degree or Higher: Population aged 25 to 65 with bachelor's degree or higher.** U.S. Bureau of the Census, Current Population Survey, October 1985, 1986, and 1987 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

### **STATE CONTEXT TABLE**

**Population.** U.S. Bureau of the Census, State Population Estimates, 1998.

**Gross State Product.** U.S. Department of Commerce, Bureau of Economic Analysis, Gross State Product for States, 1998.

### **LEADING INDICATORS TABLE**

**Projected Percent Change in Population, 2010–2015.** U.S. Bureau of the Census, Population Projections for States 1995–2025, 1999.

**Projected Percent Change in Number of All High School Graduates, 1999–2010.** Western Interstate Commission on Higher Education, *Knocking on the College Door*, 1998.

**Projected Budget Surplus/Shortfall by 2008.** Hovey, Harold, *State Spending for Higher Education in the Next Decade*, 1999.

**Average Income of Poorest 20% of the Population.** U.S. Bureau of the Census, Current Population Survey, March 1996, 1997 and 1998 Supplements. State-level analysis provided by Pinkerton Computer Consultants, 2000.

**Children in Poverty (1995 data).** Annie Casey Foundation, *Kids Count*, 1999.

**Percent of Population with Less Than a High School Diploma or Equivalent.** U.S. Bureau of the Census, Current Population Survey, October 1998 Supplement.

**New Economy Index.** Progressive Policy Institute, *The State New Economy Index*, 1999.

### **FACTS AND FIGURES TABLE**

**Institutions of Postsecondary Education**

**Students Enrolled by Institution Type**

**Students Enrolled by Level**

**Enrollment Status of Students (1996 data)**

**Net Migration of Students**

**Average Tuition**

National Center for Education Statistics, *Digest of Education Statistics*, 1999.

**State and Local Appropriations for Higher Education,** Palmer, James, ed. *Grapevine: A National Database of Tax Support for Higher Education*, 1999.

### **PUBLIC SATISFACTION / EMPLOYER SATISFACTION TABLE**

**Public Satisfaction.** Public Agenda, 50-State Survey Conducted for the National Center for Public Policy and Higher Education, 2000.

**Employer Satisfaction.** U.S. Bureau of the Census, National Employer Survey, 1997. State-level analysis provided by Institute for Research in Higher Education, 1999.

## **GRADING**

### **Step 1. Identify indicators**

*Measuring Up* is built on a foundation of 30 quantitative indicators. Each performance category—preparation, participation, affordability, completion, and benefits—has several indicators. All of these indicators:

- are important in assessing performance in the category,
- are collected regularly by reliable, public sources that follow accepted practices for data collection,
- are comparable across the 50 states, and
- measure performance results.

### **Step 2. Weight indicators**

Each indicator is assigned a mathematical weight based on its importance to the performance category—as informed by research and policy experience. For each category the sum of all weights is 100%.

### **Step 3. Identify top states for each indicator**

State results on each indicator are converted to a scale of 0 to 100, using the top five states as the benchmark. This conversion—called indexing—is a statistical method that allows for accurate comparisons of different measures. In *Measuring Up 2000*, the median of the top five states (or the third best state) scores 100. This establishes a high, but achievable standard of performance on each indicator.

### **Step 4. Identify best state for each category**

State scores for each category are calculated from the state's index scores on the indicators and the indicators' weights. In each category, the sum of all the index scores on the indicators times the weights of the indicators is the raw category score for the state. These raw category scores are then converted to a scale of 0 to 100 based on the performance of the top state in the category.

### **Step 5. Assign grades**

Grades are assigned based on the category index scores, using a grading scale common in many high school and college classes.

#### **Grading Scale**

|    |              |    |       |    |          |
|----|--------------|----|-------|----|----------|
| A  | 93 and above | B– | 80–82 | D+ | 67–69    |
| A– | 90–92        | C+ | 77–79 | D  | 63–66    |
| B+ | 87–89        | C  | 73–76 | D– | 60–62    |
| B  | 83–86        | C– | 70–72 | F  | Below 60 |

### **SHARE OF STATE APPROPRIATIONS CHART**

National Association of State Budget Officers, *State Expenditure Report*, 1991, 1999.

### **ETHNIC DISTRIBUTION CHART**

**State Population.** U.S. Bureau of the Census, State Population Estimates, 1998.

**Students Enrolled in Higher Education.** National Center for Education Statistics, *Digest of Education Statistics*, 1999.



## The National Center for Public Policy and Higher Education

As an independent, nonprofit, nonpartisan organization, the National Center for Public Policy and Higher Education promotes public policies that enhance Americans' opportunities to pursue and achieve high-quality education and training beyond high school. Formed in 1998, the National Center is not affiliated with any institution of higher education, with any political party, or with any government agency. It conducts independent research and action-oriented analysis of pressing policy issues facing the states and the nation regarding opportunity and achievement in higher education—including two- and four-year, public and private, for-profit and nonprofit institutions. The National Center communicates performance results and key findings to the public, to civic, business, and higher education leaders, and to state and federal leaders who are poised to improve public policies regarding higher education.

For further information about the National Center and its publications, visit [www.highereducation.org](http://www.highereducation.org).

*San Jose Office:* 152 North Third Street, Suite 705, San Jose, California 95112

Telephone: 408-271-2699 • FAX: 408-271-2697

Email: [center@highereducation.org](mailto:center@highereducation.org)

*Washington Office:* 1001 Connecticut Avenue, NW, Suite 310, Washington, D.C. 20036

Telephone: 202-822-6720 • FAX: 202-822-6730

**[www.highereducation.org](http://www.highereducation.org)**

**To order *Measuring Up 2000* call 1-888-269-3652.**

Single copies are available for \$25.00; discounts are available for orders of 10 or more.

### ***National Center Staff***

**Patrick Callan**

*President*

**Joni Finney**

*Vice President*

**William Doyle**

*Senior Policy Analyst*

**Cerena Gil**

*Research Associate*

**Heather Jack**

*Senior Consultant for Marketing  
and Communications*

**Gail Moore**

*Director of Administration*

**Sue Murphy**

*Assistant to the Vice President*

**Thad Nodine**

*Director of Communications*

**Noreen Savelle**

*Executive Assistant*

**William Trombley**

*Senior Editor*

### ***Measuring Up 2000***

**Managing Editor**

Thad Nodine

**Design**

Dennis Caldwell

**Web Site Management**

Heather Jack

**Copy Editor**

Amy Einsohn

**Editorial Support**

Patricia Hofmeister, Mae Kaven,  
Mary Kay Martin, Sue Murphy,  
Abigail Stryker

**Production**

Laser Works

**Printing**

Waller Press

©2000 by The National Center for  
Public Policy and Higher Education

*Cover: Students from San Jose State University and San Jose City College.*





THE NATIONAL CENTER FOR  
PUBLIC POLICY AND  
HIGHER EDUCATION

152 North Third Street, Suite 705, San Jose, California 95112 • Telephone 408-271-2699 • Fax 408-271-2697 • [center@highereducation.org](mailto:center@highereducation.org)

1001 Connecticut Avenue, NW, Suite 310, Washington, D.C. 20036 • Telephone 202-822-6720 • Fax 202-822-6730

**[www.highereducation.org](http://www.highereducation.org)**