Boosting Postsecondary Education Performance

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

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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 underrepresented 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.
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—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

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Public 4-year</th>
<th>Public 2-year</th>
<th>Private Non-Profit 4-year</th>
<th>Private Non-Profit 2-year</th>
<th>Public For Profit 4-year</th>
<th>Public For Profit 2-year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949-50</td>
<td>344</td>
<td>297</td>
<td>983</td>
<td>227</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1969-70</td>
<td>426</td>
<td>634</td>
<td>1213</td>
<td>252</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>1989-90</td>
<td>595</td>
<td>968</td>
<td>1479</td>
<td>177</td>
<td>53</td>
<td>263</td>
</tr>
<tr>
<td>2009-10</td>
<td>672</td>
<td>1000</td>
<td>1539</td>
<td>85</td>
<td>563</td>
<td>636</td>
</tr>
</tbody>
</table>

NA = Not available

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

<table>
<thead>
<tr>
<th>Table 2: Total Fall Enrollment in Degree-Granting Institutions, 1949-2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enrollments (in thousands)</strong></td>
</tr>
<tr>
<td><strong>Public</strong></td>
</tr>
<tr>
<td>4-year</td>
</tr>
<tr>
<td>Fall 1949</td>
</tr>
<tr>
<td>Fall 1969</td>
</tr>
<tr>
<td>Fall 1990</td>
</tr>
<tr>
<td>Fall 2009</td>
</tr>
</tbody>
</table>

NA = Not available

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

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

**Degree Attainment Rank, Associate’s Degree or Higher, 2009: Working Age Adults**
(Ages 25-64)

<table>
<thead>
<tr>
<th>Country</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada</td>
<td>1</td>
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<tr>
<td>Israel</td>
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**Degree Attainment Rank, Associate's Degree or Higher, 2009: Young Adults**
(Ages 25-34)

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incomes below the poverty level. 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.

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.

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

<table>
<thead>
<tr>
<th>At public four-year colleges and universities</th>
<th>1999-00</th>
<th>2007-08</th>
<th>%pts increases</th>
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<tbody>
<tr>
<td>Lowest income quintile</td>
<td>39%</td>
<td>55%</td>
<td>16%</td>
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<tr>
<td>Lower-middle income quintile</td>
<td>23%</td>
<td>33%</td>
<td>10%</td>
</tr>
<tr>
<td>Middle income quintile</td>
<td>18%</td>
<td>25%</td>
<td>7%</td>
</tr>
<tr>
<td>Upper-middle income quintile</td>
<td>12%</td>
<td>16%</td>
<td>4%</td>
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<tr>
<td>Highest income quintile</td>
<td>7%</td>
<td>9%</td>
<td>3%</td>
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<tr>
<th>At public two-year colleges</th>
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<tr>
<td>Lowest income quintile</td>
<td>40%</td>
<td>49%</td>
<td>9%</td>
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<tr>
<td>Lower-middle income quintile</td>
<td>22%</td>
<td>29%</td>
<td>7%</td>
</tr>
<tr>
<td>Middle income quintile</td>
<td>15%</td>
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<td>Upper-middle income quintile</td>
<td>10%</td>
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<td>Highest income quintile</td>
<td>6%</td>
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* Net college costs equal tuition, room and board minus financial aid. The numbers may not exactly add due to rounding.

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 ap-
propriations 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—institu-
tions 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 develop-
ment system, creators of human capital, and engines of
economic growth. Their effectiveness and productivity
will determine whether the nation succeeds in signifi-
cantly 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
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.

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.
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 Roksa 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 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.
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

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**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
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.\textsuperscript{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.\textsuperscript{19}

\textbf{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.\textsuperscript{26}

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.

\textbf{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.\textsuperscript{28}
**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 Texas and Indiana) 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


Selected Readings and References (continued)


Endnotes


4 Center for an Urban Future, Mobility Makers, November 2011.


6 U.S Census Bureau, Statistical Abstract of the United States: 2012, Table 713.


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/etc/en/eb03006usen/EB03006USEN.PDF (accessed April 13, 2012).


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