College Tuition Pricing and Federal Financial Aid: Is there a Connection?

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Mr. Chairman and members of the committee, thank you for the opportunity to appear before you today. As we consider the tax exemptions of colleges and universities and the financial aid benefits afforded to students and their families, it is useful to take a moment to closely examine how tuition prices are determined. One key question is whether colleges and universities react to increases in federal financial aid and tax benefits by raising their tuition prices. If so, efforts to improve student access and affordability by increasing federal student aid would be ineffective as students would realize little benefit. And so today I consider the degree to which federal financial aid is bid away by the actions of colleges and universities.

As my testimony will illustrate:

- **Concerns about colleges raising tuition prices in response to federal aid appear to be largely unwarranted.** Most studies conclude that colleges are *not* responding to federal aid, and studies that do provide limited support for the notion are plagued by mixed and sometimes contradictory results.
- Evidence suggests growth in tuition prices is instead related to a myriad of other internal and external factors.
- However, when considering questions of college affordability, **attention should instead be focused on the *Net Tuition Prices* students actually pay** rather than the tuition amounts listed in college catalogues as students receive significant amounts of aid from colleges and universities in addition to government sources.
- While monitoring the behavior of colleges is important, policymakers should instead focus on addressing the well-documented need for additional financial aid resources.

BACKGROUND: DO INCREASES IN FEDERAL STUDENT AID CAUSE COLLEGES TO RAISE THEIR TUITION PRICES?

There is no doubt tuition prices have grown substantially in recent decades. Understanding why college prices have outpaced inflation is critical as families increasingly struggle to meet the costs of higher education. One concern is that policies aimed at improving college access and affordability may actually contribute to the problem of rising tuition levels. William Bennett, former Secretary of Education, summarized the concern in a 1987 *New York Times* Op Ed. He notes that because government aid enables students to pay more, it could also induce colleges to raise their tuition prices. *If true, this type of institutional response could diminish the overall impact of an aid policy by reducing the net discount a student receives.* Therefore, such concerns deserve careful examination as the implications for student affordability and the effective use of tax dollars are significant. Moreover, the behaviors of colleges are important to consider when devising student aid policy and higher education tax benefits.

The fact that Financial Aid has increased at the same time as Tuition Prices does not prove that Colleges have responded to Federal Aid Policy

In discussions of whether increases in government aid have spurred similar increases in tuition prices, some juxtapose rising college prices with increasing government expenditures on financial aid. However, the fact that these two trends move in similar directions does not mean that one has *caused* the other. In fact, in the absence of financial aid, one would still expect tuition prices to increase substantially during the last several decades for a number of reasons. While I will detail the major internal and external pressures that have impacted tuition levels in recent years, explanations include reductions in state appropriations to public colleges and universities, increasing amounts of institutional financial aid, and growing expenditures on student academic supports. Given the myriad of these *other factors* that directly contribute to rising college costs, it is difficult to determine to what degree, if at all, increases in tuition prices are related to changes in government student aid policy. To correctly answer the question of whether financial aid policy has an effect on college tuition pricing, much more in depth analysis is required than simple comparisons of price and financial aid expenditure trends.

Isolating the Effect of Federal Aid on Tuition Levels is Difficult

The potential implications for college affordability raised by this issue have led numerous researchers to try to identify whether postsecondary institutions respond to government financial aid policies in their pricing. My testimony will draw upon their many conclusions. Unfortunately, isolating the effect of government aid from all the other factors influencing college pricing is difficult. To deal with this concern, researchers have tried to identify groups of colleges that are *not* affected by the particular aid policy so they can get a sense of tuition trends due to all *other* factors that impact college price. The difference in price trends between the group affected by the aid policy and the group that was not affected could reflect the proportion of tuition influenced by the financial aid policy alone.

Unfortunately, in the case of federal aid, it is extremely difficult to determine a relevant comparison group. Institutions in other countries face vastly different markets and trends, and therefore, do not serve as a good comparison group for American colleges and universities. Meanwhile, all institutions in the United States are affected by changes in federal aid policy to some degree, and institutions that are impacted differently by changes in federal aid programs often differ significantly in other ways that make them bad groups for comparison. For example, colleges that are especially affected by changes in the Pell Grant (e.g. community colleges) are very different than colleges that would not be affected much (e.g. highly-selective, private institutions). Price trends between these two groups differ in ways that have nothing to do with aid policy, making them poor comparisons for each other. These issues of research design must be taken into account when interpreting the results of any study. Some studies have been able to isolate the impact of financial aid on tuition pricing better than others, and my conclusions take this into account when interpreting the evidence.[1]

WHAT DO WE KNOW FROM THE EVIDENCE?

Of the many studies that have tried to identify whether colleges react to federal financial aid, most find little to no response. While several studies do find a college price response, their overall results are mixed and often contradictory. In summary, none of the numerous studies on the subject have found a "Smoking Gun" in terms of college pricing behavior.

In a 2004 study, I examined the response of colleges to the introduction of two federal higher education tax benefits, the Hope and Lifetime Learning Tax Credits.[2] The results suggest that four-year colleges did not raise tuition prices in response to the aid. While some estimates in this study suggest that public two-year colleges may have reacted by raising their prices, other results do *not* support this notion. In fact, some estimates suggest colleges *reduced* their prices in response to the tax credits, the opposite of what theory would predict.

In another study, Rizzo and Ehrenberg (2003) examine how tuition prices are set by public universities and find no evidence that the schools increase their tuition levels in response to increased federal or state financial aid for students. Likewise, in forthcoming work, Singell and Stone find no evidence that in-state tuition levels at public universities responded to changes in the Pell Grant from 1989 to 1996. This study did find some support for the notion that private colleges and universities raise tuition prices in response to aid. However, because these institutions have few Pell recipients (i.e. they have few students impacted by the change in aid policy), the results seem attributable to factors other than government aid policy. Limitations with the data prevent more conclusive analysis.

[1] I have also chosen to focus on papers that have undergone some form of peer review (though not necessarily publication) to ensure the quality of the research.

[2] See Long (2004a). "The Impact of Federal Tax Credits for Higher Education Expenses." In Caroline M. Hoxby, Ed. *College Choices: The Economics of Which College, When College, and How to Pay For It.* Chicago: University of Chicago Press and the National Bureau of Economic Research.

There is some evidence of colleges responding to aid at the state level, but this does not apply to the federal student aid context.

I have also examined the responses of colleges to the Georgia HOPE Scholarship, a state financial aid policy.[3] Unlike research on federal aid programs, this study has a clear comparison group of colleges facing similar trends: institutions in other states. When introduced in 1993, the Georgia HOPE Scholarship marked the creation of a very large aid source for students ($3,000) in which the recipients were easily discernable by colleges and universities. My examination of college behavior suggests a limited response among four-year colleges to the scholarship, with public four-year colleges experiencing increases in room and board but not tuition prices. While some may be tempted to extrapolate from this evidence to the federal context, the estimates from this paper *do not apply*. Federal aid programs are much more complicated and less transparent and so it is less clear how institutions might take advantage. Moreover, changes in federal aid are far less generous (i.e. only several hundred dollars) and so colleges have much less incentive to respond. It is also important to note that even in the extreme case of the Georgia HOPE Scholarship, public two-year colleges did *not* increase tuition prices.

The key outcome of interest should be Net Tuition Price, the costs students face after government and institutional financial aid. More information is needed on how institutional financial aid is spent.

While most of the attention on this question has focused on the effects of government aid on the List Tuition Prices of colleges (the price listed in college catalogues), the real variable of interest should be the price *actually paid* by students once accounting for multiple types of financial aid. According to federal data, in 2003-04, 28 percent of students received grant aid from the federal government, and 15 percent received state grants. In addition, students increasingly receive grants from their colleges or universities with 18 percent receiving an average grant of $4,200 in 2003-04 (NCES, 2005).[4] The proportion receiving grant aid is even higher among full-time students. Once taking into account these multiple sources of assistance, the cost of college for the average student does not appear to have grown as fast as List Price trends suggest. According to figures by the College Board for private, four-year colleges, from 1996-97 to 2006-07, the average List Price grew 32 percent to $22,200, but Net Price increased by only 26 percent during the same time period to $13,200. At public, four-year colleges, List Prices increased 49 percent to $5,800 from 1996-97 to 2006-07 while Net Prices grew 29 percent to $2,700 (College Board, 2006). It is important to keep in mind that these are averages, and that Net Prices vary significantly among students.

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[3] See Long (2004). "How do Financial Aid Policies affect Colleges? The Institutional Impact of the Georgia HOPE Scholarship." *Journal of Human Resources*, vol. 39, no. 3.

[4] This marks significant growth in the use of institutional aid. According to Horn and Peter (2003), the percentage of undergraduates in public colleges who received institutional aid grew from 17 percent in 1992-93 to 23 percent in 1999-2000, from an average award of $2,200 to $2,700. At private colleges and universities, 47 percent of students received institutional aid in 1992-93, and this increased to 58 percent in 1999-2000, with the average award rising from $5,900 to $7,000.

While Net Price gives a better sense of the costs students actually face, it is also a better indicator of the reactions of colleges to government aid policy. Changes in Net Price would reflect whether colleges respond by not only altering their List Tuition Prices but also possibly their institutional aid policies. One study with administrative data on net price found that increases in government aid were coupled with *increases* in institutional scholarships at private colleges, (McPherson and Schapiro, 1991). Therefore, contrary to the concern about colleges taking advantage of government financial aid, the researchers found colleges further supplemented the support students received. While major conclusions should not be made based on one study, the findings highlight the importance of gathering more information, especially concerning net prices, to fully understand possible reactions of colleges in terms of their institutional aid awards to students.

More information about institutional financial aid is also needed to understand trends in college affordability for different types of students. The increasing use of institution financial aid has made college prices much more individualized and complicated, as students at the same school may be charged vastly different prices. In fact, the growing use of institutional aid partly explains why List Tuition Prices have increased in recent years as colleges charge more affluent students the full List Price in order to raise revenues to fund aid (and reduce Net Price) for other students. However, the use of financial aid at all but the most selective colleges has not been limited to students with financial need. Multiple researchers have documented increases in the amount of aid directed to high-income students as schools often use merit-based criteria rather than need analysis to award institutional aid.[5] As concerns grow about student affordability, more information is needed to judge the degree to which colleges are using institutional aid dollars to increase access for lower- and middle-income families.

The lack of solid evidence on the responses of colleges in terms of pricing is plausible for several reasons.

(1) Federal Aid Programs are Complex, and this makes it difficult for Colleges to identify which students benefit and take advantage of their increases in aid

The major federal aid programs, such as the Pell Grant, require a lengthy financial aid application and have stringent eligibility requirements regarding student need. Colleges have difficulty predicting which students are eligible for the aid beforehand, and identifying the students afterwards takes significant time and resources. In the case of the Higher Education Tax Credits, many students do not apply for financial aid, and so colleges do not know their family incomes to determine if they are indeed eligible for the benefit.

(2) Colleges that would theoretically have the largest incentives to raise tuition prices in response to the Higher Education Tax Credits enroll few tax beneficiaries

[5] See the work by McPherson and Schapiro (1998), Ehrenberg (2000), and Horn and Peter (2003). The criteria used to define merit often favor students from higher-income backgrounds.

In the case of the higher education tax credits, the institutions with the strongest incentives to raise tuition prices are the community colleges. These institutions are most likely to charge less than $2,000, and so eligible students would be reimbursed as much as 50 to 100 percent for increases in tuition prices under the Hope Tax Credit. However, these schools predominantly serve low-income populations who are not eligible for the tax credit due to insufficient tax liability. Therefore, tuition inflation is an unlikely response to the credits.[6]

(3) Some of the Colleges with the largest tuition increases do not cater to students who receive significant aid benefits.

Although selective, private institutions have experienced some of the largest and most visible increases in tuition prices, these schools have few students who receive a Pell Grant or Higher Education Tax Credit due to the fact that the family incomes of their students tend to very high. Therefore, the growth in their tuition prices is unlikely to be linked to federal financial aid policy. At the opposite end of the spectrum, community colleges serve many government aid recipients, particularly low-income students who are eligible for the Pell Grant. However, these colleges have a mission of maintaining low tuition levels to maximize access. As shown above, the evidence suggests that even in the face of a large, transparent financial aid policy, they did not raise their tuition levels.

In summary, most studies have not found colleges to respond to federal financial aid policies by raising tuition prices. Studies that do provide some support for the notion are plagued by mixed and sometimes contradictory results or weak research designs. However, more information is needed on Net Tuition Prices and the use of institutional student aid, which are better indicators of the actual prices paid by students.

IF NOT DUE TO FEDERAL AID, WHY ARE COLLEGE PRICES INCREASING?

While responses to federal financial aid do not explain the growth in college tuition, there are many other factors that have been shown to be important determinants of college prices.

(1) Reductions in State Appropriations to Public Colleges and Universities

State appropriations play an important role in determining public college price levels as these funds have traditionally subsidized the costs for students at public institutions allowing them to charge in-state students a discounted price (Long 2004c). However, during the last several decades, state appropriations have not kept pace with inflation and/or growing student enrollments. As public colleges and universities have received

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[6] My research suggests that the primary beneficiaries of the higher education tax credits have been middle-income families. Most low-income families do not receive any benefit because they do not have tax liability, and the tax credits are not refundable. See Long (2004a) for more information. Kane (1999) and Cronin (1997) also note this concern in their work.

less support from the state, they have made up the difference by increasing tuition prices.

(2) The Increasing Costs of Faculty and Staff

A majority of faculty members and staff at colleges are now Baby Boomers nearing retirement age. As they aged and gained experience, they received the customary raises and are now near the peak of their lifetime earning trajectories. For this reason, the increasing cost of instruction and other expenditure categories involving staff, naturally increased. Also, with the elimination of mandatory retirement due to court action in 1994, faculty members may stay in a job longer and have become more expensive for colleges (Ehrenberg, 2000). Another source of increasing college costs is health care. The costs of providing health care benefits to faculty and staff have continually risen for colleges and universities, just as they have for other businesses and industries.

(3) The Rise of New Expenditures: Technology and Student Services

Colleges increasingly invest in costly technological improvements and upgrades both in the classroom and for research, and these have been costly. Also, in response to the demands of students, colleges are spending more on student supports such as academic and career services (Ehrenberg, 2000). At the extreme, some colleges have responded to students' demands for amenities such as state-of-the-art residences and gymnasiums. While the justification of these expenditures is much more controversial, , it is important to keep in mind that the bulk of institutions are not involved in such endeavors.

(4) The Growing Use of Institutional Financial Aid

As noted above, colleges are increasingly awarding financial aid to students. To fund these aid awards, colleges have increased list tuition prices and are in effect redistributing funds between students.

There is a great deal of diversity in terms of the finances of colleges, and it is difficult to discern whether each increase in expenditures is justified for educational reasons or questionable as an unnecessary expense. It is also important to note that all college students are subsidized by their institutions. With the exception of some for-profit colleges, **the tuition prices paid by students do not cover the costs of their educations.** Because no student covers their total educational costs with tuition, not even those paying the full list price without any financial aid, colleges must make up the rest of the cost with donations, endowment returns, grants, and by charging for the other services they provide.

RECONSIDERING FINANCIAL AID POLICY

Students have significant unmet financial need suggesting that federal student aid resources are critical to improving college access and success.

While the research on the behavior of colleges does not document major responses to federal financial aid, there is a great deal of evidence on the need for additional financial aid for students. Despite substantial increases in access to higher education during the last several decades, postsecondary attendance in the United States continues to be stratified by family income. Among high school graduates in 2004, approximately 43 percent of students from families who made less than $30,000 immediately entered a postsecondary institution. In contrast, 75 percent of students from families who made more than $50,000 did so.[7] Recent analysis also documents significant unmet financial need among students.

Without sufficient financial aid, students are increasingly turning to high-interest credit cards and privates loans. They are also working significant hours, and this has been shown to impact academic performance and reduce the chances that a student will persist to college graduation. Given the critical role higher education plays in both individual economic success and the public good, increased support of college access should be a major goal of the federal government.

When designing an Aid Program, Information and Simplicity are Important

Several studies have found a significant lack of information on financial aid among prospective college students and their parents. Research by Kane and Avery (2004) demonstrates that low-income high school students have very little understanding of actual college tuition levels, financial aid opportunities, and how to navigate the admissions process. Other work has also found a significant lack of information among prospective college students in general (Ikenberry and Hartle 1998; Horn, Chen, and Chapman, 2003).

Another part of the problem is the complexity of the financial aid system. The federal application for financial aid is long and cumbersome. To determine eligibility, students and their families must fill out an eight-page, detailed form with over 100 items called the Free Application for Federal Student Aid (FAFSA). Not surprisingly, students and their families are often confused and even deterred by the form (ACSFA, 2005). The Commission on the Future of Higher Education, assembled by Secretary of Education Spellings, recently acknowledged problems with the current aid process. The Commission concluded that some students "don't enter college because of inadequate information and rising costs, combined with a confusing financial aid system." Perhaps due to the complexity of the system and the lack of information about the availability of aid, 850,000 students who would have been eligible for federal financial aid in 2000 did not complete the necessary forms to receive such aid (King, 2004). The FAFSA also serves as the basis to award most state and institutional need-based aid, and so it is a critical gatekeeper to most financial aid.

While the existence of aid programs was once thought to be enough to enable the enrollment of low-income students, clearly the visibility and design of the program also matters. Concerns about the low visibility of aid programs and the complexity of the aid process have spurred calls to simplify the form and enhance the visibility of aid programs. Research on examples of highly-publicized financial aid programs characterized as being simpler in design and application has found large enrollment responses. For example, Dynarski (2002) documents a large response when the Social Security Student Benefit (SSSB) Program was eliminated in 1982, and she attributes the large impact to its very simple

[7] Author's computations using 2004 October Current Population Survey.

application process and generous aid award. Another good example is the Georgia Hope Scholarship. Due to extensive advertising and the training of high school guidance counselors, nearly all students and families in the state quickly learned of the aid. Researchers have found that Georgia's program had a surprisingly large impact on college attendances rates (Dynarski, 2000; Cornwell, Mustard, and Sridhar, 2006). In summary, the research suggests aid programs are most successful when they are well-publicized and relatively easy to understand and apply for. This has also been found in the examination of other social welfare programs (Currie, 2004).

All Aid is not Equal: The Impact of Grants is different than Tax Credits or Loans

Support for grants, financial aid that does not need to be repaid, had not kept pace with inflation or rising tuition costs. In recent years, government policy has instead shifted towards supporting the Higher Education Tax Credits and the Federal Student Loan PRograms. However, these are very different forms of financial aid, and one should not expect them to have the same impact on college enrollment as grants.

My 2004 study of the Hope and Lifetime Learning Tax Credits shows that they did not increase access to higher education.[8] The main beneficiaries of the tax credits are unlikely to be students on the margin of attending college. Insufficient tax liability due to low income levels and the interaction of the credits with other aid programs prevents many low-income individuals from qualifying for a benefit. Moreover, the fact that students do not receive the tax benefit at the time tuition payments are due limits the effect the credits on college access and choice.

One should also be cautious about the movement towards student loans as the primary form of financial aid. Loans are a much more complicated form of aid, and there are many concerns that students and families understand little about debt. Unlike grants, loans could influence students' decisions during and after college enrollment, perhaps in negative ways. Researchers suggest that debt burden could significantly impact on a student's chosen field of study, and more narrowly, that loans could deter students from entering public service careers like teaching.[9] Another concern is the possibility that high student debt might encourage students to delay decisions like buying a house, getting married, and having children.

In summary, as policymakers consider financial aid reform, special attention should be paid to addressing the documented needs of students, simplifying the design of aid programs and the financial aid application (i.e. FAFSA), and focusing on grant programs rather than less effective and more complicated forms of aid, like tax credits and student loans.

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[8] See Long (2004a).

[9] Luke Swarthout, *Paying Back, Not Giving Back. Student Debt's Negative Impact on Public Service Career Opportunities* (Los Angeles: State Public Interest Group Higher Education Project, 2006).

WORKS CITED

Advisory Committee on Student Financial Assistance. (2005). "The Student Aid Gauntlet: Making Access to College Simple and Certain." Final Report of the Special Study of Simplification of Need Analysis and Application for Title IV Aid. Washington, D.C.: Department of Education.

College Board (2006). *Trends in College Pricing*. Washington, D.C.: The College Board.

Cornwell, Chris, David Mustard, and Deepa Sridhar. (2006) "The enrollment effects of merit-based financial aid: Evidence from Georgia's HOPE scholarship." *Journal of Labor Economics* 24: 761-786.

Cronin, Julie-Anne. 1997. The Economic Effects and Beneficiaries of the Administration's Proposed Higher Education Tax Subsidies. *National Tax Journal* 50 (September): 519-540.

Currie, Janet (2004) "The Take Up of Social Benefits." National Bureau of Economic Research Working Paper #10488.

Dynarski, Susan and Jill Scott-Clayton (2006) "The Cost of Complexity in Federal Student Aid:Lessons from Optimal Tax Theory and Behavioral Economics." Harvard University mimeo.

Dynarski, Susan. (2002) "The Behavioral and Distributional Implications of Subsidies for College." *American Economic Review 92(2):* 279-285.

Dynarski, Susan (2000) "Hope for Whom? Financial Aid for the Middle Class and Its Impact on College Attendance." *National Tax Journal*, vol. LIII, no. 3.

Ehrenberg, Ronald G. (2000) *Tuition Rising: Why Colleges cost so much*. Cambridge: Harvard University Press.

Horn, Laura and Katharine Peter (2003) *What Colleges Contribute: Institutional Aid to Full-Time Undergraduates Attending 4-Year Colleges and Universities*. Washington, D.C.: National Center for Education Statistics, Report no. 2003-157.

Horn, Laura, Chen, X., and Chapman, C. (2003). *Getting Ready to Pay for College: What Students and Their Parents Know About the Cost of College Tuition and What They Are Doing to Find Out*. Washington, D.C.: National Center for Education Statistics, Report no. 2003-030.

Ikenberry, S. O. and T. W. Hartle. (1998). *Too little knowledge is a dangerous thing: What the public thinks about paying for college*. Washington, DC, American Council on Education.

Kane, Thomas J. (1999) Student Aid after Tax Reform: Risks and Opportunities. In *Financing a College Education: How it Works, How it's Changing,* ed. Jacqueline King. Phoenix: American Council on Education, Oryx Press.

Kane, Thomas J. and Christopher Avery. (2004) "Student Perceptions of College Opportunities: The Boston COACH Program" in Caroline Hoxby (ed.) *College Decisions: The New Economics of Choosing, Attending and Completing College.* Chicago: University of Chicago Press.

King, Jacqueline E. (2004) "Missed Opportunities: Students who do not Apply for Financial Aid," American Council on Education Issue Brief. Washington, D.C.: American Council on Education, October.

Li, Judith. 1999. "Estimating the Effect of Federal Financial Aid on College Tuitions: A Study of Pell Grants." Cambridge: Harvard University. Unpublished manuscript.

Long, Bridget Terry. (2004a) "The Impact of Federal Tax Credits for Higher Education Expenses." In Caroline M. Hoxby, Ed. *College Choices: The Economics of Which College, When College, and How to Pay For It.* Chicago: University of Chicago Press and the National Bureau of Economic Research.

Long, Bridget Terry. (2004b) "How do Financial Aid Policies affect Colleges? The Institutional Impact of the Georgia HOPE Scholarship." *Journal of Human Resources*, vol. 39, no. 3.

Long, B. T. (2004c) "Does the Format of an Aid Program Matter? The Effect of In-Kind Tuition Subsidies." *Review of Economics and Statistics,* vol. 86, no. 3, pp. 767-782.

McPherson, Michael and Morton Schapiro. 1991. *Keeping College Affordable: Government and Educational Opportunities.* Washington, D.C.: Brookings Institution.

McPherson, Michael and Morton O. Schapiro (1998) *The Student Aid Game*. Princeton, NJ: Princeton University Press.

NCES (2005). *2003-04 National Postsecondary Student Aid Survey: Student Financial Aid Estimates for 2003-04.* Washington, D.C.: U.S. Department of Education, Institute of Educational Sciences. E.D. Tab, NCES 2005-158.

Rizzo, Michael J. & Ehrenberg, RonaldG. (2003). "Resident and Nonresident Tuition and Enrollment at Flagship State Universities." National Bureau of Economic Research, Cambridge, MA, Working Paper 9516.

Singell, Larry D.and Joe A. Stone. (forthcoming) " For Whom the Pell Tolls: The Response of University Tuition to Federal Grants-in-Aid." *Economics of Education Review.*