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Bending the Cost Curve: Issues and Opportunities in higher Education Cost Containment from Student, Institutional, and State

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About the Minnesota Office of Higher Education

The Minnesota Office of Higher Education is a cabinet-level state agency providing students with financial aid programs and information to help them gain access to postsecondary education. The agency also serves as the state's clearinghouse for data, research and analysis on postsecondary enrollment, financial aid, finance and trends.

The Minnesota State Grant Program is the largest financial aid program administered by the Office of Higher Education, awarding up to $180 million in need-based grants to Minnesota residents attending accredited institutions in Minnesota. The agency oversees tuition reciprocity programs, a student loan program, Minnesota's 529 College Savings Plan, licensing and early college awareness programs for youth.

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Executive Summary

The problem

The cost associated with higher education has become a burdensome investment for institutions, taxpayers, and the student. The mission of the public institution of higher education is to provide an accessible, high quality education. This mission dictates that the cost of higher education should be affordable. In recent years the cost of a college degree has outpaced inflation, while the share of that cost born by taxpayers has declined, and the slack taken up by students and their families. As post-high school education is more and more a basic requirement for career success, and is sought by more high school graduates, the cost of higher education has come under increased scrutiny, and institutions find themselves under greater pressure to manage their costs.

The solution

Our analysis is a multifaceted approach to the challenges of escalating higher education costs. We examine cost containment strategies from state, institutional, and student perspectives. A number of gaps and alternative strategies for response are identified. These opportunities will be explored, and a series of recommendations made.

Why now

"A higher education is the single most important investment students can make in their own futures. At the same time, it has never been more expensive."

The White House Office of the Press Secretary

The cost of higher education is on the rise. Historically public institutions have provided a high quality, relatively low cost, post-secondary educational option to students. However the privatization of higher education has shifted a greater proportion of a rapidly increasing price tag from taxpayer to student. To absorb this increased financial burden, students turn to borrowing at dramatically increased levels. This increased financial liability is not only a burden to students and families in the short-term, but also has long-term effects on students' ability to establish themselves as financially stable and productive members of society, post-graduation. In Minnesota, educational reforms of the Minnesota state grant program have sought to redistribute the responsibility of higher education costs among taxpayers, students, and families. Within this reform students enrolled with a full time status received the greatest benefit. Given the success of the state grant program, interest groups and state legislatures should continue to create models that incentivize students, increase productivity of institutions, and work to address the increasing cost of higher education across the state.

Introduction

Increased pressures from competing public interests combined with the impact of the Great Recession of 2008 have accelerated a trend in reduction in the public's level of commitment to higher education. In

Minnesota and across the country a trend towards shifting the burden of education costs from taxpayers to students and their families can be seen. Over the last five years alone, states, on average, have decreased funding by 28 percent per student; some have even cut funding by 50 percent[1]. The impact of this trend has been exacerbated by the fact that college costs have significantly outpaced the consumer price index and average family income levels[2]. Tuition at four-year public universities has increased by $1,850 or 27 percent since the 2007-08 schoolyear nationwide[3]. In the last 40 years, higher education tuition has risen at more than three times the rate of inflation, which means that since 1971 the average price at a four-year public university has increased by more than 1900 percent[4].

During that same period, although, the increase in family incomes has not risen at the same rate, with the median family income in 2012 being $51,017, which is only 4 percent higher than it was 20 years ago in inflation-adjusted dollars[5].This has in turn led to an increased dependence on student loans and dramatic increases in post-graduation debt loads, to the point where student loans have become the second largest component of consumer debt, eclipsed only by home mortgages[6]. The total volume of student loans has risen 249 percent after inflation to over 61 billion between 1995 and 2005[7]. As a result, those 37 million students who take on loans to support the cost of college graduate with an average debt load of $29,400[8]. The result nationally is that student debt is at an all-time high of $1.2 trillion, which is more than the total that Americans borrow for cars and credit card debt[9]. These changes were ignited in the early 1980's as a response to recommendations from national reports that supported the notion of a shared responsibility. The reports were initiated by the Carnegie Commission on Higher Education, the Committee on Economic Development, and the Newman Commission in the early 1970's. These trends were also driven by the reduction in state based appropriations for higher education[10].

These shifts have put more of the responsibility for the cost of higher education on students and their families. These changes occurred during a period of time when tuition costs rose dramatically while grants remained stagnant. At the federal level legislation designed to limit shifting of the burden of education from state to federal has been introduced. This legislation rewards states that maintain their higher education funding levels at a level consistent with federal funding. This is known as the Maintenance of Efforts (MOE)[11].

There is a growing concern among students, parents, and taxpayers who support higher education about the return they are receiving for their investment[12]. Among these concerns is a growing distrust from the public about academic tenure[13]. Policy makers and the public criticize institutions for being unable to

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[1] Center on Budget and Policy Priorities, 2013

[2] Chen & John, 2011

[3] Center on Budget and Policy Priorities, 2013

[4] Blumenstyk, 2015

[5] Blumenstyk, 2015, College Board, 2014

[6] Alexander, Harnisch, & Moran, 2010

[7] Kamenetz, 2006

[8] Hitonsmith & Draut, 2014, Cloud & Fossey, 2014

[9] Blumenstyk, 2015

[10] Alexander, Harnisch, & Moran, 2010

[11] Chen & John, 2011; Alexander, Harnisch, & Moran, 2010; Layzell, 2007

[12] McPherson & Schapiro, 1999

[13] Brown, 2007

control salary expenditures and monitor faculty productivity due to tenure. The public perceives a linkage between tenure and rising tuition costs[14 & 15].

As a result, higher education must adapt to the changing times. Faculty account for 25 to 30 percent of higher education's workforce and 60 to 70 percent of higher education spending goes towards employee spending. With instructional faculty and staff accounting for half of those costs, institutions are forced to rethink how to manage their workforce.

Historically, the changes in the earning potential of a college-educated male affected the cost of education. The decline in the mid-1970s, which persisted into the 1980s, resulted in a decrease in faculty earning potential. This also affected the cost of education. There was shift in the 1980s in the value of higher education that was seen in enrollment and this also caused the cost of education to increase. Another factor that contributes to rising higher education costs is the higher education industry's dependence on a highly trained and therefore expensive labor force. Seventy to 80 percent of an institution's budget goes to paying faculty salaries at a University[16].

Background

Overview

The rising cost in higher education can be examined based on two theories: Baumol's cost disease theory and Bowen's revenue theory. The revenue theory premise is that an institution's price is based on its revenue or what it is able to pay for[17]. The cost disease theory is that advances in technology lead to labor productivity increases in the industry. Within this theory there is a difference between services that are goods-productivity-oriented and human-service-oriented. These two theories are in competition for employees, which result in the increase of earning potential for both sectors[18]. In cost disease theory the price of human services increases at a faster rate than goods productivity.

A limitation of traditional higher education delivery models is their reliance on academic faculty and the physical classroom as the main vehicle for instructional delivery. In higher education quality is evaluated based on student to faculty ratio, faculty productivity, and the utilization of terminally degreed, tenured or tenure-track instructors. If less expensive teaching resources (e.g. adjunct, doctoral student or other types of contingent faculty) are utilized to a greater extent, such utilization is perceived to compromise the quality of the education being delivered[19].

The revenue theory of costs says that services in education are not driven by need, but by student-generated revenue[20]. In addition, these constraints, based on the revenue do not interfere with the quality of education provided to students. There are other technical aspects in the revenue theory of cost to consider. One such aspect is that what is spent is equivalent to that which is generated within a period of time of when the revenue can be used.

[14] Leslie, 1998
[15] Desrochers & Kirschstein, 2014
[16] Archibald & Feldman, 2008
[17] Archibald & Feldman, 2008; Baulmol, 1967; Baumol & Bowen, 1966
[18] Ibid
[19] Archibald & Feldman, 2008; Baulmol, 1967; Baumol & Bowen, 1966
[20] Ibid

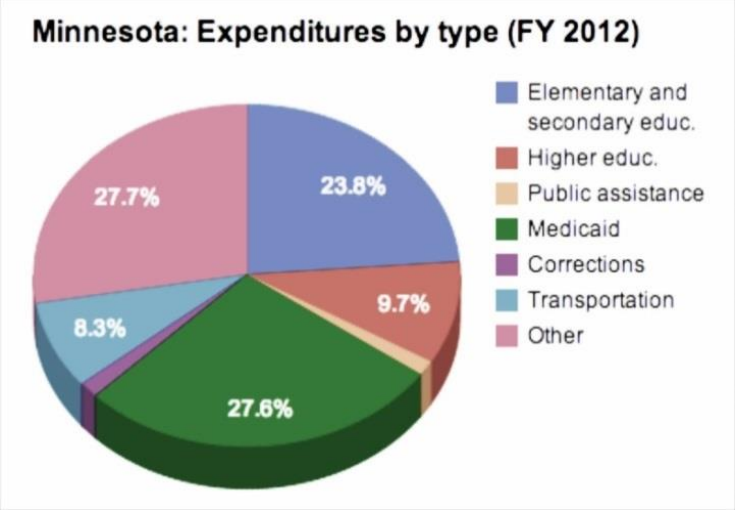
Within this theory there are several perspectives that exist pertaining to higher education that are considered significant. In higher education, institutions intend to generate all possible revenue, without damaging the quality of the institution. Secondly, institutions' missions are rooted in maintaining status, distinction, and having impact. From an institutional standpoint, these views are conflicting. It is a challenge for an institution to capitalize on quality and revenue simultaneously[21].

While difficult within the revenue theory of costs, it is possible for institutions to maintain their prestige, and address cost constraints, without harming or losing sight of their mission. If an institution is unable to address cost constraints the quality of education is threatened.

A challenge within revenue theory of costs is that state institutions are held in contempt by the policy makers that appropriate funding to institutions. If the quantifiable quality of the institution is not correlated to the associated costs, this can affect the perceived quality of the institution. If quality is affected it becomes imperative that policy makers understand the value of an education and the contributions that it makes to the state. Due to the revenue generators that exist for public higher education, this sector will face challenges associated with quality based on cost if its main sources of funding do not view value in the same way[22].

A high performing educational system is an important component of a sustainable, high quality society. Quality education leads to a well-trained workforce, which attracts commerce and manufacturing. These factors serve to strengthen the tax base, which leads to additional resources for the community. A healthy, well-resourced community attracts motivated and talented people, leading to a virtuous circle and a stable socio-economic climate.

At the same time, education is typically a major expense line for state government budgets. In Minnesota's 2012 budget, higher education spending was third among the four largest spending categories. Approximately, 10 percent was spent on higher education, substantially less than the 23.8 percent spent on elementary and secondary education, or the 27.6 percent spent on Medicaid, but just ahead of state spending on transportation at 8.3 percent[23].



[21] Ibid
[22] Ibid
[23] Balletopedia.org: http://ballotpedia.org/Minnesota_state_budget; in collaboration with the Lucy Burns Institute; retrieved October 20, 2014

Due to the scale of higher education spending, as well as its strategic importance, citizens clearly have a major stake in seeing that their investment in higher education is well spent. Ensuring that high quality education is delivered in an efficient manner is an approach that clearly supports achievement of this goal. Excessive investing in education beyond the level that yields a suitable return, or under-investing in education to the extent that the welfare of the general public and the economic vitality of the state are undermined, are the twin perils that good public policy must seek to avoid.

In recent years the cost of higher education has come under increasing criticism for a number of reasons:

- College access has transitioned from an optional to a mainstream expectation, exposing much greater numbers of households to the cost of a college education.
- The cost of college has increased at a far more rapid pace than other goods[24].
- College loan debts, as a component of overall household indebtedness, have mushroomed to the point where it has surpassed credit card and auto ownership-related debt. It is exceeded only by home mortgages.[25]
- While college completion rates haven't changed significantly in the past 40 years, the sharp increases in the cost of college as a percentage of average annual household income levels [26] have made citizens far more sensitive to what may seem like a poor investment. Spending on college enrollments is believed to not lead to degree worthy earnings.

Maintenance of Effort

Public policy has also affected the cost of higher education. The American Recovery and Reinvestment Act of 2009 instated the Maintenance of Effort (MOE) stipulation. The MOE stipulations incentivize state governments to maintain funding levels as a supplement, not as a replacement, to federal funding allocations. This has resulted in the reduction of federal funding towards higher education[27]. This is not the only type of legislation that has shifted funding in this manner. The Leveraging Educational Assistance Partnership (LEAP) Program is another example of a policy shift that pushed the development of funding education through state-based financial programs[28]. MOE legislation evolved around accountability of the state in funding higher education in order to maintain state levels of funding. Participation by states across the country was incentivized by federal grant funding earmarked to supplement state education budgets.

MOE stipulations require that states invest in the education of their workforce by preparing students with the skills needed by state employers. This is viewed as an investment in the economic vitality of the region. The intent of MOE is that states would maintain control over tuition costs, creating a degree of predictability and stability-in the cost of higher education while leveraging federal support[29]. Due to the privatization of higher education, the state is unable to leverage their funding which has resulted in an

[24] Delta Cost Project – American Institutes for Research – Trends in College Spending
[25] Federal Reserve Bank of New York – Student Loan Debt by Age Group (March 29, 2013); retrieved from http://www.newyorkfed.org/studentloandebt
[26] Delta Cost Project – American Institutes for Research – Trends in College Spending
[27] Alexander, Harnisch, & Moran, 2010
[28] Chen & John, 2011; Alexander, Harnisch, & Moran, 2010
[29] Alexander, Harnisch, & Moran, 2010

increase in tuition and student debt. The appropriation of MOE legislation has received criticism. MOE argues that their priorities are aligned with delegating funding, which has been interpreted as challenging the state's ability to prioritize the funding of local needs.

Under the MOE incentive structure, states are discouraged from increasing their education spending beyond the level required to qualify for matching federal dollars. MOE guidelines can also hamper a state's ability to respond to the rapidly changing circumstances and challenges of a dynamic local economy[30].

Efficiency

The rapid increase in education costs, in the absence of associated improvements in outcomes such as graduation rates or starting salaries, suggests a decline in the efficiency of higher education delivery. The Delta Cost Project presents a clear picture on spending trends in higher education. Funding levels to public institutions have remained relatively constant, while costs per student educated have increased significantly. Increasingly public institutions rely on auxiliary services, endowments, and developmental funds to close revenue gaps, as a supplement to tuition increases[31]. While investments in non-instructional services remained, intuitions moved away from institutional support as state based appropriations declined.

Costs have shifted to the student at a significant level. "At public four year institutions, students now pay between 50 percent and 60 percent of the cost of their education, an 18 -22 percentage point increase over the decade[32]." Degree productivity at public institutions did realize some modest gains over the past decade, but not to an extent that allowed costs to students and their families to be reduced. Economic factors, college rankings, and administrative costs have contributed to the cost shift in higher education. Every cost trend in higher education, across all functions, must be examined in order to address the productivity and efficiency of the institution. This analysis evaluates institutional spending, revenue funding, and research funding and state and federal appropriations within public institutions. In support of this analysis on a state level, similar data has been reported nationally. The Delta Cost Project found that institutions are deferring maintenance needs and lowering institutional spending per student. This has resulted in a disinvestment in instruction, academic, and administrative support across institutions[33].

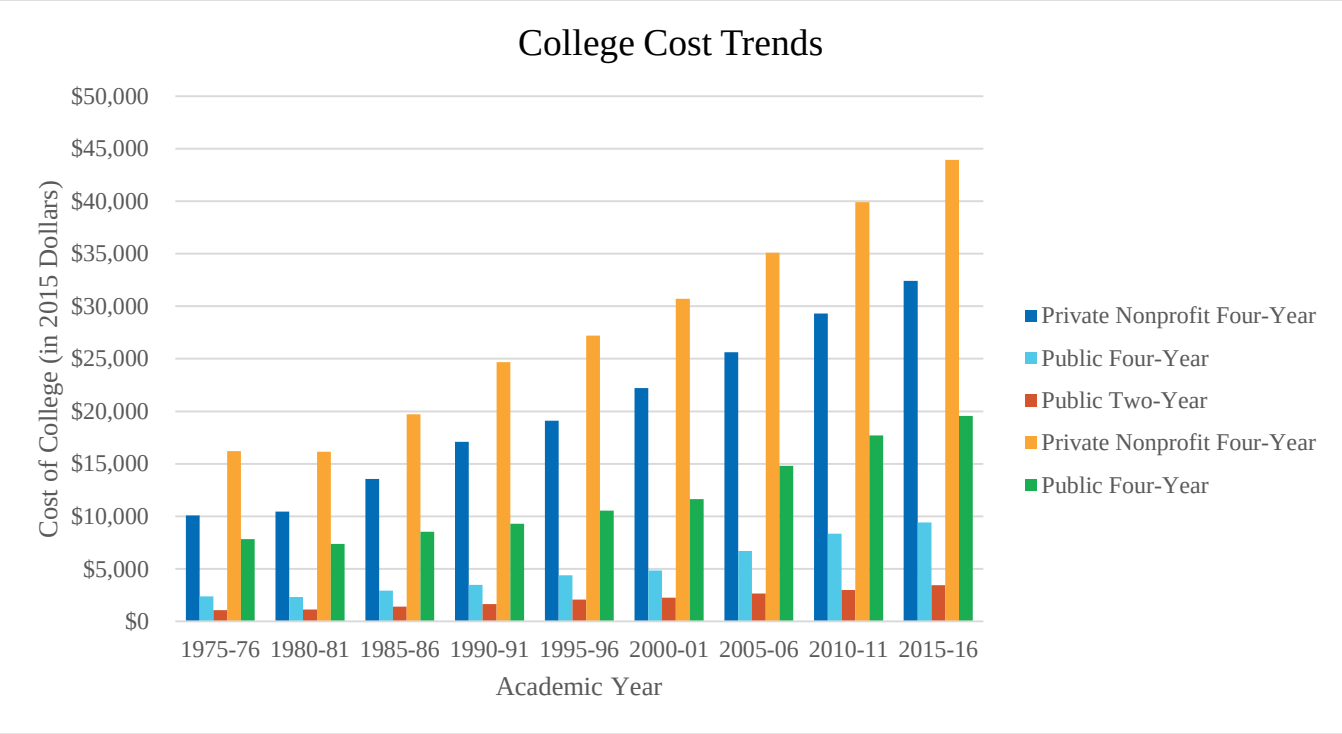
The Student Cost Problem

Higher education is struggling to provide quality education to a diverse group of students at an affordable price. As costs continue to rise, the public view of higher education continues to decrease. Families perceive a decline in the cost effectiveness of a college education as they are being required to shoulder a greater portion of that cost, a cost that increasingly is more than what students are willing to pay[34]. While higher education institutions blame rising costs on economic pressures, the public sees the institutions themselves as the source of the problem[35].

Even as spiraling tuition costs are driving a college education out of reach for more people, the job market is demanding an increasingly more educated workforce. High school graduates are unable to find

[30] Ibid
[31] Delta Cost Project – American Institutes for Research – Trends in College Spending
[32] Ibid
[33] Delta Cost Project – American Institutes for Research – Trends in College Spending
[34] Sandeen, 2013
[35] "Iron Triangle," 2008

work without obtaining a college degree they cannot afford to pursue, a cruel dilemma indeed. Our state institutions of higher education must be accessible to citizens from an increasingly diverse range of economic and cultural backgrounds if they are to be prepared to compete in a knowledge economy (See chart for trends[36]).



Student Debt

Compounding the problem of affordability is the student funding formula. The students who can afford higher education are often the students who receive merit-based aid. Need-based aid continues to decrease, which impacts equal access to higher education for low-income students[37]. For public institutions this is problematic as they seek to serve their mission of providing accessibility to greater numbers of students.

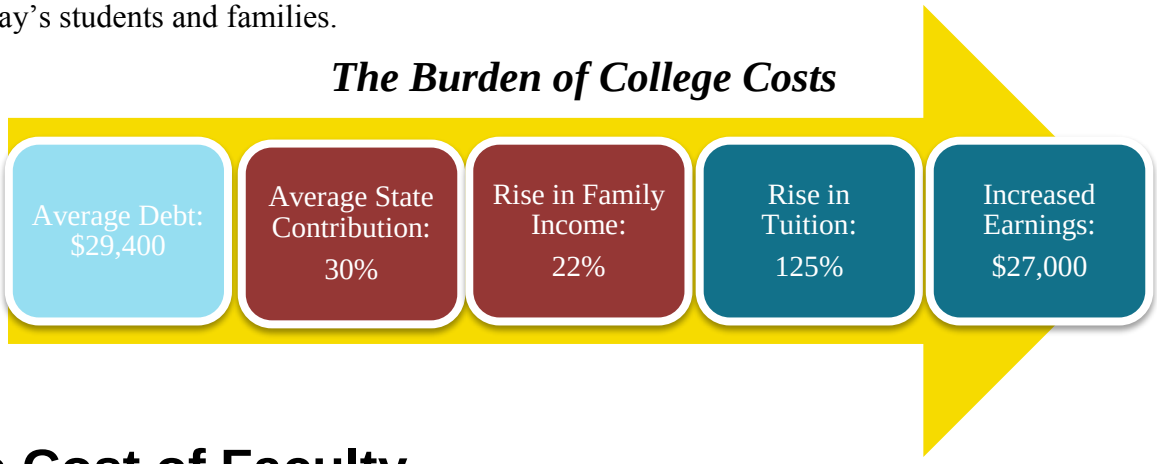
As need-based aid decreases, students are taking out more loans to pay for college. According to Hiltonsmith & Draut, more than seven out of ten college seniors borrow money in order to pay for college[38]. Those students who take on loans to support the cost of college graduate with an average debt load of $29,400[39]. Millennial students have contributed over $1 trillion to the national student loan debt[40]. And while this number is problematic in and of itself, it becomes even more concerning in the context of the increasing number of students that start college but fail to earn a degree. Degree completion performance in the United States has remained relatively stagnant, with a four-year college completion rate of around 40 percent[41]. This means that 60 percent of students are starting college and

[36] The College Board, 2015
[37] "Iron Triangle," 2008
[38] Hiltonsmith & Draut, 2014
[39] Ibid
[40] Price, 2012
[41] "Pathways to Success," 2012

not earning a degree. Without a college degree, students earn, on average, $27,000 per year less than someone with a college degree[42]. Without a college degree, access to well-paid positions is sharply limited, and for those who incurred college debt without securing a degree, the burden of paying off that debt can become insurmountable. On the other hand, about half of those who are successful in completing college find themselves employed in jobs that do not require a four-year degree[43]. While Georgetown University's Center on Education and the Workforce believes that nearly two-thirds of jobs will require postsecondary education or job training by 2018, there is a highly educated and unemployed group of students with high debt problems[44]. As the problem of college costs intensifies, higher education will continue to act as a barricade between students and the middle class.

Family Contribution

What the public fails to consider is that higher education was not built on a model of self-sustainability. At no point in history has higher education charged so great a proportion of its operational expenses to the student. In the past, fifty percent of the cost of in-state education was paid for by the state. Today, however, states contribute only thirty percent, with the expectation that families will cover the difference. Families are increasingly burdened by the cost of higher education since tuition is rising at a rate greater than inflation. Between 1970 and 2010, the median family income rose 22 percent while public tuition rates rose 125 percent[45]. The shared responsibility of paying for college has shifted towards a private good in which the family carries the cost burden of paying for college. In order to compete globally, higher education must undergo innovative restructuring to become more affordable for today's students and families.



The Cost of Faculty

Due to the changing economic and political environment, institutions are realizing that granting tenure to large amounts of new faculty is not realistic. This creates an incentive to tap into a contingent faculty workforce. Additionally, increasing public and political criticism of existing tenured professors, along with an influx of students, increases the pressure on higher education institutions to implement accountability measures to ensure faculty productivity and hire more instructional staff[46].

[42] Kirshstein, 2012
[43] Price, 2014
[44] Soares, 2013
[45] Kirshstein, 2012
[46] Leslie, 1998

Tenure

One of the major considerations for tenure reform is the pronounced financial impact it has on higher education institutions. Tenured faculty are seen as a fixed cost in most institutions, so tenure is seen as a barrier that prevents universities from adjusting internal resources to fit external demands[47]. Thus, it is important to ensure those existing tenured faculties are productive and enhance the educational experience of the student and the academic quality of the institution.

Tenure is often regarded as being a disincentive for faculty to work efficiently and productively while adapting to changing technologies[48]. Elliot Seif notes, "critics of tenure are right […] [tenure] does not support educational productivity and improved teaching and learning over time! I saw this first hand as a college professor. Many older faculty members just weren't productive in a tenure track system. Their tenured status provided few if any incentives for improvement[49]." Levin and Stephan [50] found that scientists in higher education become less productive with age, and Hammermesh [51]found that economists' research output declined with age.

Case Study: University of Texas Austin, Efficiency and Tenure

A study conducted at the University of Texas, Austin (2011) shows that 20 percent (840 out of 4200) of UT faculty carries 57 percent of the total number of student credit hours taught. The study also shows that 80 percent of UT faculty carries 43 percent of the campus' teaching load, yet these faculty account for 72 percent of all faculty costs. Per-student costs associated with these faculty members is more than three times the level of cost per student for the 20 percent of faculty who carry the largest teaching loads.

If all faculty were as efficient as the top 20 percent of faculty at teaching, then the University would require a faculty only 34 percent of its present size, which would lead to a $323 million dollar saving. Conversely, if the University was able to get half its professors to be as productive in teaching as the top 20 percent and fire its least productive faculty the savings would be $266 million a year.[2]

[47] Brown & Gamber, 2002
[48] Baldwin & Chronister 2001; Leslie, 1998
[49] Elliot Seif, 2011, pg. 1
[50] Levin and Stephan 1991
[51] Hammermesh 1994

Contingent Faculty

Student enrollment has increased dramatically in the last decade and is continuing to grow. In order to keep up with demand, colleges and universities must increase the number of faculty they employ[52]. Higher education institutions have begun to understand the mathematics of tenured large numbers of new faculty. If the rate at which tenure used to be rewarded continues, colleges and universities will not be able to have the institutional flexibility necessary to adapt to new areas of student demand academically or economically[53]. From 2004-2012 the number of full-time contingent faculty on short-term contracts increased by 30 to 50 percent, and in 2012, less than half of the instructional staff at public and private four-year institutions held tenure[54]. According to Baldwin and Chronister, the main reasons for this rise in contingent faculty are:

1. The need to employ limited financial resources effectively
2. The desire to preserve staffing flexibility in a time of rapid change
3. The opportunity to hire valuable professionals who may lack the credentials traditionally required for a tenure-track appointment[55]

Many external factors like the loss of public and political confidence in tenure, declining government support, the rise of new technologies, a competitive market, and criticism of tenure, play a role in the increase of contingent faculty. However, the internal factors of rising costs and issues of faculty productivity and efficiency may be the most influential. Even with the increase in tuition prices, higher education cannot keep up with the rising costs of new courses, disciplines, and technology that accompany a quality education without looking inwardly at its fixed costs like tenured faculty.

The academic labor market is saturated with a surplus of Ph.D's. and other qualified candidates looking for work in higher education. Cathy Trower found that doctoral students and faculty are willing to take non-tenure-track positions, with only 26 percent citing tenured positions as the only job they are willing take[56]. A common sentiment among candidates is that, "given the tight job market for faculty, there is no shame in taking a non-tenure track position . . . the market is so tight; you go where you get an offer, tenure track or not[57]." Candidates in the study noted that the two most important qualities in accepting a faculty position were geographic location and balance of work rather than tenure[58].

Increasing demand

At a 1997 American Historical Association meeting, the faculty job openings increased by 23 percent, yet there were still 777 applicants vying for 220 positions[1]. The total number of Ph.D. recipients increased by 40 percent between 1970 and 2000[1].

[52] Gappa, Austin, Trice, 2007
[53] Leslie, 1998
[54] Desrochers & Kirshstein, 2014
[55] Baldwin & Chronister 2001, p. 4
[56] Trower, 2002
[57] Trower, 2002, p 538
[58] ibid

Alternatives

Student Alternatives

The Three-Year Degree Option

The idea for three-year degrees is not a new one, but it is one that has never been fully established in the United States. In the past, few students have taken advantage of three-year degree programs. Each program provides a structure that allows the student to expedite their time within the higher education system. These plans offer one alternative to the traditional four-year degree. With increased public concern surrounding the cost of higher education, this may be a viable option in cutting student costs.

Case 1.1: Southern New Hampshire University, Three-Year Degree Programs

Southern New Hampshire University offers a three-year honors program in Business Administration. Students apply for limited seats in the program in order to reduce their degree program from four years to three years. The program uses the traditional semester, but "the content is delivered through comprehensive and interdisciplinary modules instead of typical 3-credit classes". Students complete the traditional 120 credits with 40 percent of their coursework in the liberal arts and general education core.

Case 1.2: Hartwick College, New York, Three-Year Degree Programs

Hartwick College offers a three-year bachelor's degree program that operates on the traditional two semester academic calendar. Students are able to complete the required 120 credits by taking 18 credit hours each semester, with an additional four hours during the January Term. Students are able to save a projected $40,000, plus the additional money that they now have the potential to earn during that fourth year.

Case 1.3: The Bologna Process, Three-Year Degree Programs

In Europe, 45 countries have signed the Bologna Declaration, which is a commitment undertaken by these countries to provide greater consistency and transferability within the higher education system. The Bologna Process decided to create three-year bachelor's degrees that focus on the major education with less emphasis on students' general education.

"25 Ways," 2010

Three-Year Degree Projected Outcomes

Three-year degrees present many benefits to bending the cost curve for students. Students are able to eliminate a fourth year of college, which saves students a year of tuition and room and board fees. It also allows students to work during that fourth year adding increased value to the degree program. On average, this adds $35,000 to students' lifetime earning[59]. Three-year degree programs also better utilize the pre-existing facilities. Depending on how the program is structured, facilities are used year-round. Classes can be offered in the summer, which allows students additional time to complete the program in the three-year time frame.

On the other hand, three-year programs can have adverse affects on higher education programs. Most students are unable to complete their program within the three-year time frame. In 2001, the US Department of Education reported that 4.2 percent of US undergraduates finished with bachelor's degrees in three years, 57.3 percent graduated in four years, and 38.5 percent took more than four years to graduate."[60] The students who would enroll in three-year degree programs are typically the students who graduate early in four-year programs. These students are academically advanced and college prepared, which allows them to complete their program quickly. This type of program is thus limited to students who are academically prepared to deal with a greater college workload.

Additionally, in order to be successful in a three-year program, students must enter college prepared to select their major. Changing direction after a semester could impact the time to completion. "Eighty percent of college-bound students have yet to choose a major and fifty percent of those that do declare a major change it[61]." Once the student has selected a program, they have little room for adjustments in their projected coursework. For students who need remedial coursework, the three-year degree is nearly impossible, as remedial courses add additional requirements to the already stretched 120-credit plan. As students need additional time to complete the degree by taking courses year-round, they run the risk of not receiving financial aid. Students are limited to courses during the year. As they have to pay for extra semesters, they will be expected to pay the full amount for these out-of-pocket expenses. If the degree

[59] "25 Ways," 2010
[60] Ibid
[61] Ibid, p. 28

cannot be earned in three-years, without any additional semesters, it is not an adequate solution to bend the cost curve for students.

Competency-Based Programs

A second alternative to the traditional four-year degree is through competency-based learning. With competency-based educational approach, students advance upon demonstrated mastery of a specific learning goal. Students are able to mastery specific learning goals quickly depending on their prior learning. In competency-based programs, learning goals are defined as "a combination of skills, abilities, and knowledge needed to perform in a specific context[62]." With these programs, mastery is the determining factor of progress. These programs open instructional opportunities, as students are not bound by location or time[63]. Competency based programs also account for prior learning by allowing students to test out of specific learning goals. This affects the length of time of the program by shortening it, which saves students additional tuition dollars. Employers are requiring students have advanced credentialing before entering the workforce, and competency-based programs are innovatively structured to allow primarily non-traditional students to earn a traditional degree.

Case 2.1: Degree Qualifications Profile, Competency-Based Programs

The Lumina Foundation is partnering with 100 institutions in 30 states to create a framework of competencies that benchmark a variety of degree plans. Their framework includes the following five dimensions: applied learning, intellectual skills, specialized knowledge, broad knowledge, and civic learning. The framework provides the necessary structure to create competency-based programs.

Soares, 2013

Case 2.2: Western Governors University, Competency-Based Programs

Western Governors University is a fully online institution that uses measurable competencies to validate learning (Laitinen, 2012). Each program has a group of faculty, scholars, and industry experts that define a set of competencies that each student must demonstrate in order to earn the degree. This allows students to progress at their own rate and use any previous knowledge that they may have gained prior to their college experience (Laitinen, 2012). Student undergo an initial assessment to determine their learning plan which will help them progress through the necessary competencies for degree completion. Tuition is $ 2,890 for six months and students are able to master as many competencies as they are able during that time period (Laitinen, 2012). The average student is able to get a bachelor's degree in 30 months at a cost of $14,000 (Laitinen, 2012).

[62] (Soares, 2013, p. 12)
[63] ibid

Competency-Based Credit Projected Outcomes

Competency-based programs present an innovative look at restructuring higher education. By creating competency-based programs, content experts are able to speak into the necessary competencies that lead to the ideal employee. Currently, employers have to retrain certified employees because they are not prepared with the necessary skills for the work place. It is estimated that roughly $772 billion is invested in postsecondary education and training, while only 35 percent is spent on two- and four-year institutions[64]. This means that $501 billion is being spent on learning experiences and on-the-job training to produce qualified employees[65]. Competency-based programs have the ability to alleviate some of that training as programs establish competencies that align themselves with marketplace needs.

Positively, competency-based programs leverage students' prior learning. The programs measure learning goals. Students can test out of otherwise costly coursework, and create individualized degree plans. The programs are structured in a way that allows students to progress at their own pace. Students have the potential to finish at a more rapid pace compared to students enrolled in traditional programs. Competency-based programs therefore are less expensive for the student in terms of both time and tuition costs. Due to the use of technology, competency-based programs are able to break the credit-hour barrier that can add additional costs to the students. Competency-based programs have the ability to redefine higher education to bend the cost curve for students.

Adversely, competency-based programs have gained little traction for the majority of students. To be able to offer competency-based programs would require higher education to restructure itself completely. "Even if traditional institutions could see the benefits of moving to a competency-based system, they would be fundamentally incapable of changing because their value proposition, resources, processes, and revenue formula hang in a delicate balance that hinders them from addressing potential disruptions.[66]" Schools are not capable of disrupting themselves because they prioritize innovations that fit the current formula of higher education. While this may be beneficial for the student, it would require third-party resources that are outside of traditional higher education to supply competency-based programs.

The downside of both three-year degrees and competency-based programs is that they are relatively new programs with limited impact thus far. There are fewer accountability measurements for both types of degree plan because they have not been widely implemented into the higher education landscape. Greater understanding is needed in how these programs compare to traditional programs. Students deserve assurances that a non-traditional program, such as a three-year degree or a degree awarded on a competency-based framework, will provide benefits that are comparable to traditional degrees awarded on the basis of a four year experience, or the number of classroom credit hours earned.

Additionally, while these alternatives may result in cost savings for students, they do not bend the cost curve for institution. While a three-year degree would be beneficial for some programs, not all programs have the flexibility to be reduced to three years or competency learning. This forces an institution to operate under a dual system of four-year and alternative programming. Without having a significant number of students to participate in the alternative programs, the costs to the institution may increase[67]. By cutting student costs, the institution is not guaranteed a comparable operating cost savings.

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[64] Soares, 2013
[65] Soares, 2013
[66] Weise & Christensen, 2014, p. 31
[67] (Hurley & Harnisch, 2012

Apprenticeship Programs

At the present time, apprenticeship programs receive relatively limited attention as vehicles for career training and success in the United States. However, as recently as the 1960's there has been clear evidence that access to and participation in apprenticeship programs strongly correlates with the ability to access employment, specifically in the trade job market (Marshall and Briggs, 1967). Marshall and Briggs observed that unemployment among "Negro" males ages 18-19 was 32%, as of June of 1966. In this same timeframe, unemployment among white males of the same age category was 15%. They correlated this finding with participation rates in construction trade apprenticeships. While as of the 1960 U.S. Census (Historical U.S. Census Statistics, 2005), non-whites constituted 11.4% of the U.S. population, Marshall and Briggs' analysis indicated that non-whites, (92% of which were classified as "Negro") made up only 2.5% of all construction trade apprentices.

Although apprenticeships have dramatically declined in importance as a vehicle for job skill training, relative to their heyday in the 19th century (Hamilton, 2000), there are also signs of resurging interest (Evanciew, 1994). One of the few currently active models of large scale apprenticeship training can potentially provide lessons that could be applicable more broadly. The Apprentice School, (http://www.as.edu/) of Newport News, Virginia is an established, highly competitive program that offers future shipbuilders a hands-on education that pays them while they earn college credit. Widely recognized as a successful model, the Apprentice School, established in 1919, reached a milestone in 2014, when it celebrated its 10,000th graduate.

Apprenticeship Programs Projected Outcomes

When compared to academic post-secondary degree programs, apprenticeships offer certain advantages as a pathway to the workplace, including the removal of the need to translate abstract skills into practical tasks, the provision of soft, work culture navigational skills as well as functional task skills, and the fact that the close, one-on-one skill delivery model allows for the accommodation of special needs workers (Evanciew, 2014).

The attractiveness of putting future workers on a path that is essentially self-funded and actually pays successful applicants while they learn is readily apparent. However the fact that even an established model such as The Apprentice School in Newport has not been widely replicated, despite its track record of success, indicates that the requirements and conditions required for that success are either unique, not well understood, difficult to reproduce, or perhaps all three. The qualities and characteristics that allow this Newport News shipbuilding "college" to graduate 142 students from a fully funded education in 2014 (Lessig, 2014) merit closer study, so that these key success factors can be identified and replicated.

Institution Alternatives

Post-tenure Review

A number of institutions have now enforced post-tenure review. According to a study by Licata and Morreale, post-tenure review is described as a method established to, "1) review performances in order to assess if performance expectations are being met, 2) assess individual performance in order to remedy deficiencies, 3) increase accountability to outside constituents, and 4) assess career development goals and establish plans for continued growth and redirection[68]." The different types of post-tenure review include:

[68] Licata and Morreale, 2005, p366

1. Annual Review: focuses on short term performance;
2. Comprehensive Review: assesses performance after a five year period, which establishes goals, timelines, and focuses on professional development;
3. Triggered Review: occurs when tenured faculty members unsatisfactorily perform in an early review, which triggers the development of an improvement plan[69].

Post-tenure review is relatively new in relation to the amount of time tenure has existed. The University of Minnesota, for example, implemented the review into their tenure policy in 1997[70]. A majority of faculty and administrators want to see post-tenure review improved and perceive it as a tool for professional development[71]. Some institutions with strict enforcement have already seen positive results, with underperforming tenured faculty departing when their review date approached[72]. Post-tenure review as a form of tenure reform can be a strong tool for institutions to hold their tenured faculty accountable to high efficiency and productivity, ensuring that higher education's investment in tenure is worth the cost.

Post tenure review programs have been:

1. Mandated by state legislatures (Arkansas, South Carolina, Virginia and California)
2. Required by state systems of higher education (Arizona, Oregon, Florida, Wisconsin)
3. Negotiated in collective bargaining agreements between administration and faculty unions (California State University System, University of Illinois, and the University of Massachusetts)
4. Created voluntarily by higher education institutions (Drexel University)[73]

Post Tenure Review Projected Outcomes

The most influential factor in determining if a post-tenure review system motivates faculty to be productive is whether it results in actual outcomes for the faculty members under review. The review must stimulate faculty to make changes in their performances in the areas they are weak, and have the consequence of termination if changes are not made[74]. At the University of South Carolina, for example, the post-tenure review process allows for a possibility of termination for faculty who have poor evaluations, leading to higher faculty productivity[75]. However, research shows that institutions struggle with post-tenure review when stated objectives fail to align with actual practice. Overall, the method was considered ineffective by faculty because the review showed little evidence of positive outcomes, was not taken seriously due to a lack of follow-up action, and had no consequences for poor performance[76].

Additionally, framing post-tenure review as an opportunity for professional development leads to an effective program with strong results. Thus, in order for the review to be effective, faculty with positive outcomes must feel that it, "Provides support for new professional directions, increases opportunities for

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[69] Joseph C. Morreale. (1999) "Post-tenure Review: Evaluating Teaching" in *Changing Practices and Evaluating Teaching: A Practical Guide to Improved Faculty Performance and Promotion/Tenure Decision.* Bolton, MA: Anker Publishing Inc.
[70] McPherson & Schapiro, 1999
[71] Licata & Morreale, 2005
[72] Holden, 1997
[73] Euben, Donna. (2005) *Post-Tenure Review: Some Case Law* American Association of University Professors; retrieved from *http://www.aaup.org/issues/post-tenure-review/some-case-law*
[74] Licata & Morreale, 2005
[75] McPherson & Schapiro, 1999
[76] Ibid

mid- and late-career transition planning, and establishes an expectation for continuous growth and development[77]." Overall, the two criteria for an effective post-tenure review system is accountability with clearly outlined outcomes, and an opportunity for professional development for productive faculty.

Employing Contingent Faculty

As mentioned previously, the most important reasons for contingent faculty employment are a need for flexibility in staffing and the ability to respond to financial fluctuations. Full-time non-tenured faculty members are a cost-saver for higher education institutions due to lower salaries. One institution pays its non-tenured faculty 85 percent of what it pays tenure-track faculty, thus, "for every 13.3 tenure-track positions the institutions $1,000,000, while for 13.3 non-tenure-track positions the expenditure is $850,000"[78]. Moreover, many full-time non-tenured faculty have heavier teaching loads then tenure-track faculty due to the absence of research work. This not only supplies the teaching demands of increased student enrollment but, "institutions are receiving more credit hours of instruction per dollar invested than they do with tenured or tenure-track faculty . . . non-tenure-track faculty who fulfill just one of the traditional faculty roles, primarily teaching, is an economical use of limited resources[79]."

The use of non-tenure-track faculty also increases an institution's flexibility, both financially and academically. Colleges and universities are able to terminate faculty who are not productive or reassign faculty depending on enrollment and curricular demands. It also helps institutions try new curriculum to keep up with the changing environment outside of academe. Students also benefit from the use of full-time contingent faculty. Since contingent faculty are predominantly committed to teaching, students have more exposure to their instructors with the added benefit of smaller class sizes[80]. Other academic benefits of employing full-time contingent faculty include:

> Freeing tenure-track faculty for upper-division teaching and research . . . relieving tenured faculty of such responsibilities as training and supervising graduate teaching assistants and supervising laboratory activities in the sciences . . . [and contingent faculty] meet highly specialized institutional needs that tenured faculty do not want to assume or that are viewed as an uneconomical use of tenured faculty resources[81].

The need for faculty to do research to keep quality high in a competitive market also means the amount of time faculty spends on undergraduate teaching becomes secondary. Contingent faculty can fill in the roles necessary to educate students and oversee projects so tenured and tenure-track faculty can more effectively utilize their time on research, and decrease faculty costs for higher education institutions[82].

Overall, contingent faculty are beneficial to higher education's financial bottom line, as well as serve as a means to respond to the demand of growing student enrollment.

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[77] Lacita & Morreale, 2005, pg. 373
[78] Baldwin & Chronister, 2001, pg. 118
[79] ibid, p116
[80] Ibid
[81] Ibid, pg. 123
[82] Ibid

Full-time Contingent Faculty Projected Outcomes

Employing non-tenure-track faculty has proven to have economic and academic benefits to higher education. In recent years institutions have increased their utilization of a contingent workforce. A 2013 study done by Inside Higher Ed shows that out of 1,081 provosts in higher education, 64 percent said they favored a system of long-term contracts for faculty members over tenure, and 58 percent agreed that future generations of faculty should not expect tenure to be a factor in their employment in higher education[83]. Still, faculty are the foundation of higher education, so it is important to employ non-tenured-track faculty members who are qualified to do the work and satisfied with the working conditions[84]. As Baldwin and Chronister observed, "the challenge for higher education is to revise its standard operating procedures without violating its fundamental values or threatening the intellectual culture that has contributed so much to the nation's welfare[85]."

State Alternatives

The Role of the State

The challenge is delivering high quality education while managing the delivered cost of that education to students and their families, as well as the taxpaying public. The application of creative thinking, goal setting, and appropriate metrics to measure progress against those goals is an appropriate response to the challenge of achieving these goals.

While the state of Minnesota has no direct control over key factors that drive education delivery costs, such as tenure policies or the use of contingent faculty, the state can still play an important role in bending the cost curve by demanding accountability for appropriate returns on federal, state and family investments in education; finding opportunities to leverage economies of scale; and creating incentives for cost management and revenue enhancement initiatives. Appropriate state policies in these areas are critical to a comprehensive strategy for bending the cost curve.

Opportunities for State Influence

The opportunities for the state of Minnesota to contribute to cost containment can be sorted into the following categories:

- Promote adoption of standardized, easy to understand metrics
- Promote utilization of benchmarks
- Incentivize (or mandate) increased transparency
- Provide financial incentives for institutions to manage/lower costs and increase transparency

Opportunities in the first two categories, promoting the adoption of metrics and benchmarks, are the least controversial and the lowest cost investment. The promotion of increased transparency is more controversial but builds logically on the concepts of standardized metrics and adoption of benchmarks.

[83] Jaschik & Sternberg, 2013
[84] Trower, 2002
[85] Baldwin and Chronister, 2001, p176

An example from outside the field of education is the familiar new car window sticker known as the "Monroney sticker." The Monroney Price Sticker Act is the result of federal legislation, and is more formally known as the Federal Automobile Information Disclosure Act of 1958 [86]. It requires that certain standard information be prominently displayed on all vehicles, including price, major options, vehicle make, model and serial number, country and place of manufacture, and importation point. This information was thought to be essential to allow consumers to be informed about the purchase they were making, and facilitate honest dealer competition on a level playing field. In the case of a university or college, such standard information could include tuition costs, average merit and need based scholarship money awarded per student, graduation rates, statistics regarding post-graduation employment, and starting salaries. By facilitating transparency regarding cost and outcome data, Minnesota could both help its citizens make more informed choices, and increase the attractiveness of matriculating at Minnesota schools relative to schools outside of the state, which might not offer the same level of transparency.

The state of Minnesota should utilize appropriate incentives, including monetary incentives, to encourage Minnesota colleges and universities to leverage the data available from the P-20W Statewide Longitudinal Education Data System (SLEDS)[87]. Data on graduation rates, time to degree, degree completion costs, etc., presented in a consistent and highly visible fashion on Admissions web pages will allow students and their families to make more informed decisions as they evaluate their education options. This data can also be leveraged to measure institutional compliance to state guidelines for performance metrics and continuous improvement. This data could be used as criteria for the awarding of performance-based state and federal financial support for institutions.

Beyond metrics, benchmarks and enhanced transparency are new policies and programs that link college and student financial support to performance measures. Current funding levels could predictably be seen by colleges as entitlements. Programs that make all or a portion of those funds contingent on achievement of certain goals will be resisted, even if paired with opportunities for enhanced financial support as a reward for high achievement.

In some cases, coordination needs to be harmonized with federal policies and program funding. For example, the criteria for awarding Minnesota State Grants are controlled at the state level. Institutional compliance with state recommended incentives, such as the publication of a Monroney Sticker-like summary on the school's admissions web site, can be mandated by the state. But cutting off or reducing funding to schools that fail to comply could provoke a public backlash. Federally funded programs such as the Pell Grant program may not be readily linkable to state guidelines, diluting the potential impact of this strategy.

Although programs that link dollars to performance measures have the greatest potential for controversy and resistance from the institutions, they may also hold the greatest promise for impact. There may be a need for new funding which could be invested in recognizing and rewarding colleges that achieved certain performance benchmarks. These benchmarks could include dollar cost savings and other "public good" deliverables, such as retention rates, graduation rates, need-based financial support; or behaviors associated with cost reduction including cost curve-bending innovations, such as implementation of three year graduation, post-tenure faculty review, etc. In addition, alternative revenue generating initiatives could be identified and rewarded, such as increasing alumni giving or innovative use of physical and human resources to generate revenue.

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[86] United States Code (2010 Edition)Title 15 - Commerce and Trade Chapter 28 - Disclosure of Automobile Information; U.S. Government Printing Office, www.gpo.gov

[87] Statewide Longitudinal Data Systems Grant Program, National Center for Education Statistics. Retrieved from http://nces.ed.gov/programs/slds/about_SLDS.asp

Here is a more detailed example of how an initiative linking funding to performance might be structured. A pool of public funds are earmarked which institutions of higher education can compete for based on their performance along a defined set of cost-reducing parameters. Behavior at the institutional level is rewarded based on adoption of cost-reducing behaviors. In 2012 the state of Minnesota invested just over $3 billion in higher education. Under this proposal 25 percent of total state higher education spending would be redirected into a contingency pool. Disbursements from this pool would be made based on institutional performance. As a straw-man, consider the following characteristics for receiving support from the pool:

1. If institutional behavior remains unchanged across the board, then 75% of the pool would be distributed (a net savings of 25% of 25%, or 6.25% of total higher education spending).
2. If institutional behavior "maxed out" their participation in cost-saving behaviors, then pool distribution would be capped at 175% of current support levels received per institution; or 125% max over the entire pool. Caps above 100% provide meaningful rewards for institutional participation, while the max cap concept limits the public's total investment level. The maximum spend based upon maxing out the pool would be 125% of 25%, or 6.25% above the current total higher education spend. So, while individual institutions might see significantly higher rewards for strong performance (18.75% above their previous baseline), the overall maximum impact on public fund investment is capped at 106.25% of baseline spending levels, in this example.
3. Defining institutional behaviors that result in enhanced levels of public funding would follow SMART goal principles:
    a. S.M.A.R.T. Goals:
        - Specific
        - Measurable
        - Achievable
        - Relevant
        - Time-bound[88]

4. A portion of the pool would be designated to be available to private colleges; this would serve a public interest, as 29% of bachelor degrees in Minnesota are awarded by private colleges[89], and incentivizing educational cost control is a benefit to Minnesota citizens.

Examples of measures of cost saving, efficiency, and quality:

1. Tuition and other required fees (focus on total cost per year, to avoid "gaming the system" by shifting charges from credit hours to activity fees, book costs, etc.)
2. Institutional total operating cost per student educated (reward efficiency)
3. Cost per degree awarded (reward persistence/retention)

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[88] MIT HR Resources – Performance Development: SMART Goals; http://hrweb.mit.edu/performance-development/goal-setting-developmental-planning/smart-goals (retrieved Nov. 19, 2014)
[89] 2014 Minnesota's Private Colleges – Fact Sheet
http://www.mnprivatecolleges.org/sites/default/files/downloads/factcard.pdf

4. Aggregated faculty performance (teacher evaluations; publications, other measures of academic contributions)
5. Educational outcomes (post graduation employment rates; average salaries, etc.)

Statewide Adoption of Standard Metrics Projected Outcomes

Adoption of a statewide standard set of cost, quality and efficiency metrics will lead to a more informed consumer, and ultimately to better quality education decisions, as students and their families come to understand the cost and outcome impact of their choices, and institutions become accustomed to managing their execution in a fashion that optimizes their metrics. This is not unlike the situation today, where schools are aware of how decisions they make on parameters such as acceptance rates and average GPAs for each incoming class of students impacts their standing in various national rankings.

There will always be some level of risk that institutions will seek to "game" the measures in order to achieve more attractive metrics. To manage this risk, it is suggested that institutions be invited to be a part of the metrics development process, and that the measures be revisited from time to time to validate that their meaningfulness and relevance.

The "Monroney Sticker" Projected Outcomes

The higher education "Monroney Sticker" would be developed hand-in-hand with the statewide measures described above. Similarly, the benefits go hand in hand. Here it will be especially important to have broad engagement, from consumer advocates as well as educators; and to develop a subset of performance measures that are both meaningful and simple enough to be understood by the layperson. Properly implemented, the Minnesota higher education "Monroney Sticker" could become a competitive advantage for Minnesota schools. There is no doubt that students and their families nationwide would value clearer, more consistent depiction of information such as average cost paid for a four year degree, average time to degree completion, graduation rates, employment rates for recent graduates, and average salaries earned.

The easy to understand measures used by students and their families to select schools could also be the foundation of the measures used by the state if the contingent funding policy option (*see below*) were to be adopted.

Financial Incentives Projected Outcomes

After performance measures are established, a logical next step to drive institutional engagement and compliance is to establish financial incentives. This could be accomplished in either of two ways. One way is to identify incremental funding for educational institutions that they could qualify for if they achieve certain goals. The other would be to remain within established funding parameters, but to make all or a portion of an institution's funding award contingent on the achievement of certain goals.

Either of these two approaches would likely be met with considerable resistance. The public has already made it clear to policy makers that increased public funding of higher education is not a priority. On the other hand, a tremendous backlash from institutions of higher education as well as the public could be anticipated if current funding levels were to be made contingent upon achievement of performance goals.

As a means of keeping both the institutional and the public outcry to a minimum, we described a hybrid model. The hybrid model suggests an arbitrary floor (*we suggested 75 percent*) of current funding levels, but creates a pool where an outstanding level of achievement might allow an institution to gain funding support over and above current levels. Another variant on this model would allow private institutions, which in Minnesota award 29 percent of all four-year degrees, to participate as well – this brings private institutions in Minnesota into the same sphere of transparency as public institutions.

The complexity and ambitiousness of such a scheme, as well as the tremendous potential for resistance, leads us to recommend not going forward with a financial incentive based initiative at this time. It might be an appropriate next step following successful adoption of common metrics and Monroney/transparency initiatives.

Criteria

Efficiency

Efficiency Criteria	Student	Institution	State
Reduced time to degree completion	X		X
Decrease 6-year graduation rate, increase 3- and 4-year graduation rates	X		X
Student increase credits to utilize bulk tuition payments	X		
Students are able to learn at their own pace and use prior learning experiences to validate competencies	X		
AA degrees awarded as a percentage of new enrollments	X	X	X
Student initiatives reduce program redundancy; students focus on major classes	X		
Acceptance rates into 4-year colleges	X	X	X
Increased retention rates	X	X	X
Contingent faculty fill gaps in low teaching productivity for research heavy tenured faculty		X	
Contingent faculty take on more classes for a lower pay		X	
Increase non-tenured faculty positions, decrease senior tenure slump		X	
Initiatives regarding infrastructure and talent focus on best practices to utilize resources			X
Continuous improvement to contain costs		X	X
Improved benchmarking in relation to other institutions of similar missions, both statewide and nationally	X	X	X

Accountability

Accountability Criteria	Student	Institution	State
Programs meet state accreditation standards in order to receive Title IV funding	X		X
Programs offer general education in combination with content course to prepare students for the workforce	X		X
Three-year programs require students to complete 120 credits using the traditional credit hour	X		X
Competency-based programs require student to master each competency before progressing using frequent assessments	X		X
Competency-based programs meet the needs of prospective employers through expert-influenced program design	X		X
Tenured professors are held accountable to satisfactory performance		X	
Check and balance on lifetime appointment of tenured faculty		X	
Opportunities for professional development in high-performing tenured faculty		X	
Development and adoption of "industry standard" metrics to measure student outcomes			X
Participation in initiatives that lead to system-wide improvements in efficiencies			X

Recommendations

Student Recommendations

Three-year degrees and competency-based programs both present strengths and weaknesses in cutting student costs. For the purposes of the institution, as well as the student, three-year degrees are much more achievable. Institutions have the infrastructure, courses, and core components needed to design three-year degree programs. These programs can be implemented within the current higher education landscape without having to outsource to third parties. These degree programs can reach students inside and outside of traditional higher education.

Additionally, these programs are beneficial to the students. Students would be able to earn a recognizable degree that employers will value. The public does not understand competency-based credentialing, which can be detrimental to students as they are applying for jobs post-college. Students need to graduate with a degree that is publicly perceived as valuable. By offering three-year degree programs within the confines of traditional higher education students can earn a degree, spend significantly less money, and have the credentials needed to compete successfully in the job market after graduation.

While both options are legitimate alternatives, three-year degree programs offer a more robust path to student success. By creating three-year degree programs and articulation agreements, students receive the benefit of a quality education that makes them marketable for today's workforce. Going forward, it will be necessary to develop a set of metrics around these programs that measures their quality and comparability to traditional programs. Continual re-evaluation of student access into these programs will be necessary to ensure that all students are able to equitably receive an affordable education. In order for restructuring to take place, institutions must have a willingness to engage in redesign[90].

Institution Recommendations

Post-tenure review is an excellent program for any higher education institution to implement. A strong post-tenure review process ensures that tenured faculty are held accountable to the institution's performance standards, while providing merit and professional development opportunities to the faculty that deserve it. It is an excellent way to monitor job performance while providing the space and academic freedom for excellence and discovery. The model that seems the most effective and productive to adopt is the comprehensive review model. Every five years, this review assesses not only performance, but also recommended professional growth. The timeline allows for faculty to have a substantial amount of time to finish research, projects, and publications, and also follows a "positive" model of granting opportunities for growth based on satisfactory performance. On the other hand, it also holds faculty accountable for poor performance, mandating an additional review in one or two years following along with an improvement plan to help the faculty succeed[91]. In order to be effective post-tenure review must provide positive repercussions for faculty who exceed expectations as well as negative consequences and accountability for those who are underperforming.

Employing full-time contingent faculty is an economic necessity in higher education. Thus, it must be done in a way that upholds the standards of higher education. Economic security is important to

[90] Twigg, 1999
[91] Licata & Morreale, 2005

potential faculty, thus the use of full-time multi-year renewable contracts will bring in the most attractive candidates[92]. In order to assess performance for a multi-year renewable contract, a defined probationary period similar to the pre-tenure phase should be implemented with the evaluation criteria being clear, consistent, and explicit so the faculty unmistakably understands on what grounds s/he will be assessed[93].

Following the probationary period, a multi-year renewable contract not only gives the faculty member economic stability but also gives institutions the ability to strategically plan their staffing for a number of years. Institutions must develop an equitable salary system, with salaries that are comparable to those of tenure-track employees[94]. Professional development opportunities must also be a key element; faculty must feel supported by their institution to continue improving their teaching and student learning[95]. Professional development must also include opportunities for advancement based on a faculty member's superior performance[96].

Additionally, a multi-year contract must have defined dates for contract renewal to reduce the apprehension and uncertainty faculty may feel. The procedures for renewal must be clearly established. Other key elements that are important for multi-year renewable contracts are: meaningful involvement in governance and curriculum development, recognition for academic contributions, procedures for protecting academic freedom, and an orientation period[97]. Overall, multi-year contracts are a strong alternative to tenure, if the criteria mentioned above are met. The characteristics of a strong multi-year contract system include provision of a substantial sense of stability, as well as accountability and incentives for continuous improvement.

State Recommendations

With regards to state policy-driven strategies for cost containment, a hybrid approach is recommended. The establishment of incremental funding to recognize, incentivize, fund, and reward institutional cost-saving, society-serving and efficiency enhancing behaviors will require extensive political lobbying efforts. It is likely that time will be required to develop appropriate studies to prove the efficacy and impact of such investments, before legislators and the public will give such measures their support. In a similar fashion, implementing restrictions that tie disbursement of current funding to the achievement or the capture and reporting of specified performance metrics, while not requiring significant incremental spending (and perhaps even reducing current spending levels due to non-compliance by some eligible institutions) will take time. Time is needed to identify the appropriate metrics, goals, and compliance incentives, and allow for the appropriate political and legislative processes to operate.

For reasons suggested by the above, the establishment of appropriate metrics and benchmarks should be the first area of focus and of the greatest urgency to complete, because those measures will provide the foundation for the balance of the proposals. Not only is implementation relatively less burdened by controversy and therefore more timely, but without metrics and benchmarks, it will be impossible to ascertain, recognize, and incentivize the desired behaviors.

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[92] Trower, 2002
[93] Baldwin & Chronister, 2001
[94] Ibid.
[95] Seif, 2011
[96] Baldwin & Chronister, 2001
[97] Baldwin & Chronister, 2001

Conclusion

The recommendations presented here from the student, institution, and state perspectives align with the criteria of accountability and efficiency that fit within existing structures in higher education. Student recommendations allow policy makers to be aware of the student needs and outcomes within higher education. These recommendations provide a tangible model that may attract a new demographic of students. Accelerated programs allow students to pursue additional training and professional degree programs that will enable them to enter the workforce at a quicker rate, increasing their earning potential. Institutional recommendations allow policy makers to create incentives for institutional hiring practices. The institutional recommendations require restructuring the existing systems into a system that focuses on the productivity and academic outcomes that enhance the quality of instruction. Lastly, the state recommendations define the value of an education at the institutional level in a way that is clearly comprehensible by the student and family. This level of transparency provides a clear understanding of the value and educational outcomes that a student can expect to receive.

Based on the criteria presented in this analysis, the recommendations provide a variety of approaches that would lead to lessening the cost burden of higher education, and incentivizing transformation within higher education systems that allows the mission of public institutions to be upheld.

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