



# INVESTING IN THE FUTURE: SHARING RESPONSIBILITY FOR HIGHER EDUCATION ATTAINMENT

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Prepared by the  
NATIONAL COMMISSION ON FINANCING 21ST CENTURY HIGHER EDUCATION





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# LETTER FROM THE COMMISSIONERS

The University of Virginia Miller Center created the National Commission on Financing 21st Century Higher Education in 2014. The purpose was to recommend funding changes to the U.S. public higher education system so the nation can attain a goal of having 60 percent of its labor force with a postsecondary degree or certificate by 2025. This means that 16.4 million more Americans must graduate with a postsecondary degree or credential above current projections between 2017 and 2025. To meet the goal, the nation must maintain high school graduation and college entrance rates at or above 75 percent and 70 percent, respectively—reachable goals which are close to historical norms. It must also increase college graduation rates from 40 percent to 60 percent.

Increasing the college graduation rate will be inherently challenging particularly given the coming surge of low income students and students of color that historically have been less prepared to attend postsecondary schools. In outlining our recommendation, we emphasized strategies that help underrepresented students attend college and attain a degree or certification. If we fail to dramatically raise the college completion rates of these students, we will not achieve the 60 percent goal nationally.

Policymakers must recognize that urgent action is needed. Already, at least 10 other nations have surpassed the U.S in terms of the percent of population (aged 25-34) having a postsecondary degree or certificate. The cost to our nation in terms of economic growth, job creation, standard of living, and all other benefits that accompany higher levels of education for our citizens is too high to fail.

To learn more about the challenges and road map to attaining the goal, the commission engaged highly qualified experts to write 10 white papers on different dimensions of the current and future public higher education system. The commission asked all the authors to ignore the limits of current policies and engage in “blue sky” thinking on individual topics. Each paper represents the views of the individual authors, not the commission. Nevertheless, the papers have provided a foundation for the recommendations in this final report. In addition, the commission hopes the papers stimulate further discussion and debate about higher education funding.

The 10 papers and the final report focus on answering three primary questions related to reaching the 60 percent goal. First, how do we realign incentives and retarget existing public funding to make the entire system more affordable while increasing graduation rates for students generally but students of color and low-income individuals in particular? Second, what are the new, innovative models to deliver postsecondary education that can both lower the cost and increase the productivity of the entire system? Third, what options do federal and state governments and the private sector have for increasing funding for higher education?

This final report makes nine broad recommendations and a significant number of specific actions that states and federal policy makers can adopt to reach the goal. Essentially, it will take a stronger federal, state, business, higher education partnership to make the goal fully operational. While the U.S higher education system is still the envy of the world the nation is clearly at a major crossroads given the increased income inequality and the fact that many workers feel left behind economically. It is our hope that national and state policy leaders are able to gain valuable insights and policy direction from the combination of the 10 white papers and this final report. The time for transforming and adequately financing the public higher education system is now.

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# NATIONAL COMMISSION ON FINANCING 21ST CENTURY HIGHER EDUCATION

**Mike Castle**, former governor of Delaware and former U.S. congressman (co-chair)



Mike Castle has served as a governor, United States congressman, lieutenant governor, deputy attorney general, and state senator. Before entering public service, Castle practiced law in Wilmington for more than ten years and was a partner in one of Delaware's largest firms. During his nine terms as Delaware's sole member in the House of Representatives, he served on the House Financial Services Committee, which has jurisdiction over the banking, securities, and insurance industries, where he chaired the Subcommittee on Domestic and Monetary Policy and dealt with issues which directly affect the financial services industry and consumers. While in Congress, Castle was instrumental in helping to write and pass welfare reform, the Balanced Budget Act, child nutrition programs, the No Child Left Behind Act, and campaign finance reform. In his eight years as governor of Delaware, he was responsible for propounding and signing many of Delaware's most important laws, including amendments to the Delaware General Corporation Law, alternative business entity laws, and laws governing insurance companies and financial institutions.

**Bob Graham**, former governor of Florida and former U.S. senator (co-chair)



Bob Graham is the former two-term governor of Florida, and served in the United States Senate for 18 years and in the Florida legislature for 12 year. Graham retired from public service in January 2005 following his presidential campaign in 2003. He has written four books, including *Intelligence Matters: The CIA, the FBI, Saudi Arabia, and the Failure of America's War on Terror*; *Keys to the Kingdom*; and *America, the Owner's Manual: Making America Work for You*, written while he was a senior fellow at Harvard's Kennedy School of Government. Since leaving the Senate in 2005, Graham has been chair of the Congressional Commission on the Prevention of Weapons of Mass Destruction, a member of the Congressional Financial Crisis Inquiry Commission, and co-chair of the Presidential Commission on the BP Deepwater Horizon oil spill. He established the Center for Public Service at the University of Florida to enhance civic engagement and prepare the next generation of public and civic leaders.

**Andrea J. Ayers**, president and chief executive officer (CEO), Convergys



Andrea Ayers is president and chief executive officer of Convergys Corporation, a global leader in customer management. Ayers became a member of the Convergys Board of Directors and was appointed chief executive officer in October 2012. Prior to that, she forged a 20-plus-year track record of success and business growth in a variety of executive positions, including president of the company's Relationship Technology Management line of business; president of Convergys's Government, Retail, Healthcare, Automotive, and Financial Services vertical service sectors; and vice president of marketing, and general manager of the Direct Broadcast Services (DBS) business unit. Ayers is committed to job creation, improving educational opportunities to develop the workforce of tomorrow, and enhancing the quality of life in the communities in which Convergys employees live and work. She is an active member of the Business Roundtable, G100, the Greater Cincinnati Chamber of Commerce, the Cincinnati Business Committee, and the Ohio Business Roundtable.

**Jorge Benitez**, (retired) CEO United States and senior managing director, Accenture North America



Jorge L. Benitez retired from Accenture in August 2014 as chief executive of North America. He had primary responsibility for Accenture’s business and operations in North America, including developing and executing the company’s business strategy, delivering client service, and driving its growth in the region. Prior to being named chief executive and senior managing director, Benitez served as the chief operating officer for Products, the largest of Accenture’s five operating groups. During his five years in that role, he led Accenture’s global business across a wide set of consumer relevant industry groups. Benitez has also been the executive sponsor for several of Accenture’s largest clients. He serves on a variety of board and forums focused on business, education, policy, and health. Benitez has been recognized for his impact on business and the Latino society: *Hispanic Business Magazine* included him on its “2011 Top 25 Corporate Elite” list and selected him as one of the 100 most influential Hispanics in the United States in 2004.

**Carl T. Camden**, president and CEO, Kelly Services, Inc.



As president and chief executive officer of Kelly Services, Carl Camden is a recognized thought leader on talent management and how companies can adapt to succeed in the changing economic landscape. In his role at Kelly Services – which serves 99 percent of the Fortune 100 companies – Camden regularly consults with leaders of many of the largest, best-known corporations in the world, providing insight into labor trends and advising on flexible workforce strategies. He has been a marketing executive for a bank-holding company, co-president of an advertising agency, co-founder of a behavioral research group, and a tenured university professor. Camden serves as co-chair of the Board of Trustees of the Committee for Economic Development and is a member of the Business Roundtable, an association of chief executive officers of leading U.S. companies. He has served on the American Staffing Association’s board of directors and received awards from international workforce agencies for his significant contributions to improving the workforce development system.

**Juliet V. García**, Senior Advisor to the Chancellor of The University of Texas System for Community, National and Global Engagement; former president, The University of Texas at Brownsville



Juliet V. García served as the first female Mexican-American president of a U.S. college or university at Texas Southmost College. García spearheaded the creation of the University of Texas at Brownsville in 1991, forming a partnership with the community college that consolidated the fiscal, physical, and human resources of both institutions. She began a grassroots effort to envision a new 21st-century university model for UT Brownsville, the new UT Rio Grande Valley University, which is scheduled to open its doors in September. After serving as a college and university president for 28 years, García was named the founding executive director of the University of Texas Americas Institute in 2014. Among the many honors García has received for her work is recognition by *Fortune* magazine as one of the world’s 50 greatest leaders and by *Time* as one of the top 10 college presidents in the U.S.

### **Mildred García**, president, California State University, Fullerton



Mildred García is president of California State University, Fullerton, the fourth largest university in the state, serving nearly 39,000 students and with an operating budget of almost half a billion dollars. Since her arrival in 2012, the University has seen a 20% improvement in six-year graduation rates and a significant drop in the achievement gap between underrepresented students and their campus peers. The institution is number one in California in awarding bachelor's degrees to Hispanics as well as fifth in the nation in graduating students of color. A recipient of myriad awards—from Hispanic Business Magazine's 100 Most Influential Hispanics to a Distinguished Alumni Honoree of Columbia University—Dr. García was appointed by President Obama to serve on the President's Advisory Commission on Educational Excellence for Hispanics, and she is the first Latina president in the largest system of higher education in the country.

### **Bernadette Gray-Little**, chancellor, University of Kansas



Since becoming chancellor at the University of Kansas (KU) in 2009, Bernadette Gray-Little has focused on advancing KU's mission of educating leaders, building healthy communities, and making discoveries that change the world. In fall 2013, Gray-Little was named to the board of directors of the Association of American Universities (AAU) and to the executive committee of the Association of Public and Land-Grant Universities (APLU). She is also an invited member of the Council on Foreign Relations. Prior to becoming KU's 17th chancellor, Gray-Little held several leadership positions at the University of North Carolina at Chapel Hill, including executive vice chancellor and provost. As part of a Fulbright Foundation fellowship, she conducted postdoctoral research in cross-cultural psychology in Denmark. Gray-Little has also been a Social Science Research Council Fellow and a recipient of a Ford Foundation Senior Scholar Fellowship through the National Research Council.

### **Indiana Sen. Luke Kenley**, chair, Appropriations Committee, state of Indiana



Indiana State Senator Luke Kenley has served Central Indiana since his election in 1992. As chairman of both the Senate Committee on Appropriations and Indiana's State Budget Committee, Kenley has developed a strong record of leadership for his work in writing multiple honestly balanced state budgets. He helped put Indiana on the cutting edge of institutional performance-based funding by implementing a funding model that incentivizes student success at two- and four-year institutions. Kenley championed significant legislation to triple the funding for the State Student Assistance Commission of Indiana (SSACI) program, which provides grants and funding to students attending higher education institutions in Indiana. This initiative prompted the Center for American Progress to rank Indiana as third in the nation for total state funding to public education during fiscal years 2008 through 2012. Additionally, Kenley was the driving force behind Indiana's 529 tax benefit system. During his tenure in the Indiana Senate, he has also been a steady force in reducing tax burdens on citizens and employers.

**Maryland Sen. Richard S. Madaleno Jr.**, vice chair, Budget and Tax Committee, state of Maryland



Rich Madaleno is serving his second term as a Democratic member of the Maryland State Senate, representing the state's 18th district in Montgomery County. Madaleno has worked for the Maryland Department of Fiscal Services, providing nonpartisan professional services for the state legislature, and for the Montgomery County Office of Intergovernmental Relations, representing county interests at the municipal, local, state, and federal levels. In 2002, he was elected to the House of Delegates, where he was a member of the Appropriations Committee, and its Subcommittee on Education and Economic Development. Well-regarded for his extensive budget expertise, Madaleno has served as a valued member of the Senate Budget and Taxation Committee since his election to the Senate, and now chairs the Education, Business, and Administration Subcommittee. In addition to his regular committee assignment, he serves on several of the General Assembly's special committees and task forces.

**Gail O. Mellow**, president, LaGuardia Community College



Gail O. Mellow has served as president of LaGuardia Community College in Long Island City, Queens since 2000. A member of the City University of New York (CUNY) system, LaGuardia is a nationally recognized leader among community colleges for achieving boundary-breaking success while educating underserved students. An expert on the history, development, and future of the American community college, Mellow is the co-author of *Minding the Dream: The Process and Practice of the American Community College*. She has been quoted in a range of publications on the vital role that community colleges play in educating students for a global economy and spurring job creation, including the *New York Times*, the *Wall Street Journal*, *BusinessWeek*, and *Bloomberg*. Mellow has appeared on PBS's *Frontline* and MSNBC, and participated in a Miller Center debate with college presidents from public, private, and for-profit institutions about the future of higher education in America; the debate aired on PBS stations across the nation.

**David W. Nelms**, chairman and CEO, Discover Financial



David W. Nelms is chairman of the Board of Directors and chief executive officer of Discover. Nelms is responsible for all Discover-branded financial services, including credit cards, student loans, personal loans, home equity loans, mortgages, CDs, money market accounts, and checking accounts. He also oversees the Discover Network, a comprehensive payments network that supports multiple card products, issuers, and processors; PULSE, one of the nation's leading PIN debit networks; and Diners Club International, a global payments network. In addition, Nelms serves as chairman of Discover Bank, the issuing bank for the Discover card brands. Before his appointment at Discover in 1998, he served as a vice chairman of MBNA America Bank, and held management positions at Progressive Insurance, General Electric Company, and Bain & Company Consulting. Nelms is also a member of the Board of Directors of CDW Corporation, a director and past chairman of The Executives' Club of Chicago, and the Federal Reserve Bank of Chicago's representative on the Federal Advisory Council of the Federal Reserve System's Board of Governors.

**Edward B. Rust Jr.**, chairman (retired) and CEO, State Farm Insurance Company



Edward B. Rust Jr., chairman of the board and chief executive officer of State Farm Mutual and its principal affiliates, is nationally recognized as a leader of business community efforts to improve the quality of education in the United States. Rust is a member of the Business Roundtable and the Financial Services Roundtable. He serves on the board of the James B. Hunt, Jr., Institute for Educational Leadership, Advance Illinois, and Chicago Public Education Fund. Rust is former chairman of the Business-Higher Education Forum and Business Roundtable's Education Initiative. He served on the National (Glenn) Commission on Mathematics and Science Teaching for the 21st Century and on the No Child Left Behind Commission. Rust was co-chair of the Business Roundtable for more than seven years. He is also past chairman of the U.S. Chamber of Commerce Board of Directors, the American Enterprise Institute, the Financial Services Roundtable, the National Alliance of Business, and the Insurance Institute for Highway Safety.

**Lou Anna K. Simon**, president, Michigan State University



Lou Anna K. Simon, the 20th president of Michigan State University, leads the university's work to advance the common good in Michigan and around the world. She began her career at MSU after earning her doctorate there in 1974. Prior to her appointment as president in 2005, Simon held a variety of administrative roles, including assistant provost for general academic administration, associate provost, and provost and vice president for academic affairs. As president, Simon has engaged MSU in a strategic and transformative journey to adapt the principles of the land-grant tradition to 21st-century challenges. She has expanded MSU's reach in the state and around the world by focusing the university's strengths on solutions that enhance and protect quality of life: clean and affordable energy, access to education, safe and plentiful food, and health care.

# WHITE PAPERS WRITTEN FOR THE NATIONAL COMMISSION ON FINANCING 21ST CENTURY HIGHER EDUCATION

**Paper 1. Crowded Out: The Outlook for State Higher Education Spending**

Authors: Dan White and Sarah Crane, Moody's Analytics

**Paper 2. Transformations Affecting Postsecondary Education**

Author: Jeffrey J. Selingo, Arizona State University and Georgia Institute of Technology

**Paper 3. State Higher Education Finance: Best Practices**

Authors: Martha Snyder, Brian Fox, and Cristen Moore, HCM Strategists

**Paper 4. Financing American Higher Education in the 21st Century: What Can the United States Learn From Other Countries?**

Author: D. Bruce Johnstone, professor, Higher and Comparative Education Emeritus, University at Buffalo

**Paper 5. State Strategies for Leveraging Employer Investments in Postsecondary Education**

Authors: Robert Sheets and Stephen Crawford, George Washington Institute of Public Policy, The George Washington University

**Paper 6. Understanding State and Local Higher Education Resources**

Authors: Sandy Baum and Kim S. Rueben, Urban Institute

**Paper 7. New Directions in Private Financing**

Author: Andrew P. Kelly, American Enterprise Institute

**Paper 8. Higher Education: Social Impact Bonds and Income Share Agreements**

Author: Carlo Salerno, higher education economist/analyst

**Paper 9. State Support for Higher Education: How Changing the Distribution of Funds Could Improve College Completion Rates**

Author: Bridget Terry Long, Harvard Graduate School of Education

**Paper 10. The Federal Role in Financing 21st-Century Higher Education: Effectiveness, Issues, and Alternatives**

Author: Gabriel R. Serna, Virginia Polytechnic Institute and State University

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Thanks also to Jeff Chidester, director of policy programs at the Miller Center, for his assistance throughout the project. Appreciation goes to Erika Fitzpatrick with Church Street Editorial for editing all of the papers and to Sue Overton with Skyline Graphics for designing the reports. Finally, thank you to Lumina Foundation for funding the commission's work and for offering the valuable guidance of Sean Tierney and Frank Essien strategy officers, and Kevin Corcoran, strategy director.

Raymond Scheppach  
Professor of Public Policy, Batten School of Leadership and Public Policy  
Economic Fellow at the Miller Center  
University of Virginia

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## Executive Summary

**T**he mission of the National Commission on Financing 21st Century Higher Education is to identify finance options that enhance innovation, productivity, and capacity within public postsecondary education so that 60 percent of Americans 25 to 64 years of age can achieve a high-quality postsecondary degree or certificate by 2025. The commission embraces this goal because we believe that it is necessary to safeguard the future economic prosperity and mobility of Americans.

The United States faces a shortage of skills and talent, and many in our nation are unable to fulfill the educational ambitions within their reach and capabilities. As a result, the United States has fallen behind other countries in building a highly educated workforce. Although 44 percent of the U.S. population aged 25 to 34 has a college degree now, 10 other countries have higher percentages for the same age group.

Signs of stagnating growth and economic problems were on the horizon before 2008 when the great recession began, and the economy has since struggled to regain its footing. Economic growth has averaged only 2.1 percent per year and productivity has averaged only about 1 percent each year. Both are substantially below their long run averages of the last century. Total unemployed, people who want to work but are discouraged from looking, and people who are working part time because they cannot find a full-time job peaked in 2010 but remains at 9.8 percent. Moreover, U.S. income inequality, on the rise for decades, is now the highest since 1928. A deficit of skills in a large part of our working-age population—either due to a lack of proper education and training or because an individual’s skills are outdated—will only make these problems grow.

## A Call to Action

In 1945, the United States faced a similar crisis: After more than four years of war, millions of men and women returned to their homes to rejoin the economy and society, but their years of service had left major gaps in their education and training, threatening to hinder their economic potential. The federal government responded by passing the GI Bill to cover the costs for veterans who wanted to complete their education and enhance their skills. About 2.2 million returning service members used the benefits to attend college, and 5.6 million used them to attend vocational schools. This infusion of educational support enriched the United States by producing 450,000 engineers; 240,000 accountants; 238,000 teachers; 91,000 scientists; 67,000 physicians; 22,000 dentists; and many other highly capable individuals. Similar bills were enacted after the Korean and Vietnam Wars. The United States became the world leader in educational attainment, and several decades followed of unprecedented income growth, higher living standards, and rising productivity.

The commission believes that the country faces a similar call to action today. Many of our citizens are unable to realize their educational goals and possibilities, often for reasons beyond their control. Rising tuition costs and plummeting support for public colleges have priced some low-income students out of higher education and left low- and middle-income students with fewer choices. In addition, countless students have difficulty completing college, often leaving without a degree but still accruing significant student debt. This is particularly true for students of color and low-income students, who often graduate from low-performing kindergarten through grade 12 (K–12) systems and may not be adequately prepared for the rigors of postsecondary education. To change this trajectory, the federal government, states, the private sector, and individual colleges and universities must pursue radical change. The nation must help more students succeed in college, increase graduation rates, make college more affordable, and invest the necessary dollars to raise college access and attainment levels. Only then can we regain our footing and build a society that enjoys educational fulfillment and the benefits that flow from it.

## Commission Recommendations

In developing our recommendations, the commission focused on four key challenges:

- *The changing demographics of the college-going population:* Today's K–12 student population (potential college-goers) is vastly different from their counterparts of just 20 years ago. The percentage of white students has fallen from 65 percent in 1996 to just under 50 percent in 2015, the Hispanic student population has grown from 14 percent to almost 26 percent over the same period, while the black population has remained at about 16 percent. In addition, the percentage of school-aged children eligible for free or reduced-priced lunch grew from 38 percent in 2001 to 52 percent in 2014. These students often face barriers in accessing postsecondary education and attaining a degree for a variety of reasons, including inadequate preparation at the K–12 level because of low-performing schools, poor career guidance, difficulty paying for college, and lack of support systems while attending college. Yet these are the same demographic cohorts that must succeed in college if the nation is to achieve the 60percent goal.
- *The price and affordability of college:* For many students, particularly those from median or lower income families, the price of college is prohibitive. The total cost of attending a public college or

university, including tuition and fees, room, and board, has risen steadily for decades. In 1985, the total annual cost of attending a four-year public university was \$3,682, while a two-year college cost \$2,807. By 2013, these costs had jumped to \$17,474 for a four-year public university and \$8,928 for a two-year public college. Today, 56 percent of all students must take out loans to attend college, and many leave college—with or without a degree—burdened with unsustainable debt. The high number of low-income and underrepresented students who must complete college to meet the 2025 goal cannot bear these costs or high levels of debt. Instead, they will need more grant support and lower cost education options.

- *Insufficient financial support to institutions and students:* State and federal support to public higher education is both insufficient and inefficient to help the nation meet the 2025 goal. For many decades, state and local appropriations to public institutions covered more than half of college costs, helping temper tuition increases. Recently, however, levels of state aid have fallen, pushing tuition higher. At the same time, student grant aid per person (primarily from the federal government) has fallen, increasing the tuition burden on individuals who can least afford it.
- *Persistently low college completion rates:* The nation's ability to achieve the 2025 attainment goal depends on dramatically raising college completion rates, which have been low for years. For four-year institutions, only 33.5 percent of entering freshmen graduate within four years, and only 57.2 percent graduate within six years. For two-year public institutions, only 19.5 percent of students graduate within three years. These completion rates vary considerably by race and ethnicity. To raise completion rates, colleges will need to invest in strategic interventions to help individual students, and that will cost money.

To achieve a working-age population that has a college attainment rate of 60 percent by 2025, we must graduate an additional 16.4 million people with two- or four-year degrees or industry certificates between 2017 and 2025. This means that public institutions will need to award 1.22 million more degrees each year, while private institutions will need to award an additional 601,333 credentials annually. Based on current spending figures and degrees conferred each year, the commission estimates that public colleges and universities will require approximately \$30.1 billion more annually over current projections between now and 2025 (in 2014 dollars). Likewise, student aid will need to increase by approximately \$14.4 billion (47 percent) annually to cover the additional graduates attending either public or private colleges.

To reach the 2025 goal, the commission presents the following recommendations.

### ***Recommendation 1. Increase federal and state institutional support***

The federal government will need to play a prominent role to help meet the 60percent goal. Since 2008, state budgets have had difficulty returning to prerecession levels, and the growing costs of Medicaid have added to that strain. States should maintain their commitments to public colleges in real terms at least, but the commission believes that the federal government must establish a sustained level of institutional support. Therefore, the commission recommends that the federal government provide an annual block grant to states totaling \$15 billion, which each state would then match to maintain its current higher education funding level in real terms plus additional dollars to achieve a national total of \$5 billion per year in additional state funds. Such funds would be used to support the annual costs of public institutions and help keep tuition costs in check. Because the

projections on resource needs are based on extrapolating current expenditure data, the commission also recommends that the federal government conduct an analysis to establish more precise estimates and adjust the recommendations of this report accordingly.

## ***Recommendation 2. Enhance state revenue to support higher education***

To guarantee that ample revenues are available to fund higher education, states should update their revenue systems to reflect the 21st-century economy. Current revenue systems were built for a 1950s manufacturing-based economy, not for the high technology, service-oriented economy of the 21st century. Sales and use taxes, which generally apply to goods and not services, are not keeping up with state economic growth. Moreover, many purchasers, such as governments, nonprofit charities, and religious and educational institutions, are exempt from paying taxes. Finally, income taxes in many states are not sufficiently progressive—indeed, most are often regressive in nature—thus failing to capture more revenue from high-income earners.

To ensure continued support for higher education, states should consider the following actions:

- Expand state sales and use taxes to key services to expand the tax base, and reduce some of the exemptions so that revenues grow more in line with total economic activity.
- Ensure that Congress enacts the federal Marketplace Fairness Act, which would allow states to require out-of-state sellers over the Internet to collect the sales and use taxes.
- Increase the progressiveness of state individual income taxes.
- Establish state education rainy-day funds to support investments in times of economic stress and high unemployment.
- In positive budget years, focus on nonrecurring public college investments that will reduce future government costs, such as clearing deferred maintenance backlogs, building technology infrastructure, or investing in energy-efficient systems in buildings.

## ***Recommendation 3. Stimulate the development and implementation of low-cost education delivery models***

States should take the lead, using additional funds above current commitments, to spur development, implementation, and scale-up of lower cost education delivery models. These funds should be used to offset some of the start-up and scale-up costs associated with the lower cost approaches that schools employ.

- To encourage development of lower cost models, states should consider the following policies:
- Provide competitive grants to universities and colleges to offset a portion of the start-up costs for developing and piloting lower cost delivery models. Such grants can also encourage partnerships among schools with the private sector in such demonstrations.
- Provide bonuses in the form of temporary higher institutional aid for schools that bring low-cost delivery systems to scale.

#### ***Recommendation 4. Encourage productivity in the postsecondary system***

“Higher education productivity” refers to the number of degrees conferred per dollar of spending. The commission believes that most public institutions can improve their productivity and graduate more students while lowering or holding steady the overall cost per degree. We think that a reasonable goal for most colleges and universities is to increase productivity by at least 1.5 percent per year over the next decade to yield an average annual savings of \$5 billion from all public institutions between 2017 and 2025.

States can adopt several policy options to encourage increased productivity:

- States should employ outcomes-based funding (OBF) formulas when distributing institutional aid so that colleges and universities that increase productivity receive more resources. As Chapter 3 describes, states can use OBF formulas to allocate annual appropriations to higher education institutions or assign bonus payments (above annual appropriations) based on performance. These funding models must include weighted variables that ensure sufficient aid to promote continued access and increased success for low-income students, students of color, and even adult and academically underprepared students. Weightings should also reward institutions that control costs. States must continue to update and revise the productivity incentive system over time as data and experience accrue. In the early years of implementation, states should be prepared to increase appropriations to schools that serve student populations that typically underperform in college. These students will need additional support systems and interventions to complete their education.
- State higher education agencies should negotiate tailored productivity agreements with individual colleges and universities. Some schools may be able to commit to goals equal to or higher than those the commission recommends, while others may need a few years to ramp up services before meeting the 1.5 percent annual goal.
- States can provide competitive grants to institutions or groups of institutions to help them build data systems that track student readiness and performance. Data from these systems can help institutions develop and employ tailored intervention strategies.

#### ***Recommendation 5. Create incentives for students to graduate on time***

Students must be encouraged to graduate on time and institutions must be encouraged to help them. Options include:

- Reforming Pell Grant program rules to enable low-income students to take 15 credit-hours per term instead of the current (and inadequate) full-time definition of 12 credit-hours, with state aid rules reflecting these changes;
- Reforming financial aid policies (federal and state) to enable students to take courses in the summer (in addition to fall and spring terms) as incentives for completing programs on time or early;
- Linking renewal of financial aid eligibility (federal and state) to milestones on the path to degree completion (for example, 25 percent, 50 percent, and 75 percent program completion); and
- Reducing federal loan repayments for early or on-time completion.

## ***Recommendation 6. Help students and their families make better decisions***

Better information must be available to all students and parents when choosing degree programs and schools. Information should include the cost of attaining a credential or degree from various institutions available in the region and the potential wage value of different credentials. (A major reason some students default on college debt is because they choose careers that do not adequately compensate them for the cost of attending college.) In addition, reliable information must be available about alternative financing options from local scholarships, state and federal grants, and loans. Well-trained counselors must be available to meet with students and their families so that they thoroughly understand all the options available and potential financial outcomes.

States can take several actions to better inform students and their families:

- Provide information to likely eligible ninth-graders (based on family income) about the financial resources and options available to them to attend college. Provide an early guarantee to them of the financial aid available if they meet certain conditions on graduation.
- Provide information to all ninth graders on the opportunities, costs, and benefits of programs, classes, and/or tests that can be used to earn college credits while in high school. These include the International Baccalaureate Program, Advanced Placement (AP) classes and tests, and dual-enrollment programs that allow high school students to receive both high school and college credit for taking a college-level course.
- Ensure that financial and curriculum counselors are accessible to high school students and adults interested in attending college.
- Develop and disseminate information that can answer common questions that students and families have before selecting a state college or university, including graduation rates for different cohorts of students, what students can expect to learn and earn after they have completed a given program, and what the total price and time commitment will be to complete a degree.

## ***Recommendation 7. Increase and reform financial aid to target low-income students***

We must enable more low-income students than ever before to attend and complete college. To succeed, these students must be able to pursue their education—for at least the first two years—at little or no cost, which means that more federal and state aid must be allotted to low-income students in the form of grants, while loans must be minimized or made unnecessary.

States and the federal government will need to take several policy actions to achieve this goal:

- All states should develop financial aid formulas that allocate federal, state, and institutional aid to students on a sliding scale. The formulas should award the highest dollar grants to low-income students and provide a mix of grants and loans to other students based on a sliding scale of income. Students at or below 200 percent of the federal poverty level (FPL)—approximately \$24,000 per year for an individual—should receive sufficient financial aid to cover 90 percent of all college costs for at least the first two years.
- States should ensure that all state financial aid considers student income and is not based on merit alone.

- The federal government should expand Pell Grant program funding by \$15 billion per year and cap grant awards to students at 400 percent of the FPL.
- Simplify federal needs analysis, and align state needs analysis to require only the income and asset information that students and families already provide through annual income taxes. Automatically qualify students who receive other federal means-tested benefits.
- Streamline the federal grant and loan programs. The 14 federal loan programs can be simplified into one income-contingent loan repayment, with the same borrowing caps for all undergraduate students.
- Consolidate federal tax expenditures that subsidize higher education into a single refundable, income-capped lifetime learning tax benefit.
- Provide consolidated information on all forms of financial aid given to students in a simplified award letter that includes information about all grants and loans and that shows the total monthly loan payments for all borrowing.

### ***Recommendation 8. Develop additional private funding***

Although it is doubtful that private financing of higher education will ever become a large source of funds, significant changes are taking place in that market now that could allow individuals and the private sector to make a significantly larger contribution in the future. States should encourage and experiment with many of the new possibilities while maintaining consumer protections:

- *Experiment with new approaches to increase college savings:* Participation in college savings plans is low and skewed toward upper income families. Many state 529 plans already feature one-time raffles in which families that meet certain criteria can win several deposits to their 529 plan. Prize-linked savings—where participants who save a certain amount of their income are eligible to win a prize every month—have been shown to positively affect saving behavior among lower income individuals. States may need to reform banking regulations to allow for more prize-linked college savings. Fifteen states have already done this to date.
- *Create space for new private lending models:* A handful of private firms are experimenting with underwriting models that look beyond traditional measures of creditworthiness to lend based on student behavior, projected earnings, and institutional and program quality. By providing more information about potential college costs and earning related to specific degree programs, states could help encourage expansion of these models to other populations and inject greater market discipline into the system.
- *Empower institutions to be entrepreneurial:* A handful of states, such as Iowa, Kansas, and Michigan, have empowered two-year colleges to sell bonds to finance customized job training for employers and employees. The models differ across states but generally works as follows: Employers and a community college enter into a training agreement that specifies the training program and the planned number of new hires. The college then sells bonds to fund the training, and the bonds are repaid by new employees through a payroll deduction. These public–private models can expand access to job training that is clearly aligned to local employer needs.
- *Experiment with social impact bonds (SIBs):* “Social impact bonds” are essentially pay-for-performance contracts in which public-sector entities commit to fund demonstrable improvements

in social outcomes. The public entity mitigates its financial exposure and exacts savings by structuring arrangements that allow third-party backers to frontload the necessary resources and contract with partners that administer the programs. Investors are paid by revenue from the state to the bond administrators if they meet the performance goals of the program. Like bonds, SIBs have a fixed term; unlike bonds, they do not have a fixed rate of return because the ultimate return depends on performance. As financing vehicles go, the SIB is a new idea, with the first known use in 2010 in the United Kingdom.

- *Experiment with shared income agreements:* Shared income agreements involve tuition loans from vendors that receive a fraction of the student's earnings over a period after graduation. This agreement effectively aligns the interest of the funder and the student to identify effective, low-cost programs that deliver value. Purdue University has launched a pilot program for this concept.

### ***Recommendation 9. Take advantage of private-sector programs***

The private sector currently spends about \$28 billion on tuition reimbursements and another \$58 billion on training and development programs that are contracted out to postsecondary education providers or private firms. This spending represents an opportunity for states to take advantage of these programs and retarget them to increase the number of degrees, certificates, and credentials, especially for low-income individuals. States can take advantage of private-sector programs in several ways:

- *Enhance business tuition-reimbursement programs:* More than half of U.S. firms that employ 20 or more workers offer their employees reimbursement for courses taken at colleges and universities. To help expand these programs and target them at low-income employees, states could provide small matching grants to low-income individuals who take courses that lead to credentials and provide tax credits to firms that expand reimbursement programs.
- *Retarget corporate training and development programs:* Employers spend approximately \$58 billion in corporate training and development contracted to other businesses, educational institutions, or private individuals. About 59 percent of this money is spent on individuals who already have a bachelor's degree, 25 percent on those with some college, and 17 percent on workers with a high school diploma or less. Unfortunately, much of the spending on employees without degrees does not result in a formal certificate or credential or even credit toward one. Here, too, states could provide small grants to businesses to enhance their training programs so that they result in a formal degree or certificate.
- *Expand state employer-based work and learn programs:* States should examine their existing employer work and learn programs like apprenticeships to determine whether they could be expanded by offering tuition reimbursements to participants and/or tax credits to employers.
- *The federal government should update section 127 of the tax code, which allows businesses to exclude from gross income up to \$ 5,250 of educational assistance furnished to an individual during a calendar year:* The amount in section 127 has not increased since 1986, but the federal government could increase it to \$11,244 to offset inflation, and then index it to the Consumer Price Index. Alternatively, the federal government could convert the amount to a tax credit for low-income individuals.

- *Businesses should be encouraged to help employees repay college loans.* A number of employers have begun helping employees payoff their student loans, often in occupations that are difficult to fill. The federal government could encourage such action by adding student loan repayment by firms to section 127 of the tax code, which allow such benefits to be paid with pretax dollars. In addition, state governments could use the communications channels they have, including the governor’s bully pulpit, to encourage more businesses to offer such benefits. States also could match part of the employer’s loan repayment share (for the first year only, for example) to help fill certain hard to fill critical occupations.

## Conclusion

As discussed, to reach the 60 percent goal it will be necessary to increase the number of individuals with a postsecondary degree or certificate by an additional 16.4 million over and above the base line between now and 2025. The commission estimates that public colleges and universities will need approximately \$30.1 billion more over current projections yearly between now and 2025 (2014 dollars) to reach the goal. The commission believes the federal government, states, public colleges and universities, and the private sector should work together to pay for these additional costs.

The commission recommends that the federal government provide \$15 billion in matching grants to states, while requiring states to contribute an additional \$5 billion. The commission also recommends that colleges and universities improve their efficiency and productivity so that they can save approximately \$5 billion each year, thus lowering the total amount needed. Finally, through supportive policies, it is hoped that the private sector can be encouraged to provide the remaining \$5 billion in annual investment needed.

Achieving the 2025 goal will require urgent action and a stronger higher education partnership among federal and state governments, the private sector, and postsecondary institutions. The nation will need to commit new resources to this goal, and institutions must commit to achieving greater productivity. The commission believes that these are reasonable prices to pay to retain—and, in some cases, regain—our standing in the world as measured by educational attainment and economic growth.





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# Chapter 1. The Challenge: Raising Rates of Higher Education Access and Completion

A population's level of education is a major driver of both personal and national economic well being. Postsecondary education has long been known as a path to higher wages, career options, and personal advancement. The increase in weekly earnings for those who complete a college degree versus those who have only a high school diploma ranges from 11 percent for some college to 138 percent for a doctoral degree (see Table 1-1). In addition, evidence suggests that individuals who complete postsecondary education to attain a credential, which includes an industry certification or an academic degree, earn on average 20 percent more than high school graduates who have no postsecondary education or training.

The average education level of a society also shapes a nation's economic growth. A recent study examined the growth rates of 50 countries over the past 40 years. It found that when the average number of years of schooling in a country was higher, the economy grew at a higher annual rate. Specifically, each additional year of average schooling increased the country's average gross domestic product growth rate over the 40-year period by approximately 0.37 percentage points—roughly equivalent to a 10percent boost in the average annual growth of most economies since World War II.<sup>1</sup>

Other benefits accrue to a society that has high levels of education, including increased civic engagement and volunteering, lower levels of crime, greater democratic participation, and higher levels of trust and tolerance.<sup>2</sup> Unfortunately, in the United States, the benefits of having a highly educated populace may be in jeopardy because the educational advancement of our youth has fallen behind that of other countries.

## The United States No Longer Leads the World in Educational Attainment

For many years, the United States has enjoyed a relatively high level of educational attainment across its population compared to the rest of the world. In the early years after World War II, the United States led all nations in the percentage of young people completing college, largely thanks to the GI Bill, which paid all college expenses, including living costs and lodging, for millions of returning veterans.<sup>3</sup>

Today, approximately 44 percent of America's working population (aged 25 to 64) holds an associate degree (academic or occupational) or higher.<sup>4</sup> Another 4.9 percent of the population holds some type of industry certification as their highest level of attainment (such certificates can involve as little as one year of training).<sup>5</sup> Sadly, this level of educational attainment is not producing the talent needed to fill many open jobs, creating skill shortages across numerous industries at all levels. Employers

**TABLE 1-1. EARNINGS BY EDUCATION LEVEL;**

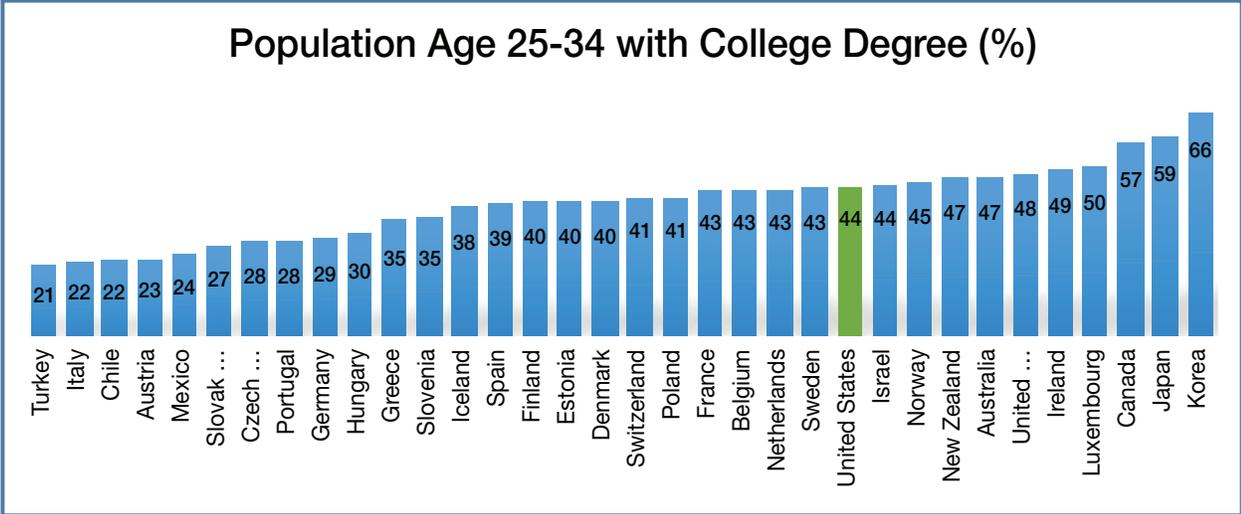
Educational level attained	2014 Median Annual Earnings	Percentage Over High School
Doctoral degree	\$82,732.00	138
Professional degree	\$85,228.00	145
Master's degree	\$68,952.00	99
Bachelor's degree	\$57,252.00	65
Associate degree	\$41,184.00	19
Some college, no degree	\$38,532.00	11
High school diploma	\$34,736.00	NA

Note: Data are for people age 25 and over. Earnings are for full-time  
Source: Current Population Survey, U.S. Department of Labor, U.S. Bureau

continue to cite problems finding individuals who have the education and training they need. A recent survey by the Business Roundtable found that more than half of respondents believe that talent gaps are problematic or very problematic for both their company and their industry.<sup>6</sup>

To make matters worse, the United States has already fallen behind other countries in raising the education levels of its youth. For example, while 44 percent of the U.S. population aged 25 to 34 now have a college degree, 10 other countries have higher attainment levels in the same age group, with South Korea exceeding the United States by 22 percentage points (see Figure 1-1).<sup>7</sup> The U.S. gap in workforce skills will worsen as jobs become more complex and people who hold college credentials retire only to be replaced by less educated, younger workers. This trend threatens America’s standard of living and economic standing in the world.

Figure 1-1: Number of People Aged 25 to 34 Who Hold a College Degree (%)



## The Demand for Higher Level Skills and Knowledge Is Growing

Many experts estimate that 60 to 65 percent of future jobs (starting in 2020) will require some level of postsecondary study—a high-quality degree or skill-specific certificate. One study provided details on the type of degree needed, estimating that 35 percent of new jobs will require at least a bachelor’s degree, while 30 percent will need an associate degree or some college.<sup>8</sup> Unfortunately, America’s workforce is aging and its population growth is low (below 1 percent annually), shrinking the current pool of skilled labor.<sup>9</sup> Between 2015 and 2025, the workforce is expected to grow by only 0.5 percent annually compared to an average of 1.6 percent each decade between 1970 and 2000.<sup>10</sup> Because so many highly educated and skilled workers are retiring, a much higher percentage of the population than ever before—both youth and working adults—will need to obtain a postsecondary degree or certificate to maintain the skill levels needed to power economic growth. Producing more highly-educated citizens will not be easy without significant reforms in our higher education system, changing the way institutions and students receive financial support, raising completion rates, increasing college productivity, and ensuring that college is affordable for a diverse populace.

## The Goal

To meet the jobs needs of tomorrow and for the nation to remain competitive, Lumina Foundation, which sponsored the National Commission on Financing 21st Century Higher Education, has set a goal that 60 percent of Americans aged 25 to 64 should possess a high-quality postsecondary degree or credential by 2025.<sup>11</sup> The commissioners also support this goal because it is consistent with projections from other organizations, such as the Center for Employment and Workforce at Georgetown University, that have studied the economy’s future skill requirements.

In its latest annual update, Lumina Foundation estimates that an additional 16.4 million high-quality industry credentials and two- and four-year degrees will be needed above current projections between 2017 and 2025 to meet the 60-percent goal (current projections call for 24.2 million degrees to be produced by 2025).<sup>12</sup> Because public institutions currently produce approximately 67 percent of all undergraduate degrees and certificates (see Table 1-2), an additional 1.22 million degrees will be needed each year from these schools to reach the goal. Similarly, private for-profit and nonprofit schools will need to produce an additional 601,333 credentials annually over current projections to do their part in reaching the 60-percent goal (see the box “The 2025 Goal”).

Table 1-2: Degrees Conferred by Type of Institution, 2014

	Certificates Below Associate	Associate degrees	Bachelor's Degrees	Total	Percentage of Total
<b>Public institutions</b>	576,258	793,180	1,186,397	2,555,835	67
<b>Private nonprofit</b>	30,730	53,127	544,213	628,070	16
<b>Private forprofit</b>	362,365	157,057	139,204	658,626	17
<b>Total</b>	969,353	1,003,364	1,869,814	3,842,531	100

The roadmap for reaching the 60-percent goal involves achieving several important steps in the education pipeline:

- Ensure that high school graduation rates remain at 75 percent or higher. (They were 83.2 percent in 2014–2015.) Technically, the United States has reached this goal, but many students who graduate still are not prepared for postsecondary study. Academic and other support will be needed to help these individuals succeed in postsecondary study.
- College enrollment rates must be at 70 percent or higher. (They were 66 percent in 2013 but had been at 70 percent in 2009.) This goal has not been reached recently but is reachable.
- College completion rates must increase from their current 40percent (on average) level to at least 60 percent. This is the most important and difficult goal, and reaching—and paying—for it is the focus of this report.
- Retraining adult learners also is important to reaching the 2025 goal. Lumina Foundation’s strategic plan calls for working adults to represent approximately 15 percent of the additional certifications needed.

### THE 2025 GOAL

Throughout this report, we use Lumina Foundation’s goal of 60 percent postsecondary degree or certificate attainment by 2025 as an analytical benchmark. The commissioners recognize that this goal is ambitious, requiring approximately a 48percent yearly increase in degree and certificate production from U.S. higher education institutions from 2017 through 2025. The commissioners concede that the time needed to expand institutional capacity, alter policies, and raise additional resources may delay reaching the goal in the time allotted, but in the interest of consistency, all cost and degree attainment projections in this report are based on the goal as originally stated.

## The cost of not reaching the goal

If we do not reach the goal of 60 percent of the population holding a high-quality degree or certificate, the nation’s economy and individual prosperity will suffer. We will increase the likelihood that income inequality in the United States will grow and more people will be left behind economically. As estimated by the authors of “Chasing the American Dream,” the risk of falling into poverty over the next 15 years for an individual who is 25 to 29 years of age, nonwhite, and unmarried and who has an education level of high school diploma or less is an astounding 77 percent.<sup>13</sup> Thus, it is important to increase the rate of postsecondary attainment, particularly in under-represented populations. Doing so, however, will require overcoming significant hurdles.

## The Challenges

At current attainment rates, the United States is short of the 60-percent goal by about 1.82 million degrees and certificates each year. Closing this gap requires addressing four significant challenges:

- The changing demographics of the college-going population;
- The price and affordability of college;
- Insufficient financial support to institutions and students; and
- Persistent low college completion rates.

### Challenge 1: Demographics of the college-going population

The demographics of today’s kindergarten through grade 12 (K–12) students (potential college-goers) are vastly different than the demographics from just 20 years ago. The percentage of white students has fallen from 65 percent in 1996 to just under 50 percent in 2015 (see Table 1-3).<sup>14</sup> Over the same period, the Hispanic student population has grown from 14 percent to almost 26 percent, while the black population has remained at about 16 percent. In addition, the percentage of school-aged children eligible for free or reduced-priced lunch has also grown sharply: from 38 percent in 2001 to 52 percent in 2014.<sup>15</sup> This is a different demographic from the students colleges catered to decades ago.

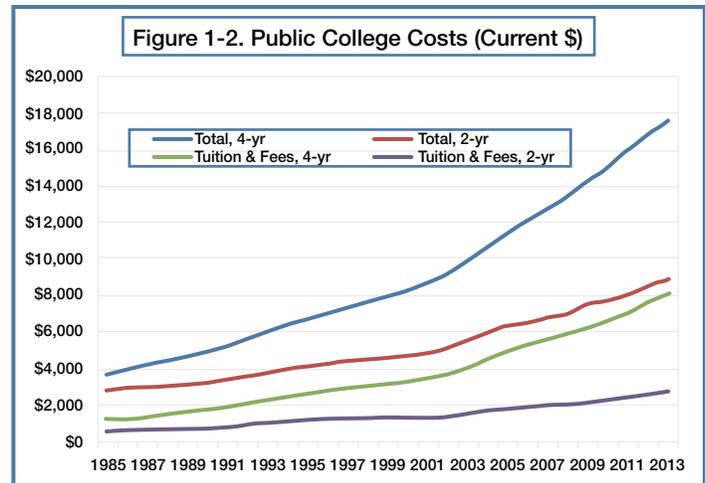
TABLE 1-3: K-12 PUBLIC STUDENTS 1

Race/Ethnicity	Percentage	
	1996	2015
Black	16.8%	15.5%
American Indian/Alaska Native	1.1%	1.0%
Hispanic/Latino	13.6%	25.6%
White	64.7%	49.8%
Multiracial	N/A	2.8%

### WHAT IS A HIGH-QUALITY DEGREE?

There is a great deal of discussion about what constitutes a “high-quality degree” but little agreement on measures. Many would like to focus on learning outcomes, but few data are available on what college graduates learn. Instead, for practical reasons, most policymakers focus on the economic outcomes of college graduates, such as employability, wages, ability to repay loans (which indirectly addresses the “value” of the institution and degree), and earnings as a ratio of college costs. The commission believes that, at a minimum, a high-quality college degree should give the recipient appropriate skills for employment, which include critical thinking and problem-solving, and that the financial burden of attending college should be a manageable expense relative to the income received in the applicable career.

The postsecondary attainment rates of students of color and low-income students have traditionally been low for a variety of reasons, including inadequate preparation at the K–12 level because they often attend low-performing schools, inadequate career guidance, difficulty paying for college, and lack of support systems while attending college. Yet these are the same demographic cohorts that must achieve dramatically higher completion rates if the nation is to achieve the 60-percent goal. For example, the graduation rates of black students will need to rise from the current 28.1 percent to about 58 percent. Hispanic graduation rates will need to increase from 20 percent to about 54 percent. Students from families in the lowest quintile of household income will need to increase their completion rates from 20 percent to more than 45 percent. Improving graduation rates for these students will be difficult unless they receive significant guidance, support (both academic and social), and—in many cases—direct financial help.



### *Challenge 2: The price and affordability of college*

For many students, particularly those from median or lower income families, the price of college is significant, growing, and often prohibitive. For decades, the total cost of attending a public college or university, including tuition and fees, room, and board, has steadily risen (see Figure 1-2). In 1985, the total annual cost of attending a four-year public university was \$3,682, while a two-year college cost \$2,807. By 2013, these costs had jumped to \$17,474 for a four-year public university and \$8,928 for a two-year public college.

Tuition and fees have been the largest and fastest rising component of college costs, increasing by 557 percent for a four-year public university and 378 percent for a two-year public college between 1985 and 2013. These costs have risen much faster than most families’ ability to pay, with median household income growing only 127 percent between 1985 and 2013.

Not all price growth is the result of higher institutional costs to educate a student. In recent years, total college spending at public institutions has remained relatively flat, while the tuitions charged to students have continued to grow. Declining state appropriations to public colleges and universities is the chief reason students are paying more.<sup>16</sup> From 2007 to 2012, the student share of costs rose from 51 percent to 62.1 percent at a four-year public research university and from 30.4 percent to 38.8 percent at a two-year college; these cost increases were a direct result of reduced state and local contributions.<sup>17</sup>

Twenty years ago, most students could go to college without taking out loans, but that is rarely the case today. Between 2004 and 2012, the percentage of students borrowing increased by 10 percentage points, from 46 percent to 56 percent. The largest increase occurred in the public two-year schools, which saw a 14percent increase in the share of students borrowing during this period. Since 2009, the

size of loans students accumulated prior to entering repayment has also risen steadily, from \$13,800 in fiscal year (FY) 2009 to \$20,000 in FY 2014 (in real 2015 dollars). As of 2015, total outstanding student debt had reached \$1.3 trillion.<sup>18</sup>

Not surprisingly, loans are most burdensome to those who can least afford college. For example, 23 percent of Pell Grant borrowers who were in repayment in 2011 had defaulted within three years, compared to only 9 percent of borrowers who had never received Pell grants. Likewise, undergraduate borrowers who had received Pell grants had in total paid down only 6 percent of their original balance by year three compared to 22 percent for borrowers who never received a Pell grant.

Many low-income and minority students who must attend college for the United States to meet the 2025 goal will be unable to sustain high levels of debt or bear the full cost of college on their own; instead, they will need substantial support to keep school costs down and debt levels to a minimum. Less costly education options also will be needed than are frequently available at traditional two- and four-year institutions.

### ***Challenge 3: Financial support to institutions and students is inadequate to meet the goal***

Government support to public colleges and universities flows through two channels: direct instructional funding and student financial aid. States are the primary source of institutional funding through direct payments to colleges and universities, with dollars traditionally apportioned based on enrollment or previous-year spending. States also provide limited student financial aid. In contrast, the federal government focuses on helping students pay tuition by providing loans, grants, and tax incentives (which can apply to students attending either public or private institutions). The federal government also provides significant research dollars to institutions, but this report does not address that aspect of higher education support.

Both state and federal support to public higher education will require reforms—and likely additional funding—to help the nation meet the 2025 goal. In particular, state and federal policies will need to work in tandem to increase affordability, access, and completion for low-income and minority students if we are to succeed.

#### **State Institutional Aid**

In FY 2014, state governments appropriated \$62.7 billion for annual expenses at state public colleges and universities, while local government provided \$11.1 billion, mostly for local community colleges.<sup>19</sup> Together, these costs represent more than 75 percent of all state and local postsecondary funding.

For many decades, state and local appropriations to public institutions covered more than half of college costs, with tuition predominantly making up the rest. As discussed in the previous section, however, levels of state aid have fallen, resulting in higher tuition charges. This change does not bode well for efforts to increase college access and affordability. Without sustained and substantial state aid, most public two- and four-year institutions will be forced to continue raising tuition or cease operation.

State appropriations to public higher education have not recovered to even prerecession levels. In 2008, average education appropriations per full-time student were \$8,220; by 2015, they had climbed back to only \$6,996 (constant 2015 dollars).<sup>20</sup> States have been forced to make these cuts for a variety of reasons, including rising Medicaid costs, the recent recession, other competing priorities, and a reluctance to raise total revenues.

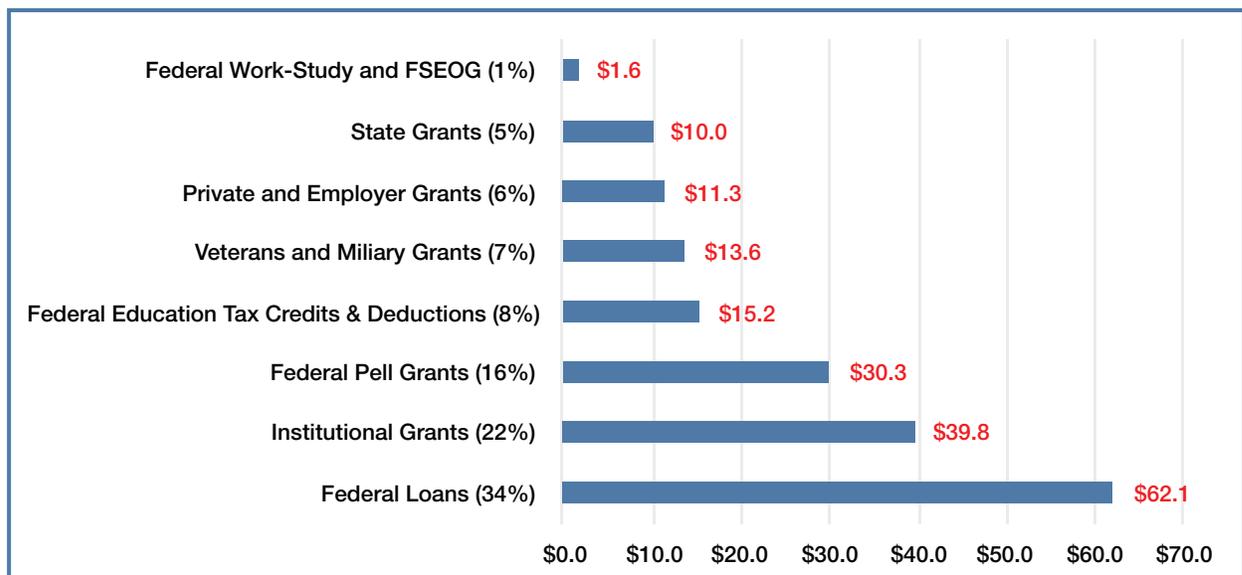
State governments face challenges in keeping up with the current funding needs of their public colleges and universities much less increasing support to graduate significantly more students in the coming years. The commission estimates that between 2017 and 2025, it would take approximately \$30.1 billion in additional institutional aid each year to produce the 1.22 million extra degrees needed from public colleges and universities to reach the 2025 goal over current funding levels (2014 dollars)—a difficult task considering current trends. States and institutions will need to find a mix of solutions, including additional dollars, encouraging more efficient and less costly degree production, increasing student financial aid from the federal government, and (possibly) support from the private sector.

### Federal Financial Aid to Students

The federal government is the primary source of student financial aid for tuition, although it also provides significant funding to public and private institutions through research grants, contracts, and other appropriations. In 2014, the federal government provided \$122.7 billion in loans and grants to undergraduate students attending public and private institutions (see Figure 1-3).<sup>21</sup> States provided about 5 percent of student aid, and the institutions themselves provided another 22 percent. Private and employer grants accounted for about 6 percent.

To meet the 2025 goal, the commission estimates that total federal student aid will need to increase by approximately 47 percent annually. This means, for example, that Pell grants alone may need to rise from \$30.3 billion annually to at least \$44.7 billion based on 2014 figures. Even higher levels of grants may be needed to accommodate the increased percentage of low-income students who must attain a degree or certificate. To complete their education, research has shown that these students require more aid in the form of grants rather than loans.

Figure 1-3: Total Undergraduate Student Aid, 2014 (in Billions of Dollars)



FSEOG: Federal Supplemental Educational Opportunity Grant.

For the federal government, the challenge is how it can rebalance its mix of grants, loans, and tax benefits to help those who need it the most (typically, families earning less than \$40,000 per year) while also using assistance to encourage greater college completion. The federal government will need to address four major issues:<sup>22</sup>

- It will be important to ensure that the Pell Grant program targets the most deserving students. In 2014, 77 percent of Pell Grant monies went to those earning less than \$40,000 per year, but the purchasing power of Pell grants may be inadequate for low-income students who can least afford to take loans to cover tuition shortfalls. Although Pell Grant awards have increased by 12 percent in inflation-adjusted total dollars over the past 10 years, they cover only 63 percent of average public university tuition and fees, down from 79 percent in 2004–2005.
- Although tax benefits are designed to encourage enrollment in higher education, evidence suggests that this type of funding goes to families and students who would have gone to college anyway. These government expenditures may need to be reallocated to programs that are more effective at helping low-income and other underrepresented students.
- Low-income students will need higher levels of grant funding to complete college, since loans often serve as barriers to finishing school.
- Federal aid, in concert with state and institutional aid, must be made more effective in rewarding completion, institutional cost control, and faster degree production.

**Challenge 4: The persistence of low college completion rates**

The nation’s ability to achieve the 2025 attainment goal largely depends on dramatically raising college completion rates, which have been persistently low for years. For four-year institutions, only 33.5 percent of entering freshmen graduate within four years, and only 57.2 percent graduate within six years.<sup>23</sup> For two-year public institutions, only 19.5 percent of students graduate within three years.<sup>24</sup> These completion rates vary considerably by race and ethnicity (see Table 1-4).

Many factors influence college completion, chief among them student preparation, student support systems while attending college, and ability to pay. Other factors are key as well, particularly for low-income and minority students, such as familiarity with the college experience (often absent in first-generation college-goers), access to on-campus housing, social support systems, and mentors and advisors. To raise completion rates, all factors must be addressed and strategic interventions provided to help individual students, and that will cost money.

	Total	White	Black	Hispanic	Asian/Pacific Islander	Native American
2-yr	19.5	22.4	10.8	16.2	26.7	15.0
4-yr	33.5	36.9	17.4	24.0	39.8	19.5

## Focus and Scope of the Commission

The goal of the commission and this report is to identify financial strategies that will support innovation, productivity, and capacity within the public postsecondary education to allow the nation to achieve the 2025 attainment goal. Ultimately, this will increase the economic prosperity and economic mobility for all Americans who achieve this goal.

The commission assumes that state government will be the primary entity implementing and coordinating these financial support strategies. Thus, the recommendations are primarily directed at state policymakers, including governors, state legislators, members of state coordinating commissions, departments of higher education, the various higher education boards at the state and institution levels, and other college leaders. That said, both the federal government and the private sector also have important responsibilities in meeting the goal. Ultimately, meeting the goal will require a stronger and more coordinated partnership among public universities and colleges, states, the federal government, and the private sector.

The commission focused on four key objectives in examining potential reforms and innovations in public higher education financing:

- Making the current system more productive in terms of cost per degree;
- Stimulating the development of new, lower cost models of learning;
- Making college more affordable, particularly for low-income and other underrepresented populations, by limiting tuition increases and the accrual of debt, increasing resources available to higher education institutions, and increasing the likelihood of completion; and
- Expanding educational options and overall system capacity.

## About This Report

The next chapter reviews promising new models to deliver and finance education more efficiently. It also describes the emergence of new, sophisticated models to help target appropriate and timely interventions for low-income students and students of color to help increase their graduation rates. Chapter 3 addresses the importance of state appropriations to public universities and how such aid can create incentives for institutions to increase graduation rates and productivity. Chapter 4 examines the cost of college and options for reducing how much postsecondary institutions must spend to educate their students. Chapter 5 describes how state and federal government can more effectively target student aid to increase the numbers of students who attend and complete college, particularly those from underrepresented populations. Chapter 6 describes the potential for increasing the level of federal and state resources allocated to higher education and the role the private sector can play to support meeting the 2025 goal. Finally, Chapter 7 presents the commission's recommendations.

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## Chapter 2. Emerging Trends in Higher Education

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Higher education is incorporating new approaches to learning, new types of programs, and new interventions to raise student completion rates, lower educational costs, or both (if possible). These new approaches include online learning; competency-based education; skill-specific credentials (e.g., industry certificates and certifications); and partnerships with industry, including apprenticeships and new degree programs for job-specific skills. In addition, institutions are experimenting with data-driven intervention strategies to help students stay in school and attain a degree. Finally, new private-sector financing models are being tested to expand student access to financial aid.

### The Traditional Educational Model Is Changing

For more than 100 years, the credit-hour has been the currency of most American higher-education institutions. A credit underlies everything associated with academics on a college campus, from faculty workloads to student eligibility for federal financial aid.<sup>1</sup>

Students accrue credits ultimately to achieve a credential at graduation. Hours spent in the classroom, participation and study over a set course duration, and the accumulation of credits determine when a student attains a degree. For an undergraduate degree, students must typically earn 120 credits, with the time to degree taking roughly four years on average.

The other key trait of the traditional model is that most subject matter is imparted through classroom-based lectures, and courses begin and end at a set calendar period. Students attend lectures led by professors, and the entire class learns and completes study at the same pace. The only way to accelerate learning in the traditional system is to take more credit-hours each semester and, thus, graduate early. Students cannot complete individual courses more quickly than their peers, though.

New approaches alter or supplement the traditional approach in one or more of the following ways:

- They eliminate the uniform pace of learning and replace it with individually paced instruction.
- They provide alternatives to classroom-based instruction.
- They offer opportunities to work and apply skills while learning.
- They award credentials based on students acquiring and demonstrating specific skills rather than completing a set number of credits.

In addition, some new models use data analytics to design support tactics to help students successfully navigate and complete their education.

### Online Learning

Online learning is an evolving vehicle for delivering educational content and facilitating the mastery of skills without being tied to the classroom. Online learning can deliver instructional content to distance learners, provide interactive forums among students and teachers, allow self-testing at a student's pace, and augment or eliminate classroom lectures.

The earliest and simplest examples of online learning are the posted videotapes of traditional classroom lectures, which is the idea behind the free massive open online courses that several universities post online.<sup>2</sup> Today, the evolution of online learning has led to more sophisticated, interactive user forums and platforms for more effective instruction. In addition, institutions are integrating online learning with classroom instruction to create hybrid or blended learning models.

The hybrid approach supplements classroom lectures with additional online content, allows students to work with their peers on projects remotely, offers self-assessments so that students can gauge their own progress, and provides interaction between students and their professors outside the classroom. Evidence to date suggests that the outcomes for students who participate in hybrid classes exceeds that of purely online classes or face-to-face learning.<sup>3</sup>

## Competency-Based Education

Competency-based education emphasizes outcomes—what students know and can do—and decouples course completion from the requirement to fulfill a set number of credit-hours. Students advance when they demonstrate mastery of a “competency,” which is defined as “a combination of skills, abilities and knowledge needed to perform a task in a specific context.”<sup>4</sup> Mastery is the sole determinant of progress, and a student can move forward in each program at his or her pace after passing assessments at each level.

Continual assessment is at the heart of competency-based education. Assessment is embedded in each step of the learning process to provide students with guidance and support as they work toward mastery. This heightened level of assessment is designed to test and build skills and knowledge in real time.

The idea of competency-based education is quickly gaining traction as a strategy to shorten the time to a degree, lower costs, and better demonstrate knowledge. The concept dates to the 1970s, but it was not adopted on a large scale until the advent of Western Governors University (WGU).<sup>5</sup> WGU was started in 1997 by 20 governors frustrated with the status quo. It took nearly four years to attract its first 1,000 students, but within a decade it grew to 40,000 students, and today it enrolls more than 60,000.<sup>6</sup>

Brand-name universities, including the University of Wisconsin system, Northern Arizona University, and Southern New Hampshire University (SNHU), have launched their own self-paced degree programs in recent years. Indeed, the landscape is shifting so quickly that it is difficult to pin down the number of institutions offering competency-based degrees or that have plans to start programs, with some estimates as low as 50 and others as high as 350.<sup>7</sup>

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Competency-based degree programs operate in slightly different ways, but in general, full-time faculty members design the learning outcomes and the assessments needed for the students to prove competency. The bulk of the interaction with students—and thus the financial savings for institutions—is performed by an army of part-time coaches and evaluators who are experts in their field and hired when enrollment demands them.

Those cost savings are passed on to the students in the form of lower tuition. Northern Arizona University and many other competency-based programs operate under a so-called “all-you-can-eat” pricing model: Students are charged a flat fee for all the courses they can take in a specific time period. At Northern Arizona University, that fee is \$2,500 every six months for the three bachelor’s degree programs it offers. The university anticipates that the average student will finish the program in three-and-half years, for a total price of just \$17,500 (compared to about \$40,000 in tuition alone for an in-state student completing a normal four-year degree).<sup>8</sup>

Employers have begun to embrace competency-based education, as well, to teach specific skills not necessarily taught in traditional degree programs. For example, SNHU, which started its competency-based program in 2013, has forged partnerships with 100 employers around the country, including GAP, McDonald’s, and Penn Medicine, and now enrolls 3,000 students. Logos of the companies where the students work line the walls of the headquarters of SNHU’s program, which is housed in a nondescript office building on the main thoroughfare in Manchester, New Hampshire, several miles from the main campus of 3,800 traditional undergraduates.<sup>9</sup> Not only is the operation run from an off-campus site, it even has its own name: College for America.

The average student in College for America is a working adult. Early results for the academic progress of students in College for America are encouraging. SNHU used the Education Testing Service to assess the learning and skills of the students in College for America in areas that are typically emphasized in general-education courses. Its students scored in the 67th percentile on the Proficiency Profile, which measures critical thinking, reading, writing, and mathematics skills.<sup>10</sup> College for America’s program is also the first competency-based program to receive approval by the U.S. Department of Education for direct-assessment degrees, which bases financial aid on attainment of competencies rather than credit-hours. Previously, competency-based programs translated student progress into credits so that students could qualify for federal financial aid.

## **Skill-Specific Certificates**

Many of today’s jobs require the acquisition of specific skills that people cannot always learn in traditional degree programs. Although many employers—particularly those involving advanced science, technology, engineering, and mathematics fields—still value traditional science and engineering degrees, others find that many undergraduate degrees tell them little about what a student knows or can do. Instead, many employers look to occupational certificates to ascertain job-specific skills because they know the curricula and training are focused on the competencies they need.

The occupational certificate is becoming a valuable alternative and supplement to traditional two- and four-year credentials. Occupational certificates are awarded by business, trade, vocational, and technical schools as well as many community colleges. The certificates tend to be job focused, involve training in specific technical fields, and do not include the broader general education acquired in

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conventional two- and four-year degree programs. Many certificate programs use online learning and are competency-based. Many also award the appropriate industry certification or license on completion when the student has demonstrated mastery. Approximately 1 million certificates are awarded each year—the fastest growing postsecondary credential awarded over the past several decades.<sup>11</sup>

Occupational certificates offer an important lower cost alternative to two- and four-year degrees. Certificates invariably require less than two years to achieve, and more than half take less than one year. In addition, certificates typically do not require the academic preparation or skill required to enter a full degree program, yet many allow individuals to earn credits that can be applied to traditional two- and four-year degree programs. Thus, they provide an important on-ramp to further postsecondary education.

Today, one-third of certificate holders also have an associate, bachelor's, or master's degree. Of these workers, two out of three earned their certificates first, while one in three earned a degree first. Notably, certificates often pay off more in wages than two-year degrees and, sometimes, four-year degrees.

### *Badges and microcredentials*

Another approach beginning to gain favor is the use of badges and microcredentials to indicate the acquisition of specific skills within or outside a traditional education program. Badges and microcredentials (or “nanodegrees”) are intended to better communicate to employers what an individual knows, unlike the name on a degree or transcript. For example, Udacity, a company that offers affordable online courses in computer programming and technology, has partnered with companies such as AT&T and Google to create online project-based nanodegree programs in information technology (IT). Students select a specific IT program area, such as front-end web development, and receive their nanodegree certification after paying about \$200 a month and completing five to eight projects to showcase their skills. Eight different departments crafted the major, which involves significant experiential learning outside the classroom that is difficult to certify with traditional grades.<sup>12</sup> Such a student-centered approach to learning is critical in an economy that is changing at a rapid pace, and education, out of necessity, is becoming a lifelong pursuit.

Badges and microcredentials are relatively new and still evolving, and so the verdict is still out on whether employers view them as valid indicators of skills. Currently, these credentials are finding the greatest support in the tech industry as useful indicators of specific IT capabilities.

## Partnerships Between Industry and Higher Education

Many companies are keenly interested in ensuring that new hires have skills tailored to the job at hand. In addition, they want to raise the skill levels of their employees to build leadership and other competencies and to retain and grow skilled staff. Thus, many corporations partner with higher education institutions for apprenticeship programs and to create curricula and credentials targeted at specific occupations.

### *Work-and-learn apprenticeships*

An approach that is not new but is of growing importance is the use of work-and-learn (W&L) models that integrate structured education and training with the real world of work. The apprenticeship model is perhaps the best known and most robust form in terms of education and training. Apprenticeships combine school-based study with on-the-job experience and typically culminate in the award of a degree or certificate on completion. Participants can range from high school students to midcareer employees. These programs help students and workers gain and demonstrate necessary hands-on skills, competencies, and other common traits (e.g., teamwork, dependability) that are necessary for workplace success. They also provide valuable income to individuals while they are learning a new skill and gaining an education and thus are highly attractive to those who may not be able to afford traditional college costs.

Instruction and training typically occur at technical schools and community colleges and can involve classroom teaching, laboratories, and computer-based learning. Because apprentices are also at least part-time employees, they can apply their newly learned skills to the job to gain proficiency. The credential they receive on completion is portable and can provide a pathway to a viable career and further education.

Apprenticeship programs are often jointly sponsored by employer and labor groups, individual employers, and employer associations. The program sponsor plans, administers, and pays for the program. Participants typically start at a percentage of the skilled worker's wage and receive increases at regular intervals.

Despite its value to both workers and employers, the apprenticeship training model is not widely used or understood by either American workers or businesses. America had 358,000 active registered apprentices in 2012 (a registered apprenticeship program is recognized by the federal government), equivalent to only 7 percent of the number of apprenticeships in England when adjusting for population size.<sup>13</sup>

A major barrier to expanding apprenticeship programs is that businesses must be willing to take on significant costs, including time from skilled employees to train apprentices, equipment for training, additional workers' compensation insurance, apprentices' wages, and—in many cases—tuition for related classroom-based learning. In addition, the administrative processes and risk of training, and then losing an employee may deter companies from sponsoring apprentices. To counter these risks, governments in many other countries finance at least a portion of the school-based component, pay a portion of apprentices' wages, or provide tax credits to subsidize sponsor program costs. The United States has no such federal incentive. Federal workforce programs may be able to cover some of these costs, but these limited federal resources are allocated by local workforce investment boards and are

not guaranteed. Alternatively, some states have established tax incentives for businesses that offer apprenticeships; South Carolina, for example, provides a \$1,000 tax credit per apprentice.<sup>14</sup>

### *Strategic partnerships with higher education to create new types of credentials*

Several businesses throughout the country—usually large corporations—have created strategic partnerships with higher education institutions to build curricula and programs that address specific high-skill needs. Maryland, for example, conducted an analysis of the cybersecurity labor pipeline and found that it was not producing the graduates needed to fill this fast-growing field. As a result, a coalition of higher education, business, and government leaders helped launch the Advanced Cybersecurity Experience for Students (ACES) program at the University of Maryland, supported by a \$1.1 million grant from the Northrop Grumman Foundation.

The ACES program centers on undergraduate study and cuts across a diverse range of majors, including computer science, mathematics, engineering, business, and criminal justice. The program incorporates an intensive interdisciplinary curriculum in relevant technical fields, hands-on learning experiences, team-based projects, and professional input from corporate experts. Participants gain job-related experience through collaboration with the security team responsible for protecting the university's infrastructure and internship opportunities with federal agencies such as the U.S. Department of Defense and the National Security Agency as well as with private corporations such as Northrop Grumman. On graduation, students receive a designation on their transcript indicating their participation in the ACES program. Employers recognize this citation as a meaningful credential in the hiring process for cybersecurity workers.

These types of partnerships are not uncommon. A recent survey conducted by Business Roundtable of America's largest corporations found that companies invest a combined \$4.5 billion per year in employee learning and development programs to fill talent gaps. Most are engaged in public-private partnerships with higher education, and half participate in curriculum development.

### *Private-sector partnerships to encourage degree completion<sup>15</sup>*

Some large U.S. corporations have recently taken steps to boost credential attainment for employees who do not hold bachelor's degrees through partnerships with higher education institutions and by providing student aid. Companies like Starbucks and Chrysler have collaborated with individual institutions to give employees access to full bachelor's degree programs.

One of these new partnerships is the Starbucks College Achievement Program (CAP), which provides tuition reimbursement for Starbucks employees who lack a college degree and sign up for a four-year degree program at Arizona State University (ASU) Online. As part of the deal, students receive a 42percent discount in the form of a scholarship from ASU, and they must apply for federal student aid. Students then pay any remaining tuition (after the scholarship and federal grant aid); those who complete credits are reimbursed six weeks after the end of the semester in their paycheck. Reimbursements cover tuition only, and students are not obligated to remain at Starbucks after finishing their degree. All full-time and part-time U.S. employees without a degree are eligible and can choose from among 49 programs of study. Starbucks estimates that 140,000 out of 191,000 employees are eligible. The firm plans to spend \$250 million to help 25,000 employees over the next decade; the program currently serves nearly 3,500 students.

CAP also provides counseling and guidance services in addition to tuition reimbursement. Before they start classes, CAP students get access to enrollment, academic, and financial aid advisers as well as a personal “success coach” who helps them stay on target while taking classes.<sup>16</sup> Research suggests that such coaching and advising can significantly boost student success rates.<sup>17</sup>

Similar corporate partnerships have sprung up elsewhere. Automaker Chrysler has partnered with Strayer University, a regionally accredited for-profit institution that primarily serves adult students, to provide dealership employees with access to bachelor’s degree programs. Unlike Starbucks, Chrysler is paying 100 percent of tuition and related expenses up front, meaning that students do not have to pay out of pocket. The effort is designed to boost employee retention, and Chrysler estimates that about 120,000 employees will potentially be eligible. Pizza Hut has signed onto a partnership with Excelsior College that provides employees with a 45percent discount on tuition.

### *Intervention to help students succeed*<sup>18</sup>

If we expect a broad demographic of students to successfully navigate a postsecondary system that offers a variety of credentials, certificates, and programs, we must provide better guidance and support. Already, too many students are derailed before graduation. Some never even make it to campus after being admitted because they are tripped up by complicated financial aid forms or face unexpected expenses, while others start college but drop out before they earn a degree.<sup>19</sup>

Only 33.5 percent of full-time students enrolling for the first time at a four-year public institution graduate in four years. Even when that timeframe is extended to six years, the number improves to just 57.7 percent.<sup>20</sup> Students who attend a two-year college fare even worse. Although 80 percent of community college students say they plan to transfer to a four-year degree program, only about 25 percent do, and only 17 percent earn a bachelor’s degree within six years.<sup>21</sup>

Of concern are low-income and first-generation students. Children from families who earn more than \$90,000 have a 1 in 2 chance of getting a bachelor’s degree by 24 years of age, but those chances fall to 1 in 17 for those from families earning less than \$35,000.<sup>22</sup> Many low-income and first-generation students end up overwhelmed by the size and

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complexity of large public institutions and either do not want to ask for help or do not know where to go for assistance.

Public colleges are making some progress in raising completion rates. Between 2003 and 2013, graduation rates at public four-year institutions increased by 4.9 percent—a small but meaningful rise. Although completion rates also rose for underrepresented students (black and other students of color) the gap between their completion rates and the rates among white students remains substantial at 14 percent.<sup>23</sup>

Yet there is some encouraging news in closing the graduation gap. A recent study looked at 52 high-performing institutions that substantially improved overall graduation rates while also achieving gains for underrepresented students.<sup>24</sup> These institutions:

- Increased the graduation rate for black students by 9 or more percentage points—that is 2 times the average increase for all 232 institutions that have increased graduation rates between 2003 and 2013; and
- Reduced the graduation rate gap between black and white students.

The strategies used at these institutions include intensive mentoring with individually paired faculty; assignment of upper classmate coaches; early preparation before entering college freshmen year; retreats with peers; and special courses to teach test-taking, study skills, and other skills for success. These on-campus support systems help ensure that fewer students fall through the cracks and are a necessary factor in raising college completion rates.

### *Using data to tailor interventions*

By collecting and analyzing data about student performance, a handful of universities have developed tools to track patterns that allow for more personalized advising, course delivery, and student support. This approach to using information collected in the normal course of daily life is similar to how corporate America mines data about customers to better appeal to their buying habits. In the case of higher education, data analytics allows institutions such as ASU, Virginia Commonwealth University, and Austin Peay State University in Tennessee to predict outcomes for students courses or majors based on the performance of similar students in the past.

Few institutions have harnessed the power of data analytics to improve student outcomes better than Georgia State University. In 2003, the university graduated just 32 percent of its students within six years. The numbers were even worse for low-income, black, and Hispanic students.<sup>25</sup>

Today, Georgia State graduates 55 percent of its students. What's more, during the past four years, Georgia State has awarded more bachelor's degrees to black students than any other college or university in the country, and its graduation rates for low-income students now equal those of wealthier students.

Georgia State University uses predictive analytics to improve student outcomes with the following interventions:

- *Web-based advising*: The university draws from a database of 2.5 million grades over the past 10 years to show current students the classes and majors in which they are most likely to succeed based on their grades in previous courses. Graduates in spring 2015 completed their degree requirements with six fewer credit-hours, on average, compared to seniors two years prior.
- *Major Matcher*: This tool reviews a student's course grades and, using historical Georgia State University data, suggests majors in which the student is most likely to succeed. As a result, the number of students undecided about their major at the end of their first year is down 40 percent over the past two years. Since this system was put in place, the university's fastest growing majors are biology and computer science—historically majors with high dropout rates.
- *Peer tutoring*: The university looked at the biggest courses with the most Ds, Fs, and withdrawals in various departments. It found the students who performed well in those classes and were on financial aid, and awarded them work-study dollars to serve as peer tutors in the semester after they completed the course. The average course grade for those students who attended at least three tutoring sessions during a course was almost half a letter grade higher than for those who did not attend.
- *Retention grants*: Georgia State University has also used data analytics to better target its limited financial aid budget. It scours the list of students who have unpaid bills at the beginning of each academic year for those who owe small amounts of money, are close to graduation, and have good grades and rewards them with retention grants to keep them in school.

Other institutions already have most of the data in house that Georgia State University uses just waiting to be mined. Using this information to help students navigate an increasingly complicated and meandering path to a credential is a critical tool that should be exploited.

## New Private Financing Models<sup>26</sup>

The private student loan sector has shrunk considerably in the aftermath of the recession, and the large remaining players tend to have similar models: They make most of their loans to undergraduate students, and those loans are invariably co-signed (about 95 percent),<sup>27</sup> but a handful of lenders are experimenting with new models that incorporate far more information than credit scores into their underwriting. In theory, these new models should broaden access to capital for students who have no credit history or co-signers but great potential.

Credit scores measure past financial behavior, but forward-looking dimensions also shape a borrower's risk profile. For instance, students who are farther along in their college career are more likely to complete their degree than those who are just starting out. Likewise, students in certain programs may have much better employment prospects than those in other programs. In theory, incorporating such information into underwriting criteria could help students who lack a credit history or a co-signer, or whose credit scores may not be quite high enough to meet existing private lending criteria.

MPOWER Financing, for example, does not consider a student's credit score or require a co-signer at all. Instead, its stated goal is to issue loans to "high-potential" students who may not be able to



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access financing from traditional banks either because they are international students or because they lack a cosigner. They lend based on a student's prospects, evaluating academic data such as the college the student attends, his or her grades, and choice of major; employment data like job prospects, past internships, and field of interest; and financial data, including current debt load and debt-to-future income ratios. The key factor is the likelihood of completion and success in the labor market.

MPOWER selectively chooses which institutions and individual programs within institutions are eligible for funding. It tends to target elite colleges and specialized schools like engineering colleges, and it is eyeing unaccredited programs like computer coding boot camps. Although promising, this model is still in its infancy. MPOWER currently has lending partnerships with five institutions and is working to collaborate with 30 in 2016. So far, it has received \$4 million in seed funding. In November 2015, it had received more than 1,000 loan applicants, with aspirations for \$2 million in loan volume in its first year and \$20 million in volume for 2016.

Another new lender is Skills Fund. The fund starts by selecting partner programs based on various measures of program quality: student outcomes like completion rates and job placement rates; graduate satisfaction with the program; employer engagement; the quality of the program's curriculum, instructors, and management; and the organization's financial sustainability. It then makes loans to students who are accepted into eligible programs. Skills Fund generally offers three- to five-year loans to cover the cost of attendance and living expenses, with fixed rates between 8 and 11 percent (although students accepted into exceptionally successful programs can get better rates).

Skills Fund's eligible program list is designed to act as a signal to help students identify quality programs. It may also create an incentive for ineligible programs to work to meet standards to get access to Skills Fund money. Programs on the list are also held accountable for performance: Skills Fund requires that its provider partners enter a risk-sharing agreement. If students do not pay back the loans, the institution is liable for some portion of the money. In other words, Skills Fund's model may help inject a dose of transparency and market discipline that is often missing in the traditional loan market.

New lenders using augmented and forward-looking underwriting models could help promote access and quality, but they face many challenges. On the plus side, providing capital to students who are

making progress but need some additional financial help, as MPOWER is trying to do, could boost completion rates for students at risk of dropping out. Signaling value to consumers and encouraging providers to meet eligibility standards and share in risk, as Skills Fund is doing, can provide both capital and enhanced market discipline. However, these lenders tend to focus on a subset of programs and, thus, most students who are not in these programs cannot access the funding.

At the policy level, there are significant questions about how new underwriting models might relate to federal fair lending laws designed to prevent “disparate impact.” For instance, the Consumer Financial Protection Bureau has issued a report that raises questions about underwriting based on cohort default rates (CDR) because “racial and ethnic minority students are disproportionately concentrated in schools with higher CDRs.”<sup>28</sup> The same logic likely applies to underwriting based on program of study; providing better rates to engineers than to social science majors may well lead to scenarios in which particular groups do better than others. In addition, a great deal of legal uncertainty surrounds private financing models, including who would regulate them and how taxation and bankruptcy rules would apply.

## **Conclusion: Encouraging Alternatives**

New and alternative models of education delivery, partnerships with industry, student interventions, and student financing can serve as productivity enhancers by lowering the cost of education, increasing college access, and raising attainment. Many of these approaches are being launched now in new and existing institutions to accomplish all goals. State and federal policies can help accelerate the development of these approaches by adopting the appropriate regulatory framework to ensure consumer protections, pilot promising models, and evaluate the new approaches to ensure that they demonstrate the productivity gains they promise.

In addition, states and the federal government could offer financial incentives to institutions to test some of these new approaches. Consider the following examples:

- States could set create a competitive grant program to encourage education alternatives that include online learning modules or competency-based education if the institutions using these approaches can demonstrate lower costs and higher completion rates. To provide additional encouragement, the state could offer a higher subsidy rate per full-time equivalent student than that given a traditional public college.
- States could provide specific funds for institutions to use in conducting data analytics for designing student support systems. The availability of additional funds could be contingent on how well the recipient schools improved their attainment rates.
- Federal and state grants to students could provide bonus payments to those students (and institutions) if the students attend a competency-based institution and graduate at an accelerated pace.
- Student loan terms could be made more attractive for students attending an institution that demonstrates high completion rates.
- To encourage more W&L opportunities, states and the federal government could offer tax credits or subsidies to businesses, training providers, or working learners who are engaged in W&L programs.

Such options must be explored to encourage greater efficiency and degree production in the postsecondary education system.

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- <sup>7</sup> Robert Kelchen, *The Landscape of Competency-Based Education: Enrollments, Demographics, and Affordability* (Washington, DC: American Enterprise Institute, 2015), <https://www.aei.org/wp-content/uploads/2015/04/Competency-based-education-landscape-Kelchen-2015.pdf> (accessed October 24, 2016); and Paul Fain, “Experimenting with Aid,” *Inside Higher Ed* (July 23, 2014) <https://www.insidehighered.com/news/2014/07/23/competency-based-education-gets-boost-education-department> (accessed October 24, 2016).
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- <sup>10</sup> Paul Fain, “Measuring Competency,” *Inside Higher Ed* (November 25, 2015), <https://www.insidehighered.com/news/2015/11/25/early-glimpse-student-achievement-college-america-competency-based-degree-provider> (accessed October 24, 2016).
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- <sup>15</sup> The following sections are sourced from Andrew Kelly, “New Directions in Private Financing” (Charlottesville, VA: National Commission on Financing 21st Century Higher Education, 2016).
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- <sup>27</sup> MeasureOne, “MeasureOne Private Student Loan Report Shows Continued Strong Performance Trends Through Third Quarter 2015,” <http://www.prnewswire.com/news-releases/measureone-private-student-loan-report-shows-continued-strong-performance-trends-through-third-quarter-2015-300195670.html> (accessed October 24, 2016).
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## Chapter 3. State Aid to Public Higher Education

State appropriations to public colleges and universities historically provide the largest share of revenue to these institutions, thus partially subsidizing tuition, the other major source of college income. In fiscal year (FY) 2015, state and local governments spent \$90.9 billion on higher education. Ninety percent of this aid came from state government, while the remaining 10 percent came from local government (chiefly directed at community colleges). Seventy-eight percent of all aid went to cover yearly operating expenses, while 7.6 percent went as financial aid to students attending public colleges or universities.<sup>1</sup> This chapter focuses on the state and local aid that goes directly to public institutions (both two and four year), the current trends and issues associated with that aid, and how states can improve aid formulas to encourage greater college access and degree completion more effectively.

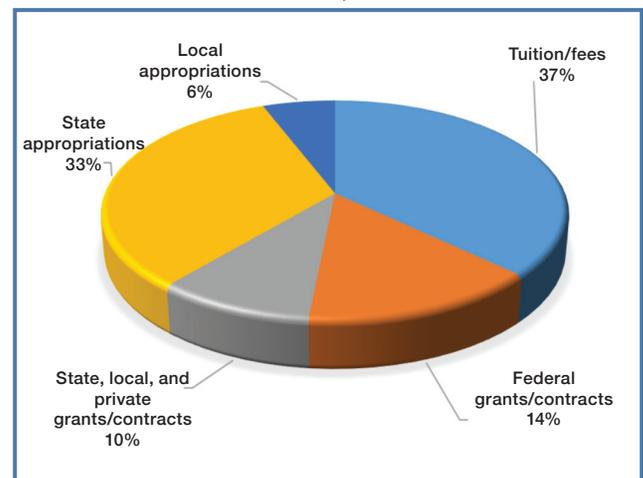
### Trends in Aid to Institutions

Several components make up the yearly revenue of public two- and four-year postsecondary institutions, as shown in Figure 3-1. (Other sources of revenue, such as hospital and enterprise income, are not included in this figure.) Of all revenue sources, state and local appropriations and tuition are the largest components.

State higher education funding tends to be strongly pro-cyclical, increasing during economic upswings and declining during recessions. In contrast, enrollment tends to be highly counter-cyclical, increasing during recessions and remaining flat or declining during economic upswings. The 2007–2009 “Great Recession” sharply reduced state higher education funding at a time enrollment grew, and funding has remained below prerecession levels since then (see Figure 3-2).<sup>2</sup> As a result, by 2012, net tuition began to surpass state aid as the dominant source of college income.

State funding for public colleges and universities remains significantly below prerecession levels on a per-student basis. As the National Commission on Financing 21st Century Higher Education’s April 2015 report by Moody’s Analytics shows, state funding for discretionary spending is being “crowded out” as Medicaid costs have grown and state revenue growth remains tepid. In addition, growing state pension obligations, growing gaps between pension liabilities and assets, and states’ reluctance to raise additional revenues has further reduced the money available for higher education.<sup>3</sup> Consequently, higher education has sustained the largest funding reduction of any major state budget area, falling from 14 percent of total state spending in the 1980s to only 12 percent in FY 2014.<sup>4</sup> Looking forward, higher education funding in all states will likely remain at relatively anemic levels as college appropriations continue to compete with other state priorities.

FIGURE 3-1. KEY REVENUE COMPONENTS FOR PUBLIC COLLEGES AND UNIVERSITIES, 2014

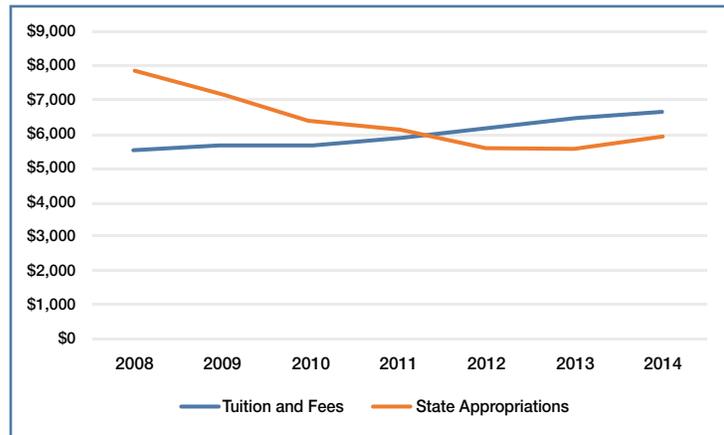


Determining how states can provide sustainable support to higher education is critical to meeting the commission’s goals of 60 percent college attainment by 2025. For this reason, a separate chapter is devoted to examining what states and the private sector can do to meet the growing expenses of public higher education in a predictable and sustainable manner (see Chapter 6). Putting aside the issue of higher education support for now, the remainder of this chapter focuses on improving how appropriations can be used to promote access and completion, serve underrepresented students, and raise institutional performance.

### Historic state aid formulas

For years states have looked at how financial aid can be used to improve graduation rates, serve underrepresented students, and meet other measures deemed important to the economy. Until recently, most states allocated public college funding according to formulas based on the previous year’s allocation (base-plus funding) or on total enrollment. Neither formula offered incentives to meet performance objectives for access, completion, efficiency, or other metrics.

**FIGURE 3-2. PUBLIC POSTSECONDARY INSTITUTION REVENUE PER STUDENT**



Base-plus funding has been the way most states finance their public colleges and universities. This method determines aid levels by using the previous year’s funding level (the base) and adjusting it by a certain percentage (the “plus”). This system requires minimal data, has low administrative costs, and is similar to how states determine funding for many other state agencies. This system provides simplicity for states and can provide predictability and stability for institutions, but it offers no direct incentives for institutions to respond to state priorities or goals. In addition, the approach fails to respond to institutions’ changing circumstances and “locks in” funding differentials between low- and high-cost schools. Older, more established and influential institutions tend to fare well from these approaches, but newer and faster growing institutions often receive lower per student funding from the state.

Enrollment-based aid formulas are determined by the number of students enrolled multiplied by their estimated credit-hour load, typically identified early in the semester. This allocation is data informed, predictable, and promotes increased access, but it is not linked to state student attainment and completion goals or other performance measures. Enrollment-based funding systems have a single underlying driver—maximize credit-hour production to maximize resources—which can result in counterproductive policies, such as increased credit-hour requirements for degree completion and higher costs per credit-hour.

## Differences in aid by institution type

Within states, different public postsecondary institutions tend to receive different levels of aid, a practice that has persisted over time. Typically, public four-year institutions receive larger state appropriations than community colleges, with the flagship institutions receiving the most. An analysis conducted for the commission examined these trends (see Table 3-1).<sup>5</sup> Institutions are grouped by type, with research and doctoral universities being in the left columns (shown separately for flagship and nonflagship institutions, and then all together), and the other four-year colleges and community colleges shown in the right columns; specialized institutions are not part of the sample.

Table 3-1 shows that state support declined significantly for all types of public institutions from 1988 to 2013. During that period, state appropriations per FTE (full time equivalent) student fell 37 percent at research and doctoral institutions, 32 percent at other four-year colleges, and 30 percent at community colleges. Another observation, however, is that research and doctoral universities receive much more in state support than the other four-year colleges and community colleges. Although the size of the difference fluctuated over time, by 2013, the difference in funding had remained roughly the same, even though all institutions experienced aid cuts. It is important to note that much of the variation in funding is the result of differences in institutional mission and costs. Flagship and research and doctoral institutions support a variety of research and sponsor higher cost degree programs that include significant laboratory and equipment expenses.

**TABLE 3-1: DIFFERENCES IN PUBLIC INSTITUTION FUNDING (\$ PER STUDENT)**

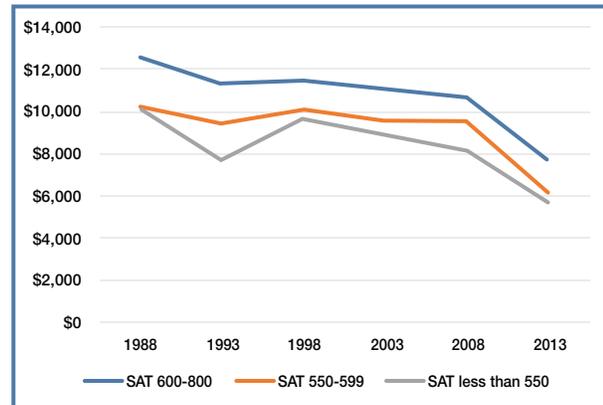
	Research and Doctoral Universities			Other Four-Year Universities	Two-Year Colleges
	Flagship	Nonflagship	All Research and Doctoral	Master's and Bachelor's Degrees	Associate Degree
<b>1988</b>	\$12,007	\$10,086	\$10,717	\$7,379	\$4,895
<b>1993</b>	\$10,899	\$8,632	\$9,470	\$6,319	\$4,075
<b>1998</b>	\$11,833	\$9,756	\$10,125	\$7,084	\$4,898
<b>2003</b>	\$11,269	\$8,968	\$9,559	\$6,885	\$4,354
<b>2008</b>	\$11,073	\$9,303	\$9,558	\$6,916	\$4,781
<b>2013</b>	\$8,362	\$6,117	\$6,717	\$5,006	\$3,409
<b>Percent Change 1988 to 2013</b>	-30.4%	-39.4%	-37.3%	-32.2%	-30.4%

Another finding of the commission's analysis is that schools that have higher student body test scores—that is, students who are most prepared for college—and those that have higher retention rates tend to receive more in state appropriations per FTE student. In other words, there is some indication that state funding is going disproportionately to the colleges and universities that serve the students who are best prepared academically to succeed (see Figure 3-3, which shows median funding levels by student test scores). As noted earlier, this is not necessarily a conscious decision by states to devote more resources to certain kinds of students; instead, it may be a function of differences in support by institutional activity or mission. If the goal is to improve rates of student persistence and degree completion, however, states will need to devote more resources to the institutions whose students are less prepared. Most current aid formulas do not reflect that reality.

## The Emergence of Performance-Based Funding

Almost 35 years ago, as a first step toward encouraging postsecondary institutions to meet goals beyond enrollment, states began experimenting with performance-based funding (PBF). Early PBF systems linked a small portion of aid to specific indicators, which often took the form of either bonus payments or small withholdings by the state until an institution met a predetermined performance target (such as increasing the number of science, technology, engineering, and mathematics graduates), boosting access, or raising more research dollars. In many cases, the measures of these early models of performance were too broad to be meaningful or not explicitly tied to a state's completion needs or attainment goals.<sup>6</sup> In addition, the amount of state aid either awarded as a bonus or withheld was often insignificant—only about 5 percent. Riddled with poor design, less-than-substantial funding, unaligned priorities, and ineffective implementation, many efforts were abandoned.

**FIGURE 3-3. MEDIAN STATE APPROPRIATIONS PER FULL-TIME STUDENT BY SAT MATH 75TH PERCENTILE (2013 DOLLARS)**



These early performance-based systems more closely resemble accountability systems, with marginal dollars attached, rather than systematic formulas that could drive change. States still used enrollment or base-plus systems to determine the bulk of institutional funding. Such efforts, however, laid the foundation from which more advanced outcomes-based funding (OBF) methods grew.

## Outcomes-Based Funding

Outcomes based funding (OBF) started about 10 years ago and used the lessons learned from PBF. Well-designed OBF systems align the allocation of state operating support with student success. These OBF systems often include metrics such as course completion milestones (students reaching 15 or 30 credit-hours) or degree or certificate completion and emphasize or target resources to priority degrees and low-income, underrepresented, or nontraditional (often adult) students. Certain states have also begun tying students' postcompletion outcomes (usually earnings and employment) with institutional funding. OBF systems are different from performance-based systems in that a substantial portion of total aid is based on institutional performance. By 2016, 33 states were developing (eight states) or implementing (25 states) OBF policies. For OBF systems to be effective, they must be sufficiently clear and large enough to create incentives to scale student success programs and influence the business model of institutions. Thus, not all approaches are equal in their likely ability to affect institutional performance.

According to a 2015 report by HCM Strategists that looked across all state policies, the broad goals of OBF include:<sup>7</sup>

- Aligning state higher education funding formulas with the state's higher education attainment goals and student success priorities;

- Aligning institutional and state priorities and supporting the scaling of proven student success practices; and
- Holding institutions accountable for performance and their role in achieving state attainment and other goals.

OBF is in its infancy, and a broad continuum of approaches exists in terms of the metrics states select and the implementation strategies they choose. In its 2015 report, HCM offered a typology of systems ranging in commitment, complexity, and robustness (see Figure 3-4).

<b>Figure 3-4. Characteristics of State OBF Systems</b>	
<b>Type I</b>	<ul style="list-style-type: none"> <li>• State does not have completion/attainment goals and related priorities</li> <li>• Bonus funding</li> <li>• Low level of funding (under 5%) or funding to be determined</li> <li>• Some or all institutions in one sector included</li> <li>• No differentiation in metrics and weights by sector</li> <li>• Degree/credential completion not included</li> <li>• Outcomes for underrepresented students not prioritized</li> </ul>
<b>Type II</b>	<ul style="list-style-type: none"> <li>• State has completion/attainment goals and related priorities</li> <li>• Base funding</li> <li>• Low level of funding (under 5%) or funding to be determined</li> <li>• All institutions in one sector included, or some institutions in both sectors</li> <li>• No differentiation in metrics and weights by sector, or may not be applicable (if operating in only one sector)</li> <li>• Degree/credential completion included</li> <li>• Outcomes for underrepresented students may be prioritized</li> </ul>
<b>Type III</b>	<ul style="list-style-type: none"> <li>• State has completion/attainment goals and related priorities</li> <li>• Base funding</li> <li>• Moderate level of funding (5-24.9%)</li> <li>• All institutions in all sectors included</li> <li>• Differentiation in metrics and weights by sector likely</li> <li>• Degree/credential completion included</li> <li>• Outcomes for underrepresented students prioritized</li> </ul>
<b>Type IV</b>	<ul style="list-style-type: none"> <li>• State has completion/attainment goals and related priorities</li> <li>• Base funding</li> <li>• Substantial level of funding (25% or greater)</li> <li>• All institutions in all sectors included</li> <li>• Differentiation in metrics and weights by sector</li> <li>• Degree/credential completion included</li> <li>• Outcomes for underrepresented students prioritized</li> </ul>

In general, Type I systems are rudimentary and often pilot efforts that do not yet have the support to attract more significant levels of funding and development. These models may share features of early PBF models and represent a minimal alignment between completion and attainment goals and the state's finance policy. Types II and III represent increasing levels of development and adherence to promising practices, while Type IV systems are the most robust, with significant and stable funding, full institutional participation, differentiation of metrics by sector, and prioritization of both degree/credential completion and outcomes for underrepresented students—all elements informed by early research and practice. These models reflect a strong alignment between the completion and attainment agenda and a state's institutional finance policy.

For example, Utah is considered a Tier I state primarily because it allocated only a small proportion of its overall funding (\$1.5 million) through an outcomes-oriented system. The state used the following performance metrics to allocate the one-time FY 2015 funding:<sup>8</sup>

- Graduation rates (100 percent, 150 percent, and 200 percent of time) by cohort;
- Retention and transfer rates by cohort;
- Job placement rates following graduation;
- Cost per degree;
- Percentage of students enrolling in and successfully completing a developmental mathematics course who immediately or concurrently enroll in a college-level math course; and
- The amount of grant money applied for and received and the number of research and outreach initiatives that nonstate-funded grants pay for.

Although the metrics used are comprehensive, there simply is not enough sustained funding attached to the policy to adjust institutions' business incentives.

The HCM Strategists report determined that in FY 2016, only two states—Ohio and Tennessee—were considered to be implementing the most advanced Type IV OBF models. According to the report's methodology, the two states in this highest tier had the following characteristics:

- They were grounded in significant and stable funding. For OBF to alter financial incentives for institutions, it must be a central part of a state's funding structure and not reliant on new or increased funding. In addition, the design should be formula driven, not a target/recapture approach that sets aside a specific amount of money for institutions to earn back if they meet certain benchmarks.
- The states included all public institutions, and the metrics were differentiated to reflect and reinforce sector mission (two- and four-year institutions).
- Degree and credential completion are clearly reflected as key priorities and measures within the funding model.
- Outcomes for underrepresented students are prioritized to emphasize the need for increased access and success for these populations to achieve attainment needs. For example, Ohio applies additional funding weight to students who are eligible for the Pell Grant program, Native American, black, or Hispanic or are 25 years of age or older when they first enroll at a state institution of higher education.

Tennessee’s OBF model offers some insight into what constitutes a committed and robust approach. After a base amount (15 percent) set aside for operational support, the state allocates 85 percent of its support based on institutional outcomes.

For universities, the state of Tennessee considers the following metrics:

- Students accumulating 24, 48, and 72 credit-hours;
- Bachelor’s, master’s, doctoral, and law degrees;
- Research/grant funding;
- Transfers out with 12 credit-hours;
- Degrees per 100 FTE students; and
- Six-year graduation rate.

For community colleges, the following metrics apply:

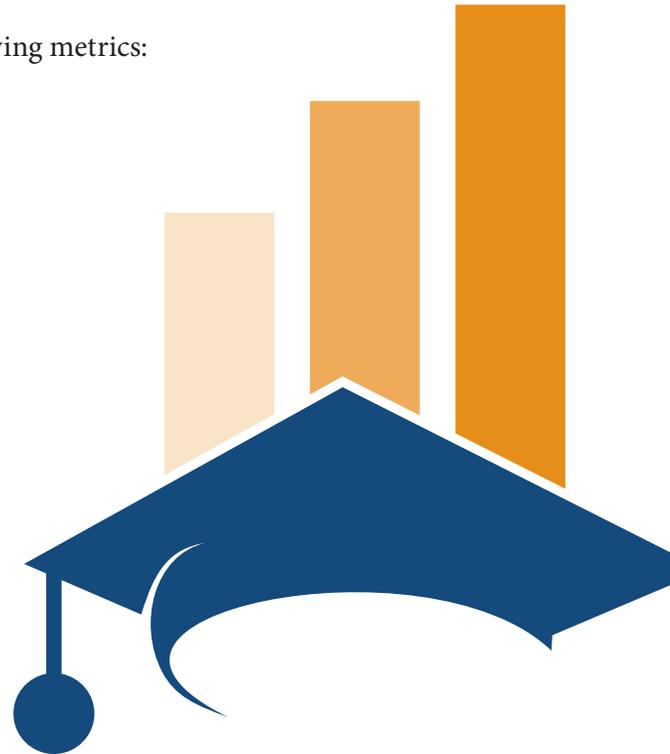
- Students accumulating 12, 24, and 36 credit-hours;
- Dual-enrolled students;
- Associate degrees;
- Graduates placed in jobs;
- Remedial and development success;
- Transfers out with 12 credit-hours;
- Students involved in workforce training programs, such as apprenticeships (contact hours); and
- Degree awards per 100 FTE students.

In addition, adults over 25 years of age and low-income students completing any of the above metrics are given more weight when measuring results.

It is important to emphasize that states continue to experiment with OBF. Most notably, states are beginning to test measures they can use to gauge the quality, efficiency, and value of education. For example, Florida and Kansas include “entry-level wages” in their outcomes-based formulas. Illinois measures “cost per credit-hour” and “cost per completion.” The Texas State Technical College System’s (TSTC) Returned Value Funding Model is the strongest of such systems. State appropriations for TSTC are based on a proportion of the increased wages of the state’s students who remain and work in Texas.<sup>9</sup>

### ***Does OBF work?***

Although performance- and outcomes-based funding has been in use in some form for the past 35 years, reviews of the success of these approaches remain mixed. A major problem is that, until recently, most states have committed too few funds to the allocation formulas to make a difference thus limiting their ability to effect change. In addition, most approaches have not been seriously enforced or sustained over time.



A 2011 research paper took a comprehensive look at PBF models in use at that time.<sup>10</sup> The study authors found that linking institutional performance to funding does indeed change institutional behavior. In particular, it promotes:

- Greater awareness of state priorities;
- Competition among institutions; and
- Greater use of data in planning and policymaking, leading to changes in academic and student services intended to improve student outcomes.

The study did not find firm evidence that such formulas led to changes in student retention or completion, however.

A 2016 study analyzed the implementation and impacts of OBF in three states regarded as leaders in that movement: Indiana, Ohio, and Tennessee.<sup>11</sup> The study conducted extensive interviews with state officials and staff members from 18 colleges and universities in those three states. Respondents reported that the performance initiatives spurred their institutions to change practices and programs to improve student outcomes. Notable actions included revamping advising and counseling services and enhancing tutoring and supplemental instruction. Although the three states have increased graduation numbers more quickly than enrollments since the advent of their PBF programs, the study could not statistically separate out the role of OBF from other, concurrent policy measures. Thus, the story about the effectiveness of OBF still is being written, and many policymakers believe that it will take a period of sustained and consistent application involving substantial funding to truly measure its impact.

## Conclusion

States are recognizing the futility of continuing to allocate institutional aid on inputs (enrollment) or on prior levels of support (base-plus funding). Instead, most are turning to approaches that incorporate outcomes-oriented elements into their institutional aid formulas. Well-designed OBF models can help change how public colleges and universities address such issues as access, student support (particularly for underrepresented and at-risk students), degree attainment, and even the quality and value of education.

Strong OBF models should:<sup>12</sup>

- *Encourage schools to meet state priorities*, with degree or credential completion a primary component of the funding model;
- *Be driven by a significant portion of general institutional support* to ensure sustainability and create the business case for long-term improvement;
- *Include input metrics to create incentives for success among underserved students*. States should include incentives for institutions to effectively serve certain groups of students, such as racial and ethnic minorities, Pell Grant–eligible students, and adult students. In such cases, OBF models may include input metrics such as the number of FTE students from each of these groups. Another approach used by several states currently implementing OBF models is to put a premium (or extra “weight”) on successfully serving underrepresented students; and

- *Focus on trends in performance metrics instead of single-year changes.*<sup>13</sup> Indicators of the effectiveness and efficiency of postsecondary institutions and systems are most useful when analyzed over time. Such indicators typically do not change dramatically from year to year, and significant year-to-year fluctuations in performance could result from circumstances such as economic downturns affecting student retention and overall characteristics of student class cohorts as they progress through the system.

OBF continues to evolve as an approach to raise access, attainment, and overall college success. Although its effectiveness is still being assessed, it should be considered a key tool in improving college outcomes.

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<sup>2</sup> State Higher Education Executive Officers, “State Higher Education Finance: Fiscal Year 2015,” p25, Table 3, 2016.

<sup>3</sup> The Pew Charitable Trusts, “The State Pensions Funding Gap: Challenges Persist,” *Fact Sheet* (Philadelphia: The Pew Charitable Trusts, 2015), <http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2015/07/the-state-pensions-funding-gap-challenges-persist> (accessed October 27, 2016); State Budget Crisis Task Force, *Final Report* (New York: State Budget Crisis Task Force, 2014), [http://www.pggf.org/sites/default/files/state\\_budget\\_crisis\\_task\\_force\\_finalreport\\_01142014.pdf](http://www.pggf.org/sites/default/files/state_budget_crisis_task_force_finalreport_01142014.pdf) (accessed October 27, 2016); and Richard Dobbs et al., *Diminishing Returns: Why investors May Need to Lower Their Expectations* (New York: McKinsey Global Institute, 2016), <http://www.mckinsey.com/industries/private-equity-and-principal-investors/our-insights/why-investors-may-need-to-lower-their-sights> (accessed October 27, 2016).

<sup>4</sup> Dan White and Sarah Crane, *Crowded Out: The Outlook for State Higher Education Spending* (Indianapolis: Moody’s Analytics, 2015), <http://web1.millercenter.org/commissions/higher-ed/2015-higherEdFunding-Moodys.pdf> (accessed October 27, 2016).

<sup>5</sup> Bridget Long. 2016. “State Support for Higher Education: How Changing the Distribution of Funds Could Improve College Completion Rates.” National Commission on Financing 21st Century Higher Education.

<sup>6</sup> Martha Snyder, “Driving Better Outcomes: Typology and Principles to Inform Outcomes-Based Funding Models” (Washington, DC: HCM Strategists, 2015), <http://hcmstrategists.com/drivingoutcomes/wp-content/themes/hcm/pdf/Driving%20Outcomes.pdf> (accessed October 27, 2016).

<sup>7</sup> Ibid.

<sup>8</sup> National Conference of State Legislatures, “Performance-Based Funding for Higher Education,” <http://www.ncsl.org/research/education/performance-funding.aspx> (accessed June 7, 2016).

<sup>9</sup> Texas Higher Education Coordinating Board, *Texas State Technical College System Returned Value Funding Model Methodology* (Austin: Texas Higher Education Coordinating Board, 2013), <http://www.theccb.state.tx.us/reports/pdf/3207.pdf> (accessed October 27, 2016).

<sup>10</sup> Kevin Dougherty and Vikash Reddy, “The Impacts of State Performance Funding Systems on Higher Education Institutions: Research Literature Review and Policy Recommendations,” Working Paper No. 37 (New York: Community College Research Center, Columbia University, 2011), <http://ccrc.tc.columbia.edu/publications/impacts-state-performance-funding.html> (accessed June 14, 2016).

<sup>11</sup> Kevin Dougherty et al., “Looking Inside the Black Box of Performance Funding for Higher Education: Policy Instruments, Organizational Obstacles, and Intended and Unintended Impacts,” *The Russell Sage Journal of Social Sciences* 2, no. 1 (2016), <https://muse.jhu.edu/article/612996> (accessed October 4, 2016).

<sup>12</sup> M. Snyder, “Driving Better Outcomes.”

<sup>13</sup> Garrett Groves, “Beyond Completion: Getting Answers to the Questions Governors Ask to Improve Postsecondary Outcomes” (Washington, DC: National Governors Association, 2013), <http://www.nga.org/files/live/sites/NGA/files/pdf/2013/1309BeyondCompletionPaper.pdf> (accessed June 14, 2016).



## Chapter 4. Affordability, Costs, and Productivity

The increases in public higher education spending over the past two decades, coupled with the more recent cuts in state appropriations, has fueled growing public anxiety about the costs of higher education. In some states, this concern has led to legislative actions to freeze tuition increases or cap the rate of increase over time; in other states, policy leaders are looking for other more effective long run approaches to limit cost increases.

The cost of higher education is the amount institutions spend to conduct operations and educate students. It differs from the price of higher education, which refers to the cost that is passed on to students in the form of tuition and fees after subsidies, like state institutional aid, is considered. This chapter summarizes recent state action to control both college spending and the price passed on to students. It also examines the data and the theories on what is driving cost increases as well as the experience of several institutions that were able to substantially decrease costs and increase graduation rates.

The commission believes that productivity measures, as determined by the number of graduates per real dollar of total spending, should serve as a basis in allocating funding among institutions. Productivity is a unique measure that provides strong incentives to institutions to both increase graduation rates and control costs. The commission contends that public institutions have an obligation to students and citizens of the states to become more productive.

### Spending vs. Tuition and Fees

Total spending and tuition generally increased at similar rates until the Great Recession of 2008 and the recovery that followed as states made dramatic cuts in appropriations to higher education. These actions shifted substantial costs to students and families in the form of increased tuition and fees. These increases, in turn, had repercussions for many low and moderate-income families and their sons and daughters, who were unable to continue in college or were forced to defer their attendance. Other, mostly moderate-income families took on substantial student loan debt.

#### *Spending*

Total public higher education spending in the United States has grown from \$238.8 billion in 2006–2007 to \$331.4 in 2012–2013—a growth of more than 30 percent over the five-year period.<sup>1</sup> The average spending per full-time-equivalent (FTE) student in a public college or university increased for bachelor's degrees in 2013 dollars from \$12,939 in 2003 to \$14,044 in 2013—a 8.5percent increase over this 10-year period, which includes the Great Recession, when actual spending growth became negative for a couple of years.<sup>2</sup> The average spending per FTE student is a reliable cost metric because it adjusts for the significant increase in enrollment over this period. The rate of increase per FTE student for public research universities was more rapid than for public community colleges, but the mission of research universities is more varied.

## *Tuition and fees*

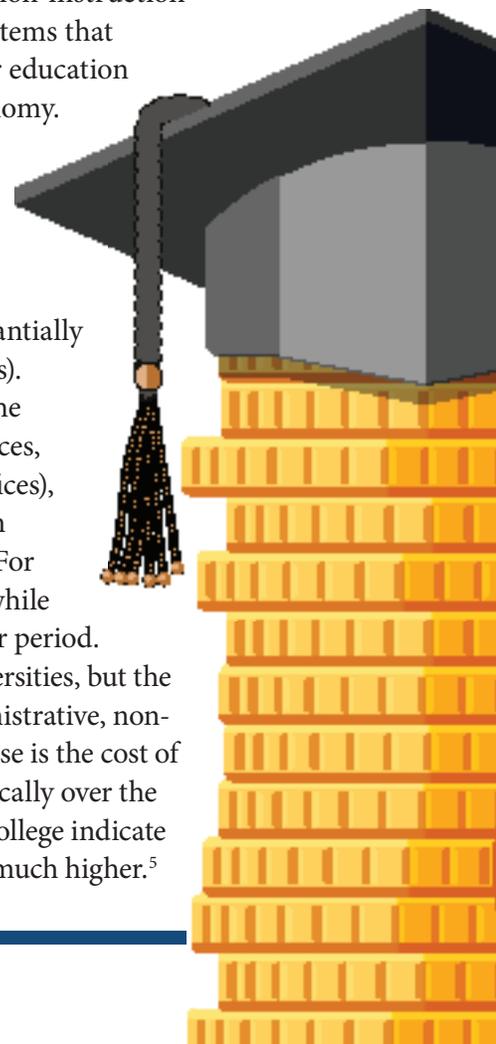
Tuition and fees have increased for public 4 year institutions in inflation-adjusted dollars by 3.5 percent annually over the 2006–2007 to 2016–2017 period.<sup>3</sup> This number is down from the 4.2 percent in the previous decade and the 3.9 percent in the decade before that. This decline might appear to be good news, except that the base of total tuition in 2016–2017 was up 40 percent from 2006–2007 rates, and so the total dollar increase is substantially higher. A major cause of this increase is states cutting appropriations during the Great Recession of 2008 and during the recovery so that institutions have had to shift substantial costs to tuition and fees. In 1988 public universities and colleges received 3.2 times as much revenues from state and local governments as from students but by 2014 this was down to 1.1. This shift has contributed to students in 2016 graduating with an average of \$37,172 in debt—a \$20,000 increase from the graduating class of 2004.<sup>4</sup> Total student loan debt is now over \$1.3 trillion for 43 million borrowers. Over the longer term, tuition and fees have increased more than 536 percent since 1985, while medical costs in general have increased 286 percent and the Consumer Price Index (CPI) has increased by 121 percent. Unsustainable increases in tuition are contributing to the student debt problem, which will impose a substantial credit burden on an entire generation and create ramifications for the American economy for years to come. These increases also are contributing to the higher dropout rate among low-income students and students of color.

## **Why Does the Cost of Higher Education Continue to Increase?**

Based on the data there seems to be two main cost drivers for higher education: non-instruction administrative costs, mostly for personnel, and the fact that the inflation rate of items that institutions purchase has been increasing faster than the CPI. In addition, higher education institutions do not compete based on price, unlike most other sectors of the economy.

### *Non-instruction costs are a major expense*

It is not the cost of instruction but other administrative costs that have driven education prices over the past decade. If you convert the nine categories of higher education spending to a cost-per-FTE-student basis, you find that they differ substantially by type of institution (for example, research universities versus community colleges). That said, there is substantial commonality across types of institutions regarding the three most rapidly growing categories: student services (admissions, registrar services, career counseling), academic support (libraries, information technology, dean's offices), and institutional support (legal, financial, and administrative services), all of which have been growing more rapidly than the cost of instruction over the past decade. For example, between 2003 and 2013, instruction support grew by just 8 to 9 percent, while the three fastest growing categories grew between 9 and 25 percent over the 10-year period. The fastest growth for this non-instruction-related spending was for research universities, but the essential point is that most of the spending growth comes from hiring more administrative, non-instructional staff to provide services. A potential contributing factor to this increase is the cost of complying with state and federal rules and regulations, which have grown dramatically over the past decade. Recent estimates of the cost by Vanderbilt University and Hartwick College indicate that the costs are substantial, with the burden for research universities potentially much higher.<sup>5</sup>



## The Inflation rate of purchases is a cost driver

Historically, the inflation rate of purchases by colleges and universities has increased faster than the CPI. For higher education, two price indices have been developed to measure the rate of increase in input purchases. The first is known as the “Higher Education Price Index” (HEPI); the second is the Higher Education Cost Adjustment (HECA).<sup>6</sup> For the HEPI, purchases are divided into eight categories, from salaries to supplies and materials, and the individual inflation index for each category is weighted per the relative spending in a base year. The HECA uses just two components: one that reflects changes in labor costs and another that reflects the price of other goods and services that institutions purchase. These indices are conceptually similar, and both are preferable to an index based on a broader range of goods and services, such as the CPI. By way of comparison, the CPI urban index grew 47 percent from 1997 to 2012, while the HECA and HEPI grew 53 percent and 64 percent, respectively, over the same period.<sup>7</sup> During 1990s, the HEPI grew about 4 percent per year but has dropped to 2 percent over the past five years. The rate of increase in input prices is critical as it leads to total spending increases and thus tuition increases.

### *Theories of cost increase*

There are three broad theories for why the cost of higher education has grown more rapidly than gross domestic product over the past several decades. The first theory is that the type of “competition” universities and colleges typically engage in generally increases spending rather than efficiency<sup>8</sup> because they generally compete for prestige based on their funding levels in research; faculty reputations; and quality of student services, such as dormitories and dining halls. All these factors raise costs, and some may be reinforced by ratings in such publications as *U.S. News and World Report*. Second is the theory of economist Howard Bowen, called the “revenue theory of costs.” Bowen believes that institutions maximize revenues in the same way businesses maximize profits. Alternatively stated, he argues that institutions raise as much money as possible from a large number of sources, such as states, tuition, federal research grants, auxiliary services like hospitals, and philanthropic donations. Finally, there is William Baumol’s theory of “cost disease,” which is based on how wages continue to increase in industries that are labor intensive, such as health care and education, in spite of the fact that there are few productivity gains. In manufacturing and many other industries, investments are made in capital and technology that lead to greater productivity gains and help keep costs down. The labor-intensive industries are able to increase the return to labor without productivity gains. Unfortunately, there is likely some truth in all three theories.

## Recent State Efforts to Control Costs

During the last decade, several states have bucked the trend of increasing higher education costs by instituting state-mandated tuition cuts, freezes, and caps to reduce the financial burden on students attending state colleges and universities. All these efforts have focused on the price to students and families rather than total costs or spending by the institutions.

### *Washington*

In June 2015, the Washington Legislature incorporated mandatory cuts to higher education tuition in its 2015–2017 budget. The state mandated that all four-year public colleges and universities cut tuition by 15 to 20 percent in 2016 and that community colleges cut tuition by 5 percent over the same period.<sup>9</sup> The state would compensate institutions affected by the cuts for their losses from tuition revenue, allowing them to maintain plans for improvements such as a new medical school and a new computer science education program. In addition, effective 2017, a provision of the law ties future tuition increases to the state’s median family wage growth. The effort was hailed as the first major state action to significantly reduce tuition across all state institutions and for all families.

### *Virginia*

In 2007, Virginia established a Tuition Incentive Fund (TIF) of \$7.2 million. State higher education institutions would be eligible to receive funds from the TIF if they increased tuition and mandatory fees for instate students by less than 6 percent. The state modified this program in 2008 and renamed the fund the Tuition Moderation Incentive Fund (TMIF), which it then funded at \$17.5 million, with institutions eligible for benefits if they limited their tuition and fee increases to less than 4 percent annually. Because of state budget shortfalls, the 2009 Virginia General Assembly discontinued the TMIF in fiscal year 2010.

### *Minnesota*

The state of Minnesota took action to cut tuition at the state’s 24 two-year community and technical colleges in 2016. Legislation approved in May 2015 instituted a tuition freeze at two-year colleges for fall 2015, reducing tuition by 1 percent the following year. The average cost per college credit, held steady at \$161 since 2013, was to drop to \$159.

### *Kansas*

The Kansas Legislature forced the six universities that the Kansas Board of Regents governs—Emporia State, Fort Hays State, Kansas State, Pittsburg State, University of Kansas, and Wichita State—to hold tuition increases to 3.6 percent or less, including fees, in 2016. The Legislature arrived at the 3.6percent figure by using inflation plus 2 percent.

## Michigan

The Michigan Legislature passed a law in 2013 specifying that to be eligible for any bonus in state funding, an institution first had to comply with specified tuition limits. Not all schools have complied, however. In 2015, two state schools ignored these instructions and raised tuition above set limits. As a consequence, Eastern Michigan University will lose \$1 million in state dollars, and Oakland University will lose funding, as well; these losses are negligible, however, compared to the \$10 million to \$12 million in additional revenue the universities stand to gain from the tuition increases.

Freezing tuition increases, linking a tuition cap to the CPI or median family income over time, or even capping administrative costs is not an effective cost-control strategy because it is at most an arbitrary short-term solution. Furthermore, these steps do not distinguish among different institution types with different missions, which is a major strength of the U.S. higher education system. Perhaps most important, they do not give universities and colleges ample time to make the long-term restructuring, redesign, and process changes or integrate the new lower cost delivery models necessary for long-term efficiency gains. Instead, institutions are forced to maximize short-term budget savings, which may even be counterproductive over the long run.

### Higher Education Productivity and Quality

There is a risk that the quality of learning will deteriorate if individual institutions focus on attaining a productivity benchmark as measured by the number of graduates per dollar of total spending. Unfortunately, it is both difficult and expensive to develop the assessments that would be necessary to ensure that quality is at least maintained if not increased. In the health care arena, a new group of integrated, coordinated providers has emerged called an “accountable care organization” (ACO). ACOs share savings from productivity gains with consumers, but first, the ACO must meet 33 agreed-to quality standards, many of which are process rather than outcome metrics. Unfortunately, few processes in higher education are strongly correlated with outcomes, and there are no acceptable consensus quality standards in higher education like there are in health care. Several types of quality measures are currently available for some graduates, such as certifications or licenses in nursing, engineering, teaching, and accounting. These licenses or certificates usually require passing an assessment in addition to having a degree. That said, the number of academic degrees that have qualifying tests are limited.

States could administer common assessments like the Collegiate Learning Assessment or the Collegiate Assessment of Academic Proficiency to a random sample of students across the state’s colleges and universities to track quality. It is also possible for states to collect job placement and salary information over time to see what the market says about the quality of graduates’ education. Alternatively, they could develop measures of student engagement and satisfaction, such as the National Survey of Student Engagement. All these measures could be helpful in determining changes in the quality of learning over time, but none provides a comprehensive approach for using the data to adjust the output measures for quality. Furthermore, those measures that have the highest reliability would be expensive to administer. Therefore, the best approach is for institutions to continue to collect this information to evaluate potential changes in quality over time but not attempt to adjust productivity measures until the information reaches a higher quality and is less costly to collect.

## Productivity Change

States can hold their universities and colleges more accountable for raising productivity. The approach requires a thoughtful, long-run approach that is gradual and provides incentives to institutions to redesign and transform their entire systems. Such an approach should focus on slowing the rate of increase in total costs, and increasing the number of graduates. It is critical, though, that these incentives not lead to reduced learning (for example, lower quality of education and restricted access).

Broadly speaking, “productivity changes” are defined as increases in real output not attributed to increases in a specific real input or a combination of real inputs. Some of the change comes from the substitution of capital and technology for labor, but it also includes restructuring as well as a significant number of small efficiency changes by individuals throughout an organization. “Labor productivity” is generally defined as the increases in real output not attributed to changes in labor input as measured by the number of employees or hours worked. The construction of productivity metrics requires quantitative estimates of the volume of outputs and inputs, which exclude the effects of pure price changes while at the same time capturing improvements in the quality of both inputs and outputs. It is difficult to measure productivity change directly. Instead, it is often computed as a residual after measuring output growth and subtracting the growth in inputs that have been appropriately weighted.

### *Productivity measurement in higher education*

The simplest output measure is the number of graduates. When defining outputs in the context of the 2025 goal, it becomes important to break out low-income students, students of color, first-generation college students, and adult learners, and then weight these graduates more heavily so that institutions take more responsibility for helping them graduate. Otherwise, some institutions may tend to accept higher income, highly qualified students only to boost their outcomes. With this definition of “output” the best and simplest productivity measure is simply the deflated cost per weighted graduate. Universities and colleges can then increase productivity by increasing graduation rates or slowing the rate of increase in total costs. Both will increase efficiency, which is the public policy goal.

### *What is a reasonable productivity goal?*

A November 2010 McKinsey Report<sup>10</sup> provides a helpful overview of what eight high-performing postsecondary institutions have done in terms of substantially increasing productivity, which the report defines as the cost per graduate. These two- and four-year institutions, which were mostly open-access schools, increased productivity on average between 17 and 38 percent relative to their peer groups. Based on this analysis, McKinsey assumed that the average productivity for bachelor’s and associate degree institutions could be increased by about 22 percent and 23 percent, respectively over several years. There was no one overall approach, but McKinsey’s analysis showed that most of the institutions used a combination of the following strategies:

- *Assist students in graduating:* This strategy included developing structured paths to graduation; effective student support systems; and effective placement, college preparation, and orientation.

- *Reduce nonproductive credits:* Analysis of state data showed that graduates took on average 14 percent more credits than required for graduation. Better student mentoring and tracking of credits can dramatically reduce the overage.
- *Redesign instruction:* Some of this is integrating lower cost teaching models, other use of technology, and even redesign of the academic calendar.
- *Create more efficient core support and services:* These are primarily institutional support services, student services, and academic support services, which were previously acknowledged to have been the three fastest growing expenses over the past 10 years. The staff are primarily administrative and non-instructional. Efficiency gains were primarily derived by creating lean processes, redesigning operations, and creating more cost-effective purchasing systems. All the schools meticulously monitored service quality.
- *Optimize noncore services and other operations:* These optimizations include research, public services, and auxiliary services. Although many of these services, such as dining services, generate revenues and are self-supporting, 49 percent of institutions report that revenues are short of spending.

### Limitations of Productivity Measures

Productivity measures can be helpful in guiding long-term public policy decisions, but it is important to remember that they were created to measure private-sector firms that maximize profits and in which all outputs and inputs were priced in the marketplace. In higher education, certain outputs may not have market prices because they are not bought and sold in a market. In addition, several joint products, such as research and teaching, may be difficult to separate according to cost. It is also difficult to measure quality changes in both inputs

and outputs over time. All this means that care must be exercised in evaluating the various estimates. For example, for any one year, these measures may not be accurate, but trends over several years may still be useful. Further, caution should be exercised in making comparisons across institutions. Essentially, the measures are best used to look at trends for given institutions over time. Although recognizing these limitations is important, it is also true that productivity is the core issue in developing a strategy and accountability system for cost control.

This study also made three simple recommendations for moving forward:

- Every higher education institution should perform an honest self-assessment, comparing its overall education productivity and performance on the five strategies above relative to an appropriate peer group.
- The entire higher education system needs better performance measurement, better data, and benchmarks so that funders and institutions can track their progress.
- State and federal policymakers must develop and uphold policies that elevate productivity in colleges and universities to a higher priority.

Over the past 10 years, several other colleges and universities, including Franklin Marshall, Drexel, Georgia State, Elgin Community College, and Carnegie Mellon, have made major transformations to reduce costs or increase graduation rates.

## Two Important Publications

Policymakers are encouraged to read two publications that provide in-depth information about how to create appropriate productivity measures for higher education. The first is “Improving Measurement of Productivity in Higher Education” (National Academy of Sciences, 2012), which provides a comprehensive and detailed discussion of the conceptual framework for measuring productivity as well as the limitations in applying this measure to public higher education.<sup>11</sup> Perhaps most helpful, the paper provides detailed recommendations on concepts, specific measures, and the data sources most applicable to public higher education. It also outlines how improvements in data would improve the quality of the measures over time.

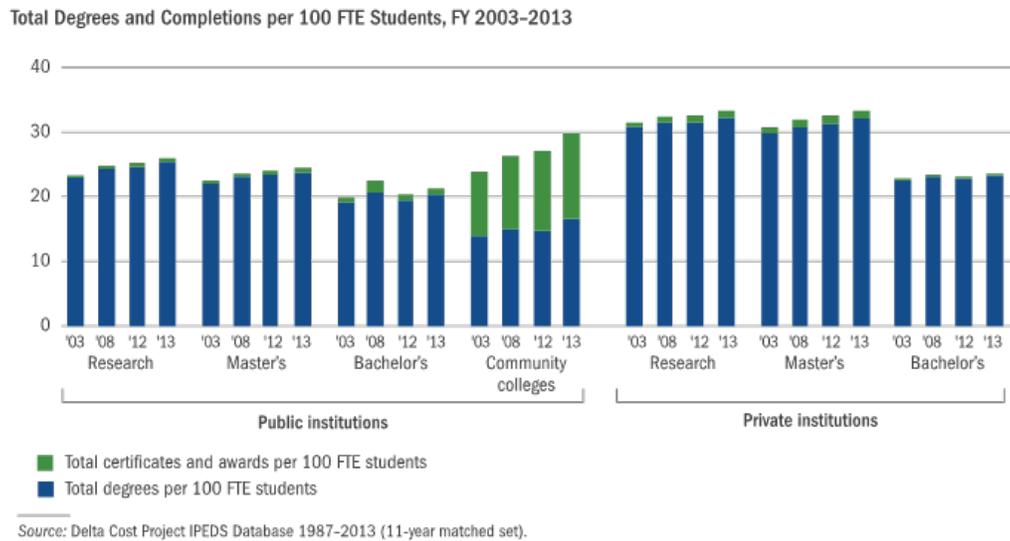
The other publication, “Leveraging Shared Savings to Promote High-Quality, Cost-Effective Higher Education” by Trey Miller and Van L. Davis of Rand Corp., essentially applies the concept that Accountable Care Organizations use in the health care arena to higher education.<sup>12</sup> This paper is particularly good at showing how to adjust or weight graduation rates for various low-income, first-generation, and adult learners so that colleges and universities receive credit for accepting and graduating them.

A key policy issue is how much of the goal of having 60 percent of the labor force by 2025 with postsecondary certificates or degrees can be attained through efficiency gains—that is, productivity changes by public universities and colleges. The McKinsey report described earlier provides a reliable statistical baseline by which to determine the potential, which is slightly more than 2 percent per year over a 10-year period. That said, it is also important to look at historical rates for various productivity metrics experienced in higher education.<sup>13</sup> As Figure 4-1 shows, the number of degrees and certificates public institutions awarded per 100 FTE students enrolled has increased moderately for all degree types over the 2003–2013 period. For these universities and colleges, it came from a combination of increased graduation rates and a slowdown in enrollment growth, particularly after the Great Recession. The number of completions per 100 students enrolled reached a decade-long high in 2013, with community colleges leading the way and showing the largest boost in degree productivity, adding seven more credentials per 100 students than in 2003. While this analysis is helpful, the more appropriate productivity measure of graduates per dollar of spending in 2013 dollars is shown in Figure 4-2. Here, productivity was negative for public research, public bachelor’s degrees, and public master’s degrees during the first half of the 2003–2013 period. In contrast, community colleges had a small increase in productivity during that period. From 2008 to 2013, all types of institutions displayed major increases in productivity so that all witnessed small positive increases over the decade. Of the four groups, community colleges stood out as their average cost per graduate decreased from \$51,892 to \$40,354 in 2013 dollars over the 10-year period—a significant productivity gain.

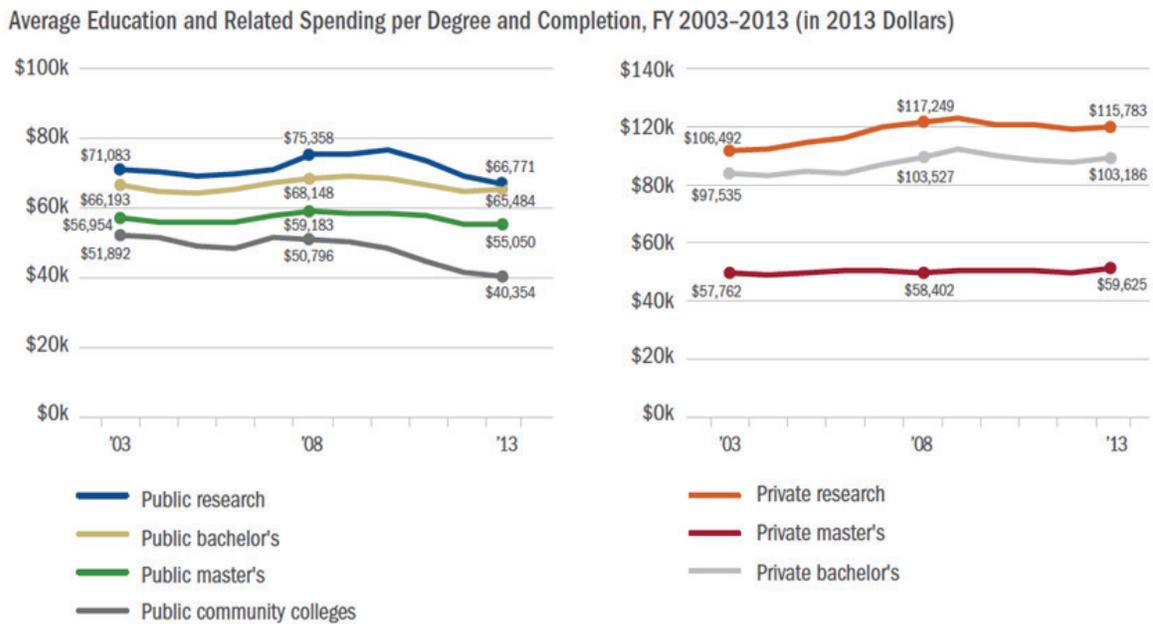
The bottom line is that apart from community colleges, there has been little productivity change for higher education institutions over the last decade. However, a substantial change occurred over the 2008–2013 period, when resources were strained and institutions were forced to adjust. Still, given the potential average productivity gain of 22 percent and 23 percent over the long term in the McKinsey report, it appears that a goal for a productivity change of 1 to 2 percent per year on average seems reasonable over the next decade. It is higher than institutions have experienced over the last decade but less than that experienced by the institutions examined in the McKinsey report.

The commission believes that it is reasonable for states to expect to institutions to achieve annual productivity improvements of 1-2 percent per year over the next ten years. To encourage it, states could provide institutions some grant support to develop and bring to scale new lower cost delivery models and student intervention systems to enhance graduation rates, particularly for low income students and students of color.

**Figure 4-1: Total Degrees and Completions per 100 Full-Time Equivalent Students, Fiscal Years 2003 to 2013**



**Figure 4-2: Average Education and Related Spending per Degree and Completion, Fiscal Years 2003 to 2013 (in 2013 Dollars)**



## Productivity Incentives

There are two ways that productivity measures can be used by states in allocating funding to institutions. First it could be combined with other outcomes measures as described in chapter three and weighted appropriately when allocating most postsecondary funding across institutions in the state. Inevitably, this could result in some institutions seeing lower funding growth while others receive higher funding, depending on performance. Second, states could break out a separate pool of funding that is allocated based on the productivity measures. This would allocate bonus funding based on performance, but it may not be as effective because less dollars are at stake.

For either approach, there would be three steps to creating a productivity incentive and accountability system between the states and their universities and colleges. The first step is for the legislature and governor to agree on the size of the funding allocation or bonus pool subject to meeting productivity measures. The second step is for the governor and the legislature to agree on a framework within which the higher education agency or board would negotiate agreements with individual colleges and universities. Such a guideline could be in the form of a state law or executive order. Finally, unique agreements would be negotiated between institutions and the state higher education agency.

### *The productivity framework*

Every college and university is different with respect to its mission and student population, and the framework and various negotiated agreements must reflect these underlying differences. The framework must specify which measures and data will be considered in the negotiation, the relationship between productivity changes and bonuses, and whether performance will be measured yearly or over several years. Essentially, the framework should outline the four key metrics considered in the negotiation:

- What has the institution's productivity been over the past 20 years, and what is that baseline projected forward for the next five years?
- If there will be weights for graduating at-risk populations, then the categories and weights must be specified. For example, it may be important to include a cross-section of students like those with Pell grants, first-generation college students, and adult learners.
- What has the institution faced in terms of the inflation rate for its purchased inputs over the past 20 years (HEPI index), and what is that baseline going forward for five years?
- What rates of productivity change have similar colleges or universities demonstrated over the past five years? Initially, the McKinsey report could provide this information, but it should be updated over time.

### *Productivity agreements*

The higher education board should negotiate agreements at the state level with individual colleges and universities. The negotiations should take place each year but look five years into the future to be consistent with the strategic plans of those colleges and universities. The emphasis needs to be on long-term trends, not short-term changes. Each agreement will be unique and depend on the four data series described earlier, but the goal for the state should be to increase productivity by 1 to 2 percent per year on average across all institutions.

## Conclusion

As this analysis indicates states should hold universities and colleges accountable for increasing productivity through incentives to both increase graduation rates and control costs. Substantial productivity gains are possible across the board for institutions of higher education, but the potential differs by institution type, student body, and where the institution currently resides on the productivity continuum. On average institutions, should be able to attain 1-2 percent annual increases which are more than they experienced over the last decade but less than that possible as demonstrated by the eight institutions analyzed by Mckinsey.

The focus should be on long-term sustainable productivity changes, and not one- or two-year changes. It will take time for institutions to change their cultures and incorporate continuous improvement into their business model, but once they do, the potential gains to students and families, postsecondary institutions, and individual states are significant. To the nation and society, the benefits over time could be dramatic.

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<sup>1</sup> National Center for Education Statistics, “Fast Facts: Expenditures,” <https://nces.ed.gov/fastfacts/display.asp?id=75> (accessed October 27, 2016).

<sup>2</sup> Donna M. Desrochers and Steven Hurlburt, *Trends in College Spending: 2003–2013. Where Does the Money Come From? Where Does It Go? What Does It Buy?* (Washington, DC: American Institutes for Research, 2016), <http://www.air.org/system/files/downloads/report/Delta-Cost-Trends-in-College%20Spending-January-2016.pdf> (accessed October 27, 2016).

<sup>3</sup> Ibid.

<sup>4</sup> The Institute for College Access and Success, *Student Debt and the Class of 2014* (Oakland, CA: The Institute for College Access and Success, 2015), [http://ticas.org/sites/default/files/pdf/classof2014\\_embargoed.pdf](http://ticas.org/sites/default/files/pdf/classof2014_embargoed.pdf) (accessed October 27, 2016).

<sup>5</sup> Task Force on Federal Regulation of Higher Education, *Recalibrating Regulation of Colleges and Universities: Report of the Task Force on Federal Regulation of Higher Education* (Washington, DC: American Council on Education, 2015), <https://www.acenet.edu/news-room/Documents/Higher-Education-Regulations-Task-Force-Report.pdf> (accessed October 27, 2016).

<sup>6</sup> Andrew Gillen and Jonathan Robe, *Stop Misusing Higher Education-Specific Price Indices* (Washington, DC: Center for College Affordability and Productivity, 2011), <http://files.eric.ed.gov/fulltext/ED536149.pdf> (accessed October 27, 2016).

<sup>7</sup> Ibid.

<sup>8</sup> National Association of State Budget Officers, *A Guidebook on State Budgeting for Higher Education* (Washington, DC: National Association of State Budget Officers, 2015), <http://www.nasbo.org/mainsite/reports-data/higher-education-reports/higher-ed-guidebook> (accessed October 27, 2016).

<sup>9</sup> Kathrine Long, “Historic’ Tuition Cut Sets State Apart From Rest of U.S.,” *The Seattle Times*, July 1, 2015, <http://www.seattletimes.com/seattle-news/education/historic-tuition-cut-sets-state-apart-from-rest-of-us> (accessed October 27, 2016).

<sup>10</sup> Byron G. Auguste et al., *Winning by Degrees: The Strategies of Highly Productive Higher-Education Institutions* (New York: McKinsey & Company, 2010), <http://mckinseysociety.com/downloads/reports/Education/Winning%20by%20degrees%20report%20fullreport%20v5.pdf> (accessed October 27, 2016).

<sup>11</sup> Teresa A. Sullivan et al., eds., *Improving Measurement of Productivity in Higher Education* (Washington, DC: National Academy of Sciences, 2012), <https://www.nap.edu/catalog/13417/improving-measurement-of-productivity-in-higher-education> (accessed October 27, 2016).

<sup>12</sup> Trey Miller and Van L. Davis, *Leveraging Shared Savings to Promote High-Quality, Cost-Effective Higher Education* (Santa Monica, CA: RAND Corporation, 2015), [http://www.rand.org/content/dam/rand/pubs/perspectives/PE100/PE160-1/RAND\\_PE160-1.pdf](http://www.rand.org/content/dam/rand/pubs/perspectives/PE100/PE160-1/RAND_PE160-1.pdf) (accessed October 27, 2016).

<sup>13</sup> D.M. Desrochers, *Trends in College Spending*.



# Chapter 5. Student Financial Assistance

To reach a goal of 60 percent college attainment, we must tackle the question of how to best distribute student aid from governments, private sources, and the institutions themselves and the level of aid needed to graduate more underrepresented students. Unless the patchwork quilt of financial assistance is better aligned to the objective of graduating more students, a large percentage of the population will continue to be denied access to postsecondary education or fail to complete their degree. This chapter explores options to address this financial assistance challenge.

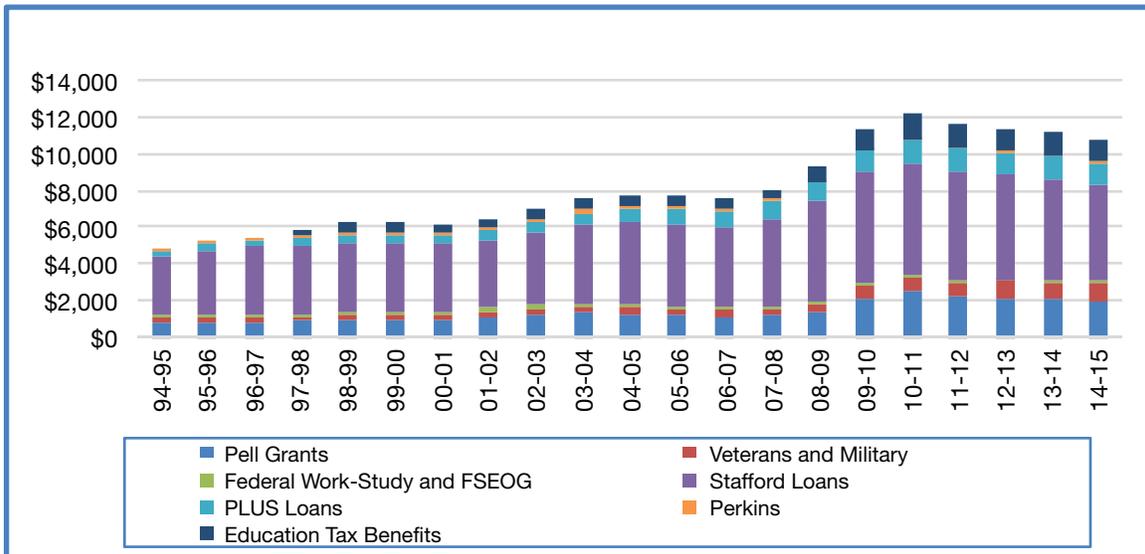
## Current Trends and Issues

The federal government is the largest provider of direct student aid. Currently, undergraduate students can access \$30.3 billion in need-based Pell grants and another \$15.2 billion in federal tax credits and tax deductions (data reflect undergraduate aid for 2014–2015). Veterans have access to an additional \$13.6 billion in tuition assistance. Federal loans, which provide students with favorable interest rates and repayment terms, inject another \$62.1 billion annually into the higher education system.

States and the private sector also provide undergraduate aid, chiefly in the form of grants. In 2014–2015, states provided \$10 billion in grants, and the private sector awarded another \$11.3 billion. Finally, higher education institutions themselves provide aid at levels second only to the federal government; in 2014–15, student aid from colleges totaled \$39.8 billion.

Federal spending for student aid has far outpaced the rate of growth of state spending. Federal grants, including benefits for veterans, increased 139 percent between 2006–2007 and 2014–2015, while state grant levels remained relatively flat. Today, one in three students receives a federal Pell grant, with one-quarter of these recipients having incomes low enough to receive the maximum award.<sup>1</sup> In total, federal aid per student has fallen from its peak in 2011 (see Figure 5-1) as total Pell Grant expenditures fell from \$39.0 billion to \$30.3 billion between 2011 and 2015 and student loans also declined.<sup>2</sup>

FIGURE 5-1: FEDERAL STUDENT AID PER FULL-TIME-EQUIVALENT STUDENT (IN 2014 DOLLARS)



## The Problem of Unmet Need

The goal of an efficient student aid system is to reduce as much as possible the amount of unmet need an individual faces when paying for college. “Unmet need” is the gap between what it costs to attend college for a two- or four-year degree (including tuition, fees, and living expenses) and the resources students have at their disposal, which varies according to personal and family income. Students with unmet need in excess of \$5,000 are much less likely to complete college.<sup>3</sup> Most low-income students and students of color attend public two-year colleges, which is where the problem of unmet need is most common. In 2011, 95 percent of full-time equivalent (FTE) students at community colleges in the lowest income quartile had a total unmet need of \$7,734, while 80 percent of students in the highest income quartile still had an unmet need of \$5,835.<sup>4</sup>

To fill the gap of unmet need, students must attend school part time, work nearly full time, and/or borrow from federal and private loan sources. For many low-income students, this can be unmanageable, and so they stop their education or drop out. Many leave with debt burdens they cannot repay. Among borrowers who entered repayment in 2011–2012, 24 percent of those who did not graduate defaulted on their student loans within two years. For students with limited means, research has consistently shown that their ability to complete college depends largely on whether they receive aid in the form of grants instead of taking on debt; for these students, grants raise the likelihood of college completion, while loans endanger it.<sup>5</sup>

Aid policies today, however, do not necessarily target those most in need. For example, in 1994, only 10 percent of all state grants to undergraduates were awarded without regard to financial circumstances, meaning that 90 percent were awarded based on need. However, by 2014, only 76 percent of all state aid was awarded based on need. The purchasing power of federal Pell grants has declined. In 2006, the maximum Pell grant covered 74 percent of the average tuition and fees at a public four-year institution; by 2016, it covered only 61 percent. This is very different from the type of subsidy provided by the World War II GI bill, which was sufficient at that time to cover all yearly education and living expenses at Harvard University.<sup>6</sup>

Projecting out 10 years, the portion of the population that needs financial assistance to attend college will grow. In America’s public schools today, 51 percent of the students have household incomes low enough to receive free or reduced-price lunch—a rise of more than one-third since 2000.<sup>7</sup> The composition of high school enrollments is increasingly diverse, with nonwhite and Hispanic populations approaching 50 percent of all students by 2025.<sup>8</sup> Unless aid programs are better aligned, better targeted, and receive more funding, the gap between the ability to pay for college and the resources available to students is likely to widen to levels that will prevent the United States from reaching the 60 percent postsecondary attainment rate.

## Creating a Framework to Harmonize Resources and Address Unmet Need

Understanding that the total amounts of student aid from all sources are finite, policies should focus on making the current patchwork of aid programs more efficient, targeted, and sustainable. To do so, states must create a framework to apportion aid from all sources and do it in a manner that benefits students according to a sliding scale of need.

The goal of an efficient student aid system is to reduce as much as possible the amount of unmet need an individual faces when paying for college. “Unmet need” is the gap between what it costs to attend college for a two- or four-year degree (including tuition, fees, and living expenses) and the resources students have at their disposal, which varies according to personal and family income.

...Aid policies today, however, do not necessarily target those most in need.

The first step is for states to develop an affordability benchmark that defines an appropriate total annual cost for attending a two- or four-year public institution in their state or region. States should base these benchmarks on actual costs in the state or region, using such measures as the median, average, or a percentile of actual institutional prices. The benchmarks serve two goals: They inform the public about prices in the region, and they set a dollar figure to use when apportioning aid.

The next step is to create a framework for allotting aid from all the federal, state, and institutional resources available and by the type of aid offered—be it loans or grants. States should begin by defining which students are entitled to the highest level of aid available in the form of grants. Policymakers typically recommend that students from families at 150-200 percent of the federal poverty level (FPL) should receive the maximum amount of grant aid available; assistance in the form of loans to these students should be minimized or avoided. Students above the maximum need level should then receive aid in the form of a mix of loans and grants according to the student’s personal and family income, with grant aid eligibility ceasing at about 400 percent of the federal poverty level.

For example, Minnesota and Oregon have implemented a shared responsibility framework to allocate state financial aid.<sup>9</sup> The shared responsibility framework is built on the concept that five partners—students, families, the federal government, state governments, and the institutions themselves—collectively are responsible for paying for a student’s postsecondary education. The framework is based on the total price of attendance, which includes tuition, fees, books, transportation, and room and board. The model is based on an accepted price of attendance for each type of institution (somewhat like the affordability benchmark described above). Once this price has been established, the five partners are assigned a share for which they are responsible as follows:

- The first partner is the student, who is expected to contribute a sizable portion to finance his or her education through working, personal savings, private scholarships, or loans. Oregon sets the student share for those attending community colleges at the amount a student could reasonably work at a minimum-wage job part time during the school year and full time during the summer. At four-year institutions, the student share is higher but cannot exceed what someone in a moderate-wage occupation could reasonably borrow and repay.

- The student’s family is the second partner; this is where the model becomes need based. Families with a higher income are expected to contribute more to their children’s educations. Families with limited financial resources receive the highest amount of grant aid.
- The third partner is the federal government, which makes aid available through grants and tax benefits. The Minnesota and Oregon aid programs incorporate federal benefits before allocating any state dollars.
- The fourth partner is state government, and the state grant aid program is expected to cover any unmet need after accounting for the other three partners’ shares.
- Finally, newer iterations of the shared responsibility model include institutions as a fifth partner. Institutions that charge more than an established amount for the price of attendance are responsible for covering the additional amount.

These allocation schemes can be buttressed with policies that encourage on-time or early degree completion to hold down costs. In 2013, Indiana restructured the state’s grant programs to create an incentive structure. Students who complete a total of 30 credit-hours during one academic year are awarded a few hundred dollars more than students who complete only 24 credit-hours. The state also gives students who complete a total of 39 credit-hours each year a \$1,300 bonus. Massachusetts began a similar pilot program in 2012. The Massachusetts Completion Incentive Grant Fund awards students more aid for each credit-hour they complete.

Lumina Foundation has suggested an aid allocation framework called “The Rule of 10.” The rule describes what should constitute affordable college from a student’s perspective and helps policymakers align resources, including all forms of student financial assistance, in ways that can improve college affordability. The Rule of 10 defines an “affordable education” as one that families can pay for with 10 percent of their discretionary income saved over 10 years and the earnings from student employment at 10 hours per week while enrolled full time.<sup>10</sup> The framework offers similar guidance on reasonable borrowing levels given projected earnings. No state uses this benchmark in exactly the way Lumina recommends, but Maine, Minnesota, and Washington use externally referenced affordability measures to determine state student aid awards and budget recommendations.

## Other Policy Changes That Can Improve Financial Aid Programs

In addition to creating a state framework for allocating aid, other important policy changes are needed from both state and federal government to improve the effectiveness of aid programs. These are described below and can be used in conjunction with state allocation formulas.

### *Create user-friendly, timely, and transparent consumer information*

States can play an important role in creating standardized consumer information. Improvements have been made in consumer information and transparency over the past decade, but the ability for students and those who advise them to readily understand and compare “college value” remains poor compared with other, less significant consumer purchases (for example, automobiles, appliances). Students and families do not have the accessible, comparable, and reliable data they need to make

prudent decisions about what constitutes a fair “college value.” Better information would help students and their families make wiser decisions and would encourage postsecondary institutions to offer cost-effective programs at reasonable prices with clear labor market value.

Students and their families need answers to the following questions:

- How likely is a student like me (income, race or ethnicity, academic performance) to be accepted at a college or university and, once enrolled, to complete a degree?
- What is the total price for students to attend and graduate?
- What learning outcomes, employment, and further learning opportunities are available on completion, and what is the economic return on these options?

### ***Cap Pell grants at 150 percent of the federal poverty limit***

Today, nearly 20 percent of all Pell grants are awarded to students whose annual family incomes exceed \$40,000 (approximately 150 percent of the federal poverty limit or FPL for a family of four).<sup>11</sup> Given the high rates of unmet need for students in the lowest income quartiles and the size of the Pell Grant pipeline (as measured by the percentage of public school students eligible for free or reduced-price lunch), the federal government should cap the income eligibility at 150 percent of the FPL, and consider providing larger Pell grants for students who take a true full-time course load.

### ***Focus state aid on need, not merit***

States can revise their commitments to merit-based aid and make filling gaps in unmet need a priority. Unlike Pell grants, the average state grant award declines only slightly as household income increases. Among students from the lowest income households (those with annual earnings less than \$30,000), less than 30 percent receive state grant aid compared with 80 percent who receive a Pell grant. High-income households benefit generously from state grants, with close to 10 percent of students from households with annual incomes exceeding \$100,000 receiving grant aid.<sup>12</sup>

Given the extent of unmet need and its direct impact on the nation’s ability to reach 60 percent attainment, most states should consider eliminating merit-based aid and retargeting it to need-based financial aid. Although 48 states have at least some commitment to a statewide need-based aid program (Georgia and New Hampshire have no statewide need-based aid programs), the level of support varies greatly. States spent almost \$705 on average in state grant aid per FTE student in 2013–2014, but this amount ranges from less than \$200 in 11 states to more than \$1,000 in 11 states.<sup>13</sup>

### ***Invert federal education tax benefit structures***

Research suggests that federal education tax benefits favor wealthier families and, in fact, tend to work against the equality of financial opportunity. Most studies provide evidence that this type of funding goes to families and students who would have gone to college anyway and is an ineffective tool in increasing enrollment among low-income students. One study estimated that if everyone who is eligible takes the federal tax benefit, 93 percent of funding would go to students who would have attended or enrolled in college anyway, even without the benefits.<sup>14</sup>

If the goal is more effective targeting and efficient use of resources in addition to lowering financial barriers to access, then these expenditures are clearly going where they are least needed. One alternative would be to make the federal American Opportunity Tax Credit, which provides partially refundable tax credits in the form of cash, available only to those families in the middle- and low-income range.

### *Encourage progress toward completion rather than paying per credit-hour*

Extending time to a degree beyond the standard four years for a bachelor's degree or two years for an associate degree harms affordability. An additional year at a public four-year university also removes one year of a college student's potential postgraduate income while accruing additional tuition, fees, and living expenses.<sup>15</sup>

State and federal student financial assistance and tuition policies can be revised and aligned to encourage students to graduate on time or even early. Options include prorating grant awards based on a 30-credit-hour or equivalent workload completed in a calendar year (the true definition of "on-time progress"), which four states now require. Doing so would require eliminating the credit-hour restrictions on Pell grants. Under current rules, students can receive Pell grants for two full-time semesters (limited to 12 credit-hours per semester) and cannot receive more funds if they enroll for a third term over the summer. Instead, students should be allowed to receive Pell grants for all periods of enrollment if they do not exceed the number of credits needed to obtain a degree and the individual student's lifetime program cost.<sup>16</sup>

States and institutions that have actively promoted higher course loads and faster progress toward a degree have generally been successful, and fears that retention rates could decline if students take more courses have not materialized. West Virginia experienced significant increases in graduation rates when it instituted a 30-credit-hour annual course-completion requirement for its merit-based scholarship program.<sup>17</sup> Indiana recently built an incentive for course completion into its need-based aid programs. Hawaii, Indiana, and Utah, along with individual institutions in other states, have created campaigns with tuition incentives to support "15 to Finish," which requires increased course loads. These efforts have not lowered student retention rates.<sup>18</sup> A series of controlled experiments conducted by MDRC on college campuses around the country generally found that increased rates of credit accumulation did not cause declines in retention rates.<sup>19</sup>

State and federal policymakers also can experiment with ways to promote accelerated learning. For instance, state and federal resources can be pooled and awarded based on the number of courses needed to earn a credential rather than per credit. In addition, states and institutions can:

State and federal student financial assistance and tuition policies can be revised and aligned to encourage students to graduate on time or even early.



- Offer students tuition discounts for attending school year-round, as many colleges have started to do (for example, Indiana University and Wayne State University);
- Pay students rebates for finishing programs early, as Howard University and the University of Texas System do; and
- Charge flat, “all-you-can-learn” subscription prices, such as College for America, Northern Arizona University, StraighterLine, and Western Governors University do. Fixed prices provide students with financial certainty and institutions with incentives to manage costs.

### *Streamline and simplify aid programs*

The federal and state financial aid application, eligibility, and renewal processes are as varied as the programs they address. This unnecessary complexity harms college enrollment and persistence, particularly among the nontraditional students the commission believes must be the focus of financial aid redesign.<sup>20</sup> Federal and state policymakers can adopt the recommendations for simplifying federal needs analysis and the application form (on which most states build their aid award processes) that several national organizations have proposed. Specifically, students should only have to submit personal identification information to apply for financial aid application at all levels, with income and asset information collected in annual federal tax returns used to determine financial aid eligibility.<sup>21</sup> Further, states can experiment with program packaging to simplify the renewal processes and focus on rewarding on-time progress. In addition, the 14 federal loan programs can be simplified into one income-contingent loan repayment program, with the same borrowing caps on all undergraduate students; the 11 federal tax benefits also can be consolidated into a single, refundable, income-capped lifetime learning tax benefit.<sup>22</sup>

Finally, all forms of financial aid can be presented to students in a comparable, simplified award letter that states can develop and require of all public institutions. Informed by the financial aid shopping sheet that the U.S. Department of Education proposed in 2012, this standard award letter would bring together all available federal, state, and institutional financial assistance in a standardized format. It can also include information about the amount in expenses not covered by grants or loans, the average monthly loan payments for annual and aggregate borrowing, and the amount of the state subsidy that keeps resident tuition below the cost of education.<sup>23</sup>

## **Conclusion**

Knitting together billions of dollars in federal, state, and institutional aid from so many categorical programs with different eligibility requirements will be challenging. Such consolidation and rationalization is necessary, however, if we hope to achieve the goal of 60 percent college completion.

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- <sup>2</sup> Ibid.
- <sup>3</sup> Nate Johnson and Takeshi Yanagiura, *Evaluation of Indiana's Financial Aid Programs and Policies* (Washington, DC: HCM Strategists, 2013), [http://hcmstrategists.com/wp-content/themes/hcmstrategists/docs/TN\\_report\\_FINAL.pdf](http://hcmstrategists.com/wp-content/themes/hcmstrategists/docs/TN_report_FINAL.pdf) (accessed October 28, 2016).
- <sup>4</sup> Lauren Walizer, "Barriers to Success: High Unmet Financial Need Continues to Endanger Higher Education Opportunities for Low-Income Students," (Washington, DC: Center for Law and Social Policy, 2015), <http://www.clasp.org/resources-and-publications/publication-1/Barriers-to-Success-High-Unmet-Financial-Need-Continues-to-Endanger-Higher-Education-Opportunities.pdf> (accessed October 4, 2016).
- <sup>5</sup> College Board, *Trends in Student Aid 2015*.
- <sup>6</sup> H.M. Mason, Jr., *VFW: Our First Century 1899–1999* (Lenexa, KS: Addax Publishing Group, 1999).
- <sup>7</sup> Southern Education Foundation, "A New Majority: Low Income Students Now a Majority in the Nation's Public Schools," *Research Bulletin* (Atlanta: Southern Education Foundation, 2015), <http://www.southerneducation.org/getattachment/4ac62e27-5260-47a5-9d02-14896ec3a531/A-New-Majority-2015-Update-Low-Income-Students-Now.aspx> (accessed October 28, 2016).
- <sup>8</sup> Western Interstate Commission for Higher Education, "Projections by Race/Ethnicity," in *Knocking at the College Door: Projections of High School Graduates* (Boulder, CO: Western Interstate Commission for Higher Education, 2012), <http://www.wiche.edu/info/publications/knocking-8th/ch3.pdf> (accessed October 28, 2016).
- <sup>9</sup> National Conference of State Legislatures, "Financial Aid," <http://www.ncsl.org/research/education/financial-aid.aspx> (accessed October 9, 2016).
- <sup>10</sup> Lumina Foundation, *A Benchmark for Making College Affordable* (Indianapolis: Lumina Foundation, 2015), <https://www.luminafoundation.org/files/resources/affordability-benchmark-1.pdf> (accessed October 28, 2016).
- <sup>11</sup> U.S. Department of Education, *2014–15 Federal Pell Grant Program Year-End Report* (Washington, DC: U.S. Department of Education, 2016), <http://www2.ed.gov/finaid/prof/resources/data/pell-2014-15/pell-eoy-2014-15.html> (accessed October 28, 2016).
- <sup>12</sup> Beth Akers, "States' Merit-Based Aid Undermines the Aim of the Federal Pell Grant Program" (Washington, DC: Brookings Institution, September 25, 2013), <https://www.brookings.edu/research/states-merit-based-aid-undermines-the-aim-of-the-federal-pell-grant-program> (accessed October 9, 2016).
- <sup>13</sup> National Association of State Student Grant & Aid Programs, *45th Annual Survey Report on State-Sponsored Student Financial Aid: 2013–2014 Academic Year* (Eugene, OR: National Association of State Student Grant and Aid Programs, 2014), <http://www.nassgap.org/viewrepository.aspx?categoryID=3#> (accessed October 28, 2016).
- <sup>14</sup> Gabriel R. Serna, *The Federal Role in Financing 21st Century Higher Education: Effectiveness, Issues, and Alternatives* (Alexandria, VA: National Commission on Financing 21st Century Higher Education, 2016).
- <sup>15</sup> Based on state-level median income data from the American Community Survey 2014. Bachelor's degree holders in Montana earned the lowest median income (\$37,487) in 2014; bachelor's degree holders in Connecticut earned the highest median income (\$61,087). U.S. Census Bureau; generated by Kristin Conklin using American FactFinder at [http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS\\_14\\_1YR\\_B20004&prodType=table](http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_1YR_B20004&prodType=table).
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- <sup>17</sup> Judith Scott-Clayton, "On Money and Motivation: A Quasi-Experimental Analysis of Financial Incentives for College Achievement," *Journal of Human Resources* 46, no. 3 (2011): 614–646, <http://jhr.uwpress.org/content/46/3/614.refs> (accessed October 28, 2016).
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- <sup>23</sup> *ibid.*

## Chapter 6. Additional Funding for Higher Education

Chapters 1 through 5 of this report focused primarily on how to make the current system of higher education more cost effective. Even if all these policies were implemented and successful, however, the nation would still fall short of the 60 percent goal without additional funding. That said, there are significant challenges to increasing funding from the public sector:

- The rate of increase in real gross domestic product (GDP) over the next decade, as projected by the Congressional Budget Office (CBO), will be only 2 percent per year because of the slowing rate of new entrants into the labor force resulting from demographic changes.<sup>1</sup> This slowing will, in turn, lower the rate of increase in both state and federal revenues substantially below that of previous decades.
- States face many competing needs, such as elementary and secondary education; infrastructure; and Medicaid, with its recent expansion in many states. Medicaid is projected to grow much faster than state revenues over the next 10 years, increasing its share of total state spending from 15.6 percent in 2013 to 17.9 percent in 2024.<sup>2</sup> Given that it is an entitlement, it will have first claim on revenues and limit other discretionary funding such as that for higher education.
- Revenue growth in most states will not keep up with overall economic growth because of the obsolete structure of most state tax systems. For example, states exempt most services and purchases by other governments, nonprofit charities, and many religious and education entities from the sales tax, which tends to slow growth in these revenues over time. States also are prohibited from collecting sales taxes on goods sold over the Internet. Finally, many state individual income taxes are far less progressive than the federal income tax.
- Additional federal funding will be difficult to obtain as the yearly deficits, which have been decreasing since the Great Recession, are now growing again. According to March 2016 CBO projections, debt held by the public will grow from \$12.7 trillion in 2015 to \$22.3 trillion in 2026.<sup>3</sup> The debt level in 2026 would be equal to 86 percent of GDP, which represents a growing risk to the economy. All this means that, eventually, Congress and the president will have to address the national debt problem, cut the growth in entitlements, and increase revenues.

Additional financing for higher education from federal or state government will be challenging, but there is also a growing awareness that a highly skilled and educated workforce is the key to the nation's economic leadership position in the world as well as to the growth of American jobs and income. While there are some possibilities for additional public funding, they are limited and likely will require tax changes to increase revenues at both the federal and state level.

In looking for new potential public revenue sources that could finance additional higher education spending, it is critical to review all sources, including existing ones and the potential for new or increased taxes. It also is important that any changes considered be consistent with good tax and budget policy. One area that holds some promise is the creation of new state or college and university partnerships with the private sector, which now spends about \$87 billion per year on education and training.



## The Potential for Dedicated Revenues

Most state support for higher education comes from general revenues, such as sales and use taxes, and individual income taxes. In addition, many states dedicate lottery revenues for student aid, and still other states dedicate some of their natural resources and extraction fees to higher education. Montana and Wyoming, for example, dedicate extraction fees to higher education, and Texas dedicates oil and mineral rights to “public school” capital projects.<sup>4</sup> Similarly, Alabama sets aside its income tax revenues for both elementary and secondary education, while California dedicates a share of its income tax revenue to community colleges. However, only a small share of higher education funding comes from dedicated revenues. Although there are possibilities for new, dedicated revenues from taxes on marijuana, stock market transactions, and goods sold over the Internet, the odds are against the broad enactment of such taxes. Furthermore, because dedicated revenues generally fall far short of the need or are substantially greater than the need, they do not represent good budget policy. Both surpluses and shortages in dedicated revenues create misallocations of state resources.

## Options for Increasing State Revenues

Most state tax systems are obsolete, having been created in the 1950s for a manufacturing-based economy, not for the 21st century, high technology, service-oriented economy. This obsolescence makes the systems inefficient because it distorts real prices and is generally regressive, with low-income individuals often paying a relatively higher share of the tax burden. Finally, revenue growth does not keep up with the growth in economic activity.

The best way for states to generate more revenues for use in higher education is to restructure their tax systems so that they are in sync with the 21st-century economy. If states could make such a change, they would witness more rapid revenue growth over the next decade. The two most significant state taxes that could be restructured are general sales and uses taxes and the individual income tax, which together raise about 75 percent of the average state’s general revenues.

### *Eliminate some exemptions in state sales and use taxes*

Currently, there are many exemptions from state sales and use taxes. (They are called “sales and use taxes” because legally people are taxed by the state in which they use the good if that state differs from the state in which they purchased the good.) For example, except for four states, most states apply their taxes to goods but not services. Many states also exempt sales of food and medicine and eight states exempt clothing. Most states also exempt purchases by other governments, nonprofit and charitable organizations, and religious and educational institutions. Some states exempt products based on their use. For example, farm states often exempt taxes on equipment used to grow food. If some of these exemptions were phased out over time, it would not only grow revenues more rapidly but, based on the major tenants of tax policy (efficiency, equity, ability to pay), it would be good tax policy.<sup>5</sup> To compensate for the growing share of goods and services not taxed, 38 states have increased their sales tax rates over the past 25 years. Such actions have stabilized the share of state revenues from this tax at about 25 percent, but increasing the tax rate on a smaller tax base is poor tax policy because it creates distortions in relative prices and resulted in inefficiency. It is also true that sales tax revenues have been volatile over the business cycle because of the reliance on sales of certain “big

ticket” items such as automobiles, which are much more volatile than services. Phasing out some of these exemptions would reduce this volatility and stabilize revenues over time. It would benefit education funding because states tend to make the deepest cuts to higher education funding during recessions.

Certainly, there are significant political ramifications to eliminating exemptions to the sales tax, but doing so would put state sales tax revenues on a much faster growth trajectory over the next 10 years. In fact, states could remove the exemptions in a revenue-neutral way for the first year, expanding the base to services while reducing the overall rate. This would still increase revenues over the next decade.

As a result of a U.S. Supreme Court decision, states cannot require out-of-state vendors of goods sold over the Internet to residents in a given state to collect sales taxes. Passage of the federal Marketplace Fairness Act would level this playing field between in-state and out-of-state Internet sales and provide states with an additional \$7.7 billion in revenues.<sup>6</sup> If states could extend their sales taxes to most services and goods sold over the internet, they would also witness faster revenue growth over time as well as less volatility, both of which would assist in stabilizing higher education funding.

### *Increase the progressiveness of individual income taxes*

States could increase the progressiveness of their individual income taxes by having several tax brackets, with increased rates for higher income individuals. Forty-three states and the District of Columbia have individual income taxes. Seven states do not have income taxes, and Tennessee and New Hampshire tax dividends and interest only. Eight states apply a single rate to all income, while the remaining states’ systems are similar to the federal system in that they have multiple brackets and rates.<sup>7</sup> In total, states like California, Delaware, Idaho, Maine, Rhode Island, South Carolina, and Vermont have more progressive taxes, while most of the other states are more proportional or even regressive. Therefore, for many states, restructuring their individual income tax to be more progressive would increase revenue growth. This shift often means having a system similar to the federal government’s, which has seven brackets and seven rates that increase as income increases.

Adopting the two major strategies—eliminating some of the exemptions on sales taxes (and assuming that the Marketplace Fairness Act becomes law) and increasing the progressiveness of individual income taxes—would substantially increase state revenues over time. Even if it were done on a revenue-neutral basis, the trajectory of state revenue growth would still increase through lower volatility, allowing states to increase their commitment to financing higher education.

## **Increased Federal Assistance**

The current system of state direct aid to institutions and shared federal and state student aid has worked well since World War II. There is no question that these investments have a high rate of return to the nation in terms of economic growth, job creation, and the maintenance of a strong national defense. This rate of return to the nation has not changed, but many state legislators now question the rate of return to their individual state, in part because many graduates leave the state to find employment and in part because of the number of foreign and out-of-state students attending public institutions. This

Two possibilities for additional federal aid to higher education exist. The first is an increase in Pell grants for low-income individuals, because the percentage of tuition and fees these grants cover has dropped significantly. The other alternative is the creation of a new federal grant program to states for direct operating support to public universities and colleges.

growing divergence between the national and state rate of return is the major reason the commission is calling for greater federal leadership.

Two possibilities for additional federal aid to higher education exist. The first is an increase in Pell grants for low-income individuals, because the percentage of tuition and fees these grants cover has dropped significantly. The other alternative is the creation of a new federal grant program to states for direct operating support to public universities and colleges. The federal government could allocate funds to states based on their number of low-income graduates who receive bachelor's degrees, associate degrees, and certificates during the preceding year or on a rolling three-year average. Alternatively, the funds could be based on a formula with equal weights for the total number of graduates and the number of low-income graduates. States could be required to allocate funds to colleges and universities based on a similar allocation formula. This approach would not only provide additional financing to offset operating expenses but would provide further incentive to states to increase graduation rates in total and among low-income students in particular.

To receive the funds, states would have to meet two additional criteria:

- They would have to agree to a maintenance of effort (MOE)—that is, they would have to hold state appropriations for total higher education operating and capital funding constant in real terms relative to a base year. There is a precedent for an MOE provision: One was included in the state fiscal stabilization fund provision of the American Recovery and Reinvestment Act, which President Obama signed on Feb. 17, 2009.
- They would need to have in place an incentive system in which some of the direct aid to colleges and universities would be based on the institutions' ability to increase productivity in terms of the total cost per graduate.

States would have to volunteer to participate in the program, so the size of the federal grants to states is important. Such an approach has two major benefits. First, it would provide substantial additional funding for higher education because the additional federal money would be matched by additional state funding. Second, it would create additional stability in the system because states would not cut higher education funding during economic contractions, thereby increasing the sustainability of higher education funding over time, which in turn would increase certainty and overall efficiency.

## Potential Private Financing

Clearly, slower revenue growth and competing needs will financially squeeze the public sector in the future, so there are limits on the ability of all three levels of government to increase their commitment to higher education. To meet the growing needs, therefore, it is critical to investigate the potential of the private sector becoming a more substantial funder of higher education. Four areas are worth evaluating. First, there is the existing private financing sector, which is changing as new models emerge. Next are three areas that currently fall under business education and training: (1) business tuition reimbursement programs, (2) corporate training and development programs, and (3) state employer-based work and learn programs.

### *Existing private financing*

The following approaches look promising and the state role needs to be one of encouraging them while also protecting consumers:<sup>8</sup>

- *Experiment with new approaches to increase college savings:* Participation in college savings plans is low and skewed toward upper income families. Many state 529 plans already feature one-time raffles in which families that meet certain criteria can win several deposits to their 529 plan. Prize-linked savings—where participants who save a certain amount of their income are eligible to win a prize every month—have been shown to positively affect saving behavior among lower income individuals. States may need to reform banking regulations to allow for more prize-linked college savings. Fifteen states have already done this to date.
- *Create space for new private lending models:* A handful of private firms are experimenting with “forward-looking” underwriting models that look beyond traditional measures of creditworthiness to lend based on student behavior, projected earnings, and institutional and program quality. To date, most of these lenders have focused on highly qualified students. By providing more information about potential college costs and earnings related to specific degree programs, states could help encourage expansion of these models to other populations and inject greater market discipline into the system.
- *Empower institutions to be entrepreneurial:* A handful of states, such as Iowa, Kansas, and Michigan, have empowered two-year colleges to sell bonds to finance customized job training for employers and employees. The models differ across states but generally work as follows: Employers and a community college enter into a training agreement that specifies the training program and the planned number of new hires. The college then sells bonds to fund the training, and the bonds are repaid by new employees through a payroll deduction. These public–private models can expand access to job training that is clearly aligned to local employer needs.
- *Experiment with social impact bonds (SIBs):* SIBs are essentially pay-for-performance contracts in which public-sector entities commit to funding demonstrable improvements in social outcomes. The public entity mitigates its financial exposure and creates public savings by structuring arrangements that allow third-party backers to frontload the necessary resources and contract with other partners that manage the endeavor. Like bonds, they have a fixed term; unlike bonds, they do not have a fixed rate of return because the ultimate return depends on performance. As financing vehicles go, SIBs are a new idea, with the first known one appearing in 2010 in the United Kingdom.<sup>9</sup>

- *Experiment with shared income agreements:* Although the concept of “shared income agreements” has been around for a long time, there are few operating examples. Conceptually, a student who is in need of a loan to pay tuition at a state institution finds an individual funder who, in turn for the upfront capital or loan, receives some fraction of the student’s earnings over a period of time after graduation. The terms can vary, but there must be an agreement—that is, a contract stating the period of time and the percentage of income. Generally, an entity would play the role of the intermediary between the students and investors. Purdue University has just set up a pilot program for this concept, and so information will likely be available on its workability over the next several years.

### ***Business education and training programs***

The three current programs—business tuition reimbursement programs, corporate training and development programs, and state employer-based work and learn programs—all offer a significant opportunity to create more degrees and certificates, given the amount of money currently being spent. States must still recognize two major challenges to taking advantage of these programs, however. First, many firms are reluctant to conduct the type of training necessary for their employees to receive a degree or certificate because doing so makes the employee more valuable in the market and so susceptible a competitor’s offer of employment. Therefore, an individual firm’s training program tends to be specific to the needs of that firm. Second, a high percentage of education and training programs are for individuals who already have a degree.

Through innovative policies, states can overcome these two limitations, however, and potentially realize a benefit to the entire postsecondary system—greater innovation and reduced time and cost to deliver education and training. Firms often look for value in purchasing education and training, which leads them to favor those who use the latest technology and techniques to increase productivity. Such techniques include competency-based education, online or hybrid instruction, adaptive learning platforms, and the use of big data analysis and innovative business models. These approaches have the advantage of providing a road map that traditional colleges and universities can follow to productivity-enhancing innovations.

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## Business tuition reimbursement programs

More than half of U.S. firms that employ 20 or more workers reimburse their employees for courses taken at colleges and universities. Few workers take advantage of these programs, but employers still spend about \$28 billion per year on them, which is more than a third of the \$77 billion that state governments spend on higher education.<sup>10</sup> States should be able to expand these programs and better target them to lower level employees because the take-up rate is so low. Part of the problem is that firms reimburse only after successful completion and do not pay for any associated costs. States could assist by providing small matching grants or loans to further encourage low-income individuals to take college courses. States could also provide tax credits to firms to expand reimbursement programs; more importantly, states can create partnerships between businesses and state colleges and universities to lower costs. A current example of this approach is the Starbucks Achievement Plan with Arizona State University. If states could encourage expansion of such programs, potentially billions of dollars of new education funds could become available for education. It might take time for states to experiment with alternative policies before they adopt the most effective strategy, but the potential to develop more degrees and certificates for low-income individuals is significant. One needed reform is for the federal government to update section 127 of the tax code to increase the deduction for education from \$ 5,250 and to allow repayment by employers to be provided as a pre-tax benefit.

In looking for new potential revenue sources that could finance additional higher education...One area that holds some promise is the creation of new state or college and university partnerships with the private sector, which now spends about \$87 billion per year on education and training.

## Corporate training and development programs

Employers spend an additional \$58 billion on corporate training and development that they contract to other businesses, educational institutions, or private institutions. About 59 percent of this money is spent on individuals who already have bachelor's degrees, 25 percent on those with some college, and 17 percent on workers who have a high school diploma or less.<sup>11</sup> Unfortunately, much of the spending on employees without degrees does not result in a formal certificate or credential or even credit toward one. Here again, states could take advantage of these funds by providing small grants to ensure that the training results in a degree, certificate, or credential. Again, given the size of the financial training commitment by businesses, the potential for enhancing degrees and certificates through this route is significant.

## State employer-Based work and learn programs

States can encourage more employer-based work and learn apprentice programs. Such programs can be very powerful because they provide employees income while they learn, resulting in a credential or certificate, and typically lead directly to full-time employment.

However, such programs are expensive for employers to operate. To help offset some of these costs, states can offer tax credits on the wages employers pay during training and for some of the costs of training. They also can encourage local schools, including community colleges, to partner with businesses in such programs and states can help pay some of the institutional costs of operating the training programs.

## Conclusion

To attain the goal of 60 percent degree attainment that the commission has adopted, additional funding will be necessary. States should be able to increase their financial commitment to higher education by bringing their obsolete tax systems into sync with the new high technology, service-oriented U.S. economy. In doing so, they would grow revenues more than they do under current policy. Not only would this revision help fund higher education, it would make state revenue systems across the board more efficient and increase the fairness of those systems.

In addition, because the positive returns of higher education benefits the nation often more than individual states, the federal government must contribute more to its financing. It could do so by expanding the Pell Grant program and creating new grants to states for direct operating costs that are allocated based on the total number of low-income graduates or a weighted average of the total and low-income graduates in that state.

There is also a significant potential for states to stimulate additional private sector financing of postsecondary education by fostering and piloting new models. In addition, there is an opportunity for states to take advantage of current business tuition-reimbursement programs, existing corporate training and development programs, and their own employer-based programs to produce more degrees, certificates, and credentials.

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<sup>1</sup> Congressional Budget Office, “Updated Budget Projections, 2016–2026” (Washington, DC: Congressional Budget Office, March 2016).

<sup>2</sup> Dan White and Sarah Crane, *Crowded Out: The Outlook for State Higher Education Spending* (Charlottesville, VA: University of Virginia Miller Center, 2016), <http://web1.millercenter.org/commissions/higher-ed/CrowdedOut.pdf> (accessed October 28, 2016).

<sup>3</sup> Congressional Budget Office, “Updated Budget Projections.”

<sup>4</sup> Arturo Perez, *Earmarking State Taxes* (Denver: National Conference of State Legislatures, 2008).

<sup>5</sup> Scott Drenkard and Nicole Kaeding, *State and Local Sales Tax Rates in 2016* (Washington, DC: The Tax Foundation, 2015).

<sup>6</sup> Donald Bruce, William Fox, and LeAnne Luna, *State and Local Government Sales Tax Revenue Losses from Electronic Commerce* (Knoxville, TN: The University of Tennessee, 2009).

<sup>7</sup> Nicole Kaeding, *State Individual Income Tax Rates and Brackets for 2016* (Washington, DC: The Tax Foundation, 2016).

<sup>8</sup> Andrew Kelly, *New Directions in Private Financing* (Charlottesville, VA: University of Virginia Miller Center, 2016), [http://web1.millercenter.org/commissions/higher-ed/Kelly\\_No7.pdf](http://web1.millercenter.org/commissions/higher-ed/Kelly_No7.pdf) (accessed October 28, 2016).

<sup>9</sup> Carlo Salerno, *Higher Education: Social Impact Bonds and Income Share Agreements* (Charlottesville, VA: University of Virginia Miller Center, 2016), [http://web1.millercenter.org/commissions/higher-ed/Salerno\\_No8.pdf](http://web1.millercenter.org/commissions/higher-ed/Salerno_No8.pdf) (accessed October 28, 2016).

<sup>10</sup> Robert Sheets and Steve Crawford, *State Strategies for Using Employer Investment to Increase Postsecondary Credential Attainment* (Charlottesville, VA: University of Virginia Miller Center, 2016), <http://web1.millercenter.org/commissions/higher-ed/SheetsNo5.pdf> (accessed October 28, 2016).

<sup>11</sup> *Ibid.*

## Chapter 7. The Commission's Recommendations

To meet the goal of a 2025 workforce in which 60 percent of individuals 25 to 64 years of age hold a postsecondary credential, the U.S. higher education system must produce an additional 16.4 million high-quality two- and four-year degrees and industry certificates beyond the 24.2 million credentials already projected over the same period. This means that public institutions must produce approximately 1.22 million more credentials annually to reach the goal, and private schools must produce an additional 601,333 credentials annually to do their part. (We translated the increase needed in credentials to an annual average to simplify presentation.)

Reaching the 60 percent goal will require significant resources above those now allotted to higher education from federal and state government. The National Commission on Financing 21st Century Higher Education estimates that between 2017 and 2025, it would take approximately \$30.13 billion in additional aid to public institutions annually to produce the extra degrees needed from public colleges to reach the 2025 goal (2014 dollars). Likewise, federal student aid in the form of Pell grants must increase by about \$14.4 billion (47 percent) annually to cover students attending public and private colleges. Even this increase is likely inadequate, however, because reaching the 60 percent goal will require graduating a larger share of low-income students, who will require more direct aid in the form of grants rather than loans to succeed.

The commission recognizes that in addition to more resources, meeting the 60 percent goal will require structural changes in the U.S. public higher education system. In particular, postsecondary education must:

- Become more affordable and more innovative;
- Enhance access for all students, particularly low-income individuals and students of color; and
- Achieve significantly higher graduation rates and enhanced learning outcomes.

Achieving this vision will require a new commitment and partnership among federal and state government, the private sector, and the institutions themselves. The commission believes that each party must help meet the following resource needs:

- *Public colleges and universities:* Institutions of higher education have an obligation to be more innovative and productive, which they can do in part by controlling spending and increasing the number of students they graduate each year. In addition to holding cost growth to the rate of inflation, the commission believes that it is realistic for the public higher education sector to commit to increasing productivity by 1 to 2 percent annually. Assuming a 1.5 percent annual productivity rate increase, all public two- and four-year institutions should be able to save about \$5 billion each year on average between 2017 and 2025.

### About Our Estimates

The commission estimates are rough approximations of likely actual costs and use 2014 expenditures as a basis. Moreover, these estimates are conservative because they assume no annual increase in costs above general inflation. As Chapter 4 points out, the growth in higher education expenditures has consistently exceeded the inflation rate for many years, and so holding higher education cost growth to the rate of inflation would be a significant accomplishment. In the interest of simplicity and transparency, however, the commission is assuming no real growth in underlying costs.

- *The federal government:* The federal government must restructure its grants, loans, and tax expenditures to be more efficient and focus on low-income individuals. It must also increase its financial commitment to the Pell Grant program by at least \$15 billion each year to cover the additional students attending and graduating from public and private colleges and universities. In addition, the federal government should consider providing a new block grant to states, requiring them to maintain their institutional appropriations to public higher education in real terms while adding money to the system. The commission recommends that the federal block grant for institutional support be on the order of \$15 billion per year.
- *State and local governments:* States have an obligation to focus more of their student aid on low-income students and to encourage institutions to innovate, control costs, and graduate more students. States must also foster the use of low-cost delivery models within existing and new institutions. In addition to maintaining their current levels of funding to higher education in real terms, the commission believes that states will need to increase their annual financial commitment by \$5 billion, which should be a requirement of accepting the new federal block grant.
- *The private sector:* The private sector can play a key role in innovating by bringing to scale new, lower cost delivery models and providing productivity-enhancing financing. Currently, the private sector spends annually \$28 billion on tuition reimbursement and \$58 billion on employee training and development. The commission recommends that states and the private sector explore the opportunities outlined in this report to take advantage of private sector dollars to help reach the 2025 goal. Through these efforts, we hope that an additional \$5 billion can be brought into the public higher education system in the form of enhanced tuition aid or institutional subsidies each year.

## Commission Recommendations

Incorporating the financial commitments outlined above, the commission offers nine recommendations to help the U.S. higher education system meet the 2025 goal.

### *Recommendation 1. Increase federal and state institutional support*

Approximately \$30 billion each year in additional institutional aid will be needed to help public colleges and universities educate and graduate 1.22 million more students each year to meet the 60-percent goal by 2025. Although state and local governments traditionally have been the major funders of public higher education (outside of research funding and student aid), the federal government must play a prominent role to help meet the 60-percent goal. Since 2008, state budgets have had difficulty returning to prerecession levels, and the growing costs of Medicaid have strained state budgets. States should be expected to maintain their commitments in real terms at the least, but the commission believes that the federal government must take the lead in establishing sustained institutional support. Therefore, the commission recommends that the federal government provide a block grant to states totaling \$15 billion each year that would require states to maintain their current higher education funding level in real terms plus additional dollars per state apportioned to equal a national total of \$5 billion per year. States would be required to use such funds to support the annual costs of their public institutions. Because the projections on resource needs are based on extrapolating current expenditure data, the commission also recommends that the federal government conduct an analysis to develop more precise estimates and adjust the recommendations of this report accordingly.



## ***Recommendation 2. Enhance state revenue to support higher education***

To guarantee that ample revenues are available to fund higher education, states should update their revenue systems to bring them in line with the 21st-century economy. The major problem with current state tax systems is that revenues grow more slowly than the growth in gross state product. Current revenue systems were built for a 1950s-manufacturing economy, not for the high technology, service-oriented economy of the 21st century. This is particularly true of sales and use taxes. These generally apply to tangible goods and not services, which are growing more rapidly than goods. Moreover, many purchasers, such as governments, nonprofit charities, and religious and educational institutions, are exempt from paying taxes. Finally, income taxes in many states are not sufficiently progressive—indeed, many are often regressive in nature—and fail to capture sufficient revenue from high-income earners.

States should restructure both sales and income taxes so that revenues grow more rapidly in line with state economic growth. This would increase the efficiency and fairness of taxes as well as guarantee that resources are available to support higher education. These changes would also reduce the volatility of state revenues and thus avoid the “traditional” recessionary cuts in higher education funding during downturns.

To ensure continued support for higher education, states should take the following actions:

- Expand state sales and use taxes to key services to broaden the tax base and reduce some of the exemptions so that revenues grow more rapidly over time.
- Ensure that Congress enacts the federal Marketplace Fairness Act, which would allow states to require out-of-state sellers over the Internet to collect state sales and use taxes from in-state purchasers.
- Increase the progressiveness of state individual income taxes so that revenues grow more rapidly over time.
- Establish state education rainy-day funds to support investments in targeted financial aid in times of economic stress and high unemployment.
- In positive budget years, focus on nonrecurring investments in higher education that will reduce future government costs, such as clearing deferred maintenance backlogs, building technology infrastructure, or investing in energy-efficient systems in public buildings.

## ***Recommendation 3. Stimulate the development and implementation of low-cost education delivery models***

States should take the lead, using additional funds above current commitments, to spur development, implementation, and scale-up of lower cost education delivery models (see Chapter 2). These funds should be used to offset some of the start-up and scale-up costs associated with lower cost approaches that schools employ. Start-up costs include building online course content, creating assessments for use with competency-based learning, and developing web-based platforms to assist in distance learning and online collaborations. In addition, switching from a credit-hour-based approach to a competency-based learning approach may involve some transition costs.

Policies that states can implement to encourage development of lower cost models include issuing competitive grants to universities and colleges to offset a portion of start-up costs for developing and piloting lower cost delivery models (such grants can also encourage partnerships among schools and with the private sector) and providing bonuses in the form of temporary increased institutional aid for schools that bring low-cost delivery systems to scale.

#### ***Recommendation 4. Encourage productivity in the postsecondary system***

“Higher education productivity” refers to the number of degrees conferred per dollar of spending. To reach the 60-percent goal, states must encourage institutions to graduate more students without raising (and instead, even lowering) the overall cost per degree.

Over the past decade, except for community colleges, there has been little growth in higher education productivity. Costs have generally risen, while graduation rates in most cases have stagnated or inched higher at best. Higher productivity is possible, however, and several institutions have demonstrated how to do it. As described in Chapter 4, a 2010 research report analyzed eight high-performing institutions that achieved productivity improvements between 17 and 38 percent over several years. These institutions boosted productivity by providing student support systems and interventions that raised graduation rates, reducing nonproductive credits, using lower cost models of instruction, and redesigning purchasing systems and other core operations.

The commission believes that most public institutions can improve their productivity and graduate more students while lowering or holding steady the overall cost per degree. We think a reasonable goal for most colleges and universities is to increase productivity by at least 1.5 percent per year over the next decade to yield an average savings of \$5 billion annually from all public institutions between 2017 and 2025.

It is important to note that higher productivity means the overall cost per degree should improve, but total institutional aid will continue to grow. Some additional aid will be needed to provide targeted student interventions and supports to ensure more students graduate. Indeed, for many open-access schools that receive students not fully prepared for college, the cost per degree initially may increase before productivity improvements take hold. However, the Commission believes it is realistic to expect net productivity savings over the period to reach \$5 billion each year.

States can adopt several policy options to encourage increased productivity:

- States should employ outcomes-based funding (OBF) formulas when distributing institutional aid so that colleges and universities that increase productivity receive more resources. As Chapter 3 described, states can use OBF formulas to allocate annual appropriations to higher education institutions or assign bonus payments (above annual appropriations) based on performance. These funding models must include weighted variables that ensure sufficient aid to promote continued access and increased success for low-income students, students of color, and even adult and academically underprepared students. Weightings also should reward institutions for controlling costs. States must continue to update and revise the productivity incentive system over time as data and experience accrue. In the early years of implementation, states should be prepared to increase appropriations to schools that serve student populations that typically underperform in college. These students will need additional support systems and interventions to complete their education.

- State higher education agencies should negotiate tailored productivity agreements with individual colleges and universities. Some institutions may be able to commit to goals higher than 1.5 percent, while others may need a few years to ramp up services before meeting the 1.5 percent average annual goal.
- States can provide competitive grants to institutions or groups of institutions to help them build data systems that track student readiness and performance. Data from these systems can help institutions develop and employ tailored intervention strategies.

### ***Recommendation 5. Create incentives for students to graduate on time***

In addition to creating incentives for colleges and universities to take more responsibility for raising graduation rates, students also must be encouraged to graduate on time. The most effective incentives use student financial aid (see Chapter 5) to encourage swifter degree completion. Options include:

- Reforming Pell grant rules to enable low-income students to take 15 credit-hours per term instead of the current (and inadequate) full-time definition of 12 credit-hours, with state aid rules reflecting these changes;
- Providing additional aid (federal and state) to enable students to take courses in the summer (in addition to fall and spring terms) as incentives for completing programs on time or early;
- Linking renewal of financial aid eligibility (federal and state) to completing milestones on the path to degree completion (for example, 25 percent, 50 percent, and 75 percent completion) to provide incentives for on-time graduation and to ensure that students do not run out of aid before they finish their coursework; and
- Reducing federal loan repayments for early or on-time completion.

### ***Recommendation 6. Help students and their families make better decisions***

Information must be developed about potential careers, average salaries, and the value of degrees or certificates for all students and parents. This information should include the cost of attaining a credential or degree from the various institutions available in the region and the potential wage value of different credentials. (A major reason some students default on college debt is because they choose careers that do not adequately compensate them for the cost of attending college.) In addition, reliable information must be available about alternative financing options, ranging from local scholarships to state and federal grants to loans. Well-trained counselors must be available to meet with students and their families so that they thoroughly understand all the options available and potential financial outcomes.

States can take several actions to better inform students and their families:

- Provide information to likely eligible ninth-graders (based on family income) about the financial resources and options available to them to attend college. Provide an early guarantee to them of the financial aid available if they meet certain conditions upon graduation from high school.
- Provide information to all ninth graders on the opportunities, costs, and benefits of programs, classes, and/or tests that can be used to earn college credits while in high school. These include the International Baccalaureate Program (offered in about 830 schools), Advanced Placement (AP)

classes and tests (offered in about 14,000 public high schools), and dual-enrollment programs that allow high school students to receive both high school and college credit for taking a college-level course (offered in approximately 71 percent of high schools).

- Ensure that financial and curriculum counselors are accessible to high school students and adults interested in attending college.
- Develop and disseminate information that can answer common questions that students and families have before selecting a state public college or university, including graduation rates for different cohorts of students, what students can expect to learn and earn after they have completed a given program, and what the total price and time commitment will be to complete a degree.

### ***Recommendation 7. Increase and reform financial aid to target low-income students***

To reach the 60-percent goal, more low-income students than ever before will need to attend and complete college. For this population to succeed, low-income students must be able to pursue their education—for at least the first two years—at little or no cost, which means that more federal and state aid must be allotted to low-income students in the form of grants. Loans must be minimized or made unnecessary.

States and the federal government will need to take several policy actions to achieve this goal:

- All states should develop financial aid formulas that allocate federal, state, and institutional aid to students on a sliding scale. The formulas should award the highest dollar grants to low-income students and provide a mix of grants and loans to other students based on a sliding scale of income. Students at or below 200 percent of the federal poverty level (FPL)—approximately \$24,000 per year for an individual—should receive sufficient financial aid to cover 90 percent of all college costs for at least the first two years.
- States should ensure that all state financial aid considers student income and is not based on merit alone.
- The federal government should expand Pell Grant program funding by \$15 billion per year and cap grant awards to students at or below 400 percent of the FPL.
- Simplify federal needs analysis, and align state needs analysis to require only the income and asset information that students and families already provide through annual income taxes. Automatically qualify students for aid who receive other federal means-tested benefits.
- Streamline the federal grant and loan programs. The 14 federal loan programs can be simplified into one income-contingent loan repayments, with the same borrowing caps for all undergraduate students.
- Consolidate federal tax expenditures that subsidize higher education into a single refundable, income-capped lifetime learning tax benefit.
- Provide consolidated information on all forms of financial aid given to students in a simplified award letter that includes information about all grants and loans and that shows the total monthly loan payments for all borrowing.

## *Recommendation 8. Develop additional private funding*

Although it is doubtful that private financing of higher education will ever become a large source of funds, significant changes are taking place in that market now that should allow individuals and the private sector to make a significantly larger contribution in the future. States should encourage and experiment with many of the new possibilities while maintaining consumer protections:

- *Experiment with new approaches to increase college savings:* Participation in college savings plans is low and skewed toward upper income families. Many state 529 plans already feature one-time raffles in which families that meet certain criteria can win several deposits to their 529 plan. Prize-linked savings—where participants who save a certain amount of their income are eligible to win a prize every month from the state—have been shown to positively affect saving behavior among lower income individuals. States may need to reform banking regulations to allow for more prize-linked college savings. Fifteen states have already done this to date.
- *Create space for new private lending models:* A handful of private firms are experimenting with “forward-looking” underwriting models that look beyond traditional measures of creditworthiness to lend based on student behavior, projected earnings, and institutional and program quality. To date, most of these lenders have focused on highly qualified students and specific degrees. By providing more information about potential college costs and earnings related to specific degree programs, states could help encourage expansion of these models to other populations and inject greater market discipline into the system.
- *Empower institutions to be entrepreneurial:* A handful of states, such as Iowa, Kansas, and Michigan, have empowered two-year colleges to sell bonds to finance customized job training for employers and employees. The models differ across states but generally work as follows: Employers and a community college enter into a training agreement that specifies the training program and the planned number of new hires. The college then sells bonds to fund the training, and the bonds are repaid by new employees through a payroll deduction. These public–private models can expand access to job training that is clearly aligned to local employer needs.
- *Experiment with social impact bonds (SIBs):* “Social impact bonds” are essentially pay-for-performance contracts in which public-sector entities commit to funding demonstrable improvements in social outcomes. The public entity mitigates its financial exposure and exacts savings by structuring arrangements that allow third-party backers to frontload the necessary resources and contract with partners that administer the programs. Investors are paid by revenue from the state to the bond administrators if they meet the performance goals of the program. Like bonds, SIBs have a fixed term; unlike bonds, they do not have a fixed rate of return because the ultimate return depends on performance. As financing vehicles go, the SIB is a new idea, with the first known use occurring in 2010 in the United Kingdom.
- *Experiment with shared income agreements:* The concept of shared income agreements has been around since the 1950s. Conceptually, a student who needs financing for postsecondary education finds a funder who, in return for the upfront capital, receives some fraction of the student’s earnings over a period after graduation. This agreement effectively aligns the interest of the funder and the student to identify effective, low-cost programs that deliver value. Purdue University has launched a pilot program for this concept.

## *Recommendation 9. Take advantage of private-sector programs*

The private sector annually spends about \$28 billion on tuition reimbursements and another \$58 billion on training and development programs that are contracted out to postsecondary education providers or private firms. This spending represents an opportunity for states to take advantage of these programs and retarget them to increase the number of degrees, certificates, and credentials, especially for low-income individuals. States can take advantage of private-sector programs in several ways:

- *Enhance business tuition reimbursement programs:* More than half of U.S. firms that employ 20 or more workers offer their employees reimbursement for courses taken at colleges and universities. Few workers take advantage of these programs, yet firms still spend more than a \$28 billion each year on tuition reimbursement. States should help expand these programs and better target them on low-income employees to increase take-up rates. States could provide small matching grants to provide further incentives to low-income individuals to take courses that lead to credentials. States could also provide tax credits to firms that expand reimbursement programs and create partnerships with state universities or colleges to lower costs. A current example is the Starbucks College Achievement Plan with Arizona State University.
- *Retarget corporate training and development programs:* Employers spend approximately \$58 billion each year in corporate training and development contracted to other businesses, educational institutions, or private individuals. About 59 percent of this money is spent on individuals who already have a bachelors' degree, 25 percent on those with some college, and 17 percent on workers with a high school diploma or less. Unfortunately, much of the spending on employees without degrees does not result in a formal certificate or credential or even credit toward one. Here, too, there is a role for states to provide small matching grants to businesses that expand their training so that it includes the award of a degree or certification.
- *Expand state employer-based work and learn programs:* States should examine their existing employer work and learn programs like apprenticeships to determine whether they could be expanded by offering tuition reimbursements to participants and/or tax credits to employers.
- *The federal government should update section 127 of the tax code, which allows businesses to exclude from gross income up to \$ 5,250 of educational assistance furnished to an individual during a calendar year:* The amount in section 127 has not increased since 1986, but the federal government could increase it to \$11,244 to offset inflation, and then index it to the Consumer Price Index. Alternatively, the federal government could convert the amount to a tax credit for low-income individuals.
- *States should encourage more businesses to help employees repay college loans.* A number of employers have begun offering to help payoff student loans for occupations that are difficult to fill. To deal with a shortage of nurses, for example, some hospitals have offered help paying down their nurses' education debt. States have done something similar for teachers, and the National Institutes of Health has used this approach to attract physicians. A growing number of employers have announced they will be offering this benefit in the future, and more are thinking about providing it. Still, only 3 percent of employers offer such help now. State governments could use the communications channels they have, including the governor's bully pulpit, to encourage more businesses to offer such benefits. In addition, they also could offer to match part of the employer's loan repayment share (for the first year only, for example) to help fill certain hard to fill critical occupations.

## Conclusion

To reach the 60-percent goal, it will be necessary to increase the number of individuals who hold a postsecondary degree or certificate by an additional 16.4 million beyond the baseline between now and 2025. Doing so will require an urgent call to action and a stronger higher education partnership among federal and state government, the private sector, and postsecondary institutions. Federal and state government will need to commit new resources to this goal, and institutions will need to commit to achieving greater productivity as we go forward. The commission believes that these are reasonable prices to pay to retain—and in some cases, regain—our standing in the world as measured by educational achievement and economic growth.

