The Rising Cost of Tuition at Four Year Public Universities: A Comparison of the Explanations Offered by the Academic Literature and University Decision Makers

Katherine Ann Cudé
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The Rising Cost of Tuition at Four Year Public Universities: A Comparison of the Explanations Offered by the Academic Literature and University Decision Makers.

Kate Cudé
Department of Economics Honor’s Thesis
University of Vermont
May 2016
Abstract

Growth in the price of college tuition concerns many students, parents, taxpayers and policymakers. Recently, the Davis Educational Foundation interviewed 70+ college presidents about their views of what’s driving tuition increases and their responses seemed to contrast sharply with research in leading economic and policy journals. My project will conduct a literature review in order to analyze, compare and contrast the reasons given by researchers and those given by university decision makers. In addition, this thesis will add local qualitative research with UVM stakeholder interviews, to better understand their perspective.
Acknowledgments

First and foremost, I want to thank my thesis supervisor Professor Woolf, whose vast wisdom, guidance and support helped me produce this thesis. His constant patience has helped me grow throughout this process. Without him this thesis would not have been possible.

I would like to express my gratefulness to Professor Sean Hurley for his guidance and encouragement and Professor Anastasia Wilson for her incredibly valuable insight. Thank you both for serving on my committee.

I would like to thank my Mother and Father for their unconditional love and forever enduring ability to remain calm. I am incredibly proud to be your Daughter.

Lastly I would like to express my sincere gratitude to everyone else who supported me throughout this process. I couldn’t have completed this thesis alone. I am incredibly fortunate to be surrounded by so much love.
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I. Introduction to the Project

The extraordinary rise in the price of tuition (Figure 1) has led to serious questions about the factors driving up tuition at four year public universities in the United States. This is a topic that is of natural interest to economists, and has led to extensive research. To better understand the factors leading to the increase in the price of tuition, it is important to examine the explanations offered by university decision makers (deciders) in addition to the explanations offered by the academic literature (scholars). The explanations offered by deciders are important because they are ultimately responsible for whether tuition is raised or not.

The purpose of this thesis is to examine the explanations offered by scholars and those offered by deciders. The scholars seek to offer solutions to the rapid increase in the price of tuition, and the deciders usually have to justify the decisions they make to raise tuition. As can be seen from Figure 1 below, tuition inflation has far exceeded other price inflation in the U.S. economy. For example, if the price of bread had risen as fast as tuition, it would now cost about $12.00 per loaf, and the public would be demanding answers. In general, this thesis will attempt to provide some perspective and understanding on the issue of growth in the price of tuition.
Specifically, I proceed as follows. The next section will review important milestones in the history of higher education as a background for tuition inflation. Section 2A is an analysis and summary of scholars’ academic literature regarding tuition inflation starting with institutional factors inside higher education. These include price discrimination, the Bennett Hypothesis, poor management, and Bowen’s Revenue Theory. Section 2B examines environmental factors outside higher education including Baumol’s Cost Disease. Section 3 will bring in views of deciders including 70+ college presidents interviewed by the Davis Educational Foundation, as well as local...
qualitative research derived from interviews with UVM decision makers. Section 4 describes possible policy prescriptions, and section 5 concludes.

A. The Beginnings of Higher Education in the U.S.

The history of higher education is extraordinarily important to understanding the take off in the average price of tuition. In 1638 Harvard established the typical DNA of future universities in the United States. Harvard created a model for various components of four year universities we see today: tenured faculty, research, residential life, graduate schools, variety in college majors, etc. Shortly thereafter, universities began popping up all over the United States. With this growth in the number of colleges, an internal tension between universities began to develop: the struggle between attracting more students, and providing an excellent education (Hutchinson, 2011).

In 1944 the GI bill changed the landscape of higher education. Veterans flooded the higher education market. Accessibility of higher education continued to increase over the next decade. The college scholarship service (CSS) was established in 1954. The CSS established the first method to determine the financial need of student applicants. In 1958, the National Defense Education Act created the Perkins loan program for students attending both public and private universities, and the federal student aid program for low income students. As observed on the timeline below; a variety of institutions were created to help make college more affordable over this span of time. With all of these reforms, a college education became more accessible to a much broader base of people. (Cleeton, 2012)
### Higher Education Time Line

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1636</td>
<td>Harvard sets model for Higher education in the U.S</td>
</tr>
<tr>
<td>1643</td>
<td>First Scholarship awarded Harvard University</td>
</tr>
<tr>
<td>1791</td>
<td>UVM Founded</td>
</tr>
<tr>
<td>1862</td>
<td>Land Grant (Morrill) Act</td>
</tr>
<tr>
<td>1890</td>
<td>Second Morrill Act</td>
</tr>
<tr>
<td>1913</td>
<td>New York establishes a college scholarship program (Regents)</td>
</tr>
<tr>
<td>1935</td>
<td>Indiana establishes the first student financial aid association</td>
</tr>
<tr>
<td>1937</td>
<td>One of the first fellowship programs established - Public health service fellowship</td>
</tr>
<tr>
<td>1944</td>
<td>GI Bill</td>
</tr>
<tr>
<td>1946</td>
<td>Fulbright scholarship established</td>
</tr>
<tr>
<td>1952</td>
<td>GI bill benefits extended</td>
</tr>
<tr>
<td></td>
<td>National science foundation starts graduate fellowships</td>
</tr>
<tr>
<td>1953</td>
<td>The first need analysis formula is presented by John Monro</td>
</tr>
<tr>
<td>1954</td>
<td>College Scholarship Service created</td>
</tr>
<tr>
<td>1958</td>
<td>National Defense Education Act establishes Perkins loan program and federal student aid program</td>
</tr>
<tr>
<td>1964</td>
<td>Economic opportunity act</td>
</tr>
<tr>
<td>1965</td>
<td>Higher education act of 1965 authorized most federal student financial aid programs</td>
</tr>
<tr>
<td></td>
<td>Educational opportunity grant program (later the Pell grant)</td>
</tr>
</tbody>
</table>

**Figure 2.** Brief timeline of the history of higher education. This figure lists some of the milestones in higher education.

The incredible growth in demand for higher education can be observed in the history of higher education. The growth in the price of tuition effects a very broad base of people. The far reaching effects of this topic contribute greatly to its significance.

### II. Scholarly Literature

A review of the academic literature revealed considerable controversy over what factors were causing the increase in the price of college tuition. In
1991 John Siegfried and Malcom Getz listed six factors driving up the price of tuition: cost disease, increase in cost due to a shortage in higher education inputs, increase in cost due to a shift towards more expensive disciplines, academic ratchet or when faculty and administrators change circumstances to suit their own desires, poor management in higher education, and increase in costs due to government regulation. That list divides into two opposing categories much like economists on this issue: factors outside of higher education in the broader economic sense, and factors that are specific to higher education institution itself.

A. Institutional Factors

Economists and other scholars who believe the rise in the price of tuition at public four year universities can be explained through a descriptive analysis of higher education stress the following themes as major contributors: price discrimination, poor management, Bowen’s revenue theory, and the Bennett hypothesis.

1. Price Discrimination

Price discrimination has historically been a common practice in higher education. Price discrimination generally occurs when a producer charges different customers different prices for the same product. In a university context, it occurs when colleges charge students a different tuition price based on their personal financial situation. The apparent purpose of this practice is that it enhances total social welfare by increasing access and affordability for
students who could not afford the full tuition price otherwise. It also serves as an effective pricing strategy for the benefit of universities. Economists Robert A. Lawson and Ann Zerkle performed an empirical analysis of price discrimination in college tuition to show how universities use price discrimination to their benefit. Lawson and Zerkle argue price discrimination benefits universities by allowing them to systematically favor and provide greater access to better students, poorer students, and minority groups of students. According to Lawson and Zerkle (2006),

Students who perform well in high school and score well on standardized tests receive considerably more than average students. Also, the university places value on racial diversity as indicated by the average of $2,240 awarded to students who are nonwhite, after controlling for other factors. The results of this study clearly indicate that university financial aid awards are based on merit, need and minority status. (p. 6)

At times, however, price discrimination may damage welfare for needy students. This may happen when financial aid resources are reduced to keep revenues constant. Universities are forced to prioritize full pay students and limit the number of students they accept who need financial aid (Randolph, 2010). In addition, price discrimination can create confusion for students when they are attempting to make their optimal college choice. If the student does not know the actual price until they are accepted into all the schools for which they applied, they are forced to make a decision under complicated circumstances (Randolph, 2010, p. 68). They may not even understand the role
financial aid plays in price discrimination and setting the tuition, and thus fail to apply to certain universities due to the sticker price of tuition. In the following section I will provide brief discussion about the role of price discrimination in the U.S, in general, followed by a discussion of its role in higher education. Then there will be a comparison of two economists’ views of the role of price discrimination in the increasing price of tuition at public four year universities.

Price discrimination is not by any means a practice unique to higher education. There are many arenas in which U.S. consumers pay a different price for the same exact goods or services. One common example is movie theatre tickets. Theatres often charge a lower rate for children and seniors for the exact same seats in the theatre. At first glance, it may seem like an act of altruism, and for some businesses that may be true. However, by charging a lower price for those with less disposable income, theatres gain marginal revenues from customer segments that may not have been able to afford regular priced tickets at all.

Price discrimination can be an efficient pricing strategy because it allows for an increase in gains from trade. With a downward sloping demand curve, this allows firms to effectively identify different groups of consumers that have different price elasticity of demand; it may be profitable for the firm, create a reduction in deadweight loss, and lead to a higher output level. Clearly there may be some customers who would be willing to pay full price but receive a discount. However, as in the theatre example, if price discrimination did not
occur the customers who were not willing to pay full price would not pay at all. Price discrimination may have some negative connotations, but consumers may benefit from their ability to pay a lower price. For them, a more standardized price would be a higher price. Price discrimination is employed as a pricing strategy in many industries (like theatre) to help mitigate deadweight loss, thus many economists view price discrimination as an overall benefit to society if total output increases (Wolla, 2014).

In contrast, economists such as Leeson and Sobel (2006) have pointed out some flaws in the standard analysis of price discrimination. They found that sometimes when transaction costs are included, price discrimination is only beneficial to the firm, excluding the consumer benefit. This is not socially efficient (Leeson and Sobel, 2006, p. 394). Price discrimination is not a free and automatic process; it requires some effort from the firm. The firm will continue to price discriminate if their gains outweigh the transaction costs associated with price discrimination. This is efficient unless the transaction costs outweigh the deadweight loss. Firms will continue to price discriminate even if this is the case because their gains are reflected by the consumer surplus, and the reduction in deadweight loss. However, this is only beneficial to the firm because their costs are greater than gains to society. So, if the transaction costs of the price discriminating firm are higher than the deadweight loss, then price discrimination is no longer socially efficient as it is no longer providing a mutual benefit.
Financial aid is the main channel through which price discrimination is practiced at universities, thus it is important to briefly outline the purpose and definition of financial aid as it pertains to universities. Financial aid is any grant or scholarship, loan, or paid employment given to students to meet their financial need determined by their college expenses. Typically, financial aid is divided into two categories: merit based aid, and need based aid. Merit based aid is offered on the basis of desired skills, performance, or other characteristics. Need based aid is often offered due to demonstrated financial need. Often the determinants of eligibility for the two types of aid are much more complicated than summarized above. Colleges, individuals, private parties, and organizations have attempted to help support the education of deserving but needy students for a long time. In his book *Aiding Students, Buying Students: Financial Aid in America*, Rupert Wilkinson provides an in depth analysis of financial aid in U.S. universities. The first need based scholarship awarded can be traced back to Harvard University in 1643 (Wilkinson, 2005). Wilkinson argues that a drastic change occurred in U.S. financial aid after World War II. The federal government began intervening in financial aid as a result of the New Deal policies in the 1930’s, but Wilkinson argues that it was the Servicemen’s Readjustment Act of 1944 that truly changed the landscape. There was an influx in soldiers looking to take advantage of getting a college education upon returning from the war, and the number of students enrolled in colleges during this time period grew rapidly.
Wilkinson argues that it is during this period that colleges began competing for the most skilled students, and where merit based financial aid came from.

In 1954 the CSS was established. This was the first establishment whose primary purpose was to standardize the assessment of student’s needs, so they could better calculate how much aid that student should receive. This system utilized compiled characteristics of each student’s family to determine if they were in need of assistance. Parents were required to submit extensive documentation. The CSS calculated the needs of each student, and send it to the prospective universities. As Wilkinson points out, the CSS is very similar to the college entrance examination board (Wilkinson, 2005, 127-128). This was also a defined point at which it became more difficult for students to choose a university because the sticker price was much less relevant than it had been in years past.

As mentioned previously, price discrimination has been used consistently in the history of higher education. However, there seems to have been a shift from price discrimination used as a strategy to obtain particular students, to being utilized as a way to achieve university objectives, such as diversifying the student body. Since 1954, universities have been using personal financial information of students to practice price discrimination in tuition pricing. The very intricate package of information that colleges assemble is used to create a financial aid package unique to each student. Each financial aid package results in students paying a price according to their ability to pay and how well they are able to meet or further the goals of the institution of higher education.
In *The Rising Cost of College: Tuition, Financial Aid and Price Discrimination*, economist Scott Wolla discusses internal factors driving up the price of tuition through the role of third party payments, in a twist on price discrimination. In this study, Wolla examines the financial aid policies of Harvard University to determine how much of a cost financial aid imposes upon the University. Wolla uses basic economic theory to determine who bears the cost burden. At Harvard, in 2012, families earning less than $65,000 a year received on average $41,000 in grants. Wolla argues that the $41,000 grant burden is not experienced by the university, but by students from families with higher incomes who pay a much higher price of tuition, thus subsidizing the students that come from low income families. Wolla argues that price discrimination allows universities to charge many different prices for essentially the same service. This allows universities to transfer the cost burden from low income families to wealthier families. In other words, universities can enjoy the benefits of charging higher prices without experiencing the consequences of excluding low income students because the wealthier students are subsidizing the low income students. This contributes to the growth in the price of tuition if more students of need are admitted because more revenue is needed to subsidize those students. As shown in the timeline, access to and affordability of higher education has increased over time. A much broader base of students are now seeking a college education. This increased access coupled with increasing inequality creates a greater need for high income students who are able to pay for full tuition.
In *Price Discrimination and Rising Costs: Is There Any Relationship?*, Gregory Randolph argues price discrimination has provided universities with the necessary tools to be able to more comfortably raise the sticker price. However, he distinguishes between sticker price and net price, and he argues students seldom pay the sticker price. Randolph discusses the transaction costs as a huge factor in determining if price discrimination is actually driving up the price of tuition. Randolph argues that price discrimination burdens students in several ways. First, is lack of information. It is more difficult to make a college choice when students do not know the true price of attending a particular university. Another cost is the sheer time students must spend applying for financial aid. Overall, Randolph argues that as long as universities focus price discrimination efforts on subsidizing low income students, not high paying students or student with better ability or specific attributes, then price discrimination is socially efficient and is only a marginal factor driving up the price of tuition. This differs greatly from Wolla’s opinion that price discrimination is a main driving factor in increasing the price of tuition at universities.

Economists such as Wolla, and Vedder cite that price discrimination increases the price of tuition because it creates a system in which universities raise the sticker price so that full pay students generate more revenue. Then universities use that revenue to subsidize students who cannot pay as much. In a country of growing inequality but greater demand for access to higher education, there is a greater number of students who need financial assistance.
Absent other forms of revenue, universities may raise the sticker price to generate more revenue to fund the subsidization of low income students. As seen in Figure 3 below, students in the lowest income bracket are paying about half of the price that students from wealthier backgrounds pay.

**Figure 3.** The net price paid by a student at a four year public university based upon income. The net price is the price paid after financial aid. Data obtained from National center for education statistics.


Universities need to attract wealthier students. Price discrimination affects wealthy students the most. In section 3A there is a discussion about the
possible negative effects associated with practicing price discrimination ‘too much’.

2. The Bennett Hypothesis

The Bennett hypothesis is closely tied to price discrimination. This hypothesis states that increases in financial aid lead to an increase in tuition. When financial aid is increased, with the intention of making college more affordable for students, the Bennett hypothesis predicts that universities will instead capture those funds by increasing tuition (Bennett, 2013, p. 31). In a 1987 New York Times op-ed, former Education Secretary William Bennett asserted that colleges take advantage of federal student loan and grant programs by raising tuition and fees to capture most of the financial aid for themselves. This results in universities experiencing the benefits of increased aid, not students.

In Accounting for the Rise in College Tuition, Grey Gordon and Aaron Hedlund studied the net tuition increase between 1987 and 2010. In their model they create a monopolistic college, and a fixed measure of heterogeneous households that upon high school graduation must make a college enrollment decision. The college turns students into graduates which allows them to enter the workforce, and then eventually retire. In this model the government levies taxes to finance a student loan program. Their model indicates that “demand

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1 Richard Vedder stressed Bennett’s hypothesis as a major explanation for rising tuition when testifying before the United States Senate Budget Committee in June 2014.
side theories have the most predictive power” (Gordon and Hedlund, 2016). They actually argue that the Bennett Hypothesis can account for the tuition increase on its own. The authors also found that expansions in financial aid in any form will lead to a tuition response from a college. This response crowds out the intended additional enrollment that would have occurred if the financial aid actually lowered the cost. These authors find financial aid would lead to an enrollment decline. In their study, the authors also found that this tuition response would lead to an increase in the loans per student. Although these authors studied demand shocks in isolation, they found that the demand shock of increased subsidies (financial aid, loan eligibility etc.) led to an increase in the costs of higher education, an increase in student debt, and as the authors found, the labor market returns are not high enough to account for the previously mentioned increase. This evidently results in a surge in loan default rates.

Economists Ehrenberg and Murphy examined the inefficiency of financial aid policies at universities. In What Price Diversity, they responded to the Justice Department’s investigation into the group of colleges that met annually to compare financial aid awards for admitted students, which resulted in United States v. Brown University (1992). Ehrenberg and Murphy examined the sustainability of “need-blind” financial aid policies at universities. The authors hypothesized that financial aid policies based solely on need at colleges and universities were not sustainable. The authors discussed the Bennett Hypothesis as primary reason for their hypothesis. Ehrenberg and Murphy
performed a case study of Cornell University and examined the following
factors that contributed to the rise in the price of tuition at Cornell from the
1960’s into the 1990’s: costs associated with infrastructure, technology, library
improvement and maintenance, faculty salaries, governmental support,
financial aid and endowments. In the case study, the authors find that due to
the financial aid policies at Cornell, increasing tuition levels led to an increase
in grant assistance due to Cornell’s obligations outlined in their own financial
aid policies. An increase in provided grant assistance increases the institution’s
costs, thus increasing tuition. It is a cycle. The authors hypothesize that the
university’s need-based financial aid policies should change so that less need-
based aid is given, or fewer students are admitted who require need-based aid.

Ehrenberg and Murphy examined the process by which increasing the number
of students who need financial assistance increases the costs of universities,
which may lead to them increasing tuition in order to pay for the increased
assistance. This could result in less access to higher education for low income
students (Ehrenberg and Murphy, 1993).

In *For Whom the Pell Tolls: The Response of University Tuition to Federal
Grants-in-Aid*, economists Larry D. Singell and Joe A. Stone (2003) wanted to
explore the public debate about Pell grants being appropriated by universities
through increases in tuition: consistent with the Bennett hypothesis. To do this
they analyzed a panel of 1554 colleges and universities from 1989 to 1996. The
analysis focuses on federal Pell grants primarily because the Pell program is
the largest federal grant program, funding more students than any other single
program. Their results indicated that public universities act like private universities when it pertains to out of state tuition:

We find little evidence of the Bennett hypothesis for in-state tuition for public universities. For private universities, though, *increases in Pell grants appear to be matched nearly one for one by increases in list (and net) tuition* [my emphasis]. Results for out-of-state tuition for public universities are similar to those for private universities, suggesting that they behave more like private ones in setting out-of-state tuition. Institutional responses in these latter cases appear at odds with federal grants-in-aid policy. (Singell & Stone, 2003, p. 2)

The authors predicted that Pell grants would yield a larger tuition increase under the Bennett hypothesis because they increase student resources more directly than loans.

All of these scholars emphasize the Bennett Hypothesis as a factor leading to growth in the price of tuition because there has also been a growth in financial aid.
3. Management Issues

Another major theme economists describe is management issues in higher education. Institutions of higher education are nonprofit institutions, which are rigid in regards to change, and possess a specific government structure that may be described as counterproductive. There are many factors that contribute to the inefficiencies associated with institutions of higher
education. Although some feel poor management is a marginal factor, others feel these factors compile and create a main factor driving up the price of tuition.

For example, many scholars argue that poor governance, internal inefficiencies, and a lack of accountability are main driving factors because those factors increase costs for the university. In *Going Broke by College Degree: Why College Costs Too Much?*, Richard Vedder explains why institutions of higher education are set up for management issues. Vedder exposes the inefficiencies of universities to demonstrate that the rise in the price of tuition is a result of declining productivity combined with minimal price sensitivity of students, which is a result of third party payments (2004).

Economists such as Vedder feel that institutions of higher education are set up for failure. In other words, they have to work harder to bring market forces into their institutions or make particular adjustments to become efficient. Efficiency in institutions of higher education is an uphill battle. One example of poor management in educational institutions can be found in *Educational Achievement and The Cost of Bureaucracy* by Gary Anderson, William Shughart and Robert Tollison. These economists sought to answer the following question; does the size of the educational bureaucracy have any effect on the efficiency of school systems in producing educational achievement? They sought to understand how allocating school resources in alternative ways would impact student achievement in public high schools. In this study they measured “educational achievement” through standardized test scores and
graduation rates. Anderson, Shughart and Tollison (1991) explain bureaucracy in this way:

Nationally, teacher salaries account for 35.2% of state and local school budgets. Capital outlays and interest charges - i.e., the annual cost of ‘the four walls’ enclosing the classroom - account for another 8.3%. This leaves 56.5% of expenditures unaccounted for.’ The residual amount goes to pay the salaries of non-teacher public school staff, to purchase materials, and to cover other costs. These expenditures can be characterized as the cost of school bureaucracy broadly define. (p. 30)

They used data from the U.S Department of Education from public high schools in 49 states. They recognize that the empirical evidence of teacher to pupil ratio on student performance was ambiguous. They also recognize it was difficult to account for the relative prices of teachers versus non-teachers. This was important so that any relative price effects could be accounted for.

Shughart, Anderson, and Tollison explain their findings as follows:

Our results suggest that merely by cutting back on the number of administrators, public school systems will produce more graduates who perform better. Over some range of the educational production function, then, the school systems may be able to get something for nothing. The something is better student performance; the nothing is getting rid of various curriculum development specialists, and other non-participants
in the educational process who absorb scarce budgetary resources (and student time) (p.44).

Clearly one limitation to this study is the relevance of the rising costs of higher education. However, this study demonstrates the real effects of allocating resources in alternative ways on student performance in an educational institution. Clearly there are many differences between Pre k-12 and higher education, however, this study may be useful if applied to institutions of higher education. Maybe a study such as this one would shed some light on the role of non-faculty staff and inefficient allocation of resources in growth of tuition at public universities.

The issue described by Shughart is comparable to what Archibald and Feldman label as ‘administrative lattice’ or ‘administrative bloat’ (Archibald and Feldman, 2007, p. 4-6).

Table 1

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<tbody>
<tr>
<td><strong>All Staff</strong></td>
<td>1,783,328</td>
<td>2,136,970</td>
<td>2,484,820</td>
<td>20%</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Professional staff</strong></td>
<td>1,133,264</td>
<td>1,477,953</td>
<td>1,865,269</td>
<td>30%</td>
<td>26%</td>
</tr>
<tr>
<td><strong>Executive/administrative/managerial</strong></td>
<td>84,446</td>
<td>82,811</td>
<td>112,473</td>
<td>-2%</td>
<td>36%</td>
</tr>
<tr>
<td><strong>Faculty (instruction/research/public service)</strong></td>
<td>580,908</td>
<td>771,124</td>
<td>953,230</td>
<td>33%</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Other professionals</strong></td>
<td>294,350</td>
<td>404,543</td>
<td>513,661</td>
<td>37%</td>
<td>27%</td>
</tr>
<tr>
<td><strong>Nonprofessional staff</strong></td>
<td>650,064</td>
<td>659,017</td>
<td>619,551</td>
<td>1%</td>
<td>-6%</td>
</tr>
<tr>
<td><strong>Non instruction</strong></td>
<td>1,028,860</td>
<td>1,146,371</td>
<td>1,245,685</td>
<td>11%</td>
<td>9%</td>
</tr>
</tbody>
</table>

Note: *Data collected from the National center for education statistics
*Non-instruction is the sum of ‘executive/administrative/managerial’, ‘other professionals’ and ‘nonprofessional staff’
Administrative lattice refers to the increase in university administrative staffs\textsuperscript{2}. According to Benjamin Ginsberg,

In 1975 colleges employed one administrator for every eighty-four students and one professional staffer—admissions officers, information technology specialists, and the like—for every fifty students. By 2005, the administrator-to-student ratio had dropped to one administrator for every sixty-eight students while the ratio of professional staffers had dropped to \textit{one for every twenty-one students}. (2011)

Other economists such as Holian and Ross examine incentives for poor management in university settings. Holian and Ross examine the extent to which each certain ‘market-like’ managerial practice should be utilized in higher education (Holian and Ross, 2010). The first managerial practice is outsourcing, which is simply contracting with a professional not employed by the university to fix something for the university. One example of outsourcing may be hiring Sodexo to provide dining services on campus. Second, decentralization occurs when universities use formal and informal mechanisms to give smaller units, such as colleges, more control. This may be better for efficiency because those who are making the decision are much more likely to be effected by the result of those decisions. According to Holian and Ross universities should be conscious of their comparative advantages. They should

\textsuperscript{2} This issue was also mentioned in a documentary about the rising costs of higher education, called “Ivory Tower”
also outsource where a service is not within their core mission/activities. This can help save them time and money; it is more efficient if universities focus on what they do best, rather than try to be the creator and manager of every aspect of a college campus (food, housing, creation of new technologies, volunteer programs, etc.). Holian and Ross stress that there are some things universities do not need to outsource, but they feel sometimes universities are too broad in determining what fits under their core activities.

In addition, according to Holian and Ross, universities may also change the way they budget to increase efficiency: “try to bring funding in line with revenue, and the central administration may use transfer pricing to coordinate activities across the university” (Holian and Ross, 2010, p. 229). The benefit of this kind of budgeting is that individual colleges have a better sense of how funds should be allocated to better improve incentives. However, this can also cause “unhealthy self-interest pursuit of individual units” (Holian and Ross, 2010, p. 229). An example of this would be individual colleges scurrying to get students by creating general education course duplicates because each college gets to keep the tuition revenue they bring in. This may result in colleges pandering too much to what students want for general education requirements, such as offering easier classes, just to get the extra tuition revenue. Overall, if implemented correctly, this system can create an environment that allows for
better informed budget decisions\(^3\). The authors stressed the importance of transparent finances in the success of these types of budget programs.

Holian and Ross also discuss management issues with regards to pricing of class and room size. Universities do not differentiate the price of a credit hour based on class size. This is wasteful because universities lose information about how resources should be allocated to provide education (Holian & Ross, 2010, p. 230). Prices provide information, allocation, and incentives. For example, if universities differentiated the price of a credit hour based on class size, then it might be cheaper for a student to take a class of 100 or more students than a class of 20 students. Another example may be if universities differentiated the price of a credit hour based upon class (or subject), so a chemistry class may be more expensive than an English class. If price is not based upon class and room size, it is more difficult for students to find their most ideal instruction style. Universities are faced with tough decisions frequently about how to best utilize space, and failing to establish some sort of price system deprives universities of information that could help them determine which choice would be the most efficient. In an effort to help “higher education administrators”, or deciders, design better systems, the authors outline the debate over the ‘marketization’ of university campuses, and the benefits and costs associated with decentralization and outsourcing at universities. They believe that outsourcing and decentralization will greatly

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\(^3\) UVM is trying this through the use of Incentive based budgeting (IBB).
improve the focus of the university, incentives, and use of local knowledge. However, they stress that a specific tailored balance is needed for each university, as there are some costs associated with this type of budgeting.

Other economists focus on the governance structures of universities. Some university government structures lack the proper incentives to become efficient, such as college boards. In their study *Paying Our Presidents: What do Trustees Value*, authors Ehrenberg, Cheslock and Epifantseva investigated the link between pay of university presidents and performance of universities as a possible factor driving up the price of tuition. They used data from a panel of over 400 institutions, on the salaries and benefits of university and college presidents for the years 1992-1993 and 1996-1997. According to the authors, the sample in this study is characterized by the following traits: typical university presidents began their presidency at the age of 48 and had been in the position for over 8 years at the time the data was collected, 15% of the presidents were members of the clergy, 18% were female, and 25% had held at least one previous presidency. In analyzing compensation and benefits, the authors examined a variety of factors such as the average salaries of the presidents, the change in salary overtime, benefits received by presidents, post presidency activities, and the size and budget of the relevant institutions. The authors performed an empirical analysis to address the relationship between salary increases and factors of institutional performance\(^4\) over a 4 year period.

\(^4\) According to Ehrenberg, Cheslock and Epifantseva (2000) Factors that contribute to institutional performance are “higher endowments per student, larger enrollments, higher average faculty salaries and entering classes with higher average test scores” (page 10)
One limitation to this study was the difficulty of assessing the actual rewards for performance increases because rewards do not always come in the form of a salary increase. The authors also found that it was important to distinguish between the types of universities; for example, they found that age is positively associated with higher salary at research and doctoral universities, but age is negatively associated with higher salary at liberal arts colleges. Using this data, they tried to infer what factors the trustees value in making the decision to raise university president salaries. In conclusion, the authors did not find enough support for their hypothesis: that compensation of university presidents and changes of presidents’ salaries are related to measures of their institutions’ performance. The authors did caution that they analyzed salary and compensation change for a sample of university presidents over a four year period in the 1990’s. They acknowledge that rewards for presidents may not always be reflected in their salary at all, or in that time, presidents may be rewarded in other ways post presidency (for example they may be offered opportunities5).

One last aspect of management is what Archibald and Feldman call ‘academic ratchet’: a result of the governance structure, which itself is a result of poor management (Archibald and Feldman, 2007, p. 19). Academic ratchet is a term used to describe the observed effects of faculty in positions of power with the wrong incentives. Some economists have observed that the actual

5 According to Ehrenberg, Cheslock and Epifantseva (2000) one example of an ‘opportunity reward’ may be movement to a higher paying position (p. 6)
value of faculty labor is heavily dependent upon their ‘discretionary work’, not their quality of instruction. Massy and Zemsky (2006) coined the term output creep referring to the tendency of faculty output, or work, to slowly shift away from undergraduate education, and the success of undergraduate students, to activities that come with recognition or rewards. Activities such as graduate work, research, professional development, and consulting have shown to accompany increased compensation and recognition. Faculty who focus on activities other than instruction are rewarded.

Overall, according to these scholars, management issues drive up costs, which necessitates an increase in revenue, thus an increase in tuition.

4. Bowen’s Revenue Theory

Howard Bowen was an American economist and university president. He wrote about the “revenue theory of cost” as it applies to higher education. In the 1980’s Bowen’s “revenue theory of costs”, sometimes called Bowen’s Law, outlined four rules for institutions of higher education:

1. The institution will spend all the money it raises.
2. The institution will seek to raise as much funds as possible.
3. The main priority and goals of the institution are excellence, prestige and influence.
4. The institution will spend any amount to achieve or maintain those goals.
As states decrease funding, and more universities are in the market, universities must compete with each other on the grounds of prestige, excellence, and influence. A simple way to raise funds is to raise tuition, and the more tuition is raised, the more prestigious the university appears to be.

As discussed earlier, it is hard to determine the quality of a public four year degree as a product. Economist Archibald argues that schools can signal higher quality with their sticker price (2007). Universities can increase tuition and expenditures, and this will signal greater prestige. In a 2014 study, Economists Martin and Hill examined the effects of Bowen’s theory in research universities. They analyzed the effect under tight and loose revenue constraints. Martin and Hill define tight revenue constraint and loose revenue constraint as the degree of revenue constriction “determined by economic conditions and how the public values higher education.” (p. 4) Martin and Hill found,

The period from 1980 to the financial crisis is known as the ‘great moderation’, when economic conditions were good and, according to surveys, the public placed an ever higher value on postsecondary education. After the financial crisis, economic conditions became severe and the public was pressed by the cost of higher education. (p. 34)

Those two periods represent a scenario in which universities were under tight or loose revenue constraints. Under loose revenue constraints, Bowen’s “revenue theory of cost” accounted for a 51% change in cost at public
universities, and under tight constraint Bowen’s “revenue theory of cost” accounted for 29% of changes in cost at public universities. Overall, Bowen’s theory seems to emphasize the lack of incentives present for universities to minimize costs. This theory demonstrates the degree to which universities are set up for failure in terms of minimizing cost and increasing efficiency.

Some economists feel that there are factors driving up the price of tuition, which are caused and maintained from inside institutions of higher education. As discussed in the previous section, these factors include problems associated with poor management, price discrimination, and Bowen’s revenue theory. However, there are economists who feel those factors are merely marginal. Some economists feel that factors specific to universities are mostly marginal factors contributing to the growth in the price of tuition. Rather, the factors causing tuition to increase are a result of forces outside of institutions themselves. These scholars emphasize environmental factors as major contributors to the growth in the price of tuition. They find great value in looking to other industries similar to higher education that experience the same price increases, to better understand the main causal factors.

Overall, Bowen’s theory seems to emphasize the lack of incentives for universities to minimize costs. This theory demonstrates the degree to which universities, institutionally, are set up for failure in terms of minimizing cost and increasing efficiency.
B. Environmental Factors

Scholars who emphasize environmental factors also agree that price discrimination, poor management, Bowen’s revenue theory and the Bennett hypothesis are all factors, but just marginal factors. Archibald and Feldman argue that although poor management is a contributing factor, they believe the main factor is technological improvements and Baumol’s cost disease:

We do not argue that colleges and universities are particularly efficient organizations. But we are not persuaded that rising inefficiency offers a very good accounting for the pattern of cost increases in the higher education industry over long sweeps of time. (2010)

Other scholars feel that the factors contributing to the growth in the price of tuition are a result of environmental factors, or forces outside the institutions themselves. This approach looks to other industries similar to higher education, which also experience price increases, to better understand the common causal effects.

1. Baumol’s Cost Disease

Higher education is a service industry, and it resembles other service industries such as lawyers, dentistry, and physicians. Some scholars think a major driver of the increase in the price of tuition has been Baumol’s cost disease. Baumol’s cost disease effects industries that experience slower productivity growth when compared to other industries in the economy. In an effort to remain competitive with other industries, which have experienced an
increase in wages due to an increase in productivity, an industry such as higher education will have little productivity growth, so prices have to rise more than in industries that do experience productivity growth. They have to remain competitive to attain valuable faculty. Although the economists who fall into this category agree that the factors listed in the previous sections are factors driving up the price of tuition, they feel those factors are marginal factors in comparison with Baumol’s disease.

Economists Archibald and Feldman researched the effects of Baumol’s cost disease on higher education. Archibald and Feldman assert that “costs in higher education must rise faster than the general inflation rate as long as productivity growth at colleges and universities lags behind productivity growth in the rest of the economy” (2011, p. 114). In Why Does College Cost So Much?, Archibald and Feldman argue that external forces associated with economic growth and technological advancement drive up the price of tuition at universities. The authors utilized empirical data of prices over time that show the costs of service industries (such as dentists, lawyers and physicians) align with the prices of higher education from the 1940’s to 2010.

Archibald and Feldman conducted their research over the course of 10 years. They argue that the low supply of highly educated labor with PhD’s drives up the price of that labor. Universities need highly educated employees, and since the supply hasn’t caught up with the demand, those employees are expensive, and this drives up the price of tuition. The authors also emphasize Baumol’s theory, in that labor intensive non-traded goods benefit less from
technological improvements because the technology is expensive and requires more expensive labor to operate that equipment. This applies to factors as simple as classroom supplies: “In higher education the chalk, paper, pen, and test tube world has been replaced by wired buildings, laptops, high-tech classrooms, and pulsed laser systems in physics labs, together with the specialists needed to make the systems work” (Archibald and Feldman, 2007 p. 17).

According to Archibald and Feldman (2007) demand for technology, due to technological advancement, drives up the costs associated with the product of higher education, whereas it may have the opposite effect on a different industry:

Yet a skill-intensive personal service industry like higher education is different from basic manufacturing industries producing a homogeneous output that is essentially unchanging over time. Its unusual nature stems in part from the fact that genuine productivity enhancements are much more difficult to achieve. (p. 16)

Industries that produce products such as food, shoes, or the automotive industry experience a decrease in real costs with technological improvement, whereas service industries have seen an increase in costs. Archibald and Feldman do recognize some reduction in costs associated with technological improvement.

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6 For example, the two main factors that are driving up the costs of healthcare are globalization and technological improvement.
improvement in higher education\textsuperscript{7}, but they emphasize the difference between higher education as a service industry, and other industries.

Archibald and Feldman (2007) explain the significance of technological improvement in higher education as follows:

The outputs of higher education are the inputs of other industries. This forces higher education institutions to educate students to a standard influenced in part by those who will hire its students. The undergraduate chemist, for instance, has to be able to understand and operate the equipment used in a modern industrial chemistry lab. Without this knowledge he or she would not be useful to the pharmaceutical industry or the bio-technology industry, industries that have themselves adopted a series of technological advancements that raise the quality of their output. As a result, the motive for technological change in higher education often traces more to enhancements of the education offered than to cost control. Although the typing pool example shows how technological progress could decrease costs, the net effect of adopting new techniques has increased costs in higher education. (p. 18)\textsuperscript{8}

Archibald and Feldman are convinced in the value of looking to similar industries to better understand the price increases in higher education. While analyzing the growth in the price of a college education, they found that higher

\textsuperscript{7} One example of a reduction in costs due to technological improvement is a decrease in administrative staff due to word processing technology (Archibald and Feldman, 2007, p. 10)

\textsuperscript{8} According to Archibald and Feldman (2007) technological improvement effects other service industries in a similar way, for example patients of physicians are always increasing their expected standard of care. Patients expect their doctors to keep up with somewhat recent technology. (p.8)
education resembles other service industries. Archibald and Feldman argue that Baumol’s cost disease and technological improvement have been the main factors driving up the price of tuition, as well as the costs of other service industries.

C. Summary

As shown, there are a variety of theories that explain the expedient growth in the price of tuition over time. Most economists agree that each factor mentioned in this paper tell part of the story, however, they disagree in regard to extent to which each factor influences the growth in the price of tuition. It is important to understand which factors are the key drivers because that will inform efforts to develop effective solutions if targeted at the most influencing factor. Unfortunately, there is great debate amongst the scholars themselves as to what the biggest driving factor is.

Although most of the leading theories were captured in the preceding analysis, resolving disputes between leading scholars on which factors better explain tuition inflation is beyond the scope of this paper. This paper simply outlines the scholars’ major theories and contrasts them with those who have responsibility for tuition increases - university decision makers or deciders.

Deciders in university administrations are in the driver’s seat of this national issue. Little research was discovered that explained in a satisfactory way why tuition has gone up according to those actually influencing or making the decision to raise tuition.
III. The “University Decision Makers” perspective

A. Introduction

In this section, the perspectives of ‘university decision makers’, or those making or influencing the decision to raise tuition, will be explained. The university decision makers’ perspectives are compiled from two sources. The first source is a report from the Davis Educational Foundation. The Davis Educational Foundation is a public charitable foundation that “supports higher education cost containment and improvements to teaching and learning in the undergraduate programs of colleges and universities throughout the six New England states.” (p. 3)

The Davis Educational Foundation researched the perspectives of New England university presidents, and achieved an impressive 50% response rate from over 70 university presidents responding to the following question: “Why are annual tuition increases outpacing the growth of inflation?” The report compiled the responses from the university presidents and provided quotes, and although the presidents who responded were listed, the quotes were anonymous. The second source will be quotes from qualitative interviews with five university decision makers at the University of Vermont. The following UVM decision makers were interviewed:

- [Name] - [Title]
- [Name] - [Title]
- [Name] - [Title]
Like the report from the Davis Educational Foundation, the quotes from UVM university decision makers will be anonymous.

The goal of the following section is to present the university decision makers’ perspectives on why tuition is growing at four year public universities, and to compare their perspective with the explanations offered by scholars in the literature.

Some of the quotes in this section do not necessarily explain why tuition has grown, but if a particular theme was mentioned several times in separate interviews, I felt it was important to present those quotes in this thesis because it was part of their individual perspective on this issue. As there is very little research on the perspectives of university decision makers on the growth in the price of tuition, I would like to put forth as much information as possible so readers may see the perspectives of university decisions makers in a more holistic manner.

To begin, I would like to offer some quotes that shed light on the way in which university decision makers think about this topic. Only one university decision maker expressed little concern over the growth in the price of tuition: “My view is simple. Real costs increases adjusted for inflation at public research universities have been roughly a quarter of one percent per year.”
However, as shown later in Figure 10, the average published tuition and fees for in state students at public four year universities increased from $4,400 in 1995 to $9,410 in 2015. The net tuition and fees increased from $2,300 in 1995 to $3,980 in 2015. This is a larger increase than a quarter of one percent per year.

The same university decision maker gave several examples as to how the real growth is not as significant as it is commonly understood to be: “public higher education revenues per student have been almost flat in real dollars from 1985 to 2010, the increase over the 25 years covered in that span come to a little more than $1,000, or roughly $40 per year.” Public higher education revenues per student have not been somewhat flat, even if they had been the problem or panic associated with the growing price of tuition is centered on the price to students (student access, affordability etc.). Examining the educational revenues per student ignores a fundamental factor, and that is how those revenues are generated. As shown below, the burden of costs have been shifted more and more onto students rather than other sources of revenue.

In 1989 net tuition as a percent of educational revenue was 23.8%. By 2013 it had almost doubled to 47.5%. As tuition becomes a larger portion of revenue, students have to pay more, unless there is a reduction in revenue at the same time. There has not been a reduction in revenue. As shown in the
figure below, revenue at public four year universities has been increasing along with the portion of revenue made up by tuition.

**Net Tuition as a Percent of Public Higher Education Total Educational Revenue, Fiscal 1988-2013**

*Figure 4.* Increasing net tuition as a percent of higher education total educational revenue 1988 – 2013. Source: State Higher Education Executive Officers. Obtained from [http://www.sheeo.org/sites/default/files/publications/Net%20Tuition%20as%20Percent%20of%20Total%20Educational%20Revenue%20by%20State%201988-2013.pdf](http://www.sheeo.org/sites/default/files/publications/Net%20Tuition%20as%20Percent%20of%20Total%20Educational%20Revenue%20by%20State%201988-2013.pdf)
The figure below shows that both total revenue and revenue from tuition and fees have grown:

**Figure 5.** Growth in total revenue and tuition and fees as a portion of revenue at public four year universities. Source [http://nces.ed.gov/programs/digest/d13/tables/dt13_333.10.asp](http://nces.ed.gov/programs/digest/d13/tables/dt13_333.10.asp).

It was evident during the interviews that university decision makers feel the government fails to adequately support universities: “it used to be that governments used to support the purposes of universities. Now governments
want universities to support the purposes of government; job creation, economic development.”

Except for the one, most university decision makers expressed great concern over the rising price of tuition and how that affects students. In response to the first question of the interview, “generally, what do you think about the growth in the price of tuition at public four year universities in the United States?”, one decider made the following comment: “it’s the last thing I think about before I go to sleep and the first thing I think about when I wake up in the morning.” Most deciders were fairly aware of the concern over the growth in tuition:

I know over the last few years we have done everything we can to keep the tuition increases at 3 or 4%, but I agree with you that it is still over the cost of living. Believe me, I have tried every combination of things, but when you have to balance state appropriation that’s lowest in the country to the rising costs of health insurance, to the rising demand for financial aid, to making sure that we drive excellence, to our aging buildings, we have to balance the real mitigating tuition increases, while at the same time trying to offer what’s needed.

Many deciders said that they thought “the problem of increasing tuition is a national problem.” Some expressed their feeling of helplessness as a university decision maker in the midst of such a large issue: “This problem is not something that a board and a university does alone, it’s something that a
huge group of public universities would have to figure out, or it’s something that this country has to solve as a nation.”

In the sub sections that follow, the perspectives of university decision makers will be compared to major themes found in the academic literature. However, some categories have been added because a particular theme was mentioned several times in the interviews, even though it was not a theme found in the literature.

B. Price Discrimination

Many university decision makers mentioned price discrimination when asked “what do you think are the primary factors driving up the price of tuition at public four year universities, or at UVM?” The university decision makers interviewed consistently stated that price discrimination was absolutely something UVM practices, and for a good reason: “The parties paying full tuition are subsidizing recipients of financial aid.”

As seen in the Figure below the percentage of UVM students receiving need based financial aid has gone up. The percentage of Vermont students receiving financial aid is much greater than the average for out of state
students.

Figure 6. Percentage of UVM enrolled students who received need based aid divided by residency status. Source UVM Source Books.

One university decision maker commented that UVM is aware that the sticker price increase leads to a greater price for full pay students “We have what I call a high price high discount rate tuition model. We let the tuition go up all the time and then we discount significantly off that price for those that need discounts, the discounts meaning financial aid.”
At UVM there is a commitment to affordability and access. From the interviews, it seems as though one major way they ensure affordability and access is through price discrimination. The students from wealthy backgrounds are keeping the price low for students who need financial support. It isn’t UVM keeping the price low for these students of need:

There’s a tuition model out there that people adopt, we don’t at the University of Vermont. That’s just a lower price across the board with little if any discounting. It should occur to you that the reason we do that in Vermont is that we allow the people that afford to pay, pay, and we discount for those low income and middle income students.

UVM is committed to affordability and access for low and middle income students: “I think our tuition model is a really important one that commits to the middle class and low income class that we are going to do everything we can and those that can afford to pay, will pay.”

One university decision maker reiterated what was found in the literature review about the value of price discrimination as a pricing strategy: “Perhaps if we took all of the dollars we give out in financial aid, then everybody can get a cut, but then you’re cutting for people who can afford it, and some can’t afford it.” As mentioned previously, economist Gregory Randolph argued that price discrimination is only a marginal factor driving up the price of tuition if utilized ‘correctly’, or as long as universities only price discriminate to provide greater access for students based on need, and not
other characteristics. The quotes in this section show that deciders feel they use price discrimination to serve the purposes of helping students who need financial aid. Therefore, according to economists such as Randolph, it is only a marginal factor driving up the price of tuition.

However the graph below shows that the percentage of students receiving financial aid at UVM has increased.

*Figure 7. Growth in the percentage of UVM students who receive need based aid. Data obtained from UVM Source Books.*
According to Scott Wolla, price discrimination and financial aid increases tuition when the number of students admitted in need of financial assistance increases. As seen in Figure 7, the percentage of UVM students receiving need-based aid has risen from 33% in 1992 to 51% in 2014 for out of state students, and from 46% in 1992 to 69% in 2014 for in state students. Wolla would argue that this is causing tuition to increase because a greater percentage of the student body needs financial aid.

A couple of university decision makers mentioned the growing importance of international students in UVM’s ability to maintain such a pricing strategy: “The whole international student and pathways program has been important. Typically those students pay 100%. Paying 100% of the cost actually subsidizes somebody else to come here.” One mentioned it is actually becoming more difficult to find full pay students, which may drive an increase in international students at UVM: “The full pay students subsidize everybody else. They are harder to get demographically, so we can go internationally.”

Below, Figure 8 represents the headcount of international students at UVM over time.
Figure 8. Dramatic increase in the number of international students at UVM over time. Data obtained from the UVM Source Books.

The number of international students at UVM has increased since 2008. This is most likely because international students are full pay students. In 2014 UVM hired an international student recruitment agency called Study Group. The goal was to triple the number of international students at UVM by 2020 (or in 5 years). This would bring the total number of international students to nine percent of the student body by 2020. At the beginning of project, Chris Lancier, the UVM Vice President for Enrollment Management at
the time, said the purpose of this initiative to bring more international students to UVM was to “improve the quality of student experience.”9 This reason is commonly used to support the logic behind the benefits of a more diverse student body on college campuses10. However, one could infer that UVM seeks to attract more international students because they are full pay students and this enables UVM to offer financial aid packages to more students who are in need, or high performing students who would choose UVM over another university if they were offered a better financial aid package.

Discussing price discrimination in this way would also be consistent with Vedder’s view: “Colleges and universities practice price discrimination as well, but they generally disguise it.” (2004, p. 72). This is also consistent with Lawson and Zerkle’s analysis mentioned in section 2A1 that universities utilize price discrimination to systematically favor students based on need, merit and minority status.

Some university decision makers expressed concern over the possible damages price discrimination could inflict. “Full pay families have opportunities to shop around.” They also mentioned that “the tax component can’t get too great. If it gets too high, parents or full pay families will see that and find another university.” Figure 9 represents the net price paid based on average income. As seen in the graph over the last few years, students who fall

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10 “The Diversity Imperative: The Compelling Case- Toolkit - Access & Diversity Collaborative - College Board,”
into the top income bracket pay an overall net price much higher than students in income brackets lower than them.

**Figure 9. UVM net price based on income.** Data reflects net price for in state full time students. Data for net price based on income retrieved from IPEDS: [http://nces.ed.gov/collegenavigator/?q=University+of+Vermont&s=all&id=231174](http://nces.ed.gov/collegenavigator/?q=University+of+Vermont&s=all&id=231174). Data for the in state total charges 2011–2014 retrieved from UVM Source Books.

As shown in Figure 9, students from families who have an income of $110,001 or more pay an average of $22,482 for tuition and fees. One university decision maker mentioned the importance of thinking about UVM’s sticker price relative to other universities, so that UVM can remain competitive.
in attracting students from wealthier backgrounds. Another university decision
maker mentioned this as well: “Because of our price point, it’s really hard to
not give some kind of merit aid, to make UVM more attractive.” These
university decision makers could be right. Many deciders felt that simply
thinking about tuition in a more meaningful way could be a step towards a
remedy to the growth in the price of tuition (this is later discussed in section
IV). Table 2 provides the sticker price of a few public universities currently
ranked higher than UVM according to US News College Rankings. Note that the
price listed is the total out of state tuition and fees sticker price. The 2nd
column of the graph shows the difference between the out of state tuition and
fees at universities ranked higher than UVM and the out of state tuition and
fees at UVM. The 3rd column of the graph shows the difference between the out
of state tuition and fees at universities ranked higher than UVM, and UVM’s in
state net price for students from families whose income is $110,001 or more.
The 4th column of the graph shows the difference between the out of state
sticker price at universities ranked higher than UVM, and UVM’s in state net
price for students from families whose income is between $30,001 and
$48,000.
Table 2

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<td>$28,794</td>
<td>-$7,852</td>
<td>+$6,312</td>
<td>+$17,387</td>
</tr>
<tr>
<td>Ohio State University</td>
<td>$25,757</td>
<td>-$10,889</td>
<td>+$3,275</td>
<td>+$14,350</td>
</tr>
</tbody>
</table>

Note: data obtained from [http://nces.ed.gov/collegenavigator](http://nces.ed.gov/collegenavigator).

Table 2 demonstrates the validity of the university decision maker’s comment about the importance of merit aid. For example, a prospective in state UVM student may attend Ohio University and pay only $3,275 more to attend a higher ranked school as an out of state student. $3,275 is just the sticker price, this number does not factor in any scholarships or financial aid. It seems that in order for UVM to remain competitive in attracting in state students from wealthy backgrounds, they must offer merit aid.
Overall university decision makers discuss price discrimination as an effective and necessary pricing strategy that allows the university to increase access and affordability for students in need of financial assistance. There is some evidence that UVM disguises price discrimination. One example is the initiative to increase the number of international students at UVM in order to “improve the quality of student experience.” The real reason is most likely because international students are full pay students. This would provide revenue for UVM and help subsidize more students of need. There were also some university decision makers that were concerned that price for wealthy students could become high enough so that wealthy students may choose other universities.

C. Management issues

University decision makers at UVM mentioned management issues as a frustrating but unchanging reality of higher education. Some economists such as Archibald and Feldman feel management issues are only a marginal factor that have contributed to the growth in the price of tuition. However, as mentioned in section 2A3 other economists feel management issues compile and create a major factor. In this view, management issues lead to internal inefficiencies: a lack of accountability and poor governance. The combination of these factors increase costs. Some of the themes mentioned in this section may also be similar to themes mentioned in the ‘nature of higher education’ section since the two categories overlap.
Some university decision makers discussed the inefficiencies created by the rigidity of governance in higher education. These deciders argue that “institutions of higher education are inflexible in ways that add costs.” One university decision maker discussed a way in which universities are inflexible that creates an obstacle for initiatives that might help cut costs:

Change is difficult in this setting. You know a CEO goes to the Board and they do it, whereas in higher education, the President, faculty Senate and Board must all buy into the change. So the President must convince the Faculty Senate and Board to get behind an initiative.

Archibald and Feldman discussed academic ratchet as one way in which the governance structure of higher education may increase costs. Academic ratchet describes the effects of faculty as a part of the university governance structure. According to this concept, inefficiencies arise because faculty pursue outcomes according to their own interests and incentives. Sometimes, the outcomes that faculty find desirable do not align with what would be most efficient for the university. One example of how academic ratchet might increase costs is something the Davis Educational Foundation label as “Mission Drift” (p. 6). The following quote from a university president featured in the report by the Davis Educational Foundation summarizes mission drift well:

Like other institutions, we may well have experienced “mission drift” by straying into new areas in response to specific opportunities, yet without
the depth of resources needed to sustain both new and continuing programs. The challenges of supporting a much wider array of academic programs were not apparent during a period of robust economic growth combined with enrollment increases. But now it is abundantly clear that neither (we) nor most higher education institutions can sustain the patterns established over recent decades. We must focus strongly on those programs for which there is a demand, programs for which there is a compelling case for university involvement. (p. 6)

Several examples of this arose out of the interviews with UVM decision makers. Most of the comments focused on the role of the Faculty Senate in cutting programs that are inefficient and add costs:

I mean faculty have control over the curriculum. A lot of the costs of instruction relates to the curriculum. Faculty tend to not think so much about the costs of things. They are thinking about what should students know, and what makes a really good education.

Many deciders feel that there is a constant struggle between decreasing costs of increasing quality (this is further discussed in the ‘nature of higher education’ section). One university decision maker emphasized the rigid and political nature that can lead to ‘mission drift’:

Sometimes people hold onto the way we have always done things. We've always had a major and a minor. We've always had, you know, a minor in religion for example. So once you have all those majors and minors
you have to put up courses so that the students can complete them. So sometimes you could have very few students in a program, yet it continues. Now, the Faculty Senate is supposed to take charge and eliminate programs that are no longer in demand, but in fact that will never happen because it is hard for faculty to say no to each other. Some of it is well people in the department of religion think they need so I’m going to respect them because they know. That’s kind of an unspoken rule that if I leave them alone, they’ll leave me alone. We won’t look too closely at these things.

The previous comment reflects the possible political incentives in place that would lead to inefficiencies. Another decider made the following comment: “If a degree program gets eliminated then what happens to those faculty, do they lose their jobs? Nobody wants to be part of a decision to cause somebody to lose their job.” The reality might also be that the Faculty Senate lacks the necessary incentives to eliminate inefficient programs, maybe because they are more focused on quality rather than efficiency.

Other university decision makers emphasized misplaced incentives and biases present in the governance structure as a factor affecting costs: “I think the legislative trustees care about Vermont students and families, and lose sight of the vast amount of tuition we collect from out of state students.” These types of comments seemed to be out of concern for the future of UVM. As shown by the price discrimination section, out of state students generate a lot
of revenue and help UVM in remaining accessible and affordable for students in need of financial assistance. UVM has an incentive to attract out of state students, because out of state students generate more revenue. However, legislative trustees have an incentive to put in state students first because doing so appeals more to their constituents. This is just one example of how misplaced incentives can lead to inefficiencies. In fact, three of the five University decision makers interviewed expressed concern over bias of legislative trustees affecting the university’s overall ability to increase revenue.

There are some ways UVM has tried to address management issues and governance issues. These efforts will be discussed later in section 3.

D. Labor

University decision makers at UVM emphasized people, or labor, as a major factor driving up the price of tuition. All five university decision makers mentioned labor as a major factor driving up costs.

Some simply mentioned salaries as a cost driving the need to obtain more revenue:

Obviously, many things cost more with each passing year, and the biggest driver of course is people; 68% of our operating budget is the cost of people and so salaries and benefits, including health insurance, are key elements of the driver. And, there’s always a balancing act in terms of having salaries such that you can attract the kind of talent and
provide the good education that students deserve and want and at the same time keeping costs down.

Others mentioned unions as a factor driving up the price of tuition. A few mentioned that they are not necessarily against unions, but it’s important to acknowledge that union contracts impose a cost: “Not that I am anti-union at all, but I think it’s important that it really limits the places we can go for money.”

Some university decision makers emphasized the uniqueness of unions in New England compared to other regions:

There are some uncontrollables here. I think it’s common in New England, it’s not on the west coast or the mid-west, to have unions in this way. Once those salaries are negotiated, that increases the amount you need each year. There’s two choices to address that: cut expenses elsewhere or increase tuition or a combination thereof.

Others discussed the limitations unions place on the university’s financial abilities: “Some places freeze tuition, they say ‘we’re really going to make an effort to reduce costs for our students and so we need to freeze raises for three years’. We can’t do that at UVM, to employees that are unionized.”

In addition, some discussed how unions contribute to the rigid nature of universities, which as discussed in previous sections, can limit efficiency:
In the case of the University of Vermont, most of our labor is under union contracts. Those are negotiated contracts that run over a few years, so once the contract has been negotiated it’s a given. You know that’s the contract that we have to live with.

Another theme mentioned in this section is benefits packages imposing major costs on universities. One university decision maker mentioned the increasing cost of healthcare, which increases the costs of the benefits packages for faculty and staff:

The cost of health insurance has gone up astronomically, so if inflation is going at 1% or less, the cost of health insurance goes up 12%, 13%, 14%, remember 65% of our expenses are in labor so that’s a very large disproportionate increase for us.

The report from the David Educational Foundation also provided a comment from one university president on the increasing costs of healthcare: “senior professors earn higher salaries and tend to exert upward pressure on group health insurance costs. A generational transition is underway now and may result in some measure of savings in salary and benefits.”

Some stressed the significance of faculty salaries specifically, as opposed to labor in general:

10 or 12 years ago we were pushing tuition up by a lot, and if I remember correctly, at the time it was because the president of the university did not feel we were paying faculty enough, I think that you
could look at the tuition increases and see that they were significantly tied to increases in faculty salaries.

Some university decision makers discussed the sometimes frustrating necessity of increasing faculty benefits and salaries: “We have to remain competitive to attract great faculty.” The report from the Davis Educational Foundation featured a couple quotes from university presidents on this issue: “entitlements like faculty sabbaticals, retirement benefits, professional development/travel and research support continue to affect the bottom line. Institutions have a hard time rolling back these commitments even in tough budget environments” (p.4), and “Compensation and benefit cost are a significant part of our operating budget. To attract and retain top faculty and staff, we face continued pressure to spend more” (p. 4).

In the previous section on Baumol’s cost disease, it is noted that Archibald and Feldman mentioned the theme ‘Administrative lattice’ as a factor contributing to increasing labor costs of universities. Administrative lattice describes the growth in administrative support as universities have grown. A few university decision makers mentioned this as a factor contributing to the growth in the price of tuition. One decider mentioned the need for more staff that has developed with greater demand for higher education:

When I went to school, people applied to like 3 schools, now people apply to like 7- 10. So, just the administrative work that comes with that. Then everyone who is admitted you have to provide a financial aid package for.
So you’re not providing a financial aid package for the 2500 kids who are coming here, you’re providing for the 10,000 kids admitted. So I think there’s all this work that has happened with the college selection process, which you can’t just not do.

Some deciders felt the increase in staff was a necessity in order to fulfill the overarching goals of the university: “Some universities decide to spend funds on professional advisors and that allows faculty to teach and do their research.” Others felt that the increase in staff labeled as ‘executive, administrative and managerial’ or ‘other’ is something that needs to be reevaluated: “At some point we have to acknowledge the bloated administrative staffs at universities.” As shown by Table 1 in section 2A3, administrative staffs at universities have grown.

One university president discussed the growing number of administrators in the report from the Davis Educational Foundation: “Part of the growth in the number of administrators is the growing professionalism of administrative tasks like admissions, fund-raising, and student support services” (p. 5).

A few deciders also, thematically, mentioned Baumol’s cost disease as a possible factor contributing to the growth in the price of tuition:

Yes, so the bottom line is that we are a people based entity, we’re in a mature industry, and one in which labor remains a significant cost. We all know the reason we can buy a car today for the same nominal dollars
I paid for one in 1980 is because there are robots making those cars now and not people, but that’s not the way it works in higher education. And so, it’s very clear that that’s the driving force.

As mentioned in the previous section, Economists Archibald and Feldman stressed Baumol’s cost disease as a major driver in the increase in the price of tuition. One decider essentially summarized what Figure 4 demonstrated: “Higher education is inherently a people’s business with relatively low productivity gains.”

According to the interviews, labor was emphasized as a major factor driving up the costs. They felt labor increases costs in a variety of ways. Some felt that unions contributed to the rigid nature of higher education that leads to inefficiencies, some felt that the growth in demand for higher education has led to increased administrative staffs, and some felt that universities had to increase benefits and salaries of faculty, regardless of productivity increases, to remain competitive in the industry. None of the university decision makers knew the term “Baumol’s cost disease”, however, they expressed the concept in their comments.

E. Bennett Hypothesis

As mentioned earlier, the Bennett Hypothesis states that increases in financial aid leads to increases in tuition. Many deciders discussed financial aid as an enabler to the growth in the price of tuition. Each decider had a slightly different perspective on how the Bennett Hypothesis may contribute to
the growth in the price of tuition. Some made simple, general, statements such as this one: “Student loans facilitate and drive higher revenue growth for academic institutions.”

One decider expressed concern over student awareness in regards to the price of tuition, and the lasting effects of student loans: “There needs to be greater controls on student lending, especially when they don’t care what the tuition is.” I think it’s notable that this university decision maker’s perspective is that students “don’t care about what tuition is.”

Others discussed the growth in the price of tuition in a more strategic way. In other words, they explained how financial aid can be used to attract students, or increase revenue. One decider mentioned that they actually seek consultation from outside sources on this issue: “We have asked for someone to come in from behavioral economics and teach us about how students and families will respond to cost.” Two deciders explicitly outlined how financial aid can be used strategically to increase revenues. This plan would also encompass an increase in tuition:

This isn’t our model, but I have a peer at another school, and one of the things they did is they opted to increase their tuition by 4%, and then increase their aid, and in the end it produced several millions dollars more in tuition revenue because of the perception it created for the families was that they were getting a better financial aid package.
Another decider provided a much more detailed description of the scenario outlined by the previous comment:

If we increased tuition by $2,000, and so you have a $10,000 scholarship instead of an $8,000 scholarship, and my price would have been the same, but now I’m going to choose you because I felt really good about the $10,000 scholarship, and my price point is the same.

The Bennett hypothesis states that increases in financial assistance lead to tuition increases. These deciders are actually discussing using financial aid to generate more revenue, however, the Bennett Hypothesis may still apply. Without financial aid, the university in the example would not have raised tuition by $2,000, so it is the existence of financial aid, and the ability to raise the amount of financial aid that led to the tuition increase in the example provided by the decider.

One decider made this comment about financial aid: “When you increase tuition you have to increase aid, so at some point it becomes a wash.” That comment may be a little concerning because it demonstrates a shallow understanding of the complex effects of increasing tuition, and financial aid as shown in Figure 9, changes in financial aid and tuition affect different groups of students in different ways.

The Bennett Hypothesis implies that increases in financial aid will lead to increases in tuition. One university decision maker made the following comment: “Growth of financial aid has been enormous. The growth in financial
aid has way outpaced the growth of tuition in the past ten years. That was really important in the recession, but the growth has continued.” Because this university decision maker implied that financial aid has actually increased at a rate faster than tuition, one could infer that they do not agree with the Bennett Hypothesis. Financial aid has grown, but tuition has grown with it. The Bennett Hypothesis, and price discrimination complement each other. The growth in the price of tuition has disproportionality affected students from wealthier backgrounds because they receive much less financial aid. The Bennett Hypothesis itself states that an increase in financial aid leads to increases in tuition, so a huge growth in financial aid would lead to a growth in tuition. Also, shown in the figure below, neither the net price of tuition and fees, nor the tuition and fees and room and board (TFRB) has decreased. It has
increased along with the tuition and fees or T

\[ \text{Published Tuition and Fees and Room and Board (TFRB), $19,550} \]

\[ \text{Net TFRB, $14,120} \]

\[ \text{Published Tuition and Fees, $9,410} \]

\[ \text{Net Tuition and Fees, $3,980} \]

\[ \text{Average Net Price Over Time for FTE Students at Public Four Year Universities} \]

\[ \text{Figure 10. Average net price over time for FTE students at public four year universities. Data obtained from http://trends.collegeboard.org/college-pricing/figures-tables/average-net-price-over-time-full-time-students-public-four-year-institution} \]

It is also important to note that there is a lot more depth to the data represented in Figure 10. Although the average net tuition and fees has grown by 73%, the published tuition and fees has grown by 114%. Even though the net tuition and fees has grown less than the published tuition, and fees, it is important to note that the net tuition and fees is an average of all students at public four year universities. As outlined in the price discrimination section,
students from wealthy families pay a price much closer to the published price of tuition and fees, than do students from middle or low income households. Published tuition and fees have grown 41% more than the net tuition and fees. If there was data on the net increase for students from households with incomes of $110,001 or more, one could infer that these students experience a much greater increase in tuition.

The intended effect of increasing financial aid is to help students afford the costs associated with going to college. However, tuition has gone up at such a fast rate that financial aid does not help students nearly as much as it did years ago. For example, the Pell grant began in 1972 with the intention of helping students from low income families afford college. According to an article in the Huffington post, “Where the maximum Pell Grant once covered the entire cost of obtaining a two-year degree and 77% of the cost at a public university in 1980, it now covers only 62% of the cost of a two-year degree and 36% towards a public four-year degree” (Kingkade, 2012). It is pretty clear that the net cost of attending college has gone up because growth of tuition has far exceeded the growth of financial aid. The Bennett Hypothesis implies that universities will capture those increases in aid for themselves by increasing tuition. None of the university decision makers discussed the decline in financial aid as a percentage of the cost of college, and the effects it can have on students. In fact, one university decision maker said that financial aid has “way outpaced the growth of tuition in the past ten years.” This comment is concerning because it implies college has actually become more affordable,
which simply is not true. However, a university decision maker seems to believe it is true. They hold a position of power in which they may make decisions that affect financial aid and tuition for students. Ideally someone in that position would have a deeper and more accurate understanding of financial aid.

F. Physical Upkeep

One theme mentioned by multiple deciders was physical upkeep. This was not a theme found in the scholarly literature. However, it is relevant to the perspective of university decision makers because it was consistently mentioned during the interviews. Government regulation and the nature of higher education may also be related to physical upkeep:

One major challenge and a challenge for many 4 year universities has been the aging physical plants. We have buildings that are not expense efficient, they’re not heating efficient, they require tons of maintenance, they’re you know 50, 60, 70, 80 years old, I mean you’re familiar with that. Staying on top of them in some cases require tearing them down, which is what we are doing with the STEM facilities. We are building new buildings and taking on more debt. You have to pay the interest at least if not interest and principle on debt and that’s an increasing cost.

Maintenance of buildings is relevant to government regulation. Some deciders mentioned that the reason upkeep of these buildings is so expensive is because it must be done in a particular way due to historical preservation issues: “The other really big expense, for an older school like the University of
Vermont is building upkeep, and then the fact that everything is a historical building, so you have to do it a particular way, is unbelievable.”

The inference I make from this, as to how it contributes to the growth in the price of tuition, is that it increases costs, which increases the need for revenues, and tuition is a major revenue generator. I did not come across anything in the literature about the maintenance of old buildings contributing to the growth in the price of tuition over time. One could infer that over time buildings have aged and required more upkeep, and this is reflected in the growth in the price of tuition, but it is most likely a marginal factor.

G. The Nature of Higher Education

Many deciders mentioned “the nature of higher education.” University presidents discussed the nature of higher education in a variety of ways. “The nature of higher education” was a term used by the university decision makers interviewed, it was not a term found in the literature. However, I will infer that what the deciders meant was the characteristics associated with higher education as an industry. Economists such as Richard Vedder (2010) would say the nature of higher education is defined by the following characteristics: third party payments, nonprofit status which contributes to a lack of a ‘bottom line’, unclear ownership, complex governance, resource rigidities, barriers to entry, restraints on competition, public support regulation and control, rent seeking, price discrimination, and cross subsidization. However, most

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11 A full description of each of these characteristics can be found in Vedder’s introduction to Doing More with Less: Making Colleges Work Better. (p.1-5)
descriptions of “the nature of higher education” would align with the characteristics outlined by Economists Archibald and Feldman (2008), and their view on the growth in the price of tuition:

Costs are going up because of the nature of the industry, not because anyone is doing anything. In contrast, higher education-specific explanations often place blame on particular actors. We don’t mean to deny agency. There certainly are individual agents such as college administrators, members of boards, legislators, and governors, all of whom are responsible for decisions that affect costs in higher education. Rather than denying agents their role, our analysis highlights the constraints agents face when they make the decisions that result in higher costs. Our analysis suggests that higher education decision makers are faced with choices that result in either rising costs or declining quality. (p. 31)

One decider discussed the incentives to generate revenue in higher education:

America’s economy is driven by competition and in higher education the incentives to compete on quality are high and the incentives to compete on price are low . . . People assume that when a college saves on cost its price comes down or at least doesn’t go up as much. But this never happens because there is every incentive to plow that savings into increased quality.
One university president thematically mentioned Bowen’s Revenue Theory in the report by the Davis Educational Foundation, a theory detailed in section 2A4:

Much less has been said, however, about the competitive and marketplace dynamics that have been in even greater measure responsible for the growth agenda. I believe that these dynamics are at the root of the problem, and I am sure make the internal dynamics of cost expansion much more difficult to resist or correct. (p.1)

There seems to be more pressure on universities to add and expand, rather than cut costs and scale back. Another university president made a similar comment:

America’s economy is driven by competition and in higher education the incentives to compete on quality are high and the incentives to compete on price are low . . . People assume that when a college saves on cost its price comes down or at least doesn’t go up as much. But this never happens because there is every incentive to plow that savings into increased quality. (p. 2)

Bowen’s Revenue Theory predicts that universities will raise as much revenue as possible, and then spend all of it towards the goals of increasing prestige, excellence, and influence. This creates inefficiencies, though, because the focus of the university is on increasing prestige, not keeping costs down.
It should come as no surprise that as governing boards and administrators seek to influence the rankings, costs (and prices) increase. I believe that the U.S News rankings have been one of the most powerful (and pernicious) forces driving colleges toward deliberate inefficiencies (p. 2)

It is difficult to measure the priorities of universities over time. Some deciders mentioned the commitment to student outcomes as a theme in terms of the nature of higher education, and this may drive costs because it is the first priority, not keeping costs down.

The way to do it and to do it well, is to make sure, and this university has been very much focused on academic excellence and student outcomes. The worst thing you can do is cut expenses at the expense of student outcomes.

A couple of UVM deciders mentioned the nature of higher education as it applies to labor. One university decision maker discussed how the rigid nature of higher education makes it difficult to fire anyone employed by the university. This university decision maker has worked at other universities and was discussing the process generally as it applies to university staff:

In higher education in general, we don’t work like a corporation. So if someone isn’t doing their job well, we’re probably going to keep that person on for a very long time. It’s not like I can sit down and be like ‘you’re not performing well, here’s your two weeks’ notice. Instead it’s a
very long documentation process, to the point where it would just be
easier to not deal with it. It gets so complicated.

The same university decision maker discussed more thoughtfulness, and
consideration during probationary periods as a solution to being ‘stuck’ with
inefficient workers:

I don’t know if we are thoughtful as we should be about really thinking
about fit during that probationary period, because it’s not our culture, I
mean that in higher Ed., not necessarily UVM. The culture is to educate
and learn and try to grow.

Overall, it is hard to measure how the nature of higher education has
contributed to the growth in the price of tuition at public four year universities
because it is difficult to define and measure the nature of higher education over
time. However, when asked the following question, “what do you think are the
main factors driving up the price of tuition at public four year universities or at
UVM?” many deciders discussed the nature of higher education, so I felt it was
important to provide this information as a part of their perspectives on this
issue. As mentioned in the beginning of this section, economists diverge a little
bit on the characteristics of higher education that contribute to the growth in
tuition. Vedder emphasizes more internal issues, and economists such as
Archibald and Feldman emphasize the nature of higher education as a service
industry. Most comments aligned with Archibald and Feldman’s description of
the nature of higher education.
H. The Amenities War

As mentioned previously, Economists McCall and Stange have shown that universities experience demand-side pressure to invest in consumption amenities, rather than academic quality. One decider mentioned the general increase in demand for services for students: “I think there’s a big expectation from families that we provide a lot of services to students.” Surprisingly the university decision makers did not mention many of the amenities discussed in the article by McCall and Stange: residence halls, fitness centers and food services.

Another decider went on to discuss some aspects of universities that are expected now: “Mental health counselling, ACCESS, you know if you go back to the 70s or 80s that didn’t exist. Again, I think these are all really good things that help students be successful. But of course, it costs money.” It’s not just about the extra amenities that make universities more competitive in attracting students, but the deciders expressed that overall there has been a broadening expectation of services that should be provided by universities. There isn’t a normative explanation as to whether or not it is ‘bad’ for universities to respond to demand for amenities. Another decider discussed how student demand has affected quality of instruction:

If I was 18, what would I want to know about this faculty member. It’s way cooler that this faculty member has done all this work on how food
network shows are changing America’s diet versus the faculty member with the NSF grant on blah blah blah.

Another decider discussed some of the more unique aspects of universities that might attract students: “In general it’s much easier to walk on campus and be like, cool they have a rock climbing wall, and the residence halls are really nice.” All of these extra amenities may drive up costs. However, according to the scholars, these kinds of amenities are only marginal in the growth of the price of tuition. In an inside higher ed. article (2015) Economist David Feldman made the following comment in reference to Louisiana State University’s 85 million dollar lazy river project: “Lazy Rivers are only a tiny piece of the costs.” In addition, James Kadamus\(^\text{12}\) found that campuses that invest in recreational facilities often have existing facilities that are in need of repair. Kadamus also found that investment in these types of amenities do not have any significant effect on enrollment. However, Jacob, McCall, and Stange’s article contradicts Kadamus’s view. These types of investments do affect enrollment. Particularly, large investments in amenities attract students who do not qualify for highly competitive institutions.

Multiple UVM deciders mentioned demand for the STEM building currently under construction at UVM:

\(^{12}\) James Kadamus is the vice president for a firm that advises colleges on their physical assets. - Slightlines
You know we’re building a STEM center over here, we aren’t building it for the sake of having it, and we’re building it because it’s what’s needed to provide the type of education that students are demanding.\textsuperscript{13}

Another UVM decider discussed the demand that led to the construction of the UVM STEM building:

There’s an ever-growing demand in all the arenas of academia in terms of having enhanced skills and maybe technical in different ways. The STEM, the skills of folks that work in STEM are clearly highly technical. Even in the humanities there are different approaches but it is more capital intensive because English classes don’t require much beyond having a fairly standard classroom. Whereas opposed to chemistry, physics, and engineering, which is you know the stem building, there’s a lot of high tech need there.

One question that could be raised is whether or not projects such as the STEM facility are costs related to educational quality of simply amenities for students (and faculty).

The report from the Davis Educational Foundation (2012) also mentioned the increased demand for amenities:

There is an imbalance between student and parent expectations, costs, and a family’s ability to pay...although it may seem to some that cost

\textsuperscript{13} This is relative to Archibald and Feldman’s discussion about cost disease and the way in which technological improvement can drive costs for universities – mentioned in section 2B1.
escalation is driven by an increase in faculty and staff numbers and their salaries, it is accurately driven by broader ideas of what higher education means. College students and their parents expect the institution to be capable of providing all technological, social, and emotional support. In short, higher education offers the experience that parents and students have come to expect beyond their education, and there is a cost for this experience. (p. 3)

The responses in this section indicate that growth in amenities, and demand for improvement has led to growing costs for universities, thus requiring them to improve quality and generate more revenue (through tuition). However, economists do not seem to think that spending on amenities is a major factor driving up the price of tuition at public four year universities. I only found two sources on this issue in the academic literature.

I. Government Regulation

Some deciders mentioned government regulation as a major factor. Government regulation was also mentioned in the previous section on physical upkeep. A couple deciders expressed concern over lack of understanding in terms of the effects of government demands: “Legislators are incredibly unaware of the regulatory overlay”, and “I am not sure that legislators are truly aware enough or thoughtful enough of about the cost benefit analysis associated with the initiatives imposed upon universities.” It seemed from the context that this university decision maker was referring to state government
regulators and legislative demands more so than federal government regulatory policies. However, it is possible they were referring to both.

Many of the comments made by university decision makers in this section aligned well with Economist Elinor Ostrom’s definition of rules in use versus rules in form. Ostrom defines rules in form as the established legal rules and guidelines. Rules in use are how the party subject to the rules understand the rules. Rules in function is another distinction that could be made to define the effects and ‘successes’ of the rules once they are implemented. I believe that the frustrations voiced by university decision makers in regards to government regulation fit well into Ostrom’s framework. It seems they are frustrated that legislators are not aware or thoughtful enough about the differences that may exist between the rules in form (the regulatory obligations inflicted upon universities) and the actual rules in use or function (how those obligations effect universities or the real level of effort required for those obligations to be fulfilled.)

Another decider discussed their frustration with the lack of awareness of the costs imposed by certain government regulations:

The constant compliance, the problem is not the doing, it’s the constant reporting out. When you constantly have to do reports back to the Department of Education or track things differently, to stay within the compliance for funding, it’s expensive. Either you have to grow your staff
in order to be compliant or you have to quit doing things that are important.

Another decider made the same point and was frustrated that those requiring this reporting are not adequately aware of the resources needed:

As colleges and universities are asked to be more accountable, and a lot of the things we are asked to report on takes a lot of time, and a lot of effort. I’m not saying it’s not worthwhile, I just don’t know if there is an understanding of the cost of that.

However, some deciders felt that government regulation didn’t actually contribute to the growth in the price tuition because “we would have to do all of that stuff anyways.” The deciders did not mention how this contributed to the growth specifically, but in a more general sense: “it is hard to keep up with the constant changing requirements and obligations.” Based on the interviews, it seems like government regulation is becoming an issue because of the growth in student populations, and amount of services provided by universities.

J. Lack of State Support

As seen in Figure 11 and 12 below, UVM has low state funding relative to other states in the U.S. Some university decision makers emphasized this point: “In the case of the University of Vermont, our state appropriates at a very low rate on a per capita basis.” However, it is unlikely that this has actually led to the growth in the price of tuition at UVM over time, and one could infer that it may have affected tuition in other states based upon U.S.
averages. The below figure represents average state appropriations at public universities in the US over time in inflation-adjusted dollars:

*Figure 11.* US averages of net tuition revenue per FTE student, educational appropriations per FTE student and FTE enrollment over time. Data obtained from State higher education executive officers association.

As Figure 11 shows there has been a 129% increase in net tuition revenue per FTE student. There has been an 11% decrease in educational appropriations per FTE student. There has been a 43% increase in enrollment.
One could infer that one factor contributing to the 129% increase in net tuition revenue per FTE student is the combination of a 43% increase in the number of students combined with not an increase, but a 11% decrease in educational appropriations per FTE student.

Compared to the average state appropriations in the US, state appropriations have always been low for Vermont public universities as shown in the figure below.;
As shown in Figure 12 there has been a 68% increase in net tuition revenue per FTE student in Vermont. State appropriations per FTE student have decreased in real terms by $2,429 from 1990 ($5,633) to 2015 ($3,204) or a 43% decrease. There has also been a 36% increase in enrollment. However there may be one way state appropriations could have contributed to the growth in the price of tuition at UVM, or other Vermont universities. In Figure 12 the gap between enrollment and educational appropriations per FTE
student has become larger over time. The decrease in state funding coupled with the significant increases in enrollment starting in the early 2000’s may have impacted the price of tuition at UVM.

Other deciders discussed state support broadly: “At public four year universities over the past 10 years, state support is falling. When state support falls and the need for financial aid climbs that puts enormous pressure on the revenue side of the equation.”

Some mentioned general national trends: “Many of the states are putting less priority on higher education than they once were.” This puts UVM in an interesting position. One UVM decider acknowledged the unique position UVM has been placed in as a result of their consistently low state appropriations:

Nationally there hasn’t been the same state appropriations given, UVM is unique because there never has been big state appropriations given. So if you look over time at some of our peer institutions, maybe making very large tuition increases, where ours have been smaller. It’s because we’ve never had a big state appropriation. We haven’t experience the big shift from high state appropriations to low.

It is also possible that the growing gap between decreasing state funding and increasing enrollment has affected many universities in the U.S. This gap can be observed in Figure 11 as well, representing the growing gap on average in the U.S.
IV. Possible Policy Prescriptions

During the UVM interviews each decider was asked “are there any policy prescriptions, plan or proposals that you are aware of that you think would help remedy or solve the rapid growth in tuition at public four year universities?”

There were several themes that emerged from the answers given by the deciders. Before describing the more common themes, I would like to outline some of the unique answers given by the deciders.

Some university decision makers mentioned in the interviews that one way to remedy the rising costs of higher education is to limit price discrimination. This way universities wouldn’t experience a loss in revenue: “Our tuition is very high for a state school comparatively, and you don’t want to price yourself out of the market.” Some deciders felt that simply improving transparency could be beneficial: “I really like the idea of totally transparency of education of both the costs and the outputs.”

Some university decision makers expressed pessimism about proposals to provide free higher education: “first of all nothing is free, the questions is who will pay for this?” Another decider discussed their worries about the way such programs might affect the quality of higher education: “If the federal government allows everyone to go to college for free than you end up maybe creating an environment of a lot of mediocre schools, unless the federal incentives are actually tied to good outputs.” Another university decision maker
discussed the same point: “What you want is to improve the quality and output of education. You don’t want to enable marginal, mediocre universities because the federal government is paying for it.” It was interesting that these deciders assume the quality would significantly decrease if the federal government was funding it (this might be an interesting area for further research).

Other answers on possible policy prescriptions broke down into three main categories: lack of information, incentive based budgeting (IBB) and online learning.

A. Lack of Information and Attention to Important Factors

Many deciders mentioned concern over a lack of information. Some felt it would be beneficial for deciders to connect with scholars more often; “the Board does not talk to experts, there are a few thought leaders that are well informed, when the time comes they speak up, and the other members listen.” Others emphasized the lack of attention to particular important factors:

I think we could do better with comparables and really understanding the cost and discount. I think we should be much more visual, in the sense that, let’s talk about why UVM’s tuition is where it is and how it got there and what our costs are. It’s not just about cost, it’s a competitive advantage, and we lose really great students to other schools because of our costs. I think having an understanding, you know that’s not me saying woe is me I can’t do anything because we are too expensive, is really important. If I live in New York and I’m in the top
10% of my class I can go to any SUNY for free, I don’t know if they know that.

Some mentioned it is important to be more thoughtful about the way tuition is considered at UVM. This decider asked: “For a top student in New York it’s $0 or $37,000 dollars, so I always say, what is the $37,000 dollar added value? That’s a hard one.”

Another decider elaborated on the same question in regards to added value:

It’s not just about cost, I think we need to think long and hard about what are we giving the student for $37,000, I mean beyond downtown Burlington and a beautiful lake and mountains. I mean those are some added values but I don’t know if it’s worth $37,000. So what else is there?

Also mentioned was a general lack of drive to find solutions: “I think we say ‘Oh gosh that’s expensive’ but we don’t turn around and say ‘what are we going to do’ and that’s the important piece.”

Some suggested solutions that would reduce labor and maybe increase efficiency: “You can use technology to reduce your workforce, I mean if you go to a paperless admissions process, we shouldn’t have as many people working in the admissions office.” and
I mean were in charge of our own budgets, I mean if I save the money I keep it, for me it’s just efficiency, I sometimes see what people are doing and I’m like oh we can automate that, and it might lead to better service. From my standpoint if you can automate something, you save money and get better service, why aren’t we doing that?

Overall deciders felt more attention and thoughtfulness about this topic would have a positive impact on the process to finding a solution or a way to remedy the growing price of tuition at public four year universities.

B. Incentive Based Budgeting (IBB)

Some university decision makers mentioned the newly adopted incentive based budgeting (IBB) as something that might lead to less costs, and less increases in tuition. Essentially one decider gave a good example of how this works at UVM: “with the incentive based budgeting, let’s say the engineering department finds ways to reduce costs, they get to keep those revenues within the department.”

Some deciders mentioned the increased accountability that accompanies IBB “The incentive based budgeting has been a move in the right direction, it helps different colleges become more accountable and have greater incentive to save money.” Specifically at UVM this is a new development, and many deciders mentioned the predicted increase in incentive to perform better: “a few years ago individual schools didn’t have incentive to manage revenues and
costs, those revenues went to the overall university, their individual school or department didn’t have a huge incentive to cut costs and increase revenues.”

Some deciders talked about IBB as a way to improve quality without increasing costs:

The whole incentive based budgeting thing, is really really important. If you have programs that are unpopular, and you can create a new class that will attract more students, then departments should be incentivized to do that, to do things that will make your particular college great.

One decider mentioned the possible effect it will have on how much each college values students:

It’s great (IBB), you know initially a college might not care if I give them 200 students or 170 students. All of the sudden when there’s an advantage for them enrolling those students, I just feel like they are more engaged from the very beginning with those students.

Some elaborated a little more on the current incentives: “I think there are some divisions that do it well and others that are slower, but the incentive is that you keep your savings.”

It is important to note that IBB was recently implemented at UVM, so the long terms effects have not been observed yet.
C. Online Learning

Many deciders mentioned massive open online courses (MOOCS) as a possible solution. Many seemed excited about MOOCS because they felt it could increase efficiency: “productivity is important, the online learning model can be used to lower costs per credit hour.”

Many of these courses use technology to translate courses into versions that can be taken by a massive number of students. Some deciders felt it could cut costs for students because it would reduce the amount of time they would have to spend in college:

The solution that I think has huge potential is the idea of somehow getting the online courses of some of the major universities accredited. So that perhaps we could take, what is now a 5 year or 6 year experience, but it should be a 4 year university, but if you could say everyone can transfer in 1 year of courses from accredited institutions, then you can shorten the amount of time students spend in college.

MOOCs may be a good option for universities in terms of cutting costs and increasing revenues. However the literature indicates MOOCs may not be a great option for students. In the spring of 2013 San Jose State University (SJSU) signed a contract with a MOOC company: Udacity. SJSU hoped to offer an online option for a few introductory courses for a lower per credit hour price. However as shown in the table below, the initial results for the spring of 2013 were not ideal:
Table 3

<table>
<thead>
<tr>
<th>Course</th>
<th>Spring 2013</th>
<th>Summer 2013</th>
<th>On-Campus (Avg. Based on Past Six Semesters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary Statistics</td>
<td>50.5%</td>
<td>83.0%</td>
<td>76.3%</td>
</tr>
<tr>
<td>College Algebra</td>
<td>25.4%</td>
<td>72.6%</td>
<td>64.7%</td>
</tr>
<tr>
<td>Entry-Level Math</td>
<td>23.8%</td>
<td>29.8%</td>
<td>45.5%</td>
</tr>
<tr>
<td>General Psychology</td>
<td>N/A</td>
<td>67.3%</td>
<td>83.0%</td>
</tr>
<tr>
<td>Intro to Programming</td>
<td>N/A</td>
<td>70.4%</td>
<td>67.6%</td>
</tr>
</tbody>
</table>

Note: Reprinted from *Boost for Udacity project* by Carl Straumsheim, retrieved from [https://www.insidehighered.com](https://www.insidehighered.com), 2013.

Although there was improvement in the summer of 2013, it is important to note that this is just the percentage of students who received a passing grade. It would be interesting to see the data broken down further by grade received. Earlier there was a discussion involving Holian and Ross’s ideas about how to implement some market forces into higher education. One way is to offer different prices for courses based upon different factors. For example, smaller classes could cost more. However, the Udactiy trial at SJSU reveals some potential concerns about introducing initiatives such as the one described by Holian and Ross. In the example of SJSU, if courses taught on campus are more effective for students, then they might price them higher than courses taught online. However, this has some serious implications in regards to access and affordability. It might mean that the student from a low income background has to accept a lower quality education, than the student from a wealthy background who can afford the courses that are more effective.
Although MOOC’s may be a beneficial innovation for higher education (with some improvement), I am not convinced that it would be a good idea to offer them for a much cheaper price. Rather, it might be less risky to introduce MOOC’s as an option for the same price, and if costs go down, then prices across the board could be lowered.
V. Conclusion

As demonstrated throughout this thesis, the growth in the price of tuition at public four year universities is a real and pressing issue of great concern for students and families in the United States.

I compared the perspectives of university decision makers with the perspectives of scholars on the growth in the price of tuition at public four year universities.

The academic literature review revealed that the major theories offered by economists on the growth in the price of tuition are price discrimination, Bowen’s Revenue Theory, the Bennett Hypothesis, Baumol’s cost disease, and management issues. There seems to be a general agreement among the scholars that the previously listed factors are all relevant factors contributing to the growth in the price of tuition over time. However, they seem to disagree on the level to which each factor has affected the growth in the price of tuition.

Interviews with UVM university decision makers, and the report from the Davis Educational Foundation formed the university decision makers’ perspectives on this issue. The major themes that characterize the university decision makers’ perspectives on the growth of tuition are price discrimination, management issues, labor, the Bennett hypothesis, physical upkeep, the nature of higher education, the amenities war, government regulation and the decline in state support.
As described in the previous section, some of the explanations offered by the university decision makers did align with those found in the academic literature. However, there were some very clear differences between the two perspectives.

The university decision makers brought up a variety of factors that the economists did not mention as factors driving up the price of tuition at public four year universities. These factors include unions, government regulation, increased amenities, and physical upkeep.

I found the following differences to be of most concern. The first and most surprising issue that I found to be quite concerning was that some university decision makers interviewed downplayed the significance of this issue because they did not feel that tuition was really rising. One university decision maker said that the “public higher education revenues per student have been almost flat in real dollars from 1985 to 2010.” As shown in the previous section, this is simply not true. In the U.S. on average, net tuition revenue per Full Time Enrollment (FTE) student in real terms has increased by 129% from 1990 to 2015. In Vermont, net tuition revenue per FTE student has increased by 68% in real terms over the same time period. Another university decision maker said that “growth in financial aid has outpaced growth in tuition.” This is also simply not true. The net tuition and fees have increased by 73% between 1996 and 2015. Over the last decade (or between 2005 and 2015) there has been a smaller increase of 38%, however, that is still an increase. So,
growth in financial aid has not outpaced growth in tuition. These comments are concerning because they come from university decision makers.

The second issue I found concerning involved the comments about the rise of tuition being a “national issue”. Although the growth in the price of tuition at public four year universities in the United States is, by definition, a national issue, that does not mean the solutions must be national solutions. Four out of the five university decision makers interviewed made a comment similar to this one: “There are so many constraints. You can get an expert to say ‘yes you have a problem’. But how are you going to get the country to solve the problem?”, or “this is a national problem, the country has to fix it, one university can’t do anything about it.”

The third difference I found to be concerning was how well informed university decision makers implied they were, compared to how informed they appeared to be. Most university decision makers claimed that they stay as up to date on this issue as possible on this topic. Although many university decision makers mentioned factors found in the academic literature, they did seem aware of the names of said theories or the names of the authors from which the theories originated. For example, most understood the concept of Baumol’s cost disease, but had never heard the term before, or read anything that explained its significance in higher education. The themes or factors described in the literature review section of this thesis are only the major themes, which were most commonly mentioned in the literature reviewed.
There are certainly more theories that are not mentioned in this thesis. As in most areas of research, there are prominent scholars who have dedicated their lives to researching the rising cost of tuition such as Vedder, Archibald, Feldman, and Ehrenberg. It was surprising that many deciders were not familiar with these scholars or the names of major theories on this topic.

This was discussed in the previous section concerning lack of information. Many deciders brought up concerns about their peers: “at the end of the day, a couple Board Members really keep up with the literature, and the others listen to those that are informed”, and “no I don’t think they know enough, I think they could do a better job staying informed.” This was concerning because some of these theories are the major theories on this topic, so not knowing the names of these theories or authors might imply that they are not aware of the academic literature on this topic.

The fourth issue was the pessimism, or disinterest, in the possibility of connecting with the scholars that researched this topic. During the interviews, I asked the university decision makers if they thought it would be valuable to consult with, talk to, or connect with the economists that have spent their lives researching this topic. A couple deciders mentioned that this kind of conversation would be “interesting”. One decider even made the following comment, “We should be bringing in experts more often.” However, some expressed that this type of connection might not be valuable: “There are experts out there that spend their lives studying this topic, but here is my
issue; I think the thought of putting those experts with policy makers to solve the country’s problem is enormously important, it might be fascinating, inspirational, and eye opening for the university, but I still think our constraints are our constraints.”

Performing a comparison of these two perspectives exposed some intriguing topics for further research that might be valuable. The purpose of this thesis was to simply compare the two perspectives. I hoped that performing a simple comparison of the two perspectives would prove that there is value in including the perspective of university decision makers when analyzing the growth in the price of tuition. The perspectives of university decision makers are valuable because they have a direct role in increasing tuition. I also think further research into their perspectives could increase transparency and accountability in higher education. Accountability is essential in assuring that university decision makers remain centered in their obligations to students.
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