

# An Analysis of Student Fees: The Roles of States and Institutions

Robert Kelchen<sup>1</sup>

Assistant Professor

Department of Education Leadership, Management and Policy

Seton Hall University

robert.kelchen@shu.edu

(973) 761-9106

This is a pre-publication copy. Copyright © 2016 Johns Hopkins University Press. This article first appeared in *The Review of Higher Education*, 39(4) (Summer 2016), pages 597-619.

Keywords: Student fees; state policies; intercollegiate athletics

**Abstract:** Student fees make up 20% of the total cost of tuition and fees at the typical four-year public, yet little research has been conducted to examine institutional-level and state-level factors that may affect student fee charges. I use panel data to find that institutional selectivity and athletics spending do not influence student fee levels. However, tuition caps and gubernatorial control of fees are associated with increased fees and the presence of a fee cap, coordinating board authority over setting fees, and the presence of a Republican governor are associated with lower fee levels.

---

<sup>1</sup> This work has been partially supported by Seton Hall University's University Research Grant program. I would like to thank Andy Carlson of the State Higher Education Executive Officers Association (SHEEO) for helping me locate prior SHEEO state tuition and fee surveys and Carl Klarner at Indiana State University for collecting data on the partisan balance of state legislatures and governorships, as well as Sisi Li for her able research assistance. I am also grateful for the helpful comments provided by Ronald Ehrenberg, Amaury Nora, Michael Olivas, and participants at the Association for Education Finance and Policy annual conference. All errors remain my own.

The price of attending college has risen faster than inflation over the past several decades. Between the 1983-84 and 2013-14 academic years, inflation-adjusted tuition and fees increased by 153% at private four-year colleges, 164% at community colleges, and 231% at public four-year universities (Baum & Ma, 2013). As colleges and universities scramble for additional revenue to fund academic and non-academic pursuits, student fees (separate from tuition) have become an increasingly common funding source. Student fees have traditionally been used to fund specific campus programs such as student unions and recreational facilities, but the number and types of fees have increased substantially over the past two decades (Wang, 2013).

Student fees at public institutions are of particular concern due to both the magnitude of the fees in many states and their rapid growth. The increase can be partially attributed to state-level and institutional-level factors. Public institutions in some states may have strong incentives to use student fees as a revenue-generating source, as caps on tuition increases are more common than caps on fee increases and institutions tend to have more control over fee revenue than tuition revenue (Carlson, 2013). In some states, fees have been used as a revenue-generating source for core instructional activities when state governments have limited tuition increases (Hearn, 2003).

An extreme example of state behaviors regarding tuition and fees is Massachusetts, where tuition at the four University of Massachusetts institutions (a maximum of \$1,714 per year) has not changed this century while fees have tripled (author's calculation). Cohodes and Goodman (forthcoming) noted that the reason behind this may be that institutions get to keep all fee revenue, while tuition revenue goes directly to the state. Other states have limited the scope of need-based or merit-based grants to cover tuition only instead of fees. An example of this is

the Georgia HOPE scholarship, which no longer covers fees due to rising program costs (Sielke, 2011).

Much attention has been paid to state-level factors affecting tuition at public universities. A substantial portion of tuition increases at public universities has been attributed to decreases in per-student state appropriations over the past several decades, with large variations in appropriations across states (State Higher Education Executive Officers Association, 2015). Some of the across-state variations can be explained by partisan political control. For example, Tandberg (2010) found that more liberal states tend to fund higher education more generously, but this relationship is weaker if Democrats control the legislature and the governor's office. However, other state-level factors, such as the centralization of governance structures, can also influence tuition (Knott and Payne, 2004). Yet these studies did not specifically examine trends in fees, a gap which my study seeks to fill.

An institutional-level concern is the use of fees to fund auxiliary enterprises such as recreation centers, student union buildings, and athletics in order to keep up with their peers or become more prestigious (e.g. Armstrong & Hamilton, 2013). Colleges and universities often point to William Baumol's (1967) "cost disease" hypothesis, which states that most cost increases in higher education are due to the labor-intensive nature of the profession, as the reason why costs have increased. However, Martin and Hill (2013a, 2013b) found that the importance of institutional actions outweighed Baumol's cost disease.<sup>2</sup> This spending on "college consumption amenities" helps to attract relatively low-achieving, high-income students who do not receive large institutional aid packages (Jacob, McCall, & Stange, 2013), but raises the cost

---

<sup>2</sup> Archibald and Feldman (2008) found that Baumol's cost disease is a far more important cost driver when looking over the past 80 years, but did not specifically examine the most recent trends.

of attendance for other students. While NCAA Division I athletics programs may help recruit students (Pope & Pope, 2009), they almost always require university subsidies and/or student fees (Berkowitz, Upton, & Brady, 2013).

In this paper, I examine the following research questions:

(1) To what extent are changes in student fees affected by institutional-level factors, including institutional selectivity and the magnitude of the athletics program?

(2) To what extent are changes in student fees at four-year public institutions affected by state-level factors including:

- State appropriations and the size and scope of state merit- and need-based grants?
- State economic conditions?
- The authority of the institution, state coordinating/governing boards, and elected officials to control tuition and/or fees?
- State-level partisan political control?

### **Trends in student fees**

Increases in fees at public colleges can be examined separately from tuition beginning in 1999, the first year in which colleges were required to separately report tuition and fees to the U.S. Department of Education. Between the 1999-2000 and 2012-13 academic years, inflation-adjusted fees grew faster than tuition (in percentage terms), as shown in Figure 1. During this period, fees increased by 104% at community colleges and 95% at four-year public colleges (author's calculations using data from the Integrated Postsecondary Education Data System

(IPEDS)). During the Great Recession, both tuition and fees increased at higher rates than before the recession, with tuition increasing by 5% above inflation and fees increasing by 7% in 2009-10. Although increases slowed to about 3% above the rate of inflation in 2012-13, average fees were \$1,719 at four-year public colleges and \$467 at two-year public colleges. These fees add on over 20% to the price of tuition at the typical four-year public college (\$6,330).

[Insert Figure 1 here]

Figure 2 below shows the average amount of student fees charged by institutions within a state (not weighted for enrollment) for the public four-year and two-year sectors in the 2012-13 academic year. Among four-year institutions, the median fee across states was nearly \$1,300 for first-time, full-time students, with five states (Connecticut, Massachusetts, New Jersey, South Dakota, and Virginia) having an average institutional fee of more than \$2,500 and Massachusetts institutions charging the highest average fee of \$8,280. Four states (Hawaii, Kentucky, Michigan, and Mississippi) charged less than \$500 per year in fees, with Mississippi institutions having the lowest average fee of \$238.

[Insert Figure 2 here]

Community colleges tend to have much lower fees than public four-year institutions. Six states (Arizona, California, Hawaii, Kentucky, Mississippi, and North Carolina) had average fees of \$200 or less across their community colleges, with Kentucky having the lowest fees at only \$23 per year. Four states (Kansas, Massachusetts, Montana, and South Dakota) charged more than \$900 in fees in the 2012-13 academic year, with Massachusetts again having the highest fees at \$3,250. Because fees at two-year colleges are so much lower than at four-year institutions and because the governance structures and potential fee-setting authorities at public two-year and

four-year colleges are different, I focus on four-year public institutions in the remainder of this paper.

### **Types of student fees**

Student fees can be used to support a wide range of institutional priorities, but the traditional purpose of these fees has been to fund student services or auxiliary enterprises designed to meet actual or perceived student demands, such as campus union facilities, recreation centers, and athletics. These fees are typically initiated and set by colleges, often with approval from the student body. However, they are increasingly used at public colleges as a strategy to directly subsidize core instructional priorities such as maintaining information technology and library services, items which used to be included in the price of tuition. In some cases, state governments and college systems are imposing fees upon students as a direct substitute for appropriations. In this section, I examine the different types of student fees, the stakeholders with authority to either directly set or influence the setting of fees, and the body of research on factors that could potentially influence fee levels.

### **Institutional-level factors and student fees**

For decades, student fees have been used to fund activities that are not directly related to core instructional operations, but are considered important to the overall college experience. These activities include recreation centers, funds for student organizations, and intercollegiate athletics. Although student activities fees have often been controversial on the grounds of which student groups are funded and whether students should be required to fund speech they disagree with (Steele, 1987; Walker, 1999), fees for these items have gained greater scrutiny in recent

years as many institutions have constructed new facilities in order to compete with peer institutions or to become more prestigious (e.g. Armstrong & Hamilton, 2013). This spending does seem to pay off for a number of institutions. As Jacob, McCall, and Stange (2013) noted, the students attracted by “college consumption amenities” such as student activities and athletics tend to be relatively low-achieving, high-income students—the type of students who do not receive large institutional aid packages. The authors quantified the attractiveness of these amenities by showing that lower-achieving, higher-income students appear to be willing to pay higher tuition to attend a college with increased spending on amenities than to attend a college with a higher median SAT score.

Spending on athletics is prioritized at some colleges, as they chase the dual goals of increasing their public presence through successful programs and raising revenue (e.g., Weisbrod, Ballou, & Asch, 2008). A *USA Today* report by Berkowitz, Upton, and Brady (2013) noted that only seven of the 228 public universities in NCAA Division I were truly self-sufficient, relying on no institutional subsidies or student fees. Athletics programs are often fueled by student fees that can reach \$500 per year at some institutions, particularly NCAA Division I schools outside of the big-name football conferences such as the Big Ten and Southeastern Conferences (Denhart & Ridpath, 2011). For example, Old Dominion University in Virginia charged \$1,429 in athletics fees in 2014-15 in its total of \$9,225 in tuition and fees, leading to a state legislative proposal to cap the percentage of athletics revenues coming from student fees (Minium, 2015).

However, there may be other benefits to athletics programs that go beyond direct revenue generation. Pope and Pope (2009) showed that student applications increase with football and men’s basketball success, while Perez (2012) found that success in these two sports induces

more local students to enroll at California State University campuses. For those reasons, the impact of student fees and athletics programs on institutional finances can be difficult to determine.

Student fees can be used to fund certain instructional activities, such as libraries. For example, a report by the American Library Association (2013) noted that the cost of providing access to academic journals has increased from 21% of a library's budget in 1989 to 30% in 2009. Cullier and Stoffle (2011) described how several universities have enacted fees to pay for libraries over the past decade, including their own University of Arizona. They discussed how Arizona's libraries requested a fee of \$30 per year that began in 2007 and grew to \$120 per year by 2010. Some published research even counsels administrators about how to successfully increase student fees in order to increase revenues. Keppler (2010) discussed how student fees can be used to increase revenue for student services, particularly by switching salaries to the new fee-supported positions. Cullier and Stoffle (2011) also provided suggestions about how to successfully get a fee increase, such as talking with students, being accountable, and using data to support claims.

### **State-level factors and student fees**

The decline in state funding effort for public higher education over the past several decades has been well-documented, as flat or slowly declining per-student appropriations have been coupled with significant increases in per-student tuition revenues (State Higher Education Executive Officers Association, 2015). However, both per-student funding and tuition and fee levels vary considerably across states, even with some convergence in tuition and fees across states over the past two decades (e.g., Cheslock & Hughes, 2011). As a result, it is possible that

both tuition and student fees at public institutions may be affected by state conditions and policies. There have been a number of studies conducted on the impact of state-level factors on tuition and fees combined, but there is little research specifically examining the impact on fees alone. As a result, I consider the literature on the impact of state policies on tuition and fees combined before testing for the effects of state policies on fees separately later in this paper.

In an effort to increase revenue, some institutions have enacted or increased student fees to pay for core instructional priorities. These fees can be used as general instructional fees to supplement tuition or can be targeted toward specific endeavors such as libraries. An example of student fees being used to help support instruction is the Georgia Board of Regents' implementation of a special instructional fee at all institutions in the University System of Georgia starting in the spring of 2009. Sterritt's (2011) case study of the implementation noted that the fee was implemented directly by the Board of Regents; students did not have a direct opportunity to voice their opinion on the subject. Once implemented, the fee quickly increased from \$75 per semester in spring 2009 to \$250 per semester by the fall of 2011 (Sterritt, 2011) and reached \$450 per semester at some colleges in spring 2014. This fee had an additional appeal to the state of Georgia, as its popular HOPE scholarship no longer covered fees (Sielke, 2011). For that reason, administrators interviewed by Sterritt noted that the instructional fee, although officially listed as temporary, would be unlikely to go away.

States work to make public higher education more affordable for students through two funding mechanisms: appropriations allocated directly to colleges and grant aid awards given to students. States can be categorized based on whether they emphasize appropriations (a low-tuition model) or financial aid (a high-aid model) in their funding strategy (e.g., Hearn, Griswold, & Marine, 1996). Only eight states provided high levels of both state appropriations

and financial aid in the 2005-06 academic year, while most states either emphasized one of the two funding strategies or provided relatively little funding to higher education (Toutkoushian & Shafiq, 2010).

State appropriations in 2014 varied from \$2,360 per full-time equivalent student in New Hampshire to \$15,561 in Wyoming, with the national average being \$6,552 (State Higher Education Executive Officers, 2015). The only existing study examining the relationship between state appropriations and student fee levels is by Arnott (2012), who used data from the Integrated Postsecondary Education Data System (IPEDS) from the 2008-09 academic year for public universities and found that a one percent increase in government appropriations was associated with a 0.45% increase in fees paid by the average undergraduate student. This is the opposite relationship that Koshal and Koshal (2000) found when examining tuition instead of fees; they concluded that a \$100 per FTE increase in appropriations was associated with a \$40 decline in tuition.

The value of grant programs in the 2011-12 academic year varied considerably across states, ranging from \$24.65 per person between the ages of 18 and 24 in Arizona to \$680.36 per young adult in Tennessee (National Association of State Student and Grant Aid Programs, 2013).<sup>3</sup> Some states (such as Massachusetts and Georgia) limit their grant aid programs to tuition only, which can impact the rate of fee increases. States also differ in whether they focus on need-based or merit-based aid, with many states in the South operating large merit programs and most other states offering need-based programs. Notably, research by McLendon, Tandberg, and

---

<sup>3</sup> New Hampshire was the only state not to have any type of state grant program in 2011-12, and Wyoming did not have any grant aid for undergraduates. Additionally, the NASSGAP report combined undergraduate and graduate aid, which I disaggregate in my analyses.

Hillman (2014) suggests that on average, grant aid does not crowd out appropriations or vice versa.

State-level economic conditions also play an important role in setting tuition levels, and have the potential to also affect fee levels. Per-student state funding cuts tend to peak during or just after recessions, as higher education serves as a ‘balance wheel’ that legislators use to balance the budget during difficult times (e.g., Delaney & Doyle, 2011). State funding for higher education is directly related to the income of its residents, as per-student funding falls as state personal income falls and vice versa (Humphreys, 2000). High unemployment rates can result in increased college enrollment during recessions, particularly at community colleges and less-selective four-year colleges (Barr & Turner, 2013). As enrollment increases, per-student funding is typically reduced, putting more pressure on colleges to increase revenue from students. In each case tuition and fee policies can be used to increase revenue in response to states’ economic challenges, but increases in tuition can also result in enrollment declines among price sensitive students (e.g., Hemelt & Marcotte, 2011).

The structure of state public higher education systems varies considerably across states, and this can affect tuition and fee policies. While all public institutions in some states (such as Wisconsin and California) are a part of larger statewide systems, colleges in other states have much more autonomy regarding tuition and fee policies. For example, approximately two-thirds of states reported that fee-setting authority was at either the institution or system level in 2012-13, with the remainder of states placing that authority with the legislature or a state coordinating board (Carlson, 2013). These differences in governance structures have been shown to impact combined measures of tuition and fees. Multiple studies have found that colleges with greater levels of autonomy have raised tuition and fees at much higher rates than if state coordinating

boards or legislators have control over tuition and fees (Kim & Ko, 2015; Knott & Payne, 2004; Lowry, 2001). Additionally, Tandberg (2013) showed that the presence of a consolidated governing board was associated with lower appropriations using panel data from 1974 to 2004.

Some colleges with the ability to set prices are at least partially constrained by caps placed on tuition and/or fee increases, with 15 of 34 states that responded to a 2013 survey noting that a tuition cap had been enacted in the last three years and eight states indicating that a fee cap was in place (Carlson, 2013). The caps vary in the amount of increase allowed and sanctions levied against colleges that increase tuition and/or fees above the specified amount. For example, the Michigan legislature explicitly capped tuition and fee increases at 3.75% in the 2013-14 academic year for the state's public universities. Wayne State University instead raised tuition and fees by 8.9%, forfeiting \$534,700 in state aid but getting to keep \$8.7 million in additional tuition revenue (Bowerman, 2013). In other states, caps may be implicit. For example, the governor of Pennsylvania was able to get state universities to pledge to freeze tuition for the 2015-16 academic year in exchange for additional funding without the existence of a legislatively mandated cap (Esack, 2015). The variation in state policies may be a reason why prior research has found tuition caps to be ineffective in reducing the price of education (Kim & Ko, 2015).

A large body of literature has examined the relationship between state-level political conditions and college pricing. Doyle (2012) found that states with more liberal legislators have lower tuition, conditional on the percentage of students enrolled at public institutions being relatively high. Other studies have demonstrated positive relationships between Democratic political control at the state level and more state appropriations for public institutions (Archibald & Feldman, 2006; McLendon, Hearn, & Mokher, 2009; Weerts & Ronca, 2006), which can then

affect pricing. Other research has come to a different conclusion. Tandberg (2010) showed that more liberal states tend to provide more funding for higher education, but Democratic control of the legislative and executive branches led to more spending on K-12 education at the expense of higher education. Finally, Weerts and Ronca (2012) linked additional state funding for public institutions to Republican legislative control; this finding was driven by increased funding to community colleges.

### **Data, Sample, and Methods**

To explore trends in student fees over time and possible mechanisms influencing their increase over time, I used 12 years of data on undergraduate student fees combined with information about state-level and institutional-level conditions over the corresponding period.

#### **Data**

I used data from the 2001-02 through the 2012-13 academic years in my analyses. Student fees and per-student state and local appropriations are from the Integrated Postsecondary Education Data System (IPEDS) and are adjusted for inflation to 2012 dollars using the Consumer Price Index.<sup>4</sup> I also included whether an institution was part of a higher education system, as that could affect a college's ability to set fees. This measure was constructed after consulting each state's postsecondary education commission or higher education system website, combined with IPEDS data after 2006.

---

<sup>4</sup> A small number of public higher education systems assign all appropriations to the main campus in IPEDS. In those cases, I reallocated appropriations to branch campuses based on the percentage of total system enrollment at each campus.

Three measures of institutional selectivity in IPEDS data were used: the median ACT/SAT score, the percent of applicants who were accepted, and the yield rate (the percentage of accepted students who matriculated).<sup>5</sup> The percentage of new students from out-of-state is also included in the model, as out-of-state students are highly coveted for their higher tuition rates (Jaquette & Curs, 2015). This measure also comes from IPEDS, but only about two-thirds of all colleges submitted data in odd years (where reporting is optional). I used a linear interpolation in those cases using data from even years. Inflation-adjusted per-student athletic expenditures (available through the Equity in Athletics Data Analysis tool from the U.S. Department of Education) were also included as a measure of the intensity of intercollegiate athletics at an individual college.

I used five waves of surveys on state-level tuition and fee policies from the State Higher Education Executive Officers Association (SHEEO). These surveys were given to state fiscal officers in the 1998-99, 2002-03, 2005-06, 2010-11, and 2012-13 academic years. I used the following questions from the survey, with the wording from 2013 provided below (Carlson, 2013):

- “Which of the entities (governor, legislature, statewide coordinating/governing agency for multiple systems, coordinating/governing board(s) for individual systems, local district governing board(s), and individual institutions)...has the primary authority for establishing tuition?” [Asked separately for four-year and two-year sectors]
- “Has there been a curb, cap, freeze or other limit placed on tuition or fees at any time in your state in the past three fiscal years?” [Tuition and fees asked in separate questions]

---

<sup>5</sup> I used the median score for the ACT composite and SAT math and verbal scores; this was calculated by taking the average of the 25<sup>th</sup> and 75<sup>th</sup> percentiles. SAT scores were transformed into their ACT equivalents using the concordance guide from ACT, Inc. (2008). Additionally, admit and yield rates were not available in 2002. I used a linear interpolation of 2001 and 2003 data before imputing for any additional missing data.

- “Please indicate which entities in your state (governor, legislature, state coordinating/governing agency, individual/system governing board(s), and local district governing board(s)) have the authority to set mandatory fees. (Check all that apply.)”  
[Asked separately for four-year and two-year sectors]

For the first question, I collapsed the group of entities into governor/legislature, governing or coordinating board, and individual institutions. The response options for the first question were collapsed into full authority, some authority, and no authority—excluding a small number of “other” responses; multiple responses were allowed to this question. I collapsed the group of entities for the final question into governor/legislature, state governing or coordinating board, and individual or system governing board. Note that respondents were not given the option to select individual institutions for the question on setting mandatory fees, as that was likely assumed to be the default setting, and that multiple responses were an option for this question. I included the presence of both tuition and fee caps, as the correlation between the two measures was just 0.27, suggesting that most states with tuition caps did not also have fee caps in place at the same time.

I made two sets of simplifying assumptions with the SHEEO data. First, because the SHEEO data did not always ask questions separately for the two-year and four-year sectors within a state across surveys, I consolidated responses by state by taking the highest level of authority when multiple responses existed. For example, if the legislature and/or governor were reported to have tuition-setting authority at one public university system within a state, I assumed that to be the case across all systems. In years between surveys or when a state did not respond, I used the most recent year of data available. The number of states represented ranged

between 35 in 2012-13 to all 50 in 2005-06; at least 44 states were represented in four of the five surveys.

Annual surveys from the National Association of State Student Grant and Aid Programs (NASSGAP) provided annual information on state need- and merit-based grant programs between the 1994-95 and 2012-13 academic years. From these surveys, I used the percentage of state aid given to undergraduates based on need and the inflation-adjusted amount of total aid per year in 2012 dollars. I combined the latter measure with annual state-level population data through 2012 for young adults between the ages of 18 and 24 from the Census Bureau and the American Community Survey.<sup>6</sup> This resulted in a measure of state aid funding per traditional college-age students—a measure of funding effort for grant aid.

I included two state-level economic indicators as control variables that reflect a state's ability to fund higher education, as well as the potential demand for higher education and other public services: the average unemployment rate (from the Bureau of Labor Statistics) and inflation-adjusted per-capita income for state residents (from the Bureau of Economic Analysis). Finally, I used a dataset on state partisan political balance created by Carl Klarner at Indiana State University, including detailed information on the political party of the governor and the number of legislative seats held by each party, supplemented with data from the National Conference of State Legislatures. I employed annual measures of partisan control of the governor's office and both legislative chambers through 2012.

There was a small amount of missing data on several covariates, including selectivity measures, the percentage of out-of-state students, and athletics expenditures (no data were

---

<sup>6</sup> The state-level Census data by age before 2000 provided data for the 15-19 and 20-24 age group. To get an estimate of the number of residents between the ages of 18 and 24, I added two-fifths of the 15-19 age group to the 20-24 age group.

missing for tuition or fees). In those cases, I imputed for missing observations using Stata's *impute mvn* command with 15 imputations and 100 iterations between the creation of each imputed dataset. Observations were only imputed if a value existed for a variable for at least one year in the panel. More details about the imputation process are available upon request from the author.

## **Sample**

I began with all 532 four-year public colleges and universities in the United States that had tuition and fee data available for each year from 2010 to 2012, imposing the requirement that three years of data be available in order to improve the precision of the fixed-effect estimates. I began by dropping the 32 institutions that did not report ACT/SAT scores, the percent of students admitted, or yield rates at least once during the panel as these are important institutional characteristics that I include in my models. I excluded Nebraska's six public universities on account of that state's officially nonpartisan, unicameral legislature making analyses by partisan political control impossible. Additionally, I excluded the 12 public universities in Massachusetts on account of that state's policy of freezing tuition and having all increases in revenue come through fees. I also excluded three colleges in other states (The Citadel, College of Charleston, and Shepherd University in West Virginia) with tuition below \$250 per year and fees above \$5,000 per year that kept tuition constant over the majority of the panel for the same reason.

During the time period examined in the panel analyses (2001-02 to 2012-13), 81 of the colleges "reset" their student fees by dropping fees by at least \$500 and raising tuition by at least \$500. For example, California State University System institutions charged zero tuition in the 2010-11 academic year, but charged \$5,472 in 2011-12. During this period, fees dropped from

about \$5,000 to \$1,000 at the typical CSU institution. I addressed the concern of colleges changing fee policies by dropping years of data prior to the change in fee policies in order to examine institutions with consistent fee policies. This resulted in 32 colleges being dropped from the sample for resetting fees in 2010 and 2011, most notably the California State University institutions and colleges in the University of Minnesota System.

The analytic sample included 447 colleges, enrolling approximately 6.1 million students during the 2012-13 academic year. The summary statistics of the sample can be found in Table 1. About 72% of public colleges were a part of a larger higher education system in the 2012-13 academic year, with the systems varying considerably in the level of autonomy given to individual campuses. The average tuition was \$6,705 in the 2012-13 academic year, with fees adding \$1,488; median values were slightly lower. The typical public university is moderately selective; the median ACT score in the sample was 22, just over two-thirds of all applicants were accepted, and about 40% of students admitted to a given college chose to attend (the yield rate). The median college spent \$806 per student on intercollegiate athletics in the 2012-13 academic year, with 15 colleges reporting no expenditures and nine spending more than \$3,500 per student (including football powerhouses Auburn University and the University of Oklahoma).

State and local appropriations vary considerably across institutions, with large differences by state, prevalence of graduate programs, and the mix of undergraduate programs. The average college received \$5,307 per student in 2012-13, with the median college slightly lower at \$4,441.<sup>7</sup> Public colleges in Colorado reported receiving no direct state appropriations (instead getting a per-credit subsidy from the state), while three colleges (University of Alaska-Fairbanks,

---

<sup>7</sup> I use per-student appropriations instead of per-FTE appropriations because consistent data on the number of full-time equivalent students are not available throughout the entire panel.

SUNY College of Environmental Science and Forestry, and University of Wyoming) received more than \$18,000 per student in 2011-12.<sup>8</sup> State undergraduate grant aid per state resident age 18-24 averaged \$286 in the 2012-13 academic year, with values ranging from \$0 (New Hampshire and Wyoming) to \$609 in West Virginia. Notably, the top four states for per-resident grant aid (Arkansas, Georgia, Tennessee, and West Virginia) are all in the same region and have large merit-based aid programs. However, the average institution is located in a state where about three in four dollars were allocated based on need and the median institution is in a state with 97% of dollars allocated based on need. States varied considerably in their economic conditions. State-level unemployment rates varied from 3% (North Dakota) to 11.1% (Nevada), with an average of 7.6%. Per-capita income across states ranged from \$33,446 (Mississippi) to \$60,223 (Connecticut), with a mean of \$43,314.

[Insert Table 1 here]

Nearly half of the colleges in the analytic sample were in states that had a tuition cap in effect during the past three years, while just over one in four colleges were in states with a fee cap. The governor and/or legislature had primary tuition-setting authority over 11% of colleges, and 22% of colleges had the primary authority to set their own tuition. System or coordinating boards had primary tuition-setting authority for three in four public colleges (multiple responses were allowed for this question). For about one in five colleges, the governor and/or legislature had at least partial authority to set fees, while both state governing/coordinating boards and individual or system boards had the authority for about 70% of colleges. As of 2012, 62% of public colleges were in states with Republican executive control, 63% of colleges were in states

---

<sup>8</sup> For more details on Colorado's funding system, see McClelland (2011).

with unified Republican legislative control, and 20% of colleges were in states with unified Democratic legislative control.

## **Methodology**

To answer my research questions, I used panel regression techniques using data from the 2001-02 to 2012-13 academic years, including both institutional and year fixed effects in all models as well as controls for total enrollment and whether a college was a part of a larger system of higher education in a given year. I ran a Hausman test to check for whether the error terms are correlated with the regressors and rejected the null hypothesis of no correlation at  $p < .001$ ; therefore, institutional fixed effects are appropriate in this analysis. Year fixed effects are appropriate due to the changing economic and political conditions during the length of the panel and are jointly significant at  $p < .01$  in all models.

I then added variables to the regression in two blocks, with the first block reflecting factors at least partially within an institution's control and the second block reflecting state-level characteristics generally beyond the college's control. The first block of variables (added to Model 1) includes the college's in-state tuition and measures of institutional selectivity. This consists of the percentage of enrolled students who are from out-of-state, median ACT/SAT scores, the percentage of students accepted, the yield rate (the percentage of admitted students who decide to attend), and per-student expenditures on athletics. The second block of variables (added to Model 2) includes state-level characteristics. This consists of per-student appropriations, state grant aid per young adult, the percentage of state aid allocated based on students' financial need, the state's unemployment rate, and per-capita state income. This block also includes state-level political measures such as whether a tuition or fee cap was enacted in

the last three years, whether the college or another body has tuition or fee-setting control, and partisan control of the state legislature and governor's office. I tested to see whether the block of state-level characteristics provided additional explanatory power to the model; the resulting p-value shows that the state-level variables were jointly significant at  $p < .001$ .

## **Limitations**

The primary limitations in this study were that data on key measures were aggregated to the state level or not available for each year. The SHEEO surveys, which I used to create measures of tuition and fee oversight and policy, were completed by one representative of a higher education system in per state in some waves. This made creating sector-level measures through the panel impossible. Some of the measures (such as tuition and fee caps) also mask the amount of variation present across states; a cap on fees at a 3% annual increase could have different implications than a cap allowing 10% increases. Additionally, the SHEEO surveys were given every two to four years, resulting in less current data than annual surveys.

My ability to include institutional-level measures was substantially reduced due to the limited nature of IPEDS data collection. Some measures, such as the net price of attendance or the percentage of students from lower-income families, were not collected during the full period of the panel and hence had to be excluded. Important measures of institutional governance and organization that can affect costs, such as how revenues get allocated to different units (e.g., Clotfelter, 2000) are not available in any national datasets. Finally, data for some colleges had to be dropped due to their "resetting" of fees into tuition during the period. The reasons why colleges reset fees deserve additional study in future work.

## Results

The results from blocked regressions predicting fee levels with institutional and year fixed effects can be found in Table 2. In the model with only institutional characteristics included (Model 1), each \$1 increase in tuition was associated with a \$.06 decrease in fees, suggesting that tuition and fees are relatively weak substitutes. A one-percent increase in the percentage of students from out-of-state was associated with a decrease in fees of about \$3 ( $p < .10$ ), although that relationship did not remain statistically significant once state-level characteristics were also included. Surprisingly, higher levels of per-student athletics expenditures were not associated with increased fee levels. This suggests that although some colleges fund athletics directly through student fees, colleges' practices in funding athletics through fees may not have changed during the length of the panel.

[Insert Table 2 here]

Several of the state financial aid and economic measures (first introduced in Model 2) have statistically significant relationships with fee levels. A one percentage point increase in unemployment rates is associated with a \$21 decrease in fees, potentially reflecting a desire to keep higher education more affordable in tougher economic times. A \$100 increase in state per-capita income is related to a decrease in fees of about \$1.80 after holding other factors constant. However, there was no statistically significant relationship between fees and per-student state appropriations, which differs from Arnott's (2012) finding of a positive relationship as well as research determining a negative relationship between tuition and appropriations (e.g., Koshal & Koshal, 2000)

Turning to state political characteristics, the presence of a fee cap has the expected result on fee levels, with colleges in states with a fee cap in place charged \$128 less in fees than colleges without a fee cap. However, a tuition cap was associated with about \$59 more in fees, suggesting that colleges will at least partially substitute between tuition and fees as revenue sources. If a governor or legislature has at least partial fee-setting authority, fees were approximately \$65 higher than colleges in other states, while fees were \$38 lower if a state governing or coordinating board had some fee-setting authority. However, there are no significant differences in fee levels if legislators or a system board have primary tuition-setting authority, suggesting that colleges do not separately compensate for a lack of control in setting tuition by raising fees. States with Republican governors had fees an average of \$27 lower than other states, while partisan control of the state legislature was not significantly related to fee levels.

### **Discussion and Future Work**

Students at the typical four-year public college are often expected to pay more than \$1,000 per year in mandatory fees in addition to the price of tuition (author's calculation using IPEDS data). Yet to this point, little academic research has examined potential factors at the institutional and state levels that may be contributing to the steady increase in student fees. In this paper, I examined the extent to which a wide range of institutional-level and state-level factors are associated with changes in student fees.

After controlling for a set of state-level financial aid, economic, and policy characteristics, I find that aspects of selectivity and intercollegiate athletics participation within

an institution's control have weak or nonexistent relationships with student fee levels. This surprising result suggests that although the growth of amenities at some colleges has been heavily scrutinized, the trend toward increased amenities funded through student fees may be limited to a small percentage of public colleges. Similarly, direct athletics funding via student fees may also be limited to a small percentage of colleges, with tuition dollars or indirect institutional subsidies being used to balance athletics budgets rather than student-initiated fees. A census of how frequently fees are dedicated toward these sorts of non-academic pursuits is needed to further unpack this finding as prior literature on athletics expenditures focuses primarily on a small number of institutions, but is beyond the scope of this paper.

State economic conditions and the characteristics of higher education funding both play an important role in determining fee levels. Colleges in states with higher unemployment rates charged lower fees, while states with higher levels of per-capita income also had lower fees. This could be a result of different state funding models and financial incentives not captured in the available state-level characteristics. A key result of this study is that although fee caps are effective in lowering fee levels, the presence of an explicit cap on how much colleges can increase tuition is associated with higher fee levels—suggesting that colleges will substitute between tuition and fee revenue as needed to balance their budgets. However, the best longitudinal measure of tuition and fee caps only reflects the presence of an explicit cap, excluding the possibility of implicit caps set by system boards or state policymakers. It is possible that implicit caps on fees may be more or less common than explicit tuition caps, although this needs additional study. As also called for by Kim and Ko (2015), much more work needs to be done in examining the allowable increases in tuition and fees among states with caps.

If more data were available about the percentage increase in tuition and fees allowable under caps, a different pattern of results might emerge.

State-level political and policy characteristics affect fee levels. Perhaps because political debates regarding tuition-setting policy may be more visible to the public than debates about student fees, giving a state's governor or legislature control of setting fees is associated with higher fees. This finding could potentially be explained by pressures from the public for policymakers to hold the line on tuition increases, while fee increases tend to not be noticed. Additionally, some states (such as Massachusetts and Georgia) with generous grant aid programs have felt pressures to keep tuition steady and increase fees instead because their grant programs pay for tuition and not fees (Cohodes & Goodman, forthcoming; Sielke, 2011). Further research on how policymakers and colleges navigate the complicated landscape of tuition and fee-setting policies and the implications for student financial aid programs would be beneficial to advance the body of knowledge in this important area.

Although giving elected policymakers partial control of fees is associated with higher fee levels, fees tend to be lower if a coordinating or system board has some fee-setting authority than if colleges have sole authority. Prior research on tuition-setting policy has found that institutions set higher levels of tuition if they have the sole authority to do so (Kim & Ko, 2015), but they did not consider whether elected policymakers may act differently than system or coordinating boards. My findings highlight the importance of separately examining the influences of these outside bodies.

I provide some information about factors associated with increased fees, but more research needs to be done to examine student fee policies and practices in public higher

education. More attention should be paid to student fees are set at both the institutional and state levels, particularly as some states have begun to restrict their grant aid programs from paying for fees. Unlike tuition, fees can often be proposed by the student body to pay for new initiatives—or they can be used to pay for continuing or expanding current institutional amenities. Some of these fees are approved by students through a vote (often with relatively low turnout), and the mechanisms behind these student referenda deserve additional study. In particular, the interaction between student leaders and college administrators regarding fee referenda should be explored in depth. Additionally, the presence of caps on how much fees can increase in some states means that a desire for increased fees to fund instructional activities may be at odds with student demands for fees to fund auxiliary enterprises or student services. The prioritization of fee-funded projects among student governments, administrators, and policymakers is an area ripe for additional research.

Finally, the determination of what is included in “tuition” and what is included in “fees” deserves additional scrutiny. Between the 2001-02 and 2012-13 academic years, about 80 public colleges decreased fees by at least \$500 in one year while increasing tuition by more than \$500 (author’s calculations using IPEDS data). This highlights different definitions of tuition and fees across the country and significant changes to those definitions over time. Additional study is needed to explore why those institutions chose to adjust what counted as tuition and fees, the implications of those changes for student and institutional finances, and how students, their families, and the public perceived the changes.

## References

- ACT, Inc. (2008). *ACT-SAT concordance*. Iowa City, IA: Author.
- American Library Association (2013). *The state of America's libraries 2013*. Chicago, IL: Author.
- Archibald, R. B., & Feldman, D. H. (2008). Explaining increases in higher education costs. *The Journal of Higher Education*, 79(3), 268-295.
- Armstrong, E.A., & Hamilton, L.T. (2013). *Paying for the party: How college maintains inequality*. Cambridge, MA: Harvard University Press.
- Arnott, A. (2012). An examination of institutional factors related to the use of fees at public four-year universities. *InterActions: UCLA Journal of Education and Information Studies*, 8(1).
- Barr, A., & Turner, S. E. (2013). Expanding enrollments and contracting state budgets: The effect of the Great Recession on higher education. *The ANNALS of the American Academy of Political and Social Science*, 650, 168-193.
- Barron's Educational Series, Inc. (2009). *Barron's profiles of American colleges: Descriptions of the colleges*. Hauppauge, New York: Barron's Educational Series, Inc.
- Baum, S., & Ma, J. (2013). *Trends in college pricing*. Washington, DC: The College Board.
- Baumol, W.J. (1967). Macroeconomics of unbalanced growth: The anatomy of urban crisis. *The American Economic Review*, 57(3), 415-426.
- Berkowitz, S., Upton, J., & Brady, E. (2013, July 1). Most NCAA Division I athletic departments take subsidies. *USA Today*.  
<http://www.usatoday.com/story/sports/college/2013/05/07/ncaa-finances-subsidies/2142443/>
- Bowerman, B. (2013). *FY 2013-14 higher education appropriations and tuition restraint*. Lansing, MI: Senate Fiscal Agency.
- Carlson, A. (2013). *State tuition, fees, and financial assistance policies for public colleges and universities 2012-13*. Boulder, CO: State Higher Education Executive Officers Association.
- Cheslock, J. J., & Hughes, R. P. (2011). Differences across states in higher education finance policy. *Journal of Education Finance*, 36(4), 369-393.

- Cohodes, S., & Goodman, J. (forthcoming). Merit aid, college quality, and college completion: Massachusetts' Adams scholarship as an in-kind subsidy. *American Economic Journal: Applied Economics*.
- Cullier, C., & Stoffle, C.J. (2011). Finding alternative sources of revenue. *Journal of Library Administration, 51*, 777-809.
- Delaney, J. A., & Doyle, W. R. (2011). State spending on higher education: Testing the balance wheel over time. *Journal of Education Finance, 36*(4), 343-368.
- Denhart, M., & Ridpath, D. (2011). *Funding the arms race: A case study of student athletic fees*. Washington, DC: Center for College Affordability and Productivity.
- Doyle, W.R. (2012). The politics of public college tuition and state financial aid. *The Journal of Higher Education, 83*(5), 617-647.
- Esack, S. (2015, April 9). Pennsylvania higher education board reluctantly approves Gov. Tom Wolf's tuition freeze 'ultimatum.' *The Morning Call*. Accessed 19 May 2015 from <http://www.mcall.com/news/nationworld/pennsylvania/mc-pa-wolf-budget-higher-education-20150409-story.html>.
- Hearn, J. C. (2003). *Diversifying campus revenue streams: Opportunities and risks*. Washington, DC: American Council on Education.
- Hearn, J. C., Griswold, C. P., & Marine, G. M. (1996). Region, resources, and reason: A contextual analysis of state tuition and student aid policies. *Research in Higher Education, 37*(3), 241-278.
- Hemelt, S. W., & Marcotte, D. E. (2011). The impact of tuition increases on enrollment at public colleges and universities. *Educational Evaluation and Policy Analysis, 33*(4), 435-457.
- Humphreys, B. R. (2000). Do business cycles affect state appropriations to higher education? *Southern Economic Journal, 67*(2), 398-413.
- Jacob, B., McCall, B., & Stange, K.M. (2013). *College as country club: Do colleges cater to students' preferences for consumption?* Cambridge, MA: NBER Working Paper 18745.
- Jaquette, O., & Curs, B. (2015). Creating the out-of-state university: Do public universities increase nonresident freshman enrollment in response to declining state appropriations? *Research in Higher Education, 56*(5), 535-565.
- Keppler, K. (2010). Alternate budgetary sources during budget rescissions. *New Directions for Student Services, 120*, 29-41.

- Kim, M. M., & Ko, J. (2015). The impacts of state control policies on college tuition increase. *Educational Policy*, 29(5), 815-838.
- Knott, J. H., & Payne, A. A. (2004). The impact of state governance structures on management and performance of public organizations: A study of higher education institutions. *Journal of Policy Analysis and Management*, 23(1), 13-30.
- Koshal, R. K., & Koshal, M. (2000). State appropriation and higher education tuition: What is the relationship? *Education Economics*, 8(1), 81-89.
- Lowry, R. C. (2001). Governmental structure, trustee selection, and public university prices and spending: Multiple means to similar ends. *American Journal of Political Science*, 45(4), 845-861.
- Martin, R. E., & Hill, R. C. (2013a). *Involuntary and voluntary cost increases in private research universities*. Baton Rouge, LA: LSU Department of Economics Working Paper 2013-05.
- Martin, R. E., & Hill, R. C. (2013b). *Measuring Baumol and Bowen effects in public research universities*. Working paper.
- McClelland, L. (2011, June 16). *Tracking "state appropriations" to the University of Colorado Boulder*. Accessed 15 January 2015 from <http://www.colorado.edu/pba/ipeds/RevSourceHistory.pdf>.
- McLendon, M. K., Hearn, J. C., & Mokher, C. G. (2009). Partisans, professionals, and power: The role of political factors in state higher education funding. *The Journal of Higher Education*, 80(6), 686-713.
- Minium, H. (2015, January 15). Proposed bill would cap student fees for college sports. *The Virginian-Pilot*. Accessed 15 January 2015 from <http://hamptonroads.com/2015/01/bill-could-force-odu-withdraw-conference-usa>.
- National Association of State Student Grant and Aid Programs (2013). *43<sup>rd</sup> annual survey report on state-sponsored student financial aid*. Washington, DC: Author.
- Perez, S. J. (2012). Does intercollegiate athletics draw local students to a university? *Journal of Sports Economics*, 13(2), 198-206.
- Pope, D. G., & Pope, J. P. (2009). The impact of college sports success on the quantity and quality of student applications. *Southern Economic Journal*, 75(3), 750-780.
- Sielke, C. (2011). A reversal of fortune: Georgia legislative update 1992-2012. *Journal of Education Finance*, 37(2), 175-184.

- State Higher Education Executive Officers (2015). *State higher education finance FY 2014*. Boulder, CO: Author.
- Steele, C. T. (1987). Mandatory student fees at public universities: Bringing the first amendment within the campus gate. *Journal of College and University Law*, 13(4), 353-374.
- Sterritt, A. B. (2011). *State governance, politics, and mandatory student fees: Navigating a new reality in the University System of Georgia*. Doctoral dissertation.
- Tandberg, D. A. (2010). Politics, interest groups and state funding of public higher education. *Research in Higher Education*, 51(5), 416-450.
- Tandberg, D. A. (2013). The conditioning role of state higher education governance structures. *The Journal of Higher Education*, 84(4), 506-543.
- Toutkoushian, R. K., & Shafiq, M. N. (2010). A conceptual analysis of state support for higher education: Appropriations versus need-based financial aid. *Research in Higher Education*, 51(1), 40-64.
- Walker, S. L. (1999). I'll speak for myself: Compulsory speech and the use of student fees at state universities. *Rutgers Law Review*, 52, 341-382.
- Wang, M. (2013). Course load: The growing burden of college fees. *ProPublica*.  
<http://www.propublica.org/article/course-load-the-growing-burden-of-college-fees>
- Weerts, D. J., & Ronca, J. M. (2006). Examining differences in state support for higher education: A comparative study of state appropriations for research I universities. *The Journal of Higher Education*, 77(6), 935-967.
- Weerts, D. J., & Ronca, J. M. (2012). Understanding differences in state support for higher education across states, sectors, and institutions: A longitudinal study. *The Journal of Higher Education*, 83(2), 155-185.
- Weisbrod, B. A., Ballou, J. P., & Asch, E. D. (2008). *Mission and money: Understanding the university*. New York, NY: Cambridge University Press.

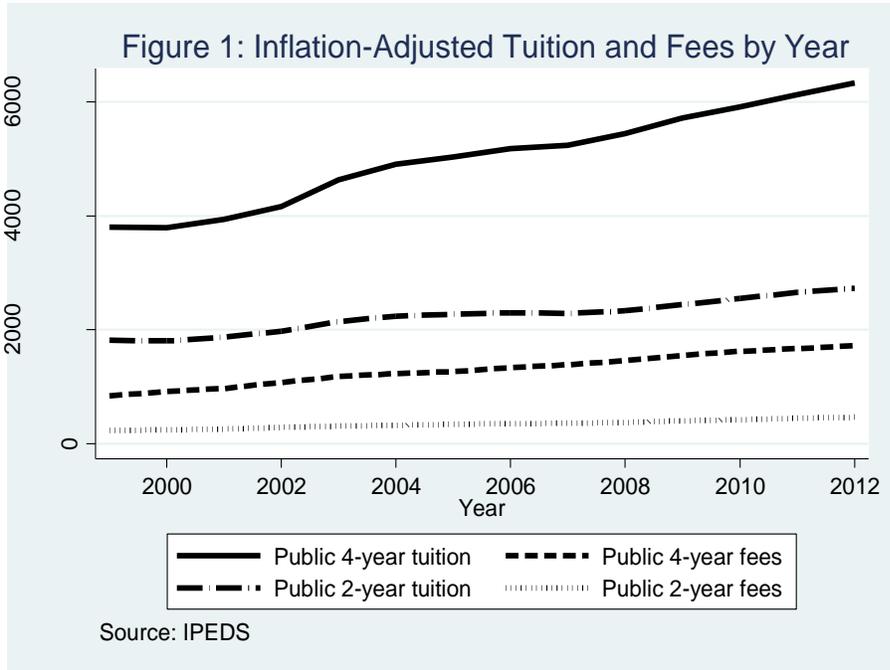
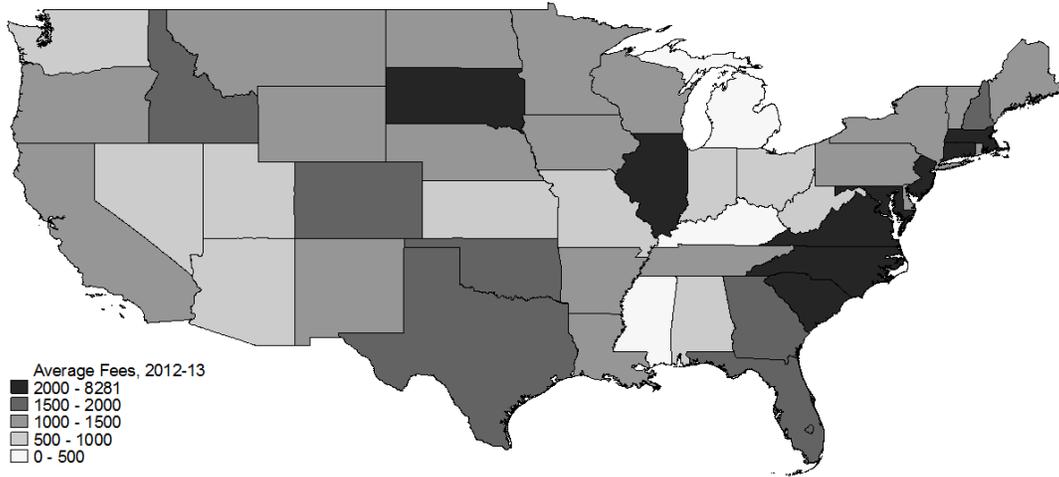
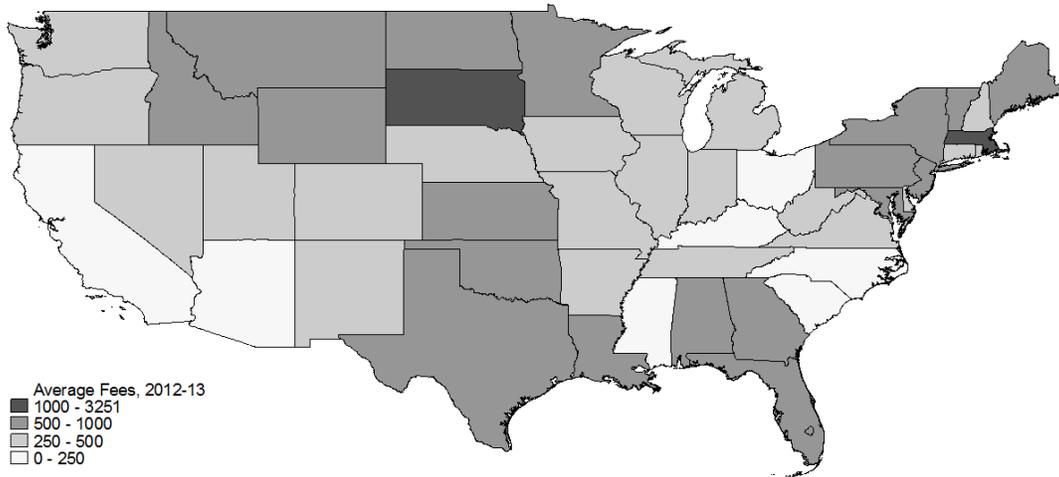


Figure 2a: Average Fees by State, 4-Year Publics



Source: IPEDS

Figure 2b: Average Fees by State, 2-Year Publics



Source: IPEDS

**Table 1: Summary statistics of the sample institutions.**

Characteristic (2012)	Mean	St. Dev.	Median	Min	Max
<u>Institutional characteristics</u>					
Part of a system (pct)	72.0	44.9	100	0	100
Total enrollment	13,688	11,812	9,804	578	73,378
Tuition (\$)	6,705	2,659	6,014	1,399	15,730
Fees (\$)	1,488	1,029	1,313	0	6,955
Institutional competitiveness					
Percent of students from out-of-state	18.1	15.0	13.0	0	77.1
Median ACT score	22.4	2.8	22	16	31
Percent of students accepted	66.7	17.6	67.5	17.4	99.8
Yield rate (pct)	40.1	13.0	38.9	13.7	81.3
Per-student athletic expenditures (\$)	990	827	806	0	6,936
<u>State-level characteristics</u>					
Per-student state/local appropriations (\$)	5,307	3,034	4,441	0	19,762
State aid per 18-24 year old (\$)	286	166	262	0	609
Pct aid as need-based	75.8	33.9	97.3	0	100
Unemployment rate (pct)	7.6	1.3	7.7	3.0	11.1
Per-capita state income (\$)	43,314	6,132	42,475	33,446	60,223
Tuition cap in last three years (pct)	45.6	49.9	0	0	100
Fee cap in last three years (pct)	26.6	44.2	0	0	100
Primary tuition-setting authority (pct)					
Governor and/or legislature	11.2	31.6	0	0	100
System or coordinating board	73.6	44.1	100	0	100
Campus	22.4	41.7	0	0	100
Has fee-setting authority (pct)					
Governor and/or legislature	21.3	41.0	0	0	100
State governing/coordinating board	60.4	49.0	100	0	100
Individual or system board	72.0	44.9	100	0	100
Partisan political control (pct)					
Republican governor	62.4	48.5	100	0	100
Republican unified legislative control	62.9	48.4	100	0	100
Democratic unified legislative control	19.9	40.0	0	0	100
Number of institutions			447		

---

Sources: State Higher Education Executive Officers Association annual surveys (tuition and fee caps, tuition- and fee-setting authority), National Association of State Student Grant and Aid Programs (state need and merit aid), U.S. Census Bureau (age 18-24 population), Bureau of Economic Analysis (per-capita income), Bureau of Labor Statistics (unemployment rates), Carl Klarner and National Conference of State Legislatures (state partisan political control), U.S. Department of Education Equity in Athletics data (athletic revenues), IPEDS (all others).

Notes:

- (1) SAT scores were converted into ACT scores using ACT, Inc.'s (2008) concordance guide.
- (2) Survey respondents could select multiple values for primary tuition- and fee-setting authority.

**Table 2: Regressions predicting fee levels, 2001-2012.**

Characteristic	Model (1)		Model (2)	
	Coeff.	(SE)	Coeff.	(SE)
Tuition (\$)	-0.06***	(0.01)	-0.05***	(0.01)
Percent of students from out-of-state	-2.6*	(1.4)	-2.1	(1.6)
Median ACT score	6.8	(7.7)	-10.0	(8.5)
Percent of students accepted	-0.1	(0.6)	0.5	(0.6)
Yield rate (pct)	-2.1***	(0.7)	-1.0	(0.7)
Per-student athletics expenditures (\$)	0.04	(0.03)	0.01	(0.03)
Per-student appropriations (\$)			0.01	(0.01)
State aid per adult age 18-24 (\$)			0.06	(0.10)
Pct of state aid as need-based			0.3	(0.5)
State unemployment rate (pct)			-20.9**	(9.9)
Per-capita state income (\$)			-0.02***	(0.01)
Tuition cap in last 3 years			58.6***	(17.1)
Fee cap in last 3 years			-127.8***	(21.0)
Primary tuition-setting authority				
Governor and/or legislature			-47.1*	(28.1)
System or coordinating board			8.6	(22.4)
Fee-setting authority				
Governor and/or legislature			65.0**	(26.5)
State governing/coordinating board			-37.8*	(22.4)
Republican governor			-26.6*	(14.7)
Republican unified legislative control			15.9	(18.2)
Democratic unified legislative control			16.5	(20.2)
R-squared (within)	0.244		0.259	
Number of institutions	447		447	

Sources: State Higher Education Executive Officers Association annual surveys (tuition and fee caps, tuition- and fee-setting authority), National Association of State Student Grant and Aid Programs (state need and merit aid), U.S. Census Bureau (age 18-24 population), Bureau of Economic Analysis (per-capita income), Bureau of Labor Statistics (unemployment rates), Carl Klarner and National Conference of State Legislatures (state partisan political control), U.S. Department of Education Equity in Athletics data (athletic revenues), IPEDS (all others).

Notes:

(1) \* represents  $p < .10$ , \*\* represents  $p < .05$ , and \*\*\* represents  $p < .01$ .

(2) All dollar values are adjusted for inflation using the Consumer Price Index.

(3) Control variables (coefficients not shown and not statistically significant) include total enrollment and whether a college is a part of a system.

(4) All regressions include institution and year fixed effects. The year fixed effects are jointly significant at  $p < .01$ .