

## HIGHER EDUCATION AND JOBS

**W**estern societies struggle with the contradictions between the equality implicit in democratic citizenship and the inequality that accompanies free markets. To reconcile this conflict, mass education has been relied upon to serve as a merit-based pathway toward good work and full citizenship. Anthony Carnevale, Research Professor and Director of the Global Institute on Education and the Workforce at Georgetown University, discusses how the American reliance on education as the arbiter of opportunity fits well with our highly individualistic and independent culture. He notes that today's deeply held belief in "college for all" is a unifying force that spans the political spectrum. It also reflects the reality of the shifting American economy: the share of U.S. workers with at least some postsecondary education has more than doubled in the last 30 years or so. Furthermore, the middle class is declining as its membership is being sorted out based on educational attainment level; simply put, the educational haves are moving up and the have-nots are moving down. Carnevale acknowledges higher education's traditional cultural and political mission to educate the citizenry, and emphasizes that it has a crucial economic role to fill as well.

### KEY NOTES

Democratic principles demand educational opportunity sufficient to guarantee full participation in mainstream, middle class culture and citizenship. The belief in "college for all" is a deeply held and unifying force across the American political spectrum.

In terms of available jobs, however, the data support "postsecondary education and training" rather than four-year college for all. The push to commodify learning such that curricula align in more transparent ways with occupational choices is bound to intensify as economic pressures increase.

We know that many students who are academically qualified for selective institutions enroll instead at community colleges largely due to their socio-economic status; there, at best, less than one-third the resources are devoted to their education as are spent on students enrolled at the top private research institutions.

The United States needs to spend more of its GDP on education, and take full advantage of the labor market information and technology we have at our disposal now to improve the employment prospects of individuals and the economic recovery prospects of our nation.

### College for All

In theory, democratic citizenship and markets are driven by irreconcilable beliefs. Democratic citizenship presumes equality, and markets are driven by the economic inequality necessary to motivate work effort, entrepreneurship, and the inherently lopsided accumulation of wealth. Education and social services provided by the welfare state historically have served as basic tools in resolving the contradictions between democratic citizenship and market economies. Democratic principles demand educational opportunity sufficient to guarantee full participation in mainstream, middle class culture and citizenship. Given its relatively weak welfare state, in the United States, full social and economic inclusion is largely based on holding a job with at least middle-class wages. There are good jobs that pay enough to provide a middle-class lifestyle and status, and there are bad jobs that consign a growing number and share of Americans to working poverty.

The inescapable reality is that American society is based on work. Those not equipped with the knowledge and skills necessary to get good jobs are denied full social inclusion and tend to drop out of the mainstream culture, polity, and economy—disrupting families and communities along the way. In the worst cases, when work is unavailable over time, the disenfranchised are drawn into cultures, political movements, and economic activities that threaten the mainstream. The decline of the blue-collar job market as the United States has restructured from an industrial to a knowledge-based economy has meant



trouble for those workers. With no meaningful vocational alternative available in secondary schools, postsecondary education and training has emerged as the threshold qualification for the vast majority of jobs that provide middle-class status today. And with increased economic pressures preventing further development of the welfare state—except perhaps in terms of providing better health care—the prevailing political solution to our nation’s problems has become more and more education. Indeed, the belief in “college for all” is a deeply held and unifying force across the American political spectrum.

In terms of available jobs, though, the data support “postsecondary education and training” rather than four-year college for all. The push to commodify learning such that curricula align in more transparent ways with occupational choices is bound to intensify as economic pressures increase. In the future, American higher education likely will be more tightly tied to market outcomes simply because it is market driven. It always has been so; it’s just that the death of the blue-collar economy has made that fact more obvious. I believe that if the postsecondary education sector didn’t have a labor market connection, it would be far smaller than it currently is.

Today, according to data from the National Center on Education Statistics of the Department of Education, approximately 57 percent of programs at American community colleges are occupational or vocational. That share is actually declining slightly, for two primary reasons: as four-year colleges become more expensive, more students are using community colleges to start their four-year degrees; further, because it costs more

to provide occupational and vocational education, community colleges have a powerful incentive to offer less expensive general education. At the undergraduate level, at least 70 percent of degrees are occupational; that is, only about 30,000 to 40,000 of the approximately 1.4 million bachelor’s degrees awarded each year are in the liberal arts and humanities. Master’s degrees, at roughly 88 percent, are overwhelmingly occupational and professional; and doctorate degrees are roughly 60 percent occupational and professional.

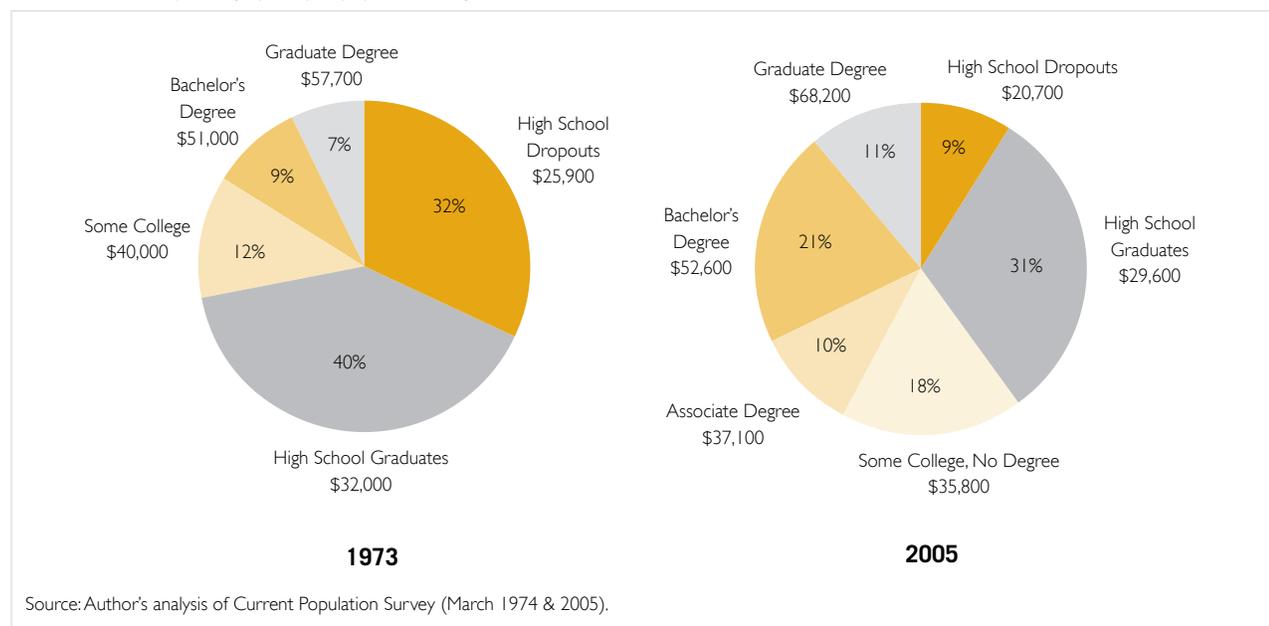
### Education, Jobs, and Income

In 1973, just 28 percent of “prime age” (ages 30–59) workers had any postsecondary education. By 2005, that figure had more than doubled to 60 percent, as shown in Figure 1.

The most significant signal that the economy is demanding more educated workers is that the wage premium for postsecondary education relative to high school graduates has continued to rise despite a huge increase in the supply of new workers with at least some college. That is, since 1979, more than 30 million job seekers with some college have been added to the American labor market, and yet the wage premium continues to rise.

Figure 2 shows the increasing share of prime-age workers with at least some college, and their wage premium. During the 1970s, the combination of a dramatic increase in the number of baby boom workers with at least some college and stagflation caused the postsecondary wage premium to decline. By 1979, prime-age workers with some college

**Figure 1. Distribution of Education in Jobs, 1973 and 2005**  
Percent of prime-age (30–59) employment. Earnings in 2001 dollars.



earned only about 43 percent more than high school graduates. (It was during that time, in 1976, that Richard Freeman wrote *The Overeducated American*.) After the 1980 recession, however, the restructuring of the U.S. economy from an industrial to a knowledge-based economy accelerated rapidly. As a result, the wage premium rose dramatically, such that in 2005, prime-age workers with at least some postsecondary education earned an average 62 percent more than high school graduates.

When data from the U.S. Bureau of Labor Statistics (BLS) are adjusted to account for factors such as the increase in educational requirements within occupations (“upskilling”) and the high turnover in jobs that do not require postsecondary education (the greater number of job openings at any one time in those fields makes them appear to comprise a larger share of overall jobs), the actual increase in jobs requiring undergraduate or graduate degrees by 2012 is more than twice the official BLS projections. That is, projections by my colleague at Georgetown, Jeffrey Strohl, and me suggest an increase of nearly 20 million jobs by 2012 that will require at least a bachelor’s degree, and suggest that by then the share of jobs requiring postsecondary education will have risen to approximately 63 percent.

Can the United States produce enough college-level workers to meet these demands? To answer that question, Strohl and I compared our estimates of labor market demand with projections of educational supply. Figure 3 illustrates our results.

It appears likely that by 2012, there will be a surplus of high school dropouts relative to the number of jobs

available for that level of education. The supply and demand for high school–educated workers looks as if it will be relatively balanced in 2012, but we found increasing shortages of college-educated labor as we moved up the attainment ladder.

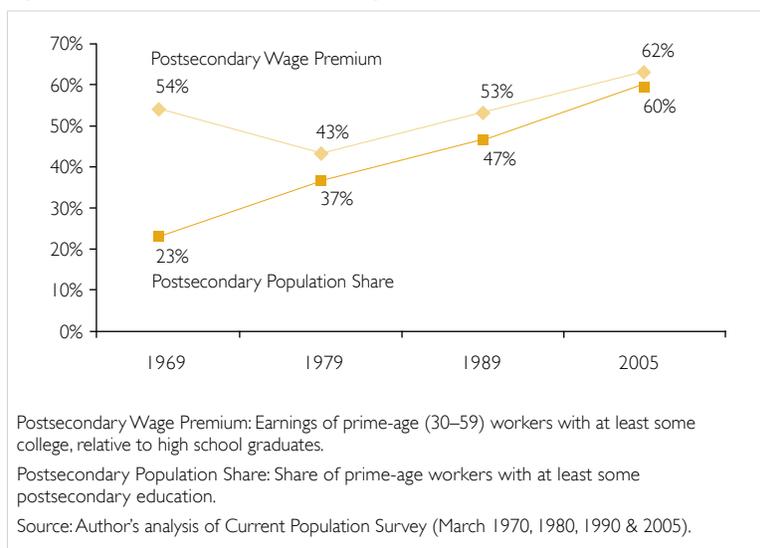
Whether these shortages will actually occur is unclear. Competition for postsecondary workers could increase wages enough to accelerate postsecondary enrollment and persistence, thereby preventing shortages. As we have seen, since 1979, some 30 million college-educated job seekers have been added to the workforce, and postsecondary earnings have continued to rise.

The negative economic effects of educated labor shortages could be mitigated by increasing the limits on H-1B skill-based visas for immigrants, or by offshoring those jobs. These approaches are not as disturbing as many may believe. The perceived threat posed by offshoring of college-level jobs is overblown; at present, just 3 million postsecondary workers outside the United States have enough English-speaking skills to take jobs away from American college graduates. That number is quite small relative to a churning economy that creates and destroys almost 10 million jobs each month. Even in a downturn like the current economic crisis, the churn tends to remain the same. There is just more job destruction and less job creation.

Moreover, the rest of the world needs its skilled labor, too. The relentless revolution in global human-capital development virtually guarantees huge global shortages in postsecondary labor in the future, especially in nations such as China, India, Russia, and Brazil. The United States needs about 7 million scientific and engineering workers with a baccalaureate degree or better simply to run its infrastructure—that is, about 2 percent of its population. If it takes roughly 2 percent of a population to perform these functions at the U.S. level of development, then our 6.6 billion-person world needs about 150 million workers to do so. The world labor market is currently about 100 million workers short of that. And that accounts for just bachelor’s-level technical workers—not all the schoolteachers, managers, and other postsecondary workers also required to keep a society functioning.

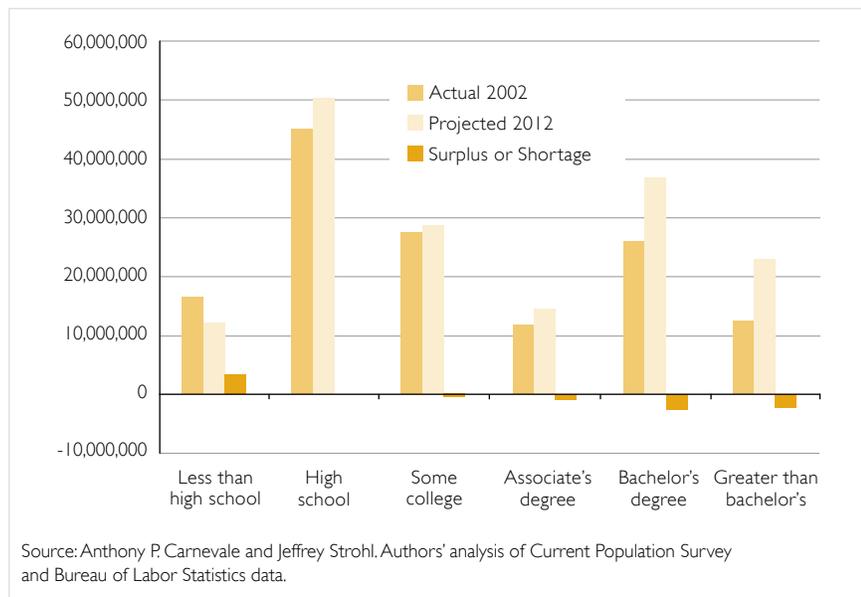
Of course, education is about more than providing the foot soldiers for the American or global economy. Educators in both secondary and postsecondary institutions have cultural and political missions to ensure that we have an educated citizenry that can participate fully in our democratic

**Figure 2. Demand and Share for College-Educated Workers**



culture. We turn to education as an equalizing force in our society. And yet this counterbalance to our market-based economy is deeply flawed, given that education is a class- and race-based sorting device for markets. In 1949, the British sociologist T. H. Marshall gave an important speech during which he ruminated over the fact that the role of education as a mediating force between citizenship and markets was increasingly compromised by the growing relationship between education and the economic value of knowledge as preparation for elite occupations. Education made everyone equal as citizens; but those with the most education, Marshall said, were more equal than others.

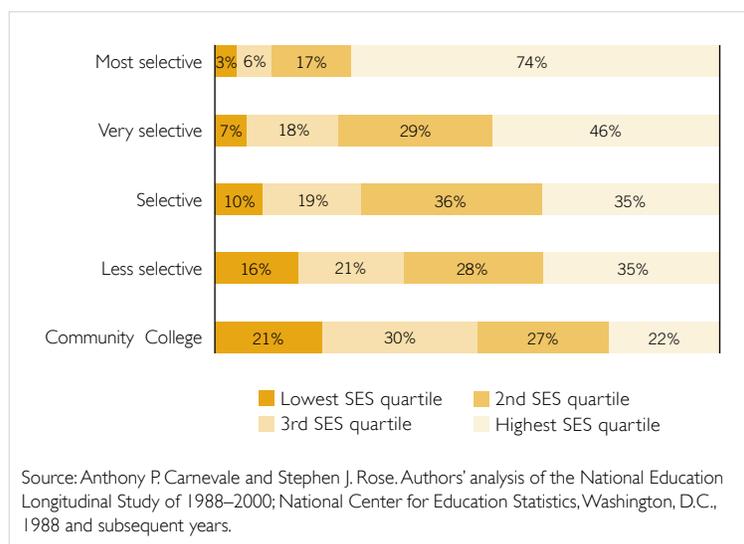
**Figure 3. Projections of Education Shortages and Surpluses in 2012**



### Access to Postsecondary Education

The surest route to success in the most lucrative and prestigious professions in the American labor market is via access to selective postsecondary education. Yet access to selective institutions is probably as class based today as it was in Marshall's time, although access to selective colleges in the 1950s was certainly more biased toward race and gender than it is today. In Marshall's time, income was more important in determining access to selective colleges. Today, test scores are more important, but there is a correlation between test scores and family income. Figure 4 shows attendance at four-year colleges by socioeconomic status and selectivity.

**Figure 4. Socioeconomic Status of Entering Postsecondary Classes By Selectivity of Institution**



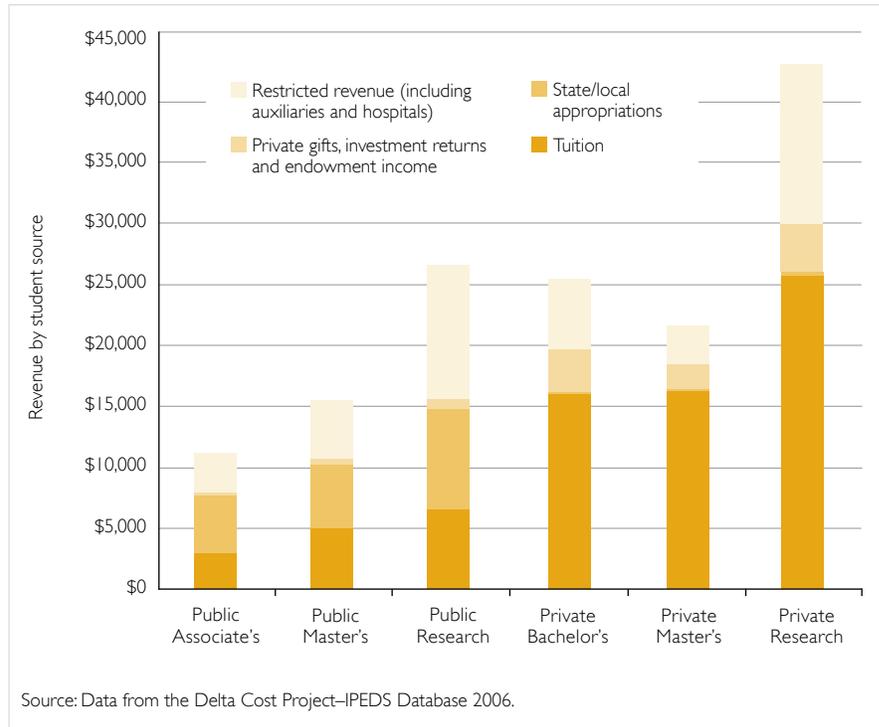
Top socioeconomic (SES) quartiles are over-represented at all selectivity levels, and the inequities become more severe as selectivity increases. At the most selective institutions, 74 percent of enrolled students are from the top SES quartile and just 9 percent of students are from the bottom two SES quartiles combined. The only place where the SES quartiles are equitably distributed is at community colleges, which have open admissions. Clearly, when it comes to postsecondary enrollment, equally qualified students are not treated equally.

Moreover, the revenue gaps across institutions are wide and growing. Figure 5 shows that in 2005, community

college revenues were approximately \$12,000 per full-time equivalent (FTE) student, while private research institution revenues were more than \$42,000 per FTE student.

We know that many students who are academically qualified for selective institutions enroll instead at community colleges largely due to their socioeconomic status; there, at best, less than one-third the resources are devoted to their education as are spent on students enrolled at the top private research institutions. The system is not serving these academically qualified students well—nor, certainly, does it adequately serve the less-qualified students

Figure 5. Revenue Gap Across Institutions (2005)



enrolled in the nation's community colleges who need more, not less, academic support and guidance than their more qualified peers.

Public institutions likely will be the first to feel the effects of the economic recession looming over the nation—further exacerbating the revenue gaps we see today. The fact is that despite its acknowledged role in advancing the nation's economic competitiveness, public investments in higher education relative to U.S. per capita gross domestic product (GDP) have been steadily declining: expenditure per student on higher education relative to per capita GDP declined from its peak at 31 percent in 2001 to 23 percent in 2005, the most recent year for which data are available.

**Conclusion**

The United States needs to spend more of its GDP on education. Yet simply preserving higher education's current share during a recession will be challenging. One strategy to improve higher education's standing is to strengthen the alignment and transparency of the relationships between education and occupations and professions. The United States has the capacity to build a real-time labor and

learning exchange now. The BLS already has compiled a detailed and rigorous database containing the knowledge and skill requirements, tasks, activities, and values and interests associated with success in more than 1,100 occupations. The BLS spent approximately 10 years and \$50 million to create this database, which can inform both program decisions in education and decisions by individuals about their own educational investments. This database, coupled with technologies that comb job openings and education and training opportunities to fill those jobs, can become a powerful, real-time education and labor exchange in which higher education fills a crucial role. This model is decidedly different from the European

system of vocational tracking and does not compromise the American cultural allegiance to laissez-faire individualism—which in any case isn't nearly as strong as it was before the 2008 financial meltdown. Rather, it takes full advantage of the labor market information and technology we have at our disposal now to improve the employment prospects of individuals and the economic recovery prospects of our nation.



Anthony Carnevale is Research Professor and Director of the Global Institute on Education and the Workforce at Georgetown University. From 1996 to 2006, he served as Vice President for Public Leadership at the Educational Testing Service (ETS). While at ETS, President George W. Bush appointed Carnevale to serve on the White House Commission on Technology and Adult Education. Prior to that, President Clinton appointed Carnevale as chair of the National Commission for Employment Policy. Carnevale can be reached at [apc39apc@gmail.com](mailto:apc39apc@gmail.com).