

A Tuition Bubble?

Lessons from the Housing Bubble

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Center for College Affordability and Productivity

The Center for College Affordability and Productivity (CCAP) is a nonprofit research center based in Washington, DC, that is dedicated to research on the issues of rising costs and stagnant efficiency in higher education, with a special emphasis on developing market-based solutions.

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Introduction

Until relatively recently, both the price of housing and tuition at America's institutions of higher education were rising at unsustainable rates. As the late economist Herbert Stein once said, "Anything that can't go on forever, won't." His prophecy has proven correct for the housing market.

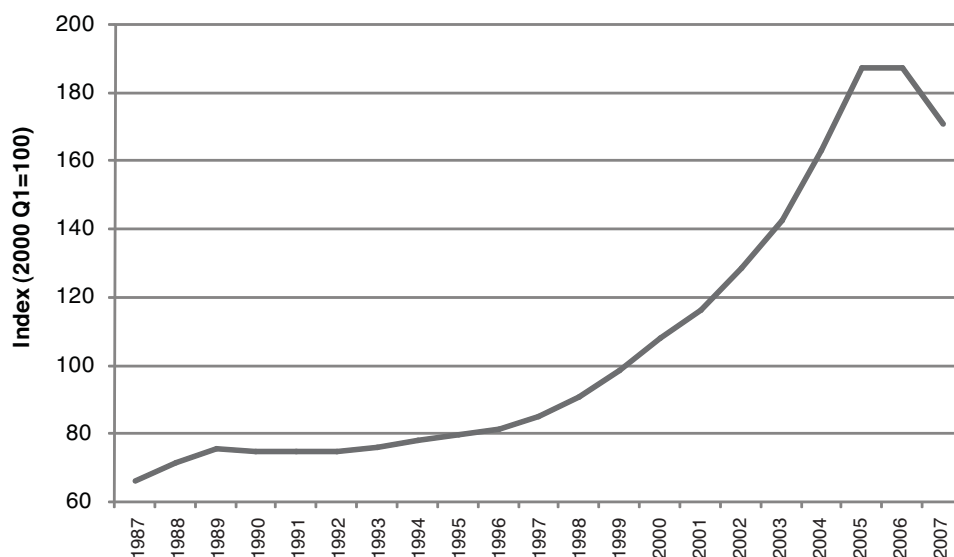
By 2007, house prices were falling in many parts of the country, a trend that showed signs of spreading and accelerating in 2008. College tuition, however, continued its ascent. It would seem only a matter of time before these "unsustainable" increases in tuition cease and likely reverse, but as we have seen with the dot-com bubble and now the housing bubble, readjustments can be very painful. Thus, if tuition increases truly are unsustainable, we should aim to minimize any bubble in the interest of avoiding additional pain—such as school closures and large-scale student dislocations—from the inevitable readjustment. Intriguingly, the housing bubble offers some insights into what might be termed the "tuition bubble."

What Happened in the Housing Market

From 2000 through 2006, the housing market in the United States experienced a significant boom that was later revealed to be a bubble. The widely used S&P/Case-Shiller Home Price Indices show that from the beginning of 2000 to the second quarter of 2006, home prices increased by almost 90 percent, as shown in figure 1.¹

While some view this as irrational, and the aggregate outcome can certainly be classified as such, Robert J. Shiller points out that "perfectly rational people can get caught up in a bubble."² Upon closer examination, it turns out borrowers "acted rationally in response to market forces and incentives during the bubble."³ In other words, individually, most of those who contributed to the run-up in housing prices

FIGURE 1
THE HOUSING BUBBLE



Source: S&P/Case-Shiller Home Price Indices, February 26, 2008.

were responding rationally to market signals, specifically artificially low interest rates and lax lending standards.⁴ Faced with low interest rates, zero-down NINJA loans (no income, no job, no assets), and the belief that housing prices will always rise, it was almost irrational not to buy a house or two.

It is important to identify correctly the root cause of the crisis because the narrative that emerges can exert enormous impact on public policy designed to address the problem. While this piece will not analyze the various proposals being floated to address the housing bubble—many of which are aimed at symptoms instead of causes—we do need to be sure to focus on the correct narrative so that we can identify other areas that are heading for trouble for similar reasons. With this in mind, Eric Janszen correctly argues that we need to move beyond the current focus on subprime mortgages:

[S]ubprime mortgages were only a sideshow that appeared late, as the housing-bubble credit machine ran out of creditworthy borrowers. The main event was the hyperinflation of home prices. . . . Even after the faith that supported a bubble recedes, false beliefs continue to obscure cause and effect as the crisis unfolds.⁵

If the recent economic troubles are largely due to the hyperinflation of home prices, then determining the cause of the hyperinflation is of the utmost importance. A loose consensus is emerging that the cause was “[e]asy credit, lax lending standards and panic buying [which] raised [prices] to foolish levels. Weak borrowers got loans. People with good credit borrowed too much. Speculators joined the circus.”⁶

How Did It Happen?

To ward off recession following the 9/11 attacks, the Federal Reserve held interest rates low for a prolonged period of time. Among other things, this had the effect of lowering the interest rates that are charged for home mortgage loans. This increased the size of the loan that could be paid for with any given level of income. Borrowers, who now qualified for larger loans, increased the demand for housing, which pushed up housing prices.

At the same time, though for separate reasons, securitization of home mortgages was becoming standard practice:

Until the early 1980s, finance hewed to an “originate and hold” model. Banks generally held loans on their balance sheets to maturity; some debts were sold on loan-by-loan, but this market was small and lumpy. This began to give way to an “originate and distribute” model after America’s government-sponsored mortgage giants [Fannie Mae and Freddie Mac] issued the first bonds with payments tied to the cash flows from large pools of loans. . . . Around 56% of America’s outstanding residential mortgages were packaged in this way, including more than two-thirds of the subprime loans issued in 2006.⁷

There are a number of benefits from securitization: it frees up the capital of banks, it allows smaller banks to avoid overexposure to a specific geographic area, it results in lower borrowing costs for consumers and companies, and it distributes risk more widely, thus making bankruptcies less likely.

These benefits, however, come with a cost. Securitization reduces the incentives of banks to enforce appropriate lending standards, while simultaneously increasing their incentives to make loans. Since most loans that banks make could be sold to investors, banks had little reason to lend exclusively to creditworthy borrowers—those with a realistic chance of paying the loan back. Furthermore, since bank revenue was increasingly coming from fees associated with originating and distributing loans—instead of debt payments

from borrowers—banks had an incentive to make as many loans as possible. In the interests of making more loans, banks lowered lending standards to expand the potential pool of borrowers, with the consequence that riskier and subprime borrowers were able to get loans.

This has created what economists call a principal agent problem in financial markets. Banks had an incentive to make many loans, but no incentive to ensure that only good loans were being made because the risk that a loan would default would not be borne by the bank that made the loan, but by the investors who bought the loan from the bank—typically in packages of other loans called collateralized debt obligations or CDO. As Fed chairman Ben Bernanke said in a recent speech, this

originate-to-distribute model appears to have contributed to the breakdown in underwriting standards, as lenders often found themselves able to pass on the credit risk without much resistance from the ultimate investors. For a number of years, rapid increases in house prices effectively insulated lenders and investors from the effects of weaker underwriting, providing false comfort.⁸

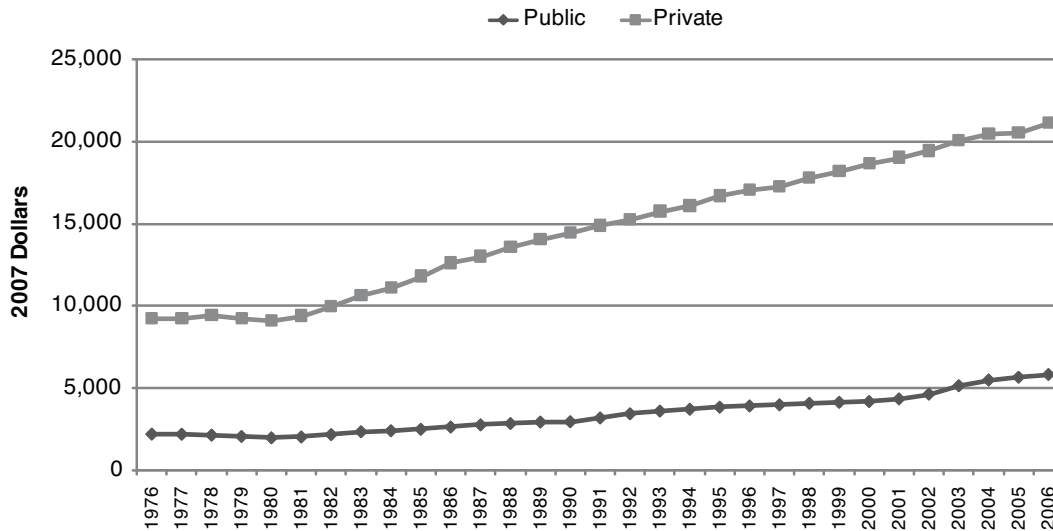
The collapse of lending standards is evident. The percent of balances of Alt A loans in delinquency twelve months after origination skyrocketed from around 0.6 percent in 2003 to around 2.5 percent in 2006. For subprime loans, it quadrupled from around 2.5 percent to 10 percent during the same period.⁹ It is important to note that these increases preceded the popping of the bubble in house prices, which supports the argument that lax lending standards were a root cause of the housing bubble.

The lack of lending standards combined with low interest rates led to foolish loans being made. For example, “California strawberry picker Alberto Ramirez, who despite earning just \$14,000 a year, was able to obtain a mortgage to buy a home for \$720,000.”¹⁰

With virtually anyone able to get enormous loans, it is no wonder that housing prices started to rise. These rapid increases soon attracted the attention of speculators. As returns on real estate investments started coming in above average, speculators entered the market en masse, increasing demand even more and causing housing prices to explode.

This process did not end until the Fed started to increase interest rates. As variable rate loans adjusted to the new interest rates, monthly payments increased substantially, causing a wave of defaults and foreclosures, especially in the subprime category. The investors who owned the CDOs made up of home mortgages soon realized their investments were not as attractive as they had thought. Up to that point, investors had been willing to buy packages of mortgages because holding portions of many mortgages is less risky—at least for defaults—than holding a single mortgage. This is why the rating agencies often awarded them the highest rating of AAA. Unfortunately, no one seems to have properly accounted for a risk that was common to all of the mortgages: an increase in interest rates combined with a pause in the appreciation of housing prices, which ruled out continuous refinancing as an easy solution. As the questionable value of the CDOs became apparent, investors stopped buying mortgages from the banks. The banks, in turn, stopped indiscriminate lending practices since they could no longer unload such risky loans on the investors. This caused housing demand and prices to dip, which scared off the speculators, causing demand and prices to fall even further as they sought to liquidate their investment properties. From its peak in the second quarter of 2006, the average home price was down by more than 10 percent by the fourth quarter of 2007,¹¹ and is likely to continue falling. (It should be noted that there is considerable variation by city). The effect of these events on the rest of the economy is still uncertain, though it is likely to get worse as more mortgages reset to higher rates over the next year and house prices continue to fall, causing even more defaults and potentially pushing the economy into a recession.

FIGURE 2
REAL (2007 \$) AVERAGE TUITION AT FOUR-YEAR DEGREE-GRANTING INSTITUTIONS



Sources: *Digest of Education Statistics*, table 320; College Board, *Trends in Student Aid 2007*; Bureau of Labor Statistics, CPI-U; and CCAP calculations.

Similarities in Higher Education

The first and most obvious similarity between higher education and the housing market is that prices were rapidly increasing in both. Conventional wisdom holds that tuition is rising because schools “need” the money to educate their students better, and students are willing to pay whatever schools charge, increasingly with the help of government loan programs. As figure 2 shows, real (inflation-adjusted) tuition has more than doubled over the last thirty years at both public and private institutions.

The sustained and widespread increases in tuition indicate that they are, like the rise in housing prices, a rational response to the circumstances faced by market participants. Schools charge ever more because they can, and students and their families pay ever more because the earnings differential between college- and high school-educated workers leads them to believe that a college degree is a good investment.

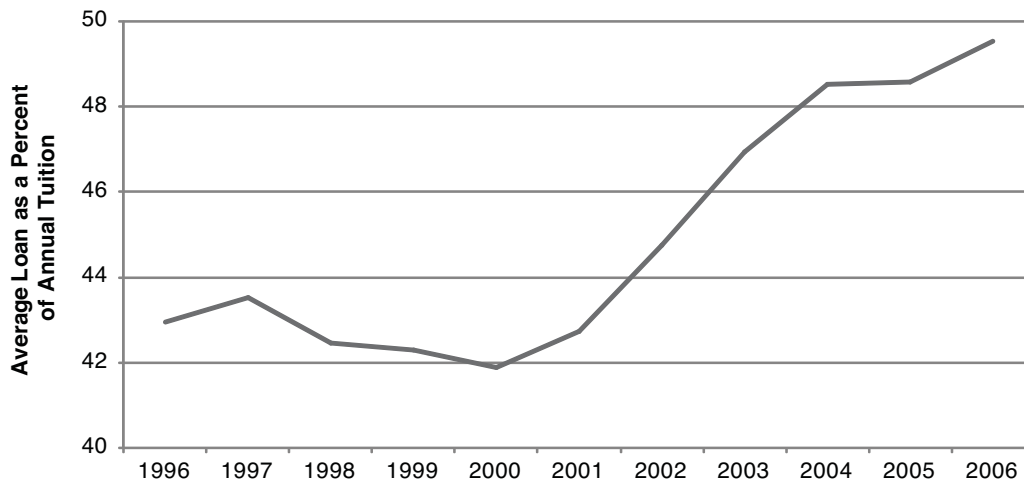
Another similarity is a heavy reliance on loans to pay for both home purchases and college. While loans are the dominant source of funds for home purchases, the average loan for students attending four-year schools now accounts for just over half of annual tuition charges, as figure 3 shows.

There are additional parallels between the housing market and student loans. Beyond the obvious criminal and predatory behavior of some of the lenders, two of the main factors that caused trouble in the housing market, a lack of lending standards and artificially low interest rates, are both present when it comes to student loans, particularly those loans obtained through federal programs, primarily Direct Loans and the Federal Family Education Loan Program (FFELP).

In the case of the housing market, low interest rates and lax lending standards had different causes. Low interest rates can be attributed to the Fed (a part of the government, albeit a largely independent part), and lax lending standards were encouraged by securitization, which was driven by financial markets and in

FIGURE 3

REAL (2007 \$) AVERAGE LOAN FOR STUDENTS AT FOUR-YEAR SCHOOLS AS A PERCENT OF TUITION^a



Note: a = The average loan—including federal, state, and private loans—for 1996–2005 is estimated by taking the total loan funding and dividing by the number of full time equivalent (FTE) students at four-year schools, assuming that 62 percent of loan funds go to students at four-year schools. Sixty-two percent was chosen to calibrate this estimate with independent reports. For 2006, the average loan was estimated to have grown by the average yearly growth rate, 4.8 percent, from 1997 to 2005, resulting in an estimated average loan of \$5,573. The average loan for each year is then reported as a percent of the average tuition for that year. Sources: *Digest of Education Statistics*, tables 320 and 210; College Board, *Trends in Student Aid 2007*; Bureau of Labor Statistics, CPI-U; and CCAP calculations.

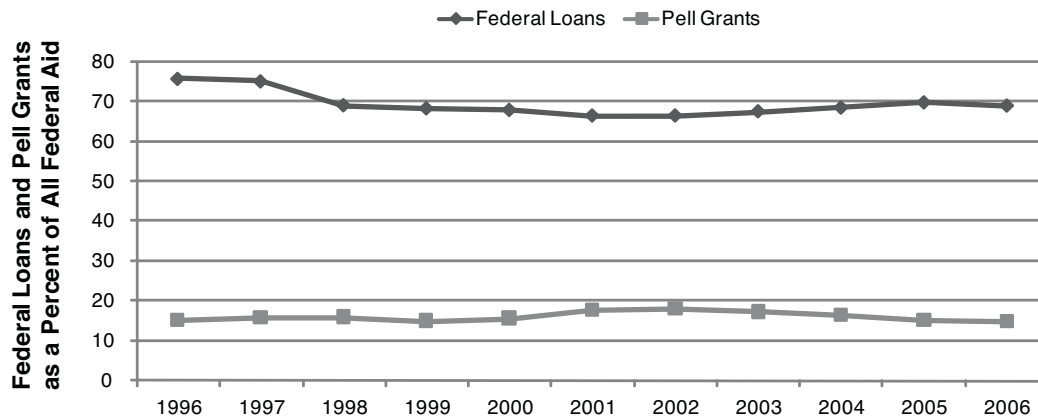
which the government had a relatively minor role. This is not the case with higher education, in which both phenomena can be attributed to government policy, specifically the guarantees provided for student loans.

Generally, 1 percent of each loan is charged as a default/guarantee fee, which goes to a guarantee agency. In the event that “the borrower defaults, dies or becomes totally and permanently disabled, the guarantee agency reimburses the lender for the balance remaining on the loan.”¹² The confidence that the loan will be repaid by someone greatly reduces the level of risk for lenders. These types of loans “accounted for more than three-quarters of the \$77 billion that students borrowed for the 2006–07 academic year.”¹³

Government guarantees essentially mean that lenders do not need to worry about the creditworthiness of borrowers, and this is clearly the case. The default rate for a recent cohort of graduates ten years after graduation was 20 percent for those who borrowed more than \$15,000.¹⁴ Most lenders would quickly go out of business if one out of every five of their biggest loans defaulted, but the guarantees ensure that they do not, which allows them to continue lending year after year. Furthermore, the maximum amount that can be borrowed is not determined by the expected ability of the borrower to pay the loan back, which would likely be influenced by his major and academic performance, but by formulas using information on the Free Application for Federal Student Aid (FAFSA) form.¹⁵

Most private loans do not have the same protection, of course (though some private loans can be guaranteed in a similar manner). But until recently, they did not seem to focus on the borrower’s ability to pay back the loan, either. Two explanations for this stand out. One, lenders were probably caught up in the wave of securitization, which resulted in an underpricing of risk in general, including the risk of default for private

FIGURE 4
FEDERAL LOANS AND PELL GRANTS AS A PERCENT OF ALL FEDERAL AID



Source: College Board, *Trends in Student Aid 2007* and CCAP calculations.

student loans. Two, lenders probably assumed that graduates or their parents would bend over backward to pay back loans rather than ruin their credit for the next decade by going into default at such a young age.

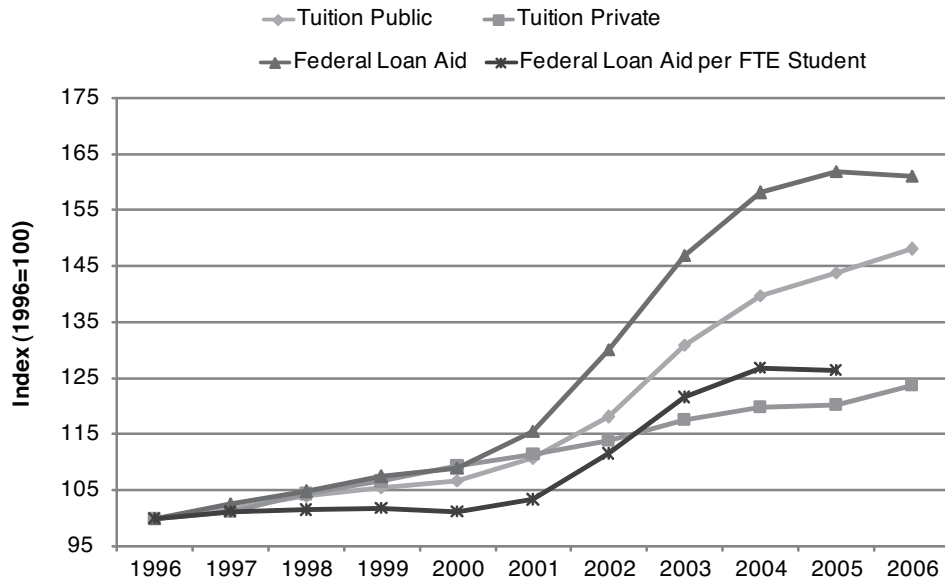
Another effect of government guarantees is that interest rates are artificially low for student loans, currently set at 6.8 percent, a rate which changes annually in July. This is much lower than the rates for private student loans, which do not have a government guarantee and can reach as high as 18 percent.¹⁶ If the student has a cosigner such as a parent, though, the rates are much lower, typically around 10 percent. In addition to the lower rates, in general, for “subsidized” loans, the government even makes the interest payments while the student is in school.

How These Parallels Play Out in Higher Education

The main argument in this report is that lax lending standards and artificially low interest rates for student loans exacerbate tuition increases because they increase the ability of too many students to pay. This then encourages schools to raise their tuition more than they otherwise would. A vicious cycle—or virtuous, depending on where you are within it—soon develops. The first step in the cycle is an attempt by the government to increase access to higher education by providing subsidies for it. For simplicity, we will refer to all federal aid as subsidies, including the federal loan programs (Direct Loans and FFELP). The term “subsidies” used here should not be confused with the distinction between subsidized and unsubsidized federal loans, both of which in this context qualify as a subsidy. As figure 4 shows, just under 70 percent of federal subsidies take the form of student loans. While the share of loans fell by almost 7 percent between 1996 and 2007, the entire decrease occurred in the first two years. Loans make up the same proportion of federal aid now as they did in 1998; Pell Grants as a share of federal aid have also declined slightly.

These subsidies increase the ability of the students that receive them to pay for school, which is the desired effect. But because subsidies are too widely available, combined with some unique characteristics of higher education (which are discussed in detail below), schools see a general increase in the ability of the student body to pay and increase their tuition charges, which is the second step in the cycle. The

FIGURE 5
TUITION AND FEDERAL LOAN AID



Sources: *Digest of Education Statistics*, tables 320 and 210; College Board, *Trends in Student Aid 2007*; Bureau of Labor Statistics, CPI-U; and CCAP calculations.

schools' decisions are made much easier because higher education is arguably the only industry for which the government facilitates price discrimination—charging different students different amounts for the same service. Students are required to fill out the FAFSA to be eligible for government aid. The FAFSA information, including intimate financial details of students and their families, is then provided to schools. Such information allows schools to determine each student's ability to pay with a good deal of precision, which makes the task of price discrimination much easier. The government's encouragement of such price discrimination by providing FAFSA information should be seriously questioned but will not be addressed here. The relevance for this argument is that schools see an increase in the ability to pay and raise tuition. The higher overall price of college reduces access. Governments see the reduced access and offer larger and more widely available subsidies, thus starting the cycle over again.

There is some evidence of this. Figure 5 shows that as loan aid increases, so does tuition at four-year schools, especially public schools. Both federal loan aid and tuition at public schools experienced rapid increases from 2001 to 2004. Federal loan aid began increasing rapidly in 2001 and roughly plateaued in real dollars from 2004 to 2006. (The data to calculate aid per student for 2006 is not publicly available yet, though I would estimate that it was slightly less than in 2005.) Not surprisingly, tuition at public schools started increasing rapidly around 2001, as well. Tuition growth at public schools during 2004–2006 has not leveled off yet, though it has slowed in its rate of increase. Private tuition does not seem to be driven as much by student loan aid, probably because the maximum loans do not cover anywhere near the cost of tuition at private schools, while they do at public schools.

There is an alternative explanation for figure 5 however. Perhaps it is not, as I contend, the increase in loan aid which allowed schools to increase their tuition, but rather that tuition increased, which the

government responded to by increasing loan aid (in the interests of increasing access to higher education). In other words, which comes first, the increase in tuition or the increase in aid? Addressing the direction of causality is the purpose of the next section.

Why Subsidies for Higher Education Do Not Have the Same Effect as Other Subsidies

Most government subsidies lead to lower prices for consumers, but this study claims that this is not the case for higher education. The ultimate reason is that the nature of the subsidies and the peculiar characteristics of the market for higher education encourage schools to raise their prices when the students' ability to pay increases.

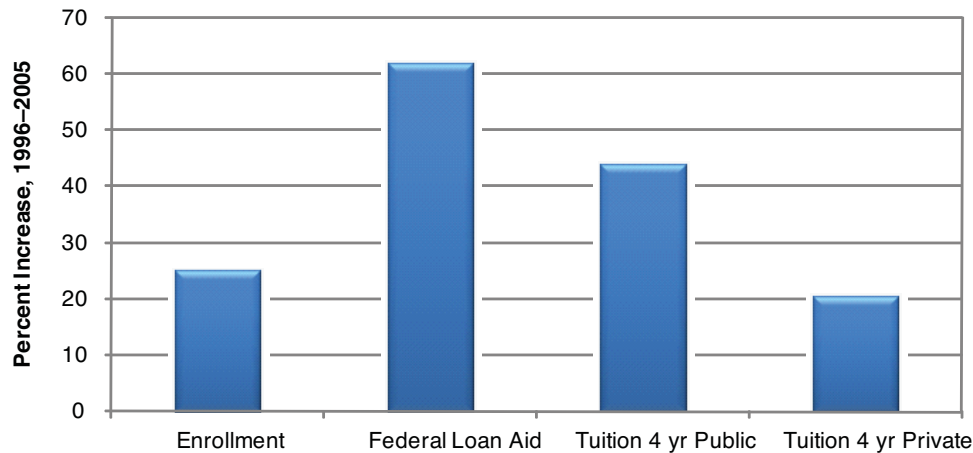
To begin with, there are a number of differences between typical subsidies and those for higher education. Typical subsidies, like those for agriculture, go directly to producers. This increases the supply of the good or service, which results in a lower price to the consumer. Student loans, however, go to the consumer. In most markets, this would not matter, since this would increase demand, thus leading to a higher price for suppliers (but a lower price for consumers courtesy of the subsidy) who expand production to keep up with demand. Expansion of production is crucial. If the suppliers do not expand production, the end result is an increase in price, with the suppliers capturing the entire subsidy and the consumer still paying the same amount (or more, if he is not lucky enough to get a subsidy).

When it comes to higher education, there is reason to believe that an expansion of production is unlikely to occur. In a new National Bureau of Economic Research paper, Susan Dynarski and Judith E. Scott-Clayton find "little compelling evidence that Pell Grants and Stafford Loans, the primary federal student aid programs, are effective" in increasing college enrollment.¹⁷ One possible explanation for this finding is that the supply of higher education is what economists call inelastic—meaning that supply is unresponsive to price changes—particularly in the short term. Claiming that the supply of higher education is inelastic may seem ridiculous given that total enrollment at four-year institutions was 7.2 million in 1975 and 11 million in 2005. During this time, FTE enrollment increased from 5.9 million to 9.3 million,¹⁸ but keep in mind that this 53 percent (total)/63 percent (FTE) increase accrued over a thirty-year period during which the population of the country increased by 38 percent. The average annual increase was quite small, especially in light of the increasing amounts of money devoted to education. As figure 6 shows, federal loan aid increased by 61.9 percent between 1996 to 2005, and tuition at four-year public schools increased by 43.9 percent over the same period. In contrast, enrollments have increased just 24.9 percent (28 percent if looking at FTE enrollment), indicating that supply may be relatively inelastic.

To determine why the supply of higher education may be inelastic, it is instructive to return to our previous example. An agricultural subsidy will tend to increase output in two ways. One, farmers who were not already growing the subsidized crop will start producing the subsidized crop. Two, farmers already growing the subsidized crop will increase their production. Neither of these responses is likely to be as strong in the case of subsidies for higher education. First, new schools are unlikely to enter the market in a timely manner. As Charles Miller and Kevin Carey note, higher education has

huge barriers to entry, with traditional campuses costing hundreds of millions of dollars to build. Regulatory barriers, meanwhile, have stymied private support for lower-cost start-ups and innovators. Accreditors, who serve as the gatekeepers to higher education, essentially judge new entrants by their degree of resemblance to established universities, demanding adherence to long-established standards for curricula and faculty credentials while rejecting innovative ideas as unproven before they're even tried.¹⁹

FIGURE 6
PERCENT GROWTH^a, 1996–2005 (REAL 2007 \$)



Note: a = Enrollment refers to the total for four-year degree granting institutions. Tuition for public schools is in-state and includes required fees at degree-granting institutions.

Sources: *Digest of Education Statistics*, tables 320 and 180; College Board, *Trends in Student Aid 2007*; Bureau of Labor Statistics, CPI-U; and CCAP calculations.

This would be the equivalent of offering subsidies for corn production but then limiting the number of new farmers that are allowed to plant the crop.

Second, existing schools are unlikely to increase rapidly enrollment due to capacity constraints. The school would need to house, feed, and teach any new admitted students, and it takes time to build new dorms and classrooms. While capacity constraints explain inelasticity in the short term, why does the problem persist year after year?

Profit Maximization Is Not a Valid Assumption

The most important cause of longer-term inelasticity is that most institutions of higher education do not seek to maximize profits in the normal sense. In most markets, a higher price would eventually lead to an increase in supply, bringing the price back down to around the cost of providing the good or service. We do, to some extent, see an increase in the supply of higher education, as a few new institutions enter the market and existing ones expand a little, but there is nowhere near the expansion that we would expect to see. The best schools in the country routinely only accept 10 percent of applicants. In a typical market, you would expect to see a business that had to turn away 90 percent of its potential customers expanding rapidly, but by and large, we do not see that in higher education. This is because the normal result of supply increasing in response to higher prices rests on the assumption that firms (schools) seek to maximize profits. This assumption is problematic in a field dominated by public and private nonprofit universities. Thus, profit maximization is not automatically a valid assumption for many participants, a unique feature of the market for higher education.

While you can technically calculate whether a school brought in more money than it spent, this is not the measure of a successful school in the eyes of those who run it. These institutions are always seeking more funds, but they are sought for the purpose of building a better institution, not for the sake of distribut-

ing residual income to shareholders, as for-profit organizations do. In most institutions of higher education, prestige is the measure of success, not profit, and the compensation of administrators and faculty also depends on prestige. If the focus is on prestige as opposed to profit, then it makes perfect sense to forgo the business of 90 percent of students who apply, as the school is then considered selective, which gives a major boost to the prestige of the institution.

If a successful school is a prestigious one, and a prestigious school is, among other things, difficult to get into, then a school needs as many applicants as possible, especially high-quality ones. This allows schools to pick the best and the brightest among them, which by itself will increase the prestige of the school by increasing the quality of the student body. It also spares the schools from having to develop numerous classes and programs catering to the abilities of various subpopulations within the student body. For example, if a school does not admit any inadequately prepared students, there is no need to develop and offer remedial courses. It also allows schools to reject many applicants, which establishes a reputation for the school as selective, a key element of a prestigious school.²⁰

It is important to note that money is very useful in attracting applicants. It allows schools to pay for flashy advertising campaigns, build sports programs, hire all-star faculty (mostly to do research as opposed to teaching), and install country-club amenities such as state-of-the-art dorms, gyms, rock-climbing walls, and hot tubs, all of which are appealing to prospective students. A new dorm at Princeton University financed by a donation from eBay's Meg Whitman is a classic example. The school spent \$136 million on a new 500-bed dorm, or \$272,000 per bed,²¹ which is more than \$70,000 more than the current median home price. Of course, they could have just been trying to one-up MIT, whose Simmons Hall cost a mere \$194,000 per bed when it opened several years earlier.²²

These two concepts—the need to maximize applicants and the usefulness of money in doing so—explain a great deal of otherwise inexplicable decisions by colleges and universities, starting with their habit of consistently turning away potential applicants. Other examples abound. Academics constantly lament the excessive funding of athletic programs, most of which lose money. From the administrators' point of view, however, athletic programs are simply a marketing expense. They increase the visibility and popularity of the school, which lead to more applicants and greater prestige—and typically alumni donations, as well. Viewed in this light, they are sometimes a good investment. The same thing can be said about all manner of sponsored student activities, from film screenings of obscure movies to golf courses. They increase students' enjoyment, which offsets their cost, in the eyes of administrators, by fostering the image of a country-club campus (recall the dorms just mentioned). This is quite a nice picture to paint if you are trying to get more students to apply to your school. Indeed, most instances of wasted or mis-spent money in higher education, from the point of view of educators, can be traced back to the idea of building the prestige of the institution.

Price Competition Is Not an Important Feature

If the goal is to increase applicants by any means necessary, why not lower tuition and undercut the competition, which would certainly increase the number of applicants? This is where a second, somewhat unique feature of higher education comes into play. Price competition is not a dominant feature of the market. This is largely because we do not have a good measure of the knowledge or skills acquired in college. Virtually all the existing measures focus on input rather than output.²³ In a typical market, price competition will ensure that two goods of the same quality will sell at close to the same cost. In higher education, however, there is no real measure of quality. This makes it not only possible, but probable that two schools that offer roughly the same educational services will charge different amounts in tuition. This

is because in the absence of any other measure of quality, price itself is used as a proxy for quality. Sentiments that school X must be better than school Y because it charges more are all too common precisely because there is no way of estimating how much one is likely to learn at school X compared to school Y. This would allow potential students to weigh the relative costs and benefits of the different schools more accurately. To complicate this even further, the price that a student is charged is typically only revealed after he has applied, which makes comparisons of schools based on price even harder. Thus, price competition does not play the same role in higher education as it does in most markets, meaning that schools are less likely to cut tuition.

There are other reasons why schools are unlikely to cut tuition. First, and probably the most important, schools tend to be bureaucratic. The recent finding that “the majority of full-time professional employees in higher education are in administrative rather than faculty”²⁴ positions should suffice for those who want proof. In fact, at four-year schools, administrators account for 54.5 percent of full-time positions versus 45.5 percent for faculty. This is not an attack on how schools are run. In fact, bureaucracy is the only rational method of running organizations that are not driven by market signals such as prices, profits, and losses.²⁵ While there are prices associated with higher education, without any measure of output, these prices only reveal information about the inputs of the system. Markets need information on both inputs and outputs to ensure that they send the correct market signals. So while it is expected that institutions of higher education will exhibit the characteristics of a bureaucracy, we must analyze them with this in mind. History has consistently shown that regardless of the particulars of circumstances—such as culture and ideology—bureaucracies very rarely advocate for lower budgets for themselves.

A second reason why schools are unlikely to cut tuition is the relatively short time horizon of those in charge, attributable to a high turnover rate in leadership positions. Capacity constraints mean that lower tuition rates translate into lower revenue. Even if lowering tuition increased the number of applicants, it would not increase the number of students enrolled. For example, a school with spots for 500 incoming freshmen will enroll 500 new students whether it gets 1,000 or 2,000 applications. The relatively short reigns of administrators at any particular school discourage the adoption of anything that imposes short-term costs (lower tuition revenue) for long-term benefits (a larger base of students for which the school is affordable, which would gradually increase the quality of the student body).

A third reason why schools are unlikely to lower tuition is that it may send a negative signal about the school. In the absence of any reliable output measures to prove otherwise, lowering tuition could indicate that a school was inefficient in the past or is cutting corners when it comes to educating students. In contrast, increasing tuition could signal that a school is making extra efforts to enhance the educational experience of the students. Schools do not want to be seen as economizing when it comes to students, which means they are unlikely to cut tuition.

Finally, having more money from tuition allows schools to spend more on programs to attract more applicants, which will help make them appear more prestigious.

If this line of reasoning is correct, should all schools immediately increase their tuition to \$50,000 or even \$100,000 to boost their prestige? Schools would love to do so, but they are constrained by perceptions of their current prestige. If a community college started charging \$50,000, nobody would apply since there are plenty of other schools that are perceived to provide the same education for a fraction of the cost. Since many students go to the best school they can afford, this means that institutions cannot raise tuition beyond that of comparable schools. The fundamental point is that the tuition a school can charge is constrained by the tuition charged by schools similar in terms of public perceptions of quality.

What you end up with is a situation analogous to executive compensation. No company wants to have

a below-average executive, but to attract above-average executive, companies need to pay them above-average salaries. Thus, the average salary of executives climbs over time as companies try to ensure that they have an above-average leader while staying within the ballpark of the compensation of similar organizations. Similarly, within a group of comparable schools, all of them are spending money like crazy to try to be the best within their group or move up to the next group, with the end result that costs, and therefore tuition rates, increase at all of them.

Is There a Tuition Bubble?

As *New York Times* columnist Paul Krugman notes, the troubles “that began a little over a year ago in an obscure corner of the financial system, BBB-minus subprime-mortgage-backed securities, have spread to corporate bonds, auto loans, credit cards and now—the latest casualty—student loans.”²⁶ Will these troubles reveal a tuition bubble? The answers to the following questions should help guide us in making that determination.

Are there features that can be expected to contribute to a bubble?

The most important feature that leads to bubbles is probably uncertainty as to the true value of the good. In our case, it is very difficult to determine the value of the good for both a house and a college degree. Similar houses sell for vastly different amounts, with the price varying enormously based on location. It is difficult for people to form accurate expectations since they must look to the prices of other houses in the neighborhood to figure out the market value of their home. Prices are therefore subject to great volatility even though neither the physical building nor its location, the two most important determinants of a house’s value, change.

Within higher education, the lack of any good measure of output implies that it is nearly impossible to determine the value of a college education. Indeed, much of the value of a degree comes from the screening and signaling involved in getting accepted to and graduating from college. (Witness the large number of college graduates employed in jobs unrelated to their field of study.) Most market participants end up treating the price as a signal of the quality in both markets, meaning that a higher price will not necessarily scare away potential buyers, which certainly contributes to the formation of bubbles.

Two other features that were big contributors to the housing bubble were loose lending standards and low interest rates. Both of these are present when it comes to higher education. These led to too many loans being made and overpriced assets (houses and educational services, respectively). This is extremely important because student loans are still the dominant source of federal aid, accounting for around 70 percent of all federal aid (see figure 4).

So the answer to the question is yes, there are features of the higher education market that could be expected to contribute to a bubble.

Is credit getting scarcer for the lenders? Has the air (easy money) for inflating been cut off?

With the housing bubble, the money from investors, which was financing the inflation of the bubble, got cut off when the investors realized that the securitized instruments they kept buying were much riskier than they had realized. But home mortgages were not the only thing affected by this realization, and the crisis soon spread. As Harvard economist Martin Feldstein notes,

The collapse of the credit markets began last summer [2007] when the subprime mortgage crisis demonstrated that financial risk of all types had been greatly underpriced, that the market prices of complex financial assets overstated their true values, and that the credit scores provided by rating agencies are not to be trusted.²⁷

Among the “complex financial assets” overvalued were those based on student loans. Student loan providers are now struggling both to sell off existing loans and to borrow money to issue new loans. Among the recent news along this front:

- Brazos Higher Education Service Corp., one of the largest student lenders, with a \$15 billion student loan portfolio, “was one of the lenders whose auctions failed.”²⁸
- The Michigan Higher Education Student Loan Authority “said on its Web site that ‘due to the current and unprecedented capital-markets disruption’ it will stop making loans under the state’s Michigan Alternative Student Loan, or MI-Loan, program. More than 100 Michigan colleges and universities participate in the program.”²⁹
- College Loan Corp. will “no longer provide federal student loans, while Nelnet Inc. (the National Educational Loan Network) recently announced that it would stop offering so-called consolidation loans and be more selective in all of its other origination activity.”³⁰

The stock performance of student lenders gives some indication as to the magnitude of the problems in the student loan business. From June 30, 2006—the peak of the housing bubble was the second quarter of 2006—to March 18, 2008, the stock price of Sallie Mae, which holds more than one-third of all FFELP loans, declined by 67 percent. Nelnet, which has the third largest portfolio of FFELP loans, saw a decline of 73 percent in its stock price.

TABLE 1
PERCENT CHANGE IN PROMINENT STUDENT LENDER STOCK PRICES

| Lender | Percent Change |
|----------------------------|----------------|
| Sallie Mae | -67.4 |
| Citi Student Loans | -57.1 |
| Nelnet | -73.0 |
| Wachovia Education Finance | -48.0 |

Sources: Finaid.org, “Largest Education Lenders,” The Motley Fool, Yahoo Finance, and CCAP calculations.

Thus, “it is clear that the general problems in the financial markets have created a credit crunch crisis for student loan providers”³¹ as capital for student loan providers dries up. It is not entirely clear if this is a long-term development or merely short-term fallout from the credit crunch that is afflicting the financial sector in general.

Has the tightening of credit for lenders caused them to raise lending standards and interest rates for students, which would reduce their ability to pay higher tuition?

If the student loan providers are finding it more difficult to raise capital, then they will start to raise interest rates and tighten lending standards. This is already happening to an extent, though so far, “the impact has been largely limited to private [loans, which are] . . . held by fewer than 10 percent of student loan borrowers.”³² Both Congressional and administration officials are downplaying the issue, waiting until more is known about the magnitude of the problem. But they might not need to wait long.

- Sallie Mae—“citing higher levels of delinquencies and losses—said it was tightening its credit standards and will cut back on private loans made to nontraditional schools and to borrowers with lower credit scores at schools with low graduation rates. The company also said it plans to reprice its private loans to reflect ‘market conditions,’ reduce borrower benefits and place less emphasis on its federal consolidation loans.”³³
- “Mark Kantrowitz, who operates FinAid.org, a Web site focused on college finance, says interest rates for private loans are likely to rise by one percentage point, with related fees rising by an equal amount.”³⁴
- “Some borrowers, especially those with less-than-perfect credit, will likely have a harder time getting a government-backed federal loan, as lenders tighten up their standards and pare back their offerings.”³⁵

The tighter credit and higher interest rates have some lenders worried that without a “break in the credit crunch . . . the situation could become far worse . . . leading to many students being unable to fund their educations.”³⁶ More dispassionate observers are not as alarmed. Mark Kantrowitz says that, for the “moment, he doesn’t envision a loan shortage,”³⁷ though he does see higher rates on the horizon.

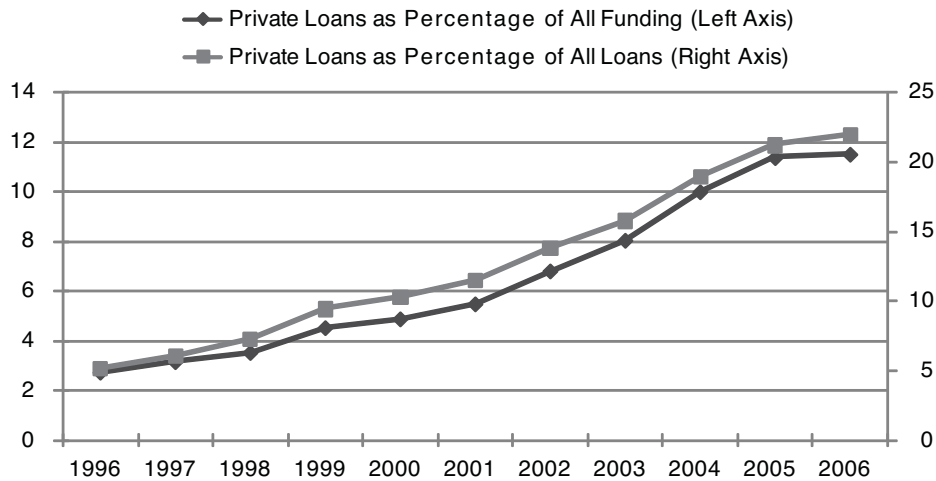
Overall, it would appear that credit is tightening. It should be noted, however, that the interest rate on FFELP and Direct Loans made before June 2006 are tied to the interest rate of the last Treasury auction in May. These rates tend to be low and it is possible they could go even lower as investors flock to the safety of government debt amid the panic in the financial sector. This implies that interest rates on student loans are likely to go down when they reset. Given that these two programs account for the lion’s share of student loans (about \$60 billion out of around \$78 billion for the 2006–07 school year³⁸), it is possible that the developments thus far will not adversely affect the ability of most students to pay for college by restricting the credit available to them.

Not content with narrowly avoiding—for this school year, at least—a potential crisis in student loans thanks to this safety net, new and proposed legislation that seek to limit the fees and/or profits of lenders are removing that net, and their impact could revive the crisis. Lenders are understandably uneasy with these plans, and Sallie Mae has said it will “emphasize making higher-interest private loans over those that are federally backed”³⁹ (e.g., the ones that could see interest rates fall). Thus, public policy will be shifting more and more of the student loan market away from FFELP and Direct Loans, which are unlikely to see rates rise. The market will move instead toward private loans, which have seen interest rates rise already and will possibly see more increases as risk gets repriced in the marketplace. Private loans already grew by 748 percent during 1996–2006 and constitute an increasing share of total college funding, as well as an increasing share of all student loans (see figure 7). These trends will only be reinforced by current and proposed public policy, with the overall effect that student loans will be harder to get and have higher interest rates, both of which will decrease the ability of students to pay for college.

Will the lower ability of students to pay restrain schools from increasing tuition, perhaps even forcing them to lower tuition?

This is the key question at this point, one for which I suspect we will not know the answer for quite some time. The first problem is that we still do not know the magnitude of the credit crunch as it relates to student loans. If tighter credit for student lenders becomes a permanent feature of the market, then the implications for students’ ability to pay are much more significant. A second problem is a lack of transparency in higher education. This makes the already-difficult job of forecasting the future even more

FIGURE 7
PRIVATE LOANS AS A PERCENT OF TOTAL FUNDING AND ALL LOANS



Source: College Board, *Trends in Student Aid 2007* and CCAP calculations.

difficult. There is currently a two-year lag before the data to address these issues are released publicly. It will be exceedingly difficult to answer questions about what schools do next school year until 2010, at the earliest. It is possible that schools would be forced to lower tuition without appearing to do so. This could be accomplished by increasing published tuition at similar rates to those of past increases, but increasing institutional financial aid by even more than the increase in tuition. This would be a scenario consistent with this analysis but that would not appear to be from the publicly available data until long after the changes were made.

Assuming that this analysis of the underlying issues is correct and that the credit crunch in the student loan market is of a sufficient magnitude, then schools will have little choice but to halt and possibly reverse recent tuition increases. Essentially, we do not know if there is a tuition bubble, nor will we know for several years, but it is looking like an increasingly likely possibility. Of course, readers should bear in mind that economists who try to make predictions tend to make the long-range forecasting of weathermen look good in comparison.

Conclusion

Systemic increases in tuition across the board indicate that the structure of the higher education market plays a fundamental role in encouraging these increases. Part of the problem is that public policy attempts to subsidize attendance for too many students on the assumption that this will increase access to higher education. These subsidies, intended to make college more affordable, are ineffective because schools maximize prestige rather than profit, and because the lack of any measure of their output rules out normal price competition. These characteristics imply that subsidies will not lower the financial burden of higher education for students, as colleges and universities raise prices to exploit the increased ability to pay that the subsidies bring about.

Consequently, it should come as no surprise that we witness tuition increasing at an unsustainable rate, just as housing prices were until recently. They are both driven, at least partially, by the same phenomena: artificially low interest rates and a lack of lending standards.

Of course, it would be ridiculous to claim that either of these is responsible for the tuition increases over the years or all of the entire housing bubble. In fact, I would argue that tuition increases are largely due to the unique characteristics of the market for higher education that were discussed previously—dominated by organizations that do not seek to maximize profits and that have no measure of output, which is needed for normal price competition.⁴⁰ This does not, however, discredit the notion that low interest rates and a lack of lending standards exacerbate the situation. It is unlikely that speculators would have flocked into real estate had the low interest rates and lax lending standards not made the returns look attractive in the first place. It is also unlikely that tuition could have increased by anywhere near as much as it has unless the government continually increased the availability and size of subsidies for higher education, particularly guaranteed student loans.

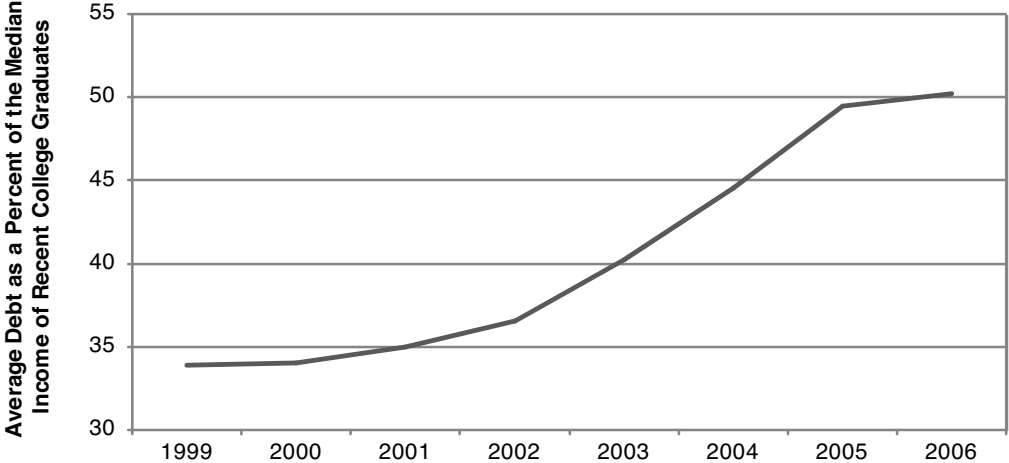
The housing bubble was eventually popped when interest rates rose, revealing the inability of many borrowers to repay their loans. Do interest rates for student loans need to rise to burst the tuition bubble? While they are already rising for private loans, public policy—such as The College Cost Reduction Act of 2007, which cut rates for loans made after June 2006 from the current 6.8 percent to “6.0% (2008–09), 5.6% (2009–10), 4.5% (2010–11) and 3.4% (2011–12), with a return to 6.8% in 2012–13”⁴¹—will certainly benefit recent college graduates but will not help future students, as it will encourage schools to raise their tuition even more. Make no mistake about it, student loans are already widely available: the Federal unsubsidized Stafford Loan “is available to most every student, regardless of their income. A family can earn \$300,000 a year and the student may still borrow an unsubsidized Stafford Loan.”⁴² Recall that the “unsubsidized” part just means that the government does not pay the interest on the loan while the student is in school. It still comes with a guarantee for the lender, and in the context of this analysis, is a subsidy.

This study argues that government policies are spurring rapid increases in tuition. By encouraging tuition to rise more than it otherwise would, policymakers are fostering a tuition bubble. To stop this from getting any worse, public policy should move away from guaranteeing student loans for so many students. Such guarantees result in lax lending standards and artificially low interest rates, both of which contribute to rising tuition, just as they contributed to the recent housing bubble. This does not, however, mean they need to be eliminated completely. Loan guarantees would not have such a negative effect if they were restricted to low-income students on a graduated scale, with the loan amount decreasing as income increases. The idea would be to increase only the ability of low-income students to pay as opposed to increasing the ability of nearly everyone to pay. When only the ability of low-income students to pay is increased, schools cannot raise tuition like they can when the ability of everyone to pay is increased.

The heavy reliance on student loans puts college graduates in an unfavorable position as they enter the “real world.” As figure 8 shows, the student loan burden as a share of the median income of recent college graduates has been increasing over the last few years. Students with debt exceeding half of their salary are forced to make difficult choices and are increasingly likely to move back in with parents and postpone important life milestones such as marriage and buying their first home as a result.

The current structure and policies of the federal student loan programs make loans too widely available. These guarantees for student loans increase the ability of the typical student to pay, which encourages schools to raise tuition more than they otherwise could. This higher tuition largely offsets the

FIGURE 8
DEBT AT GRADUATION AS A PERCENT OF MEDIAN INCOME OF COLLEGE GRADUATES AGE 25–34^a



Note: a = The average debt for each year is assumed to be the sum of the average loan (as estimated for figure 3) for the most recent four years. Note that the average loan amount is estimated differently for the year 2006, giving an estimate of debt at graduation of \$20,855, a figure approximating independent estimates. Debt is then reported as a percent of the median income of bachelor's degree holders age 25–34.

Sources *Digest of Education Statistics*, tables 320 and 210; College Board, *Trends in Student Aid 2007*; Bureau of Labor Statistics, CPI-U; Census Bureau, Detailed Income Tabulations from the CPS; and CCAP calculations.

increase in access that would otherwise result from student loan programs. With the average debt of graduates rapidly rising (the class of 2006 is estimated to owe an average of \$21,100⁴³), it is a distinct possibility that such policies contribute to the formation of a tuition bubble.

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