



Boosting Postsecondary Education Performance

A Statement by the Policy
and Impact Committee of the
Committee for Economic Development



Boosting Postsecondary Education Performance

Includes bibliographic references

First printing in bound-book form: 2012

Printed in the United States of America

COMMITTEE FOR ECONOMIC DEVELOPMENT

2000 L Street, N.W., Suite 700, Washington, D.C., 20036

(202)-296-5860

www.ced.org

Contents

Responsibility for CED Statements on National Policy	vii
Purpose of this Statement.. ..	ix
Summary – A Call to Action	1
Introduction	3
Falling Behind in Postsecondary Education and Training.....	4
Demographic and Economic Challenges to Boosting Postsecondary Attainment	5
The Pivotal Role of Broad-Access Institutions	8
Competency-Based Higher Education: Western Governors University (Box)	12
Course Redesign to Improve Learning and Cost Effectiveness: The National Center for Academic Transformation (Box)	13
Effectiveness and Efficiency: The University of Maryland System (Box).....	14
Online Learning: Rio Salado College, Arizona (Box)	14
Administrative Costs: DeVry University (Box)	14
The Productivity Challenge	15
Shorten Time to Degree: Southern New Hampshire University (Box)	15
Performance and Productivity: Virginia (Box)	16
Outcomes-Based Funding: Tennessee (Box)	17
Performance Funding: Indiana (Box)	18
Lifelong Learning Program: Wal-Mart (Box)	18
Why and How Business Leaders Should Engage	19
Employees Scholar Program: United Technologies (Box)	19
Conclusion.....	21
Selected Readings and References	21
Endnotes	23

continued

Tables and Charts

Table 1	Historical Increases in Institutions by Type, 1950 – 2010	4
Table 2	Total Fall Enrollment in Degree-Granting Institutions, 1949 – 2009	5
Chart 1	Organisation for Economic Co-operation and Development Member Nation Degree Attainment – Young Adults and Working-Age Adults	6
Chart 2	U.S. Working-Age Adult Population (Ages 25-64) by Ethnicity, 1980 – 2020	7
Chart 3	Educational Attainment by Race and Hispanic Origin (Percentage of persons 25 years and older), 2010	8
Chart 4	Percent Growth Rate in Current Dollar Prices Since 1982 – 84	9
Table 3	Net College Costs as a Percent of Median Family Income	9
Chart 5	Projected State and Local Budget Surplus (Gap) as a Percentage of Revenues, 2016	10
Chart 6	Rank of Public and Private Expenditures on Postsecondary Educational Institutions as a Percentage of GDP, 2008	11

Members of the Policy and Impact Committee

Co-Chairmen

PATRICK W. GROSS

Chairman
The Lovell Group

WILLIAM W. LEWIS

*Director Emeritus, McKinsey Global
Institute*
McKinsey & Company, Inc.

Members

ANTHONY A. BARRUETA

Senior Vice President, Government Relations
Kaiser Foundation Health Plan, Inc

JOHN BRADEMÁS

President Emeritus
New York University

BETH A. BROOKE

Global Vice Chair, Public Policy
Ernst & Young LLP

GERHARD CASPER

President Emeritus and Professor
Stanford University

MICHAEL CHESSER

Chairman & CEO
Great Plains Energy, Inc.

ROBERT COLSON

Partner - Institutional Acceptance, Retired
Grant Thornton

W. BOWMAN CUTTER

*Senior Fellow and Director, Economic Policy
Initiative*
The Roosevelt Institute

KENNETH W. DAM

*Max Pam Professor Emeritus of American
& Foreign Law & Senior Lecturer*
The University of Chicago

MICHELLE FINNERAN DENNEDY

Vice President & Chief Privacy Officer
McAfee, Inc.

HOWARD FLUHR

Chairman
The Segal Company

BEN W. HEINEMAN

*Senior Fellow, Schools of Law &
Government*
Harvard University

RODERICK M. HILLS

Chairman
Hills Stern & Morley LLP

JOSEPH E. KASPUTYS

*Chairman, China Monitor, Inc.,
Founder and Chairman*
IHS Global Insight

EDWARD A. KANGAS

*Chairman and Chief Executive Officer
(Retired)*
Deloitte Touche Tohmatsu

DAVID H. LANGSTAFF

President and Chief Executive Officer
TASC, Inc.

JOHN C. LOOMIS

Vice President, Human Resources
General Electric Company

BRUCE K. MACLAURY

President Emeritus
The Brookings Institution

WILLIAM J. MCDONOUGH

Vice Chairman (Retired)
Bank of America Merrill Lynch

ALFRED T. MOCKETT

Chief Executive Officer
Dex One

STEFFEN E. PALKO

President and Vice Chairman (Retired)
XTO Energy Inc.

DEBRA PERRY

Non-Executive Director
Korn/Ferry International, Inc.

DONALD K. PETERSON

*Chairman and Chief Executive Officer
(Retired)*
Avaya Inc.

NED REGAN

Professor
The City University of New York

DANIEL ROSE

Chairman
Rose Associates, Inc.

LANDON H. ROWLAND

Chairman
Ever Glades Financial

KENNETH P. RUSCIO

President
Washington & Lee University

ROBERT A. SCOTT

President
Adelphi University

PETER P. SMITH

*Senior Vice President, Academic Strategies
and Development*
Kaplan, Inc.

JON STELLMACHER

Senior Vice President, Retired
Thrivent Financial for Lutherans

PAULA STERN

Chairwoman
The Stern Group, Inc.

FREDERICK W. TELLING

*Vice President, Corporate Policy & Strategic
Management (Retired)*
Pfizer Inc

DAVIA B. TEMIN

President and Chief Executive Officer
Temin and Company Incorporated

G. RICHARD THOMAN

Chairman
Corporate Acquirers, Inc.

PATRICK TOOLE

*General Manager, Maintenance & Technical
Support Services, IBM Global Technology
Services*
IBM Corporation

JOHN P. WHITE

*Former Robert & Renee Belfer Lecturer,
Kennedy School of Government*
Harvard University

JACOB J. WORENKLEIN

Partner and Co-Head, Global Projects
Akin Gump Strauss Hauer & Feld LLP

Members of the Post Secondary Education Subcommittee

Co-Chairmen

JEFFREY A. JOERRES

Chairman and CEO
ManpowerGroup

BRUCE K. MACLAURY

President Emeritus
The Brookings Institution

Members

THOMAS BUCKMASTER

Vice President, Corporate Communications
Honeywell International Inc.

PATRICK M. CALLAN

President
National Center for Public Policy and
Higher Education

CARL T. CAMDEN

President and Chief Executive Officer
Kelly Services, Inc.

W. BOWMAN CUTTER

Senior Fellow and Director, Economic Policy
Initiative
The Roosevelt Institute

GLENN DUBOIS

Chancellor
Virginia's Community Colleges

JON FEIGELSON

SVP, General Counsel & Head of Corporate
Governance
TIAA-CREF

HOWARD FLUHR

Chairman
The Segal Company

HOPE HARDISON

Director of Human Resources
Wells Fargo & Co.

DALE E. HEYDLAUFF

Vice President - Corporate Communications
American Electric Power Company

HENRY G. JACKSON

President and Chief Executive Officer
Society for Human Resource
Management

MARY KEELING

Manager, Center for Economic Analysis,
Institute for Business Value
IBM Corporation

MICHAEL KING

Vice President, Global Education Industry
IBM Corporation

WILLIAM E. "BRIT" KIRWAN

Chancellor
University System of Maryland

STANLEY S. LITOW

Vice President, Corporate Community
Relations
IBM Corporation

MICHAEL MCGUIRE

National Managing Partner - Industry and
Market Development
Grant Thornton

ROBERT W. MENDENHALL

President
Western Governors University

LENNY MENDONCA

Director of Firm Knowledge, McKinsey
Global Institute
McKinsey & Company, Inc.

ALFRED T. MOCKETT

Chief Executive Officer
Dex One

MICHAEL G. MORRIS

Chairman, President and Chief Executive
Officer
American Electric Power Company

DIANA S. NATALICIO

President
The University of Texas at El Paso

STEFFEN E. PALKO

President and Vice Chairman (Retired)
XTO Energy Inc.

CARLO PARRAVANO

Executive Director, The Merck Institute for
Science Education
Merck & Co., Inc.

KATHY HAVENS PAYNE

Senior Director- Education Leadership
State Farm Insurance Companies

DONALD K. PETERSON

Chairman and Chief Executive Officer
(Retired)
Avaya Inc.

TODD E. PETZEL

Managing Director and Chief Investment
Officer
Offit Capital Advisors LLC

DOUG PRICE

President and CEO
Rocky Mountain PBS

KELLY REED

Executive Director, Honeywell Hometown
Solutions
Honeywell International Inc.

MARILYN REZNICK

Executive Director, Education Leadership
AT&T Corporation

DAVID A. RODRIGUEZ

Executive Vice President, Lodging Human
Resources
Marriott International, Inc.

DANIEL ROSE

Chairman
Rose Associates, Inc.

ROBERT A. SCOTT

President
Adelphi University

PETER P. SMITH

Senior Vice President, Academic Strategies
and Development
Kaplan, Inc.

ERIC SPIEGEL

Chief Executive Officer
Siemens Corporation

JAMES WHALEY

Senior Vice President, Communications and
Marketing
Siemens Corporation

HAROLD M. WILLIAMS

President Emeritus
Getty Trust

Responsibility for CED Statements on National Policy

The Committee for Economic Development is an independent research and policy organization of over 200 business leaders and educators. CED is non-profit, non-partisan, and non-political. Its purpose is to propose policies that bring about steady economic growth at high employment and reasonably stable prices, increased productivity and living standards, greater and more-equal opportunity for every citizen, and an improved quality of life for all.

All CED policy recommendations must have the approval of trustees on the Policy and Impact Committee. This committee is directed under the bylaws, which emphasize that “all research is to be thoroughly objective in character, and the approach in each instance is to be from the standpoint of the general welfare and not from that of any special political or economic group.” The committee is aided by a Research Advisory Board of leading social scientists and by a small permanent professional staff.

The Policy and Impact Committee does not attempt to pass judgment on any pending specific legislative

proposals; its purpose is to urge careful consideration of the objectives set forth in this statement and of the best means of accomplishing those objectives.

Each statement is preceded by extensive discussions, meetings, and exchange of memoranda. The research is undertaken by a subcommittee, assisted by advisors chosen for their competence in the field under study.

The full Policy and Impact Committee participates in the drafting of recommendations. Likewise, the trustees on the drafting subcommittee vote to approve or disapprove a policy statement, and they share with the Policy and Impact Committee the privilege of submitting individual comments for publication.

The recommendations presented herein are those of the trustee members of the Policy and Impact Committee and the responsible subcommittee. They are not necessarily endorsed by other trustees or by non-trustee subcommittee members, advisors, contributors, staff members, or others associated with CED.

Purpose of this Statement

It is not troubling, or even surprising, that the United States today faces increasing economic competition from around the world. It is easier for other nations to make up ground on the world's leader by copying more-advanced existing innovations, than it is for the leader to move forward by making new innovations. And as other nations improve their performance, they give U.S. businesses better suppliers, and better customers. Economic development anywhere in the world is a win-win everywhere in the world.

However, although the United States should not will its competitor nations to stand still, we also should not stand still ourselves. Yet in the performance of our postsecondary education system, we have come dangerously close to a stall. This statement builds from the troubling truth that a smaller share of the younger generations of American adults has obtained postsecondary degrees than in several of our most successful competitor nations. Employers cannot find workers with the skills they need; and prospective workers without skills cannot find jobs. There is evidence that the quantity and quality of learning, even for those who earn degrees, has slipped. And simultaneously comes the news that accumulated education debt has grown to exceed the amount of credit card debt carried by households.

CED believes that our nation's economy will grow only as fast as the skill base that our workforce – from the CEO office and the laboratory to the assembly line and the retail store – applies to the process of innovation. The most direct way to maintain and grow the standards of living of all Americans is to grow the share of our young people who enroll in and complete postsecondary programs, while we maintain and improve the quality of the education that they receive. And if we are to achieve those goals, we must control the cost of postsecondary education – which has been growing far faster even than the widely cited cost of health care – because neither public nor household budgets can withstand current rates of growth.

Achieving these goals entails special challenges. Postsecondary attainment has been particularly low among low-income persons, and ethnic and racial minorities – many of whom would be the first of their families to attain a degree. Many working adults have begun postsecondary education but have not completed their programs. These persons need support different from and beyond what is typically required by the traditional full-time student.

This statement makes the case that the key institutions that can fill this attainment gap are the broad-access colleges that focus on undergraduate education. These institutions include both public (often state) and private institutions, among the latter the comparatively new for-profit sector. They include community and technical colleges, and institutions that focus on on-line rather than residential education. Their importance is often underestimated, and they are not thought of sufficiently in the context of this mission – educating by far the greater part of the nation's work force – by the states who play the primary role in shaping their strategies and operations. Although more-selective institutions focused to a greater degree on research and graduate education also should pursue these priorities, they cannot realistically expand their capacity to cover the enormous shortfall in attainment at costs that this population can afford.

This statement provides recommendations for the business community to become active advocates at the state level for the broad-access institutions that are so vital to the nation's economic future, because business leaders know that the supply of skilled, educated workers is truly crucial. These institutions need influential advocates who value their vital role and who understand that state-level public policy innovation is essential to create the conditions to induce transformative increases in postsecondary productivity and effectiveness. We need business leaders to become continuously involved, contributing their expertise to strategic state-level efforts to set goals, provide and allocate financing, and

monitor performance toward greater attainment of quality postsecondary education and credentials. Our recommendations will help existing institutions to boost performance and become more productive and more effective, while new kinds of institutions utilizing new delivery systems and new business models are created and nurtured by utilizing new instructional technologies and business models through “disruptive innovation” in postsecondary education.

This CED policy statement is based on research funded by the Bill & Melinda Gates Foundation. The findings and conclusions contained within are those of the Committee for Economic Development, and do not necessarily reflect positions or policies of the Bill & Melinda Gates Foundation.

Acknowledgments

We are pleased to acknowledge the expert and diligent contributions of CED Trustees Jeffrey A. Joerres, President, CEO and Chairman of ManpowerGroup, and Bruce K. MacLaury, President Emeritus of the Brookings Institution, who co-chaired the CED Policy Subcommittee that wrote this statement; Patrick M. Callan, who directed the project; Janet S. Hansen, who served as an adviser to the Subcommittee; and Manuel Trujillo, who provided research support. We also acknowledge helpful advice from David Breneman, of the University of Virginia; Joni Finney, of the University of Pennsylvania; Dennis Jones, of the National Center on Higher Education Management Systems; and Scott Pattison, of the National Association of State Budget Officers.

Patrick W. Gross, co-chair
Policy and Impact Committee
Chairman
The Lovell Group

William W. Lewis, co-chair
Policy and Impact Committee
Director Emeritus
McKinsey Global Institute
McKinsey & Company, Inc.

Summary: A Call to Action

America's colleges and universities, long the envy of the world, no longer produce all the graduates needed in the 21st century to ensure both national prosperity and individual opportunity. After decades as the international leader, the United States is falling behind other nations in providing students with postsecondary credentials that have value in the workplace. Despite high unemployment, American business leaders report that they cannot find workers with the necessary training and skills. Individuals without appropriate education and training beyond high school are increasingly unlikely to find jobs that support acceptable standards of living or contribute to innovation and productivity growth throughout the economy.

Meeting national needs will require that postsecondary institutions improve their success rates with current students and attract and graduate individuals who have traditionally been under-represented in postsecondary education, notably adults of working age and minorities who make up a growing proportion of the population. Moreover, institutions must address these challenges when fiscal pressures leave relatively few new financial resources available. Thus, despite the importance of investment in education, postsecondary institutions likely will have to achieve better results with the resources they already have. Existing institutions must boost performance to become more productive and more effective. New kinds of institutions utilizing new delivery systems and new business models will need to be created and nurtured.

The majority of current college students attend "broad-access" institutions (less-selective, less-expensive regional public and private colleges, community and technical colleges, and for-profit colleges) rather than the better-known research universities and highly selective schools. The challenge of enlarging the pool of skilled American workers will disproportionately fall on these broad-access institutions.

Broad-access institutions (those already in existence and those that might be "invented" by utilizing new instructional technologies and business models) are an under-appreciated component of American postsecondary education. They need influential advocates who value their vital role and who understand that state-level public policy innovation is essential to create the conditions to induce transformative increases in postsecondary productivity and effectiveness.

CED calls on the business community to become active advocates at the state level for the broad-access institutions that are so vital to the nation's economic future. Businesses must have a much greater supply of well-trained workers. Business leaders also have a strong stake in promoting the nation's general economic and social health. Many business executives are influential leaders at the state level, and also work with individual educational institutions as board members and funders of research, for example. And business executives depend for their own success on their ability to manage change and increase productivity and effectiveness in their companies and industries. They are therefore well positioned to motivate and help assure similar managed change in postsecondary education.

Business leaders should become vigorous participants in shaping state postsecondary education and finance policies. They should focus attention on the colleges that shoulder the major responsibility for undergraduate education and training, and on creating the conditions that foster their effectiveness. Too often the broad-access institutions suffer from political neglect by comparison to better-known and more "prestigious" schools. Business leaders should eschew traditional institution-by-institution approaches to postsecondary policy and press states to adopt strategic agendas for strengthening the capacity of broad-access institutions as a whole to meet the workforce challenge. This approach should be neither top-down microman-

agement of education, nor truncated curricula that reduce content and quality. Rather, it should motivate innovation to increase value for each individual student.

Business leaders should work with and through state officials to foster state adoption of:

- **Explicit goals** for the awarding of postsecondary degrees and certificates for the state as a whole, for each sector of the postsecondary system, and for each publicly supported institution of postsecondary education, based on state economic and demographic conditions.
- **Strategic financial resource allocation plans** that are aligned with state goals and specifically designed to motivate increases in productivity and effectiveness.
- **Annual indicators and metrics** that measure progress toward state goals.
- **“Policy audits”** to review the state regulatory environment and identify statutes, regulations, policies, and procedures that impede efficiency, productivity, and innovation.
- **An annual statewide education “summit”** or other exchange among stakeholders to maintain accountability and focus on state goals, to assess progress, and to discuss how to continue and accelerate postsecondary improvements.

Business leaders should support state strategic objectives through their own corporate policies by:

- Directing their own tuition assistance programs to the most productive and effective colleges and universities, whether they operate through traditional educational programs or offer innovative approaches such as on-line instruction and competency-based credentials, and
- Assisting the 37 million workers who have some postsecondary experience but no degree or credential so that they can complete their programs of study.

Without quantum increases in the educational productivity and effectiveness of the nation’s postsecondary institutions, particularly those with broad-access missions, there is little likelihood that America will have the quality and quantity of human capital to compete successfully in the global economy or assure its citizens access to acceptable and rising standards of living. Our nation needs ingenuity and process improvement throughout the economy, and needs a well-educated workforce to innovate and move the economy forward. By training that workforce, our broad-access educational institutions can drive productivity growth and leadership in the competitive world marketplace.



Introduction

National prosperity and individual opportunity depend as never before on education. In particular, the productivity and effectiveness of postsecondary education have become critical.

For the nation as a whole, rising standards of living depend upon process improvement in the production of goods and services. Although productivity advancements are commonly identified with technical work in laboratories, simpler insights across the production and distribution of both services and goods can add as much to income and wealth. Our nation needs innovation at every point in the production chain to maintain its prosperity and world standing. This is especially true during the retirement of our baby-boom generation, when a slower-growing labor force will need to supply goods and services to a faster-growing population of retirees. Better education – of which increased completion of quality postsecondary education is an important part – can stimulate all manner of needed process improvement.

Better education is also a key to a better life for each individual. **Education and training beyond high school is now a necessary, if not sufficient, prerequisite for most jobs that support what our nation perceives as acceptable standards of living.** Employers say that they increasingly expect new hires to have a solid postsecondary education and credential. Greater educational attainment leads to lower rates of unemployment and crime. Education also is associated with better health, and with more involvement in society and greater satisfaction with life broadly.¹

More Americans must enroll in and complete postsecondary education programs that prepare them for work and life in the 21st century if the nation is to maintain a healthy economy and society. **Many countries with which we compete in the global marketplace appear to be giving more attention to postsecondary attainment than we are.** As a result, the United States is falling behind.

Demographic and economic realities pose very real challenges to U.S. postsecondary attainment.

Enlarging the pool of postsecondary students will require drawing in low-income and minority individuals whose participation in postsecondary education has been comparatively low. Yet tuitions are becoming—if they are not already—unaffordable to low-income families, and even comparatively affluent students are entering their working lives with crushing levels of higher-education debt. Colleges will need to expand, to serve students more effectively at a time when public resistance to tuition and fee increases is growing and when governments are hard-pressed to continue, let alone increase, their funding of public institutions. It is critical, therefore, that postsecondary institutions strive to boost their performance through productivity gains and innovation without relying heavily on new money to underwrite improvement.

Every sector of postsecondary education, including research universities and highly selective colleges and universities, must play a role in preparing the workforce of the future. The elite institutions helped make the United States a world leader in postsecondary education in the 20th century. They set the standard for those now competing with us abroad. **But the elite institutions will not be the central players in improving undergraduate attainment. That role will inevitably fall to the so-called “broad-access” institutions—less-selective and less-expensive regional public and private colleges and universities, community and technical colleges, and for-profit colleges.** These institutions currently enroll the vast majority of students who pursue education and training beyond high school. And these are the only realistic options to expand capacity sufficiently to educate the large numbers of people—including but not limited to low-income and minority students, and working adults—who need skills for success in the workforce of the future. The essential contribution these institutions make to postsecondary education and training is frequently unappreciated.

This is why it is urgent that business leaders, with their strong stake in a well-trained workforce and in the country's economic and social health, become active advocates for and partners in efforts to boost performance in the broad-access colleges. Business leaders can take two key steps: (1) advocate and work with state officials to set and implement statewide strategic agendas for postsecondary improvement; and (2) align their own workforce development practices with these agendas. This policy statement explores these options and provides examples of how they are already working in some places.

Falling Behind in Postsecondary Education and Training

The United States has a proud history of transforming and expanding its postsecondary institutions to meet changing national needs. The first dramatic example occurred when Congress created the conditions for states to establish the land-grant college system in the mid-19th century to provide agricultural and technical education of a kind not found in the existing "classical" colleges.

The last great transformation of higher education took place over the five decades following World War II. Attending college became a mass rather than an elite phenomenon, with enrollments rising dramatically. Public institutions increased in number and replaced private non-profit colleges as the main providers of undergraduate education. Community colleges were created; "normal schools" providing teacher training were transformed into regional institutions and new

state colleges were established, offering a variety of academic programs. In some states, technical colleges were established explicitly to bolster economic development initiatives. Late in the 20th century, private for-profit institutions began rapid growth that made them significant players alongside the more traditional public and private non-profit schools. (See Table 1.)

All these colleges were filled first by returning veterans and then by the "baby boomers." Postsecondary access was significantly broadened; both women and minorities discovered opportunities that had previously been closed to them. The expansion of public institutions with comparatively low prices thanks to public funding and the growth of both federal and state student aid programs made it possible for many low-income students to aspire to college attendance. (See Table 2.)

As a result, the United States in the latter half of the 20th century was a world leader in the proportion of its working-age population that had participated in education and training programs beyond the high-school level.

However, by century's end, college attainment in this country had leveled off. While we still rank near the top internationally in terms of the proportion of working-age adults with associate degrees or higher, we compare less well when just young adults ages 25-34 are considered. As our relatively better-educated older generations retire and younger cohorts age, we are in danger of seeing our overall workforce attainment level decline relative to other countries. While our postsecondary attainment levels have stagnated, a number of other countries have significantly boosted the proportion of their younger

Table 1: Historical Increases in Institutions by Type, 1950-2010

	Number of Institutions					
	Public		Private Non-Profit		Public For Profit	
	4-year	2-year	4-year	2-year	4-year	2-year
1949-50	344	297	983	227	NA	NA
1969-70	426	634	1213	252	NA	NA
1989-90	595	968	1479	177	53	263
2009-10	672	1000	1539	85	563	636

NA = Not available

Source: National Center for Education Statistics, *Digest of Education Statistics: 2010*, Table 275, April 2011.

Table 2: Total Fall Enrollment in Degree-Granting Institutions, 1949-2009

Enrollments (in thousands)						
	Public		Private Non-Profit		Public For Profit	
	4-year	2-year	4-year	2-year	4-year	2-year
Fall 1949	1,036	171	1,179	58	NA	NA
Fall 1969	3,963	1,934	1,975	133	NA	NA
Fall 1990	5,848	4,996	2,671	89	59	154
Fall 2009	7,709	7,101	3,730	35	1,467	385

NA = Not available

Sources: NCES, *120 Years of American Education: A Statistical Portrait*, Table 24, January 1993; NCES, *Digest of Education Statistics: 2010*, Tables 198, 201, and 204, April 2011.

population participating in postsecondary studies. The top three countries in 2010 ranked by the proportion of their young adults with associate’s degrees or higher (Korea, Canada, and Japan) appear to have achieved their rankings by giving comparatively heavy emphasis to postsecondary education in sub-baccalaureate, vocationally oriented programs rather than concentrating primarily on baccalaureate degrees. (See Chart 1.)

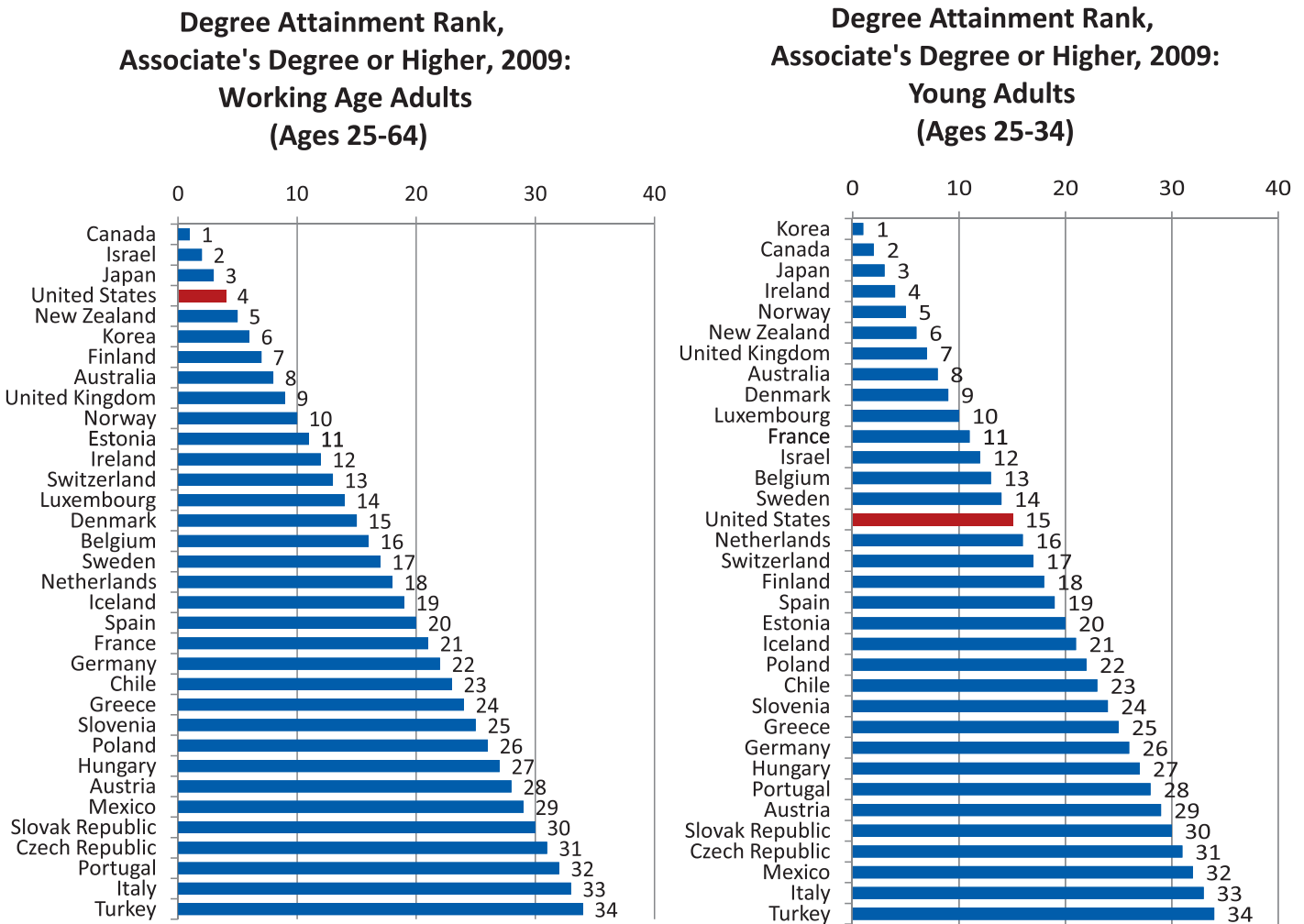
If current trends continue, a number of other countries are likely to surpass American levels of postsecondary attainment in the workforce in years to come. At the same time, **there are already signs that American businesses will not have all the well-prepared employees they need to remain internationally competitive.** Two recent analyses and projections of future workforce requirements by the Georgetown Center on Education and the Workforce and the National Center for Higher Education Management Systems concluded that by late in this decade the nation will be producing several million fewer college degree and certificate holders than the job market will require.² Closing the gap could be very costly: A McKinsey & Company study concluded that producing a million more graduates a year by 2020 would require \$52 billion per year in increased education funding from its 2008 level at current levels of degree productivity.³ But the economic payoffs of greater educational attainment are also high. For example,

a Center for an Urban Future report estimated that increasing graduation rates at New York City’s six community colleges by just 10 percentage points for the class that entered in 2009 would, over a decade, be worth \$689 million to the city and state in combined income, economic activity, and public investment value. Over two decades this amount would grow to \$1.4 billion and over three decades to \$2.1 billion.⁴

Demographic and Economic Challenges to Boosting Postsecondary Attainment

Educating enough well-trained workers to keep America’s economic engine competitive will require increasing the number of individuals who have postsecondary credentials and degrees that are valuable in the workplace. Demographic and economic realities pose at least two challenges. First, the large “baby-boom” generation (usually referring to those born between 1946 and 1964) is aging out of the workforce and will be replaced by smaller population cohorts that are much more ethnically and economically diverse. Colleges must do a much better job of attracting and retaining students who traditionally have not been well represented in postsecondary schools and who often need special services and encouragement to persist and succeed. Second, expanding institutional capacity to meet workforce projections will have to be

Chart 1: Organisation for Economic Co-operation and Development Degree Attainment—Young Adults and Working-Age Adults



Source: OECD, *Education at a Glance 2010*, Table A1.4a.

accomplished while both governments and families face significant financial pressures. Already public colleges and universities in some states are turning away large numbers of applicants because they cannot provide enough classrooms and instructors to handle them.

Postsecondary institutions in general and the broad-access institutions in particular must adapt to the dramatic demographic changes taking place in the United States. **We are increasingly a multi-racial, multi-ethnic society.** The 2010 Census found that people describing themselves as “white alone” still constituted numerically and proportionately the largest racial and ethnic group in the nation (at 72 percent of residents) but were growing at the slowest rate. The Hispanic and Asian populations increased considerably faster between 2000 and 2010. The Asian population

grew faster than any other major racial group, but Hispanics accounted for over half of the growth in the total population.⁵

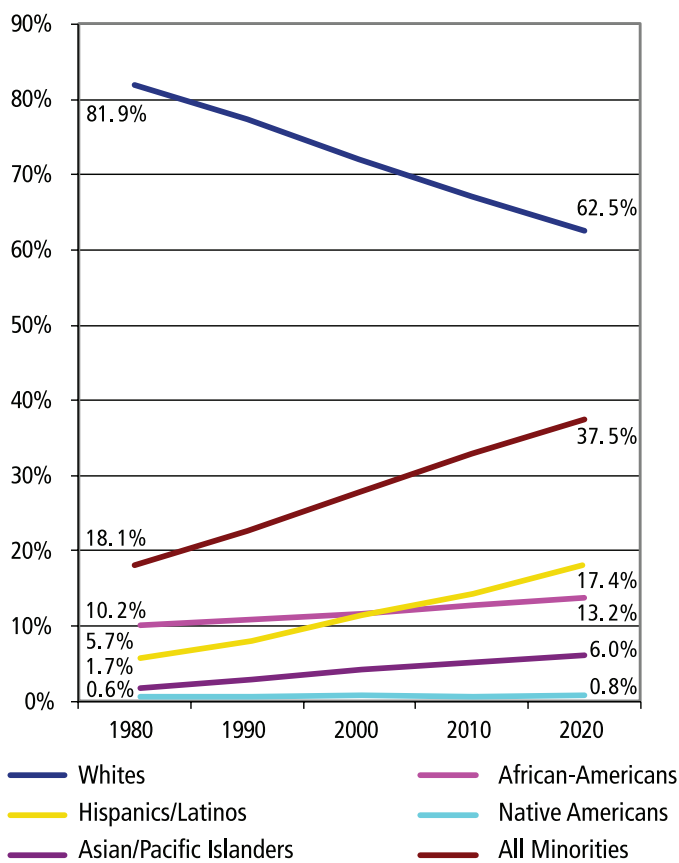
Changing population patterns have been apparent in the makeup of the working-age population cohort for some time. Between 1980 and 2020, the proportion of minorities in this group is expected to increase from 18 to 38 percent. (See Chart 2.) The increase in racial and ethnic diversity is even more evident in younger age cohorts.

The challenge posed by the increasingly diverse nature of the American population is exacerbated by differences in income levels. **Black and Hispanic children, in particular, suffer from very high rates of poverty;** in 2009, about a third of these youngsters under 18 years of age lived in households with

incomes below the poverty level.⁶ Family income has long been correlated with educational attainment: Children from lower-income families are less likely to complete high school, to enroll in college, to transfer from a community college to a baccalaureate-granting institution, or to complete a postsecondary education program.

Increasing the proportion of working-age adults who have postsecondary education and training will therefore require better serving populations whose postsecondary attainment has traditionally lagged their white and more economically advantaged peers. Hispanics in particular have low levels of educational attainment. (See Chart 3.) Only about a third have any postsecondary education at all; only 14 percent of Hispanics (compared to 30 percent of whites) have received at least a bachelor's degree.

Chart 2: U.S. Working-age Adult Population (Ages 25-64) by Ethnicity, 1980-2020



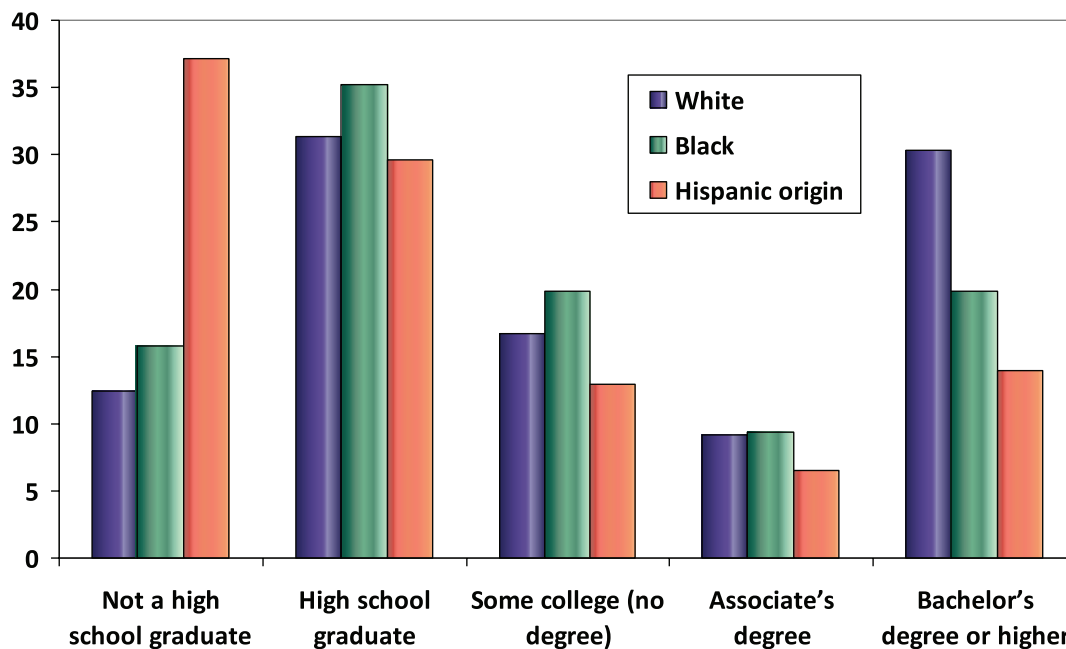
Notes: Population projections are based on historical rates of change for immigration, birth, and death. The Census category "other races" is not included. Sources: U.S. Census Bureau, 5% Public Use Microdata Samples (based on 1980, 1990, and 2000 Census) and U.S. Population Projections (based on 2000 Census).

In the face of these demographic changes, it will be a Herculean task to overcome historical inequities and significantly raise the postsecondary participation and attainment rates of the youngsters now in elementary and secondary school. **And even if all states raised their postsecondary participation and attainment rates to the levels of those states that currently demonstrate the highest performance, it is estimated that there would still be a "deficit" of 1.3 million college graduates in 2020.**⁷

This gap, furthermore, cannot be closed by raising attainment for younger individuals alone. **It will also be necessary to increase participation and attainment among working-age adults who never enrolled in college or who left without completing a program.** This means making college accessible and affordable for older individuals who have significant workplace and family responsibilities. Many of these potential working-age students are likely to be most interested in short-term postsecondary programs that offer credentials with immediate value in the labor market. Others may want to complete unfinished associate and baccalaureate degree programs; an estimated 37 million working-age adults participated in postsecondary education at some time but did not receive a credential or degree.⁸ Many of these potential students can benefit from new kinds of delivery systems that emphasize flexibility and use technology to provide educational programs directly to their homes and workplaces. They would also be helped by competency-based degrees and certificates that give credit for learning and skills previously acquired.

Given demographic realities, most of the future increases in college enrollments and graduates must come from families whose economic means are limited at best. For more than 25 years, however, college tuition and fees have been increasing far faster than median family incomes and have outstripped the Consumer Price Index and even fast-rising medical costs. As noted above, most of the necessary increases in college enrollments and graduates must come from the members of society who are economically disadvantaged; high proportions of the well-to-do already have college degrees. Low-income students are price sensitive, a major reason for their choices of lower-cost broad-access institutions. **It is highly improbable that the recent trajectory of postsecondary tuition**

Chart 3: Educational Attainment by Race and Hispanic Origin (percentage of persons 25 years and older), 2010



Source: U.S. Census Bureau, Statistical Abstract of the United States: 2012, Table 231.

increases can continue, even with student financial assistance, without further undermining the access of underrepresented low-income groups, and of middle-income students as well. (See Chart 4 and Table 3.)

In the past, the impact of rapidly rising tuition and fees on access was mitigated to some extent by expanding public funding through grants and loans. And additional public and private investments in postsecondary education and in student financial assistance will no doubt be needed in the future to maintain international educational and economic competitiveness, and equitably raise living standards at home. **Realistically, however, given the severe budget pressures facing the states, the prospects of significantly greater public funding of postsecondary education in the short to medium term are poor.** (See Chart 5.)

Ironically, the United States devotes a larger portion of its Gross Domestic Product to postsecondary education than any other OECD member nation, including those that have surpassed us in college participation and graduation rates. (See Chart 6.) Because the U.S. GDP per capita is 20 percent to 25 percent higher in purchasing power terms than these other nations, the United States is spending significantly more on postsecondary education on a per person basis. **This**

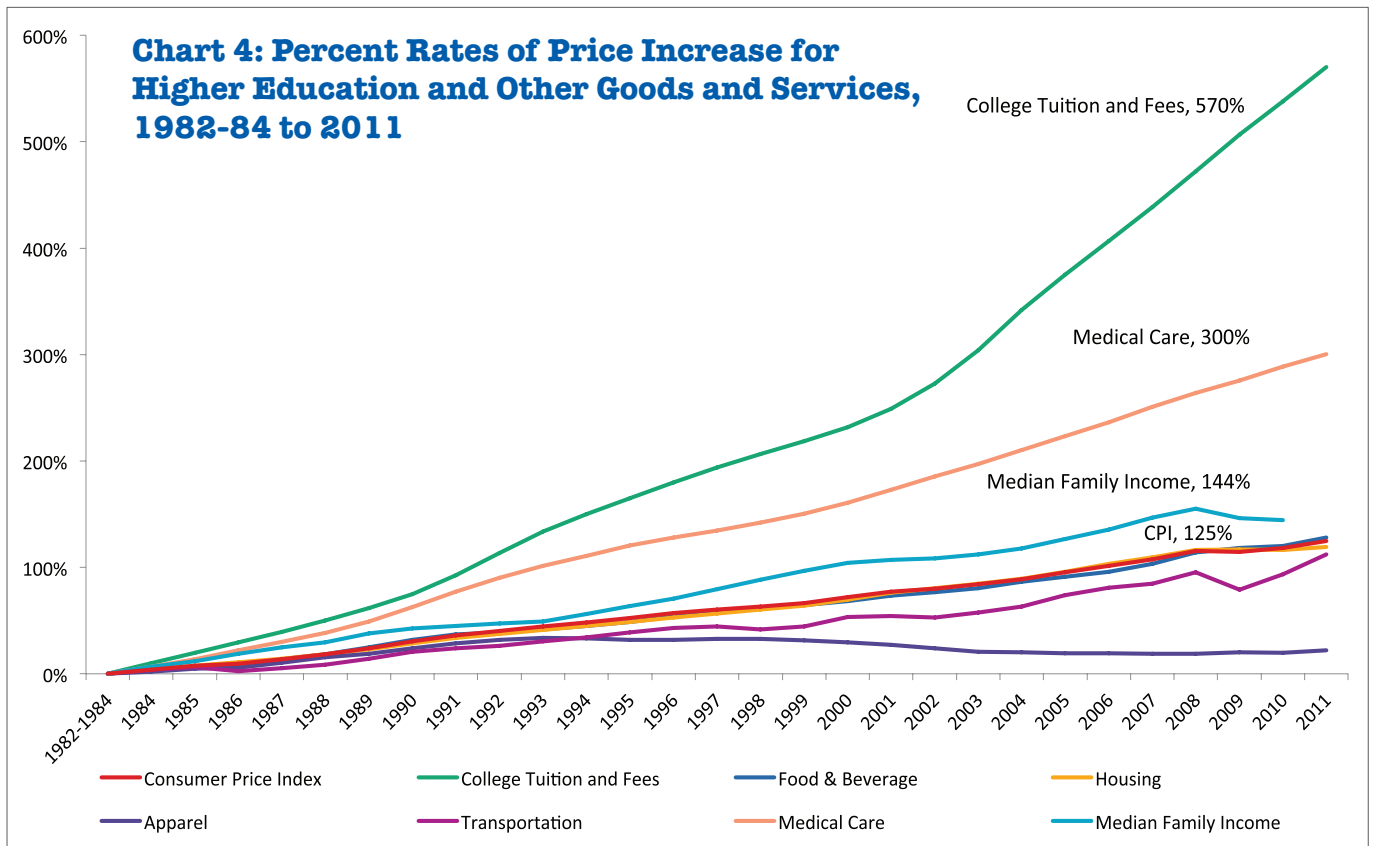
fact suggests that the United States should be able to achieve significant increases in the number and quality of postsecondary credentials with resources that are already in place.

The Pivotal Role of Broad-Access Institutions

One strength of American postsecondary education is our nation's broad range of institutions with diverse goals and missions. These institutions were collectively responsible for American leadership in postsecondary education in the second half of the 20th century. As already noted, every sector of postsecondary education (including research universities and highly selective colleges and universities) must contribute to the improvement of national postsecondary performance and to the closing of attainment gaps associated with income and ethnicity.

Inescapably, however, the major challenge and opportunity for enlarging the pool of college-educated and trained Americans will fall to the broad-access colleges and universities.

While there is enormous diversity among these institutions, they have in common the principal and often exclusive mission of providing undergraduate



Source: Bureau of Labor Statistics, Consumer Price Index (All Urban Consumers); Other data from U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplements, and American Community Survey.

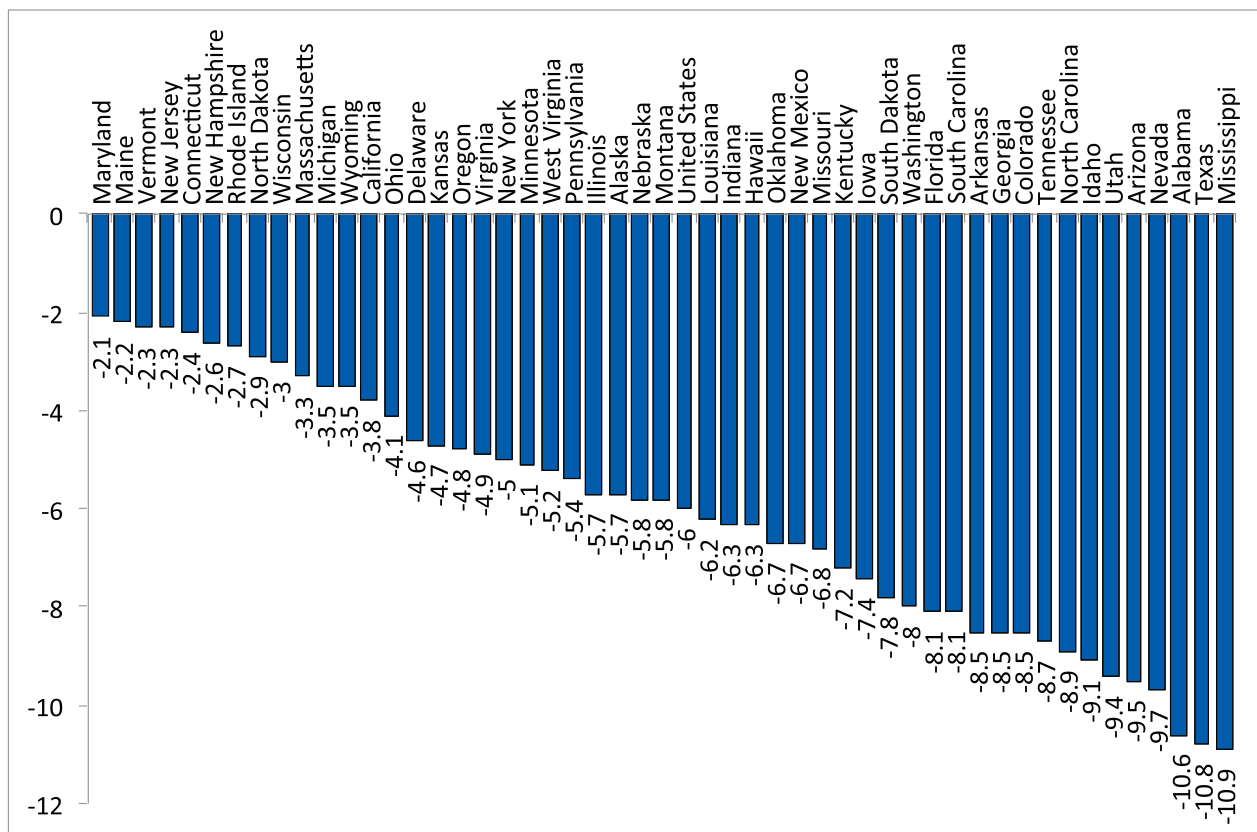
Table 3: Net College Costs* as a Percent of Median Family Income

At public four-year colleges and universities	1999-00	2007-08	%pts increases
Lowest income quintile	39%	55%	16%
Lower-middle income quintile	23%	33%	10%
Middle income quintile	18%	25%	7%
Upper-middle income quintile	12%	16%	4%
Highest income quintile	7%	9%	3%
At public two-year colleges			
Lowest income quintile	40%	49%	9%
Lower-middle income quintile	22%	29%	7%
Middle income quintile	15%	20%	5%
Upper-middle income quintile	10%	13%	3%
Highest income quintile	6%	7%	2%

* Net college costs equal tuition, room and board minus financial aid. The numbers may not exactly add due to rounding.

Sources: National Center for Public Policy and Higher Education, Special Analysis for *Measuring Up 2008*; National Center for Education Statistics, IPEDS, 2008 and 2000; Steven Ruggles, Matthew Sobek, Trent Alexander, Catherine A. Fitch, Ronald Goeken, Patricia Kelly Hall, Miriam King, and Chad Ronnander, "Integrated Public Use Microdata Series: Version 4.0 [Machine-readable database]," Minneapolis, MN: Minnesota Population Center [producer and distributor], 2008; U.S. Census Bureau, 2007 American Community Survey (Public Use Microdata Sample).

Chart 5: Projected State and Local Budget Surplus (Gap) as a Percentage of Revenues, 2016



Source: National Center for Higher Education Management Systems; Don Boyd, Rockefeller Institute of Government, 2009.

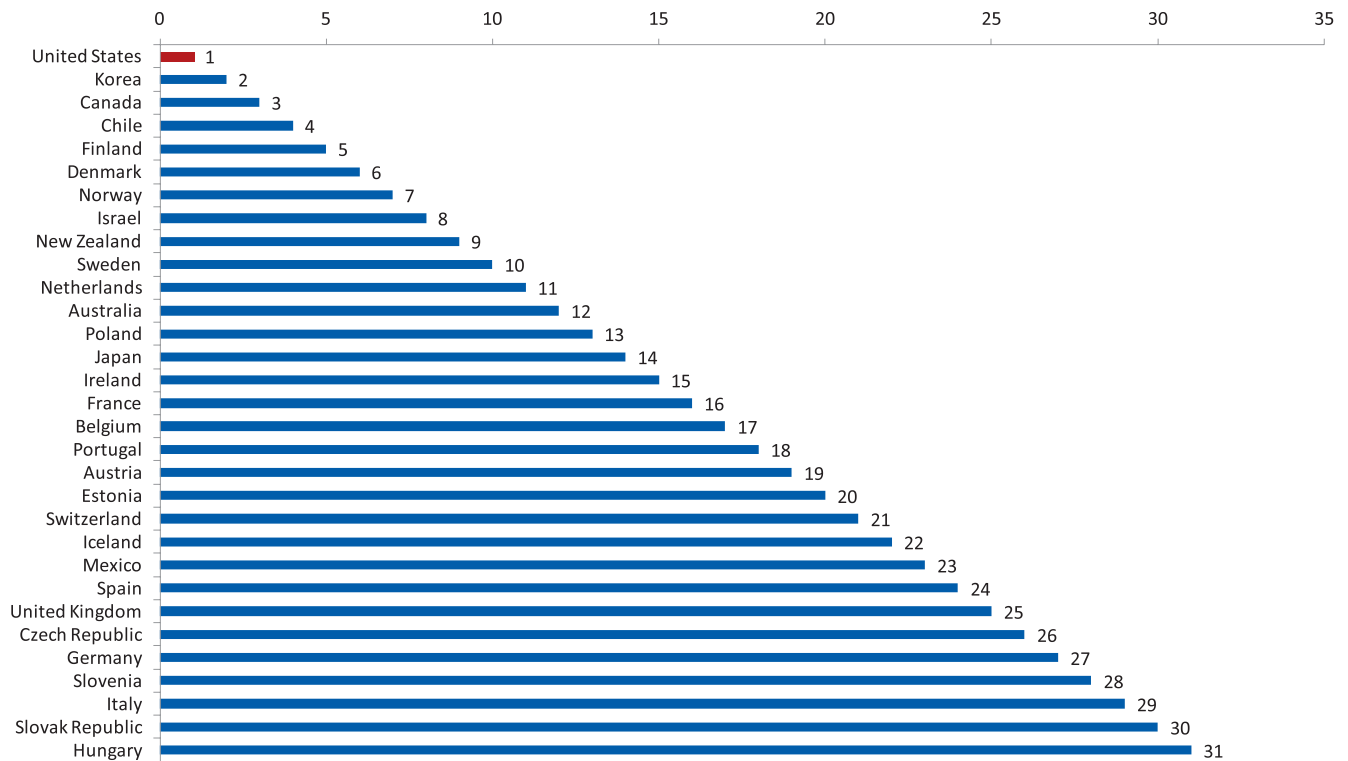
instruction. Moreover, historically, they have enrolled the majority of those from underserved groups who participate in postsecondary education. As Table 2 shows, current undergraduate enrollments are heavily concentrated in these colleges, particularly in public institutions that are supported principally by state appropriations and tuition. Most students and potential students live within easy commuting distance of one or several of these schools. Alternatively, because the schools increasingly offer on-line learning, students can access courses from anywhere.

Yet compared to their elite brethren, the broad-access institutions often “get no respect.” Their contributions are not well understood (or valued) by the public and by governmental and business leaders. They receive far less attention and often have far less political clout. Also, they receive less public and charitable funding per student. They are frequently perceived and defined as what they are **not**—institutions that seek to build their reputations on the basis of

graduate education and research—instead of what they **are**: the backbone of the nation’s workforce development system, creators of human capital, and engines of economic growth. Their effectiveness and productivity will determine whether the nation succeeds in significantly raising postsecondary educational attainment.

The educational challenges facing broad-access colleges are great. **Their students and prospective students, whether recent high school graduates or older adults, are often inadequately prepared for college-level coursework;** many are the first members of their families to attend college. Many attend part-time, fitting their coursework around their responsibilities for supporting themselves and their families, with this slower pace extending their time to degree by years; and many attend multiple institutions, for example, taking lower-division courses at a community college and then transferring to a four-year college, or taking courses at a local college and from an Internet provider at the same time. Many of these students need academic and

Chart 6: Rank of Public and Private Expenditures on Postsecondary Educational Institutions as a Percentage of GDP, 2008



Note: Greece, Luxemburg and Turkey are not included because they do not have comparable data.

Source: OECD, *Education at a Glance 2011*, Table B2.1.

other support services and structures, including help with transportation, child care, and Internet access, and predictable scheduling from term to term to facilitate maintaining their employment, so that they can succeed in college-level programs. For these understandable reasons, completion rates are considerably lower than those of highly selective institutions.

Some broad-access institutions are currently addressing these challenges, as sidebars in this section illustrate. We shall argue in the next section, however, that **individual institutions and their leaders cannot by themselves effect the necessary large-scale systemic change in postsecondary performance. State officials, because of their power to determine which colleges under what conditions can operate within their borders and because they set the rules and provide the bulk of financing for broad-access public institutions, are better positioned to initiate and motivate efforts to boost postsecondary performance. Yet most states have been slow to develop systematic and comprehensive policies and approaches that recognize the magnitude of**

the challenges confronting their postsecondary education “systems,” and to make effective use of the policy tools they have to drive significant change.

However, state policy cannot be top-down micromanagement. Postsecondary education needs innovation, and top-down management is inimical to process improvement. State policy also cannot be stripped-down educational standards. Credentials that had value in the marketplace will depreciate quickly if quality and content are shortchanged. Finally, state policy cannot be one-size-fits-all-students. Treating all students alike provides only the illusion of efficiency. As the examples in this statement show, innovative education models can identify and rectify each student’s unique deficiencies (particularly important for mid-career students) up front and achieve both greater quality and higher efficiency.⁹

In short, state policy should guide and help institutions to innovate, not dictate to them what innovation is. Achieving these goals is what we will call “the productivity challenge.”

Competency-Based Higher Education: Western Governors University

Western Governors University (WGU) has created a new model that harnesses technology to increase access and reduce costs while also maintaining quality by measuring learning outcomes rather than credit hours. Instead of earning credits based on the number of courses taken, students progress by successfully completing required competency assessments. Utilizing technology allows students to learn at their own pace. Students can accelerate their program depending upon the competencies they already possess. WGU provides personal faculty mentoring for all students, and all students are part of learning communities throughout their degree programs. The university has more than 30,000 students, is still growing 30 percent annually, and has over 14,000 graduates across all 50 states. WGU offers over 50 bachelor's and master's degree programs in education, information technology, business, and healthcare.

Productivity Gains:

The one-year retention rate at WGU is 79 percent. WGU students also do well on national standardized exams. Time to graduation has been dramatically shortened: The average time to complete a bachelor's degree is 30 months. Two-thirds of WGU graduates report that they received a promotion, salary increase, or a new position as a result of completing their degree.

Cost:

WGU is self-sustaining on tuition of less than \$6,000 per year, and has not increased tuition for the past four years. Students pay a flat fee of \$2,980 every six months, during which time they can progress as rapidly as they are able to pass assessments. In WGU's competency-based model, technology is used to deliver content created by third-party providers, and faculty supports student learning as needed. This model enables individualized learning and teaching and drives down overall costs since faculty are able to spend more time directly helping students while also serving great numbers of students. Additionally, WGU is a completely online institution, and does not have the traditional costs for buildings, facilities, athletics, research, etc. WGU is a student-centric university and places its focus on student learning and success.

Quality:

WGU reduces costs and increases performance while maintaining high quality. According to a 2011 survey of employers, 98 percent agreed that WGU graduates meet or exceed their expectations, rate WGU grads as equal to or better than graduates of other universities (42 percent rated WGU graduates as better), and consider WGU graduates strongly prepared for their jobs.

State Partnerships:

WGU has partnered with three states to create new state-based universities. WGU Indiana was created in June 2010 as Indiana's "eighth state university" and has enrolled over 2,000 new students in the past 18 months. WGU Washington was created by the state legislature in 2011 and has enrolled over 1,000 new students in the first six months of operation. WGU Texas was announced in the fall of 2011 by Governor Rick Perry.¹⁰

Course Redesign to Improve Learning and Cost Effectiveness: The National Center for Academic Transformation

The National Center for Academic Transformation (NCAT) has created a course redesign method that has demonstrated how colleges and universities can redesign their instructional approaches using information technology to achieve greater learning success and cost savings. The course-redesign projects focus on large-enrollment, introductory courses that reach significant student numbers. In fact, just 25 courses generate about 50 percent of student enrollment at the community college level and about 35 percent of enrollment at the baccalaureate level. By making improvements in a restricted number of large-enrollment courses, a college or university can literally affect every student who attends.

Courses are redesigned by *changing the way subjects are taught*; most redesigns shift instruction from lecture format to a student-based approach utilizing technology. Students are able to be more active learners and faculty spend less time delivering lectures and more time with one-on-one student contact. These self-paced interactive learning models have led to increased student learning. Course redesigns require significant faculty participation in both planning and execution; faculty establish learning goals, help design curricula, and teach redesigned courses. NCAT's redesign methodology can address higher education's primary challenges: enhancing quality, improving retention, expanding access, and increasing institutional capacity.

Productivity Gains:

NCAT courses have shown consistent improvements in the quality of student learning. The methodology has also produced increases in course completion and student retention. NCAT's redesign enables institutions to increase enrollments and provide greater access while maintaining the same or even a reduced level of investment. In the initial project with 30 institutions, 25 of 30 course-redesign projects showed significant increases in student learning. Of the 24 projects that measured retention, eighteen reported a noticeable decrease in drop-failure-withdrawal rates, as well as higher course-completion rates.

Cost:

NCAT's redesign methodology enables institutions to increase student enrollment in high-demand courses without increasing associated costs. All 30 institutions in the initial NCAT redesign project reduced their costs by 37 percent on average, ranging from 20 percent to 77 percent, and produced a collective annual savings of about \$3 million. NCAT estimates that if all U.S. colleges and universities adopted these redesign methods for the top 25 courses the cost of instruction would decrease by approximately 16 percent.

Quality:

The NCAT methodology changes the way students learn, changing students from passive note takers to active learners. NCAT surveys have shown that students in redesigned courses have better attitudes toward the subject matter and that both students and faculty were more satisfied with the new mode of instruction.¹¹

Effectiveness and Efficiency: The University of Maryland System

The University of Maryland System adopted the Effectiveness and Efficiency Initiative (E&E) in 2004 as its signature program to contain costs while improving overall administrative and academic operations across the system. The overarching goals of the E&E Initiative are to: address increases in effectiveness and efficiencies in the University of Maryland operating model; increase quality; serve more students; and reduce the pressure on tuition. The E&E Initiative provides annual progress reports. Additionally the E&E Initiative streamlined its transfer program with Maryland community colleges, resulting in fewer lost credits and better integration into four-year programs. Also restructured was the use of spring freshman admission programs to allow institutions to eliminate waiting lists, guarantee admission to greater numbers of qualified students, and counter the loss of students through fall attrition. Some other new initiatives include the requirement

that students earn at least 12 credits outside the traditional classroom—through online courses, study abroad programs, internships or Advanced Placement credits. An important goal is that students graduate with less debt.¹²

Productivity Gains:

E&E has educated 6 percent more students while cutting baseline operating costs by 3 percent and holding average annual tuition increases to less than 2 percent. Some examples include increasing instructional workload as a measure of productivity at the system's seven comprehensive universities; decreasing student time-to-degree, and increasing four-year graduation rates.

Cost:

Officials estimate that the E&E Initiative cost savings alone have totaled more than \$225 million from inception through 2011.¹³

Online Learning: Rio Salado College, Arizona

Rio Salado, a Maricopa Community College, offers online learning opportunities to the communities it serves. As the largest of the 10 Maricopa Community Colleges, Rio Salado serves over 52,000 students annually. Rio Salado has been a pioneer in online learning development and even partnered with industry leaders Microsoft and Dell to develop a custom online learning platform, RioLearn. Through RioLearn, students turn in assignments, contact instructors and fellow students, view class syllabi, access student services and more.

Rio Salado offers a unique academic calendar with courses in 16-week blocks. Courses start 48 times per year, which allows students to select a course without semester restrictions. Tuition is \$76 per credit for in-state students and \$215 per credit for out-of-state online students. In addition to offering courses online in 2008, Rio Salado opened its virtual student union, RioLounge, which was designed to offer online students similar social interactions that they would have at a traditional campus with just a click of the mouse. The college has grown 173 percent from 2000 to 2010 and it partners with more than 50 major employers.¹⁴

Administrative Costs: DeVry University

DeVry University has taken steps to hold tuition down by minimizing administrative costs. One method has been to limit auxiliary services to those that relate directly to its core mission (so, for example, spending nothing on research or public service). DeVry also has relied on experts in process redesign to notably simplify financial aid processing. DeVry has moved to electronic forms for financial aid and admissions, dramatically reducing the amount of time required to process paperwork. DeVry allows for student “self-service”—for instance, students can accept their financial aid awards online. Refund checks and holds at DeVry are also now processed automatically whereas before checks were manually processed with holds manually set and removed. As a result, financial aid applications are processed more rapidly while driving down costs.¹⁶

The Productivity Challenge

An economically competitive workforce, and a citizenry that can maintain and enhance democratic institutions and values, require that improving higher education participation and completion rates be placed at the core of the public agenda. Focusing policy discussion on the *outcomes* of postsecondary education rather than its inputs would represent a sea change from current practice. In this statement, we have repeatedly referred to the need for higher levels of postsecondary attainment and, implicitly if not explicitly, we have suggested that this be measured by the numbers of degrees and credentials awarded.

But we do not view the task of boosting postsecondary performance as a numbers game; degrees and credentials must also have measurable value to their recipients in the workplace and in their future lives. Ideally, what we would measure are the skills and knowledge that individuals gain through their participation in higher education, as some institutions (for example, WGU) are beginning to do. Unfortunately, direct evidence about student learning outcomes at present is uneven and limited, and the available information does not lend itself to systematic comparisons of even similar institutions or among states. For this reason, degrees and certificates are for now the best proxies available for measuring and comparing college-level knowledge and skills across differing populations and jurisdictions.

However, worrisome results from recent research by Richard Arum and Josipa Roksa¹⁷ indicate that measuring only degrees is inadequate. Their most up-to-date results show that for a sample of 1666 students across 29 diverse four-year institutions, 36 percent of entering students make no improvement in their Collegiate Learning Assessment (CLA, which measures skills in critical thinking, complex analysis, and writing) scores over the following four years. Arum and Roksa's analysis indicates that the proximate cause of this outcome is that many degrees can be attained without taking courses that require significant reading and writing.

Thus in our view, boosting postsecondary productivity performance means both raising postsecondary attainment as indicated by increasing degrees and credentials awarded, and finding ways to identify what graduates need to know and to be able to do, building these expectations into degree and certificate offerings, and verifying what students are learning.

This is what we define as the “productivity challenge.” We believe that it will require transformational rather than incremental changes in existing institutions—and also new kinds of institutions—that take advantage of innovative instructional technologies and business models to develop nontraditional ways of providing high-quality postsecondary programs.

Shorten Time to Degree: Southern New Hampshire University

Southern New Hampshire University now offers a three-year honors program in business. This program contains the same number of credits as a traditional four-year degree but is specifically designed to be accomplished in three years, without night or weekend classes. The accelerated time frame of the degree means that students save a year of tuition and associated costs, which are up to \$40,000. The honors program takes an interdisciplinary approach offering “modules” rather than traditional three-credit courses. Because classes are interdisciplinary, subjects that are usually taken as separate courses are integrated into the curriculum. For example, honors students fulfill the public speaking requirement through required business classes, with client and public presentations. Students also take all courses with the other honors students, but participate in activities with students from across the university.

Like other business programs, the honors program allows specialization in a variety of fields including accounting, marketing, and computer information technology among others. The honors program also emphasizes real world application of skills. Each semester students participate in a weeklong group project in which students apply what they have learned to solve real business challenges. Third-year students act as consultants, completing projects for real companies and organizations, through the New Paradigm Design experience. Students recently have worked with American Express, Camp Sunshine and Delta Mu Delta.¹⁵

Performance and Productivity: Virginia

The state of Virginia has three higher education programs addressing performance and productivity.

2005 Restructuring Act

The 2005 Restructuring Act provided basic operational autonomy for all institutions. According to the Act, public colleges and universities became eligible for three differentiated levels of increased autonomy, but not without first agreeing to meet a series of specific performance goals that address state needs, such as access to higher education statewide, guaranteed transfer agreements, collaborations with K–12, etc. The public colleges in Virginia gained more control to conduct certain operations, particularly financial and personnel procedures, but the state did not grant more freedom to institutions to set tuition rates. Institutions earn financial incentives based on meeting performance standards.²⁰

2011 Higher Education Opportunity Act

The Higher Education Opportunity Act was passed in 2011. The purpose of the Act is to significantly increase college attainment with a goal of 100,000 new undergraduate degrees by 2025. The Act also seeks to address basic operational and instructional funding, per-student enrollment funding, need-based financial aid, targeted economic and innovation incentives, a higher education “Rainy Day” fund, institutional six-year plans, and increased high-demand degree issuance through public-private partnerships.²¹

Community College Reform: Achieve 2015

Achieve 2015 is a **six-year strategic plan** for Virginia’s Community Colleges. Developmental mathematics will be taught as a series of nine one-credit modules. Students will take only those modules needed, as determined by the placement test and the requirements of their academic field. Developmental English, integrating academic reading and writing, will be taught as a tiered system. Students will place into a one-semester course of varying intensity or co-enroll in a developmental class linked to the first college-level English class. Virginia intends to partially replace one-on-one advising with an online system featuring an avatar that will eventually plan course schedules, track student success and even nag when necessary. Another technology program will beam distance-learning classes from college to college throughout the state. Existing programs such as online tutoring and skills teaching will be expanded.²²

Productivity Goals:

Virginia is promising a 50 percent increase in the number of community college students who complete a degree, transfer to a four-year institution, or earn a workforce credential by 2015. For students from groups traditionally underrepresented in higher education, the target is a 75 percent increase. Virginia plans to expand programs that offer customized training for individual employers; over the next four years, the state promises to double the number of such programs to include 10,000 employers across the state.²³

Cost:

Virginia plans to accomplish these goals *without an increase in per-student funding* from the state between now and 2015. The revamping plan incorporates a goal of raising \$550 million from a mixture of government and foundation grants and private parties. Soon, Virginia hopes to lower its costs for processing financial aid applications—and also increase financial aid to students—by centralizing, computerizing and speeding up the application process.

We are by no means the first to articulate this challenge or to offer ideas on boosting the outputs and the quality of postsecondary institutions. In fact, **examples of innovations and productivity improvements can be found throughout postsecondary education, including at broad-access institutions.** Some of these are described in sidebars to this section. **The key problem is that these innovations have not spread; they remain isolated illustrations of what postsecondary education at its best could accomplish. Some reasons are:**

- State policy has great influence on the broad-access institutions, but it has not been marshaled to induce major change. Most states continue to govern and fund public institutions using budgetary, financial, and regulatory and accountability policies that fail to create incentives for productivity, improved performance, replicating and scaling successful innovation, and cost effectiveness.
- Many states continue outdated regulations that were designed for an earlier era. These discourage or impede new forms of curricula; delivery of instruction, assessment, and certification by public, non-profit and for-profit institutions; and hamper administrative and managerial efficiency.
- Some states have tolerated, or even encouraged, institutional “mission creep,” which often diverts institutional priorities and financial resources away from educational attainment and increases costs.
- At the institutional level, there are strong forces favoring business as usual and comparatively few incentives to undertake disruptive transformative change. “Not invented here” is still a big obstacle to adopting or learning from innovations created elsewhere.
- Even the financial pressures of the past decade have not been sufficient to overcome the forces working against change. The conventional institutional response to fiscal problems has often been to hunker down, raise tuition, freeze or even contract enrollments, maintain current practices and wait for better times to return.
- Some college and university leaders have argued that postsecondary education is characterized by an “iron triangle” of access, quality, and cost: improvement on one dimension necessarily comes at the expense of the other values. For example, the

Outcomes Based Funding: Tennessee

The Complete College Tennessee Act of 2010 includes a provision for an outcomes formula model. The act directs the Tennessee Higher Education Commission (THEC), in conjunction with the University of Tennessee, the Tennessee Board of Regents, and state government, to develop a new model to be used for the 2011–2012 budget cycle. The formula-funding design is intended to promote outcomes important to the state, such as degree attainment, transfer activity, student retention, etc. The law requires Tennessee to compile a “fact book” related to actual data on these outcomes. “Award points” for these outcomes are provided through the funding formula. Assignment of points is based on the institution’s mission.

Tennessee officials hope the formula will strengthen links to the state’s master plan for higher education, which identifies specific educational attainment goals, etc.; will enhance institutional incentives to focus on student retention; and will introduce a focus on productivity (defined as degree production, transfer activity, student access, education for adult students, etc.). The new formula will, officials expect, spread the financial incentives to a larger, more appropriate set of variables—not just student enrollment—and calibrate it specifically to an institution’s mission by utilizing the nationally accepted criteria for classifying institutional missions. The previous funding formula is approximately 60 percent enrollment-driven with incentives heavily focused on student inputs. When the new system is fully implemented, 100 percent of funding will be based on outcomes and none on enrollment.²⁴

In addition to the Complete College Tennessee Act, the state also conducted a policy audit, which reviewed state policies and practices affecting higher-education access, success, and productivity. The audit identified gaps between policies as written and as implemented and pointed out unintended consequences of some policies.²⁵

Performance Funding: Indiana

Indiana first adopted a performance-funding system in 2003 that offered incentives to state universities that seek federal research grants. Since then Indiana has passed legislation that links incentive funds for all higher education institutions to performance indicators. The enrollment-driven portion of the formula is shifting over time to completion of credit hours rather than attempted credit hours. By 2007, the state distributed 65 percent of the increase in state appropriations from the year before based on performance. For the 2010-11 biennium, with no additional revenues, the state's higher education commission recommended allocating a portion of institutions' base funding on the basis of performance, and that policy has been maintained through the 2012-13 biennial state budget.

Late in 2011, Indiana made several revisions to the performance-funding arrangement. The new rules changed some of the performance metrics and also the percent of funding allocated through performance funding. After the Commission's approval of the new funding formula, the percent of funding allocated based on performance metrics will increase from 5 percent to 6 percent in 2013-14 (an estimated \$73 million based on current funding levels), and 7 percent by 2014-15. The new performance metrics are: overall degree completion; at-risk student degree completion (based on students eligible for Pell Grants); high-impact degree completion (this is a new metric that rewards schools for granting degrees in STEM—science, technology, engineering and mathematics—fields); student persistence incentive (tracking how many students complete a certain number of credit hours); remediation success incentive; on-time graduation rates; and a new “wild-card” metric which allows universities themselves to select one benchmark for the state to use in determining their share of the pot of performance funding. In addition, the 2011 revision eliminated the metric that linked performance funding to an institution's research.²⁶

argument goes, access cannot be improved without commensurate increases in costs or without a decline in quality; or quality cannot be improved without a decline in access or increases in costs. This argument is refuted by several examples cited in this policy statement. Nevertheless, as the conventional wisdom, this perception is a major barrier to innovation and productivity improvement.¹⁸

State policy leadership, which is critical to meeting the attainment and productivity challenges we have described, has yet to emerge in most states. However, overcoming these barriers to innovation could have a substantial payoff. McKinsey & Company has found that implementing the current best practices in post-secondary education in all institutions could produce a 23 percent improvement in degree productivity across the entire sector.¹⁹

We conclude, therefore, that the key action that the business community needs to take to boost post-secondary performance is to focus on state-level postsecondary education policy, and work with state leaders to adopt policies and practices aimed at (1) creating incentives for greater productivity and (2) removing barriers to innovation.

Lifelong Learning Program: Wal-Mart

Wal-Mart in 2010 announced the inauguration of a Lifelong Learning Program that provides educational opportunities for its employees. The company has established a partnership with American Public University, a for-profit school based in West Virginia that offers on-line courses. Wal-Mart negotiated a 15 percent reduction in tuition for employees taking APU courses and will offer \$50 million over three years in other tuition assistance. In addition, APU will grant credits (at no charge) for training that Wal-Mart employees already receive on their jobs, which will allow employees to earn degrees faster. The school is reviewing all jobs at the company to determine which ones will qualify for credit. Program participants must have worked for Wal-Mart for one year as full-time employees, or for three years part-time, and must also score “on target” or “above target” on their most recent evaluation.²⁸

Why and How Business Leaders Should Engage

The future of postsecondary education, the workforce, and the viability of the American middle class are at stake. **Business leaders must step forward on behalf of postsecondary education, and help to move beyond a one-institution-at-a-time approach to state policy. Furthermore, business leaders who are the products of selective, elite research universities cannot restrict their concerns and energies to their own institutions. Instead, they must grapple with the core policy issues that can make a fundamental difference: statewide goals, strategic financial policies, incentives for productivity and innovation, regulatory reforms, and public accountability at the broad-access institutions that must carry the brunt of the load of improving national postsecondary-education performance. Business leaders must insist on outcomes-based measures of performance, and focus on systemic reforms that stimulate transformative change at the institutional level. Business leaders can reinforce state policy changes by aligning their own education and training practices with this agenda.**

In the broadest sense, business leaders must use their leverage to (1) vigorously urge state policymakers at the highest levels—governors, legislative leaders, and state higher education officials—to pursue a strategic rather than a piecemeal agenda; (2) give these policymakers political support, if needed, when they do adopt a statewide rather than an institutional perspective; and (3) serve as a counterweight to the powerful forces that emphasize research and post-baccalaureate-oriented

institutions over those devoted primarily to undergraduate teaching.

With 50 states, each with unique aggregations of postsecondary institutions and facing different economic needs and demographic circumstances, we cannot and would not want to offer an agenda of specific policy changes or “best practices.” Because most states have not yet focused on postsecondary attainment and productivity issues, we can cite only selected examples, including those highlighted in sidebars/boxes in this statement. There are as yet no proven models of state success in addressing these issues; and for that matter, one size does not fit all. Indeed, business leaders must be at the forefront in motivating and aiding the development of new models. What we do endorse and urge is a series of state-level actions and approaches that business leaders can and should promote to spur and monitor productivity and effectiveness-enhancing postsecondary policies, to be adapted to each state’s needs.

1. **Business leaders should urge state officials to set explicit goals for the awarding of postsecondary degrees and certificates for the state, for each sector, and for each state-sponsored institution, based on state economic and demographic conditions.** The capacities and expected contributions of all types of colleges and universities—public and private, non-profit and for-profit—should be taken into account and the expected contributions of each made explicit. State and institutional goals must be clear and measurable. Outcomes rather than inputs should take priority in state policy discussions. In the longer term, to assess performance accurately,

Employee Scholar Program: United Technologies

Since 1996, United Technologies Corporation has sponsored an Employee Scholar Program to encourage learning throughout an employee’s career. Participants in the United States and around the world can enroll at approved educational institutions and can pursue any course of study they wish, regardless of its relation to employees’ current jobs. Unlike many employer tuition programs, which require up-front out-of-pocket payments by workers who must seek reimbursement later, UTC pays colleges directly for tuition, books, and fees. The company also provides employees with paid time off each week to study. In addition to current employees, laid-off workers are eligible to participate in ESP for a limited period. Over 32,500 UTC employees have earned postsecondary degrees since the program’s beginning, and UTC’s investment over the program’s history will surpass \$1 billion in 2012. Although there is no requirement that ESP participants must stay with the company after earning their degrees, retention rates and promotion rates are higher among the employee scholars than for their counterparts.²⁷

better data (especially longitudinal data covering work experience of both traditional and adult students) will be essential.

2. **Business leaders should advocate and help state officials to develop a strategic financial plan (for which business leaders have obvious aptitude) for resource allocation aligned with state goals.** Such a plan—in effect, a business plan for raising educational attainment—should incorporate both new and existing resources, and should explicitly promote and measure progress toward attainment goals and toward productivity improvements. The plan should include the major components of finance policy: state appropriations to colleges for operating support, tuition policy, and student financial aid. Affordability for students, families, and taxpayers must be addressed explicitly. The plan should emphasize and measure productivity improvements: increased numbers of high-quality postsecondary credentials and competencies *relative to costs*.
3. **Most importantly, the strategic plan should provide wide latitude for institutional innovation through initiative and implementation.** It should encourage experimentation with “disruptive innovations,” including new delivery and credentialing mechanisms such as on-line learning, and competency-based rather than “seat-time” approaches to awarding credits and credentials. Such innovations eventually will go far beyond what is even contemplated today.
4. **Business leaders should expect state officials to develop and publish annually a set of “dashboard” indicators and metrics, based on improved performance data, that measure progress toward goals with respect to the access to and attainment of credentials, and the quality of learning.** Such indicators not only monitor progress, but also sustain public and policy attention to the key issues of educational productivity and attainment. Business should be “at the table” as a key stakeholder when these indicators are determined.
5. **Business leaders should urge state officials to undertake (and should participate in) “policy audits” to review the state regulatory environment and to modify or eliminate statutes,**

regulations (including review of and recommendations on federal regulation and accreditation standards), policies, and procedures that impede innovation and productivity improvements, and that are not necessary for public accountability or prevention of abuse. The Lumina Foundation for Education has funded several state policy audits (including audits in Texas²⁹ and Indiana³⁰) as part of its “Making Opportunity Affordable” project.

6. **Business leaders should assure that state colleges and universities are held publically accountable for progress toward the achievement of state goals. They should consider sponsoring or cosponsoring an annual statewide education “summit” or alternative accountability milestone that convenes all stakeholders—including state, postsecondary-education and business leaders—to reaffirm (or revise if necessary) state goals, assess progress, and discuss how to keep moving forward with postsecondary improvement, highlighting innovative policies and practices that are improving productivity.** In addition, business leaders should communicate their perceptions of any new or unmet educational needs of new workforce entrants to other stakeholders.

Business leaders should also support state strategic objectives through their own corporate education and training policies.

1. **Business leaders should direct their own corporate tuition assistance programs to the most productive and effective colleges and universities, including on-line courses and instruction.** They should support their employees who study with scheduling flexibility and computer facilities as needed and feasible. They should encourage their qualified employees to teach and mentor in these institutions. And they should share their assessments of instructional cost-effectiveness through business organizations in their states.
2. **Thirty-seven million adults have taken postsecondary courses but have no degrees or credentials. Business leaders should implement corporate policies to assist workers in completing postsecondary degrees and certificates, as some such as United Technologies Corporation and Wal-Mart (see sidebars) are already doing.**

Conclusion

American postsecondary education has unique strengths—including its heterogeneous array of institutional missions, decentralized governance and control, diversity of funding sources, and the considerable degree that the “system” is shaped by student choice rather than top-down centralized planning. Yet now the postsecondary system confronts new challenges as global economic competition makes new demands at a time of changing demography, pressures to control costs, and public budgetary constraints.

Business leaders are the competitors in the global economy. They need a skilled workforce, and have a key role to play in the development of postsecondary education. Strategic public policy to establish state education goals and to align funding, accountability, regulation, and oversight with these goals can preserve postsecondary education’s market orientation and freedom to innovate while better focusing institutions’ attention on the critical need to boost performance and better prepare individuals for the workplace and for life. In the interest of all Americans, CED urges business leaders to take the lead as advocates for the education of the strategic core of tomorrow’s workforce.

Selected Readings and References

Richard Arum and Josipa Roska (2012). *Academically Adrift*. University of Chicago Press.

Meghan Wilson Brenneman, Patrick M. Callan, Peter T. Ewell, Joni E. Finney, Dennis P. Jones, and Stacey Zis (November 2010). *Good Policy, Good Practice II—Improving Outcomes and Productivity in Higher Education: A Guide for Policymakers*. The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems. http://www.highereducation.org/reports/Policy_Practice_2010/GPGPII.pdf (accessed April 13, 2012).

Anthony P. Carnevale, Nicole Smith, and Jeff Strohl (June 2010). “Help Wanted: Projections of Jobs and Education Requirements through 2018.” Georgetown University Press, Center on Education and the Workforce. <http://cew.georgetown.edu/jobs2018> (accessed April 13, 2012).

Clayton M. Christensen, Michael B. Horn, Louis Caldera, and Louis Soares (February 2011). *Disrupting College: How Disruptive Innovation Can Deliver Quality and Affordability to Postsecondary Education*. http://www.americanprogress.org/issues/2011/02/pdf/disrupting_college.pdf (accessed April 13, 2012).

John Daniel, Asha Kanwar, and Stamenka Uvalic-Trumbic (March/April 2009). “Breaking Higher Education’s Iron Triangle: Access, Cost, and Quality.” *Change: The Magazine of Higher Learning*. <http://www.changemag.org/Archives/Back%20Issues/March-April%202009/full-iron-triangle.html> (accessed April 13, 2012).

Selected Readings and References (continued)

Bill & Melinda Gates Foundation (2009). *Postsecondary Success*. <http://www.gatesfoundation.org/learning/Documents/postsecondary-education-success-plan-brochure.pdf> (accessed April 13, 2012).

Donald Heller (Ed.) (2011). *The States and Public Higher Education Policy*, 2nd edition. John Hopkins University Press.

Dennis Jones and Jane Wellman (May/June 2010). "Breaking Bad Habits: Navigating the Financial Crisis." *Change: The Magazine of Higher Learning*. <http://www.changemag.org/Archives/Back%20Issues/May-June%202010/breaking-bad-full.html> (accessed April 13, 2012).

Lumina Foundation for Education (September 2010). "A Stronger Nation Through Higher Education: How and Why Americans Must Achieve a 'Big Goal' for College Attainment." http://www.luminafoundation.org/publications/A_stronger_nation.pdf (accessed April 13, 2012).

McKinsey&Company (2010). *Winning by Degrees: The Strategies of Highly Productive Higher-Education Institutions*. http://www.mckinsey.com/client-service/Social_Sector/our_practices/Education/Knowledge_Highlights/~/_media/Reports/SSO/Winning%20by%20degrees%20report%20fullreport%20v5.ashx (accessed April 13, 2012).

Candace Thille and Joel Smith (March/April 2011). "Cold Rolled Steel and Knowledge: What Can Higher Education Learn About Productivity?" *Change: The Magazine of Higher Learning*. <http://www.changemag.org/Archives/Back%20Issues/2011/March-april%202011/cold-rolled-steel-full.html> (accessed April 13, 2012).

William H. Trombley and Todd Sallo (2012). *American Higher Education: Journalistic and Policy Perspectives from National CrossTalk*. National Center for Public Policy and Higher Education. <http://www.highereducation.org/crosstalk/ctbook/index.shtml> (accessed April 13, 2012).

Carol Twigg (June 2005). "Course Redesign Improves Learning and Reduces Costs." *Policy Alert*. http://www.highereducation.org/reports/pa_core/index.shtml (accessed April 13, 2012).

Jane Wellman (November/December 2008). "The Higher Education Funding Disconnect: Spending More, Getting Less." *Change: The Magazine of Higher Learning*. <http://www.changemag.org/Archives/Back%20Issues/November-December%202008/full-funding-disconnect.html> (accessed April 13, 2012).

William Zumeta, David W. Breneman, Patrick M. Callan and Joni E. Finney (2012). *Financing American Higher Education in the Era of Globalization*. Harvard Education Press.

- 1 Groot, Wim, and Henriette Maasen van den Brink, "What does education do to our health?," Organisation for Economic Cooperation and Development, *Measuring The Effects Of Education On Health And Civic Engagement: Proceedings of the Copenhagen Symposium*, 2006, pp. 355-63.
- 2 Anthony P. Carnevale, Nicole Smith, Jeff Strohl, "Help Wanted: Projections of Jobs and Education Requirements through 2018," Georgetown University Press, Center on Education and the Workforce, June 2010; Anthony P. Carnevale, Stephen J. Rose, "The Undereducated American," Georgetown University Press, Center on Education and the Workforce, June 2011; Patrick J. Kelly, "Closing the College Attainment gap between the U.S. and Most Educated Countries, and the Contributions to be made by the States," National Center for Higher Education Management Systems, 2010.
- 3 B.G. Auguste, A. Cota, Kartik Jayaram, and M.C.A. Laboissiere, *Winning by Degrees: The Strategies of Highly Productive Higher-Education Institutions*, McKinsey & Company, November 2010.
- 4 Center for an Urban Future, *Mobility Makers*, November 2011.
- 5 U.S. Bureau of the Census, "Overview of Race and Hispanic Origin: 2010," 2010 Census Briefs C2010BR-02, by Karen R. Humes, Nicholas A. Jones, and Roberto R. Ramirez, March 2011, <http://www.census.gov/prod/cen2010/briefs/c2010br-02.pdf> (accessed April 10, 2012).
- 6 U.S. Census Bureau, Statistical Abstract of the United States: 2012, Table 713.
- 7 National Center for Higher Education Management Systems, "Defining Attainment & Policy Responses to Improve Performance: Raising the Bar for Higher Education in a Time of Fiscal Constraint," Charlottesville, VA, December 6, 2010.
- 8 Lumina Foundation for Education, "A Stronger Nation Through Higher Education: How and Why Americans Must Achieve a 'Big Goal' for College Attainment," September 2010, p. 3, citing U.S. Census Bureau, 2008 American Community Survey.
- 9 For one more specific example, IBM has generated data analysis tools to identify students for are at-risk of not succeeding, and to recommend interventions that are likely to work for the student's specific problems, "Accountability and achievement solutions for education," <ftp://public.dhe.ibm.com/common/ssi/ecm/en/ebs03006usen/EBS03006USEN.PDF> (accessed April 13, 2012).
- 10 The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems, *Good Policy, Good Practice II—Improving Outcomes and Productivity in Higher Education: A Guide for Policymakers*, National Center Report #10-01, November 2010, http://www.highereducation.org/reports/Policy_Practice_2010/GPGPII.pdf (accessed April 11, 2012).
- 11 National Center for Academic Transformation, <http://www.thencat.org> (accessed April 10, 2012); The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems, *Good Policy, Good Practice II—Improving Outcomes and Productivity in Higher Education: A Guide for Policymakers*, National Center Report #10-01, November 2010, http://www.highereducation.org/reports/Policy_Practice_2010/GPGPII.pdf (accessed April 11, 2012).
- 12 University System of Maryland, "Effectiveness and Efficiency Initiative," <http://www.usmd.edu/usm/workgroups/EEWorkGroup/eeproject/index> (accessed April 10, 2012).
- 13 University System of Maryland, "Effectiveness and Efficiency Reports 2011," Attachments A, B, C, and D, <http://www.usmd.edu/usm/workgroups/EEWorkGroup/eeproject/eereports11.html> (accessed April 10, 2012); The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems, *Good Policy, Good Practice II—Improving Outcomes and Productivity in Higher Education: A Guide for Policymakers*, National Center Report #10-01, November 2010, http://www.highereducation.org/reports/Policy_Practice_2010/GPGPII.pdf (accessed April 11, 2012).
- 14 Rio Salado College, "About Us," <http://www.riosalado.edu> (accessed April 10, 2012).
- 15 Southern New Hampshire University, "3Year Honors Program in Business," <http://www.snhu.edu/2220.asp> (accessed April 10, 2012).
- 16 B.G. Auguste, A. Cota, Kartik Jayaram, and M.C.A. Laboissiere, *Winning by Degrees: The Strategies of Highly Productive Higher-Education Institutions*, McKinsey & Company, November 2010.
- 17 Richard Arum and Josipa Roksa, *Academically Adrift*, University of Chicago Press, January 2011.

- 18 John Immerwahr, Jean Johnson and Paul Gasbarra, "The Iron Triangle," October 2008, http://www.highereducation.org/reports/iron_triangle/IronTriangle.pdf (accessed April 10, 2012).
- 19 B.G. Augustine, A. Cota, Kartik Jayaram, and M.C.A. Laboissiere, *Winning by Degrees: The Strategies of Highly Productive Higher-Education Institutions*, McKinsey & Company, November 2010, pp. 27-28.
- 20 University of Virginia, "Higher Education Restructuring," <http://www.virginia.edu/restructuring> (accessed April 10, 2012).
- 21 State Council of Higher Education for Virginia, "Higher Education Opportunity Act (Restructuring)," <http://www.schev.edu/Restructuring/restructuring.asp> (accessed April 10, 2012).
- 22 Virginia's Community Colleges, "Achieve 2015," <http://www.vccs.edu/WhoWeAre/Achieve2015.aspx> (accessed April 10, 2012).
- 23 Rose Asera, "Innovation at Scale: How Virginia Community Colleges are Collaborating to Improve Developmental Education and Increase Student Success," October 2011, http://www.jff.org/sites/default/files/ATD_InnovationAtScale_101411.pdf (accessed April 10, 2012).
- 24 The Knowledge Collaborative, "Tennessee Outcomes Based Funding Formula (Fact Sheet)," November 2, 2011, <http://www.thekc.org/blogs/tennessee-outcomes-based-funding-formula-fact-sheet> (accessed April 11, 2012); Tennessee Government, "The Public Agenda for Tennessee Higher Education, 2010-2015," January 2011, http://www.tn.gov/thec/complete_college_tn/ccta_files/master_plan/The%20Public%20Agenda%20with%20Appendices%20Jan2011.PDF (accessed April 13, 2012).
- 25 Tennessee Government, "Complete College Tennessee Act Summary," http://tn.gov/thec/complete_college_tn/ccta_summary.html (accessed April 11, 2012); The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems, *Good Policy, Good Practice II—Improving Outcomes and Productivity in Higher Education: A Guide for Policymakers*, National Center Report #10-01, November 2010, http://www.highereducation.org/reports/Policy_Practice_2010/GPGPII.pdf (accessed April 11, 2012).
- 26 Midwestern Higher Education Compact, "Completion-based Funding for Higher Education," February 2009, <http://www.mhec.org/pdfs/0209completionbasedfunding.pdf> (accessed April 11, 2012); The National Center for Public Policy and Higher Education and the National Center for Higher Education Management Systems, *Good Policy, Good Practice II—Improving Outcomes and Productivity in Higher Education: A Guide for Policymakers*, National Center Report #10-01, November 2010, http://www.highereducation.org/reports/Policy_Practice_2010/GPGPII.pdf (accessed April 11, 2012).
- 27 United Technologies Corporation, "Employee Scholar Program," http://www.utc.com/StaticFiles/UTC/StaticFiles/esp_fact_sheet.pdf (accessed April 11, 2012).
- 28 Stephanie Clifford and Stephanie Rosenbloom, "Wal-Mart to Offer Its Workers a College Program," *New York Times*, June 3, 2010, <http://www.nytimes.com/2010/06/04/business/04walmart.html> (accessed April 11, 2012); Walmart Corporate, "Lifelong Learning Program," <http://walmartstores.com/CommunityGiving/9973.aspx> (accessed April 11, 2012).
- 29 Texas Higher Education Coordinating Board, "Making Opportunity Affordable, Policy Audit Report," April 2009, <http://www.thecb.state.tx.us/download.cfm?downloadfile=EBC4D145-024A-65E9-139FBE4D569EABAF> (accessed April 11, 2012).
- 30 National Center for Higher Education Management Systems, "Higher Education in Indiana: A Summary of Key Policies and Practices," *Lumina Foundation*, April 2009, <http://www.thekc.org/sites/default/files/Indiana%20policy%20audit.pdf> (accessed April 11, 2012).

CED Trustees

Co-Chairmen

ROBER W. FERGUSON, JR.
President and Chief Executive Officer
TIAA-CREF

DONALD K. PETERSON
Chairman and Chief Executive Officer, Retired
Avaya Inc.

Executive Committee

BETH A. BROOKE
Global Vice Chair – Public Policy
Ernst & Young LLP

CARL T. CAMDEN
President and Chief Executive Officer
Kelly Services, Inc.

MICHAEL CHESSER
Chairman & CEO
Great Plains Energy, Inc.

ROBERT COLSON
Partner – Institutional Acceptance, Retired
Grant Thornton

W. BOWMAN CUTTER
Senior Fellow and Director, Economic Policy Initiative
The Roosevelt Institute

JOSEPH GANTZ
Managing Director & COO
Pine Brook Road Partners LLC

PATRICK W. GROSS
Chairman
The Lovell Group

RODERICK M. HILLS
Chairman
Hills Stern & Morley LLP

EDWARD A. KANGAS
Chairman and Chief Executive Officer, Retired
Deloitte Touche Tohmatsu

JOSEPH E. KASPUTYS
Chairman, China Monitor, Inc., Founder and Chairman
IHS Global Insight

CHARLES E.M. KOLB
President
Committee for Economic Development

WILLIAM W. LEWIS
Director Emeritus, McKinsey Global Institute
McKinsey & Company, Inc.

BRUCE K. MACLAURY
President Emeritus
The Brookings Institution

LENNY MENDONCA
Director of Firm Knowledge, McKinsey Global Institute
McKinsey & Company, Inc.

FREDERICK W. TELLING
Vice President, Corporate Policy and Strategic Management, Retired
Pfizer Inc.

JACOB J. WORENKLEIN
Partner
Bingham McCutchen LLP

CED Trustees

ELLEN ALEMANY
Chief Executive Officer and Chairman
Citizens Financial Group, Inc.

PAUL A. ALLAIRE
Chairman, Retired
Xerox Corporation

MARIA BEATRICE ARCO
Chair
American Asset Corporation

IAN ARNOFF
Chairman
Arnoff Family Foundation

MORTEN ARNTZEN
President and Chief Executive Officer
Overseas Shipholding Group, Inc.

ANTHONY A. BARRUETA
Senior Vice President, Government Relations
Kaiser Foundation Health Plan, Inc.

EDWARD N. BASHA
Chief Executive Officer
Basha Grocery Stores

NADINE BASHA
Chair of Arizona Early Childhood Development and Health Board
Basha Grocery Stores

ALAN BELZER
President & Chief Operating Officer, Retired
Allied Signal

PETER A. BENOLIEL
Chairman Emeritus
Quaker Chemical Corporation

DEREK C. BOK
Professor of Law & President Emeritus
Harvard University

LEE C. BOLLINGER
President
Columbia University

STEPHEN W. BOSWORTH
Dean, Fletcher School of Law and Diplomacy
Tufts University

JOHN BRADEMAS
President Emeritus
New York University

WILLIAM E. BROCK
Founder and Senior Partner
The Brock Group

ROBERT H. BRUININKS
President
University of Minnesota

DONALD R. CALDWELL
Chairman & Chief Executive Officer
Cross Atlantic Capital Partners

GERHARD CASPER
President Emeritus and Professor
Stanford University

RAYMOND G. CHAMBERS
Special Envoy of the Secretary-General for Malaria
United Nations

ROBERT B. CHESS
Chairman
Nektar Therapeutics

CAROLYN CHIN
Chairman and Chief Executive Officer
Cebiz/Health Wellness Solutions

MARTIN COHEN
Managing Director and Corporate Secretary
Morgan Stanley

**FERDINAND COLLOREDO-
MANSFELD**

Partner
Cabot Properties, LLC

GEORGE H. CONRADES

Executive Chairman
Akamai Technologies Inc.

EDWARD F. COX

Of Counsel
Patterson Belknap Webb & Tyler

STEPHEN A. CRANE

Chairman
Insurance and Reinsurance Strategies

KENNETH W. DAM

*Max Pam Professor Emeritus of American
& Foreign Law & Senior Lecturer*
The University of Chicago

PAUL DANOS

Dean, The Amos Tuck School of Business
Dartmouth College

RICHARD H. DAVIS

Partner
Davis Manafort, Inc.

RICHARD J. DAVIS

Senior Partner
Weil, Gotshal & Manges LLP

JOHN J. DEGIOIA

President
Georgetown University

MICHELLE FINNERAN DENNEDY

Vice President & Chief Privacy Officer
McAfee, Inc.

RENATO A. DiPENTIMA

President and CEO, Retired
SRA International, Inc.

LINDA M. DISTLERATH

Senior Vice President
APCO Worldwide

WILLIAM H. DONALDSON

Chairman
Donaldson Enterprises

IRWIN DORROS

President
Dorros Associates

FRANK P. DOYLE

Executive Vice President, Retired
General Electric Company

ROBERT H. DUGGER

Managing Director
Hanover Investment Group LLC

T. J. DERMOT DUNPHY

Chairman
Kildare Enterprises, LLC

CHRISTOPHER D. EARL

Former President and CEO
BIO Ventures for Global Health

STUART E. EIZENSTAT

Partner
Covington & Burling LLP

WILLIAM F. EZZELL

*National Managing Partner - Legislative
& Regulatory Relations*
Deloitte LLP

RICHARD EDELMAN

President and CEO
Edelman Public Relations

KATHLEEN FELDSTEIN

President
Economics Studies, Inc.

TREVOR FETTER

President and CEO
Tenet Healthcare Corporation

EDMUND B. FITZGERALD

Managing Director
Woodmont Associates

HOWARD FLUHR

Chairman
The Segal Company

MARGARET FORAN

*Vice President, Chief Governance Officer
and Secretary*
Prudential Financial

BARBARA HACKMAN FRANKLIN

*President & CEO and Former
U.S. Secretary of Commerce*
Barbara Franklin Enterprises

PAMELA B. GANN

President
Claremont McKenna College

E. GORDON GEE

President
The Ohio State University

THOMAS P. GERRITY

Joseph J. Aresty Professor of Management
The Wharton School of the University of
Pennsylvania

STUART M. GERSON

Partner
Epstein Becker & Green, PC

ALFRED G. GOLDSTEIN

President and CEO - AG Associates
Alfred G & Hope P. Goldstein Fund

EARL G. GRAVES

Chairman and Publisher
Earl G. Graves Publishing Co., Inc.

MARK. N. GREENE

Chief Executive Officer, Retired
Chair, Advisory Council
FICO

GERALD GREENWALD

Chairman
Greenbriar Equity Group

GAIL GRIMMETT

Senior Vice President, Global New York
Delta Air Lines, Inc.

BARBARA B. GROGAN

Chairman Emeritus
Western Industrial Contractors

RONALD GRZYWINSKI

Chairman
ShoreBank Corporation

JUDITH H. HAMILTON

*President and Chief Executive Officer,
Retired*
Classroom Connect

HOLLIS W. HART

Head of International Finance Management
Citi

BEN W. HEINEMAN, JR.

*Senior Fellow, Schools of Law
& Government*
Harvard University

HEATHER R. HIGGINS

President
Randolph Foundation

CED Trustees

JOHN HILLEN

President & Chief Executive Officer
Sotera Defense Solutions, Inc.

PAUL M. HORN

Senior Vice Provost of Research
New York University

PHILIP K. HOWARD

Partner
Covington & Burling LLP

R. GLENN HUBBARD

*Dean and Russell L. Carson Professor of
Finance and Economics*
Columbia University

SHIRLEY ANN JACKSON

President
Rensselaer Polytechnic Institute

JEFFREY A. JOERRES

Chairman and CEO
Manpower Inc.

ROBERT L. JOSS

Dean, Graduate School of Business, Retired
Stanford University

PRES KABACOFF

*Co-Chairman of the Board of Directors &
Chief Executive Officer*
HRI Properties

WILLIAM E. "BRIT" KIRWAN

Chancellor
University System of Maryland

THOMAS F. LAMB

Senior Vice President, Government Affairs
PNC Financial Services Group, Inc.

KURT M. LANDGRAF

President & CEO
Educational Testing Service

DAVID H. LANGSTAFF

President & Chief Executive Officer
TASC, Inc.

W. MARK LANIER

Partner
The Lanier Law Firm P.C.

DIONY LEBOT

*Chief Executive Officer - Societe Generale
Americas*
Societe Generale

IRA A. LIPMAN

Founder and Chairman
Guardsmark, LLC

JOHN C. LOOMIS

Vice President, Human Resources
GE Infrastructure

LI LU

President
Himalaya Management LLC

EUGENE A. LUDWIG

Founder & CEO
Promontory Financial Group

ELLEN R. MARRAM

President
Barnegat Group LLC

T. ALLAN MCARTOR

Chairman
Airbus of North America, Inc.

ALONZO L. MCDONALD

Chairman and Chief Executive Officer
Avenir Group, Inc.

WILLIAM J. MCDONOUGH

Vice Chairman, Retired
Bank of America Merrill Lynch

MICHAEL MCGUIRE

*National Managing Partner – Industry and
Market Development*
Grant Thornton

DAVID E. MCKINNEY

Vice Chair
Thomas J. Watson Foundation

ROBERT W. MENDENHALL

President
Western Governors University

ALAN G. MERTEN

President
George Mason University

DEBORAH HICKS MIDANEK

Chairman and CEO
Solon Group, Inc.

HARVEY R. MILLER

Partner
Weil, Gotshal & Manges LLP

ALFRED T. MOCKETT

Chief Executive Officer
DEX One

AVID MODJTABAI

*Executive Vice President, Technology
and Operations*
Wells Fargo & Co.

JAMES P. MOODY

*Senior Financial Advisor & Assistant Vice
President, Global Wealth Management*
Bank of America Merrill Lynch

NICHOLAS G. MOORE

Director
Bechtel Group, Inc.

MICHAEL G. MORRIS

Chairman
American Electric Power Company

DAVID R. NACHBAR

Chief Human Resources Officer
Graham Packaging Company

DIANA S. NATALICIO

President
The University of Texas at El Paso

DEAN R. O'HARE

Chairman and CEO, Retired
The Chubb Corporation

NELS OLSON

*Vice Chairman and Co-Leader Board
and CEO Practices*
Korn/Ferry International, Inc.

RONALD L. OLSON

Senior Partner
Munger, Tolles & Olson LLP

STEFFEN E. PALKO

President and Vice Chairman, Retired
XTO Energy Inc.

CAROL J. PARRY

President
Corporate Social Responsibility
Associates

DEBRA PERRY

Non-Executive Director
Korn/Ferry International, Inc.

GREGG PETERSMEYER

Chairman and CEO
Personal Pathways, LLC

PETER G. PETERSON

Founder and Chairman
Peter G. Peterson Foundation

TODD E. PETZEL

Managing Director and Chief Investment Officer
Offit Capital Advisors LLC

DOUG PRICE

President and CEO
Rocky Mountain PBS

NED REGAN

Professor
The City University of New York

JAMES E. ROHR

Chairman and CEO
PNC Financial Services Group, Inc.

ROY ROMER

Senior Advisor
The College Board

DANIEL ROSE

Chairman
Rose Associates, Inc.

LANDON H. ROWLAND

Chairman
Ever Glades Financial

NEIL L. RUDENSTINE

Chair, ArtStor Advisory Board
Andrew W. Mellon Foundation

GEORGE E. RUPP

President
International Rescue Committee

KENNETH P. RUSCIO

President
Washington & Lee University

PATRICIA F. RUSSO

Former Chairman and CEO
Alcatel-Lucent Technologies, Inc.

EDWARD B. RUST

Chairman and CEO
State Farm Insurance Companies

ROBERT SCOTT

President
Adelphi University

WILLIAM S. SESSIONS

Partner
Holland & Knight LLP

JOHN E. SEXTON

President
New York University

DONNA E. SHALALA

President
University of Miami

GEORGE P. SHULTZ

Thomas W. and Susan B. Ford Distinguished Fellow
Hoover Institution

FREDERICK W. SMITH

Chairman, President and CEO
FedEx Corporation

PETER P. SMITH

Senior Vice President, Academic Strategies and Development
Kaplan, Inc.

ALAN G. SPOON

Managing General Partner
Polaris Venture Partners

JON STELLMACHER

Sr. Vice President, Retired
Thrivent Financial for Lutherans

PAULA STERN

Chairwoman
The Stern Group, Inc.

ROGER W. STONE

Chairman and CEO
KapStone Paper and Packaging Corp.

DAVIA B. TEMIN

President and Chief Executive Officer
Temin and Company Incorporated

EDOUARD TETREAU

Partner
Mediafin

G. RICHARD THOMAN

Chairman
Corporate Acquirers, Inc.

LARRY D. THOMPSON

Senior Vice President, Government Affairs, General Counsel and Secretary, Retired
PepsiCo, Inc.

JAMES A. THOMSON

President and Chief Executive Officer, Retired
RAND

PATRICK TOOLE

General Manager, Maintenance & Technical Support Services, IBM Global Technology Services
IBM Corporation

STEPHEN JOEL TRACHTENBERG

President Emeritus & University Professor of Public Service
George Washington University

TALLMAN TRASK

Executive Vice President
Duke University

JØRGEN VIG KNUDSTORP

Chief Executive Officer
LEGO Group

JAMES L. VINCENT

Chairman, Retired
Biogen Idec Inc.

JERRY D. WEAST

Founder and President, Partnership for Deliberate Excellence, LLC and Former Superintendent
Montgomery County Public Schools
Montgomery County Public Schools

JOSH S. WESTON

Honorary Chairman
Automatic Data Processing, Inc.

JOHN P. WHITE

Robert & Renee Belfer Lecturer, Kennedy School of Government
Harvard University

JOHN C. WILCOX

Chairman
Sodali Ltd.

HAROLD M. WILLIAMS

President Emeritus
Getty Trust

MARGARET S. WILSON

Chairman and CEO
Scarboroughs

H. LAKE WISE

Executive Vice President and Chief Legal Officer
Daiwa Securities America Inc.

NANCY WYNNE

General Counsel
HAVAS Worldwide

KURT E. YEAGER

President Emeritus
Electric Power Research Institute

Statements On National Policy Issued By The Committee for Economic Development

Selected Recent Publications:

- The Future of Taxpayer-Funded Research: Who Will Control Access to the Results? (2012)
- After Citizens United; Improving Accountability in Political Finance (2011)
- Hidden Money: The Need for Transparency in Political Finance (2011)
- Partial Justice: The Peril of Judicial Elections (2011)
- Are Institutional Investors Part of the Problem or Part of the Solution? (2011)
- To Reform Medicare, Reform Incentives and Organization (2011)
- This Way Down – To A Debt Crisis (2011)
- Restoring Trust in Corporate Governance: The Six Essential Tasks of Boards of Directors and Business Leaders (2010)
- Harnessing Openness to Improve Research, Teaching and Learning in Higher Education (2009)
- Teacher Compensation and Teacher Quality (2009)
- Rebuilding Corporate Leadership: How Directors Can Link Long-Term Performance with Public Goals (2009)
- Leadership and Shared Purpose for America’s Future (2008)
- Built to Last: Focusing Corporations on Long-Term Performance (2007)
- The Employer-based Health-Insurance System (EBI) Is At Risk: What We Must Do About It (2007)
- The Economic Promise of Investing in High-Quality Preschool: Using Early Education to Improve Economic Growth and the Fiscal Sustainability of States and the Nation (2006)
- Open Standards, Open Source, and Open Innovation: Harnessing the Benefits of Openness (2006)
- Private Enterprise, Public Trust: The State of Corporate America After Sarbanes-Oxley (2006)
- The Economic Benefits of High-Quality Early Childhood Programs: What Makes the Difference? (2006)
- Education for Global Leadership: The Importance of International Studies and foreign Language Education for U.S. Economic and National Security (2006)
- A New Tax Framework: A Blueprint for Averting a Fiscal Crisis (2005)
- Cracks in the Education Pipeline: A Business Leader’s Guide to Higher Education Reform (2005)
- The Emerging Budget Crisis: Urgent Fiscal Choices (2005)
- Making Trade Work: Straight Talk on Jobs, Trade, and Adjustments (2005)
- Building on Reform: A Business Proposal to Strengthen Election Finance (2005)
- Developmental Education: The Value of High Quality Preschool Investments as Economic Tools (2004)
- A New Framework for Assessing the Benefits of Early Education (2004)
- Promoting Innovation and Economic Growth: The Special Problem of Digital Intellectual Property (2004)
- Investing in Learning: School Funding Policies to Foster High Performance (2004)
- Promoting U.S. Economic Growth and Security Through Expanding World Trade: A Call for Bold American Leadership (2003)
- Reducing Global Poverty: Engaging the Global Enterprise (2003)
- Reducing Global Poverty: The Role of Women in Development (2003)
- How Economies Grow: The CED Perspective on Raising the Long-Term Standard of Living (2003)
- Learning for the Future: Changing the Culture of Math and Science Education to Ensure a Competitive Workforce (2003)
- Exploding Deficits, Declining Growth: The Federal Budget and the Aging of America (2003)
- Justice for Hire: Improving Judicial Selection (2002)
- A Shared Future: Reducing Global Poverty (2002)
- A New Vision for Health Care: A Leadership Role for Business (2002)
- Preschool for All: Investing In a Productive and Just Society (2002)
- From Protest to Progress: Addressing Labor and Environmental Conditions Through Freer Trade (2001)
- The Digital Economy: Promoting Competition, Innovation, and Opportunity (2001)
- Reforming Immigration: Helping Meet America’s Need for a Skilled Workforce (2001)
- Measuring What Matters: Using Assessment and Accountability to Improve Student Learning (2001)
- Improving Global Financial Stability (2000)
- The Case for Permanent Normal Trade Relations with China (2000)

CED Counterpart Organizations

Close relations exist between the Committee for Economic Development and independent, nonpolitical research organizations in other countries. Such counterpart groups are composed of business executives and scholars and have objectives similar to those of CED, which they pursue by similarly objective methods. CED cooperates with these organizations on research and study projects of common interest to the various countries concerned. This program has resulted in a number of joint policy statements involving such international matters as energy, assistance to developing countries, and the reduction of nontariff barriers to trade.

CE	Circulo de Empresarios Madrid, Spain
----	---

CEAL	Consejo Empresario de America Latina Buenos Aires, Argentina
------	---

CEDA	Committee for Economic Development of Australia Sydney, Australia
------	--

CIRD	China Institute for Reform and Development Hainan, People's Republic of China
------	--

EVA	Centre for Finnish Business and Policy Studies Helsinki, Finland
-----	---

FAE	Forum de Administradores de Empresas Lisbon, Portugal
-----	--

IDEP	Institut de l'Entreprise Paris, France
------	---

経済同友会	Keizai Doyukai Tokyo, Japan
-------	--------------------------------

NBI	National Business Initiative Johannesburg, South Africa
-----	--

SMO	Stichting Maatschappij en Onderneming The Netherlands
-----	--



Committee for
Economic Development
2000 L Street N.W.
Suite 700
Washington, D.C. 20036
202-296-5860 Main Number
202-223-0776 Fax
1-800-676-7353
www.ced.org