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## Review Essay

### American Malaise? Lagging College Attainment in the United States

Roger L. Geiger, *The Pennsylvania State University*

Time was when the United States led the world in the amount of education its young people received and in the proportion that graduated from college. This was the case throughout most of the twentieth century, up until the final decade. However, the OECD Factbook 2009 (2009) identifies nine countries with higher rates of “tertiary attainment” for individuals in the 25–34 age group, and another four essentially equal to the United States at 39 percent. Some cold comfort might be had from noting that the United States improved on this score by 3.5 percent from 1997 to 2006, but the OECD average growth was more than 8 percent.<sup>1</sup> Even critics of such rankings admit that the proportion of young Americans graduating from college has virtually stagnated since the 1970s.<sup>2</sup> But the situation is worse than that. Demographic stagnation has been accompanied by increasing inequality. College completion has decreased for the lowest half of family incomes and increased for the upper half. In fact, rates of college attendance, graduation, and graduation from the selective institutions that promise the best career opportunities have all increased for the highest income groups but decreased for the lowest.

These trends ought to disturb anyone concerned with the global competitiveness of the American workforce or the well being of our polity and society. These problems have scarcely been ignored during the decades in which they were gestating, but only in recent years has growing recognition evolved into

William G. Bowen, Matthew M. Chingos, and Michael S. McPherson, *Crossing the Finish Line: Completing College at America's Public Universities* (Princeton, NJ: Princeton University Press, 2009), xxi+398 pp., \$27.95; Claudia Goldin and Lawrence F. Katz, *The Race between Education and Technology* (Cambridge, MA: Harvard University Press, 2008), 488 pp., \$39.95.

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concern (some would say necessity) to do something about them. President Obama has declared a national goal to regain primacy in college graduation rates by 2020, and major foundations have established programs to increase college attendance for disadvantaged groups. However, devising effective policies requires an understanding of the nature of these conditions and the factors that have caused them. The two books under review here make important contributions to this subject, although, in light of their findings, prospects for solutions are not promising.

Harvard economists Claudia Goldin and Lawrence F. Katz have studied the historical relationship between education and employment for over a decade. *The Race between Education and Technology* culminates this work with a detailed analysis of trends from the beginning of the twentieth century to 2005. The authors call this the Human Capital Century, in which, for the first 75 years, the United States led all other nations in building human capital through education. The picture they paint with extensive data is actually that of a flat-bottomed “V.” From the beginning of the century to the aftermath of World War II, educational attainment raced ahead of technological advance, and an abundance of educated, professional workers put downward pressure on their wages, thus lessening inequality. Then, from 1947 to 1973, “the American economy and its people ‘grew together’” (87). These were years of remarkable stability in income gains and the relative costs of higher education. This abruptly changed in the late 1970s, touching off a period of “exploding inequality” that has persisted to the present (87).

The great value of this study for understanding the predicament of American higher education lies in the explication of these developments.<sup>3</sup>

- From 1947 to 1973, real family incomes increased at comparable rates for all income levels, with the lower quintiles slightly exceeding the top one, but from 1973 to 2005, annual income gains have ranged from near zero for the lowest quintile to 2 percent for the top 5 percent (48).
- College attendance for males declined precipitously, beginning in the mid-1970s, and graduation rates soon followed, so that rates for “males born in 1970 were lower than for males born around 1950” (250). Women’s graduation rates leveled off at the same time but then resumed rapid growth in the 1990s. Average total years of schooling were flat from 1975 to 1989 and then added just half a year in the 1990s (19–20).

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ROGER L. GEIGER is Distinguished Professor of Higher Education at The Pennsylvania State University. He is author of *Knowledge and Money: Research Universities and the Paradox of the Marketplace* (2004), *Tapping the Riches of Science: Universities and the Promise of Economic Growth*, with Creso Sá (2008), and many writings on the history of American higher education. He edits the journal *Perspectives on the History of Higher Education*.

- The postwar college wage premium was relatively stable during the 1960s and 1970s but has shot up by roughly 70 percent since 1980 (299).
- Average postwar tuition at public and private institutions was stable relative to median family income until 1980 but since then has advanced from 4 to 11 percent of income at public institutions and from 22 to 48 percent at private ones (276).

Goldin and Katz present theoretical and empirical analysis to show that the supply of educated labor has been the critical factor influencing economic outcomes: “the slowdown in the growth of educational attainment since 1980 is the most important factor in the rising college wage premium” (303). As a result, “rapidly rising inequality took hold and productivity growth was sluggish at best” (323). Thus, for Goldin and Katz the malaise that has afflicted American higher education is consequential indeed, causing declines in the rate of growth for the economy and for most people’s standard of living.<sup>4</sup>

When it comes to diagnosing the cause of that stagnation, these authors have less to offer. They cite the usual studies that show college attainment to be retarded by deficient academic preparation and difficulties of financing a college education. Accordingly, the remedies they propose are to improve schooling (preschool and K–12) so that more students will be prepared for college and to expand financial aid so that they will be able to pay for it. These pallid suggestions contrast with the vivid depiction of educational trends. However, college completion is the issue that *Crossing the Finish Line* squarely addresses.

*Crossing’s* distinguished authors, William Bowen and Michael McPherson, have been leaders of private higher education for decades as heads of Princeton University and Macalaster College, respectively; foundation presidents; and authors of important studies. Assisted by Matthew Chingos, they follow the data-driven strategy of William Bowen’s previous studies. *Crossing* essentially begins where *The Race* leaves off—deploring the stagnation in educational attainment since the 1970s. Moreover, the book defines its focus precisely by identifying college graduation as “the single most important indicator of educational attainment” (2). Overall, about 30 percent of young Americans graduate from college, or slightly more than half of those who start, but this figure varies greatly according to family income, race, and ethnicity. Hence, the authors see the challenge quite clearly: to increase the completion rate for those who enroll in higher education. They also stress the importance of improving results by bringing down average time to degree toward four years. These goals can only be accomplished by improving the performance of low-achieving groups, and it can only be done in the public colleges and universities that most of these students attend.

To address this problem the authors have constructed two unique databases consisting of almost 200,000 students who either began full-time study at public

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universities in 1999 or transferred into those institutions. One database consists of 20 flagship universities divided into three levels of selectivity. The other covers the state systems of Maryland, North Carolina, Ohio, and Virginia, and distinguishes between relatively selective, nonselective, and a small number of Historically Black Colleges and Universities (HBCUs). Students in both data sets were tracked until 2005 to ascertain four-year and six-year graduation rates. The focus here is on traditional college students—full-time, dependent, and less than 24 years old—the type of student most likely to earn bachelor's degrees. These data permit the authors to probe what factors determine who graduated and who did not in this six-year span.

The demographic findings all point in the expected directions but are interesting nevertheless. Parental education here has a somewhat greater effect than family income. Adjusted for student characteristics, having a parent with some college conferred no advantage, but one who graduated from college increased college completion by six percentiles. Being from the third or highest family income quartile provided advantages of four and six percentiles, respectively (42–43).<sup>5</sup> As with parental education, the two lowest categories (first and second quartiles) were similar, suggesting that being above or below median income was what mattered for college completion. The fairly large discrepancies in race and ethnicity were dampened considerably when the data were adjusted for academic record and socioeconomic status. What remained was a pervasive advantage for women, ranging from four (white) to 10 (black and Hispanic) percentiles (49–50).<sup>6</sup>

The databases were designed to permit comparisons of institutional types. At the most selective flagships, 65 percent of students graduated in four years and another 21 percent in five or six years; at the nonselective state systems, just 51 percent graduated and only half of them in four years (35). Moreover, as selectivity decreases, the patterns mentioned above become exaggerated, lowering graduation rates and lengthening the time to degree for disadvantaged students. Perhaps most surprising, the third group of flagships—all well-respected universities—more closely resemble the nonselective state system schools than they do the two more selective groups. One might infer from this that the impact of peer effects diminishes rapidly as selectivity falls off in the public sector.<sup>7</sup>

Beyond these factors, the findings suggest that individual effort plays a large role in who graduates. High school grades emerge as much better predictors of college success than standardized tests—a finding that holds up all the better after rigorous scrutiny. The authors conclude that “high school grades reveal much more than mastery of content. They reveal qualities of motivation and perseverance—as well as the presence of good study habits” (123–24). Similarly, they find that first-year college grades “have a powerful ‘independent effect’ on graduation rates” (55). The key importance of effort/grades would

seem to underpin some of the book's chief conclusions. The evidence does not support the hypothesis of "overmatching"—that attending an institution with more academically qualified students will harm chances of graduation. Rather, just the opposite seems to be the case, that such settings probably stimulate effort and thus improve graduation rates, other things being equal.<sup>8</sup> Conversely, "undermatching" emerges as a problem: the institutional effects of less selective institutions on average decrease a stronger student's chances of graduation. It seems that students with good study habits and motivation rise to the challenge. For example, community college graduates who transfer to four-year institutions are actually more likely to graduate than comparable students who entered as freshmen.

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No review can do justice to the abundance of data and the thoroughness of analysis in this volume. The book contains over 100 figures, and an online appendix breaks these data down further in nearly as many tables.<sup>9</sup> Despite the limitations inherent in any finite data set, *Crossing* shines a spotlight on a good deal of the public sector of American higher education. Nonetheless, the findings, and what the authors make of them, raise as many questions as they answer.

Without gainsaying that low college completion rates are as troubling as the authors contend, it is worth pointing out that this is nothing new. From the time that census data have been available (1947), the percentage of entering students who obtain a bachelor's degree has hovered around 50 percent.<sup>10</sup> Half of college students were graduating when the United States led the world in human capital formation, and half now graduate given the current stagnation. Clearly this situation is difficult to alter. It is also intensely studied. The authors describe their approach as "macro-empirical," and they consequently do not consider the voluminous literature on student persistence and attainment, particularly factors affecting student performance within college.<sup>11</sup>

The authors downplay the notion endorsed by Goldin and Katz, and most other observers, that lack of adequate academic preparation for college is a serious impediment to educational attainment. They quote a Chicago study to this effect but otherwise warn against exaggerating these effects. Rather, "later-stage outcomes depend enormously on the qualifications that entering high school students bring with them from the eighth grade and on immutable personal attributes such as race/ethnicity, gender, and family background."<sup>12</sup> Indeed, the central motif of the entire study is that "undermatching" results from those immutable personal attributes and is a "massive" problem. These conclusions may have validity for most full-time, four-year students in these databases but seem unlikely for underprepared students—for example, the one-third of entering postsecondary students who require remedial classes.<sup>13</sup>

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Hence, one of the principal recommendations is that students should enroll in “the most challenging universities that will accept them” (228). This is a fine prescription for individual salvation (or graduation), but it can hardly improve overall educational attainment, since students moving to more selective institutions would presumably displace other students to institutions where they would be less likely to graduate. The authors recognize a conundrum of sorts for community colleges, where entering students are far less likely to earn bachelor’s degrees but whose successful transfers have superior chances of graduating. However, they ultimately recommend “that states should not encourage students . . . to enroll in a two-year program when they could have enrolled in a four-year college.” And they add, states should not underinvest “in creating places at four-year institutions” (230). Unfortunately, the tides of state policies are flowing in the opposite direction.

A lacuna in both books is the absence of analysis of the gender gap in higher education. Both studies describe the superior achievement of women but offer no explanations.<sup>14</sup> Yet, this is perhaps the most salient demographic fact of American higher education: women constitute 53 percent of full-time, four-year undergraduates, 54 percent of graduate students, and 57 percent of college graduates.<sup>15</sup> Moreover, the explanation is apparently behavioral, since males score slightly higher on standardized tests. If men could catch up, there would be no human capital shortfall.<sup>16</sup> To understand this disjunction, researchers need to invert Professor Henry Higgins’s lyrical question and ask, academically at least, “Why can’t a man be more like a woman?”

The operation of financial incentives in higher education is exceedingly complex. The large and growing wage premium for college graduates, for example, has not encouraged more people to graduate, and reducing net prices for lower-income students, even to zero, has only a limited impact on college completion. The most likely reason for these anomalies is that cost-benefit considerations vary according to income levels and academic abilities.<sup>17</sup> *Crossing* provides descriptions of how students from different income quartiles finance college with combinations of grants, loans, and family contributions. Just one set of data yields the finding that higher prices depress college completion for students below median income at flagship universities. Although this finding supports previous studies, it is still important. Considering the unremitting escalation of college prices, whether or not rising prices have depressed college enrollment, graduation, and human capital formation is a crucial question. If they have, the authors’ policy recommendations would be counterproductive.

Along with Goldin and Katz, *Crossing* advocates increasing student financial aid and would prefer that aid take the form of grants. However, this seems unlikely on more than a token scale, which would have only a marginal effect on low-income students, and impossibly large commitments would be required

if grants were to be extended to middle-class students. Instead, increased financial aid will no doubt take the form of loans, as it has for the past generation. Neither set of authors sees anything wrong with this. Furthermore, *Crossing* favors increasing tuition in the public sector: “as economists have argued for a number of years, it is far better . . . to charge a higher price and use some revenue to discount the price more heavily to needy students through need-based grants” (190). Low tuition, the authors argue, “provides further subsidies to well-off families without improving their graduation rates” (231). This has been the conventional wisdom of economists.<sup>18</sup> It is also the philosophy of tuition discounting that has propelled the escalation of tuition in the selective private sector over the past 30 years. However, this high-tuition/high-aid strategy depends on enrolling a preponderant number of full payers and thus has driven greater inequality in selective, private institutions. For public universities, it is not only undesirable but also unworkable.<sup>19</sup>

By raising tuition, private colleges and universities captured what economists call “consumer surplus”—the amount that consumers would be willing to pay for a good above its list price. However, in the public sector today there is limited consumer surplus to capture. Instead, rising tuition levels have captured substantial amounts of “borrower surplus”—what consumers would be willing to borrow beyond their current levels. The *Crossing* data show middle-class students having the largest dependence on loans, those from the second and third income quartiles (and these data reflect much lower 1999 prices). But even as wealthier students meet rising costs with additional loans (borrower surplus), less wealthy students hit the ceilings for subsidized loans. In 2007, to afford the expected family contribution for the mean cost of a year at a four-year public university (\$18,931) required a family income of nearly \$100,000. A student from a family with income of \$60,000 would have “financial need” of \$10,000, or nearly twice the limit for federal subsidized loans.<sup>20</sup> The majority of American 18 year-olds have been priced out of public universities—the institutions *Crossing* advises them to attend.

Tuition prices in higher education could not have risen nearly as much without federal student loans. These loans have, in fact, accounted for a rising share of the financing of colleges and universities:

	Federal Student Loans as Percentage of Total Tuition Revenues:		
Year	1991	2000	2007
Percentage	48	62	83

Of course, loans are used for other expenses besides tuition. Still, there is no denying that student loans have been essential for institutions to sustain tuition increases. However, for students they represent help now and financial obligations later. *Crossing* documents how the high cost of tuition discourages college completion. It seems likely that this is a major cause of the stagnation

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of human capital formation in the United States and the growing inequality of educational attainment.

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These two valuable books tell us a great deal about the current predicament of American higher education. However, they do not provide a complete picture of what is causing the current malaise and what might be done to alleviate it. Yet, they provide enough solid findings to permit that picture to be filled in with some imaginative extrapolation. Three kinds of factors appear relevant: personal characteristics of students (including those “immutable personal attributes”), financial factors (since “money matters,” as *Crossing* repeatedly reminds us), and institutional influences.

The influence not discussed in these quantitative studies is culture. Of course, a good deal has been written on the possible cultural impediments confronting black and Hispanic students. However, a large presence in the lives of all young people is the corrosive, anti-intellectual influence of popular media culture. In all its hydra-headed forms, it promotes values that are largely antithetical to those promoted in the schools. What determines, then, the balance of influence in a given student between media culture and school culture? Undoubtedly, most important is the home environment. Here parental education is probably the most decisive (measurable) variable—or at least powerful enough to produce the observed differences. Having a parent who graduated from college should, on average, strengthen the influence of school culture. Gender no doubt plays a role here as well; girls are less susceptible to much of the male-oriented media and more receptive by all accounts to school discipline.<sup>21</sup> The outcome of this cultural tug-of-war is bad or good high school grades and, for that matter, college grades too. Hence, grades emerge as the best predictor of college success because they reflect the presence of school values of motivation, discipline, and learning. For very high achievers, furthermore, the effects on outcomes of income, race, and parental education disappear.

It is perplexing that economists who emphasize that money matters apparently do not believe that raising the price of higher education reduces demand. Of course, for some time that did not seem to be the case. Circa 1980, higher education was, in retrospect, underpriced. Both public and private institutions were able, as Goldin and Katz show, to capture enormous amounts of consumer surplus by steadily raising prices. However, while upper-income students apparently responded to the rising wage premium by enrolling in larger proportions and at more selective institutions, lower-income students completed college at decreasing rates and were poorly represented at selective institutions. Goldin and Katz conclude that these dynamics have fueled rising



income inequality, which in itself tends to depress educational attainment.<sup>22</sup> Today, when the majority of public sector students must resort to loans to obtain a college education, the lure of the college wage premium is strongest at the top of the income pyramid and weakest at its base. Moreover, academic achievement (grades) cannot help but have a huge influence over financial/enrollment decisions. Students with less than a 3.00 high school grade average have less than a 40 percent chance of graduating (*Crossing*, 119). How much should they wager (borrow) with those odds?

When all the above characteristics are controlled for, *Crossing* finds that institutional selectivity has a powerful effect. Of course, selectivity is associated with a familiar institutional profile: residential campus communities, “highly capable classmates,” and “excellent educational resources” (233)—all unsurprisingly aid student learning and success. But the authors also stress the expectations inherent to this type of schooling—that all students expect to graduate, preferably with their class, in four years. In reality, these conditions are difficult to replicate throughout much of the public sector. Financial pressures force many students to live at home. They and their classmates may work part-time off campus, lessening chances of graduation and negatively influencing their attendance, which is also a negative. Only in the final pages do the authors endorse within-college measures to mitigate these conditions. However, the adverse impact of these other factors is exacerbated by the pervasive disinvestment by the states in their colleges and universities. Several studies have found that funding cutbacks negatively affect graduation rates and, particularly, timely graduation.<sup>23</sup>

Given this picture, what steps might be taken to cure the American malaise? The media culture, economic inequality, and the penury of state treasuries are enormous problems to surmount. Nevertheless, an optimist would advocate moving in the following directions. Lower tuition is no doubt impossible, but efforts should be made to stabilize tuition at current levels and hopefully stabilize borrowing as well. Financial aid policies are likely to have the greatest impact by focusing on the second and third income quintiles where elasticity of demand is probably greatest. Increased funding is badly needed if community colleges and nonselective public universities are to become more effective in graduating students. Colleges cannot be expected to do more with less; research shows that with less they will do less (see n. 23). Moreover, students in the public sector have been asked to pay more in order to receive less. American higher education has become locked in a vicious spiral of rising tuition and rising student loans, which in turn allow tuition to be raised still further. Unless that spiral can be broken, there will be little prospect of curing the American malaise—of making higher education more productive and more equitable.

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### Notes

1. OECD Factbook 2009 (2010). Countries exceeding the United States were Canada, Japan, Korea, Israel, Ireland, Belgium, Netherlands, and Norway; tied for tenth were Australia, Denmark, Spain, Sweden, and the United States. OECD figures for tertiary attainment include less than four-year degrees.
2. Adelman (2009). Higher education systems differ in structure and score keeping (Hauptman and Kim 2009). “College Completion Rates, 1947 to 2007” (2009) identifies four different measures of college completion, ranging from 48.7 percent to 56 percent for the United States.
3. The focus of this essay is higher education, although a good part of this volume analyzes the expansion of high school education in the twentieth century.
4. This conclusion stands as a powerful argument that higher education, in fact, has substantial public good properties and is not primarily a private good, as is often implied in public policies.
5. Educational advantage increases with family income, so magnitudes of difference will vary according to the portions of income compared. Quartiles used here include a fairly large range of incomes and will show smaller differences than quintiles, deciles, etc. Also, these quartiles reflect families of dependent students in these databases, which are considerably wealthier than the general population.
6. Women were even more dominant among “best” performers—those graduating in four years in the upper half of their class: 8 : 5 for whites at flagships and better than 2 : 1 at nonselective institutions (84–85).
7. See Hoxby 2009. Research on peer effects has focused on private colleges. Peer effects in public universities are discussed in Geiger (2004), 82–92, and for highly selective flagship universities, see Geiger (2007), 15–33.
8. This was also a finding of Bowen and Bok (1998).
9. Discussion of the data and appendix tables are available at <http://press.princeton.edu/titles/8971.html>.
10. “College Completion Rates, 1947 to 2007” (2009), 2.
11. *Crossing*, 221. The well-known work of Vincent Tinto (1993) on student retention receives one mention (221–22); many similar findings are discussed, e.g., in Pascarella and Terenzini (2005), 373–444.
12. *Crossing*, 111. Conversely, the Chicago study concluded that “high schools provided few students with the skills . . . needed for access to 4-year colleges and for success once enrolled” (99).
13. Attewell et al. (2009); Bettinger and Long (2005). Remediation is not discussed in *Crossing*.
14. The authors have addressed this question in another publication (Goldin et al. 2000).
15. Women also comprise 63 percent of part-time students at all levels, which would suggest much stronger motivation. See *Chronicle of Higher Education: Almanac 2009* (2010).
16. In 2005–6, 224,000 more women received bachelor’s degrees than men—a gap that is steadily widening. Male parity would raise the college graduation rate by 15 percent, to 34–35 percent.
17. For example, Avery and Hoxby (2004) found that two-thirds of high-aptitude students behave as rational investors in choosing schools and aid packages (239–99).
18. This argument echoes the classic study of Hansen and Weisbrod (1969): the fallacy is that 40 years ago tuition was low; today it is not.
19. The authors recognize this point, namely, that such a policy requires “having

high enough admission standards that relatively few low-income students enroll” (190). See Geiger (2004).

20. See “Financial Barriers to Higher Education for Dependent Undergraduate Students, 2008” (2009); figures for 2007–8. Loans were highest for students with family incomes from \$30,000–\$90,000.

21. Goldin et al. (2000) write: “Boys have a much higher incidence than do girls of school disciplinary and behavior problems, and spend far fewer hours doing homework. . . . Controlling for these noncognitive behavioral factors can explain virtually the entire female advantage in college attendance” (153–54). I would argue that media culture aggravates this disparity.

22. Haveman and Wilson (2007), 17–43.

23. “Expenditures per student are important to graduation rates. State governments that ignore this fact and call for higher graduation rates and do not increase funding (but rather cut funding) will not have success” (Blöse et al. 2006, 71–82, quote on 77); also, Bound et al. (2007) and even stronger findings in Bound et al. (2009).

## References

- Adelman, Clifford. 2009. “The Space between the Numbers: Getting International Data on Higher Education Straight.” Institute for Higher Education Policy, Washington, DC, November, 1–97.
- Attewell, Paul, David E. Lavin, and Thurston Domina. 2009. “New Evidence on College Remediation.” *Journal of Higher Education* 77 (5): 886–924.
- Avery, Christopher, and Caroline M. Hoxby. 2004. “Do and Should Financial Aid Packages Affect Students’ College Choice?” In *College Choices: The Economics of Where to Go, When to Go, and How to Pay for It*, ed. Caroline M. Hoxby. Chicago: University of Chicago Press, 2004.
- Bettinger, Eric P., and Bridget Terry Long. 2005. “Addressing the Needs of Underprepared Students in Higher Education: Does College Remediation Work?” NBER Working Paper 11325, National Bureau of Economic Research, Washington, DC.
- Blöse, Gary L., John D. Porter, and Edward C. Kokkelenberg. 2006. “The Effects of Institutional Funding Cuts on Baccalaureate Graduation Rates in Public Higher Education.” In *What’s Happening to Public Higher Education? The Shifting Financial Burden*, ed. Ronald H. Ehrenberg. Westport, CT: Praeger.
- Bound, John, Michael Lovenheim, and Sarah Turner. 2007. “Understanding the Decrease in College Completion Rates and the Increased Time to the Baccalaureate Degree.” Research Report 07-626, Institute for Social Research, Population Studies Center, Ann Arbor, MI, November.
- Bound, John, Michael Lovenheim, and Sarah Turner. 2009. “Why Have College Completion Rates Declined? An Analysis of Changing Student Preparation and Collegiate Resources.” NBER Working Paper 15566, National Bureau of Economic Research, Washington, DC.
- Bowen, William, and Derek Bok. 1998. *The Shape of the River*. Princeton, NJ: Princeton University Press.
- Chronicle of Higher Education: Almanac 2009*. 2010. Washington, DC: Chronicle of Higher Education.
- “College Completion Rates, 1947 to 2007.” 2009. *Postsecondary Education OPPORTUNITY* 201 (March): 1–16.

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- “Financial Barriers to Higher Education for Dependent Undergraduate Students, 2008.” 2009. *Postsecondary Education OPPORTUNITY* 204 (June): 1–20.
- Geiger, Roger L. 2004. *Knowledge and Money: Research Universities and the Paradox of the Marketplace*. Stanford, CA: Stanford University Press.
- Geiger, Roger L. 2007. “Expert and Elite: The Incongruous Missions of Public Research Universities.” In *Future of the American Public Research University*, ed. Roger L. Geiger, Carol L. Colbeck, Roger L. Williams, and Christian K. Anderson. Rotterdam: Sense.
- Goldin, Claudia, Lawrence F. Katz, and Ilyana Kuzieko. 2000. “The Homecoming of American College Women: The Reversal of the College Gender Gap.” *Journal of Economic Perspectives* 20 (4): 133–56.
- Hansen, W. Lee, and Burton A. Weisbrod. 1969. *Benefits, Costs and Finance of Public Higher Education*. Chicago: Markham.
- Hauptman, Arthur M., and Young Kim. 2009. “Cost, Commitment, and Attainment in Higher Education: An International Comparison.” *Jobs for the Future* (May): 1–25.
- Haveman, Robert, and Kathryn Wilson. 2007. “Access, Matriculation, and Graduation.” In *Economic Inequality and Higher Education: Access, Persistence, and Success*, ed. Stacy Dickert-Conlin and Ross Rubenstein. New York: Russell-Sage, 2007.
- Hoxby, Caroline M. 2009. “The Changing Selectivity of American Colleges.” NBER Working Paper 15446, National Bureau of Economic Research, Washington, DC.
- OECD Factbook 2009. 2009. *Economic, Environmental and Social Statistics: Education Outcomes in Tertiary Attainment*. Paris: OECD.
- Pascarella, Ernest T., and Patrick T. Terenzini. 2005. *How College Affects Students: A Third Decade of Research*. San Francisco: Jossey-Bass.
- Tinto, Vincent. 1993. *Leaving College: Rethinking the Causes of Cures of Student Attrition*. 2nd ed. Chicago: University of Chicago Press.