From Wall Street to Wal-Mart:
WHY COLLEGE GRADUATES ARE NOT GETTING GOOD JOBS

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A Policy Paper from The Center for College Affordability and Productivity
December 16, 2010

Executive Summary

Colleges and universities are turning out graduates faster than America's labor markets are creating jobs that traditionally have been reserved for those with degrees. More than one-third of current working graduates are in jobs that do not require a degree, and the proportion appears to be rising rapidly. Many of them are better described as "underemployed" rather than "gainfully employed." Indeed, 60 percent of the increased college graduate population between 1992 and 2008 ended up in these lower skill jobs, raising real questions about the desirability of pushing to increase the proportion of Americans attending and graduating from four year colleges and universities. This, along with other evidence on the negative relationship between government higher education spending and economic growth, suggests we may have significantly "over invested" public funds in colleges and universities.

Introduction

There are many reasons for pursing a higher education. A few persons revel in the intellectual excitement of academic exploration, others "consume" not only the knowledge that college provides but all the social dimensions associated with it—alcoholic stimulated parties, erotic adventures with new friends, athletic events and intramural sport participation, etc. But for most persons, a significant, maybe even *the* dominant reason, for going to college is that it supposedly will improve one's prospect of acquiring a good job. In a sense, a college degree has long been considered a ticket to the middle class—an adult life with a good income and relatively high job security. From the standpoint of society, efforts to expand college graduation attainment rates have been justified by President Obama and major foundations (for example, Lumina and Gates) on a need to be competitive with other nations which have a larger proportion of adults with college degrees.

This study argues that *the conventional wisdom that going to college is a "human capital investment" with a high payoff is increasingly wrong*. Evidence shows that currently more than one-third of college graduates hold jobs that governmental employment experts tell us require less than a college degree. That proportion of underemployed college graduates has *tripled* over the past four decades. In 1976, Harvard economics professor Richard Freeman wrote about *The Over-Educated American*—at a time when most college graduates, at the margin, entered professional, managerial and scientific positions traditionally considered jobs for college graduates. If we were "overeducated" at that point in time, what is the case today? Moreover, the push to increase enrollments has led to a majority of the *increment* of our stock of college graduates finding employment in relatively low skilled jobs, most of which are not particularly high paying (although there are exceptions). We added roughly 20 million college graduates to the population between 1992 and 2008, for example, but the number of graduates holding jobs requiring less-than-college education skill sets rose during that same period by about 12 million; in other words, 60 percent of the total increase in graduates over the past two decades was underemployed. Anecdotally, most persons can see this is their everyday lives. For example, the senior author was startled a year ago when the person he hired to cut down a tree had a master's degree in history, the fellow who fixed his furnace was a mathematics graduate, and, more recently, a TSA airport inspector (whose job it was to insure that we took our shoes off while going through security) was a recent college graduate. Actually, these individuals are far more typical of many recent college graduates than is commonly supposed.

As college costs and the debts associated with them rise, the payoffs in terms of occupational attainment becomes more problematic as graduates cannot find high paying college-level jobs, and a growing number of Americans obtaining college degrees are incurring high ratios of college debt to earnings. The cost of a degree has grown

vastly faster than the financial gains associated with that degree (according to the Census Bureau, median college graduate earnings in real terms were lower in 2009 than in 1998, even though college costs were much lower), which is precisely why more and more observers say we are entering a "college tuition bubble" not dissimilar to the housing bubble that precipitated the 2008 financial crisis.

The observation that America today is oversupplied with college graduates is not a novel one. Indeed, over the past several decades, a number of scholars, across the political spectrum, have argued forcefully that there is a growing disparity between the supply of highly educated American workers and the demand for those individuals in highly skilled jobs. In the early 1990s, Hecker (1992) noted, in research for the Bureau of Labor Statistics, that "there are more jobseekers with college degrees than there are openings in jobs requiring a degree." Following up on this research, Pryor and Schaffer showed that even after adjusting Hecker's data, the upward trend in the rate of college graduate underemployment persisted over time and that the college graduates who possessed a high level of skill were the ones in high paying, high skilled jobs; college graduates with low potential and ability were left with high-school level employment. Edwin Rubenstein (1998) took this data further to argue that the commonly cited college payoff is more of an illusion than reality and that public policy designed to increase the proportion of Americans with college degrees is misguided and economically indefensible, a conclusion which Merisotis and Phipps (2000) called "alarming" precisely because it directly undermines the cherished pedestal upon which higher education rests. More recently, Wolff (2006), in a detailed examination of employment data, showed that there is a significant disconnect between the growth in the number of highly educated workers and the jobs requiring high levels of training. In addition to these scholarly investigations, some discussions of this topic appeared in the popular level press.

All of this helps explain a phenomenon one of us observed years ago, namely that increased state government appropriations for higher education are negatively associated with economic growth—more spending on higher education correlate with lower rates of growth (Vedder 2004a, 2004b). The reason this empirical finding exists may well be that, at the margin, the resources used to get additional college graduates have little or no economic return to them, and we are diverting funds to college education and away from more productive investments with higher rates of return.

The Evidence

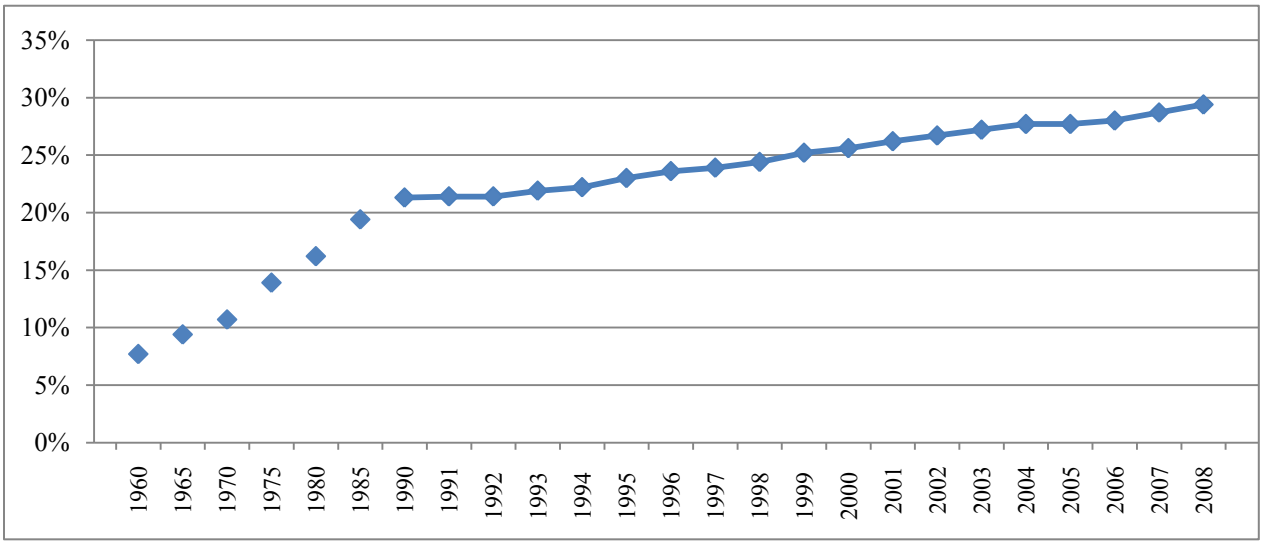
The argument that more college graduates are needed for an increasingly sophisticated U.S. economy seems reasonable. However, data from the Bureau of Labor Statistics (BLS) suggest this line of reasoning is misguided. Over the past several decades the growth in new college graduates has outpaced the growth in college-level jobs, leading to an over-supply of college graduates for a limited number of quality jobs. This reality has forced an alarmingly large percentage of college degree holders to fill jobs for which they are over-qualified. As economist Edward Wolff (2006) argued, "In recent decades, educational attainment in the United States has risen faster than the skill requirements that employers seek" (p. 4). We present these data in the discussion that follows.

Educational Attainment

Over the past several decades, higher educational attainment (i.e., the percentage of the adult population with at least a bachelor's degree) has seen a dramatic rise in the United States as college graduates have become "ever more prevalent" (Dohm and Wyatt 2002) in the American workforce. As Figure 1 shows, in 1960, only 7.7% of American adults over the age of 25 possessed college degrees. This proportion has increased in every year since

1960 for which data is available, with the exception of both 1992 and 2005, and by 2008, 29.4% of Americans 25 years of age and older held college degrees.

FIGURE 1. COLLEGE ATTAINMENT FOR ADULTS 25 YEARS AND OLDER



SOURCE: US CENSUS BUREAU, STATISTICAL ABSTRACT 2010: TABLE 224[1]

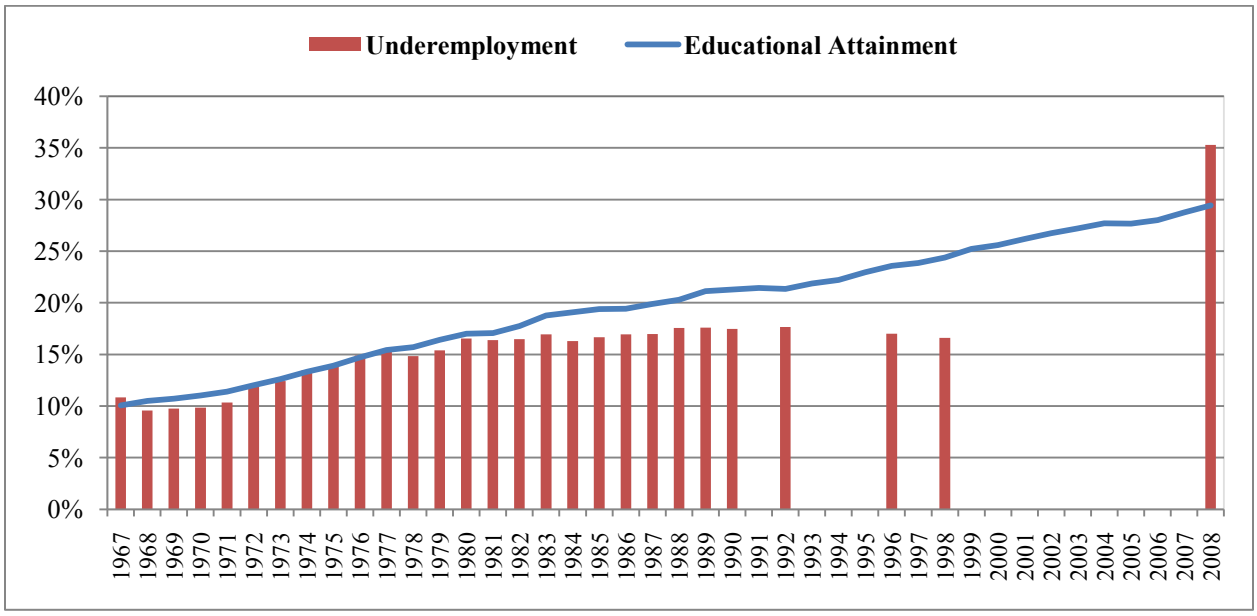
It is clear from these data that the nation's stock of college graduates greatly increased over the past half century. However, the rate at which college-level jobs increased did not keep pace, according to the best available evidence, as Wolff showed. Indeed, an examination of BLS occupational data across the past four decades strongly substantiates the claim that the American workforce is becoming increasingly overeducated.

Historical Trends in College Underemployment

Education is not immune to the law of diminishing returns; even though on average more education can be (and often is) beneficial, at some point, the marginal increases in education are associated with increasingly smaller returns. There is evidence strongly supporting the claim that college graduates have been produced for jobs that are non-existent and these persons are subsequently forced into lower strata of employment. Even without looking at the data one would expect that, in the past, when the U.S. had a low college attainment rate, few degree holders would be underemployed, and the earliest available data confirm that suspicion. In 1967, the first year for which we have data, the United States had both a relatively low college attainment rate and a relatively small percentage of underemployed college educated workers; in this year, only 10.8% of graduates were employed in below-college level jobs. Over time, however, as the educational attainment rate increased, the percentage of underemployed college graduates rose as well. College graduate underemployment rose to 35.3 % by 2008, meaning that fully one third of all college graduates were employed in jobs which they could have obtained without earning a bachelor's degree. Figure 2 highlights this trend, with several years included for historical context.

[1] Prior to 1992, educational attainment data are based upon number of years of school completed; after 1992, attainment is determined by highest degree earned. All of the educational attainment data cited in this report have the same limitation.

FIGURE 2. COLLEGE UNDEREMPLOYMENT RATE AND ADULT COLLEGE ATTAINMENT RATE



SOURCES: BUREAU OF LABOR STATISTICS AND US CENSUS BUREAU[2]

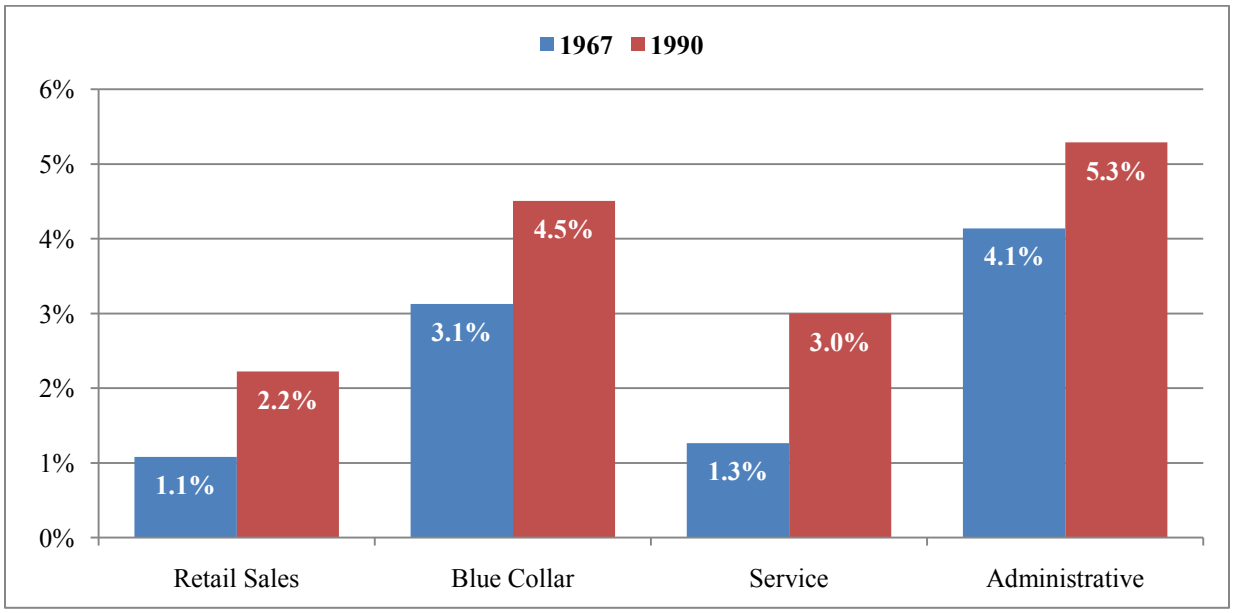
While the CPS survey data on the rate of underemployed college graduates are not as detailed as other BLS data, they clearly shows that, with increasing frequency, college graduates took blue collar, retail and other employment not requiring a collegiate educational background. Total college graduate employment in below-college level jobs increased from 953,000 in 1967 to 5.06 million individuals in 1990. Figure 3 graphically depicts the upward trend over time of college graduates employed in four industries which do not require college degrees.

While there is noticeable growth in underemployment of college graduates from the 1960s to the 1990s, underemployment truly exploded after 1998. Between 1992 and 2008, the United States saw considerable growth in its adult educational attainment rate (going from 21.4% to 29.4%) and added 20.5 million bachelor's degree holders to the workforce. This sizable growth in college educated workers accounted for 61.5% of the 33.3 million increase in the total number of all workers during this time. The evidence strongly indicates that this sharp increase over the 16 year period was actually due to an overproduction of college degree holders. In 1992 5.1 million persons with bachelor's degree were in non-college jobs while in 2008 that number had skyrocketed to 17.4 million, despite the fact (or perhaps because) the *unemployment* rate of college graduates was actually higher in 1992 than it was in 2008. The percentage of underemployed college graduates over time is shown in Figure 4.

Roughly speaking, 60.2% of the college graduates produced between 1992 and 2008 can be considered underemployed using the Bureau of Labor Statistics (BLS) classification. Put differently, what this means is that more than 60% of the increase in college graduates during this period contributed to the increase in the number of college graduates employed in jobs requiring less (even far less) than a collegiate level of formal education.

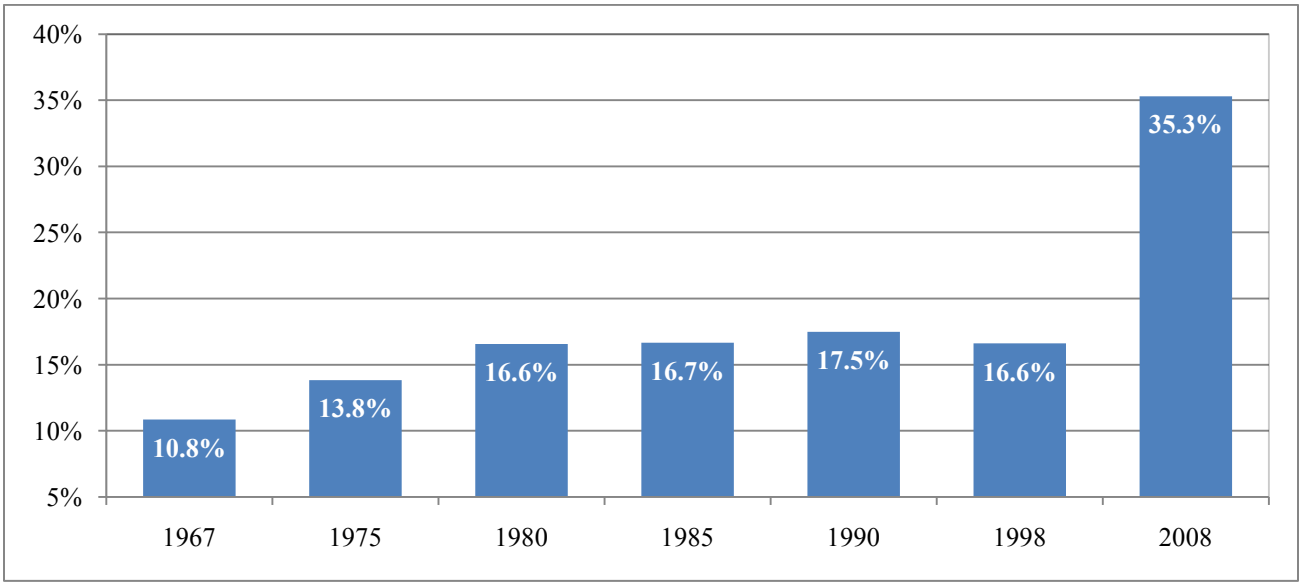
[2] The gaps in this chart are due to the fact that comparable data for these years are not readily available.

FIGURE 3. PERCENTAGE OF UNDEREMPLOYED COLLEGE GRADUATES IN VARIOUS INDUSTRIES



SOURCE: HECKER (1992)

FIGURE 4: PERCENTAGE OF COLLEGE GRADUATES WHO ARE UNDEREMPLOYED, VARIOUS YEARS



SOURCES: BUREAU OF LABOR STATISTICS AND AUTHORS' CALCULATIONS

As the 2008 data is much more extensive than the 1992 data and delineates occupations into ten times as many categories, micro-level comparison between the two years is accordingly somewhat difficult; nevertheless, as Table 1 highlights, there is some comparable occupational data available for each of these two years.

TABLE 1. OCCUPATIONAL EXAMPLES OF COLLEGE GRADUATE UNDEREMPLOYMENT: 1992 & 2008

Occupations Requiring Less than a College Degree	Number of College Graduates Employed		Increase in College Graduate Employment (1992-2008)	College Graduates as Percent of Total Occupational Employment Increase
	1992	2008		
Mechanic and Repairers	236,000	397,232	161,232	17.14%
Construction trades	261,000	362,888	101,888	8.66%
Motor Vehicle Operators	174,000	235,343	61,343	36.42%
Retail Sales Workers, commodities	530,000	1,082,392	552,392	66.85%
Cashiers	132,000	365,320	233,320	19.53%
Waiters and Waitresses	119,000	317,759	198,759	19.68%
Total U.S. Employment	28,869,000	49,354,666	20,485,666	61.51%

SOURCE: BUREAU OF LABOR STATISTICS AND AUTHORS' CALCULATIONS

A Note on the Employment Data

Admittedly, our work on this topic is subject to data availability, which in some cases have been limited. For this report, the BLS and its publication, *The Occupational Outlook Quarterly,* have been the primary sources for data. We have also utilized data from the Current Population Survey (CPS), which is administered by the Census Bureau. The CPS dataset we have assembled provides continuous annual data on college graduate underemployment from 1967 to 1990. From 1990 onward, however, our data are more limited but nonetheless still quite informative. We have solid information for 1992, 1994, 1996, and 1998 but lack consistently detailed data between 1998 and 2008, though we do have sporadic data for occupations for 2000 and 2002. The 2008 data, the most recent available, are the most comprehensive and detailed readily available data. Despite the missing data points, we believe that we have assembled the most complete and thorough collection of this type of data to date. No other publication, private or governmental, utilizes the underemployment information to the extent presented here.

We do have detailed information for 1992. The *Occupational Outlook Quarterly* published an extensive picture of that year's employment composition. In-depth attainment and earnings data were given for 75 occupations, along with some figures for the overall economy. Subsequent versions of the *Occupational Outlook Quarterly* contained data for 1994, 1996, and 1998; however, those years were not nearly as specific. The 2008 BLS data is very detailed, listing approximately 750 different occupations by training and qualification classification as well as the educational attainment of workers in each of those occupations. The attainment levels are reported in seven different categories ranging from less than a high school diploma to doctoral/professional degree.

Occupational Level Data for 2008

Even without reference to previous years, the 2008 BLS data provide profound insight into the employment situation facing college graduates, including effects independent of recessionary contractions in the labor market. Many are employed in low skilled position that they would have been capable of handling without the large investment in higher education. Others are employed in occupations that require more than traditional secondary education training but no more than a vocational degree. Table 2 lists twenty occupations with high levels of college graduate underemployment, chosen to represent an array of industries and fields across the economy.

TABLE 2. TWENTY NON-COLLEGE OCCUPATIONS IN 2008

Occupation	BLS Occupational Classification	Percent with at least a Bachelor's	Number with at least a Bachelor's
Baggage porters and bellhops	Short-term on-the-job training	17.39%	8,654
Bartenders	Short-term on-the-job training	16.00	80,542
Carpenters	Long-term on-the-job training	7.27	65,412
Construction laborers	Moderate-term on-the-job training	5.82	59,409
Counter attendants, cafeteria, food concession, and coffee shop	Short-term on-the-job training	8.09	42,672
Electricians	Long-term on-the-job training	7.76	49,109
Executive secretaries and administrative assistants	Work experience in a related occupation	16.64	248,131
Fire fighters	Long-term on-the-job training	18.22	54,453
Hairdressers, hairstylists, and cosmetologists	Postsecondary vocational award	6.50	23,147
Hosts and hostesses, restaurant, lounge, and coffee shop	Short-term on-the-job training	12.32	43,123
Janitors and cleaners	Short-term on-the-job training	5.01	107,457
Laborers and freight, stock, and material movers, hand	Short-term on-the-job training	5.07	118,441
Landscaping and groundskeeping workers	Short-term on-the-job training	6.77	62,414
Maids and housekeeping cleaners	Short-term on-the-job training	4.67	42,801
Nursing aides, orderlies, and attendants	Postsecondary vocational award	7.92	112,632
Office clerks, general	Short-term on-the-job training	17.52	509,248
Postal service mail carriers	Short-term on-the-job training	13.95	49,452
Receptionists and information clerks	Short-term on-the-job training	12.89	141,476
Taxi drivers and chauffeurs	Short-term on-the-job training	15.15	25,838
Team assemblers	Moderate-term on-the-job training	5.15	58,208

SOURCE: BUREAU OF LABOR STATISTICS AND AUTHORS' CALCULATIONS

None of this is meant to suggest, of course, that we are asserting that NO ONE should go to college. Moreover, we are abundantly aware that on average, or even at the median, college graduates earn more than high school graduates. An examination of that differential shows it rose sharply beginning in the 1970s through the 1980s, but has essentially stabilized in recent times. Some data show that the differential has continued to grow somewhat for men, but not for women.

Several things need to be pointed out, however. Aggregative statistics often mask underlying trends. It is mathematically possible, and indeed likely the case, that a large portion of the college educated population (say 35 or even 40 percent) could have a marked deterioration in their relative economic status even if average statistics comparing college graduates with either high school graduates or the general population do not show it. For example, at the top of the earnings and income distribution, large growth was observed from 1990 to 2009, a growth that raised average earnings for all college graduates a good bit, counteracting a likely decline in the status of the bottom one-third or so of college earners.

Also, in terms of assessing the financial viability of the college experience, benefits have to be related to costs. College costs have risen sharply by any accounting over the past two decades, both to consumers and to society as a whole. If the college/high school earning differential has stabilized and actual real earnings of college graduates have stagnated or even fallen slightly (which is what Census Bureau data indicate), then as college costs rise, for an increasing number of students the present value of those costs will equal or exceed the discounted present value of the likely lifetime earnings differential associated with a college education.

Policy Implications and Interpretive Analysis

What do these results suggest for public policy regarding higher education? Seven thoughts come to mind. First, the notion of President Obama and many higher education leaders that our nation's future depends on higher numbers of college graduates is fundamentally flawed. It is based more on assumptions, and perhaps almost an ideological attachment to colleges and universities, than on labor market realities.

In that regard, most modern policy efforts involve attempts to expand "access" and increase financial aid for those who might otherwise not go to college. That group disproportionately includes individuals who did poorly in high school or whose personal characteristics suggest they will have trouble graduating from college. But not only that, they are likely to graduate only to become part of a pool of those graduates unable to obtain a job that is much different than what a high school graduate traditionally takes. Indeed, on balance, the evidence seems to support some public disinvestment in higher education—reducing the pool of new graduates to ease the disconnect between what education policymakers are advocating and the realities of the job market.

Second, the historical nature of the data above suggests this is not a new problem that has emerged out of the 2007-8 recession that will recede as the economy strengthens. The underemployed college graduate has been around for a long time, although the number has increased dramatically in the past 20 years. This is not a business cycle phenomenon, but rather a long-run trend that has been exacerbated by increases in educational attainment.

Third, productivity in higher education is very difficult to measure, in part because of a lack of good outcome indicators, in part because universities and colleges do multiple things. Nonetheless, this strengthens the argument that instructional productivity is falling not rising. Decades ago, a person might become a restaurant manager after

obtaining 13 years of education—kindergarten (and sometimes not even that) and 12 years of education culminating in a high school diploma. Today's counterpart taking the same job might go to school 18 years—kindergarten, 12 years of primary and secondary school, and five years (now rather typical) of college before obtaining a degree. It takes 18 years of education to accomplish what 13 years did 40 years or so ago.

Fourth, all of this is signs of "credential inflation." It takes an ever more advanced credential to be certified as qualified for a job. It is our view that the problem is NOT that employers are demanding more education, but rather that educators and public policy makers are producing more degrees, giving employers a large pool of applicants, and demands for the higher credential (e.g., bachelor's degree) are instituted to narrow the applicant pool to a manageable size. Other things equal, on average, college graduates are somewhat smarter, more disciplined, and perform better academically than non-graduates. The probability that a prospective employee will be successful vocationally is traditionally enhanced by obtaining a degree—independent of whether the individual "learned" much while in college. This is a classic example of what the French economist Jean Baptiste Say said over two centuries ago: supply creates its own demand (Say's Law).

Fifth, this rise in higher education participation is contributing to a growing national problem—a decline in the number of working Americans relative to the pool of elderly, disabled, and young persons who are unable to work. The working population in any given time period must provide not only for itself but also for that portion of the population that is not working. As the population ages over time, the luxury of having low labor force participation amongst the 18 to 24 year old population (because they are largely attending college) becomes very costly to a society short of workers. More technically, the "everyone should go to college" syndrome worsens the dependency ratio—the size of the non-working population per worker.

Sixth, recent efforts by President Obama's U.S. Department of Education to enact and enforce "gainful employment" rules primarily on for-profit higher education institutions are misguided. This report has shown clearly that severe gaps exist between college-level training and labor-market job opportunities for graduates. Underemployment is a persistent problem permeating throughout all of American higher education and is by no means limited to only one sector. Using for-profit institutions as a scape-goat fails to address the full-extent of this problem.

Lastly, the very existence and worsening of this phenomenon might be viewed as a sign that higher education has failed in one of its most important missions—disseminating facts in order that we can make better decisions and improve our lives. Have not the army of social scientists that reside in our universities not observed this phenomenon before? If so, why have they remained largely silent, excepting a few lonely scholars like Edward Wolff? Are they putting their own self-interest (increased demand for their employment services) ahead of dissemination of the truth and improvements in public policy? A good case can be made that knowledgeable adults (college professors and university administrators) generally know what we are saying in this report is true, but they have been silent about it because making it public would reduce their government subsidies, the demand for their services, etc. Their silence has probably led to bad personal choices for many college students. It saddens us to think that this might be the case.

Conclusions

"Variety is the spice of life," someone once said. Young Americans vary vastly in their aptitudes, their motivations, their interests. National policy prescriptions like "everyone should have a postsecondary education" ignore the vast differences between people. There are many for whom traditional four year collegiate schooling is a good idea, a wise investment. Yet there are many for whom it is NOT a good idea, and that proportion seems to be growing. As Charles Murray (2008) has argued so eloquently, not everyone is capable of benefiting from an education that is in some meaningful sense "higher"—more rigorous, more nuanced, more difficult to grasp than what is taught (or not taught) in our on average mediocre secondary schools. Some might say, "I think it is great that more waiter and waitresses are college graduates." And certainly we are not in principle opposed to persons increasing their educational attainment should they so choose. But it is quite another thing to say, "I think we should devote scarce public resources to allowing students to pursue any amount of education they want, regardless of the economic utility of that choice." If the public objective is to use higher education as a means to form human capital and expand national productive capabilities, it appears much of the recent "investment" in colleges is misdirected. The bottom line is that we need to rethink our higher education policies, particularly the massive one-size-fits-all federal financial assistance programs but also other public provision of higher education services.

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