WORKING PAPER

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Rationing Opportunity:

The Role America's Colleges and Universities in Graduation Trends

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Precis and Outline

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Rationing Opportunity:

Causes and Consequences of the Slowdown in American Higher Education

Stalled Academic Revolution

Educational progress in the United States slowed to a crawl in the 1970s and has yet to regain its positive momentum. High school and college graduation rates are barely two or three points higher than they were in the 1970s. Approximately 85 percent of 20 year olds hold a high school diploma now as then; only 28 percent of today's thirty year olds have earned a college degree. This slowdown marks a profound change in American higher education. It came without warning or precedent. Throughout the one hundred years from 1875 to 1975, in hard times and expansions, American secondary and higher eduction opened ever-greater opportunities to the nation's young people. Progress toward universal high school graduation began to slow in the 1960s and halted by 1975. College graduation rates peaked for young men in the early 1970s; women's gains have been just enough to keep the overall graduation rate from falling.

Critics and scholars have sought the source in the failings of young people. Too many drugs and video games, hard knocks and false promises, too few options and too many have all had their day as the "real" reason. But while each contributes some, together and separately, these explanations fall short. They cannot account for the timing or persistence of the slowdown. Patterns like the different paths of men women, the lock step of public and private education, and some contradictions in the testing data hint at causes beyond individual effort and preparation.

The preponderance of the evidence show that the lack of progress in higher education over the last thirty years has more to do with choices that America's colleges and universities have made – and some they have had thrust upon them – than with changes in how young people prepare themselves for college. The prestige system of private education and falling funding per student at public universities prompt America's colleges and universities to ration opportunity when they should be expanding it.

Think about. Colleges and universities are far more selective than they used to be. Admissions officers at the most four-year schools turn away many more qualified applicants than they accept. When pressed they admit that they have few concerns about the quality of applicants they reject. They keep the numbers low because they lack the faculty to teach more or the space in which

they might teach more. Most faculty and administrators are fine with the situation. They benefit in a perverse way. By saying "no" to good applicants, they bolster their prestige. Every college at every niche on the status hierarchy imposes its limits. And the polls that rank college quality give them bonus points for having more good applicants than they can accept. Colleges that do not limit admissions – many state universities and community colleges cannot – practice the low-level rationing of limiting enrollments in particular courses, usually the entry-level introductions students need to progress toward their degree. When everything is said and done, some people who are qualified for college-level work do not enroll and many more start but quit before finishing. Repeated time and again over the last fifty years, this system has capped the college graduation rate at roughly 30 percent.

High schools are not to blame for the college slowdown. High schools might be failing the bottom quarter of their charges, but they have prepared the top half or more of recent high school cohorts for college. And those young people are getting better all the time. Scores on the National Assessment of Educational Progress are up since the late 1970s.[1] More secondary schools are offering advanced placement (AP) and other challenging courses.[2] The struggles of urban and some rural school districts hamper the chances of students in the lower reaches of academic achievement. Proper concern about the disadvantaged tends to hide progress of the better-endowed students from public view. But scanning the distribution from bottom to top makes clear that the students who might fairly be called college material are taking more rigorous courses and scoring better on tests than they were 20 or 30 years ago.

Consequently each year between 60,000 and 70,000 good students qualify for top-tier and highly competitive colleges and universities but cannot get in. Here's how that works out. About one high school senior in ten has the profile top-tier colleges look for, according to my analyses of the National Educational Longitudinal Survey (NELS88). Due to population growth and the nation's changing age structure, the number of new high school graduates in the United States grew to a record 2.8 million annual in recent years. The top tenth of that would be 280,000 students vying for admission to the elite colleges and universities. About 59,000 of them – that is

[1] See http://nces.ed.gov/nationsreportcard/ltt/.

[2] College Board. 2008. *Fourth Annual AP Report to the Nation.* Washington DC: College Board Press.

one-in-five – could fit into the nation's fifty most selective colleges. Total enrollment in the fifty hardest-to-get-into colleges summed to just 235,468 in 2006; data on freshmen are not available but if one-fourth are freshmen, then these schools have about 59,000 freshmen. Another 81 highly competitive colleges and universities round out the top tier; they enroll another 150,000 freshman. Thus, 209,000 young people get accepted into a top-tier college or university in recent years. It is an impressive number but it leaves 70,000 to 80,000 highly qualified applicants outside looking in. Most of these young people fall back on their "safety" schools — the less-competitive colleges and universities.[3] Their presence in that less competitive pool induces competition in places that once had little. Some good students do not get in at this level, though they would have thirty years ago. So they introduce a bit of competition to the least competitive schools. The logjam goes up river a long way.

The system is so near capacity that exclusions at the top tier affect enrollment patterns everywhere. The schools that do select have all become more selective in recent years. The schools that do not select at admissions limit access to particular courses.

Maybe the competition and the logjam are good things. Maybe the country needs to reserve college for the true cream of the crop. Maybe, but probably not. The economic signals from employers make it look like they have been facing a shortage of college graduates since the slowdown began. First they keep paying higher premiums for a college diploma. In 1975 college graduates who worked full-time earned 50 percent more than high school graduates who worked full time (even though, on average, they had less experience); by 2000 the college graduates earned 90 percent more.[4] The college premium has grown despite steady increases in the fraction of the work force that has a college diploma, indicating growing demand, not just a backlog in meeting the demand that was there in the 1970s.[5] Second, college graduates work far more hours than other-

[3]All the figures in this paragraph use Barron's definitions of selectivity and competitiveness. The enrollment data are from the National Center for Educational Statistics *Digest of Educational Statistics*. Those data do not break down the enrollments by freshman, sophomore, etc. I simply divided the total enrollment by four to approximate the freshman tally.

[4]This trend is very well-established. Government reports and academic research have replicated it many times (see, e.g., Fischer and Hout 2006, pp. 116-117).

[5]The fraction of the labor force with a college degree has grown steadily despite the slowdown in higher education

wise similar high-school graduates work, indicating that at least some employers overextend the college graduates they have in order to offset the short supply. In 2000, 23 percent of women with college diplomas and 43 percent of men with college diplomas worked more than 48 hours per week.[6] Third, employers from the high tech sectors of the economy routinely lobby Congress to let them have more H-1 visas so they can hire overseas.[7] Fourth, the fastest growing economies in the world are backed by ever more educated workforces. The island countries – Iceland, Ireland, Taiwan, and Singapore – have already passed the United States. Japan and Canada will soon. The big European societies are gaining while the U.S. is virtually standing still.[8]

It does not have to be like this. If the most prestigious public and private colleges would admit all the highly qualified students, they could relieve pressure on schools that have less clout. That is how it used to be. The public four-year, degree-granting colleges and universities expanded at a prodigious rate between 1950 and 1975. Enrollments in four-year public colleges and universities soared from 1.0 million in 1951 – when the public and private sectors enrolled equal numbers of students – to 8.6 million in 1975. The public sector grew an average of 12 percent per year from 1955 to 1975. As a fraction of 18-22 years olds, that was a rise from 19 to 26 percent.[9] Somehow the states managed (with federal help) to achieve their greatest period of growth right at the height of the Baby Boom.

States stopped building new college campuses in the 1970s. Few had any other choice. Taxpayers, first in California but soon all across the country, were in revolt. They demanded that governors and legislators reduce taxes and state spending. Dozens of states enacted balanced budget amendments and limits on the rate of growth in state revenues. It was also a time of crime, fear, and demands for government action to restore public order. Many states stepped up sentencing requirements. More people were arrested and, once in the system, were held longer. States then

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because cohorts entering the labor force are much better educated than the ones that are retiring. That will not be true at some point in the near future, once the cohorts that left college in the 1970s starts retiring.

[6]See Fischer and Hout 2006, pp. 122-124.

[7]Citation needed.

[8]See OECD 2006, Table 3.

[9]Hout and Fischer 2006, Figure 2.3.

had to build more prisons to relieve overcrowding in the old prison stock. The upshot was that a prison building boom followed directly on the heels of the historic college building boom. But, obviously the consequences of the prison boom for young people were disastrous and effectively blunted the positive effects of the college boom.

For cash-strapped state governments, the community colleges looked like a possible solution for awhile. But community colleges cannot relieve the logjam; they were overcrowded already by 1985. Students who do not get into four-year colleges enroll in community colleges, but they make less progress than similar students at four-year institutions. Overcrowding is part of that tendency. The courses that count for transfer are usually in far higher demand than the less-academic courses. Some students do not get in. They take courses that will not count later or they take light loads. Either way, they end up taking more than two years to earn college credit. The same syndrome of "majoring in left-overs" shows up at the nonselective colleges.

The private colleges and universities have far more potential for relieving the logjam. With their large endowments and generally small enrollments they have more scope for expanding than the public sector has. Few have chosen to change, even during these very flush times. Their endowments have grown, some at more than ten percent per year. They use the money for purposes that do not include expanding enrollments. The well-endowed universities tend to improve facilities for faculty and students, and they are starting to underwrite a growing portion of the tuition for the students they admit. But few are increasing the size of their freshman classes much in absolute terms and certainly not enough to offset the shortfall in the public sector. The rate of growth in the private sector from 1995 to 2005 was the same as it was from 1975 to 1985.

Part of the reason might have something to do with the prestige hierarchy that helps define the top-tier colleges and universities. Being ever more selective in admissions improves ratings. Most college rating services give points for being hard to get into. A college that maintained a steady admissions rate from 1985 to 2005 would have dropped several rungs in the prestige hierarchy. That is because, on average, colleges accepted a smaller share of applicants. Failing to keep up with other school's high rejection rates would push a college down in the ratings. Admissions officers and college presidents know this sorry fact all too well.[10]

[10]See Stevens, 2007, pp. 112-119.

This book fills in and documents the arguments I sketched here. In part one, I track the supply of higher education in the United States since 1945, emphasizing the period 1975-2004. We will see the slowdown in enrollment growth at the public four-year colleges. We will see real growth in community college-enrollments but falling transfers and less graduation from that path. Finally we will see the slow, steady growth of the private sector. The for-profit branch of that sector actually took off dramatically in the last ten years. But few prestigious private four-year colleges and universities have increased undergraduate enrollments since the 1970s, and they did that to coincide with enrolling women.

In part two, I show that students are prepared for and capable of college-level work. Upwards of twice as many young people realistically aspire to a college diploma as achieve one. Their parents are more likely to be college graduates than was ever before true. Their test scores are up significantly over the last twenty years. If the capacity existed, college graduation rates might well be closer to 50 percent than the current 29 percent.

Part three makes the case for rekindling public investment in higher education. College investments pay for states. Recent estimates indicate that states realize returns between $3 and $5 for each dollar they spend on higher education. Most of the return comes right away, eighty percent of it within ten years of the initial investment.

Trends in College Graduation

In *Century of Difference*, Claude Fischer and I (2006) identified a number of important trends in American society over the last one hundred years. Two we emphasized were how education became more significant for many features of American life and the surprising fact that the rapid rise of college education halted in the 1970s and resumed with less vigor in the late 1990s. Roughly 30 percent of recent cohorts have earned college degrees, only slightly higher than in the 1970s. Women, but not men, in the cohorts leaving school in this decade might reach 33 percent for the first time. But net change for recent cohorts is at roughly half the pace of increase for cohorts born between 1935 and 1950. The gross trend is in Figure 1.

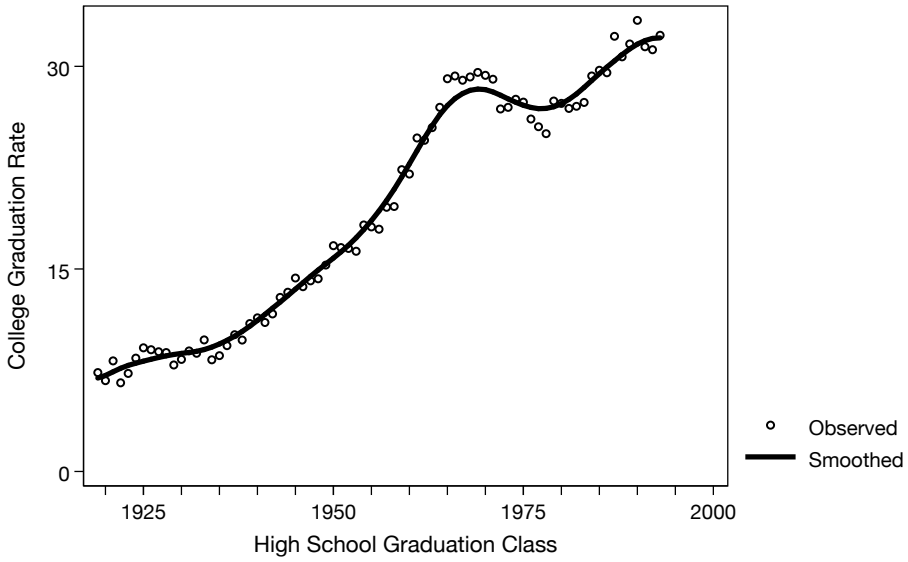

Figure 1. Proportion of Cohorts Earning College Degrees: Persons 30-64 Years Old.

These data, original calculations from forty years of the Current Population Surveys, cover cohorts born over an 80 year span.[11] They cogently summarize Americans' experience with higher education since 1925.[12] Close examination of the data reveals five periods characterized by different rates of increase in the fraction of cohorts earning bachelor's degrees. The first period, 1922-1936, was a time of slow growth, roughly one-tenth of a percentage point per year. College graduation increased at a faster pace, one-half of a percentage point per year, during the second period, 1937-1951, and fastest – one percentage point per year – during the third period, 1952-1966. From 1967 to 1981, expansion slowed and contraction set in. Finally from 1982 to 1997 expansion resumed at roughly one-half of one percentage point per year. Subsequent cohorts are still too young to say what has been happening in this decade, but, judging from the trend among

[11]The small circles are the point estimates for each single-year cohort, the black line shows the smoothed trend. I used locally estimated regression (loess) with a .25 bandwidth to smooth the observed data. Although 22 years old is "on time" college graduation for most young people, I limit attention to people over 30 years old and over. I also eliminate people 65 years old and over to minimize the impact of differential mortality.

[12]I added 22 to each year of birth to approximate when most of the college graduates in the cohorts were getting their degrees – mainly took longer so data pertain to people 30 years old and over.

22-24 year olds, growth may be decelerating again.[13] In short, the robust and accelerating growth of the first three periods, a span of 45 years, has given way to fluctuation and uncertainty.

A Supply Side Perspective

The spread of university education, aptly dubbed "The Academic Revolution" by Jencks and Riesman (1968) thrust education into the center of American life (Fischer and Hout 2006). Academic élites and government officials, many at the state level, led the revolution from above. State and federal governments invested public funds to increase the capacity of American colleges and universities. They were amazingly successful. Building booms allowed college enrollments to rise faster than the population. By the time the baby boomers were ready for college in the mid-1960s, the nation's colleges and universities were ready for them. The cohorts that started college between 1968 and 1974 are *still* the best educated men in American history.[14]

States competed in order to attract new residents or hold onto the children of current residents. The Land Grant colleges of the midwest expanded first. California built the world's largest public higher education system. New York, Pennsylvania, and Massachusetts innovated to catch up. The California State system added eleven campuses between 1947 and 1965 then did not add another until 1988; the University of California system, meanwhile, converted agricultural and marine stations into full-fledged campuses at Riverside (1954), Davis (1959), and San Diego (also 1959), upgraded Santa Barbara College to UCSB (1958), and built Santa Cruz and Irvine from scratch (enrolling students in 1965). Overall the state sector increased its share of higher education enrollments from 21 percent to 48 percent of four-year and teachers-college students between 1900 and 1970 (Goldin and Katz 1999).

The academic revolution abruptly ended in the late 1970s. Recession and inflation combined with a crisis of confidence in the economic benefits of college education to slow public investment in colleges and universities. A spate of influential books with titles like *Education and Jobs: The Great Training Robbery* (Berg 1971) and *The Overeducated American* (Freeman 1976) asked

[13]The alternative explanation is that the BAs of 22-24 year olds are less indicative of the accomplishments of their cohorts as students are taking ever-longer to complete their BAs (DiPrete and Buchmann 2006).

[14]The closing and reversing gender gap (e.g., Buchmann and DiPrete (2006) will be described and integrated into the overall analysis.

whether the economy could absorb all the human capital the state universities were pumping out. That panic was short-lived, but as it ended a tax revolt rose up in California and quickly spread nationwide. Ballot initiatives like California's Proposition 13 drained state coffers of their funds just as economic growth stalled and inflation ate away at the purchasing power of what dollars there were. State colleges and universities struggled with budget cuts. Within the decade the prison boom eliminated governors' discretionary spending. Governors and legislators could be persuaded to keep the flagships from real decline, but the era of growth had passed. Public higher education spending increased only 3.0 percent from 1975 to 2005, falling well behind population and economic growth over the same period (Miller et al. 2007).

A Demand Side Alternative

The alternative, logically enough, would be a demand-side argument. I have not done this work but I am skeptical because there is no credible evidence of falling demand for college degrees either from prospective students or employers. NCES (2004, 2006) reported significant increases in: (1) academic aspirations of high school students increased from 1977 to 2007, (2) test scores increased from 1997 to 2005, (3) applications to selective colleges increased from 1994 to 2003, and (4) participation in advanced placement programs increased from 1988 to 2005. Furthermore, a for-profit sector has arisen to meet demand for higher education that the nation's public and private colleges and universities turn away.[15] The historic rise of returns to college degrees paused momentarily in the early 1970s but resumed with a vengeance in the 1980s and continued upward ever since (DiPrete and Buchmann 2006). Employers will pay an ever-growing premium for all the college graduates they can find. High tech employers routinely petition the Department of Homeland Security and Congress for more H-1 visas so they can hire foreign-educated graduates (e.g., *New York Times* 11 May 2007).

Implications

Any dispute between supply side and demand side applications has implications for theory and academic debates. This is no exception. To date the supply side arguments are shards of evidence

[15]NCES does not tabulate their enrollments so documenting the trend in enrollment in for-profit institutions of postsecondary education will be part of the proposed project.

not clearly associated with one another. Codifying this point of view and its implications has intrinsic intellectual merit.

The supply side perspective also implies that governments and universities must act; the demand side does not. The demand side can rest on the principle that individual college graduates reap the benefits so it is up to them to make the investments. Failure would represent an individual choice with individual consequences. This was precisely President Reagan's budget message to Congress in 1988: "Students are the principal beneficiaries of their investment in higher education. It is therefore reasonable to expect them – not the taxpayers – to should most of that investment."

From the supply side perspective, higher education reflects public decisions and its consequences are shared by all citizens. Rising pay differences and employers' pleas for more visas indicate that BAs are in short supply; market forces are not meeting current demand (e.g., Bound and Turner 2006). The current social climate and financial state of higher education provide incentives to institutions to keep being abstemious. They earn status points from the ranking schemes by keep their admissions rates low and high tuitions depend more on rationing than the temptation to expand (Clotfelter 1999).

Education is not only practical, it is good for society. Educated workers are more productive, improving the overall performance of the economy. College education per se promotes social mobility; net of the distribution of available jobs, college educated workers are less bound by their social origins than are workers with less education (Hout 1984, 1988; Fischer et al. 1996; Breen and Luijkx 2005; Vallet 2006; Torche 2008). An educated populace improves the quality of life in their community. Educated people participate in community organizations, reduce conflict, advance gender harmony, and support cultural institutions (Putnam 2004). As market forces are not supplying the substantial goods college education provides, governments should step in to fill the gap.

I do not plan to address the costs of expansion in any detail. However, recent research shows that states realize a $3 return on every dollar invested in higher education (Murdoch et al. 2003; Brady, Hout, and Stiles 2005). The return comes from a mix of higher state tax revenues and lower state health, welfare, benefits and incarceration expenditures.

References

Berg, Ivar. 1971. *Education and Jobs: The Great Training Robbery.* Boston: Beacon.

Brady, Henry, Michael Hout, and Jon Stiles. 2005. *Return on Investment: Educational Choices and Demographic Change in California's Future.* Berkeley: Survey Research Center.

Breen, Richard, and Ruud Luijkx. 2004. "Social Mobility in Europe Between 1970 and 2000." Pp. 37-76 in *Social Mobility in Europe*, edited by Richard Breen. Oxford: Oxford University Press.

Bound, John, and Sarah A. Turner. 2006. "Cohort Crowding: How Resources Affect Collegiate Attainment." NBER Working Paper 12424.

Buchmann, C. and T.A. DiPrete. 2005. "The Growing Female Advantage in Higher Education: Do Gains in Parental Resources Explain the Trend?" *American Sociological Review* 71: 515-541.

Collins, Randall. 2002. "Credential Inflation and the Future of Universities." Pp. 23-46 in *The Future of the City of Intellect*, edited by Steven Brint. Stanford, Calif.: Stanford University Press.

DiPrete, Thomas A., and Claudia Buchmann. 2006. "Gender-Specific Trends in the Value of Education and the Emerging Gender Gap in College Completion." *Demography* 43: 1-24.

Fischer, Claude S., and Michael Hout. 2006. *Century of Difference: How America Changed Over the Last One Hundred Years*. New York: Russell Sage Foundation.

Fischer, Claude S., Michael Hout, Martín Sánchez Jankowski, Samuel R. Lucas, Ann Swidler, and Kim Voss. 1996. *Inequality by Design*. Princeton: Princeton University Press.

Freeman, Richard. 1976. *The Overeducated American*. New York: Academic Press.

Hout, Michael. 1984. "Status, Autonomy, and Training in Occupational Mobility." *American Journal of Sociology* 89: 1379-1409.

Hout, Michael. 1988. "More Universalism, Less Structural Mobility: The American Occupational Structure in the 1980s." *American Journal of Sociology* 93: 1358-1400.

Jencks, Christopher, and David Riesman. 1968. *Academic Revolution.* New York: Doubleday.

Mare, Robert D., 1980. "Social Background and School Continuation Decisions." *Journal of the American Statistical Association* 75: 295-305.

Miller, David C., Anindita Sen, Lydia B. Malley, and Eugene Owen. 2007. "Comparative Indicators of Education in the United States and Other G-8 Countries: 2006." Washington D.C.: National Center for Educational Statistics.

Murdoch,Stephen, Steve White, Nazrul Hoque, Beverly Pecotte, Xuihong You, and Jennifer Balkan, 2003. *The New Texas Challenge: Population Change and the Future of Texas*, College Station, Tex.: Texas A&M University Press.

National Center for Educational Statistics (NCES). 2004. *Digest of Educational Statistics: 2003*. Washington D.C.: National Center for Educational Statistics.

National Center for Educational Statistics (NCES). 2006. *Digest of Educational Statistics: 2005*. Washington D.C.: National Center for Educational Statistics.

Stevens, Mitchell. 2007. *Creating a Class*. Cambridge, Mass.: Harvard University Press.

Torche, Florencia. 2008. "Is a College Degree Still the Great Equalizer? Intergenerational Mobility Across Levels of Schooling in the U.S." New York University: CASSR working paper.

Vallet, Louis Andre. 2006. "The State of the Art and Current Issues in Comparative Educational Stratification Research." Change/Equal working paper (revised).