DECEMBER 2022

WISCONSIN INSTITUTE FOR LAW & LIBERTY

BY WILL FLANDERS, PH.D. & CORI PETERSEN

# BANG FOR THE BUCK-Y

## How to Direct College Students Towards Degrees that Will Improve Wisconsin's Workforce

# Executive Summary


**WILL FLANDERS, PH.D.**
RESEARCH DIRECTOR
Flanders@will-law.org

**CORI PETERSEN**
RESEARCH ANALYST
Cori@will-law.org

WISCONSIN INSTITUTE FOR LAW & LIBERTY

The Wisconsin Institute for Law & Liberty ("WILL") exists to advance the public interest in the rule of law, individual liberty, constitutional government, and a robust civil society.

Student loan forgiveness has been a major topic of debate in the United States in recent years. While many students face crippling debt, taxpayers argue that this debt is not the responsibility of those who did not take out the loans. Meanwhile, the college and universities that have encouraged students to take on this debt are largely ignored, creating another generation of heavily indebted students.

In this paper, we turn the focus back on universities. We make the case that public universities must serve as good stewards of taxpayer money, and those that are putting students on career paths where they're unlikely to be able to pay their student loans ought to be held accountable. Moreover, universities should aid in solving the growing workforce crisis by steering students towards careers where there are shortages in the state. Using extensive data on college defaults and the return-on-investment from various degrees, we highlight the schools and programs that are a net positive for would-be college students, and those that are not.

Among the key findings of this report:

- **Despite tuition freezes, tuition is still more than $3,000 more expensive than a decade ago.** At UW-Madison, tuition has increased by an inflation-adjusted $4,359 in real dollars since the 2000-01 school year. At UW-Milwaukee, tuition has increased $3,320 over that same time period.
- **Beauty schools have the highest default rates.** 6 of the 10 highest default rates in the state are among beauty schools. This further calls into question the usefulness of occupational licensing laws that require attending these schools.
- **ROI varies extensively within universities.** At UW-Milwaukee, students who choose to earn a degree in dance have a lifetime return-on-investment more than $700,000 lower than those that choose the highest ROI degree.
- **Technical college degrees sometimes exceed the value of four-year degrees.** Technical college degrees have lower negative outcomes and sound major choices can lead to higher expected lifetime ROI than degrees from UW system schools.

Recommendations include:

- **Transparency about ROIs should be required.** Universities should be required to disclose information about the lifetime return-on-investment from majors that students are considering, along with the average debt load and monthly payments.
- **Performance-Based Funding for Universities.** Universities with high student default rates and many students in low ROI majors should face funding consequences. Those at the other end of the spectrum should potentially be rewarded.

# Introduction


President Biden's loan forgiveness plan has attempted to deal with student loan debt without putting out the underlying fire that led to this problem: high tuition at American universities. Without addressing this problem, we are all but guaranteed that subsequent waves of loan forgiveness will be demanded by student borrowers, and left-leaning administrations will feel pressure to acquiesce. In this study, we will examine ways in which the state of Wisconsin can work to mitigate the student loan problem by shifting the onus to universities.

This problem is not only important from the perspective of potential college loan applicants, but also for the state budget as well. The UW-System received more than $1 billion in state funding in 2020-21. It is vital that policymakers ensure this spending represents a good investment that sets graduates up for success in life, not weighed down by unmanageable student loan debt.

Using **extensive data** from the Foundation for Research on Equal Opportunity on the return on investment from Wisconsin universities' undergraduate and associate programs, as well as **data** from the United States Department of Education on default rates by university, we will identify schools and programs that underperform on both metrics. We will then propose policy solutions that will encourage schools to make students aware of whether their investment in college is likely to pay off, and propose that the state use financial penalties to ensure that universities are encouraging students into majors that are likely to allow them to flourish.

# The Cost of College

Nationally, the cost of a four-year degree has exploded in the last fifty years. From 2010 to 2020 the average cost increased by 31.4%. Since the 1960s, the average cost has gone up by an astronomical 747% after adjusting for inflation.[1]

These changes have occurred at the same time that more and more families have come to see a four-year degree as an expectation. The rate of college graduates has grown from about 7.7% in 1960 to 37.9% by 2020.[2] More and more students paying more and more money is a recipe for disaster, and some argue that is what has happened with student loans. In 1970, the average college graduate had an inflation adjusted $7,458 in student loan debt. By 2021, that number was up to $31,100—a growth of 317%.

There is a strong case to be made that federal intervention in the student loan market actually was the cause of many of the problems the federal government is now attempting to solve. In the 1980s, Reagan's Secretary of Education, Bill Bennett, made the case that federal student loans have actually worked to give colleges cover in increasing tuitions:

> *"If anything, increases in financial aid in recent years have enabled colleges and universities blithely to raise their tuitions, confident that Federal loan subsidies would help cushion the increase."*[3]

The figure below shows how much average college tuition has grown in inflation-adjusted dollars since 1968. The figure here is for public four-year colleges, excluding two-year and private colleges. The red line on the chart represents the year (1993) when the government began making direct loans to students rather than relying on private entities for most loans. While it can't be proven causally from this data, there does appear to be an acceleration in tuition growth after this point.

A 2017 study from the Federal Reserve Bank of New York[4] offered further support to this hypothesis. Using comprehensive data on about fifteen years of tuition and student loans, they found that unsubsidized federal loans increased tuitions by about 15 cents for each dollar of loan, while subsidized loans increased tuitions by about 60 cents for each dollar of loan. Subsidized student loans are available to students from lower-income backgrounds and do not accrue interest while the borrower is in school. Unsubsidized loans begin accruing interest immediately upon being taken out.

**Figure 1. Inflation-Adjusted College Tuition, Public Universities**

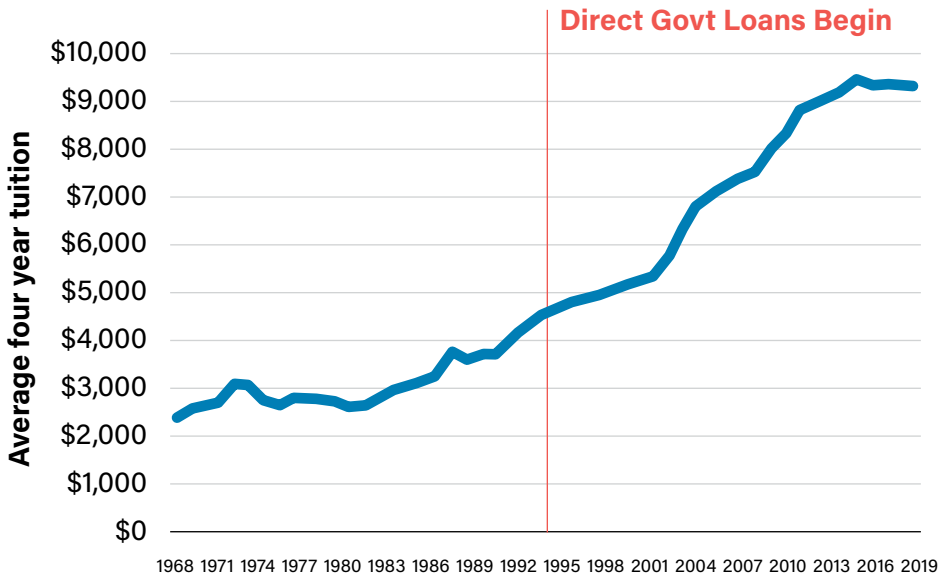
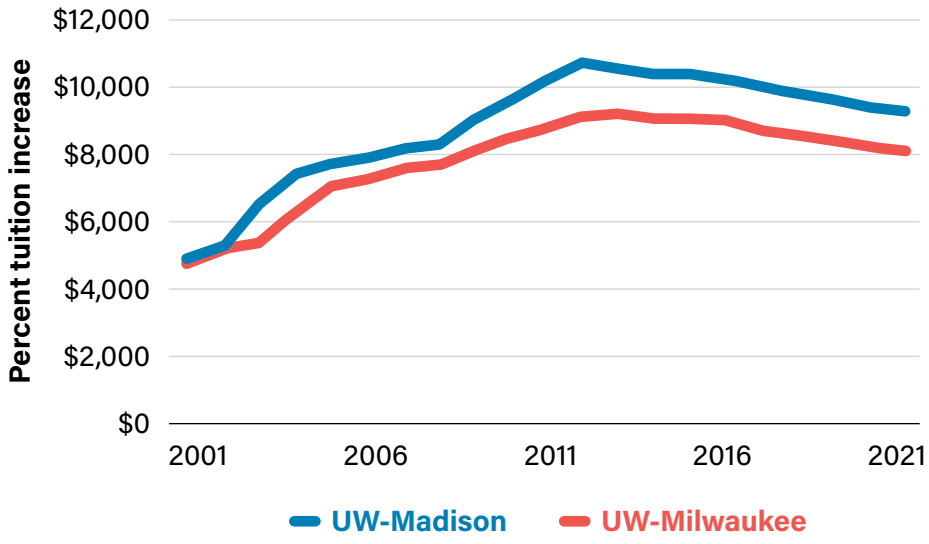


**Figure 2. Inflation-Adjusted Tuition, UW-Madison & UW-Milwaukee**




One piece of good news for Wisconsin is that the numbers look slightly better than the national average. Tuition has been frozen at public universities in Wisconsin since 2013,[5] with increases only being allowed for student fees. Perhaps as a consequence of this freeze, Wisconsin ranks 7th lowest in the amount of student loan debt per borrower.[6] However, this should not make one think that student loan debt is extremely low in this state. Indeed, the average amount of debt per borrower still exceeds $30,000. The figure below shows the average inflation-adjusted tuition increase per academic year at UW-Madison and UW-Milwaukee for in-state students since 2000 using data from the Legislative Fiscal Bureau.[7] The tuition freeze, which began in 2012, has indeed brought the relative cost of tuition down.

However, students are still paying significantly more than they were two decades ago. At UW-Madison, tuition has increased by an inflation-adjusted $4,359 in real dollars since the 2000-01 school year. At UW-Milwaukee, tuition has increased $3,320 over that same time period.

Despite these problems, it is important to note that there is still a substantial income benefit to college graduation. According to data from the Bureau of Labor Statistics,[8] median weekly earnings for someone with a four-year degree were 27% higher than for someone with an Associate's Degree, and nearly 40% higher than for someone with just a high school diploma. For a long time it was difficult to quantify whether it was worthwhile to take the risk of funding a college education through loans in order to realize these income gains.

But in recent years, additional data has become available which clearly identifies the potential value from various degree programs. As policymakers look at ways to address student loan debt beyond a significant giveaway to individuals who chose to take on the debt, making use of this information is key. In the following section, we will use this data to highlight two potential ways to assess the value of a degree: return on investment (ROI) and default rates.

# Quantifying the Value of College

# DEFAULT RATES

In order to evaluate how well Wisconsin colleges and universities are setting up students for success, we pull data from two sources: The first source is the cohort default rate for Wisconsin schools that is released by the United States Department of Education.[9] The default rate is the percentage of students who enter repayment during a particular time period and have entered default status by the end of the second year. Because of the time lag after student graduation required to collect this data, the most recent data available is for the 2018 graduating class. Across all state colleges and universities for which we have data in Wisconsin, the default rate for this cohort of students was 5.1%.

Table 1 lists Wisconsin schools by default rate in three categories: overall, excluding beauty schools, and among four-year universities.

We should not ignore the extremely high default rates at many beauty schools. Various cosmetology licenses require a certain number of hours at a state licensed school of cosmetology, barbering, or aesthetics.[10] Given the default rates, one must question the utility of these programs. A recent report from the Institute for Justice[11] argued that much of the training in beauty school is less concerning the health and safety of future clients than it is a transfer of wealth from students and taxpayers to beauty schools. Indeed, in states like Wisconsin, more than 10 times the hours are required for a cosmetology license than to become an EMT.[12] In the past, WILL has supported legislation to reduce or eliminate such licensing requirements, and the data

**Table 1. Default Rate-2018 Cohort Wisconsin**

| Overall Schools | % |
|---|---|
| State College of Beauty Culture | 28.5 |
| Milwaukee Area Tech College | 15.6 |
| Tricoci University of Beauty Culture | 14.3 |
| Paul Mitchell The School Milwaukee | 14.1 |
| Nicolet Area Tech | 14.0 |
| Gateway Tech | 12.7 |
| Paul Mitchell The School - Madison | 12.6 |
| Blackhawk Tech | 12.5 |
| Advanced Institute of Hair Design | 11.8 |
| Advanced Institute of Hair Design | 11.6 |

| Non-Beauty | % |
|---|---|
| Milwaukee Area Tech | 14.3 |
| Nicolet Area Tech | 12.7 |
| Gateway Tech | 12.6 |
| Blackhawk Tech | 11.8 |
| Northeast Wisconsin Tech | 11.4 |
| Mid-State Tech | 10.4 |
| Wright Graduate | 9.6 |
| Lakeshore Tech | 9.1 |
| Waukesha County Tech | 9.0 |
| Wisconsin Indianhead Tech | 8.9 |

| Four-Year | % |
|---|---|
| UW- Milwaukee | 6.2 |
| UW- Green Bay | 6.1 |
| UW- Superior | 5.9 |
| Lakeland University | 5.6 |
| UW- Oshkosh | 5.4 |
| UW- Platteville | 5.4 |
| UW- Whitewater | 5.4 |
| UW- Stevens Point | 5.3 |
| UW- Eau Claire | 5.1 |
| Cardinal Stritch | 4.9 |

here is yet more ammunition in support of those reforms.[13]

Moving on to two and four-year degrees, a staggering 14.3% of students in the 2018 cohort at Milwaukee Area Technical College entered default status within 2 years. Another technical college—Western Technical—in La Crosse has the second highest default rate. The highest default rate at a University of Wisconsin affiliated school is at UW-Milwaukee, with a default rate of 6.2%.

Table 2 shows the other end of the spectrum—those schools with the lowest default rates. The lowest default rate is found at Nashotah House—an Anglican seminary in Nashotah, Wisconsin. Among larger universities in the state, UW-Madison, Marquette, and La Crosse all report default rates well below average.

Of course, there is likely a correlation here with the relative achievement of the students entering each of these institutions. Because, for example, UW-Madison is, in general, culling from the highest achieving students in the state (and other states and nations as well), this set of students likely would have higher achievement levels in the work world, independent of attending the school. But this is not an excuse for universities. Indeed, universities with lower entry expectations should be more careful that they are not setting students up for an unpayable debt.

## HIGHER EDUCATION ROI: 4-YEAR SCHOOLS

Our second data source allows us an even greater level of specificity, delving into the specific majors that have a positive and negative relationship to lifetime earnings. Arriving at these numbers is a complex process, because we cannot simply compare the mean incomes of those who attend college and those who do not. Author Preston Cooper, who conducted the analysis that is the basis for our discussion here, included extensive demographic information to account for the fact that those who attend college are different on other dimensions than those who do not. The costs of colleges are based on tuition and fees minus financial aid that

**Table 2. Lowest Default Rate-2018 Cohort Wisconsin**

| Name | Default Rate |
|---|---|
| **Nashotah House** | 0.0% |
| **University Of Wisconsin - Madison** | 0.9% |
| **Marquette University** | 1.5% |
| **University Of Wisconsin - Lacrosse** | 1.5% |
| **Saint Norbert College** | 1.6% |
| **Milwaukee School Of Engineering** | 2.0% |
| **Carroll University** | 2.3% |
| **Concordia University** | 2.4% |
| **Lawrence University Of Wisconsin** | 2.4% |
| **Beloit College** | 2.5% |

### Table 3. Best & Worst ROI Majors, UW-Milwaukee

| Worst | Net ROI |
|---|---|
| **Dance** | -$248,123 |
| **Area Studies** | -$222,390 |
| **Film/Photographic Arts** | -$210,696 |
| **Germanic Languages** | -$169,270 |
| **Linguistic, Comparative, and Related Language Studies & Services** | -$156,951 |

| Best | Net ROI |
|---|---|
| **Computer Engineering** | $463,929 |
| **Electrical, Electronics, and Communications Engineering** | $376,810 |
| **Industrial Engineering** | $349,539 |
| **Mechanical Engineering** | $337,617 |
| **Materials Engineering** | $314,103 |

### Table 4. Best & Worst ROI Majors, UW-Madison

| Worst | Net ROI |
|---|---|
| **Communication Disorders Sciences and Services** | -$290,460 |
| **Religion/Religious Studies** | -$282,622 |
| **Linguistic, Comparative, and Related Language Studies, and Services** | -$185,407 |
| **Neurobiology and Neurosciences** | -$147,590 |
| **Wildlife and Wildlands Science and Management** | -$113,649 |

| Best | Net ROI |
|---|---|
| **Real Estate** | $1,533,742 |
| **Computer Engineering** | $1,464,686 |
| **Management Sciences and Quantitative Methods** | $1,391,188 |
| **Insurance** | $1,183,085 |
| **Industrial Engineering** | $1,156,325 |

does not have to be repaid. A full outlining of Cooper's methodology is available online.[14]

In this paper, we will consider the results after an adjustment has been made for whether or not a student actually completes the degree, though the underlying work from Cooper provides both. While it would be beyond the scope of this paper to display the ROI for every program and university, we have chosen to use as an example the best and worst ROIs at the four-year public universities with the highest and lowest default rates. First, we examine the results for UW-Milwaukee.

The major with the most negative ROI is dance. All else equal, a student who majors in dance at UW-Milwaukee is likely to have a net negative effect on their lifetime earnings of nearly $250,000. On the other end of the spectrum is perhaps what one might expect—five engineering majors. If a student with the same demographic profile and background chose a computer engineering major over dance, the net effect on their lifetime earnings would be expected to be $712,072.

Table 4 shows the same information for UW-Madison. It is important to note that certain majors at the state's lowest default university can still have a negative effect on lifetime earnings. These include study of Communications Disorders and Religious studies. An important note on a limitation of this work can be found in the fourth-lowest ROI major for UW-Madison:

Photo by Javier Trueba

Neurobiology and Neuroscience. The research here does not account for the possibility that students will use their degree to pursue advanced degrees in medicine or other fields, which could dramatically change the ROI here. This is why it is important to consider multiple factors, including default rate, when evaluating the true impact of a particular major.

On the positive ROI side, we see a bit more diversity in lucrative majors than we did at UW-Milwaukee. Along with two types of engineering, we see real estate, insurance, and the management sciences rising to the top as high ROI majors.

## HIGHER EDUCATION ROI: 2-YEAR SCHOOLS

While technical colleges in Wisconsin have higher default rates on average, this is not to suggest that it is impossible to attend a technical college and achieve a positive ROI. Table 5 and 6, on the next page, show the average net ROI at technical colleges from the two largest tech colleges in the state—Fox Valley Tech and Milwaukee Area Tech.

The important thing to note here is that the ROI for the top five majors at Fox Valley Tech are higher than the next ROI for any of the UW-Milwaukee degrees. All else being equal, a student would likely be better off attending Fox Valley Tech for a degree in Electrical Power & Transmissions than they would be attending UW-Milwaukee for a degree in Computer Engineering (the highest ROI major at the school).

The numbers for Milwaukee Area Tech are more in line with the numbers UW-Milwaukee, though slightly lower ROI in the top five. At the bottom end of the spectrum, the negative ROI majors lead to lower negatives than do four-year degrees from both UW system schools.

## Table 5. Best & Worst ROI Majors, Fox Valley Technical College

| Worst | Net ROI | Best | Net ROI |
|---|---|---|---|
| **Teacher Education & Professional Development** | -$95,665 | **Electrical Power & Transmission Installers** | $708,9546 |
| **Hospitality Administration/ Management** | -$43,850 | **Allied Health Diagnostic, Intervention & Treatment** | $692,513 |
| **Culinary Arts & Related Services** | -$11,995 | **Vehicle Maintenance & Repair Technologies** | $662,254 |
| **Design & Applied Arts** | $22,498 | **Precision Metal Working** | $618,121 |
| **Security Science & Technology** | $32,288 | **Electromechanical Instrumentation & Maintenance Technologies** | $597,848 |

## Table 6. Best & Worst ROI Majors, Milwaukee Area Technical College

| Worst | Net ROI | Best | Net ROI |
|---|---|---|---|
| **Music** | -$86,213 | **Registered Nursing, Nursing Administration, Nursing Research, and Clinical Nursing** | $238,478 |
| **Cosmetology and Related Personal Grooming Services** | -$77,443 | **Precision Metal Working** | $208,453 |
| **Audiovisual Communications Technologies/Technicians** | -$50,252 | **Electrical and Power Transmission Installers** | $196,120 |
| **Teacher Education and Professional Development** | -$43,842 | **Electromechanical Instrumentation and Maintenance Technologies** | $187,782 |
| **Culinary Arts and Related Services** | -$35,336 | **Allied Health Diagnostic, Intervention and Treatment Professions** | $165,132 |

Photo by Karolina Grabowska

# Analysis: What Affects Default Rate?

What is often lost in the discussion about student loan forgiveness is that the students in the worst position are those who enter college but don't finish. They have often accumulated significant amounts of debt without the payoff that comes with a degree. Retaining and graduating students is vital to ensuring that students can manage debt. But how important is it?

To help answer that question, we combined the data on default rates described above with data from the Integrated Post-Secondary Data System[15] on graduation rates at Wisconsin universities. The key variable here is the share of the cohort that graduated within 150% of the normal time frame. To account for other possible explanations for differences in default rates, we also include a control variable for the share of Pell Grant recipients (in theory, this should lower default rates), and the size of the cohort of students under analysis. The results of this regression are reported in Table 5. The first results column includes all technical colleges and four-year colleges. The second results column excludes those schools so that we can also include a control variable for the selectivity of the school, measured by the share of applicants admitted.

The dataset here is small, with only 51 observations in the first case and 36 in the second. This decreases the chance of finding a significant relationship even if one exists in reality. Nonetheless, we find strong significance between graduation percentage and the default rate. A 1% decrease in the default rate at a university would be expected to be correlated with a 0.18% increase in the default rate in the larger model. In the model excluding tech schools, the default rate would be expected to increase by .0897% under this scenario. Moving from the highest graduation rate at a UW system school (88% at UW-Madison) to the lowest (43% at UW-Superior) would be expected to increase defaults by about 3.9%.

## Table 7. Correlates of Student Loan Default Rate

| | (1) | (2) |
|---|---|---|
| **VARIABLES** | **All Schools** | **Non-Tech Schools** |
| **Graduation Rate** | -0.182*** | -0.0897*** |
| | (0.0215) | (0.0224) |
| **Pell Rate** | -0.00136 | 0.0482** |
| | (0.0282) | (0.0228) |
| **Cohort Size (1000s)** | 0.0382 | 0.276** |
| | (0.157) | (0.103) |
| **Selectivity** | | -0.0126 |
| | | (0.0183) |
| **Constant** | 15.55*** | 8.386*** |
| | (1.778) | (2.604) |
| | | |
| **Observations** | 51 | 36 |
| **R-squared** | 0.632 | 0.631 |

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

It is perhaps heartening that our variable used as a proxy for selectivity is insignificant here. While these factors are correlated with graduation, the results here suggest that efforts to keep students in school can have a real effect on outcomes. It must also be noted, however, that self-selection occurs to some extent among applicants. The average admission rate in our dataset was more than 77%. The most curious finding arguably has to do with a positive relationship between defaults and Pell Grants. What may be captured here is the struggles of students who fall just beyond the family income thresholds for Pell grants—likely to be more common in schools with high Pell Grant rates.

Photo by Connor Betts

# Policy Solutions

It is important that colleges and universities encourage students to choose majors with a high ROI and therefore, are more likely to lead to a successful life, as opposed to just waiting for the next round of student loan forgiveness. Here, we propose that two requirements be placed on universities to ensure this outcome.

**Transparency about ROIs.** Students regularly meet with advisers when deciding what degree field to pursue. As part of this process, schools should be required to provide students with information about the average ROI of jobs in the degrees they are considering. This information should include the average monthly salary of people with this particular degree, and what the student's likely monthly payment on average amount of student loan debt would be under the various federal repayment plans. Some states have already begun the process of implementing similar reforms. In Indiana, HB 1042,[16] passed in 2015, required that universities provide information on the total amount of loans taken out and the total monthly payment on those loans. Our proposal would take things one step further by requiring this information be linked to information about likely incomes. An example of how this might look for a high and low ROI major is included as an appendix.

**Informed Consent for Major Selection.** Taking the previous idea one step further, the magnitude of the decisions at play in selecting a college major—putting oneself on a career trajectory, paying or borrowing five if not six figures in tuition—warrant the utmost consideration and awareness. Therefore, while colleges may disclose to students figures like ROI, we really recommend that colleges incorporate into their major declaration forms some of the most salient financial information for the major a student is interested in pursuing. This is especially relevant given how research suggests that major selection matters enormously, perhaps even more than the school attended.[17] So, on a typical major declaration form, a student should not only have to fill out their name, email address, declared major, and the date, but should need to personally write the most important financial details that attend that decision (whether that's average lifetime ROI, median salary, or loan repayment figures, all for that major's graduates at that school). Only by requiring students to fill in this information themselves can we ensure that students are consenting to an informed decision and that they acknowledge the expected results of it.

**Performance-Based Funding for Universities.** The state should identify programs within each university that have a negative ROI and also have a high rate of defaults for students participating in the program. Programs that meet both criteria should be required to create a plan for improvement, and should be evaluated based on the success of those improvements on these metrics over the next several cohorts of students. Real financial penalties for college and university programs that don't show improvement should be considered.

# Conclusion

Photo by Ekrulila

By addressing the current student loan crisis without addressing its underlying causes, the federal intervention by President Biden merely provides a perverse incentive for colleges to charge students even more. Students who don't believe they will ever have to fully pay back their loans will see little reason not to take out substantially larger loans, and the vicious cycle will begin again. Because the federal government is unlikely to do much to address the underlying issues, it is incumbent on policymakers at the state level to take this on. By implementing the reforms discussed here, we can ensure that Wisconsin's college students are choosing their field of study with open eyes—and won't be as shocked when that first student loan payment comes due.

# Endnotes


1 https://educationdata.org/college-tuition-inflation-rate

2 https://educationdata.org/college-tuition-inflation-rate

3 https://www.acenet.edu/Documents/Heller-Monograph.pdf

4 https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjzgZzR2Yr7AhXHFTQIHQGZC4QQFnoECBMQAQ&url=https%3A%2F%2Fwww.newyorkfed.org%2Fmedialibrary%2Fmedia%2Fresearch%2Fstaff_reports%2Fsr733.pdf&usg=AOvVaw1QNxl1KnfLi2uFc-ovaQKD

5 https://www.wpr.org/uw-system-keeps-tuition-freeze-intact-year-ahead

6 https://educationdata.org/student-loan-debt-by-state

7 https://docs.legis.wisconsin.gov/misc/lfb/informational_papers/january_2021/0035_university_of_wisconsin_tuition_informational_paper_35.pdf

8 https://www.bls.gov/emp/chart-unemployment-earnings-education.htm

9 https://www2.ed.gov/offices/OSFAP/defaultmanagement/cdr.html

10 https://www.indeed.com/certifications/view/wisconsin-cosmetology-license-PECNWFNR

11 https://ij.org/report/beauty-school-debt-and-drop-outs/

12 https://ij.org/report/license-to-work-2/ltw-state-profiles/ltw2-wisconsin/

13 https://will-law.org/wp-content/uploads/2022/08/PrimeronOccupationalLicensing.pdf

14 https://freopp.org/how-we-calculated-the-return-on-investment-of-a-college-degree-e93bce69f9c7

15 https://nces.ed.gov/ipeds/datacenter/institutionprofile.aspx?unitId=240189

16 https://indianahousedemocrats.org/news-media/education-loan-information-bill-heads-to-governor-for-signature

17 Major Decisions: What Graduates Earn Over Their Lifetimes | The Hamilton Project


330 East Kilbourn Ave. | Suite 725
Milwaukee, WI 53202

**will-law.org**
414-727-9455

@WILawLiberty