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The Future of Higher Education: How a Student's Decision to Attend College is Evolving

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The Future of Higher Education: How a Student's Decision to Attend College is Evolving

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DePauw University Honor Scholar Program

Class of 2019

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INTRODUCTION

Work hard in high school so you can get your diploma. Use your diploma to get into college. Work hard in college so you can get your degree. That degree will set you on a path that leads to better things. Just get the college degree and you will have more money and be more successful!

This is the typical educational framework that has been drilled into young students entering high school. When I was in high school, I heard this from my parents, my teachers, and my guidance counselor. But is this necessarily true? The argument for college education has been consistently strong in the past, but as of recent years the benefits of going to college have become dependent on several factors. The decision to go to college is no longer solely dependent upon whether you can get in or not. One must consider the cost of attending, what a certain degree will do for their personal situation, and the opportunity cost of not attending. For some people, attending college may not make them successful, and could limit their potential earnings.

The notion that college does not guarantee money or success has become a problem for students. The price of attending college has been rising exponentially, and students are taking on a much larger risk than their parents' generation. Tuition price for some schools has hit \$60,000 per year, putting a burden on either the government to subsidize the scholarship or the student to take out a loan. Tuition is growing much faster than inflation; therefore, the degree is much more expensive. There comes a time when a student must question whether they can even afford all the benefits the university will bring. At some point, the cost will outweigh the return students see from attending that university. In addition, the rising cost is causing the student to be more

reliant on the financial aid and loans they receive. With the still-increasing number of college students, there will be more students having successful experiences, but there will also be more students who drop out or become consumed by loans after graduation.

The higher education sector is becoming less efficient. In other words, tuition increase does not mean that the university has gotten better, or that they are producing more human capital. Universities see the increasing risk for students, and as a result core changes will be made in the coming years. We have already seen some schools altering coursework, and in some cases eliminating majors to create others. There is a national trend of changing the faculty dynamic, as schools are working to cut costs and shift focus toward adjuncts. The new wave of college operations will be beneficial to students in certain fields, but for others it can destroy the outlook of their desired career. The college student population is likely to have different characteristics down the road, and it is vital to keep up with these characteristics in order to determine whether it is right for a specific person to get a degree.

Universities are reactionary. They react to what high schools are doing, and they react to what the labor force wants. They are a transitional medium that is meant to grow students and better prepare them for what lies ahead. They can't affect much concerning how high school supply is altered, or how workforce demand will change, but they can influence their operations to help facilitate student development. As of right now, people are becoming more skeptical of the universities' ability to provide these returns, and unless they can turn things around, more colleges and more students will struggle.

PART 1: HIGH SCHOOL LEVEL

A student's decision to go to college comes long before they send in the application. It starts with the local educational system and its ability to prepare students for the rigor of higher education. The quality of a student's high school experience will play a major role in both their academic ability to get into college as well as their willingness to attend. High schools are not equal, and students at some schools find themselves disadvantaged, having less opportunity to obtain a higher education. However, the student population will be much different by 2030, and the educational system will evolve with it. As of now, there is a large difference in the probability of attending a 4-year college between an upper-middle class white student from New York and a low-income Latino student from Texas with the same grades. But after the student demographic shifts and colleges adjust recruiting strategies, the gap may get smaller. It is imperative that universities and governments pay attention to the changing student demographic, as it will carry implications on admissions and financial aid.

The Student Population and Demographic Will Change

The Western Interstate Commission for Higher Education (WICHE) is an organization set to improve higher education and ensure student success. WICHE releases projections for all aspects of higher education, one of them being the incoming student population. Figure 1.1 is WICHE's projection for the total number of high school graduates by the year they graduate (Western 2019). The student population will fluctuate until 2025, but the anticipated pressure comes in the decline in students from 2025-2030. Beginning in 2025, The student population will

hit a steady decline, decreasing a total of about 263,000 students, or about 7.5%. After decades of increases, this is the largest decrease since the early 1990's. The drop can be attributed to the beginning of the 2007-08 recession, as fertility rates dropped 12% over 6 years (Grawe 2018).

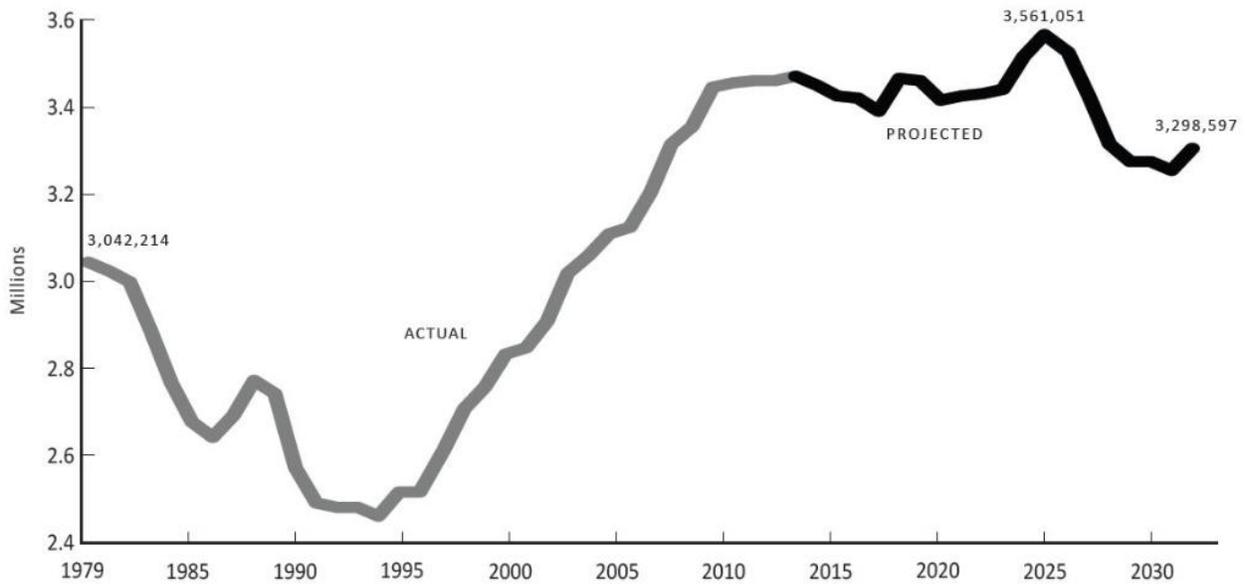


Figure 1.1: WICHE’s projection for the total number of high school graduates by the year they graduate (Western 2019).

What can be alarming for some universities is the breakdown of student population growth by region. In New England and the Northeast, the greatest prospective student pool for higher education, the number of high school graduates is expected to decrease 15-20%. The Midwest is expecting decreases from 5-15% as well. The only regions with any growth in high school graduates are the Mountain and Southwest regions, who currently have the weakest connection to higher education (Grawe 2018). Seeing the changing location of high school graduates will impose challenges on recruiters to find new base markets, and not rely as heavily

on the areas they had before. For Northeast schools, that means taking recruiting to a more national level. Perhaps the strong universities such as Ivy League schools can do this more easily, but the local Northeast schools will face more issues.

Admissions teams will also have to start marketing to a new demographic. According to WICHE forecasts, the total non-Hispanic white high school graduates will drop 15%, and the total non-Hispanic black graduates will drop 8%. However, there is an increase in the percentage of Hispanic and Asian/Pacific Islander graduates. Asian and Pacific Islander graduates are projected to increase as much as 35%, but they are starting at a smaller base of students. The loss of non-Hispanic white students and non-Hispanic Black students follows the student population Southwest, as the Northeast saw the largest decreases. The number of Hispanic and Asian graduates however were expected to increase more than 7.5% everywhere (Western 2019). The large and increasing flow of immigrants from Asia and Latin America will push student demographics even further in this direction. This can be expected, as immigration rates have been steady over the last 30 years.

Universities will need to consider the increasing proportion of minorities if they wish to keep enrollment trends, because race and ethnicity is strongly correlated to college attendance. Asian Americans and non-Hispanic whites have significantly higher likelihoods of acquiring a college education than non-Hispanic blacks and Hispanics. 84% of Asian Americans and 75% of non-Hispanic whites attend any type of college, compared to 60% among other groups. Whereas 58% of Asian students go to a four-year college, only 25% of Hispanics attend (Grawe 2018). If colleges wish to maintain enrollments, they are going to need to push more minority groups,

especially Hispanics, to get into college. If not, the number of college-going students could drop lower than what WICHE forecasts.

Nathan Grawe made an attempt to transform population forecasts into college attendance forecasts with the Higher Education Demand Index (HEDI). His model measures the demand for college in a specific area for a specific race/ethnicity by multiplying the number of students in the area by their respective probability of attending college. Probability of attending is dependent upon several factors, such as sex, parental education, income, urbanization, and probability of migration to another area. The latter is a factor that allows for the influx/outflux of students to an area based upon their probability of moving. For example, a child in rural Mississippi whose family has no education has a much lower chance of moving than a child living in downtown New Orleans whose parents both have BA's. His model generated not only the demand for college in that area, but also the demand among different institutions, such as 2-year versus 4-year, or just the top 50 universities. When past data as input, the model predicted the present with high accuracy.

The results of the HEDI showed that college attendance trends seemed to match student population trends. The amount of college attending non-Hispanic whites dropped everywhere, and the number of non-Hispanic blacks dropped everywhere except for San Antonio and Houston. In total, the college going students of the two groups is expected to drop about 10%. Concurrent to population trends, institutions across the nation can expect an influx of Asian and Hispanic students. The total number of Hispanic college students is projected to increase 5% (Grawe 2018). In all, non-Hispanic whites will still dominate the college going population, but the gap between ethnicities is expected to get slimmer. However, the college population may not

seem like it is more “diverse”. Non-Hispanic blacks are impacted the most as they see a reversal of what is currently trending. While the non-Hispanic black portion of college students is only expected to drop 3%, the proportion is dropping from 13% to 10%, which equates to over a 20% drop in the share of black students at universities (Grawe 2018). The spread of diversity is not equal across all institutions, either. It appears that 2-year colleges and regional 4-year institutions will see the biggest increase in Hispanic students, but not much of an increase in the highly selective institutions. In contrast, the Asian students see most all their increase in share come from the increase in students at highly selective institutions.

The expected influx of Asian students into highly selective institutions makes the decision on the Harvard case have increased importance. Alia Wong wrote an article in the Atlantic about an Asian student named Samantha and her college application experience. Samantha claimed that for the elite schools, they incentivize students to distort their identity to fit the profile of the optimum student. When it comes to race, they sometimes had to over- or underemphasize their background. Samantha claimed that her tutor and college counselors all encouraged her not to sound “too Asian”, as it would hurt her likelihood of getting in. She had to take out parts of her application that gave a racial stereotype to Asians, such as playing the violin (Wong 2018). Scandals such as the Harvard case are a bad signal to Asian students, given that more Asians are expecting to attend elite institutions in the future. Perhaps the highly selective colleges should focus on encouraging the change in demographic and use the rise in Asian students to get ahead and recruit for the future.

The rise in Asian and Hispanic students raises the question- will these students be as prepared, given the high schools they are in? The new student population will be coming from a

different distribution of high schools, and it is imperative that teaching methods and student support services in place can generate the amount of graduates we expect.

Differentiation Among High Schools Creates the Advantaged and Disadvantaged

The opportunity to attend college is not equal for everyone, partially because certain high schools are better at preparing their students for higher education. The quality gap between high schools will take increasing priority as the student demographic takes a transition. Because minorities tend to be of lower income, the difference between high and low-income schools will play a role in how prepared the new demographic of students is for obtaining a higher education. A student that attends a low-income school will see not only a material difference in their educational experience but also cognitive hindrances as well.

The material differences among high schools are a result of their source of funding. Local property taxes fund high schools, and it naturally follows that the schools in wealthier areas have more to spend on their students than schools in low-income areas. In her article, “Good School, Rich School; Bad School, Poor School”, Alana Samuel writes about the quality variance in Connecticut between rich schools in Greenwich and poor schools in Bridgeport, where the difference in spending is about \$6,000 per student. Samuel illustrates that there are several barriers to Bridgeport’s education that Greenwich does not face. Districts with low funding tend to have more students in need of the extra help, yet they have fewer guidance counselors and tutors, and their teachers are paid less. They have older facilities and larger class sizes as well, which have both proven to decrease academic performance.

The lack of money created a domino effect. substitutes were frequent because more teachers would get frustrated and leave, students did not have time to complete projects because they had to share computers, and more students would get suspended because they didn't have enough counselors to help with their problems (Semuel 2016). Without money to acquire essential resources, low-income students see their learning experience depleted by things outside their control. Through no fault of their own, they will be at disadvantage to students of higher income schools.

Perhaps the true disadvantage in high schools is the effect of lower income high schools on cognitive development. Jean Anyon of Rutgers University conducted a study on the cognitive differences among students in low-income and high-income schools. She went to local high schools in the area that were associated as "working-class schools" and "affluent professional schools", largely based upon the property tax income and parent occupations. She observed their behavior and asked the students about what it means to have knowledge. She hoped that the students' explanation of knowledge would show how the students are conditioned to learn. What she found was that there are significant differences in the way low-income students are conditioned to learn compared to high-income students. The students at the working-class school were taught in a style that emphasized mechanical behaviors rather than conceptual material. To them, knowledge was knowing how to do things. There were offered little cultural capital, or the knowledge and skill to navigate ideas in their own interest (Anyon 1981). The "go through the motions" tactics emphasized at these schools are reproductive of division of labor at work, often to carry out the plans of others. The teaching style instilled the same working-class mentality that their parents have, offering little room for social transformation. Their opposition

to new ideas hurt their ability to cope with social changes, as some students were engaged in struggles against material taught in school and what they previously thought. Anyon stated that some students in these high schools have already rejected the idea of equal chances for themselves in the real world.

In the affluent professional schools, the reproductive aspects of their education were much more promising. The children are taught the history of the wealthy elite, which is, for the most part, their own history. They are taught that the power of their social group is legitimate. Cultural capital is fostered, as they are taught ways of expressing ideas from their own perspectives and interests. To these students, knowledge was geared more towards conceptualizing, being able to analyze and evaluate to create one's own opinion (Anyon 1981). The affluent professional high schools were better at teaching transcendent knowledge. They trained the students to be more individualistic, setting a better foundation for social mobility.

The evidence of class conflict in educational knowledge and its distribution affects college decisions and ultimately career choices.. High school education can contribute to social processes of conservation and transformation. Teaching style is conducive to the reproduction of tensions in larger society, particularly between groups in power and the working class. Since the open-minded learning style is more prevalent in universities, low-income high schools need to prioritize teaching personal values and individualism. Reducing the cognitive gap between classes can help low-income students be a better product for society. If low-income students came in to college fostering creativity and an entrepreneurial spirit, they would be able to excel and get into higher paying, more impactful jobs. If low-income high school students remain

ignorant to expressing ideas in their own interest, they will be less prepared for college and have higher probability of failure.

It is not a guarantee that higher funding for the low-income schools would eliminate all deficiencies in their educational system, but it would provide enough resources to break the cycle of immobility for students. According to the US Department of Education, high-poverty districts spend 15.6% less per student than low-poverty districts. The Department estimates that a 20% increase in per-student spending per year at low-income schools can lead to an additional year of completed education, 25% higher earnings, and a 20% reduction in the incidence of poverty in adulthood (Semuel 2018).

If students from all areas were to have similar ability to get into college, more funding would have to go to poorer schools. State and local governments would have to take the responsibility of unrooting the socially immobility that is physically and cognitively brought upon lower class students. The income gap is inevitably what causes good students in low-income areas to think they won't make it in college, and if nothing is done, we can expect the same cognitive approach from these students in the future. With a rising number of Hispanic students who are generally of lower income, the effects of the income gap will become much more important.

Grades and Test Scores are Misleading Universities

In addition to the student demographic change, colleges must also sort through the current grade inflation that is plaguing high schools. Average grades at schools have been rising, creating a larger pool of "eligible" students for college. However, the large number of students has created skepticism that all college-eligible students are not prepared to achieve a higher

education. Standardized tests have also seen recent changes, allowing for students to post higher scores. The sway of scores in a positive direction is supposed to mean that students are getting smarter-but in reality, high schools are simply making it harder for admissions offices to determine the students that are the right fit.

High school GPA's are rising nationwide, but after analysis of test scores and literacy levels, it appears that grade inflation does not reflect greater academic achievement. Between the 2004-05 and 2015-16 school years, median GPA increased .27 points in affluent schools and .10 points in less affluent schools (Jaschik 2018). The GPA gap provides evidence that more affluent schools have smarter students. But when it comes to their performance, statewide tests show that over half of students with B's in Algebra I failed to score "proficient". Grade inflation can become a problem for the future of high school students. Why invest more time in something if the grade says you know it?

National tests such as the SAT are becoming easier for students as well. In 2016, the SAT changed to favor students that were on the borderline of doing well. For example, there is no longer a penalty for missed questions. In the writing portion, students receive the essay question before the test. In the reading section, there is no more obscure vocabulary. The returns are not the same for all students; the ones on the lower end of the scale will benefit more from changes than those who didn't need the help. There is a certain number of students who would get a 2000 on the old test, but now they are in direct competition with those who benefit from the changes and score a 2000. For college recruiters, it becomes hard to determine which students could endure the extra challenge.

Grade inflation and the simplification of the SAT have consequences on the efficiency of college admissions. Diluting the pool of college-prepared students with underqualified students can lead to poor admission decisions and lower graduation rates. From a college-going student's perspective, you are one of two people: someone meant to go to college that now sees a lower probability of acceptance, or someone unqualified for college that has a high probability of failing. For either student, the investment in higher education is riskier.

Any College is Not the Right College

There are several reasons why a student may choose to go to a school that isn't the best for them. The most common ones are that the school is close to home, or they have friends that attended, or they received the most money to go there. What those students should have considered was the university that was the best for them academically. Students can find themselves at a university that isn't what they expected. The university may not be challenging, causing the student to waste time and money that could have been better spent.

The investment of time and money is especially important for students of lower income. The risk of a faulty investment has much more impact on the student's life than a student from a wealthier background. There is a motivation to play it safe, and that can lead to some students applying to lesser universities or not applying at all. The student won't see their full potential, nor will the workforce.

In 2017, Louis Miller and Humberto Barreto of DePauw University conducted a study to analyze undermatching. They wanted to explain why so many high-achieving, low-income

students enroll at colleges of relatively poor standards when they would have been successful at a more selective university. For the study, students were considered undermatched if they attended a school with a median SAT 15 percentiles below their own. Independent variables were the student's family income and the distance between the home and college the student attends. Results showed that a low-income student is 7.4% more likely to undermatch than a middle-income student, and a middle-income student is 18.6% more likely to undermatch than a high-income student. Among students who go to local universities, low-income students have a 63.7% chance of undermatching compared to high-income students with a 38.2% chance of undermatching. In addition, a vast majority of the low-income students achieving in the top 10% do not apply to any selective university. Miller and Barreto concluded that distance from home can mitigate a student's chance of undermatching. For example, a low-income student that goes to school 3,000 miles away is 80% less likely to undermatch than a low-income student.

Getting students to travel further for college could be one of the solutions for reducing undermatching. Perhaps it causes the student to put more focus on the returns to the university, rather than the cost or the distance. To assist with this, selective colleges could pay for the low-income students to have on campus visits. Colleges could assist low-income students with their application to get the high achieving students to start applying more selectively. In addition, admissions teams could assist the students in applying for financial aid packages to ensure that the students are receiving what they are eligible for.

A major determinant in every student's college decision is financial aid. Students fill out the Free Application for Federal Student Aid (FAFSA) and become eligible for federal and state

financial aid. The amount is dependent upon race, sex, parental income, academic achievement, and other factors. Lower-income students are granted the most financial aid, as they need it the most. However, these students rarely see the federal and state aid make up for the total amount they need. Often low-income students are needing to take out additional loans and face a larger threat of defaulting on a loan than a higher-income student. A generous financial aid package can be viewed as providing more money to the student, while also taking away that incremental amount in the student loan burden.

Increased proportion of minorities in the student population will lead to a different propensity to spend on college. According to the Bureau of Labor Statistics, investment on higher education differs among race and social class. White and Asian households spend the most on higher education. Relative to white households, Hispanics and blacks have significantly less expenditures after fixing for family income. Hispanics have the lowest levels of household tuition expenditures (Bureau of Labor Statistics, 2018). Hispanics spend the least primarily because of low levels of permanent income, lowest levels of parental education, and low frequency of Hispanics attending college. Expenditure rates among Hispanics indicate that Hispanic students put relatively put the lowest value on a higher education.

Thus, the shifting racial and income demographics of future students will create a heavier reliance on financial aid. The reduced number of white students is a decrease in the students who spend the most, and therefore require the smallest amount of aid. Instead, the aid will be directed toward the increasing number of Hispanics. The demand for financial aid will increase, especially for need-based aid. All states provide need-based aid for students, and some states

additionally provide merit-based aid. However, students are only eligible for most grants if they attend an in-state university. State governments are incentivizing students to stay local to keep the workforce within state lines and collect tax revenue. Unintentionally, the promotion of in-state universities contributes to undermatching, as low-income students are more likely to undermatch at local universities. Financial aid can provide a larger opportunity to go to college, but it may be steering some low-income students to the wrong places.

States governments have consistently increased student aid since 2012, but they are showing signs of slowing down. In 2017-18, state fiscal support saw its lowest increase in 5 years. Total state support for higher education grew 1.6%, lower than the rate of inflation. 19 states saw budget decreases from 2016-2018, North Dakota suffering the largest drop of 14.6% (Seltzer 2018). Those states with budget decreases could run into problems as the student population rises until 2025. With inflation and tuition expected to rise, more students will be forced to take out a private loan or not attend college. Consider the state of Florida, which decreased funding of higher education by 30% since 2007, despite a 66% increase in four-year tuition (Seltzer 2018). The widening gap between state funding and tuition is alarming news for students.

Total undergraduate financial aid has already been in a steady decline. According to the College Board Student Aid Report of 2018, total financial aid for students dropped \$22.6 billion, about 11%, since 2010. The decrease in federal aid was mainly responsible. In the past 5 years, federal loans have gone down 23%, and their proportion of total student aid has decreased about 6%. The federal government has been less involved in higher education, and that has caused students to go elsewhere for money. Students are beginning to take more nonfederal education

loans from banks, credit unions, and other private lenders. The total amount of nonfederal educational loans taken out increased from \$9 billion to \$12 billion since 2009, increasing their portion of total loans from 7% to 11% (College Board 2018). Decreasing federal subsidization has been reversed somewhat by state funding growth. But if state funding continues its slowdown, we can expect more nonfederal educational loans to be taken out.

Decreasing financial aid can only reach a certain point. There is some level of funding where enough students won't have the resources to pay for higher education. How helpful is it to have a large potential number of students if they cannot make the necessary contributions to the cost of their education? College will become the path for high-income students. There will be an economic barrier for lower-income students to get into the selective schools, and more of those students will undermatch. The college student pool will become just those who can afford it instead of who should attend.

Suppose the high school education system became more efficient. That is, the material and psychological income gap is cut, and undermatching is less prevalent. Students receive enough aid to go to their desired school, and everyone ends up where they are supposed to be. The result would be a more extreme version of current trends. The proportion of college-going low-income students would grow more than its current projections. There would be a significantly higher demand for financial aid, and governments would be strained. They would have to pull funds from other areas, deteriorating other aspects of the economy. The government is unlikely to do this, and problems would arise. We would see a larger amount of kids who were prepared for college but didn't have the money to go. They would funnel into lower paying jobs

and maintain a lower quality of life. Students are the future labor force, and they will rely on the government more in the future. It is up to governments to be innovative and find ways to educate these students so that the country can continue to increase human capital.

PART 2: WHAT COLLEGES ARE DOING

A common misconception among high school students is that the relationship between education and income is linear. They believe that an increase in their years of education will translate to an increase in the wage they will earn upon graduation. The students are assuming that higher education will provide them with an increase in human capital, and that it will be recognized by employers. But is this really the case? Skepticism has grown around higher education as students are losing faith in the ability of universities to prepare them for the future. As high school students begin their applications, they will need to focus on what makes a university successful.

In “Subsidies, Hierarchy and Peers: The Awkward Economics of Higher Education”, Gordon Winston made an argument that much of a university’s perceived quality is determined by the strength of its students, rather than the resources it provides. Winston calls this the peer effect. Essentially, higher education is a customer input market- the students are both the supply and the demand. Colleges buy their inputs to production from the customers who ultimately purchase their product. Demand leads a student to pay tuition to go to a college where they eventually supply the university’s results. This can be seen most easily in sports, where a student commits to a team and supplies the university with its athletic reputation and prestige. When considering academics, students go to a university where they can educate both themselves and each other, growing off the input of the students around them. The quality of the education a student receives depends to some degree on the quality of the student’s peers (Winston 1999).

There is truth to Winston's argument, as national measures of institutional quality often contain the average SAT scores of its students.

Different students provide different measures of inputs, as some will be strong in certain areas where others lack. Institutions seek through their student population to identify those who are providing high quality inputs and those who are not. Colleges have strong incentive to care about the identity of those to whom they sell, as it will influence their performance as well as their customers of the future. If a school wants to improve its educational production function, they must admit students of higher quality to ensure a base of students that are more inclined to accel. To discourage some of the lower quality input students from attending, colleges have been raising prices.

College tuition has consistently been rising faster than inflation. Thus, the investment in higher education is becoming larger and more impactful for students. The return to college is dependent upon the cost of attending, and rising tuition is becoming a hindrance for low-income students. The raise in salary from obtaining a degree can easily be wiped out by increasing costs of college, as students dig themselves into a hole with student loans. With a larger initial investment, students must require that they see the same increase in human capital that they expected when coming to campus.

Higher education is making a shift in order to maintain such returns for students. Universities nationwide are making the move toward more job-relevant courses. In that comes the promotion of STEM and health-science related majors. Colleges are straying from the liberal arts majors, as recent history has proven them to provide those students with lower salaries.

Faculty adjustments are also being made as colleges look to cut costs for the future. Several universities have made budget cuts that led to employee layoffs, salary compression, and an influx of part-time and adjunct professors. For certain students, especially in non-STEM majors, the relationship between education and income may become heavily distorted. Compared to what higher education currently provides in these areas, non-STEM students may see a loss of benefits.

University endowments will play a role in the transition of universities into a new era. The success of universities will be dependent upon which ones can afford the transition and maintain their efficiency over time. Those with higher endowments will be more robust to the consequences of changing courses and faculty. Long term spending power will be influential as the student demographic changes to a new demand. Low-performing colleges with low endowments will not have as much financial freedom or backup funding to be as versatile as wealthy colleges. Underperforming schools are headed for trouble down the road. Students must take this into consideration, as they do not wish to see the institution they invested all of their money in fail to produce high quality students. For a graduate in the workforce, the quality of their degree rests upon the current success of the university as well. If a college fails, their degree loses value.

Tuition is Rising

While higher education is an important driver of societal improvement, we must remember that universities are businesses. Colleges have to admit the right number of students of the right quality at a set amount of government funding. However, the costs universities are

being forced to take on are increasing, and it is reflected in tuition price. With the student demographic headed towards students of lower income, tuition hikes can be unsettling. By the time 2030 comes around, current tuition trends may not be able to hold.

There is an economic argument for a university posting a high tuition. Essentially, tuition is a sticker price. Students are making payments for the results they ultimately wish to receive, and institutions have the responsibility to take that money and give them educational services and housing. For students, tuition is a challenging investment because they don't know exactly what they are buying yet (Winston 1999). Universities can differentiate themselves to students through financial aid or grant awards, lowering the cost from the sticker price and making the university more competitive. Colleges are unique because they have access to both government funding and donative resources such as alumni endowments to subsidize students below the cost. The dynamic of tuition and subsidy is to attract the best students from other schools. Highly selective institutions use tuition to market their position in the educational hierarchy. When paired with high subsidy, students feel important to the university and are more likely to attend. Universities give the best students the most merit-based scholarships, which in turn enhances student quality and increases demand for the next year. With increasing demand, the university can bump up tuition and repeat the process year after year.

The arising problem is that increases in tuition are a result of government funding, not student demand. Tax revolts and the general disenchantment of higher education have led public schools to have a depleted amount of government funding, leading universities to cut costs or raise their sticker price. Tyler Durden wrote an article highlighting the dramatic tuition increases

that public schools have had to make as a result of decreased funding. From 2007-2014, average annual published tuition rose by 28% above the rate of inflation, equaling about \$1,936 additional cost per year. In Southwestern states such as Arizona, tuition rose almost 81% (Durden 2014). Tuition has continued to outpace inflation since 2014 and shows no signs of slowing down. The gap between dwindling government subsidy and increasing general tuition will create a large financial burden for incoming students.

For some universities, increasing tuition is still not enough to make up for the decrease in funding. Colleges are struggling to pay professors, update facilities, and provide social services. It is becoming more difficult for them to subsidize students as state funding does not provide the necessary support. Students of lower income are being thrown into college under budgetary constraints, affecting their chances of completion. Whether students take out loans or don't invest at all, they find financial constraint correlating to educational constraint (Oreopolous 2013). Colleges are losing the ability to relieve high prices with subsidy. Until something is done to address increasing tuition, students are the ones at risk of being the biggest loser.

As the student demographic continues to shift toward those of lower income, the effect of high tuition will be magnified. As tuition increases, more students will rely on subsidization. The families of future students will have less income to pay for college and will require more subsidy. If colleges fail to provide necessary aid as trends are projecting, this will raise the student debt burden. Total student debt is currently exceeding \$1.3 trillion, and experts at Hanover Research claim that the market cannot hold much more (Trends 2019). For colleges,

this means that tuition growth may not be sustainable. Consequently, there could come a time when too many students decide that college is too expensive, and college attendance rates will drop. In this sense, tuition prices could be a bubble.

Coursework is Moving Toward STEM

Colleges foresee financial problems in the future, and they are shifting coursework in attempt to increase the value of higher education. They are adapting to job demand as career outlook has changed for several majors. Over the last decade, returns for STEM majors and non-STEM majors have become polarized, leaving STEM majors much more successful. According to a report from the National Association of Colleges and Employers, more than half employers surveyed said they planned to hire graduates with degrees in STEM fields, making them the most sought-after graduates entering the job market (Close 2016). Universities are reacting by incorporating more STEM majors into their curriculum. The assumption universities are making is that an increase in STEM majors will provide more value to students and increase demand.

Their intuition may be correct, as recent salary reports indicate that STEM majors are seeing the highest returns. Currently, STEM, health, and business majors provide the highest starting salaries to students at all levels. The three highest paying majors are engineering majors earning an average of \$64,891, computer science majors earning \$61,321, and math majors earning \$55,087. This is a 3% increase in projected earnings since last year. The 10 majors with the lowest mean starting salary are all non-STEM majors. The lowest paying majors are education and humanities majors, starting at \$34,891 and \$46,065, respectively (Close 2016).

Salary reports have pushed colleges to cut costs in non-STEM fields, and in some cases, eliminate them entirely. The University of Wisconsin at Stevens Point, announced a plan to cut 13 majors, including English, history, and all foreign languages. The professors of those majors will be laid off, and tenured professors may lose their positions. The plan is part of the university's Point Forward initiative by investing scarce resources into programs that are experiencing the highest demand. The university is replacing cut majors with more STEM oriented majors, such as business, chemical engineering, computer information systems, conservation law enforcement, and fire science (Flaherty 2018). Wisconsin at Stevens Point is a liberal arts university, and the cuts are mostly concentrated in the humanities and the social sciences. Professors are doubtful of the university's ability to deliver on its liberal arts mission in the future.

The devaluation of the liberal arts will be detrimental to well-performing students that wish to pursue non-STEM majors. High school graduates rarely know exactly what they want to do, and they discover their passions in college. For students that wish to discover philosophy or English literature, they would prefer universities that devote several resources to those departments. The more resources and flexibility a department has, the more opportunities they can provide to aspiring students. The transition of funds and resources toward STEM majors implies that non-STEM students will see less value in attending those universities. They will attend other universities that offer liberal arts programs, whose seats will be in higher demand. Non-STEM majors will find themselves in a smaller market and in higher competition for a degree.

Cutting liberal arts is also eliminating a valuable fallback option for STEM majors. There will be a group of students who come to college in pursuit of a professionally oriented degree but change plans for one reason or another. Often, the major they switch to is in the humanities or social sciences, such as the ones being eliminated at Wisconsin at Stevens Point (Flaherty 2018). If all liberal arts majors are cut, students will have less to fall back on if majoring in STEM does not work out. The student's decision to attend a university will become a question of whether they know they can exceed in one area. Students will be encouraged to specialize in something they know they will get a degree in but are discouraged from taking a risk and finding their passion.

The balance of STEM and non-STEM majors at universities will be influential for the increasing minority students of the future. STEM majors are predominantly white, and a shift in coursework could lead to giving white students an advantage. Amanda Griffith conducted a longitudinal study on students at 4-year institutions on the persistence of women and minorities in STEM majors. She found minority students are less likely than their white counterparts to enter college intending to major in STEM. In addition to the smaller base of students, minorities have a smaller percentage of students that persist in a STEM field major. Often, they switch into the humanities (Griffith 2010). The lower persistence of minorities was attributed to differences in preparation and educational experiences. If minorities continue to be underprepared for STEM in high school, the transition in college curriculum will create a higher probability of failure. Minority students will be the most impacted by eliminated fallback majors as they are more likely to switch out of STEM. Though STEM is concurrent with job demand, colleges may see inefficiencies trying to educate an increasing number of those less prepared in STEM.

The results from Griffith's study are consistent with recent statistics on minority STEM majors. IPEDS data indicates that roughly 20 percent of all bachelor's degrees conferred from 2001-2014 were earned by minority students. However, they held just 10 % of STEM major degrees. Since the minority population has been expanding since 2001, it is expected that the proportion of minority STEM majors would increase, that is not the case. In fact, the proportion of minorities in STEM during that period essentially remained unchanged (Hinrichs 2012).

The demographic of the future is putting less priority on STEM and we can see it from the degrees they choose to obtain. Colleges will face more of a challenge educating students if they wish to orient coursework around STEM and job relevant courses. They currently provide the highest returns, but perhaps that will not be the case with a more diverse student base that prefers work in other subjects. The disconnect between student course preference and college offerings will be reflected in enrollment figures as more schools make the transition. Responsibility will be on university educators to ensure that the changes do not lower completion rates.

Colleges Are Changing Faculty Structure

A vital aspect of building human capital is the effectiveness of its educators. University faculty have historically served students as educators, but also universities in conducting research. Professors are the knowledge base of a university, and colleges pay competitively for more distinguished professors. However, the growth in faculty members and their salaries depend on state and local government budgets. Less funding is putting downward pressure on the

number of faculty members at universities. Budgets are restrained and colleges are deciding to reallocate resources away from faculty salaries.

The most severe budget cuts have been employee layoffs. Many schools have been cutting faculty positions and reducing student service staff as a result of budget gridlock. Often, these positions are non-STEM faculty, as some departments are being wiped out. In 2014, UNC Chapel Hill eliminated 493 jobs, cut 16,000 student course seats (Durden 2014). Colleges since then have made even more significant efforts to stay under budget, as Chicago State University saw 900 faculty members laid off over the course of one month. At Western Illinois, a \$20 million budget cut led to layoffs, mandatory furloughs, and a hiring freeze (Myers 2016). Reductions in faculty have led to increase in average class sizes across universities, having a negative effect on students. Class sizes are already reaching 300-500 students at major universities. Reductions in faculty spread existing professors out thin, leaving them with much more responsibility and less time to focus on student development.

Professor salaries have seen modest growth in the past few years, and 2018 showed no signs of improvement. According to the annual report by the American Association of Undergraduate Professors (AAUP), the average salary for full-time professors in 2018 was \$104,820. Associate professors had an average salary of \$81,274, and assistant professors had an average salary of \$70,791. The average increase in salary was 3%, a rise of 1.1% in real salary. This is the lowest aggregate increase faculty have seen since 2012. Full-time professors saw the smallest decrease of .6% in real terms. Full-time professors also saw the biggest average

reduction in medical and retirement benefits out of all postsecondary educators (Annual Report 2018)

The higher education sector has also shown evidence of salary compression. When junior faculty members see an increase in starting salaries and high raises, we do not see the increase reciprocated for the more experienced faculty members. In fact, 10% of the 1,018 universities surveyed by the AAUP were under the salary compression line, meaning that assistant professors and associate professors were within \$5000 of each other. Additionally, 2% of universities had assistant professors paid more than associate professors, indicating salary inversion (Annual Report 2018). This is the most salaries have been compressed in higher education. Salary incentives contribute to employee morale, work ethic, and motivation to gain tenure.

Compression of salaries could lead to professors not working hard and hurt student development.

Colleges are showing less faith in professors as hiring has transitioned toward part-time and non-tenure track positions. Higher education experts such as Provost Greg Summers have commented that institutions need to be more nimble, and that they have been urged to do so for a long time (Flaherty 2018). Universities are beginning to get rid of tenured and tenure-track positions, replacing them with part-time adjunct professors. The movement is straying away from research and development in the field and moving more toward teaching students. The percentage of full-time faculty members that were not on tenure track have increased since 2012, as well as the percentage of part-time adjuncts (Ehrenburg 2012). The Bureau of Labor Statistics projects the same in upcoming years- colleges are likely to hire more part-time teachers in the future, and that full-time tenure positions will be more competitive.

Tenure has become less protected as recent legislation is lowering restrictions on tenure. For example, tenure in Wisconsin was more protected than anywhere else before 2015. Tenured faculty could only be laid off in financial emergency. After 2015 tenure laws were weakened and universities immediately introduced rewritings of board policies on tenure and program discontinuance.

With the transition from tenured to non-tenured faculty, can we expect the same human capital growth that we see today? A traditional argument for the importance of a tenure system is based upon academic freedom. Tenure systems provide job security, giving professors an incentive to share expertise with junior colleagues without creating competition for themselves. Tenure facilitates the intergenerational transmission of research. Absent tenure, and the job security it provides, faculty members may be reluctant to pursue research on controversial issues. Tenured faculty tend to bring the most experience to the table, and it translates to student success. Ronald Ehrenburg found that when a 4-year institution increases its use of full-time non-tenure track or part-time faculty, its undergraduate students first-year persistence rates and graduation rates decrease (Ehrenburg 2012). The loss in value from eliminating tenure is a price that universities must be willing to pay with the structural changes they are making.

Removing tenure is not providing the remedy to faculty budgets that colleges expected. Providing less tenured positions has driven universities to incentivize teachers to accept offers in other ways, colleges don't end up saving too much money. Colleges that offer lower probabilities of tenure are often having to be competitive by increasing the starting salary or providing bonus incentives (Ehrenburg 2012). While it does save money, the concentration of dollars is going

toward younger professors who don't have the teaching experience that tenured professors would have.

University faculty are finding themselves in battle with student services for institutional support. Students are demanding more extracurricular services, and universities are fulfilling student needs. Colleges have been investing in activities that promote emotional and physical well-being to complement the academic side of learning. They include student activities, cultural events, student newspapers, and intramural athletics. The growth rates of student service expenditures are roughly double those of the annual growth rates of institutional expenditures. Colleges are spending more money in this sector because they have proven to positively influence first-year persistence rates and graduation rates of undergraduate students (Ehrenburg 2012). These expenditures have greater effects at institutions that have a greater share of disadvantaged students, such as low-income and minority students. For the upcoming student population, the expectation of extra-curricular services can be a benefit to college education. However, these services must replace the value lost by faculty tenure changes.

Given faculty trends, it is a plausible argument that community colleges and for-profit universities will do well in maintaining teaching efficiency. Most community colleges and for-profit universities follow low-cost models. Their faculty structure is already concentrated with part-time professors. Faculty evaluation is also based more on student outcomes, and student education quality takes priority. These institutions also have relatively lower demand for extracurricular services, as they tend to have more part-time students. Students also go to these

schools for vocational degrees or certification training. These degrees have robust returns, and the use of part-time professors is adequate for teaching.

Measuring College Performance in Providing Human Capital

Given college coursework and faculty trends, students will need to analyze the returns that they are getting from colleges. When a student attends a university, they have a certain expectation of the rigor and amount of work they receive. They expect for the university to prepare them for the workforce as much or better than students of the same quality at other universities. Universities should be evaluated on the amount of human capital they can produce out of a specific caliber pool of students.

One way to measure this would be to run a regression of institutions' average student SAT scores versus its 4-year graduation rates. In this sense, the regression is estimating the expected graduation rate for a school with students of a certain caliber. The regression would also be able to estimate the expected increase in graduates if a school recruits a stronger pool of students. Schools above the regression line would reflect successful schools that graduate more than the expected number of students. Those below the regression line are underperformers, and therefore a poor investment for those students. A student could use a regression like this to compare schools they are considering, as they can see which schools perform better with given inputs. They will be able to attend a university that they know produces the highest returns for its current students.

By 2030, when the student demographic is different and educational transitions have become solidified, the regression line is likely to have pivoted. As the movement toward STEM combats faculty changes and student demographic change, there is a foreseeable drop in graduation rates. The regression line will reflect the relationship as much flatter.

Underperforming schools would likely consist of more liberal arts colleges. The challenge of transitioning toward STEM will be the most difficult for these universities, as they have the biggest gap to overcome. These universities would be putting themselves at risk of being self-defeating in their purpose. Denying students the opportunity to major in a field that teaches proficiencies the university aims to engender in its students will force universities into a position they have never been in before. Colleges will be led in the opposite direction of their mission, thus leading to controversy and inefficiency.

Endowments Will Contribute to Longevity

Endowments will play an important role in providing underperforming schools with financial security. Staying afloat during the transition to a new higher education will depend on a university's stability in funding. Colleges can't rely on the government to supply them, so it will have to come out of their own accounts.

An advantage of endowment support of financial security is the idea of intergenerational equity. Universities save to their endowments to preserve value across generations. In short, colleges accumulate the money they don't need for the present because it will assist future students in maintaining the same educational quality and opportunity (Hansmann 2007). It is dependent upon assumptions such as the high rate of return and the increased cost of education.

As colleges plan to continue increasing tuition, they realize the increase in subsidy they will need, so they are saving now.

Endowments could also be beneficial to protecting colleges from financial shock, such as change in demographic or a recession. University money is allocated in strict and specific accounts, giving colleges low flexibility when shocks come around. Endowment funds are more liquid and can be easily deployed to support a sudden shortfall of income. For example, schools making budget cuts to faculty will be unable to fire a professor on lifetime tenure. Instead, colleges will pull from the endowment.

Endowment growth also influences the administration, faculty, and trustees. Increased investment in endowments promises faculty higher job security and potential for program expansion. This is crucial in recruiting faculty and administration. Trustees generally come from for-profit business backgrounds and put a high priority on growth. Growth in endowment figures will indicate to the trustees the success of the current operations of the institution.

Schools that fail to produce human capital will fail to recruit students, which will be accentuated by the decreasing number of students from 2025-2030. Failure to recruit students will place a heavier reliance on endowments. Universities will have to remain competitive by digging deeper into endowments to subsidize students. If the university can't break even with its current number of students, it will pull even more from endowments to maintain services and facilities. From this standpoint, we see that the schools with the larger endowments are the most robust to transitional periods. Universities at the top of the ladder have the largest donative resources to subsidize, creating a barrier to upward mobility for the colleges that are not as wealthy.

University contributions to endowments have fluctuated in recent years, and large endowment returns have proven to be unstable. In 2017, endowment returns rose to their highest level in three years at 12.2%. This is a recovery year, as 2016 saw negative returns to endowments (Seltzer 2018). Endowment returns over time are being more closely tracked, as they provide more insight into the longevity that these accounts are supposed to provide. The 10-year average annual return dropped 4.6% in 2017, down from 5% in 2016 (Seltzer 2018). This is alarming for universities, as long-term rates necessary to balance inflation and earnings are between 7-8% (Seltzer 2018).

Endowment activity has been in the spotlight as of late, particularly since the passage of tax reform that declared certain endowments as tax-eligible. Fundraisers worry an increase in the standard deduction is lowering the incentive for donors to give to universities. While some very large donations of 8-figures distort the data to show an increase in total endowment contribution, number of donating alumni has decreased 9% (Trends 2019). While the tax affects a relatively small number of wealthy colleges, administrators fear that this is the beginning of a tax expansion on all universities. To combat the decrease, administrators will need to introduce more strategies for gaining donor support.

Endowment patterns are something to keep in mind for universities but also students when considering the longevity of the university they attend. Students should desire a quality of experience that will not deteriorate over the period of their education. With a forecasted decrease in students and increasing skepticism of college returns, some colleges will not have the endowments to keep up with course and faculty transitions. Some colleges will fail, and students

should do their research on institutions' financial stability in order to prevent becoming an alum of a university that cannot support its students.

PART 3: WORKFORCE DEMAND

Students ultimately value colleges upon their ability to employ students into careers that provide them with a return. Returns vary among students because they have differing costs of attendance, alternatives to college, starting salaries, and relative job security. Universities cannot influence job demand, but they can adjust their curriculum to provide higher returns for students entering the workforce. Colleges are currently seeing the returns to higher education increase. The opportunity cost of not attending college is looking grim, as wages between college graduates and high school graduates are polarizing. Students deciding whether to go to college will have to know their alternatives to higher education in quantifiable terms and figure out what value attending college will add to those figures. They must also consider the longevity of their field, as technology and automation continue to eliminate jobs. Colleges are the investment; the education itself is not what pays. Ultimately, workforce demand will determine the amount of return students get in these investments.

The Opportunity Cost of Not Attending College is Rising

The cost of college in economic terms is the sum of the investments students make toward their education and the wages they could have been receiving while attending college. While tuition prices and financial aid help students estimate the size of their investment, the more ambiguous term they struggle to quantify is the opportunity cost of not attending. Students often focus on the cost of attendance and how they relate to starting salaries, but what are those

figures without a base knowledge of what they could have earned with only a high school diploma?

One component of the opportunity cost is what can be done with the money saved from not attending a university. First, you have the net tuition payments that will not be made every semester. This is the largest amount of savings for a student. Additionally, choosing not to attend college also prevents students from taking out loans that will be repaid later. Loan expenses carry interest, and students will be saving the principle payment of the loan as well as the interest payment. Students should notice that the money saved is preventing debt, freeing them from the restriction of high monthly loan payments even if their career does not provide high returns. What students do with the money they don't spend on college can also be a source of financial growth. Instead of being invested in higher education, that money could be put into a savings account or invested in the market to grow while a student begins working. In that respect, the money spent on college is wasting the compounding year over year returns that the money could have earned in financial markets. Low-income students are affected much more by the monetary aspect of the opportunity cost. Families with lower income have a higher initial priority on conserving money than a wealthy family that can afford to make mistakes in sending their child to college. Savings and investment opportunities are more appealing as they pertain to financial growth, not financial expense.

The other aspect of opportunity cost is the salaries students could be earning while attending college. In addition to savings, students can spend their years following high school earning more money. In some cases, this incremental income can provide them with a better

lifestyle than if they graduated with a higher starting salary with a pile of student loan debt. However, the career outlook for students with high school certification is becoming less optimistic, and the probability of having a better lifestyle is being reduced. Wages of high school graduates have actually reduced in real terms. Students with high school diplomas earned an average of \$16.20 per hour in 2013, which is significantly down from \$17.26, the inflation-adjusted wage rate in 1979 (Berman 2014). Real wages have consistently fallen over time, as jobs are being replaced by automation and exported overseas. Businesses find automation and foreign labor to be cheaper, and it has consistently held downward pressure on wages of American high school graduates. Thus, it is not surprising that more high school graduates find themselves living in poverty.

Though high school grade inflation is intended to get more students into college, high schools are unintentionally assisting in the downward pressure on wages of high school graduates. Grade inflation has resulted in more students being declared “college eligible”, and more of these students are getting admitted. More borderline students getting in to college leads to the conclusion that the students who only receive a high school diploma are of worse academic ability than this group of students in the past. The increasing talent gap between high school graduates and college students is indicative of the decrease in value of a high school diploma. If the value of diplomas continue to fall, students with high school certification can expect their real wages to keep falling.

Unemployment rates for high school graduates also indicate the lowering opportunity cost of not attending college. In 2012, the Washington Post released unemployment rates at all

educational levels, highlighting that students of every educational level have experienced a rise in unemployment. Students with only high school diplomas had a much higher unemployment rate than college graduates and even students who attended college and didn't finish. In November of 2011, the unemployment rate for college graduates was 4.4%, compared to 8.5% for high school graduates (Ehrenburg 2012). The trend is discouraging, as the unemployment rates for high school graduates is rising much faster than college graduates.

Wage Premiums Indicate Increasing Returns to Higher Education

After weighing the cost of not attending, students evaluate the incremental return that a college education provides. After all, higher education's development in human capital should be reflected with higher salaries. The median annual earning for high school graduates in 2013 was about \$34,000, compared to \$57,000 for bachelor's degree holders (Oreopolous 2013). That is, at the middle of the earnings distributions, a recipient of a bachelor's degree is expected to earn about 67% more than a student with only a high school education. The difference is magnified when considering full lifetime earnings. On average, the lifetime earnings of someone with a bachelor's degree was 75% higher than the earnings of someone with only high school certification (Oreopolous 2013).

Salaries show evidence of the wage premium that comes from higher education. Wage premium is the increase in expected salary from additional years of schooling. In 2013, the additional earnings for each year of attending school ranged from 10-14%. For marginal students, those who are similar in ability to those that did not attend college, the expected increase in income per year of schooling was around 11% (Oreopolous 2013). If marginal

students went to a 4-year college, they would see an increase in earnings of almost 52%. The difference between marginal students and those who do not attend is influential because it encourages students to take the investment risk. Even if a student drops out after one year of college education, they are expected to receive a higher salary.

STEM degree holders tend to receive the highest wage premium. In 2009, the median lifetime earnings for a bachelor's degree holder working in the STEM sector was over \$3 million, compared to about \$1.2 million for graduates in the health support sector (Oreopoulos 2013). Job demand is a driving factor of the higher wage premium, but that does not explain the total gap in earnings. STEM majors are seeing higher wage premiums regardless of whether they work in STEM or non-STEM occupations (Why STEM). The workforce preference of STEM degrees is the cause of college faculty and curriculum transitions.

There is a sheepskin effect that is also increasing wages for students that graduate from college. The sheepskin effect is the upward pressure on wages from receiving a degree. The effect is a result of signaling theory, which suggests that students signal their value to employers by showing they can finish the work and do what is required to obtain a degree. The sheepskin effect explains differences in salary between a student that attended college and received a degree versus a student that attended college and failed to get a degree. David Jaeger and Marianne Page conducted a study in 1996 to test the evidence of sheepskin effect to conclude if salaries actually experience significant increase. They found that the sheepskin effects of receiving a bachelor's degree are large and statistically significant across all demographics. The expected sheepskin effect for white students receiving a bachelor's degree is 21%, and the effect

for minorities receiving a bachelor's degree is 18%, however the differences were not concluded to be statistically significant (Jaeger 1996). In addition, the sheepskin effect is larger for bachelor's degrees than associate's degrees. If colleges wish to see their students get the most returns, they must keep graduation rates as high as possible.

The college wage premium is rising as the demand for highly-skilled workers grows stronger. Wage premium trends follow the race between the supply of skilled workers measured in educational attainment, and the demand for skilled workers determined by the amount of skill-biased technologies used by companies. Due to technological changes in 1980, the demand for college related skills began to outpace the supply of college students (Oreopolous 2013). Advancements in technology have kept up with the increase in student population, and wage premiums have increased ever since.

Job Specialization and the Presence of AI

Technological advancement has also contributed to the economy's movement toward specialization. Companies desire specialized skillsets because more specific knowledge will help executives strategize their adaptations to the marketplace. Smaller learning curves allow them to react quicker with more educated decisions. Specialization provides the target market with a superior value proposition over rival companies that offer generalized services. Currently, the economy has shown greater rewards to businesses that cut out fluff and specialize on providing services that are more valuable (Alton 2016).

For students, specialization allows them to reap the benefits of being experts in a certain field. Having more job-relevant knowledge will lead to these students having less competition, and therefore more bargaining power. Thus, specialized students will receive higher salaries. They will also be able to market themselves better to peers in the industry. Word of mouth marketing about a worker's specific knowledge will bring them interactions with people and organizations in related fields. Communication with industry peers can lead to profitable relationships.

As wage premiums indicate, job specialization has favored those with STEM skillsets. Approximately 60 percent of new jobs that open in the 21st century will require the STEM skills that are currently possessed by only 20% of the workforce (Why STEM). The fastest growing occupations- biomedical engineers, data communications analysts, and medical scientists- all call for STEM degrees. With the transition colleges are making, STEM students will have more opportunity to fill the demand gap. Students will have more available STEM courses to take and more opportunity to specialize within STEM fields. Hopefully, the orientation of students toward STEM will be able to supply what is required of technological advancement in the future.

Increased specialization in STEM fields could deliver penalties to non-STEM majors and liberal arts students. The ability of non-STEM and liberal arts students to specialize, especially in the demanded fields, will be much more difficult. Students of those fields will not see the increasing returns that their STEM counterparts will experience. In order to compete, non-STEM students will have to supplement their major course scheduling with courses in STEM to be more versatile in the labor force. Maintaining average GPA for these students would be a lofty

expectation, considering that the students will be pushed into a curriculum separate from their strengths.

Technological advancement can eventually lead to the elimination of jobs. As time has progressed, technology has become more intelligent. Artificial intelligence is capable of acting and learning on its own through deriving processes. We are now in an age where artificial intelligence such as Stats Monkey can write sports news articles without human intervention, cars are increasingly becoming autonomous self-drivers, and even investment banking firms are creating electronic financial advisors to manage clients' wealth. The increasing significance of artificial intelligence (AI) has come to a point where progress has implications on our labor force. Technology is creating little room for substitution when it comes to jobs. The general concern is about the impact that advancement will have on the labor market and productivity (Acemoglu 2018). Perhaps more than ever before, we need to see an effort to maintain workers and their value, given that these emerging automations are continuously smarter.

The introduction of artificial intelligence serves as a catalyst to the labor market, producing a variety of effects. On the negative side, AI produces the displacement effect, the reduction of wages and employment that come with a technological advance (Acemoglu 2018). The displacement effect is contrary to economic theory about technology enhancements increasing labor demand. It captures the amount of jobs lost as employees see their responsibilities become automated.

The displacement effect leads to a discussion of structural unemployment. Resulting from displacement, you have a group of workers who are no longer performing their duties.

Implications are that if they aren't completing the task they were hired to complete, they will no longer be employed. With this logic, unemployment as a result of AI could become a major issue. However, there are other economic effects of AI that combat the negative impact on laborers.

Labor markets are expected to rebound from displacement in the long run as a result of the productivity effect. Automated machines replace workers because it is cheaper for the machine to do the task. As the cost of producing automated tasks declines, the economy will expand and increase the demand for labor in the non-automated areas. There will be a higher demand for jobs that work around the AI because the technology will perform tasks much quicker, and more workers will be needed to keep up with the rest of production (Acemoglu 2018). This is congruent with the argument of increasing specialization. STEM majors are currently seeing the productivity effect around data technology improvements. Those students are in higher demand because they have the relevant knowledge surrounding those new technologies.

The productivity effect for STEM majors is illustrated in the introduction of ATM's (Automated Teller Machines) on the employment of bank tellers. ATM's handled tedious tasks of the money service industry at a cheaper price than bank teller wages. However, the technological advancement led to an expansion in the employment of bank tellers. This is because ATM's reduced the cost of banking and encouraged banks to open more branches, raising demand for the services that ATM's could not provide (Acemoglu 2018). Both the number of tellers and their wages increased as a result.

Another counter-effect to displacement is the long run capital accumulation triggered by increased automation. Because of AI, the production process will become more capital intensive. The high demand for capital triggers further accumulation of capital, which in turn increases the rental rate (cost of capital). Rising costs of assets then raise demand for labor due to the lower relative cost of labor (Acemoglu 2018).

The last counter-effect, the reinstatement effect, is the most ambiguous and difficult to predict. Reinstatement effect is the hypothesis that alongside artificial intelligence is the creation of new tasks that were not previously available. The AI creates functions and activities where labor has a comparative advantage relative to machines that were not possible with the previous labor restrictions (Acemoglu 2018). The ability of sectors to create new jobs around the automated process is an important consideration when tracking the balance of growth. Such jobs are characterized by the researchers to be either trainers of the AI process, explainers of the technology to the customers, or sustainers of the new AI system (Acemoglu 2018).

The willingness of society plays a crucial role in how these effects will play out. If the labor force is willing to engage in AI adjustments, they should see little resistance to further innovation and better success with their technologies. The ones unable to support the necessary transition will leave employees behind. Large levels of unemployment will lead companies to contribute to income inequality and productivity loss in the industry (Korinek 2017). A lot of responsibility rests on the shoulders of the labor force to adapt to new working conditions proposed by AI innovation, whether it is migrating to other existing jobs or learning new positions that arise.

Ultimately, education is going to become increasingly important for the labor force. As technology gets smarter, we must get smarter with it or the threat of job elimination by machines will become more of a reality. If we do not maintain a highly-skilled labor force relative to technological change, we can expect a greater level of structural unemployment to settle in. Higher education's transition to STEM is an attempt to produce a larger quantity of highly-skilled workers. If machines begin to take STEM field jobs, student returns to higher education will receive a major blow.

PART FOUR: FREE PUBLIC HIGHER EDUCATION

Recently, Bernie Sanders and other politicians have proposed ideas of making public higher education tuition-free. College has been made tuition-free in some overseas countries, but their economies are made up of different components. There are debates on whether the operations of the US economy would be able to sustain free public higher education. The discussion is intriguing because the ideal of free college has positive implications on the educational system that we do not currently have in place, such as complete equality and diversity.

Universities are currently making an effort to subsidize and promote equal opportunity among their students, but the truth is that many institutions are far from achieving it. Free public higher education would allow students from all incomes and backgrounds to enter the educational space on a level playing field. Absence of tuition can help students achieve their goals without having to worry about making large payments or acquiring debt, causing students to perform better and take more academic risk (Oreopolous 2013). Especially considering the transition of the student demographic toward low-income and minority students, equality of educational opportunity will be imperative to maintain enrollments.

A high level of education is beneficial for the development of society, business, and industry. Nations that offer free public tuition consider it a civil right to be educated, and individuals should not have to pay what they rightfully deserve. However, in practice, is this possible in the United States? Rising tuition and student debt figures have called for analysis into

what goes into college costs. Government funding is slowing down, and it appears as if universities are headed for a financial shortfall. For free public higher education to work, the US government would have to take on a major financial responsibility in funding public schools, and recent political trends show that this is a risk the government is unwilling to take.

Higher Education is Publicly Funded Overseas

The possibility of free public higher education has been explored in Europe, and programs have shown sustainability. The Nordic countries have done well treating education as a civil right and a public service. Jusi Valimaa wrote an article in 2015 about higher education in the Nordic countries, bragging that they remain almost entirely publicly funded, despite other European countries' movements back toward tuition payments. The proportion of public funding accounts for 90% of Sweden and 96% of Norway and Finland's higher education budget (Valimaa 2015). Right now, the US public funding is sitting at about 34.5% of higher education.

US funding of higher education has a lower probability of being sustainable, as tuition-free countries differ in educational attainment. Table 4.1 shows the enrollment percentages for the US and countries that offer free public higher education. European countries have much lower enrollment percentages than the US, with the exception of Finland. Because the United States has the most students and the highest enrollment percentage, the US government would have to fund the highest public education budget in the world.

Country	% Enrollment
United States	94
Finland	94
Denmark	80
Norway	74
Sweden	70
Germany	62
France	58

Table 4.1: Enrollment Percentages for US and Countries that Offer Free Public Higher education (Jackson 2015).

European countries have different economic structure than the United States, allowing them to offer free public higher education more easily. European countries can afford high budgets because their tax rates are much higher than the United States (Jackson 2015). Table 4.2 shows the tax wedge, the difference between before-tax and after-tax wages, for the US and the publicly funded European Countries. While the tax wedge is not solely driven by educational spending, we see that these countries have a solid 10% higher tax on income than the United States, giving those countries more freedom to finance students going to college. If we expected the United States to be able to sustain public funding for higher education, our income taxes would likely increase dramatically (Jackson 2015).

Country ¹	Total tax wedge 2014
	(1)
Belgium	55.6
Austria	49.4
Germany	49.3
Hungary	49.0
France	48.4
Italy	48.2
Finland	43.9
Czech Republic	42.6
Sweden	42.5
Slovenia	42.5
Portugal	41.2
Slovak Republic	41.2
Spain	40.7
Greece	40.4
Estonia	40.0
Turkey	38.2
Denmark	38.1
Netherlands	37.7
Luxembourg	37.6
Norway	37.0
Poland	35.6
Iceland	33.5
Japan	31.9
United States	31.5
Canada	31.5
United Kingdom	31.1
Ireland	28.2
Australia	27.7
Switzerland	22.2

Table 4.2: Countries with the highest tax wedge in 2014 (Jackson 2015).

The United States has Seen Experimentation at the State Level

We have seen the first attempt at fully-funded college education in the US in the State of New York. Andrew Cuomo made the first step by introducing the Excelsior Scholarship Program, a plan to expand higher educational attainment for needy students without adding to student debt. Milton Ezrati of the New York Post lays out the initiative as an extension of Bernie Sanders’ dream to make college free in the US. The Excelsior Scholarship covers the rest of the tuition after all financial aid and grant awards have been considered, capping off the last bit of

tuition cost for the student. The proposal has strict need-based requirements, mandates 30 credit hours per year, and the student must commit to working in-state for the first few years after graduation (Ezrati 2017). However, initial data shows that completion rates are stagnating after the scholarship's introduction, and the freedom to go to college has not necessarily translated to a larger proportion of graduates. In other words, the additional students who would be going to college paid for by the government are also going to have same likelihood of dropping out as current students, indicating a deadweight loss for government subsidization.

Cuomo's plan has received criticism for the abandonment of private universities (Seltzer 2017). The Excelsior scholarship called for the elimination of Bundy Aid, a small but long running program that sent funding to private colleges based on their graduation rates. Private colleges are receiving less funding as a result of the scholarship and will face increasing costs in the future. Public universities have complained as well as they aren't seeing the funding they were expecting to receive, as Cuomo recently vetoed a maintenance-of-effort bill that would have expanded funding for rising costs at SUNY and CUNY , the state's two public university systems. Public higher education finance experts are worried that state funding is already becoming too inconsistent in New York to be able to maintain the quality of those public universities. This is alarming, considering the total state support for SUNY has already gone up by 26%, or about \$1 Billion, since 2012. State support for CUNY has gone up by 25%, or \$460 million in the same time period (Seltzer 2017).

David Chen of the New York Times highlights the fact that private school admissions in New York have actually seen major increases in the number of students applying since Cuomo's

scholarship was put into effect, even higher than the increase of applications at the state's public universities. Some private universities located only about 20 miles from SUNY saw jumps in applications of up to 43%. Alfred University, a private institution in southwestern New York, have seen the highest number of applications in years (Chen 2018). Rise in private school applications could be explained by the high number of students who don't fit the qualifications for free public education under the Excelsior scholarship. Non-qualifying students are either indicating a preference for private universities in the area or they are experiencing crowding out effect of more need-based students attending public universities.

New York is unique for being able to sustain education in the public and private sector because it is a wealthy state with several highly regarded private universities to attract students. The qualifiers for Excelsior are of lower income than the demographic of students in New York's private universities. The wealthy are not affected by the scholarship, and their private university choices are ivy league schools, the ones most robust and worth high tuition. New York is also relatively more attractive for out-of-state students as well, preventing attendance at private universities from deterioration. Students like the concept of going to school in New York because of the financially large and global implications of their potential careers. If the Excelsior scholarship concept was taken to a national level, private institutions in other states would not be as robust. For private universities across the nation, free public higher education would have a more negative impact.

Governments Would Have to Cover the Student Debt Market and an Influx of Students

As students bear the burden of rising tuition and shortfalls of funding, student debt levels have swelled since the start of the 2008 recession. Student loan debt has reached \$1.3 trillion in 2013, exceeding car loans and credit card debt. Between 2007 and 2012, the average level of debt incurred by a bachelor's degree recipient grew 20% (Durdan 2014). The financial stability of the student debt market is wavering as more students take out loans, and the government would be responsible for this enlarging market if the US offered free public higher education.

There is evidence showing that government can bail us out, and that the US can afford free public tuition in the United States. The logic is that we already have most of the grant money reserved for scholarships and awards anyway, and they just need redistribution. College Rank released an analysis on the federal spending and concluded that the US can already afford free college with the money deployed in higher education. US public universities collected \$62.6 billion in tuition from students in 2012, and about 77 billion was spent on non-loan educational aid to students from the federal government. The intuition behind free public higher education is that we simply take away all the non-loan educational aid and shift it towards public tuition, thus eliminating the \$62.6 billion that gets billed to students. Of course, this would take away all government funding from private universities (How Americas... 2018).

Government subsidization will positively affect the number of students attending public universities. In "The Consequences of Lowering the Cost of College", Susan Dynarski suggests that \$1,000 of subsidy increases college attendance rates by roughly 4 percent (Dynarski 2002). Aid eligibility also appears to increase completed schooling. A rise in the number of college-

going students is a logical conclusion, because subsidy lowers cost burden to the student, giving students more freedom to attend the school of their choice. Rick Seltzer illustrates that this is the case for Andrew Cuomo in New York. The Excelsior scholarship boosted applications by 9%, and the number of full-time freshmen increased by 39% (Seltzer 2017).

The US government would be held accountable in maintaining adequate funding as higher education absorbs more students. The ability to fund higher education will weaken as more students file into public schools. Milton Ezrati claims that Cuomo's Excelsior scholarship will do little once the number of attending students becomes larger. He claims that the program does little to make college free, that it is more of a move toward debt free. The grant offers a maximum of \$5,500, less than the state system's already low college tuition of about \$6,400 (Ezrati 2017). If future government funding does not keep up with increasing public school attendance, the grant offered to students will decrease. Excelsior is only intended to make up the difference between other scholarships and tuition. The student is misled into paying for room, board, and books, which is often the largest expense for a student at a public university. Tuition and fees equaled only half of the total price of college in 2015, and devoting spending to eliminating tuition involves a tradeoff with investing the same funds in grant aid that would cover more of the total cost of college (Mulhere 2016).

The US government would likely have to increase taxes to adjust to the influx of students. Taxation is what allows other countries to fund education, and the US would be no different. Increasing taxes to pursue free public higher education causes consumers to evaluate the financial tradeoff. Some would prefer to be taxed more and contribute to widespread

educational expenditures. Others would not like to pay for other students' college and would rather have the freedom of their own investments to prepare their families for college.

Free public higher education would also create more competition recruiting in the international student market. Educators claim that international students enhance the quality of teaching and make domestic universities more competitive in the international marketplace (Valimaa 2015). Seeing as their tuition would most likely not come from local taxpayer money, colleges could use these students as an area of growth. The incremental revenue acquired from international student billing can be redistributed to subsidize the higher education of domestic students. Promoting international student enrollment could prove to be profitable for universities.

For-Profit and Private Universities Would Suffer the Most

Government support of public universities would relinquish most for-profit universities. Current underfunding of public institutions has led to limited classroom space, pushing students (especially those of lower income) into the for-profit sector. These universities charge less on average than public institutions, but they also provide less returns. Federal aid is the only thing keeping for-profit universities afloat. For-profit universities educate about 10% of students, but they receive 25% of federal student aid and are responsible for about 50% of all student loan defaults (Weissman 2013). Though the aid is need based, as most students are of low income, the subsidization of the for-profit sector is turning out to be a poor allocation of funds. For-profit students are defaulting on loans that could have been allocated to students in other sectors with a higher chance of success. Government support of free public higher tuition would let for-profits naturally die out as their returns to students goes into the negative.

The biggest losers of a free public higher education plan would be private universities. Access to Pell Grants would be cut off as funding transitions to public schools. Private colleges would also lose eligibility for tax breaks such as the American Opportunity Tax Credit, which lets students deduct up to \$10,000 worth of tuition expenses over four years from their returns (Weissmann 2013). The consequences to private universities would mostly be seen in the number of low-income students enrolling year after year. At the top 50 wealthiest colleges, about 15% of students are low-income students who receive Pell Grants. Private colleges will see this proportion drop as students will no longer be able to afford universities like Harvard or Notre Dame (Weissmann 2013). Of course, the most prestigious schools would be able to pull from endowments to subsidize these students, but that will require charging other students more.

Private schools with modest endowments will not have the support they need to stay afloat. For schools with low endowments, financial aid such as the Bundy Aid in New York represent the consistent support to operating budgets that their lack of endowment cannot provide. In other words, schools that are not financially stable rely on federal aid to boost attendance and production of degrees. Without the consistent and predictable funding coming into these private universities, tuition prices will face more upward pressure.

Free Public College is Detrimental to the Efficiency of Higher Education Funding

Free public higher education is more of a social ideal for the United States than a potential reality. Funding public universities will lead to negative effects that would change the scope of college education. While a plan of this nature would provide more opportunity for students to succeed, governments would find themselves in a tight spot gathering sufficient

funds. Governments will struggle to cover the current amount of subsidization plus the student loan debt burden. Inevitably, families would see a large increase in their taxes, a trend that American citizens have historically opposed.

Support of public higher education would lead to the elimination of several private and for-profit universities. These universities provide great returns to certain types of students, and schools will no longer have the government funding to maintain their educational resources. Private and for-profit universities will be forced to pull from their endowments until they can no longer sustain their student population. Allowing these universities to die out may not be in society's best interest. Government funding would transition into sole support of public higher education, and public schools are not meant for everyone. Governments would be endorsing a "one size fits all" type of message. In this sense, absence of funding for private and for-profit universities can lead to inefficiencies across public higher education as well. Considering the changes many public universities are making to their structure, they will not be able to efficiently educate students that were meant for other types of institutions that chose to go to public school because it was free. The no-cost aspect will contribute to undermatching and less students will be maximizing their educational experience.

The distribution of government aid will be less efficient, hurting university profits. Free tuition takes away the revenue colleges gain from students willing to pay high prices to attend. There is skepticism around why the government would fund an individual's education if they can afford it and are willing to make payments. Students today are sometimes paying \$40,000 out of pocket to attend universities, and they will now see this payment go to 0 through government and

institutional subsidization. For universities, this is a loss in potential revenue as well as an expense of whatever subsidization they provide. Spreading out subsidization among everyone will also hurt the lower-income students that receive the bulk of financial aid. The people that would pay for college would now be subsidized, lowering the amount of government funds available for lower-income students. They will find increasing pressure on themselves to cover expenditures other than tuition, such as room and board. Essentially, tuition-free college is less help than some families need, and way more than others require. The distribution of subsidy would be inefficiently allocated, and a large liability would rest upon government funding.

Free public higher education also carries social implications that will lower the value of college degrees. If college was free, does it fulfill the same dream of receiving a college education as the way we view it today? Free higher education will funnel more students into public schools, increasing the student pool to the point where quality of their college diploma is diluted. If more students are obtaining the same degree from the same school, the value of the degree is expected to go down.

This raises the question as to why we would invest so much into the public higher education sector, seeing that doing so will give their degrees less meaning. The argument of transitioning to free higher education is even more challenging when looking forward to the college environment of 2030, when the underlying inefficiencies that led to decreased funding in the first place will become more apparent in public universities. The larger proportion of low-income students will increase the need for support, and governments will experience organic

growth in their subsidies. Tuition hikes will require more subsidy as well. Students will be going into more STEM fields even though the student demographic is heading toward a lower likelihood of success in STEM, increasing the risk in government funds. Expectations of higher education's sustainability under a free public tuition plan will only get more pessimistic if colleges let their degrees lose value.

CONCLUSION

The future of the higher education industry is difficult to determine, as the next decade will be a period of transition for both students and universities. The student population will begin declining in 2025, challenging universities to cover costs with less students. The new students will also be of a different demographic with separate academic preferences that admissions teams will want to take note of. Colleges will simultaneously be making a shift in curriculum and faculty structure as they anticipate less returns from their traditional models of teaching. Tuition and financial aid trends generate a consensus that students will be paying more out of pocket for the new education they will be receiving. For a student evaluating the return on their investment, they must consider the increased risk of attending college and make sure that universities will be able to provide the same wage premiums that graduates see today. Overall, the higher education sector can expect a decrease in value as changes occur. Underperforming universities may find themselves in financial trouble. However, the colleges that maintain their value throughout the transition will be able to go into higher education's next chapter with optimism.

Students of the future will be more diverse. Population trends have led the upcoming classes to contain significantly more Asian and Hispanic students. Along with the increasing proportion of minorities is the rise in low-income students. High school education will have an increasing role in students' decisions to go to college, as low-income high schools are at a disadvantage in preparing students for college curriculum. If high schools cannot close the educational gap between low-income and affluent schools, a larger portion of the student population will be unprepared for college.

Tuition is rising and federal aid is not keeping up. Students are taking out more loans, and the student debt market is increasing. Because students are taking on more of the costs of education, their risk of default on loans will increase. This is especially important for the increasing proportion of low-income students expected to come in the next decade. Collectively, students will be putting more priority on the financial impact of their investment, as less students will be able to afford high tuition. Failure to address the increasing cost burden on students will eventually cause several students to decide not to attend college.

Colleges are orienting their curriculum on STEM fields as they cut budgets in liberal arts departments and invest more in job-relevant programs. Although the move to STEM is concurrent with job demand, colleges must put effort into building the same human capital that those fields currently produce. The changes to coursework will make college education harder on minorities, as they are less likely to pursue and persist in STEM majors. Maintaining enrollment and graduation rates will be more difficult as professors try to encourage minority participation in fields of high demand.

Faculty adjustments are being made nationwide, reflecting the budget cuts in liberal arts departments and the elimination of tenure. Faculty numbers are being heavily reduced in the humanities and other fields that lead to relatively lower salaries. Thus, liberal arts fields will have less resources to develop students and less likelihood of the returns to those fields making a comeback. Faculty will also consist of less full-time tenured professors and more part-time adjuncts. The emphasis of teaching over research could have long run effects on professor

productivity. Adjunct professor hires can make a university more versatile, but they can also reduce the overall strength of the department.

We have seen these changes in our local community, as DePauw University is making adjustments to reflect national trends. From 2017-18 to 2018-19, DePauw increased tuition 2.9%, reflecting an increase after factoring for inflation. The university is planning for budget cuts, as annual budget is projected to be up to \$6.5 million lower over the next several years (Nicieja 2019). DePauw laid off 56 staff members, totaling almost 12% of university staff. The university is providing remaining faculty with little or no raise and are cutting \$700,000 in employee healthcare benefits. DePauw's leaders claim that faculty expenditures were much higher than competitors, and that cutting positions will help financially with little academic penalty. After all, DePauw had on average 125 more staff members than similar schools in the area and double the proportion of full-time staff (Nicieja 2019). The changes at DePauw have upset faculty and staff, but they are concurrent with what is happening nationally. The university is taking a proactive approach to avoid seeing the grim financial projections of their competitors in the northeast. DePauw may not find itself necessarily better off from these changes, but faculty and staff cannot say that this transition was unexpected.

There will be losses in certain fields from higher education's shift, and they will be influential to students. Non-STEM students will have less opportunity to receive a quality education. In turn, the career outlook for non-STEM students will become less optimistic. This is discouraging for the incoming population of minority students that tend to enroll in non-STEM majors more often than their white counterparts. With the increasing intelligence of technology,

non-STEM students should pay close attention to their returns as the workforce demands more specialization. Job demand has indicated that specialization is favoring STEM majors, putting non-STEM majors at higher risk of job elimination.

The student population's shift toward non-STEM preference is contradictory to the increasing workforce demand for more job-relevant skills. Thus, colleges will have to bridge a larger gap between the abilities of incoming students and the skills desired by employers. The role of colleges in preparing students will increase as they must develop a significantly larger amount of human capital to graduate students at desired skill levels. Universities that are effective should have no problem employing their students into well-paying occupations.

Some colleges will fail to produce adequate returns to students, and they will fail. School performance is dependent upon location, recruiting style, ability to graduate students, and the wage effect from receiving a degree from their school. A mishap in any of these measures can drive a school to underperform. What will be difficult for colleges is maintaining these figures while funding it with more of their own endowments. Some schools will not have the financial stability that endowments provide, and they will be less robust to fluctuations in performance measures. These institutions are the ones in the most trouble. Students deciding to attend college should evaluate the financial flexibility of their desired school and determine whether the university has the longevity to provide a quality education throughout the student's years of schooling.

The upcoming issues for students and schools cannot be remedied by free public tuition in the United States. The reason is simple- the government won't be able to afford it. Estimates

indicate that the US may be able to provide free tuition in 2018, but the student demographic shifting toward minorities of less income would require dramatic funding increases if governments were to carry out this plan. There is increasing skepticism around the value of college education, indicating that government support of higher education is not a wise investment anyway. Skepticism explains the decreases in federal funding that universities have seen over the last few years. The government and the economy in general might be better off letting colleges fund themselves through the transition, weeding out the underperformers in the process.

Colleges control their own destiny as they fight to maintain returns during the evolution of higher education. The overall projection for higher education is formidable, but high-quality universities should be fine. The aggregate value of college education might take a hit, and we may see a reduction of the number of colleges. However, several universities are proving that they can still provide students with increasing returns. We can still expect most colleges to develop highly-skilled workers that maintain better lifestyles. For students of the future, it is imperative to analyze college performance during this transition to ensure that they are making the right decision on whether to attend college.

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