



# OUT OF REACH: EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

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## Contents

Summary.....	iv
Introduction.....	1
The Value of Postsecondary Education.....	2
Tuition and Fee Growth at Public Universities and Community Colleges .....	4
Public Universities .....	4
Growth in Tuition and Fees .....	6
Affordability .....	7
Public Community Colleges .....	9
Growth in Tuition and Fees .....	9
Affordability .....	10
Tuition and Fee Charges at Individual Michigan Public Institutions .....	10
Key Observations on Tuition and Fee Charges.....	12
Impact of Spending and Public Subsidy on Tuition Growth.....	15
Higher Education Spending Trends.....	15
Data and Methodology.....	15
Defining Education-Related Spending .....	18
Growth in Education-Related Spending.....	18
Spending Levels by Institution .....	20
Growth in Spending Relative to Tuition and Fee Charges .....	23
Key Observations on Institution Spending .....	24
Changes in Public Subsidy for Higher Education .....	24
IPEDS Data on Higher Education Revenue.....	25
Declines in Public Subsidy Share of Education Revenue.....	26
Universities .....	26
Community Colleges.....	27
The Impact of Public Subsidy Growth: Tuition Charges vs. Revenue/Spending Changes .....	29
Impact of Declining Public Subsidy Share on Tuition and Fees.....	31
Universities .....	32
Community Colleges.....	33
Gross Tuition and Public Subsidy Revenue at Individual Michigan Institutions .....	33
Public Tax Effort for Higher Education .....	35
Tax Effort and Budget Constraints in Michigan .....	37
The Impact of Changes in the Public Subsidy on Affordability.....	38
Key Observations on Public Subsidy Impacts .....	40
Financial Aid Discounts to Tuition.....	41
Financial Aid Grants and Net Tuition Revenue.....	41
Universities .....	42
Community Colleges.....	42
Affordability .....	42
Who Gets Financial Aid? .....	44
Key Observations on Financial Aid and Affordability .....	47
Summary and Major Findings.....	49
Implications for Public Policy .....	50

## Tables

Table 1 Per Capita Personal Income and Educational Attainment in Selected States .....	3
Table 2 Tuition and Fee Charges at Michigan Universities.....	11
Table 3 Tuition and Fee Charges at Michigan Community Colleges .....	13
Table 4 Spending per FTE Student at Michigan Universities .....	21
Table 5 Spending per FTE Student at Michigan Community Colleges.....	22
Table 6 Relative Growth of Gross Tuition and Public Subsidy per FTE Student - Universities .....	26
Table 7 Relative Growth of Gross Tuition and Public Subsidy per FTE Student - Community Colleges .....	28
Table 8 Impact of One Percent Public Subsidy Growth on Tuition and Fee Growth under Three Scenarios....	31
Table 9 Median Revenue Growth Rates by Public Subsidy Share Quartile U.S. Public Universities.....	33
Table 10 Median Revenue Growth Rates by Public Subsidy Share Quartile U.S. Public Community Colleges .....	34
Table 11 Education Revenues per FTE Student in AY1989 and AY2019 - Universities .....	34
Table 12 Education Revenues per FTE Student in AY1989 and AY2019 - Community Colleges .....	36
Table 13 Growth in Net Tuition versus Financial Aid Grants.....	44
Table 14 Financial Aid Grants to First-Time, Full-Time Undergraduate Students.....	45
Table 15 First-Time, Full-Time Undergraduate Students Receiving Financial Aid Grants by Source - Universities.....	46
Table 16 First-Time, Full-Time Undergraduate Students Receiving Financial Aid Grants by Source - Comm. Colleges.....	47

## Boxes

Higher Education Finances: Background on the Data .....	5
Full-Time Equated (FTE) Students: Behind the Data .....	8
Tuition Restraint: A Catch-22 for Michigan Universities.....	14
Changes in Reporting Standards for Education Expenditures .....	16
Michigan Financial Aid Reductions in FY2010 .....	48

## Charts

Chart 1 Median Weekly Earnings by Education, 2020 .....	2
Chart 2 Unemployment Rate by Education, 2020 .....	2
Chart 3 Full-Time, In-State Undergraduate Tuition and Fees .....	7
Chart 4 Annual Growth in Tuition and Fee Charges - Universities .....	7
Chart 5 Tuition and Fees as Percent of Median Income - Universities .....	7
Chart 6 Full-Time, In-District Tuition and Fees - Community Colleges .....	9
Chart 7 Annual Growth in Tuition and Fee Charges - Community Colleges .....	9
Chart 8 Tuition and Fees as Percent of Median Income - Community Colleges .....	10
Chart 9 Ratio of Tuition & Fee Charges to National Class Average Universities: 2018-19 Academic Year .....	11
Chart 10 Ratio of Tuition & Fee Charges to National Average Community Colleges: 2018-19 Academic Year .....	13
Chart 11 Core Institutional Spending per FTE Student, AY2019 .....	17
Chart 12 Instruction & Student Services Spending per FTE Student .....	19
Chart 13 Administrative and Support Services Spending per FTE Student .....	20
Chart 14 Tuition and Fee versus Spending Growth .....	23
Chart 15 Tuition and Fee versus Spending Growth .....	24
Chart 16 Combined Education Revenue per FTE Student - Universities .....	26
Chart 17 Tuition and Public Subsidy Revenue Shares - Michigan Universities .....	27
Chart 18 Tuition and Public Subsidy Revenue Shares - U.S. Universities .....	27
Chart 19 Combined Education Revenue per FTE Student .....	28
Chart 20 Tuition and Public Subsidy Revenue Shares - Michigan Community Colleges .....	28
Chart 21 Tuition and Public Subsidy Revenue Shares - U.S. Community Colleges .....	29
Chart 22 Public Subsidy per FTE Student: State versus Local Shares - Michigan Community Colleges .....	29
Chart 23 In-State Tuition and Public Subsidy Share Universities (AY2019) .....	35
Chart 24 In-District Tuition and Public Subsidy Share Community Colleges (AY2019) .....	35
Chart 25 Public Subsidy as a Percent of Personal Income .....	37
Chart 26 Michigan Revenue as Percent of Personal Income .....	39
Chart 27 Operating Support to Postsecondary Institutions as Percent of State Revenue .....	39
Chart 28 Tuition as Percent of Median Household Income - Michigan Universities .....	40
Chart 29 Tuition as Percent of Median Household Income - U.S. Universities .....	40
Chart 30 Net Tuition and Aid Revenue per Student - Michigan Universities .....	43
Chart 31 Net Tuition and Aid Revenue per Student - U.S. Universities .....	43
Chart 32 Net Tuition and Aid Revenue per Student - Michigan Community Colleges .....	43
Chart 33 Net Tuition and Aid Revenue per Student - U.S. Community Colleges .....	43
Chart 34 Tuition Revenue as Percent of Median Income - Michigan Universities .....	45
Chart 35 Tuition Revenue as Percent of Median Income - U.S. Universities .....	45
Chart 36 Tuition Revenue as Percent of Median Income - Michigan Community Colleges .....	45
Chart 37 Tuition Revenue as Percent of Median Income - U.S. Community Colleges .....	45

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# OUT OF REACH: EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

## Key Takeaways

- Growth in tuition and fee charges at public universities and community colleges is making college less affordable to the typical household. For public universities, average annual charges as a percentage of median household income have grown almost three-fold over the last three decades.
- Tuition and fee growth has been significantly higher than growth in institutional spending, so spending alone cannot explain the sharp growth in tuition charges. Data analysis suggests that slow growth in public operating support has been a key driver, especially for public universities.
- While growth in financial aid grants have helped mitigate some of the out-of-pocket tuition and fee costs to students and families, affordability has still declined even after factoring in this growth in grant aid.

## EXECUTIVE SUMMARY

Few argue the benefits of attaining a post-secondary degree. Today's workplace is significantly different from the workplace that existed decades ago. Higher salaries and wages are increasingly reserved to those with advanced skills that are most commonly associated with a college degree. Recent research suggests that workers with a bachelor's degree earn, on average, around 70 to 75 percent more than workers with only a high school diploma. Similarly, an associate's degree increases average earnings for workers by about 20 percent over those with only a high school education.<sup>1</sup>

However, while the benefits of a college degree are well-documented, so too is the dramatically increasing price of obtaining one. U.S. Department of Education data show that the average tuition and fee charges at public four-year universities increased at an annual rate of 6.6 percent during the period between the 1979-80 school year and the 2019-20 school year. For public two-year colleges, annual growth was somewhat slower at 5.8 percent.<sup>2</sup> Both growth rates exceeded the 5.5 percent growth rate realized for U.S. personal income over this period,

meaning that tuition has become less affordable to the average family. Many worry that this growth in the price of higher education will keep some potential students from achieving the benefits of a college degree.

To provide insight into why a college degree is becoming more expensive both in Michigan and nationally, this report utilizes 30 years of available data from the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS) to shed light on these important questions:

- How have tuition and fee charges changed at Michigan public universities and community colleges over the last 30 years? And how do these increases compare with national public peer institutions?
- How has university and community college spending, both in Michigan and nationally, changed over this period? To what extent do spending increases explain the observed tuition increases?
- Since the costs of instruction at public

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

institutions are supported by both student/family payments and by direct public support, how have changes in the magnitude of this public support affected tuition and fee charges?

- Finally, for many students, tuition and other

charges are often discounted for financial grant aid from public, private, and institutional sources. How have changes in the availability of financial grant aid affected out-of-pocket costs to students and families?

### Tuition and Fee Growth over 30 Years

Tuition and fee charges are a significant core component of the price of a college degree. Students and families pay tuition and fee charges to cover the costs of educational courses that make up a student's program of study as well as the costs of support services (e.g., financial aid, admissions, student organizations) needed to facilitate that educational program.

Tuition and fee charges in Michigan and nationally have risen faster over time than typical household incomes, making college less affordable for most people.

In Academic Year (AY)1989, average annual tuition and fee charges for Michigan universities equated to 7.4 percent of Michigan median income. By AY2019, that percentage had grown to 21.6 percent – an almost three-fold growth in the percentage over this period. That means that a typical Michigan family would need to find financial resources (by either directly spending from its income or by drawing down

savings or borrowing) equal to more than 21 percent of their annual income to afford one-year of public university education.

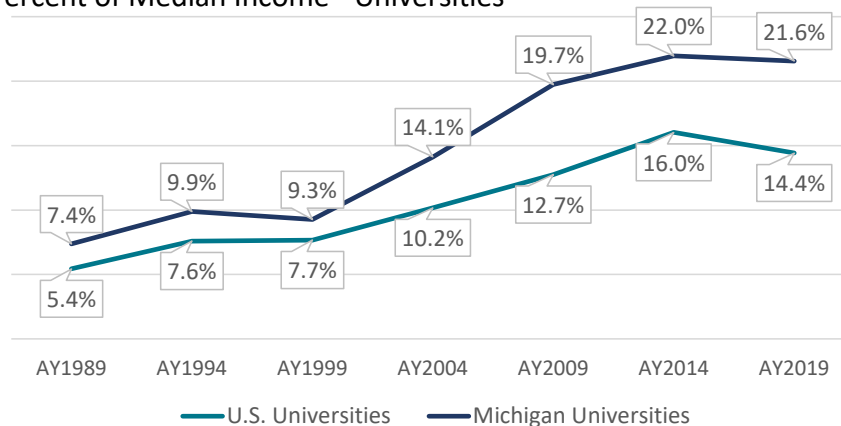
Nationally, tuition at all U.S. public universities also grew significantly as a percent of U.S. median household income from 5.4 percent at the start of the period to 14.4 percent by its end. (see **Chart A**)

Tuition and fees at public community colleges also became less affordable, with charges at Michigan community colleges rising from 3.2 to 5.8 percent of median household income. Nationally, average annual community college tuition rose from 2.6 to 5.1 of median income. The report also finds that tuition at Michigan institutions have exceeded national levels:

- Tuition at Michigan public universities was significantly higher than the national average across the period. In AY2019, charges were 39 percent higher than the average across all U.S. public universities in the

#### Chart A

Tuition and Fees as Percent of Median Income - Universities



Source: Research Council calculations based on tuition and fee data from Integrated Postsecondary Education Data System and annual median household income data from Current Population Survey, U.S. Census Bureau. Average tuition and fee charges are weighted by full-time equated undergraduate enrollment.



comparison group, and all 15 of Michigan's public universities had charges that exceeded the average for their Carnegie peer group.

- For Michigan community colleges, average tuition also exceeded the national aver-

age. However, charges varied considerably across the 28 colleges, with the typical charges for in-district students at nine Michigan community colleges falling below the national average.

## Institutional Spending and Tuition Growth

One critical driver of growth in tuition and fee charges is the growth in education-related spending by universities and colleges. Other things being equal, a university with above-average growth in education spending per student will have above-average growth in tuition and fee charges.

To determine how much of the observed growth in tuition and fee charges can be explained by growth in spending, the report analyzes growth in education-related spending per full-time equated (FTE) student at public institutions between AY1989 and AY2019. Relevant spending is divided into two categories based on IPEDS spending classifications:

- Instruction/Student Services spending: direct instruction and education expenses plus certain student services expenses (e.g. registrar, admissions, student activities, student health services)
- Administration and Support Services spending: expenses that support the university's mission including Academic Support (e.g., academic deans, libraries, museums), Institutional Support (e.g., executive office, legal/fiscal operations, human resource, public relations), and Operations and Maintenance (campus grounds and facilities).

Institutional spending at both public universities and community colleges has grown significantly slower than tuition over the last three decades. Thus, institutional spending alone cannot account for the significant growth in tuition and fee charges and the related decline in affordability.

For Michigan universities, the annual growth in Instruction/Student Services spending was only 3.5 percent, compared to 6.2 percent annual growth for

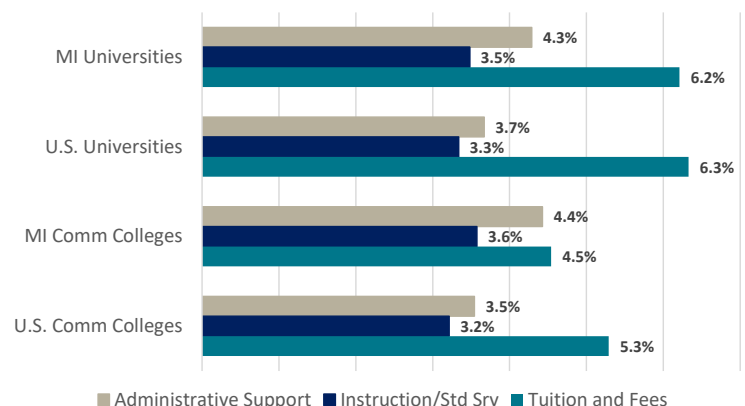
tuition. Nationally, spending growth for this category (3.3 percent) was just over half tuition growth (6.3 percent). Growth in Administration and Support Services was somewhat higher: 4.3 percent annually at Michigan universities and 3.7 percent at U.S. universities; but that growth was still only 69 percent of tuition and fee growth (6.2 percent) for Michigan universities and around 59 percent of tuition and fee growth for all U.S. universities (6.3 percent).

The comparison was similar for community colleges. Instruction/Student Services spending per student at U.S. community colleges grew at a 3.2 percent annual rate while Administration and Support Services spending grew by 3.5 percent annually. Both rates fall well below the 5.3 percent annual growth in tuition charges. The gap between spending growth and tuition and fee growth was smallest for Michigan community colleges, where annual Instruction/

### Chart B

#### Tuition and Fee Versus Spending Growth

Annual Growth between 1988-89 and 2018-19 Academic Years



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect average annual increase over the 30-year period spending per FTE student and in tuition and fee charges for full-time, in-state university students and full-time, in-district community college students.

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

Student Services spending growth (3.6 percent) was about 80 percent of the growth rate of tuition (4.5 percent). Annual growth in Administration and Support Services spending (4.4 percent) was about 98 percent of tuition and fee growth. (see **Chart B**).

In terms of spending at Michigan institutions, the data suggest:

- Spending levels per student at Michigan universities were significantly higher than national average spending. However, much of that gap was attributable to spending

levels at the University of Michigan-Ann Arbor and its status as a very large national research university. Spending at other Michigan universities trended both above and below the national average for their Carnegie peer classification.

- Most Michigan community colleges realized per-student spending levels and per-student spending growth across the period that exceeded national averages for all community colleges in the comparison group.

### Changes in the Public Subsidy for Higher Education

Public colleges and universities do not rely solely on tuition and fee revenue to finance their education-related expenses. They also receive operational support from the public sector. State government appropriations to universities and colleges and local tax revenue that often supports community college operations help to subsidize the price of higher education. In this report, this public operating support for colleges and universities is referred to generically as the “public subsidy”.

Changes in public subsidy revenue growth can also impact institutional decision-making on tuition and fee growth. If an institution’s long-term spending grows at a consistent rate, faster growth in public subsidy revenue, for instance, could allow an institution to reduce the growth of its “price” as established through its tuition and fee charge. Likewise, slower growth in the public subsidy could push institutions to consider faster growth in the price to make up for unrealized public subsidy revenue.

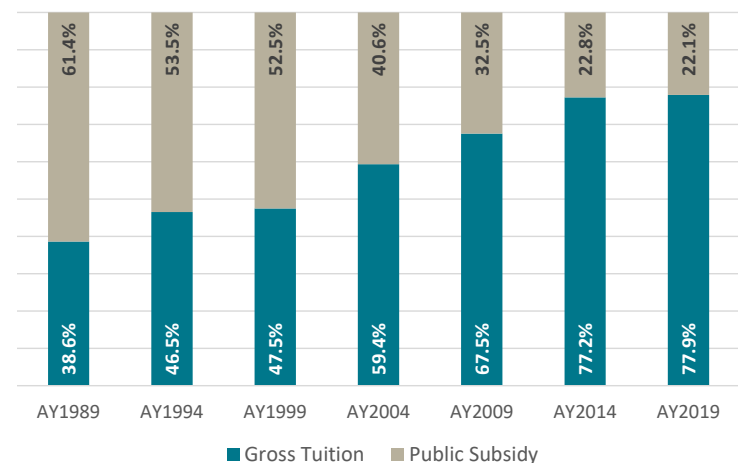
Over the last three decades, public subsidy revenue per student has grown very slowly for public institutions of higher education, particularly for universities. As a result, they have leaned increasingly more heavily on tuition and fee revenue to finance their operations. This has been especially true for public universities. **Chart C** illustrates this trend for Michigan universities. For each academic year, the public subsidy share of revenue is calculated by dividing total public subsidy revenue across all 15 Michigan universities by the total revenue from both the public

subsidy and gross tuition for these same universities. The public subsidy share at Michigan universities declined from 61 percent in AY1989 to just 22 percent in AY2019. In turn, the gross tuition share of revenue doubled from 39 percent to 78 percent over the same period.

Similarly, the public subsidy share of revenue fell from 73 percent in AY1989 to 35 percent in AY2019

#### Chart C

Tuition and Public Subsidy Revenue Shares - Michigan Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect gross tuition revenue and public subsidy revenue, respectively, divided by total revenue from both sources across all 15 Michigan public universities.

for all U.S. universities. For community colleges, the public subsidy share of revenue has also fallen, but the decline has been much smaller. The public share fell from 68 percent to 61 percent at Michigan community colleges and from 77 percent to 62 percent at all community colleges nationwide.

However, when a public institution faces slower than normal growth in public subsidy revenue, it has more than one option. It can raise tuition and fee charges to help restore some of the unrealized revenue; or, it can accept slower total overall revenue growth and reduce the growth in institutional spending to live within its new revenue means.

Community colleges did a little of both. Community colleges nationally with the greatest decline in the public subsidy share of their education revenue had

the highest growth rate in tuition and fee charges among all colleges; but they also had the lowest overall growth in education revenue. On the whole, community colleges both increased tuition and fees and also accepted somewhat slower overall revenue growth in response to sluggish public subsidy revenue growth

The same was not true, however, for universities. Universities with the greatest decline in public subsidy share had the highest growth rates in tuition and fees over the period, but there was no discernable impact on education revenue growth for universities with the highest and lowest declines in public subsidy share. This important finding suggests universities generally responded to sluggish subsidy growth primarily by increasing tuition and fees.

## The Impact of Changes in the Public Subsidy on Affordability

Slow growth in public operating support has played a major role in fueling growth in tuition and fee charges, particularly for 4-year universities. Looking at affordability, most of the decline in observed tuition and fee affordability – as measured by increases in tuition and fee revenue as a percent of median household income – is attributable to the resulting decline in the public subsidy share of total education revenues for universities. That correlation is less clear, however, among community colleges.

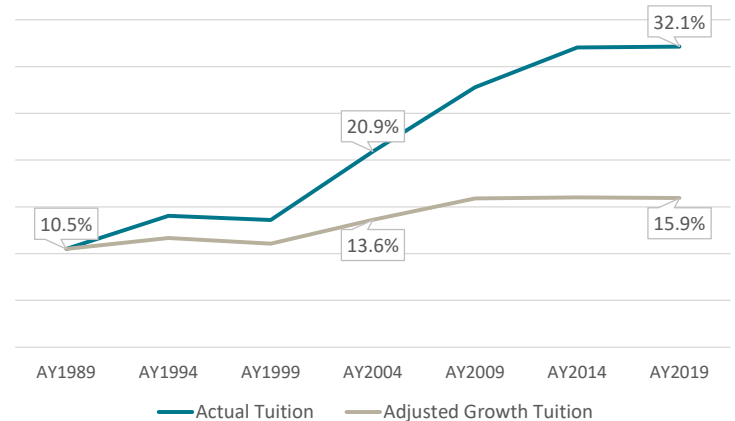
To measure the impact of the declining public subsidy share for universities, the report compares the actual growth path of per-student tuition revenue with an adjusted path that models how tuition and fee revenue would have grown without a decline in the public subsidy share. “Adjusted growth tuition” takes per-student tuition and fee revenue for AY1989 and grows that amount by the overall growth rate in all education revenue from both tuition and the public subsidy. The measure serves as a proxy for tuition and fee revenue under a scenario where the public subsidy share of revenue stayed constant throughout the period.

For Michigan universities, actual per-student tuition revenue increased from 10.5 percent of personal income to 32.1 percent of personal income between

AY1989 and AY2019. However, “adjusted growth tuition” grew to only 15.9 percent of median income (see **Chart D**). This suggests that only around 25 percent of this growth (the 5.4 percentage point growth

**Chart D**

Tuition as Percent of Median Household Income - Michigan Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Tuition is measured as total gross tuition revenue across all Michigan universities divided by aggregate full-time equivalent enrollment. Michigan median household income is taken from Current Population Survey, U.S. Bureau of the Census.

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

for adjusted tuition divided by the 21.6 percentage point growth for actual tuition) was driven by long-run growth in overall education revenue (and the spending it supports); the majority of the decline in tuition affordability is related to tuition increases to address sluggish growth in public subsidy revenue.

For U.S. universities, the story is much the same,

but the impact of the declining public subsidy share is even greater. Comparing actual tuition revenue growth with adjusted growth suggests that the vast majority (about 93 percent) of the growth in the income burden of tuition and fees was attributable to slow public subsidy growth and the resulting decline in the public subsidy share.

### Public Tax Effort for Postsecondary Education

What explains the sharp decline in the public subsidy share of postsecondary education revenue? Did the subsidy share decline because governments elected to constrain growth in tax revenue allocated for higher education as part of a broader effort to bring about smaller government and lower tax burdens? Or instead, has growth in higher education spending outpaced the growth in state and local tax bases? Under this latter scenario, the decline in the public subsidy share is just the inevitable result of state and local governments grappling with annual budget tradeoffs between higher education and other key public spending priorities.

To explore this question, the report examines “public tax effort” for postsecondary education, which is defined as total state and local public subsidy support to universities and community colleges as a percentage of personal income

For public universities, the data show a significant decline in public tax effort over the last three decades. Tax effort for Michigan universities declined from 0.61 percent of Michigan personal income in AY1989 to 0.30 percent in AY2019. Similarly, U.S. universities experienced a decline in tax effort from 0.58 percent of U.S. personal income at the start of the period to 0.30 percent by AY2019 (see **Chart E**). In short, tax effort for public universities was cut in half over the 30-year period examined – both in Michigan and nationally.

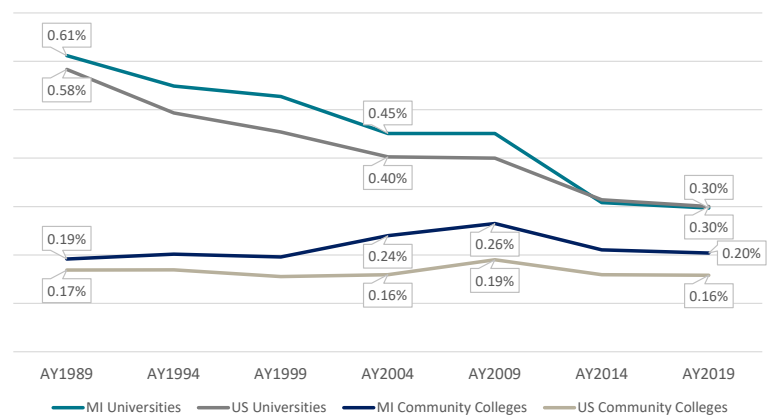
For Michigan, if tax effort for universities had remained constant at the AY1989 rate, the resulting increase in state support would have more than doubled the amount of public subsidy revenue per student in AY2019 from \$5,852 to \$12,048. For U.S. universities, maintaining a constant tax would have

similarly raised public subsidy revenue per student at U.S. universities from \$7,887 to \$16,019.

For community colleges, tax effort was much more stable. Michigan community colleges saw tax effort increase from 0.19 percent of Michigan personal income in AY1989 to 0.26 percent of personal income in AY2009 before the percentage fell back to 0.20 percent in AY2019. Still, tax effort had increased very slightly by the end of the 30-year period. Public tax effort was even more stable for U.S. community colleges, starting at 0.17 percent of U.S. personal income in AY1989, growing to a peak of 0.19 percent of personal income by AY2009, and then declining to 0.16 percent of U.S. personal income by AY2019.

#### Chart E

Public Subsidy as a Percent of Personal Income



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Michigan and U.S. personal income data from the U.S. Bureau of Economic Analysis. Public subsidy revenue is included for all 635 public universities and 935 public community colleges that reported data to IPEDS in each year, including institutions that were not part of the report’s comparison groups.

## Financial Aid Discounts to Tuition

Many students and families are not required to pay the full tuition and fee charges imposed by a university or community college. An institution's tuition and fee charge is effectively the "sticker price" of an educational program. Many students receive financial aid grants that help discount that sticker price. Some of these grants come from the public sector and represent what can be considered a second tier of public subsidy targeted toward selected students. Federal Pell grants, for instance, provide support to low-income students. State financial aid programs often provide grant aid to students based on both merit and financial need. Other institutional grant aid – both need-based and merit-based – comes directly from college or university resources; and some students receive grant aid from other private sources.

To get a full picture of the affordability of tuition and fees, these discounts also need to be considered. To what degree do financial aid grants mitigate the growth in "sticker price" tuition and fee charges? Is higher education still getting less affordable after this additional grant aid is included in the analysis?

IPEDS includes revenue data on both gross tuition revenue (which includes financial aid grants) and net tuition revenue (which subtracts grant aid and includes only the amount paid by the student and family), and the report uses these data to analyze these questions. The analysis shows out-of-pocket net tuition revenues have grown more slowly than gross tuition revenues attributable to sticker prices tuition and fee charges.

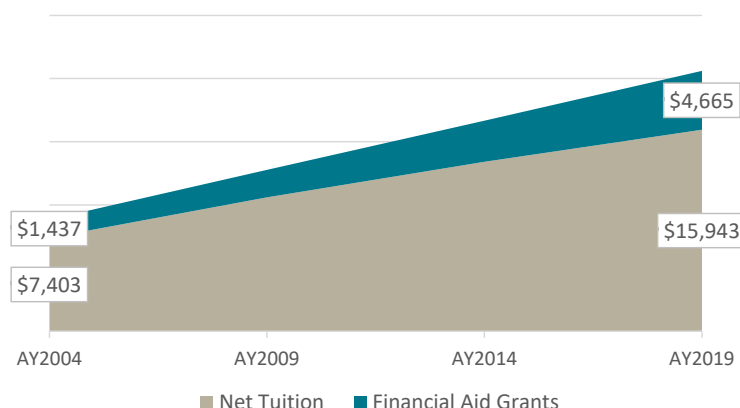
**Chart F** illustrates the relative growth of both components of per-student gross tuition revenue at Michigan universities. While per-student gross tuition grew at an average annual rate of 6.4 percent, financial grant revenue per student grew at an 8.2 percent annual rate from \$1,437 in AY2004 to \$4,665 in AY2019; as a result, grant aid absorbed a greater share of overall growth in gross tuition revenue. This allowed for slower 5.2 percent growth in net tuition revenue paid directly by students and families.

The results were similar for Michigan community colleges. Financial aid grants grew at an annual

average rate of 7.3 percent between AY2004 and AY2019, while net tuition revenue grew at slower 5.0 percent rate.

**Chart F**

Net Tuition and Aid Revenue per Student - Michigan Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Financial aid grants reflect grant aid used to discount tuition paid by student. Aggregate revenue is divided by aggregate full-time equivalent enrollment at Michigan universities to calculate per-student amount.

Still, the growth in grant aid has not been sufficient to prevent declines in tuition and fee affordability. For Michigan universities, net tuition revenue per student grew from 17.5 percent to 24.9 percent of median household income between AY2004 and AY2019; growth in financial aid grants has only helped to offset a portion of the decline in affordability. Net tuition revenue also grew from 5.4 percent to 7.4 percent of personal income at Michigan community colleges over these 15 years.

Nationally, affordability also declined over this period, but the growth in net tuition revenue as a percentage of personal income for universities and community colleges was smaller than the growth experienced in Michigan. For Michigan institutions, a large reduction in state-based grant aid implemented as part of the FY2010 state budget has had a unique impact. Before the reduction, the percentage of Michigan



## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

students receiving financial grant aid was significantly higher than the national average. After the reduction, however, Michigan students are less likely to receive grant aid.

The impact of this reduction was particularly significant for Michigan community colleges. Michigan

universities were able to increase institutional financial aid grants to help offset some of the loss in state-based grant aid. Community colleges were less able to do so. While financial aid grants have largely offset growth in tuition and fee charges at community colleges nationally, this has not been the case for Michigan community colleges.

### Summary and Major Findings

Substantial research demonstrates the value of higher education to both individual students and the broader society. Yet, data show that tuition and fee charges – the price of a college degree – at public institutions of higher education have grown faster than typical incomes. Further, an important driver behind this decline in affordability is the stagnant long-term growth over recent decades in the public subsidy for university and college operations. Slow growth in public operating support has meant that institutions of higher education have resorted to greater increases in tuition and fee charges in order to achieve normal operating revenue growth to support education-related spending. This trend has been particularly prominent for four-year universities, both in Michigan and across the United States.

This conclusion draws from four major data findings in the report on growth trends for tuition and fee charges, institutional spending, public subsidy revenue, and financial aid grant funding.

**First, growth in tuition and fee charges at public universities and community colleges is making college less affordable to the typical household.**

This is particularly true for public universities where average annual tuition and fee charges as a percentage of median household income has grown almost three-fold over the 30-year period from AY1989 to AY2019. Public community colleges have also seen tuition and fee growth outpace incomes, but to a lesser extent. Still, average community college tuition and fee charges nationwide absorbed almost the twice the share of median household income in AY2019 than they did in AY1989.

**Second, tuition and fee growth has been significantly greater than growth in institutional education spending per student.** While per-student

spending growth certainly factors into the growth in tuition and fee charges, it does not account for all of the growth. Instruction/Student Services spending at public universities grew only half as fast as tuition and fee charges during the 30-year period analyzed, while Administration and Support Services spending grew around 60 to 70 percent as fast for Michigan and U.S. universities. Spending growth at public community colleges was closer in magnitude to tuition and fee growth – particularly for Michigan community colleges – but tuition and fee growth was still higher both in Michigan and nationally. Spending alone can not explain the sharp growth rates observed for tuition and fee charges.

**Third, stagnant growth in public subsidy revenue is primarily responsible for making college less affordable, especially for four-year universities.**

For public universities nationally, virtually all of the difference between tuition and fee growth and the growth in median household incomes – in other words, all of the tuition and fee growth that has resulted in reduced affordability over time – is attributable to slow growth in public subsidy revenue for universities. The public subsidy share of university education revenue has declined precipitously over the 30-year period of analysis.

Growth in public subsidy revenue for public community colleges has been somewhat stronger over the period, resulting in a more stable public subsidy share of education revenue. Still, that share has declined for both U.S. and Michigan community colleges, which has also contributed to declines in tuition and fee affordability.

**Finally, while financial aid has helped reduce out-of-pocket tuition and fee costs to students and families, they have not offset tuition and fee**

**growth.** Even after controlling for grant aid revenue per student, net tuition growth still resulted in decreased affordability for college students – in both Michigan and nationally, and at both universities and community colleges.

Further, large reductions in state-based financial aid programs implemented in Michigan to address a large revenue shortfall in FY2010 has reduced the percentage of Michigan college students – both at public universities and community colleges – that receive financial grant aid. This runs counter to the national trend that saw sizable increases in the percentage of students receiving grant aid over the period. The reductions caused Michigan to shift from being a state where grant aid receipt rates were

quite high to being a state where the percentage of students receiving grant aid is below the national average.

In summary, public operating support for higher education has grown very slowly for the past three decades, particularly for four-year universities. This has made earning a college degree significantly less affordable for the average student over the last three decades. State policymakers in Michigan and elsewhere should work to push the budget pendulum in the opposite direction with significantly greater budget investments aimed at making higher education more affordable for the next generation of college students.

### Implications for Public Policy

While postsecondary education remains critical to the economic well-being of workers and of society as a whole, it has become increasingly more expensive to secure over the last three decades; and the data make clear that state-level disinvestments in postsecondary education have played a prominent role in driving this decrease in affordability, especially for those seeking a bachelor's degree. This is particularly true in Michigan. The state followed the national trend of providing very slow growth in public subsidy support between 1989 and 2019, driving down the public subsidy share of education revenue for public community colleges and, particularly, for the state's public universities. On top of that, however, the state also slashed much of its state-based financial aid programs during budget challenges following the Great Recession.

Despite efforts to enhance affordability through tuition restraint provisions in state appropriations bills, the price of higher education has grown less affordable. Tuition and fee charges in Michigan and nationally have generally grown as a share of median household incomes, even after adjusting for the availability of financial aid grants.

Reversing the trend in college affordability at public institutions will require greater public investments in higher education. Clearly, one option for policymakers is to reverse the 30-year trend documented in

this report and increase direct public subsidy support to colleges and universities. However, the results of this study show that there will be challenges to this approach. First, it is likely that some of the increased revenue obtained from faster growth in the public subsidy would be retained to support increased educational spending rather than mitigating tuition and fee charges.

It should be noted that some research suggests that increased institutional spending results in improved student outcomes. But if the goal of additional investments in university and community college operations is to improve affordability, increases in the public subsidy may need to be accompanied by thoughtful tuition restraint provisions. Optimally, those provisions would recognize that any given percentage increase in public funding has variable impacts across different institutions; those with a greater dependency on tuition and fee revenue get more “bang for the buck” than those that are more dependent on public subsidy revenue.

Second, Michigan's four-year public universities in particular are now much more tuition dependent than they were 30 years ago. That means that a given percentage increase in public subsidy revenue per student will have less “bang for the buck” in terms of leaving room for institutions to reduce or slow the growth of tuition and fees while maintaining growth

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

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in total education revenues at a rate consistent with its long-run trend. Moving the needle on university affordability will require significant growth in the public subsidy, sufficient to reverse the 30-year trend seen in the data by increasing the public subsidy share of these education revenues.

A second option for policymakers would be to increase the public investment in state-based financial aid. This would help reduce the out-of-pocket costs of postsecondary education to students and families, even if “sticker price” tuition and fee charges remain relatively high.

To that end, state policymakers have already begun to make new public investments in postsecondary financial aid. A new state program, Michigan Reconnect, offers significant new funding to meet community college tuition and fee costs for Michigan residents aged 25 or older who have a high school diploma but no college degree. Even more notably, the state enacted supplemental appropriations in

October 2022 earmarking \$250 million to support a new Michigan Achievement Scholarship program. The new program would provide scholarships to eligible high school graduates to support full-time enrollment at postsecondary institutions in Michigan. Scholarships would be up to \$5,500 for enrollment at a Michigan public university, \$2,750 for enrollment at a Michigan community college, and \$4,000 for enrollment at an independent Michigan college or university. The program would also support scholarships of up to \$2,000 for enrollment in qualified occupational training programs. Budget intent language also provides that funding be increased by \$50 million each year until the scholarship program is fully funded for all eligible students.

If Michigan policymakers commit to maintaining significant ongoing funding for the program, the new investment could be instrumental in reversing the disinvestment in state-based financial aid that occurred as Michigan navigated significant budget challenges during the Great Recession.

## Endnotes

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1 Jaison R. Abel and Richard Deitz, “[\*Despite Rising Costs, College Is Still a Good Investment\*](#),” Federal Reserve Bank of New York *Liberty Street Economics* (blog), June 5, 2019; and Winters, John. “[\*What You Make Depends on Where You Live: College Earnings across States and Metropolitan Areas\*](#),” Washington, DC: Thomas B. Fordham Institute, May 2020.

2 U.S. Department of Education, National Center of Education Statistics, [\*Digest of Education Statistics 2020\*](#), Table 330.10



# OUT OF REACH: EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

## Introduction

Few argue the benefits of attaining a post-secondary degree. Today's workplace is significantly different from the workplace that existed decades ago. Higher salaries and wages are increasingly reserved to those with advanced skills that are most commonly associated with a college degree. Recent research suggests that workers with a bachelor's degree earn, on average, around 70 to 75 percent more than workers with only a high school diploma. Similarly, an associate's degree increases average earnings for workers by about 20 percent over those with only a high school education.<sup>1</sup>

However, while the benefits of a college degree are well-documented, so too is the dramatically increasing price of obtaining one. U.S. Department of Education data show that the average tuition and fee charges at public four-year universities increased at an annual rate of 6.6 percent during the period between the 1979-80 school year and the 2019-20 school year. For public two-year colleges, annual growth was somewhat slower at 5.8 percent.<sup>2</sup> Both growth rates exceeded the 5.5 percent growth rate realized for U.S. personal income over this period, meaning that tuition has become less affordable to the average family. Many worry that this growth in the price of higher education will keep some potential students from achieving the benefits of a college degree.

As tuition has increased, so have student debt levels. Average annual borrowing per full-time equated undergraduate student in bachelor's degree programs was \$5,370 in academic year 2018-19; up 37 percent from academic year 1998-99 even after adjusting for inflation. For academic year 2015-16, 43 percent of degree/certificate completers at public four-year institutions borrowed \$20,000 or more to help pay for their studies. On the positive side, annual borrowing has been declining the last 10 years after reaching its peak in academic year 2010-11. However, debt levels for 2015-16 bachelor's degree recipients skewed upward for lower-income students and for Black students.<sup>3</sup>

Both in Michigan and elsewhere, growth in tuition and fee charges and related debt levels have led students, parents, educators, and policymakers to ask why the price of higher education is rising so significantly. Perspectives on this issue have varied, with some blaming excessive growth in administrative staff,<sup>4</sup> the impact of economic changes on educational services heavily dependent on a highly-educated workforce,<sup>5</sup> reductions in state appropriations for colleges and universities, and even the expanded availability of financial aid.<sup>6</sup>

To provide insight into why a college degree is becoming more expensive, this report analyzes U.S. Department of Education data on prices, expenditures, revenues, and financial aid grants for public institutions of higher education. It focuses on public universities and community colleges both in Michigan and throughout the country, and utilizes 30 years of available data to shed light on these important questions:

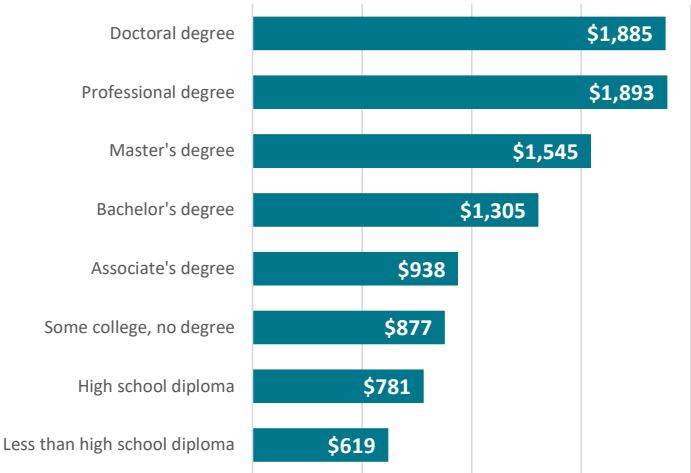
- How have tuition and fee charges changed at Michigan public universities and community colleges over the last 30 years? And how do these increases compare with national public peer institutions?
- How has university and community college spending, both in Michigan and nationally, changed over this period? To what extent do spending increases explain the observed tuition increases?
- Since the costs of instruction at public institutions are supported by both student/family payments and by direct public support, how have changes in the magnitude of this public support affected tuition and fee charges?
- Finally, for many students, tuition and other charges are often discounted for financial grant aid from public, private, and institutional sources. How have changes in the availability of financial grant aid affected out-of-pocket costs to students and families?

The Value of Post-Secondary Education

Before examining the data, it is worth addressing a central question related to any public policy discussion involving public financing of higher education: to what degree is higher education a public good? Americans have access to a public K-12 education system supported by tax dollars based on the premise that a basic education is vital to ensuring individuals have the skills needed to contribute as adults within the broader society. Those skills benefit both the individual through higher incomes and society as a whole through greater worker productivity and economic growth. To what extent does government have a similar role in helping to subsidize the price of a postsecondary college degree?

On that question, data suggest that higher education brings value to both the individual and to society. For the individual, greater educational attainment increases both incomes and employment rates. **Chart 1** shows that median weekly earnings for full-time workers are strongly correlated with educational attainment. Workers holding a bachelor's degree typically earned 67 percent more than those with only a high school diploma; and those with a master's degree earned almost twice the amount as those high school graduates. While the size of this wage premium for a college degree has varied over time, it is clear that educational attainment drives income levels. **Chart 2** also shows workers with higher levels of education are significantly less likely to be unemployed.

Chart 1  
Median Weekly Earnings by Education, 2020

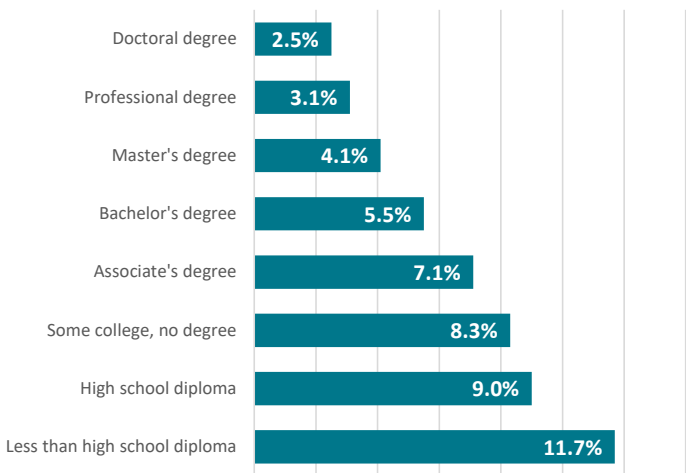


Current Population Survey, U.S. Department of Labor, U.S. Bureau of Labor Statistics. Data are for full-time wage and salary workers aged 25 and older.

Research also shows that higher education brings other, non-economic benefits. For example, studies have shown that greater educational attainment is correlated with longer life expectancy<sup>7</sup>, healthy behaviors such as lower smoking rates and higher engagement in exercise<sup>8</sup>, higher levels of voter participation<sup>9</sup>, and even higher levels of overall happiness in survey data.<sup>10</sup> For state and local governments, this translates into less spending on health care through Medicaid and other programs.

Further, a greater incidence of higher education within a population also brings societal benefits beyond those gained by the individual. First, states with higher levels of educational attainment tend to also have higher average incomes. **Table 1** (on page 3) displays educational attainment measures for both the 10 states with the highest 2020 per capita personal income and the 10 states with the lowest. Among the top 10 states, all but one (Alaska) were among the top 15 states in terms of the percentage of the population holding a bachelor's degree or higher; all but two (Alaska and California) were in the top 15 using associate's degree or higher as the metric. For the bottom 10 income states, seven of the 10 were also in the bottom 10 for both measures of educational attainment. Only one (North Carolina) was outside the bottom 20 states for the two educational attainment measures. Note that Michigan had the 33<sup>rd</sup> highest per-capita personal income and ranked 33<sup>rd</sup> on both educational attainment measures.

Chart 2  
Unemployment Rate by Education, 2020



Current Population Survey, U.S. Department of Labor, U.S. Bureau of Labor Statistics. Data are for persons aged 25 and older.

**Table 1**

Per Capita Personal Income and Educational Attainment in Selected States

	2020 Per Capita Pers Income	Rank	Associate's or higher	Rank	Bachelor's or higher	Rank
Connecticut	\$78,609	1	47.5%	7	39.8%	5
Massachusetts	\$78,458	2	52.4%	1	45.0%	1
New York	\$74,472	3	46.6%	11	37.8%	8
New Jersey	\$73,460	4	47.7%	5	41.2%	3
California	\$70,192	5	42.9%	22	35.0%	13
Washington	\$67,126	6	46.9%	10	37.0%	11
New Hampshire	\$67,097	7	47.5%	8	37.6%	9
Maryland	\$66,799	8	47.7%	4	40.9%	4
Colorado	\$63,776	9	51.1%	2	42.7%	2
Alaska	\$63,502	10	39.2%	35	30.2%	31
<b>Michigan</b>	<b>\$53,259</b>	<b>33</b>	<b>39.4%</b>	<b>33</b>	<b>30.0%</b>	<b>33</b>
North Carolina	\$50,305	40	42.4%	23	32.3%	25
Oklahoma	\$49,878	41	34.1%	45	26.2%	44
Arizona	\$49,648	42	38.9%	36	30.2%	32
Idaho	\$48,759	43	39.4%	34	28.7%	39
South Carolina	\$48,021	44	39.5%	32	29.6%	35
Kentucky	\$47,339	45	33.7%	46	25.1%	46
Arkansas	\$47,235	46	30.8%	49	23.3%	48
Alabama	\$46,479	47	35.3%	43	26.3%	43
New Mexico	\$46,338	48	36.8%	40	27.7%	41
West Virginia	\$44,994	49	29.0%	50	21.1%	50
Mississippi	\$42,129	50	32.8%	47	22.3%	49

Source: Per capita personal income data from U.S. Bureau of Economic Analysis; educational attainment data from 2019 American Community Survey, U.S. Census Bureau.

Some research has also suggested that the higher incomes received by those receiving a college degree have “spillover” effects on the incomes of others in the local economy<sup>11</sup>, even those who do not obtain college degrees. It is theorized these spillover effects occur for two reasons. First, a better-educated local workforce promotes innovation and enhanced worker productivity throughout a particular business entity; and that increase in productivity results in higher wages. Second, the wage premium paid to individuals with college degrees results in more local spending which has tertiary multiplier effects on the local economy and incomes. A recent analysis estimates these spillover effects add 86 cents in additional income of others in the local economy for each \$1 in direct additional income earned directly by college graduates.<sup>12</sup>

These research findings are not new to the public policy debate. In 2004, the Lt. Governor’s Commis-

sion on Higher Education & Economic Growth report recommended that Michigan aim to achieve the goal of doubling the number of Michigan residents with postsecondary degrees or credentials over the following decade. Its first recommendation was that Michigan make the necessary state financial commitment to make higher educational universal for all students. It cited the need to make postsecondary education the “new minimum standard” for educational attainment, in the same way the high school diploma defined that expectation previously.<sup>13</sup>

This report, however, will show that this recommendation has largely been ignored. Both in Michigan and nationally, public support for public universities and community colleges has covered a smaller portion of the overall price of higher education over the last several decades, leaving a greater share to be covered by students and families.

### Tuition and Fee Growth at Public Universities and Community Colleges

Tuition and fee charges are a significant, core component of the price of a college degree. Students and families pay tuition and fee charges to cover the costs of educational courses that make up a student's program of study as well as the costs of support services (e.g., financial aid, admissions, student organizations) needed to facilitate that educational program.

This report analyzes long-term growth in annual tuition and fee charges for full-time undergraduate students at Michigan's 15 four-year universities and 28 two-year community colleges<sup>A</sup> over the last three decades to quantify how much tuition and fee charges have grown at Michigan public institutions of higher education. Those trends are then compared to national peer public institutions based on the classification system established by the Carnegie Commission on Higher Education (see **Box 1** on page 5 for a discussion of the classification system and institutions used in this analysis).

After establishing tuition and fee growth rates in Michigan and nationally, the impact of this growth on the affordability of education at public institutions is evaluated by comparing the growth of tuition and fee charges to growth in median household income.

The analysis draws on tuition and fee data for individual institutions collected from the U.S. Department of Education's Integrated Postsecondary Education Data System (IPEDS). IPEDS data come from a system of annual surveys administered by the department's National Center for Educational Statistics (NCES) (see **Box 2** on page 8 for more background on the data). Data is gathered from all colleges, universities, and technical/vocational institutions that participate in federal student financial aid programs. The analysis in this report, however, focuses on public institutions only. Tuition and fee data for the analysis are drawn at five-year intervals starting with

academic year (AY)1989 and ending in AY2019.<sup>B</sup>

The tuition and fee charges reflect the average, typical tuition and fee charge assessed on full-time undergraduates across all programs for an academic year; it should be noted that charges for a particular program of study could be higher or lower than this average charge. When calculating averages across all universities and again across all community colleges, tuition and fee charges are weighted by the number of full-time equivalent (FTE) undergraduate students at each institution. So, tuition charges at a university with twice as many FTE students as a second university will have twice the impact of the second university's charges on the resulting average tuition and fee charge calculated across the group being evaluated.

Finally, it's important to note here that tuition and fee charges in this section effectively reflect the posted "sticker price" of typical educational coursework at each public institution. For most students, some of this price will be paid by the student and/or the student's family, but another portion of the posted price will be met through financial grant aid (e.g. federal Pell grants, state-based financial aid programs, institutional grants from university/college internal funding). While this section focuses on tuition and fee charges, the impact of financial aid grants will also be examined in the final section of the report.

#### Public Universities

The analysis of IPEDS data on tuition and fee charges at public universities generated two important findings. First, the charges at public universities – both in Michigan and nationally – grew significantly during the period; and growth in these charges outpaced growth in incomes, resulting in reduced affordability to persons seeking a bachelor's degree. Second, tuition and fee charges at Michigan universities were uniformly higher than the national average for all

<sup>A</sup> Six Michigan community colleges, as well as other predominately two-year institutions nationally, offered a limited number of four-year programs at their campuses as of academic year 2018-19. All such institutions are classified as community colleges in this analysis.

<sup>B</sup> While data was available for AY2020 on tuition and fee charges and other data used in the report, we chose to focus on data through AY2019 to avoid deviations from trend induced by the COVID-19 pandemic starting in AY2020. All data used in the report are final data reported to IPEDS.

## Higher Education Finances: Background on the Data

This study draws upon data from the Integrated Postsecondary Education Data System (IPEDS), an extensive database of information on institutions of higher education compiled by the U.S. Department of Education's National Center on Education Statistics (NCES). NCES gathers data using a number of annual survey instruments on an assortment of factors affecting higher education. This includes extensive financial information about institutional spending, revenues, tuition and fee charges, and other student charges. The database also includes non-financial data on information such as enrollment, graduation rates, admissions, faculty and staffing levels, and student financial aid.<sup>A</sup> Data is collected from all U.S. colleges, universities, and technical/vocational institutions that participate in federal Title IV student financial aid programs, as well as institutions that are not eligible for federal student aid but that request to be part of the program. This includes both public sector and private sector (both non-profit and for-profit) institutions. It also includes both degree-granting and non-degree granting institutions. For the 2019 data collection year, the database contained information from 6,559 different public and private institutions of higher education.

The goal of this research is to examine the tuition and fee charges, education-related spending, and key revenues of Michigan's 15 public four-year universities and 28 public two-year community colleges, and to compare recent trends in each of these areas to their national peer institutions. Peer institutions for comparison are selected based on institutional classifications under the Carnegie Classification of Institutions of Higher Education. Originally developed by the Carnegie Commission on Higher Education in 1970, the basic classification system for institutions of higher education has been updated numerous times over the years. For this report, the 2018 Basic Classification system is utilized.<sup>B</sup>

The national peer comparison group contains all public institutions that met three criteria: (1) institutions needed to report relevant spending, revenue, and enrollment data for each of the seven academic years (AY1989, AY1994, AY1999, AY2004, AY2009, AY2014, and AY2019) used in the analysis for this report; (2) to ensure data comparability, institutions needed to report finance data using Governmental Accounting Standards Board protocols; and (3) institutions needed to be classified within the Carnegie Basic classifications listed below that match classifications for Michigan universities and colleges. Michigan institutions are included within the broader national peer group.

For four-year universities, the peer comparison group includes all public institutions classified within the following three Carnegie Basic classifications:

- (1) Doctorate-Granting Universities which award at least 20 doctoral degrees annually. Within this classification, special consideration is given in parts of the report to the country's largest research universities which are designated within a Research Universities (Very High Research Activity) sub classification. Within Michigan, the University of Michigan-Ann Arbor, Michigan State University, and Wayne State University all fall within the "Very High Research Activity" sub-class. Central Michigan University, Eastern Michigan University, Ferris State University, Michigan Technological University, Oakland University, the University of Michigan-Flint, and Western Michigan University are all general Research Universities.
- (2) Master's Colleges and Universities which award at least 50 master's degrees but fewer than

<sup>A</sup> For information on the database, see the IPEDS website at <http://nces.ed.gov/ipeds>. An overview of IPEDS data is available at <https://nces.ed.gov/ipeds/use-the-data/overview-of-ipeds-data>.

<sup>B</sup> A 2021 update of the classification system was released on December 15, 2021; however, the 2018 classification system was retained for this report. For details on the classification framework, go to <http://carnegieclassifications.iu.edu>.



20 doctoral degrees annually. Michigan has four public universities within this category: Grand Valley State University, Northern Michigan University, Saginaw Valley State University, and the University of Michigan-Dearborn

- (3) Baccalaureate Colleges that primarily focus on the awarding of baccalaureate degrees with fewer than 50 master's degrees and 20 doctoral degrees awarded annually. Lake Superior State University is the only Michigan public university in this category.

Tribal colleges, special focus institutions concentrated in a single field or area, and combined Baccalaureate/Associate's Colleges are excluded from the analysis as no Michigan public institutions fall into these categories. In total, data from 471 public four-year institutions were used for the comparative analysis; about 84 percent of the 559 public institutions within the Carnegie classifications listed above.

For two-year community colleges, the peer comparison group includes institutions classified within two Carnegie Basic classifications:

- (1) Associate's Colleges where the highest degree awarded is an associate's degree; and
- (2) Baccalaureate/Associate's Colleges: Associate's Dominant where the institutions primarily award associate's degrees but bachelor's degrees account for up to 10 percent of all undergraduate degrees. It should be noted that these institutions are formally classified as 4-year institutions within the Carnegie classifications. For this report, they are instead grouped with other 2-year community colleges.

Once again, tribal colleges and Mixed Baccalaureate/Associate's Colleges (where bachelor's degrees account for more than 10 percent of all degrees) are excluded. All 28 state community colleges in Michigan are included in the analysis. Data from 680 public community colleges are utilized for the report; about 74 percent of the 925 institutions that fall within these two Carnegie classifications.

public universities across the entire 30-year period of analysis, making a bachelor's degree particularly expensive to earn in this state.

### Growth in Tuition and Fees

Growth in Michigan tuition and fee charges over the period was almost identical to growth for public universities nationally. The weighted average of tuition and fee charges for in-state full-time undergraduate students at Michigan's 15 public universities grew from \$2,267 in AY1989 to \$13,821 in AY2019. That equates to annual growth of 6.2 percent. For all 471 public universities included in the report's comparison group, tuition and fee charges grew at an annual rate of 6.3 percent, rising from \$1,571 in AY1989 to \$9,904 in AY2019 (See **Chart 3**).

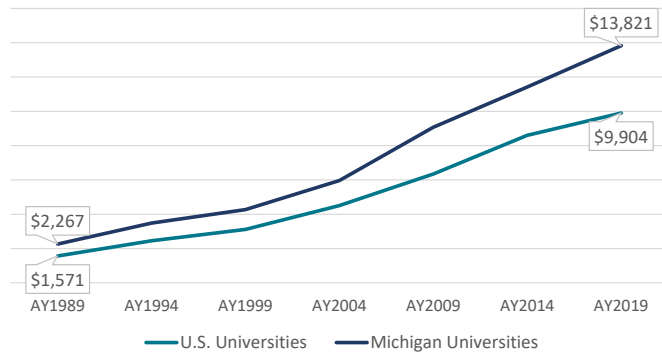
**Chart 3** also shows tuition and fee charges at Michigan universities were uniformly higher than the average charges for all public universities across the full 30-year period. Michigan's average tuition and

fee charge was 44 percent higher than the national average in AY1989. That gap fell to 32 percent in AY2004 before growing once again. For AY2019, average tuition and fee charges at Michigan's public universities were 39 percent higher than the national average. The section of the report that reviews university expenditures and revenue flows will examine potential factors contributing to this gap.

Growth rates varied considerably across the period, but the correlation between Michigan and the national sample remained. **Chart 4** displays separate growth rates for each of the five-year periods examined. Annualized growth was greatest both in Michigan and nationally during the initial period between AY1989 and AY1994, with growth at 9.0 percent for Michigan institutions and an even higher 9.3 percent nationally. Conversely, the slowest growth rate occurring during the most recent five-year period between AY2014 and AY2019. In Michigan, tuition restraint incentives may have played a role in slowing tuition

**Chart 3**

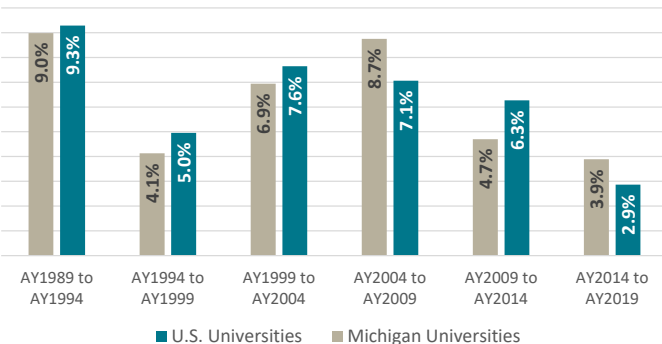
Full-Time, In-State Undergraduate Tuition and Fees



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Average tuition and fee charge is weighted based on full-time equated undergraduate enrollment.

**Chart 4**

Annual Growth in Tuition and Fee Charges - Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect average annual increase over each 5-year period for full-time, in-state students.

and fee growth, but Michigan's average growth rate still exceeded the national average. **Box 3** on page 14 discusses the recent history of Michigan's tuition restraint limits and the challenge they have created for Michigan universities in the midst of slow growth in state operating appropriations.

## Affordability

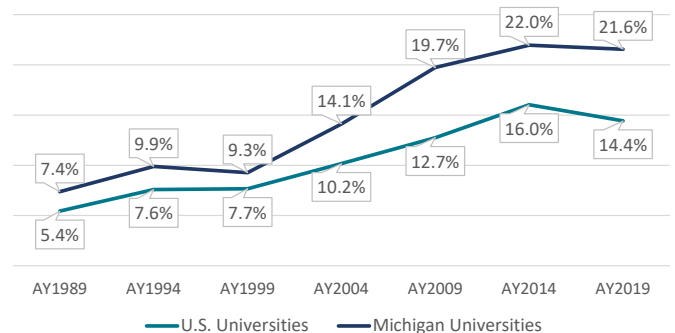
The sharp growth in tuition and fee charges resulted in a significant decrease in the affordability of a four-year degree at public universities. Using median household income to gauge the income of a typical household, **Chart 5** evaluates changes in the affordability of tuition and fee charges at public universities over the analysis period. In AY1989, average tuition and fee charges for Michigan universities equated to 7.4 percent of Michigan median income. By AY2019, that percentage had grown to 21.6 percent – an almost three-fold growth in the percentage over this period. That means that a typical Michigan family would need to find financial resources (through some combination of directly spending from its income, borrowing, drawing down savings, or receiving grant aid) equal to more than 21 percent of their annual income to afford one-year of public university education.

Nationally, the data showed a similar trend. Tuition and fee charges at all U.S. public universities also grew significantly as a percent of U.S. median household income from 5.4 percent at the start of the period to 14.4 percent by its end. While the growth in this affordability measure was proportional to Michigan's growth, it is notable that tuition remained much less affordable in Michigan throughout the period.

## Public Community Colleges

**Chart 5**

Tuition and Fees as Percent of Median Income - Universities



Source: Research Council calculations based on tuition and fee data from Integrated Postsecondary Education Data System and annual median household income data from Current Population Survey, U.S. Census Bureau. Average tuition and fee charges are weighted by full-time equated undergraduate enrollment.

## Full-Time Equated (FTE) Students: Behind the Data

Institutional spending and revenues are impacted significantly by enrollment trends. A university experiencing sharply increasing enrollment will likely increase spending to support the additional faculty, staff, and other services needed to facilitate the growth in its student body. The university will also generate additional revenue from tuition, fees, and other sources with the increased enrollment, and this revenue will help to support these added costs. Since the goal of this report is to gauge trends in spending and revenues relative to tuition and fee charges for individual students, expenditure and revenue data in the report are generally cited on a per-student basis. This is accomplished by drawing on enrollment data reported in IPEDS.

A challenge in defining revenue and spending on a per-student basis is that enrollment is split between full-time students and part-time students. Since full-time students are taking larger course loads by definition, they are also likely to utilize greater levels of instructional and support services and thus drive more spending and more revenue than their part-time counterparts. To control for this influence, the IPEDS database contains an estimate of each institution's full-time equated (FTE) student count which is derived from the fall enrollment headcount data. Full-time students are counted as one FTE student in the count. For part-time students, the full-time equivalent of their part-time enrollment is calculated using adjustment factors that vary based on an institution's control sector (public vs. private), its level (4-year vs. 2-year), and the type of student (undergraduate vs. graduate vs. first-professional). The factors were estimated from reported full-time equivalent data collected in the Higher Education General Information System (HEGIS) from 1967-1986. **Table A** lists the factors used in the derivation for each institutional type.

This report adjusted the IPEDS methodology in one significant way. Within IPEDS, institutions within the Carnegie classification of "Mixed Baccalaureate/Associate's: Associate's Dominant" are formally classified as 4-year institutions and use the methodology for 4-year institutions in estimating full-time equated (FTE) student enrollment. These institutions primarily offer associate's degrees but also offer a limited number of bachelor's degree programs; the classification includes six Michigan community colleges. For the purposes of this report, they are treated as community colleges and their FTE enrollments are re-calculated using the methodology for 2-year institutions based on reported full-time and part-time enrollment data. For this reason, the FTE enrollment figures will differ slightly from those reported in IPEDS since part-time students have a slightly lower full-time weight for 2-year institutions. This adjustment ensures that the FTE student calculation for these institutions is consistent with the other institutions that are part of their comparison group.

**Table A**

Weighting Factors for Part-Time Enrollment in FTE Student Count

### *Level of Part-Time Student*

<i><u>Institution Type</u></i>	<i><u>Undergraduate</u></i>	<i><u>Graduate</u></i>	<i><u>First Professional</u></i>
Public four-Year	0.403543	0.361702	0.600000
Private four-Year	0.392857	0.382059	0.545454
Public two-Year	0.335737		
Private two-Year	0.397058		



Tuition and fee charges at public community colleges have also grown significantly over the last three decades, although at a slower rate than the growth observed for universities. As with the university sector, community college tuition and fee charges grew at an annual clip that outpaced the growth of household incomes. As such, a community college education has become less affordable for typical households.

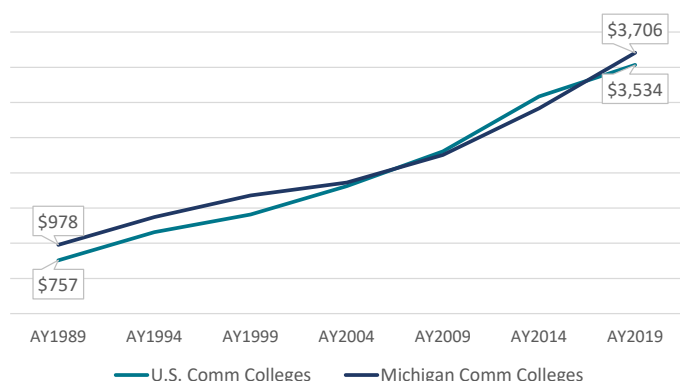
Similar to the pattern seen with Michigan public universities, average tuition and fee charges at public community colleges in Michigan exceeded those of their national peers in AY2019. However, the gap between the average charges at Michigan and U.S. institutions was significantly smaller than the gap observed for universities.

## Growth in Tuition and Fees

Annual, in-district tuition and fees for full-time students at Michigan community colleges grew from \$978 in AY1989 to \$3,706 in AY2019, which equates to 4.5 percent annual growth rate over the full period. Tuition growth at the national level was higher – about 5.3 percent (see **Chart 6**).

The gap between average tuition and fee charges at

**Chart 6**  
Full-Time, In-District Tuition and Fees - Community Colleges

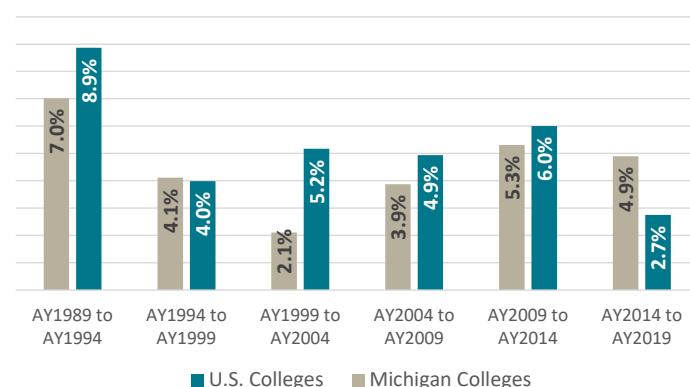


Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Average tuition and fee charge is weighted based on full-time equated undergraduate enrollment.

Michigan and U.S. community colleges was smaller and more variable than the gap seen in the university comparison, and, in fact, U.S. community college charges exceeded those for Michigan community colleges during a short span. At the start of the data period in AY1989, Michigan community college tuition and fee charges were about 29 percent higher than the national average, but the gap gradually closed over the next two decades. Average tuition charges for all U.S. community colleges exceeded the average for Michigan institutions in AY2014, but growth over the last five-year period saw Michigan tuition and fee charges once again rise above the national level. As of AY2019, the average tuition and fee charge at a Michigan institution was 4.9 percent higher than the national sample.

**Chart 7** illustrates changes in the respective Michigan and U.S. tuition and fee growth that contributed to this pattern. As with the four-year universities, tuition and fee charges grew fastest during the first five years of the analysis period both in Michigan and nationally. But growth rates for Michigan community colleges were consistently at or below those of all U.S. colleges between AY1989 and AY2014, closing the original gap in tuition and fee charges. The pattern changed between AY2014 and AY2019 with

**Chart 7**  
Annual Growth in Tuition and Fee Charges Community Colleges



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect average annual increase over each 5-year period for full-time, in-district students.

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

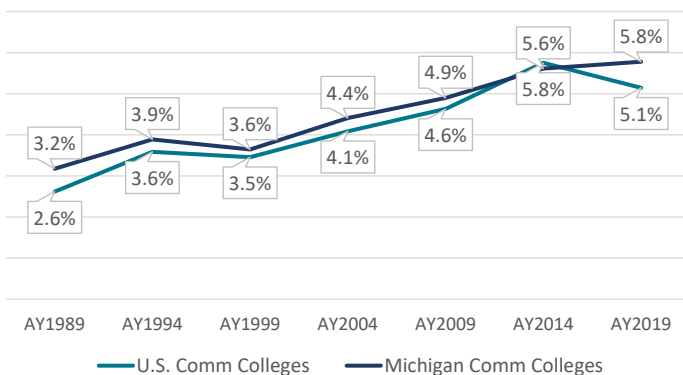
growth in Michigan tuition and fee charges higher than the national growth rates. Growth in Michigan and national tuition and fee charges also appear to be a somewhat less correlated than those of the U.S. and Michigan universities.

### Affordability

As with universities, a community college education has also become less affordable over time. Growth in community college tuition and fee charges has generally outpaced incomes, although to a much lesser extent than did university charges. Average tuition and fee charges as a percent of median household income at Michigan community colleges rose during the last three decades, growing from 3.2 percent to 5.8 percent of median household income. Nationally, average tuition and fees tracked closely with Michigan's rates until AY2019 when the national average dropped below the Michigan's average, reflecting the slower growth rate nationwide during that five-year period (see **Chart 8**).

### Tuition and Fee Charges at Individual Michigan Chart 8

Tuition and Fees as Percent of Median Income  
Community Colleges



Source: Research Council calculations based on tuition and fee data from Integrated Postsecondary Education Data System and annual median household income data from Current Population Survey, U.S. Census Bureau. Average tuition and fee charges are weighted by full-time equated undergraduate enrollment.

### Public Institutions

To this point, the analysis has focused on comparisons of average tuition and fee growth at Michigan universities and community colleges relative to their national peer institutions. But the observations for Michigan institutions as a group may not hold for each individual university and community college. In this section, the report examines the amount of variation in tuition and fee charges at the institution level.

**Table 2** (on page 11) lists the typical tuition and fee charge for full-time undergraduate students at each of Michigan's 15 public universities for AY1989, AY2004, and AY2019. The table also provides the average annual growth rate for tuition and fee charges over the entire 30-year period (AY1989 to AY2019) and over the last 15 years (AY2004 to AY2019). Further, all 15 Michigan institutions are grouped by their specific Carnegie classification to allow for a comparison of their tuition and fee charges and growth trends with those same measures across all national peer institutions within their respective classification.

Typical tuition and fee charges at all 15 Michigan universities exceeded the average charge for their Carnegie peer institutions in virtually all cases across the three academic years. The lone exception was Wayne State University during AY2004 when tuition and fees were about \$730 less than the peer group average. This demonstrates that the gap between Michigan average tuition rates and national average is largely applicable across all 15 institutions, and not just a subset of Michigan universities.

In terms of tuition growth rates, 10 of Michigan's 15 universities saw tuition rise by more than their national peer institutions during the AY2004 to AY2019 period, and 11 saw tuition and fee growth faster than their Carnegie peers during the full 30-year period.

While all Michigan universities had tuition and fee charges that exceeded their Carnegie class average, the size of this gap varied significantly. **Chart 9** (on page 11) shows the ratio between tuition and fee charges at individual Michigan universities and the average tuition and fee charge for peer institutions within their respective Carnegie classification during AY2019. Universities are color coded in the chart by Carnegie classification with very high research

**Table 2**

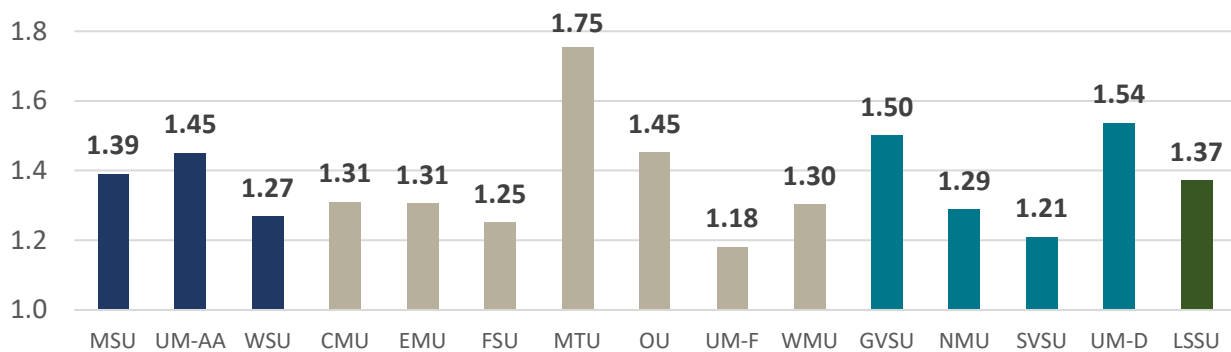
**Tuition and Fee Charges at Michigan Universities**

	Academic Year			Annual Percent Change	
	1988-89	2003-04	2018-19	1989-2019	2004-2019
Michigan State University	\$2,805	\$7,044	\$15,555	5.9%	5.4%
University of Michigan - Ann Arbor	\$3,170	\$7,975	\$16,225	5.6%	4.8%
Wayne State University	\$2,030	\$4,258	\$14,175	6.7%	8.3%
<b>All Doctoral: Very High Research</b>	<b>\$1,702</b>	<b>\$4,986</b>	<b>\$11,186</b>	<b>6.5%</b>	<b>5.5%</b>
Central Michigan University	\$1,828	\$5,218	\$12,543	6.6%	6.0%
Eastern Michigan University	\$1,820	\$5,626	\$12,508	6.6%	5.5%
Ferris State University	\$1,947	\$6,186	\$11,984	6.2%	4.5%
Michigan Technological University	\$2,193	\$7,440	\$16,800	7.0%	5.6%
Oakland University	\$2,065	\$5,008	\$13,916	6.6%	7.1%
University of Michigan - Flint	\$1,920	\$5,274	\$11,304	6.1%	5.2%
Western Michigan University	\$1,955	\$5,535	\$12,483	6.4%	5.6%
<b>All Other Doctoral Universities</b>	<b>\$1,593</b>	<b>\$4,463</b>	<b>\$9,584</b>	<b>6.2%</b>	<b>5.2%</b>
Grand Valley State University	\$1,794	\$5,254	\$12,796	6.8%	6.1%
Northern Michigan University	\$1,792	\$5,210	\$10,987	6.2%	5.1%
Saginaw Valley State University	\$1,959	\$4,798	\$10,308	5.7%	5.2%
University of Michigan - Dearborn	\$2,078	\$6,053	\$13,110	6.3%	5.3%
<b>All Master's Colleges and Universities</b>	<b>\$1,401</b>	<b>\$3,986</b>	<b>\$8,531</b>	<b>6.2%</b>	<b>5.2%</b>
Lake Superior State University	\$1,767	\$5,454	\$11,895	6.6%	5.3%
<b>All Baccalaureate Colleges</b>	<b>\$1,505</b>	<b>\$4,331</b>	<b>\$8,672</b>	<b>6.0%</b>	<b>4.7%</b>

Source: Research Council calculations from data from Integrated Postsecondary Education Data System.

**Chart 9**

**Ratio of Tuition & Fee Charges to National Class Average Universities: 2018-19 Academic Year**



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Tuition and fee charge reflects the typical, average charge across all in-state undergraduate students. Average tuition and fee charge for each Carnegie classification is weighted based on full-time equated undergraduate enrollment.

universities in navy, other research universities in tan, master's colleges in teal, and baccalaureate colleges in green. Each ratio reflects the magnitude of the difference between the Michigan institution's tuition and fee charges and the average within their Carnegie classification. For example, the ratio for Michigan State University (MSU) is 1.39, indicating that the annual in-state undergraduate tuition and fee charge at MSU is 39 percent higher than the average for all very high research universities nationally. Across all Michigan universities, tuition and fees range from 18 percent higher than the national peers at the University of Michigan-Flint to 75 percent higher at Michigan Technological University.

**Table 3** (on page 13) provides the same data compilation on tuition and fee charges and long-term annual growth rates at individual Michigan community colleges along with comparative information for all public community colleges in the country.

Tuition and fee charges at Michigan community colleges generally exceeded the national average for all community colleges, but this was not as universal as it was for Michigan universities. Charges for full-time students at 23 Michigan community colleges exceeded the national average during AY1989. Another 20 Michigan community colleges had charges that exceeded the national average in AY2004, and 19 had charges that exceeded it in AY2019.

In terms of growth rates, tuition and fee charges for Michigan community colleges grew at a pace closer to national average growth rates, with 13 of the 28 having a 30-year growth rate exceeding the national average, and 17 of the Michigan community colleges exceeding the national rate over the 15-year period between AY2004 and AY2019.

There was tremendous variability in tuition and fee charges across different Michigan community colleges. **Chart 10** (on page 13) replicates the previous chart for universities by displaying the ratio of tuition

and fee charges for each Michigan community college relative to the national average charge for all community colleges for AY2018-19. Tuition and fees range from a low of 32 percent below the national average at Oakland Community College to a high of 82 percent above average at Alpena Community College.

### Key Observations on Tuition and Fee Charges

In summary, tuition and fee charges in Michigan and nationally have risen faster over time than typical household incomes, making college less affordable for most people. Over the last three decades, the report finds that:

- Tuition and fee charges at four-year public universities have increased much faster than incomes. The average annual charge as a percentage of median household income grew almost threefold between AY1989 and AY2019.
- Community college tuition and fee charges have grown slower, but growth still outpaced incomes over the same period, negatively impacting affordability.
- Tuition and fee charges at Michigan public universities were significantly higher than the national average across the period. In AY2019, charges were 39 percent higher than the average across all U.S. public universities in the comparison group, and all 15 of Michigan's public universities had charges that exceeded the average for their Carnegie peer group.
- For Michigan community colleges, average tuition and fee charges also exceeded the national average. However, charges varied considerably across the 28 colleges, with the typical charges for in-district students at nine Michigan community colleges falling below the national average.

**Table 3**

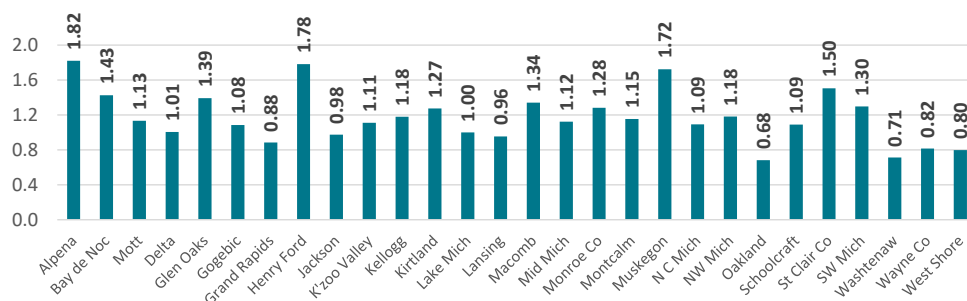
**Tuition and Fee Charges at Michigan Community Colleges**

	<i>Academic Year</i>			<i>Annual Percent Change</i>	
	1988-89	2003-04	2018-19	1989-2019	2004-2019
Alpena Community College	\$860	\$2,450	\$6,435	6.9%	6.6%
Bay de Noc Community College	\$1,067	\$2,152	\$5,040	5.3%	5.8%
Delta College	\$892	\$2,235	\$4,010	5.1%	4.0%
Glen Oaks Community College	\$854	\$2,244	\$3,552	4.9%	3.1%
Gogebic Community College	\$528	\$2,552	\$4,924	7.7%	4.5%
Grand Rapids Community College	\$1,130	\$1,020	\$3,833	4.2%	9.2%
Henry Ford College	\$1,000	\$1,656	\$3,124	3.9%	4.3%
Jackson College	\$1,282	\$1,794	\$6,298	5.4%	8.7%
Kalamazoo Valley Community College	\$552	\$1,581	\$3,446	6.3%	5.3%
Kellogg Community College	\$750	\$1,945	\$3,928	5.7%	4.8%
Kirtland Community College	\$990	\$2,111	\$4,170	4.9%	4.6%
Lake Michigan College	\$744	\$2,130	\$4,500	6.2%	5.1%
Lansing Community College	\$960	\$1,660	\$3,530	4.4%	5.2%
Macomb Community College	\$1,085	\$1,860	\$3,375	3.9%	4.1%
Mid Michigan College	\$960	\$2,110	\$4,744	5.5%	5.5%
Monroe County Community College	\$630	\$1,735	\$3,965	6.3%	5.7%
Montcalm Community College	\$864	\$1,965	\$4,530	5.7%	5.7%
Mott Community College	\$1,187	\$2,554	\$4,080	4.2%	3.2%
Muskegon Community College	\$1,025	\$1,678	\$6,090	6.1%	9.0%
North Central Michigan College	\$887	\$1,890	\$3,857	5.0%	4.9%
Northwestern Michigan College	\$1,209	\$2,357	\$4,174	4.2%	3.9%
Oakland Community College	\$1,098	\$1,680	\$2,408	2.7%	2.4%
Schoolcraft College	\$822	\$1,928	\$3,850	5.3%	4.7%
Southwestern Michigan College	\$1,040	\$2,276	\$5,316	5.6%	5.8%
St Clair County Community College	\$1,050	\$2,120	\$4,582	5.0%	5.3%
Washtenaw Community College	\$696	\$2,373	\$2,520	4.4%	0.4%
Wayne County Community College District	\$888	\$1,854	\$2,886	4.0%	3.0%
West Shore Community College	\$889	\$1,606	\$2,818	3.9%	3.8%
<b>All Associate's Colleges</b>	<b>\$757</b>	<b>\$1,811</b>	<b>\$3,534</b>	<b>5.3%</b>	<b>4.6%</b>

Source: Research Council calculations based on data from Integrated Postsecondary Education Data System.

**Chart 10**

**Ratio of Tuition & Fee Charges to National Average Community Colleges: 2018-19 Academic Year**



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Tuition and fee charge reflects the typical, average charge across all in-state undergraduate students. Average tuition and fee charge for each Carnegie classification is weighted based on full-time equated undergraduate enrollment.



### Tuition Restraint: A Catch-22 for Michigan Universities

The Fiscal Year (FY)2012 enacted state budget proved to be a challenging one for Michigan's 15 public universities. Funding for university operations was cut by \$213 million, which represented a 15 percent across-the-board reduction to each university's operating appropriation. Further, another \$83 million in state funding was conditioned on meeting tuition restraint provisions included in budget boilerplate language. To receive an allocation from this \$83 million pot, each university was required to keep any increase in in-state undergraduate tuition and fee charges below 7.1 percent. The conditioned allocation for each university was set proportional to the average tuition and fee increase at each institution over the previous five years.<sup>A</sup>

A 7.1 percent increase, at first glance, may appear to be generous. But in the face of a 15 percent cut in base state funding, universities faced a difficult decision. Funding from tuition and fee charges and state appropriations cover the great majority of educational operating expenses for universities. In FY2011, total revenue from tuition and fee charges and state appropriations for Michigan universities was about \$5.0 billion, with tuition and fees making up roughly 72 percent of that amount and state appropriations accounting for 28 percent. With appropriations reduced by 15 percent, the average university would have needed to increase tuition and fee charges by about 6 percent just to get total education revenue from these two sources back to even.

The 7.1 percent limit for tuition effectively allowed total revenue from tuition and state appropriations to grow by just under one percent for the average university. Still, all 15 universities complied with the tuition restraint provision for FY2012 and received their allocations from the \$83 million conditional funding.

Since FY2012, tuition restraint provisions have been a regular part of the higher education budget. Further, starting in FY2013, the distribution of state funding for university operations in most years shifted to a new performance-based model based on metrics such as degrees awarded, graduation rates, research and development expenditures, and administrative expenses as a percentage of all core expenses. In most cases, university performance is gauged against peer institutions within the institution's Carnegie class. In most years, some or all of this performance-based funding was conditioned on a tuition restraint limit.

As in FY2012, these annual tuition restraint incentives create a dilemma for universities. Between FY2012 and FY2020, state appropriations per FTE student have grown by an annual average of only 1.5 percent.<sup>B</sup> Further, state funding per student was still four percent below its FY2011 level prior to the large across-the-board reductions imposed in FY2012. At the same time, universities faced annual tuition restraint limits that ranged from 3.2 percent to 4.4 percent between FY2013 and FY2020.<sup>C</sup> Living within the tuition limit while state appropriations remained flat over this period meant growth from total revenues from these two key sources would typically fall in the range of two to three percent each year.

So far, only three universities have elected to bite the bullet and forego their conditional funding to increase tuition and fee charges by more than the tuition restraint limit: Wayne State University in FY2014, and Eastern Michigan University and Oakland University in FY2016. If state appropriations for university operations continue to grow at a slow pace, however, it will become more challenging for Michigan public universities to live within the tuition restraint guidelines and at the same time remain competitive with their national

<sup>A</sup> See Senate Fiscal Agency, [Tuition Restraint: FY 2011-12 through FY 2015-16](#), *State Notes*, Summer 2015 for a discussion of the early history of tuition restraint language in FY2012 and the years that followed.

<sup>B</sup> Calculations from Michigan Higher Education Institutional Data Inventory data as published by House Fiscal Agency and Senate Fiscal Agency in [Public University Summary Data: Fiscal Years 2010-11 to 2014-15](#) and [Public University Summary Data: Fiscal Years 2015-16 to 2019-20](#).

<sup>C</sup> Recent overviews of historical tuition restraint limits are provided in House Fiscal Agency, [Budget Briefing: Higher Education](#) and Senate Fiscal Agency, [Tuition Restraint: FY 2011-12 through FY 2015-16](#), *State Notes*, Summer 2015.

## Impact of Spending and Public Subsidy on Tuition Growth

In this section of the report, the focus turns to why tuition and fee charges have grown so significantly. The analysis examines two key factors that would be expected to drive tuition and fee growth: institutional spending growth and the growth in public operating support that helps subsidize tuition charges.

Tuition and fee charges are effectively the price set by post-secondary institutions to finance the costs of the various instructional and administrative services that facilitate an educational program of study. By definition, then, one critical driver of growth in tuition and fee charges is the growth in education-related spending by universities and colleges. Other things being equal, a university with above-average growth in education spending per student will have above-average growth in tuition and fee charges. But spending trends alone do not fully explain the growth in tuition and fee charges documented in the previous section.

Public post-secondary institutions do not rely solely on tuition and fee revenue to finance their education-related expenses. They also receive operational support from the public sector to supplement tuition and fee revenue. State government appropriations to universities and colleges and local tax revenue that often supports community college operations help to subsidize the price of higher education. In this report, this public operating support for colleges and universities is referred to as the “public subsidy”.

Changes in public subsidy revenue growth can also impact institutional decision-making on tuition and fee growth. If an institution’s long-term spending grows at a consistent rate, faster growth in public subsidy revenue, for instance, could allow an institution to reduce the growth of its “price” as established through its tuition and fee charge. Likewise, slower growth in the public subsidy could push institutions to consider faster growth in the price to make up for unrealized public subsidy revenue.

The next two sections of the report analyze the relative impacts of both of these key drivers of tuition and fee growth.

### Higher Education Spending Trends

To determine how much of the observed growth in tuition and fee charges can be explained by growth in per-student spending, the report analyzes growth in education-related spending per full-time equated (FTE) student at public institutions. The analysis finds that institutional spending at both public universities and community colleges has grown significantly slower than tuition and fee charges over the last three decades. Thus, institutional spending alone cannot account for the significant growth in tuition and fee charges and the related decline in affordability.

### Data and Methodology

There were two central challenges to this analysis. The first is related to data comparability. The report examines IPEDS data on spending across a 30-year time period. During that period, significant changes occurred related to both governmental accounting standards and IPEDS reporting standards. These changes make it difficult to make an “apples-to-apples” comparison of spending data over the full period. The functional expense categories (e.g., instruction, student services, academic support) used by IPEDS to classify institutional spending have largely stayed consistent across the full time period, but the types of spending included in each category have not. For example, spending for depreciation and interest were not included within these functional categories for the years before AY2004. But in accordance with accepted accounting practices as defined by Governmental Accounting Standards Board (GASB), those expenses were included in later years. In order to facilitate an appropriate comparison of spending across the full period, raw IPEDS spending data needed to be adjusted, and in some cases imputed. The methodology used to address this challenge is discussed in **Box 4** on page 16.

A second challenge was to identify the right “spending” for this purpose. A primary mission of public institutions of higher education is educational instruction, but instruction is not the only mission for many institutions. Public universities and community colleges incur spending for non-instructional activities,

### Changes in Reporting Standards for Education Expenditures

One challenge in evaluating spending trends for postsecondary institutions over time is data comparability. Changes in accepted accounting conventions and in IPEDS data reporting standards make it difficult to achieve a true “apples-to-apples” comparison of institutional spending over the 30-year period examined in this report. The key spending categories used in this report (e.g., Instruction, Student Services, Academic Support) were all used to classify expenditures across the period, but the types of expenditures included within these categories changed over time.<sup>1</sup> To achieve the best and most accurate comparison possible, some adjustments and imputations were needed to the data across the seven academic years used in the report.

Prior to 2002, public institutions reported expenditure data to IPEDS on what was referred to as the “Common Form”. However, changes in accounting principles set by the Governmental Accounting Standards Boards (GASB) brought about significant changes for expenditure reporting, which were phased in between 2002 and 2004. By 2004, all public institutions were required to submit data using the new GASB standards.

The new standards required institutions to report on both depreciation and interest expenses; neither of these items were included as part in the Common Form reporting. Most institutions reported these expenses separately in AY2004 and AY2009; however, some institutions rolled these expenses into the broader spending categories. When this occurred, the specific amounts were reported to IPEDS; so, for instance, the amount of depreciation expenses included within Instruction expenditures is included as a data field within IPEDS. For these years, interest and depreciation expenses were subtracted from the total expenditures for each major spending category to allow for better comparisons to Common Form data from previous years.

Further, IPEDS moved to a new “Aligned Form” that sought to promote better data comparability between public institutions using the new GASB standards and private institutions which reported data using Federal Accounting Standards Board (FASB) standards which were somewhat different than the GASB standards. As a result, by 2014, most public institutions were reporting Operation and Maintenance of Plant expenses (a category which is an element of Administration and Support Services spending within this report) as well as interest and depreciation expenses within the major spending categories. Prior to this, Operations and Maintenance was its own spending category on the Common Form. As in AY2004 and AY2009, however, these spending amounts were broken out separately. Again, where relevant, these expenses were subtracted out of total expenditures for each major category. Operations and Maintenance expenditures were then combined into their category for the report’s analysis.

IPEDS reporting standards changed again by AY 2019, creating another challenge for data comparability. For this final year of the report’s data collection, amounts of depreciation, interest, and operations and maintenance spending attributable to each of the major spending categories were no longer broken out separately within IPEDS. Instead, total amounts of these expenditures were reported across all spending categories. As a result, there was no longer specific information, for instance, on the amount of depreciation, interest, and operations and maintenance spending attributable to Instruction spending. In order to compare AY2019 spending to prior years, some imputation would be required. For the report, the percentage of total institutional spending attributable to these three categories was used to impute adjusted totals for each major spending category. For example, if depreciation, interest, and operations and maintenance spending made up 15 percent of total expenditures, then expenditures for each major spending category (Instruction, Student Services, etc.) were reduced by 15 percent to account for this spending. Doing so, would allow for a better comparison between AY2019 spending and that of prior years.

<sup>1</sup> For a more detailed discussion of these changes, see Delta Cost Project, [Delta Cost Project Documentation of IPEDS Database and Related Products](#), December 2011.



and these activities are often supported by revenue streams other than tuition and fee charges and public subsidy revenue. Particularly for universities, external research and other non-instructional public service activities make up a significant portion of institutional spending.

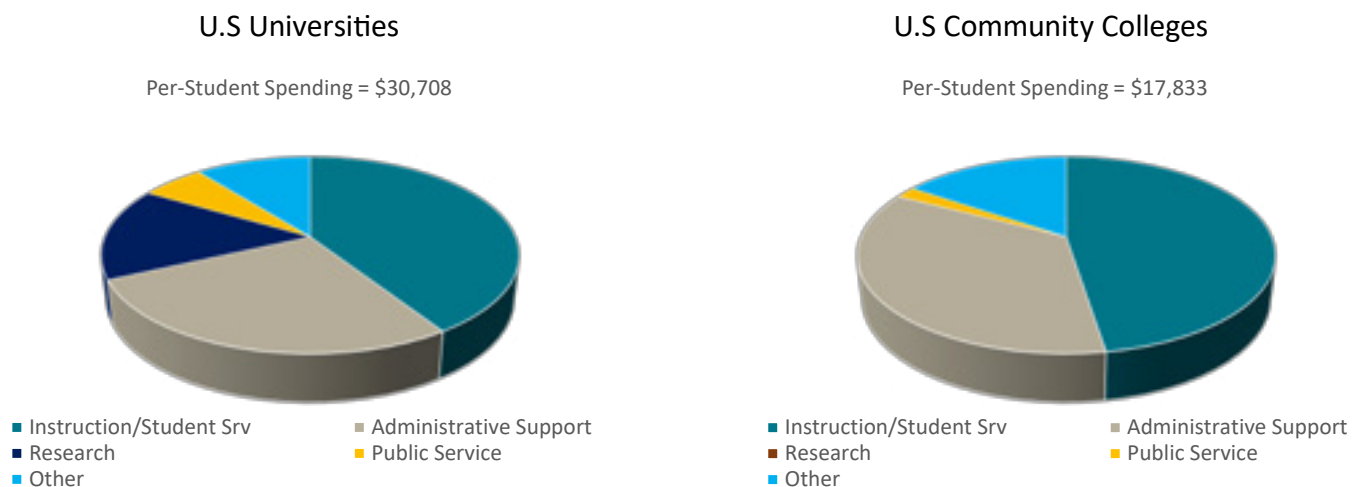
To illustrate, **Chart 11** shows total “core” spending per FTE student for U.S. public universities and community colleges for AY2019. Core spending is a broad measure of expenditures across all activities<sup>c</sup> of the institution. For four-year universities in particular, a

<sup>c</sup> Core expenditures exclude expenses related to institutional entities that are self-supporting, such as dormitories, bookstores, hospitals, and other independent operations.

significant portion of core spending falls outside the boundaries of what would be considered education-related spending that would ultimately be financed with tuition and public subsidy revenues. Just over 15 percent of core spending at universities is related to sponsored research programs. Another six percent is attributed to public service programs such as institutes, community service programs, cooperative extension services, and public broadcasting that serve the external community. Finally, 11 percent makes up other expenditures including scholarship amounts that exceed institutional charges and is paid out to students (e.g. to cover books or off-campus housing). For community colleges, these types of expenses make up a significantly smaller share of core spending.

## Chart 11

Core Institutional Spending per FTE Student, AY2019



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Spending in each category is divided by full-time equated enrollment (both graduate and undergraduate).

### Defining Education-Related Spending

The intent of this analysis is to focus on “education-related” spending that is relevant to the costs that universities and colleges finance with the revenues derived from tuition and the public subsidy. For this purpose, the analysis focuses on five IPEDS spending categories most closely aligned with that spending<sup>D</sup>. For analytical purposes, these five IPEDS categories of education-related spending are divided into two groups:

- Instruction/Student Services includes direct educational expenses that would ordinarily be covered by tuition and fee and public subsidy revenues. It includes two IPEDS expense sub-categories:
  - Instruction: all non-administrative instruction and education expenses for both credit and non-credit activities
  - Student Services: expenses for admissions and registrar activities as well as activities whose primary purpose is to contribute to student well-being and development (e.g., student activities and organizations, intra-mural athletics, student health services)
- Administration and Support Services includes expenses that support an institution’s primary missions of instruction activities as well as (where applicable) research and public service (e.g., community service programs, institutes, cooperative extension services, public broadcasting) activities. As such, some portion of these expenses that are allocable to instruction activities would be covered by tuition and fee and public subsidy revenues. Three IPEDS

<sup>D</sup> This approach is modelled on a metric for “education-related spending” used by the Delta Cost Project in examining institutional spending. Their approach defined education-related spending as the sum of IPEDS expenses within the Instruction and Student Services categories plus an education share of expenses within the Academic Support, Institutional Support, and Operations and Maintenance categories. The education share reflected the sum of Instruction and Student Services expenses divided by the sum of Instruction, Student Services, Research, and Public Service expenses. Effectively, then, they allocated a weighted proportion of what is defined as “Administration and Support Services” to education-related spending. See Delta Cost Project, [Trends in College Spending: 2003-2013](#) and the [Delta Cost Project data dictionary](#) for more information.

expense sub-categories are included in this group:

- Academic Support: expenses for academic non-instructional administration (e.g. academic deans); libraries, museums, and galleries that preserve and display educational materials; audiovisual media services; and other support services to the academic functions of the institution
- Institutional Support: expenses for the day-to-day operational support of the institution including general administrative services, executive-level activities, legal and fiscal operations, human resources, purchasing, and public relations and development
- Operations and Maintenance: expenses related to operations that provide service and maintenance of campus grounds and facilities; this includes activities such as janitorial and utility services, building repairs and maintenance, insurance expenses, space and lease expenses, and facility planning and management

### Growth in Education-Related Spending

The analysis of IPEDS expenditure data reveals two important trends related to institutional spending:

- For both universities and community colleges, institutional spending per FTE student – within both the Instruction/Student Services and Administration and Supports categories – was significantly lower than the observed growth in tuition and fee charges documented in the first section of the report. This implies that per-student spending can only explain a portion of tuition and fee growth.
- Average per-student spending at Michigan universities and community colleges was significantly higher than the average for their national counterparts. For Michigan universities, some of this difference is driven by spending at the University of Michigan-Ann Arbor, where per-student spending levels are unusually high given its position as a top 10 national research university.

**Chart 12** displays changes in Instruction/Student Services spending per FTE student for public universities and community colleges in Michigan as well as for all institutions nationally.

Growth in per-student Instruction/Student Services spending was very similar for Michigan and national universities across the 30-year period. Per-student spending in Michigan grew at an average annual rate of 3.5 percent, reaching \$14,609 per FTE student in AY2019. This was slightly higher than the national average of 3.3 percent. However, the average level of spending at Michigan universities was higher than the national average across the whole period. Average spending by Michigan universities was 12 percent higher than the national average in AY1989, and that gap grew slowly to 16 percent by AY2019.

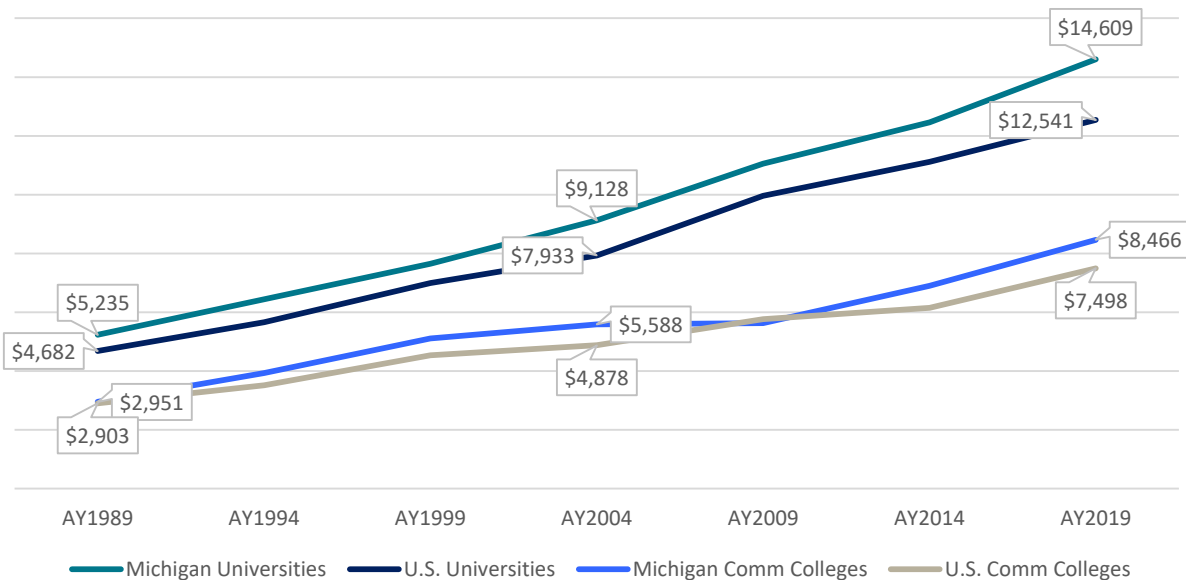
For community colleges, the data tell a similar story. Per-student Instruction/Student Services spending grew at a 3.6 percent average annual rate at Michigan community colleges; slightly higher than the 3.2 percent growth for the national cohort. Again, though, the average level of spending per student was 13 percent higher for Michigan community colleges than the national average by AY2019; a gap that

had largely re-developed since AY2009 when per-student spending at Michigan community colleges was almost equal to all U.S. community colleges.

For both universities and community colleges, Administration and Support Services spending grew at a faster pace than Instruction/Student Services spending over these three decades. For universities, **Chart 13** shows that Administration and Support Services spending per student at Michigan universities grew from \$2,928 to \$10,320 over the period, which equates to annual growth of 4.3 percent. For all U.S. universities, this spending grew at a slower 3.7 percent annual rate. Faster growth at Michigan universities widened the gap in spending levels by the end of the analysis period, with Michigan universities average spending per student for Administration and Support Services 23 percent higher than the national average by AY2019; the spending gap was about three percent at the beginning of the period.

Similarly, growth in Administration and Support Services spending at Michigan community colleges exceeded the national average. Spending grew at a 4.4 percent annual rate for Michigan community colleges compared to only 3.5 percent growth across

**Chart 12**  
Instruction & Student Services Spending per FTE Student

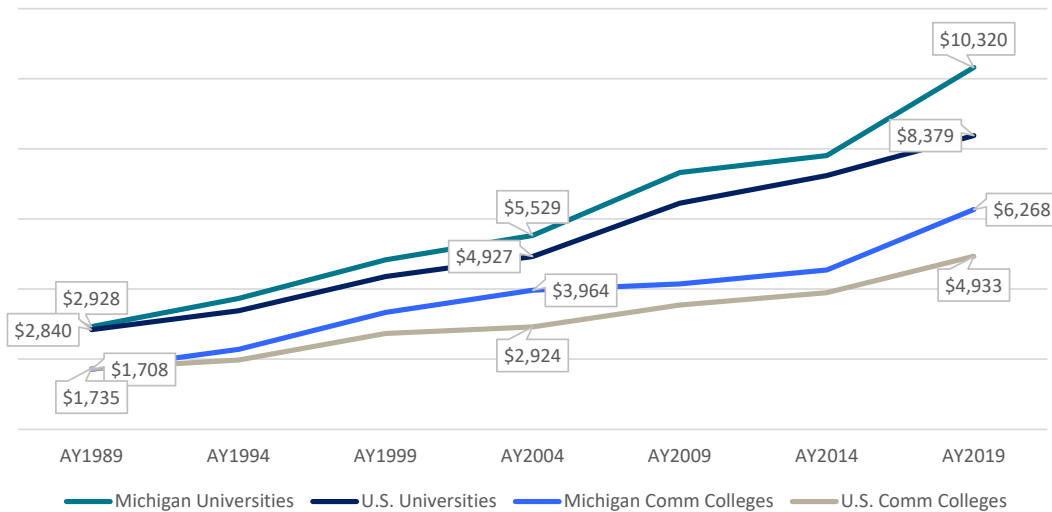


Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Spending in each category is divided by full-time equated enrollment (both graduate and undergraduate).

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

**Chart 13**

Administrative and Support Services Spending per FTE Student



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Spending in each category is divided by full-time equated enrollment (both graduate and undergraduate).

all community colleges. And similar to Michigan universities, higher growth in Administration and Support Services spending at Michigan community colleges resulted in spending levels that exceeded the national average by 27 percent by AY2019.

### Spending Levels by Institution

For both Michigan universities and community colleges, growth in Instruction/Student Services and Administration and Support Services spending per student has exceeded national average growth over the last three decades. The result has been a widening gap in per-student spending levels across the period.

Looking at individual Michigan universities, however, shows that a great deal of variation exists in spending levels – with many Michigan universities coming in below national averages for their national peers. **Table 4** (on page 21) examines Instruction/Student Services spending and Administration and Support Services spending at Michigan’s 15 public universities for AY1989 and AY2019. Universities are broken out into their separate Carnegie classifications to allow spending to be compared to national averages within each class. For Instruction/Student Services

spending, seven of Michigan’s 15 public universities had spending per student below the national average for their Carnegie class in AY2019; and nine of the universities saw spending growth below the national class average over the full 30-year period. With Administration and Support Services spending, six Michigan universities had AY2019 per-student spending levels below their Carnegie class average; and four had spending growth below the national class average for the full period.

When examining tuition and fee charges in the last section, the gap between charges at Michigan universities relative to all U.S. universities was pervasive across all 15 Michigan universities. With per-student spending levels, that is not the case.

An important factor affecting the spending data is the University of Michigan-Ann Arbor’s (UM-AA) impact on average spending levels for Michigan universities. **Table 4** suggests that UM-AA is an outlier in terms of per-student spending in both categories, and this likely relates to its particularly heavy research mission. Sponsored research spending, such as research funded by a public or private grant, is not included in Instruction/Student Services spending within the IPEDS data; instead, it is reflected sepa-

rately as Research spending. However, university faculty engaged more heavily in independent research and less heavily in direct instruction as part of their primary duties still have their personnel-related costs counted within Instruction/Student Services spending. For this reason, these costs on a per-student basis are generally significantly higher at research universities. Similarly, Administration and Support Services spending is generally higher since it includes support costs related to both sponsored and non-sponsored research.

Among the 86 public institutions included in the national comparison group within the Carnegie “Doctoral Universities: Very High Research” classification, UM-AA ranked second in total research spending for AY2019. Comparing per-student spending at UM-AA with average spending levels across the top 10 public institutions in research spending, UM-AA is still above average in spending, but with a narrower gap. Average Instruction/Student Services spending

per FTE student at these 10 institutions was \$24,642 (vs. \$27,249 at UM-AA), while per-student administration and support services spending was \$17,095 (vs. \$21,737 at UM-AA).

Pulling UM-AA out of the spending data, average Instruction/Student Services spending per student for the remaining 14 Michigan public universities falls below the national average (\$11,662 vs. national average of \$12,541), as does Administration and Support Services spending per student (\$7,738 for the 14 Michigan universities vs. \$8,379 for all U.S. universities)

For Michigan community colleges, **Table 5** (on page 22) shows per-student spending levels are also highly variable across individual institutions. However, most Michigan community colleges had both spending levels in AY2019 and spending growth across the 30-year analysis period that exceeded national averages. Looking at Instruction/Student

**Table 4**  
Spending per FTE Student at Michigan Universities

	Instruction/Student Services			Administration and Support Services		
	AY 1988-89	AY 2018-19	Annual % Change	AY 1988-89	AY 2018-19	Annual % Change
Michigan State University	\$6,021	\$16,613	3.4%	\$2,459	\$9,966	4.8%
University of Michigan - Ann Arbor	\$8,842	\$27,249	3.8%	\$5,202	\$21,737	4.9%
Wayne State University	\$5,863	\$14,378	3.0%	\$4,155	\$11,279	3.4%
<b>All Doctoral: Very High Research</b>	<b>\$5,788</b>	<b>\$16,173</b>	<b>3.5%</b>	<b>\$3,576</b>	<b>\$10,847</b>	<b>3.8%</b>
Central Michigan University	\$3,967	\$9,609	3.0%	\$1,830	\$6,327	4.2%
Eastern Michigan University	\$3,606	\$8,247	2.8%	\$2,116	\$6,034	3.6%
Ferris State University	\$3,686	\$9,844	3.3%	\$1,902	\$6,327	4.1%
Michigan Technological University	\$4,584	\$12,529	3.4%	\$3,001	\$9,482	3.9%
Oakland University	\$3,721	\$9,988	3.3%	\$2,260	\$5,890	3.2%
University of Michigan - Flint	\$3,462	\$11,411	4.1%	\$2,024	\$7,534	4.5%
Western Michigan University	\$3,741	\$11,740	3.9%	\$2,219	\$7,668	4.2%
<b>All Other Doctoral Universities</b>	<b>\$3,576</b>	<b>\$10,847</b>	<b>3.8%</b>	<b>\$2,404</b>	<b>\$6,925</b>	<b>3.6%</b>
Grand Valley State University	\$3,328	\$9,522	3.6%	\$2,013	\$6,113	3.8%
Northern Michigan University	\$4,044	\$9,421	2.9%	\$2,558	\$5,969	2.9%
Saginaw Valley State University	\$2,902	\$7,801	3.4%	\$2,321	\$5,251	2.8%
University of Michigan - Dearborn	\$3,640	\$10,751	3.7%	\$2,178	\$7,264	4.1%
<b>All Master's Colleges and Universities</b>	<b>\$3,725</b>	<b>\$8,885</b>	<b>2.9%</b>	<b>\$2,213</b>	<b>\$5,809</b>	<b>3.3%</b>
Lake Superior State University	\$3,491	\$8,364	3.5%	\$2,275	\$8,870	4.6%
<b>All Baccalaureate Colleges</b>	<b>\$3,491</b>	<b>\$9,783</b>	<b>3.5%</b>	<b>\$2,415</b>	<b>\$7,069</b>	<b>3.6%</b>

Source: Research Council calculations from data from Integrated Postsecondary Education Data System.

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

Services spending, 23 of the 28 Michigan community colleges had per-student spending levels above the national average, and 21 had annual growth rates that exceeded the national average. The pattern was similar for Administration and Support Services spending. Twenty-two Michigan community colleges exceeding the national average spending level, and 23 had growth rates above the national average.

It's also notable that per-student spending levels at Michigan universities and community colleges were

not as dramatically different as one might expect. In fact, seven Michigan community colleges had Instruction/Student Services spending per student in excess of \$10,000 in AY2019; an amount that exceeded the amounts at eight of the 15 public universities.

It should be noted, however, that Michigan community colleges had experienced significant enrollment declines in the years leading up to FY2019. Full-time equated student enrollment fell from 126,922

**Table 5**  
Spending per FTE Student at Michigan Community Colleges

	<i>Instruction/Student Services</i>			<i>Administration and Support Services</i>		
	AY 1988- 89	AY 2018-19	Annual % Change	AY 1988-89	AY 2018-19	Annual % Change
Alpena Community College	\$3,159	\$10,285	4.0%	\$1,209	\$4,308	4.3%
Bay de Noc Community College	\$2,591	\$9,640	4.5%	\$1,133	\$7,093	6.3%
Delta College	\$3,858	\$10,278	3.3%	\$1,799	\$6,146	4.2%
Glen Oaks Community College	\$3,285	\$8,197	3.1%	\$2,491	\$8,004	4.0%
Gogebib Community College	\$3,187	\$8,367	3.3%	\$1,852	\$6,665	4.4%
Grand Rapids Community College	\$3,737	\$9,655	3.2%	\$1,046	\$5,949	6.0%
Henry Ford College	\$2,906	\$9,408	4.0%	\$1,510	\$3,991	3.3%
Jackson College	\$2,856	\$8,163	3.6%	\$2,004	\$4,709	2.9%
Kalamazoo Valley Community College	\$2,120	\$8,448	4.7%	\$1,072	\$3,740	4.3%
Kellogg Community College	\$3,619	\$9,584	3.3%	\$1,804	\$9,757	5.8%
Kirtland Community College	\$3,695	\$8,127	2.7%	\$3,171	\$7,940	3.1%
Lake Michigan College	\$3,831	\$8,946	2.9%	\$2,961	\$8,812	3.7%
Lansing Community College	\$2,634	\$7,147	3.4%	\$1,691	\$6,837	4.8%
Macomb Community College	\$2,321	\$5,932	3.2%	\$1,216	\$4,347	4.3%
Mid Michigan College	\$3,026	\$6,277	2.5%	\$1,513	\$4,296	3.5%
Monroe County Community College	\$3,246	\$11,521	4.3%	\$2,355	\$7,925	4.1%
Montcalm Community College	\$2,714	\$9,226	4.2%	\$1,820	\$6,538	4.4%
Mott Community College	\$3,248	\$7,463	2.8%	\$2,177	\$7,353	4.1%
Muskegon Community College	\$3,263	\$11,031	4.1%	\$1,590	\$6,776	5.0%
North Central Michigan College	\$2,833	\$7,952	3.5%	\$1,887	\$5,271	3.5%
Northwestern Michigan College	\$4,026	\$12,176	3.8%	\$2,198	\$10,033	5.2%
Oakland Community College	\$2,559	\$7,271	3.5%	\$1,653	\$6,464	4.6%
Schoolcraft College	\$3,117	\$8,770	3.5%	\$2,379	\$7,038	3.7%
Southwestern Michigan College	\$2,270	\$8,832	4.6%	\$1,487	\$7,687	5.6%
St Clair County Community College	\$3,308	\$8,001	3.0%	\$2,185	\$6,686	3.8%
Washtenaw Community College	\$3,401	\$10,356	3.8%	\$2,261	\$8,177	4.4%
Wayne County Community College District	\$3,100	\$9,040	3.6%	\$2,033	\$7,284	4.3%
West Shore Community College	\$3,070	\$10,711	4.3%	\$2,420	\$13,946	6.0%

Source: Research Council calculations from data from Integrated Postsecondary Education Data System.



to 95,109 in the five years between AY2014 and AY2019; a 25 percent overall decline. Nationally, community college enrollments also dropped over this period, but only by 12 percent. The particularly sharp decline in Michigan enrollment may be contributing to the observed increases in per-student spending since some institutional costs are fixed and even variable costs may take time to adjust to enrollment changes. As such, enrollment declines effectively reduce the denominator in that calculation without a proportional spending decline in the numerator.

## Growth in Spending Relative to Tuition and Fee Charges

The first section of the report noted the significant growth in tuition and fee charges that has occurred over the last decades. Tuition increases exceeded growth rates for median incomes both nationally and in Michigan, making higher education less affordable for the typical household. The analysis of university and community college spending patterns now leads us back to one of the central questions for this report. How much of the significant growth in tuition and fee charges can be explained by growth in institutional spending?

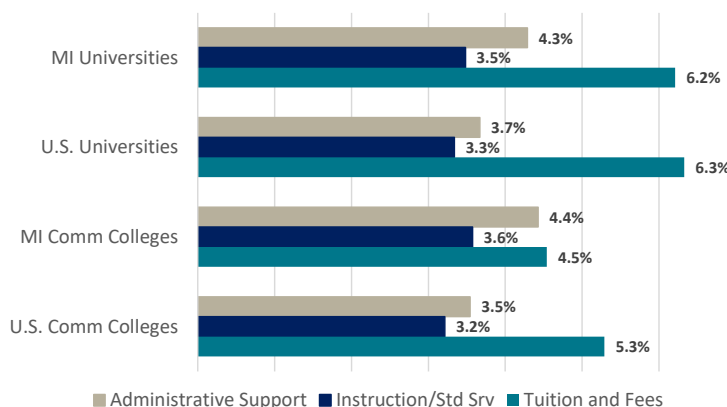
The data show that spending growth, while important, can only account for a portion of those tuition increases. For universities, **Chart 14** shows that education-related spending in both categories grew significantly slower than tuition and fee charges over the full 30 years analyzed. For Michigan universities, the annual growth in Instruction/Student Services spending was only 3.5 percent, compared to 6.2 percent annual growth for tuition. Nationally, spending growth for this category (3.3 percent) was just over half tuition growth (6.3 percent). Growth in Administration and Support Services was somewhat higher: 4.3 percent annually at Michigan universities and 3.7 percent at U.S. universities; but that growth was still only 69 percent of tuition and fee growth (6.2 percent) for Michigan universities and around 59 percent of tuition and fee growth for all U.S. universities (6.3 percent).

The comparison was similar for community colleges. Instruction/Student Services spending per student at U.S. community colleges grew at a 3.2 percent

**Chart 14**

### Tuition and Fee versus Spending Growth

Annual Growth between 1988-89 and 2018-19 Academic Years



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect average annual increase over the 30-year period spending per FTE student and in tuition and fee charges for full-time, in-state university students and full-time, in-district community college students.

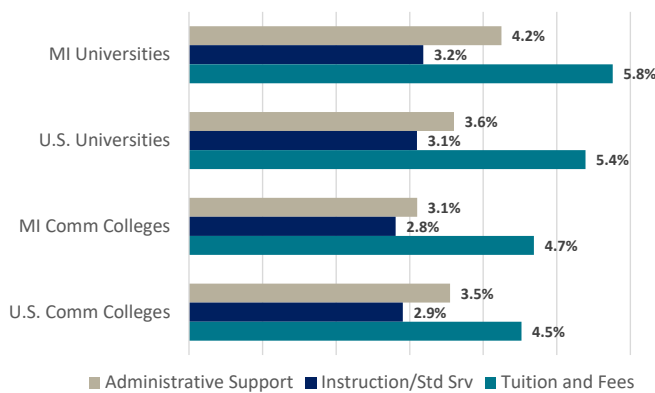
annual rate while Administration and Support Services spending grew by 3.5 percent annually. Both rates fall well below the 5.3 percent annual growth in tuition charges. The gap between spending growth and tuition and fee growth was smallest for Michigan community colleges, where annual Instruction/Student Services spending growth (3.6 percent) was about 80 percent of the growth rate of tuition (4.5 percent). Annual growth in Administration and Support Services spending (4.4 percent) was about 98 percent of tuition and fee growth.

To test whether these findings are sensitive to the selected time period for the analysis, the report also examines the same growth rates over the 15-year period between AY2004 and AY2019. **Chart 15** (on page 24) shows that while growth in both per-student spending and tuition and fee charges slowed a little during this period, the general pattern observed for the 30-year period remained. Growth in both spending categories remained significantly lower than growth in tuition and fee charges. The most notable observation in the more recent data is that this gap became more pronounced for Michigan community colleges given a significant decline in the rate of

## Chart 15

### Tuition and Fee versus Spending Growth

Annual Growth between 2003-04 and 2018-19 Academic Years



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect average annual increase over the 30-year period spending per FTE student and in tuition and fee charges for full-time, in-state university students and full-time, in-district community college students.

spending growth observed over last 15-year period.

The analysis makes it clear that while institutional spending growth is obviously an important factor in driving tuition and fee growth, spending alone cannot account for all the realized growth in tuition and fee charges over the three decades examined. The next section explores whether changes in the public subsidy to the price of higher education over time have played a role in driving this additional growth.

### Key Observations on Institutional Spending

Growth in institutional spending on education-related activities effectively reflects an institution's long-term education revenue needs. As such, spending growth will always be a key driver in the growth of tuition and fee charges. However, the analysis suggests that spending growth alone does not explain all of the significant observed growth in these charges. The data suggest:

- Per-student spending at public universities grew much slower than tuition and fee charges over the 30 years analyzed. Instruction/Student Services spending grew only half as fast; while

Administration and Support Services spending grew around 60-70 percent as fast.

- Spending growth at community colleges over the same period was very similar to the growth at universities. Since tuition and fee charges grew more slowly at community colleges, there was less of a gap between spending growth and tuition and fee growth; although spending still grew more slowly.
- Spending levels per student at Michigan universities were significantly higher than national average spending. However, much of that gap was attributable to spending levels at the University of Michigan-Ann Arbor and its status as a very large national research university. Spending at other Michigan universities trended both above and below the national average for their Carnegie peer classification.
- Most Michigan community colleges realized per-student spending levels and per-student spending growth across the period that exceeded national averages for all community colleges in the comparison group.

## Changes in the Public Subsidy for Higher Education

This section turns to an examination of the second potential driver of tuition and fee growth: the public subsidy to higher education. The report has already documented that tuition and fee charges grew faster than per-student educational spending at postsecondary institutions. Can this difference be explained by changes in public subsidy growth?

Public postsecondary institutions rely heavily on revenue from both tuition and fee charges and from the public subsidy to finance their educational programs; and growth in combined revenue from these two sources has been consistent with the growth in institutional education-related spending discussed in the first section of the report. In this section, however, IPEDS data show unequivocally that per-student public subsidy revenue has grown significantly slower than tuition and fee charges over the last 30 years; this is especially true for four-year universities. On its face, this would suggest that slow public subsidy



growth has pushed institutions to increase tuition and fee charges more sharply to keep total education revenue growth stable.

However, when a public institution faces slower than normal growth in public subsidy revenue, it has another option. Rather than leaning move heavily on tuition and fee charges, it can accept slower total overall revenue growth and reduce the growth in institutional spending to live within its new revenue means. In reality, it seems likely that public institutions would employ some mix of both strategies to some degree.

In the subsections that follow, the report analyzes IPEDS data in more detail to evaluate the degree to which slow public subsidy revenue growth has pushed up growth in tuition and fee charges over the last three decades. The report will analyze two key revenue growth trends:

- First, it will document the relative changes in tuition and fee charges and per-student public subsidy revenue over time. The results show that public subsidy revenue makes up a smaller share of overall education revenue than it did at the beginning of the analysis period.
- Second, it evaluates the degree to which the changes in the public subsidy share of education of revenue drive tuition and fee charges across all public institutions.

The findings support the case that slow public subsidy growth, particularly for public universities; has been a significant contributor to tuition and fee growth; one that can explain a significant portion of the decline in tuition and fee affordability noted in the first section of the report.

### IPEDS Data on Higher Education Revenue

Public institutions lean heavily on education revenue from tuition and fee charges and from the public subsidy to finance educational programming. To ex-

amine how amounts from these key revenue sources have changed over time, the report analyzes two categories of revenue data from IPEDS for public universities and community colleges:

- **Gross Tuition Revenue:** revenue collected by the college or university from tuition and fees. “Gross” tuition revenue includes both tuition and fee revenue directly collected from students and families as well as revenue collected in the form of financial aid grants from public, private, or institutional sources. The final section of report examines “net” tuition revenue which includes only the amount paid by students and families (including amounts financed through student loans).

It is also important to note that gross tuition revenue includes revenue from all students regardless of their residency status; so this measure includes revenue from both in-state and out-of-state university students and both in-district and out-of-district community college students. Further, for universities, it includes revenue generated

from both undergraduate and graduate students, making it a broader measure of tuition and fee revenue than the in-state and in-district annual tuition and fee charges examined in the first section of the report.

- **Public Subsidy Revenue:** public appropriations and any dedicated taxes from state, local, or federal governments that support the general operations of universities and colleges. Notably, this does not include publicly-funded financial aid grants or loans provided to specific students. The impact of financial aid grants will be examined separately in the final section of the report.

For public universities, data show that 99 percent of the public subsidy for AY2019 came from state operating appropriations with very small amounts coming from other federal and local operating support. For community colleges, 59 percent of the public subsidy came from state appropriations, 40 percent came from local tax revenue or other direct

The findings support the case that slow public subsidy growth has been a significant contributor to tuition and fee growth, particularly for public universities; one that can explain a significant portion of the decline in tuition and fee affordability.

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

local support, and less than one percent came from the federal government.

These two revenue streams are critical to both universities and community colleges, as combined education revenue from tuition (including financial aid grants) and the public subsidy cover the great majority of their education-related expenses.

### Declines in Public Subsidy Share of Education Revenue

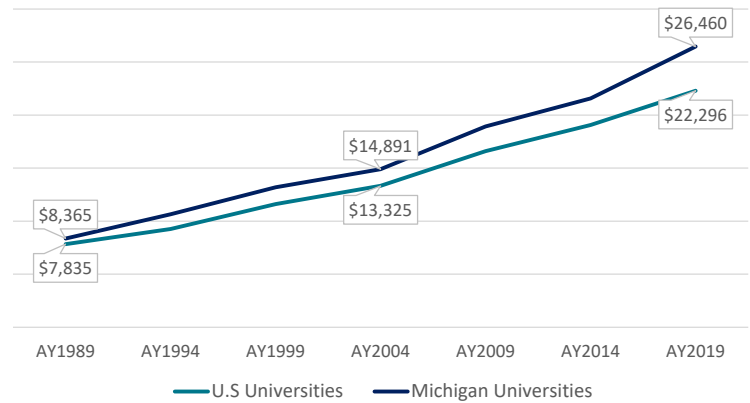
The report draws on IPEDS data to analyze the relative growth of tuition and fee revenue and public subsidy revenue over the last 30 years. Public subsidy revenue per student has grown more slowly than annual tuition and fee charges, particularly for universities. As a result, the public subsidy share of education revenue to public postsecondary institutions has fallen substantially.

**Universities.** Both U.S. and Michigan universities saw a major shift in the composition of their education revenue over the period of analysis. Slow public subsidy revenue growth combined with relatively high growth in tuition and fee charges caused the public subsidy share of education revenue to drop dramatically. It's also notable that throughout the period, the public subsidy share of revenue at Michigan universities was significantly lower than the national average for all public universities.

Overall growth in education revenue per student from both gross tuition and the public subsidy aligns closely with growth rates in education spending per student outlined in the previously section. **Chart 16** shows combined revenue grew by 3.9 percent annually at Michigan universities across these three decades – somewhat higher than the 3.5 percent

**Chart 16**

Combined Education Revenue per FTE Student - Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Figures reflect total gross tuition and public subsidy revenue divided by full-time equated enrollment (both graduate and undergraduate).

annual growth experienced by all U.S. universities.

However, growth rates for the individual components of this revenue – gross tuition and public subsidy – were significantly different. **Table 6** shows that gross tuition revenue per FTE student grew at an annual rate of 6.4 percent at Michigan universities compared to only 0.4 percent annual growth for public subsidy revenue. Nationally, growth patterns were similar with gross tuition per FTE student growing at a 6.6 percent annual rate for U.S. universities versus only 1.1 percent annual growth for public subsidy revenue.

The differential in these growth rates resulted in a large swing in the revenue shares from both sources. For Michigan public universities, **Chart 17** (on page 27) shows that the public subsidy share of combined

**Table 6**

Relative Growth of Gross Tuition and Public Subsidy per FTE Student - Universities

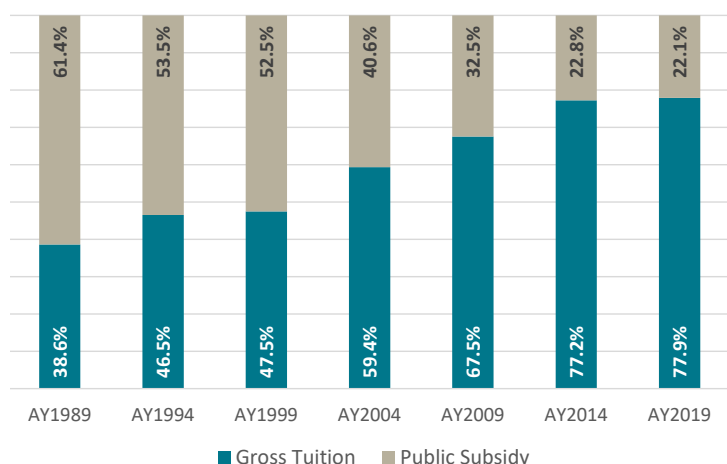
	Gross Tuition Revenue			Public Subsidy Revenue		
	1988-89	2018-19	Annual Change	1988-89	2018-19	Annual Change
MI Universities	\$3,320	\$20,609	6.4%	\$5,135	\$5,582	0.4%
US Universities	\$2,111	\$14,410	6.6%	\$5,724	\$7,887	1.1%

Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Revenue is divided by total full-time equated enrollment.

education-related revenues. For each academic year, the share is calculated by dividing total public subsidy revenue across all 15 Michigan universities

**Chart 17**

Tuition and Public Subsidy Revenue Shares  
Michigan Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect gross tuition revenue and public subsidy revenue, respectively, divided by total revenue from both sources across all 15 Michigan public universities.

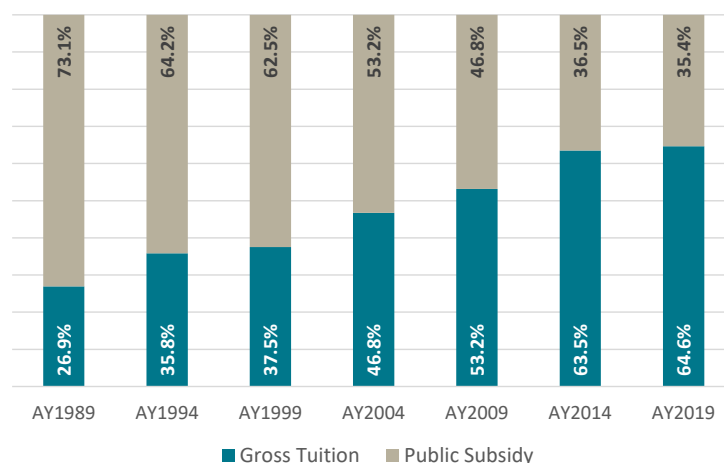
by the total revenue from both the public subsidy and gross tuition for these same universities. The public subsidy share at Michigan universities declined from 61 percent in AY1989 to just 22 percent in AY2019. In turn, the gross tuition share of revenue doubled from 39 percent to 78 percent over the same period.

Nationally, the pattern was very similar. **Chart 18** documents that U.S. universities experienced the same proportional decline in the public subsidy's revenue share as Michigan universities, with the public subsidy share of revenue falling from 73 percent in AY1989 to 35 percent in AY2019.

As noted, the public subsidy share of combined revenue was consistently higher nationally than in Michigan. In AY1989, the average public subsidy share of education revenue at U.S. universities was 11.7 percentage points higher than the average for Michigan universities. While the share declined at both U.S. and Michigan universities over the period,

**Chart 18**

Tuition and Public Subsidy Revenue Shares  
U.S. Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect gross tuition revenue and public subsidy revenue, respectively, divided by total revenue from both sources across all 471 U.S. public universities in the comparison group.

the gap remained. By AY2019, the gap between the average public subsidy share nationally and the average share in Michigan actually grew slightly to 13.3 percent. The report will show that this gap is a significant factor in explaining why average tuition and fee charges at Michigan universities have also regularly exceeded the national average.

**Community Colleges.** Changes in the public subsidy and gross tuition shares of revenue were much less significant for community colleges than for universities, but those shares did shift. Combined revenue per student grew by 4.6 percent annually over this period at Michigan community colleges – higher than the 3.7 percent annual growth rate for community colleges nationally (See **Chart 19** on page 28). That is consistent with the finding that institutional spending also grew more rapidly at Michigan community colleges over this period. As noted previously, the sharp drop in enrollment at Michigan community colleges in recent years is likely a contributing factor to both the per-student revenue and spending growth.

**Table 7** (on page 28) shows that, like universities, the public subsidy component of this revenue grew

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

more slowly than the gross tuition component. However, the difference is much smaller for community colleges. For Michigan institutions, gross tuition grew at a 5.3 percent annual rate over the 30-year period compared to annual growth of 4.3 percent for public subsidy revenue. Nationally, the gap in annual growth was somewhat higher with gross tuition revenue per student growing by 5.5 percent and public subsidy revenue growing at a 2.9 percent rate.

With this smaller growth differential, the public subsidy share of combined revenue at Michigan com-

munity college fell only slightly. **Chart 20** illustrates that public subsidy revenue made up 68 percent of combined revenue in AY1989, and actually grew slightly by AY2004. However, that trend reversed during the last half of the period. By AY2019, that share had fallen to about 61 percent.

The decline in the public subsidy share was more significant across all U.S. community colleges with the share declining from 77 percent to 61 percent over the period (See **Chart 21** on page 29). Notably, while the public subsidy share in Michigan was

**Table 7**

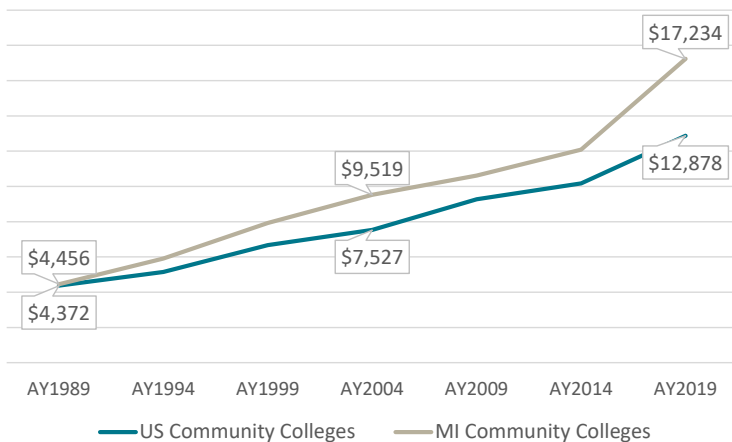
Relative Growth of Gross Tuition and Public Subsidy per FTE Student - Community Colleges

	Gross Tuition Revenue			Public Subsidy Revenue		
	1988-89	2018-19	Annual Change	1988-89	2018-19	Annual Change
MI Community Colleges	\$1,429	\$6,677	5.3%	\$3,026	\$10,557	4.3%
US Community Colleges	\$1,009	\$4,961	5.5%	\$3,363	\$7,917	2.9%

Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Revenue is divided by total full-time equated enrollment.

**Chart 19**

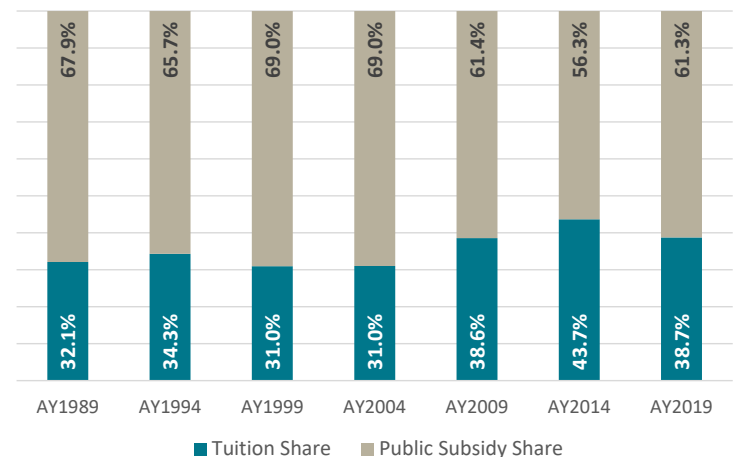
Combined Education Revenue per FTE Student



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Figures reflect total gross tuition and public subsidy revenue divided by full-time equated enrollment.

**Chart 20**

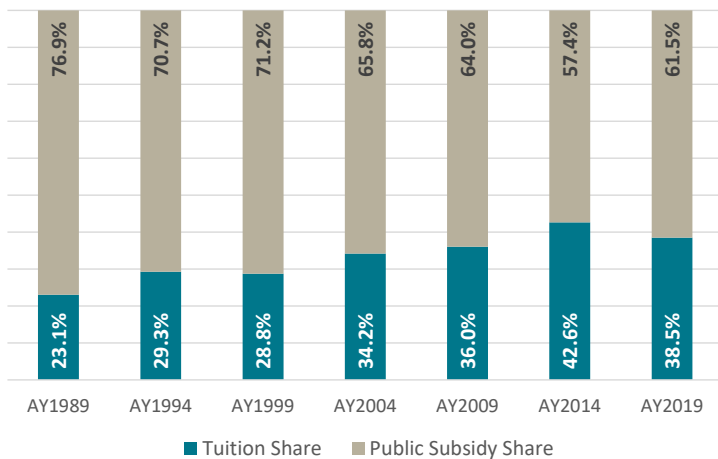
Tuition and Public Subsidy Revenue Shares  
Michigan Community Colleges



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect the relative shares of gross tuition revenue and public subsidy revenue, respectively, divided by total revenue from both sources across all 28 Michigan public community colleges.

**Chart 21**

Tuition and Public Subsidy Revenue Shares - U.S. Community Colleges



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Percentages reflect the relative shares of gross tuition revenue and public subsidy revenue, respectively, divided by total revenue from both sources across all 680 U.S. public community colleges in the comparison group.

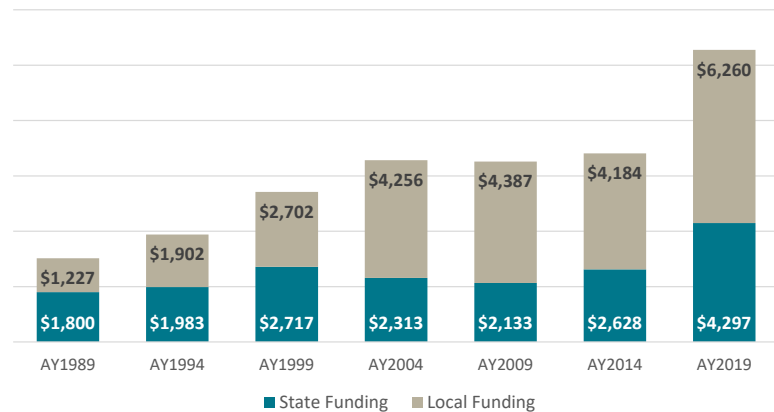
about nine percentage points lower at the start of analysis period, that gap was gradually eliminated by AY2004 when Michigan's subsidy share temporarily rose above the national average. Over the 15 years since, the gap has fluctuated with Michigan trailing the national average by only 0.2 percentage points in AY2019.

In short, while community colleges also saw declines in the public subsidy share of their combined gross tuition and public subsidy revenue, those declines were less severe than the declines experienced by public universities. One factor that helped mitigate the community college decline was the availability of local tax revenue to supplement state appropriations.

State appropriations per student for Michigan community colleges grew from \$1,800 in AY1989 to \$4,297 in AY2019, which equates to 2.9 percent annual growth over the period. In contrast, local tax revenue per student grew from \$1,227 to \$6,260 over the same period, representing an annual growth rate of 5.6 percent. Faster growth in local tax support offset slower growth in state appropriations, helping the public subsidy share to be more stable across

**Chart 22**

Public Subsidy per FTE Student: State versus Local Shares - Michigan Community Colleges



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Public subsidy revenue from state and local sources is divided by full-time equated enrollment in each year.

the period (see **Chart 22**).

## The Impact of Public Subsidy Growth: Tuition Charges vs. Revenue/Spending Changes

Current research on the impact of public subsidy growth on tuition and fee charges provides a mixed picture. It documents an inverse correlation between changes in the public subsidy and changes in tuition and fees; but it also suggests that this correlation is not particularly strong. Various studies suggests that a \$1,000 reduction in public subsidy revenue per student leads to an increase in tuition and fee charges of anywhere between \$50 to \$318.<sup>14</sup> The remaining reduction would instead be absorbed through revenue and spending reductions. Each of the studies examines a different time period and employs different statistical methods in examining the issue, but the variability in the results is still notable.

The premise of this report's analytical approach is that, ultimately, tuition and fee charges grow for one of two reasons. First, charges grow to generate additional revenue proportional to growth in planned institutional spending. For example, if a university's



## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

education-related spending per student grows by 3.5 percent per year over time, tuition and fee charges will need to grow by 3.5 percent to generate additional revenue to meet these added costs.

Second, since the public subsidy also helps finance education-related spending at public institutions, tuition and fee charges may need to grow to offset any change in the public subsidy share of education revenue. In the same example, if the university's state appropriation provides half of all education revenue and it grows by only two percent per year, tuition and fee growth will need to grow by five percent: 3.5 percent to match the underlying spending growth from the previous paragraph plus an additional 1.5 percent to make up for the differential between spending growth and public subsidy growth.<sup>E</sup>

It is particularly important to note that the upward pressure on tuition and fee charges in this second instance depends not only on the growth rate of public subsidy revenue but also on the composition of education revenue in terms of its mix between public subsidy and tuition. To illustrate, consider the three hypothetical public institutions in **Table 8** below. All three scenarios are assumed to have total education revenue of \$15,000 per student. However, one is "subsidy dependent" with 70 percent of its revenue coming from the public subsidy and 30 percent from tuition and fees. Another is "tuition dependent" with only 30 percent of its revenue coming from the subsidy and 70 percent from tuition and fees. The third has "balanced funding" with a 50-50 mix of tuition and public subsidy revenue per student.

<sup>E</sup> Another option would be to generate new discretionary revenue from some other source, such as private gifts. However, the ability to generate alternative revenue would vary greatly between institutions. For this report, we assume other sources of revenue remain stable.

**Table 8** models the impact of realizing 1 percent growth in public subsidy revenue assuming that all three institutions seek to increase total revenue by 3.5 percent (generally consistent with the 30-year annual average for institutional spending growth). To achieve 3.5 percent growth in total revenue, the "subsidy dependent" institution will need to increase tuition and fee charges by 9.3 percent. Since tuition and fee revenue makes up a smaller component of its total revenue, more growth will be needed to make up for the slower growth in the larger base of public subsidy revenue.

For the "tuition dependent" institution, the opposite is true. Per-student tuition revenue can grow more slowly (4.6 percent) and still bring total revenue growth to 3.5 percent; this is because the tuition revenue base is significantly larger at this institution than at its "subsidy dependent" counterpart.

For the institution with balanced funding, required tuition growth to meet 3.5 percent total revenue growth falls in the middle at 6.0 percent.

The example illustrates an important point. The absolute growth rate of public subsidy revenue per student alone does not provide an accurate gauge of "tuition and fee pressure" for an individual university or college. As **Table 8** demonstrates, the impact of any given increase in public subsidy revenue on tuition and fee charges will be amplified when the public subsidy share of education revenue is high. Likewise, the impact on tuition and fees is reduced when the public subsidy share is low and the revenue base from tuition is thus high.

To address this factor in the analysis that follows, the report utilizes a measure referred to as "stable revenue" tuition and fee growth to better gauge the upward pressure on tuition for individual institutions.

**Table 8**

Impact of 1% Public Subsidy Growth on Tuition and Fee Growth under Three Scenarios

Institutions	Subsidy Share	Public Subsidy			Tuition and Fees			Total Revenue		
		Year 1	Year 2	Growth	Year 1	Year 2	Growth	Year 1	Year 2	Growth
Subsidy Dependent	70%	\$10,500	\$10,605	1.0%	\$4,500	\$4,920	9.3%	\$15,000	\$15,525	3.5%
Balanced Funding	50%	\$7,500	\$7,575	1.0%	\$7,500	\$7,950	6.0%	\$15,000	\$15,525	3.5%
Tuition Dependent	30%	\$4,500	\$4,545	1.0%	\$10,500	\$10,980	4.6%	\$15,000	\$15,525	3.5%



For each public institution, this calculated measure is the annual growth rate in tuition and fee charges that would be necessary to bring growth in total education revenue to the long-run median rate over the 30-year period. In other words, like the data in **Table 8**, it reflects tuition and fee growth needed to keep total education revenue on its long-run trend path and thus provides a better gauge of tuition and fee pressure for each public institution. In the same way as the data in **Table 8**, the “stable revenue” growth rate will vary by institution based on (1) the realized growth in public subsidy revenue for that institution; and (2) the public subsidy share of total education revenue for that institution.

## Impact of Declining Public Subsidy Share on Tuition and Fees

Both public universities and community colleges have experienced declines in the public subsidy share of their education revenues; with the decline being especially large for the universities. In this section, the report explores the specific impact of that decline on tuition and fee growth.

The data show a significant correlation between public subsidy share and tuition and fee charges at public institutions. **Chart 23** and **Chart 24** are scatterplots

that denote both the public subsidy share of education revenue and in-state/in-district annual tuition and fee charges for AY2019 at U.S. public universities and community colleges respectively. Within both charts, a linear trend line formed using basic linear regression methods is included to measure the correlation between the two measures.

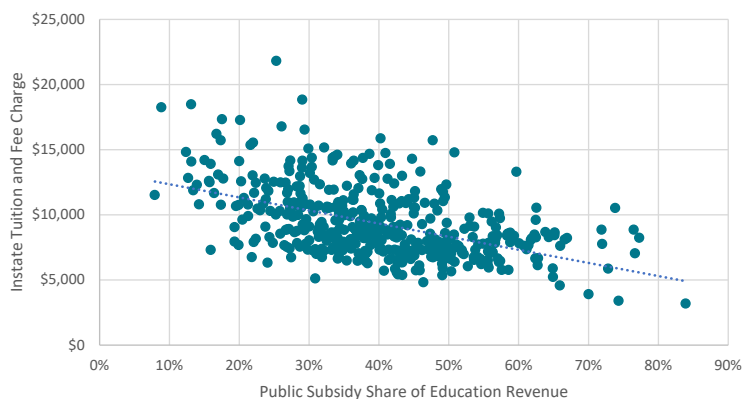
For public universities, the trend line in **Chart 23** suggests that for every 10 percent increase in the public subsidy share, expected annual tuition and fee charges go down by around \$1,006, or about 10 percent of the U.S. national average tuition and fee charge of \$9,904.

An even stronger relationship holds for public community colleges. The trend line in **Chart 24** indicates that a 10 percent increase in the public subsidy share reduced expected tuition and fee charges by \$570, or about 16 percent of the AY2019 national average charge of \$3,534.

Of note, the relationship between public subsidy share and tuition and fee charges can help to shed light on a previous finding in the report on the persistent gap between tuition and fee charges at Michigan universities and those that prevail nationally. Recall

**Chart 23**

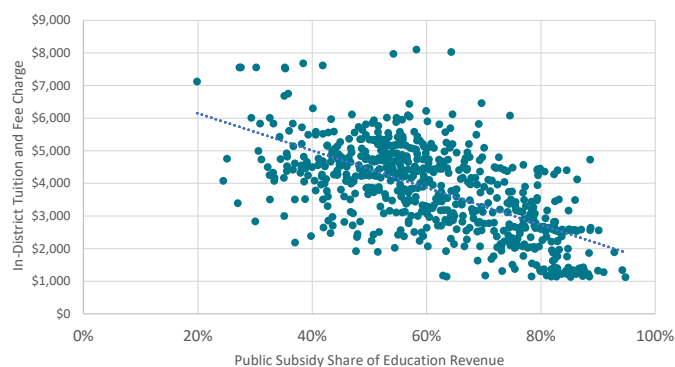
In-State Tuition and Public Subsidy Share Universities (AY2019)



Source: Research Council calculations using data from Integrated Postsecondary Education Data System. In-state tuition and fee charge represents the typical annual charge for in-state, undergraduate students in AY2019. Trend line calculated using linear regression.

**Chart 24**

In-District Tuition and Public Subsidy Share Community Colleges (AY2019)



Source: Research Council calculations using data from Integrated Postsecondary Education Data System. In-state tuition and fee charge represents the typical annual charge for in-district students in AY2019. Trend line calculated using linear regression.

from **Chart 3** (see page 7) in the first section of the report that average in-state undergraduate tuition and fee charges for Michigan universities was \$13,821 in AY2019, about 40 percent higher than the national average of \$9,904 that year; a difference of \$3,917. A similar 43 percent gap existed between Michigan and U.S. universities for total tuition revenue per student (see **Table 6** on page 26).

While the public subsidy share of education revenue has fallen dramatically at both Michigan and national universities over the last 30 years, it has been consistently lower in Michigan throughout the period. In AY2019, the average public subsidy share at Michigan's public universities was 22.1 percent; 13.3 percentage points below the national average of 35.4 percent (see **Chart 17** and **Chart 18** on page 27). Drawing on the correlation demonstrated in **Chart 23**, the 13.3 percentage point increase in Michigan's public subsidy share would be expected to increase tuition and fee charges by around \$1,338. That accounts for roughly 34 percent of the tuition and fee difference.

While it is clear that a contemporaneous correlation exists between the public subsidy share and tuition and fee charges, it is also important to evaluate how changes in the subsidy share over time have impacted institutional decisions on tuition and fee charges and on the resulting growth in overall education revenue.

As noted previously, however, institutions experiencing slow public subsidy growth and a declining public subsidy share have two options to address this revenue pressure. First, they can raise tuition and fee charges to offset the relatively slower growth in public subsidy revenue; by doing this, they can maintain spending and revenue growth at the longer-run trend level. Alternatively, they can keep tuition and fee growth at a rate closer to its long-run trend and instead accept slower overall institutional revenue and spending growth.

To analyze how universities and community colleges have responded to declining public subsidy shares over time, institutions in each group are divided into quartiles based on the overall decline in the public subsidy share experienced by the institution between

AY1989 and AY2019. In this analysis, the top quartile represents the 25 percent of public institutions of each type with the largest decline in public subsidy share over the 30-year period. The lowest quartile is composed of the 25 percent of institutions with the lowest public subsidy share decline. The second and third quartiles represent institutions in the middle of that spectrum.

**Universities.** **Table 9** (on page 33) displays the median annual growth rate over the 30 year period for for each university quartile for several key revenue measures: "stable revenue" tuition growth (which, again, serves as a proxy for tuition pressure); growth in annual in-state tuition and fee charges; growth in total per-student tuition and fee revenue; growth in per-student public subsidy revenue; and growth in total education revenue. It also includes the median decline in the public subsidy share for each group, on which the quartiles are based.

Not surprisingly, the universities in the top quartile that experienced the greatest decline in public subsidy also had the highest median "stable revenue" growth rates; in other words, those institutions tended to face the greatest upward pressure on tuition. Top quartile universities also had the highest growth rates in both in-state tuition revenue and in actual per-student tuition revenue. All three of these tuition growth progressively dropped for institutions in each subsequent lower quartile. Conversely, the public subsidy growth rate was lowest for the top quartile and got progressively higher in each lower quartile.

What is particularly notable, however, is that median growth in total education revenue does not vary in a discernable way across the four quartile groups. In fact, institutions in the top quartile with the greatest public subsidy share decline experienced the second-highest growth rates in total education revenue from both tuition and the public subsidy.

This is a very important finding as it suggests that universities that experienced declines in their public subsidy share primarily addressed by increasing tuition and fee charges. They did not, on the whole, address it by accepting slower revenue growth and adjusting spending accordingly. In short, the data show that universities that had the greatest declines in public subsidy share raised tuition and fee charges

**Table 9**

Median Revenue Growth Rates by Public Subsidy Share Quartile  
U.S. Public Universities (AY1989 to AY2019)

	Tuition and Fee Growth			Public Subsidy Growth	Education Revenue Growth	Decline in Subsidy Share
	<i>Stable Revenue</i>	<i>In-State Charge</i>	<i>Actual Tuition</i>			
Top Quartile (greatest decline)	7.12%	6.85%	7.22%	0.33%	3.76%	-44.27%
Second Quartile	6.73%	6.38%	6.40%	0.87%	3.37%	-35.92%
Third Quartile	5.97%	5.93%	6.07%	1.72%	3.56%	-29.07%
Lowest Quartile (smallest decline)	5.15%	5.91%	5.79%	2.73%	3.88%	-19.48%
<b>All Universities</b>	<b>6.35%</b>	<b>6.33%</b>	<b>6.37%</b>	<b>1.40%</b>	<b>3.65%</b>	<b>-32.97%</b>

Source: Research Council analysis of data from Integrated Postsecondary Education Data System, U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Percentages reflect the median annual growth rate for each quartile of public universities over the 30-year period. Quartiles are constructed based on percentage point decline in the public subsidy share of total education revenue (subsidy plus tuition) for 457 U.S. public universities.

by more than universities that experienced the lowest declines. But universities across all four quartiles had similar rates of growth in total education revenue.

So, at least for public universities, slow growth in public subsidy revenue and the resulting decline in the public subsidy share appears to have been the key factor in driving higher rates of growth in tuition and fee charges.

**Community Colleges.** Table 10 (on page 34) displays the results on median revenue growth for public community colleges across the same four quartiles based on the magnitude of each community college's public subsidy share decline.

As with the universities, the data clearly show that community colleges with the largest declines in public subsidy share also experienced the highest growth in tuition and fee charges and actual per-student tuition revenue; they also realized the lowest growth in per-student public subsidy revenue. However, there is much more variation in total education revenue growth across the four quartiles. Unlike the universities, community colleges with the smallest decline in public subsidy share experienced the highest growth in total education revenue; conversely, those with the largest public subsidy share declines experienced the lowest growth in that total revenue.

The lowest quartile of community colleges also appears to be an outlier within the broader data trends. Recall that this quartile is composed of many community colleges that have experienced generous growth in public subsidy revenue over the period; median annual growth in per-student public subsidy revenue was 4.08 percent for this group. Despite this growth in public subsidy revenue, median tuition and fee growth rates are not significantly lower than the rates within the quartiles with more constrained public subsidy growth and thus greater losses in the public subsidy share of their revenues.

This provides a cautionary note that generous growth in public subsidy revenue does not guarantee tuition restraint. Further, it suggests tuition and fee increases were a smaller part of the response to declines in the public subsidy share of revenue for community colleges than they were for their university counterparts.

### Gross Tuition and Public Subsidy Revenue at Individual Michigan Institutions

Looking individually across Michigan's 15 public universities, growth trends for gross tuition and public subsidy revenue were very similar. Table 11 (on page 35) examines changes in gross tuition and public subsidy revenue per FTE student between

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

**Table 10**

Median Revenue Growth Rates by Public Subsidy Share Quartile  
U.S. Public Community Colleges (AY1989 to AY2019)

	Tuition and Fee Growth			Public Subsidy Growth	Education Revenue Growth	Decline in Subsidy Share
	Stable Revenue	Indistrict Charge	Actual Tuition			
Top Quartile (greatest decline)	7.05%	6.04%	6.39%	1.19%	3.04%	-30.87%
Second Quartile	5.85%	5.87%	5.77%	2.44%	3.42%	-18.70%
Third Quartile	5.09%	5.80%	5.96%	3.01%	3.59%	-12.21%
Lowest Quartile (smallest decline)	0.93%	5.27%	4.93%	4.08%	4.28%	-4.74%
<b>All Community Colleges</b>	<b>5.67%</b>	<b>5.80%</b>	<b>5.85%</b>	<b>2.64%</b>	<b>3.59%</b>	<b>-15.10%</b>

Source: Research Council analysis of data from Integrated Postsecondary Education Data System, U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics. Percentages reflect the median annual growth rate for each quartile of public universities over the 30-year period. Quartiles are constructed based on percentage point decline in the public subsidy share of total education revenue (subsidy plus tuition) for 658 U.S. public community colleges.

**Table 11**

Education Revenues Per FTE Student in AY1989 and AY2019 - Universities

	AY1989 Revenue Per FTE Student			AY2019 Revenue Per FTE Student			Annual Growth AY1989 to AY2019	
	Gross Tuition	Public Subsidy	Subsidy Share	Gross Tuition	Public Subsidy	Subsidy Share	Gross Tuition	Public Subsidy
Michigan State University	\$3,329	\$6,236	65.2%	\$21,921	\$6,174	22.0%	6.5%	0.0%
University of Michigan - Ann Arbor	\$6,557	\$6,858	51.1%	\$35,239	\$7,090	16.8%	5.8%	0.1%
Wayne State University	\$2,632	\$7,988	75.2%	\$18,424	\$9,226	33.4%	6.7%	0.5%
<b>All Doctoral: Very High Research</b>	<b>\$2,507</b>	<b>\$7,299</b>	<b>74.4%</b>	<b>\$18,488</b>	<b>\$9,129</b>	<b>33.1%</b>	<b>6.9%</b>	<b>0.7%</b>
Central Michigan University	\$2,641	\$3,053	53.6%	\$14,761	\$4,901	24.9%	5.9%	1.6%
Eastern Michigan University	\$2,329	\$3,379	59.2%	\$14,925	\$5,220	25.9%	6.4%	1.5%
Ferris State University	\$2,147	\$3,290	60.5%	\$14,175	\$5,248	27.0%	6.5%	1.6%
Michigan Technological University	\$2,417	\$6,023	71.4%	\$21,076	\$7,436	26.1%	7.5%	0.7%
Oakland University	\$2,240	\$3,604	61.7%	\$16,962	\$3,214	15.9%	7.0%	-0.4%
University of Michigan - Flint	\$2,449	\$3,316	57.5%	\$16,432	\$4,279	20.7%	6.6%	0.9%
Western Michigan University	\$2,251	\$3,872	63.2%	\$16,732	\$6,079	26.6%	6.9%	1.5%
<b>All Other Doctoral Universities</b>	<b>\$2,040</b>	<b>\$4,606</b>	<b>69.3%</b>	<b>\$12,580</b>	<b>\$7,042</b>	<b>35.9%</b>	<b>6.3%</b>	<b>1.4%</b>
Grand Valley State University	\$2,005	\$3,268	62.0%	\$15,085	\$3,246	17.7%	7.0%	0.0%
Northern Michigan University	\$1,708	\$5,087	74.9%	\$13,604	\$7,066	34.2%	7.2%	1.1%
Saginaw Valley State University	\$1,943	\$3,486	64.2%	\$12,689	\$4,107	24.5%	6.5%	0.5%
University of Michigan - Dearborn	\$2,796	\$3,068	52.3%	\$17,798	\$3,638	17.0%	6.4%	0.6%
<b>All Master's Colleges and Universities</b>	<b>\$1,656</b>	<b>\$4,564</b>	<b>73.4%</b>	<b>\$10,031</b>	<b>\$6,662</b>	<b>39.9%</b>	<b>6.2%</b>	<b>1.3%</b>
Lake Superior State University	\$1,882	\$3,505	65.1%	\$12,314	\$7,865	39.0%	6.5%	2.7%
<b>All Baccalaureate Colleges</b>	<b>\$1,663</b>	<b>\$4,402</b>	<b>72.6%</b>	<b>\$9,962</b>	<b>\$8,366</b>	<b>45.6%</b>	<b>6.1%</b>	<b>2.2%</b>

Source: Research Council calculations from data from Integrated Postsecondary Education Data System.

AY1989 and AY2019 at each Michigan university. The universities are divided into their respective Carnegie classifications to allow for a comparison of individual institutional data with the national average for each classification. Several observations are notable within the data:

- All 15 universities saw sharp drops in the public subsidy share of education revenue over the 30-year period, consistent with the national trend for public universities
- Ten of the 15 universities experienced growth in public subsidy revenue per student below the national average for their Carnegie class
- For three universities (Michigan State, Oakland, and Grand Valley), public subsidy revenue per FTE student for AY2019 was actually lower than it was in AY1989
- In AY2019, only one Michigan university (Wayne State) had a public subsidy share of education revenue that exceeded the average for its Carnegie class. In AY1989, that was true for three Michigan universities (Wayne State, Michigan Tech, and Northern Michigan)

The data make clear that all Michigan public universities have had similar experiences with education revenues. Public subsidy revenue makes up a significantly smaller share of those revenues in AY2019, with gross tuition revenues growing at an accelerated rate to achieve normal combined revenue growth.

For Michigan community colleges, **Table 12** (on page 36) shows that the comparison is more mixed. In terms of the public subsidy share of education revenues, all but three (Oakland, Wayne, and West Shore) of Michigan's 28 community colleges experienced a decline in the share between AY1989 and AY2019 (and thus a growing share for gross tuition). At the same time, 12 of the 28 Michigan community colleges had public subsidy shares that exceeded the national average for all U.S. community colleges in the comparison group. Further, all 28 colleges also saw significant growth in the level of public subsidy revenue per student over the period, with average annual growth of 4.0 percent compared to average growth of only 0.9 percent across Michigan's 15 public universities. As noted earlier, the public subsidy

in Michigan for community colleges includes locally levied property taxes that made up for much of the decline in state funding.

So, while the public subsidy shares of education revenue declined on the whole for Michigan's community colleges, trends for individual colleges were more varied than those for their university counterparts.

## Public Tax Effort for Higher Education

The public subsidy share of education-related revenue for public institutions of higher education has fallen over the last three decades. This decline has been particularly sharp for public universities. But what explains the decline? Effectively, there are two possible explanations.

In the end, all public subsidy revenue comes from tax dollars. State operating appropriations are funded by state tax collections, and local revenue support to community colleges is typically derived from dedicated property tax millages. Did the subsidy share decline because governments elected to constrain growth in tax revenue allocated for higher education as part of a broader effort to bring about smaller government and lower tax burdens? Or instead, has growth in higher education spending outpaced the growth in state and local tax bases? Under this latter scenario, the decline in the public subsidy share is just the inevitable result of state and local governments grappling with annual budget tradeoffs between higher education and other key public spending priorities?

To shed light on these questions, the report analyzes the "public tax effort" for higher education. "Tax effort" is defined as the public subsidy for higher education (both through appropriations funded from state tax revenue and dedicated local tax revenue) as a percentage of personal income. Personal income serves as measure of a state's tax base; thus "tax effort" measures how much of a state's overall tax base has been allocated over time to higher education.

If the "disinvestment" narrative is relevant, then the tax effort for higher education should have declined significantly over the last 30 years. If the "spending growth" narrative explains most of the decline, then the tax effort for higher education should have



## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

**Table 12**

Education Revenues Per FTE Student in AY1989 and AY2019 - Community Colleges

	AY1989 Revenue Per FTE Student			AY2019 Revenue Per FTE Student			Annual Growth AY1989 to AY2019	
	Gross Tuition	Public Subsidy	Subsidy Share	Gross Tuition	Public Subsidy	Subsidy Share	Gross Tuition	Public Subsidy
Alpena Community College	\$1,553	\$2,553	62.2%	\$7,028	\$9,303	57.0%	5.2%	4.4%
Bay de Noc Community College	\$1,190	\$2,016	62.9%	\$7,270	\$10,107	58.2%	6.2%	5.5%
Delta College	\$1,735	\$3,303	65.6%	\$6,928	\$9,911	58.9%	4.7%	3.7%
Glen Oaks Community College	\$1,078	\$4,423	80.4%	\$6,304	\$9,398	59.9%	6.5%	3.0%
Gogebic Community College	\$957	\$3,922	80.4%	\$6,304	\$9,398	59.9%	6.5%	3.0%
Grand Rapids Community College	\$1,887	\$2,698	58.8%	\$6,954	\$9,334	57.3%	4.4%	4.2%
Henry Ford College	\$1,567	\$2,488	61.4%	\$7,543	\$6,614	46.7%	5.4%	3.3%
Jackson College	\$1,687	\$3,411	66.9%	\$9,304	\$6,227	40.1%	5.9%	2.0%
Kalamazoo Valley Community College	\$843	\$2,274	72.9%	\$5,649	\$9,474	62.6%	6.5%	4.9%
Kellogg Community College	\$1,255	\$3,714	74.7%	\$7,442	\$12,417	62.5%	6.1%	4.1%
Kirtland Community College	\$1,435	\$4,292	74.9%	\$6,919	\$14,579	67.8%	5.4%	4.2%
Lake Michigan College	\$1,193	\$4,609	79.4%	\$6,387	\$16,330	71.9%	5.8%	4.3%
Lansing Community College	\$1,389	\$2,764	66.5%	\$6,952	\$11,167	61.6%	5.5%	4.3%
Macomb Community College	\$1,234	\$2,119	63.2%	\$5,356	\$6,934	56.4%	5.0%	4.0%
Mid Michigan College	\$1,347	\$2,799	67.5%	\$7,976	\$4,189	34.4%	6.1%	1.4%
Monroe County Community College	\$849	\$5,128	85.8%	\$6,265	\$16,420	72.4%	6.9%	4.0%
Montcalm Community College	\$1,029	\$3,229	75.8%	\$7,266	\$11,967	62.2%	6.7%	4.5%
Mott Community College	\$1,679	\$3,228	65.8%	\$8,502	\$12,423	59.4%	5.6%	4.6%
Muskegon Community College	\$1,132	\$3,599	76.1%	\$7,564	\$9,906	56.7%	6.5%	3.4%
North Central Michigan College	\$1,153	\$3,237	73.7%	\$5,617	\$7,895	58.4%	5.4%	3.0%
Northwestern Michigan College	\$1,804	\$2,609	59.1%	\$10,923	\$11,813	52.0%	6.2%	5.2%
Oakland Community College	\$1,609	\$2,574	61.5%	\$5,261	\$15,202	74.3%	4.0%	6.1%
Schoolcraft College	\$1,659	\$3,957	70.5%	\$8,491	\$8,834	51.0%	5.6%	2.7%
Southwestern Michigan College	\$1,193	\$2,883	70.7%	\$7,353	\$10,279	58.3%	6.2%	4.3%
St Clair County Community College	\$1,589	\$3,345	67.8%	\$7,138	\$8,835	55.3%	5.1%	3.3%
Washtenaw Community College	\$1,095	\$4,225	79.4%	\$5,465	\$12,076	68.8%	5.5%	3.6%
Wayne County Community College	\$1,412	\$4,470	76.0%	\$4,724	\$15,696	76.9%	4.1%	4.3%
West Shore Community College	\$1,096	\$5,049	82.2%	\$5,160	\$23,921	82.3%	5.3%	5.3%
<b>All Associate's Colleges</b>	<b>\$1,009</b>	<b>\$3,363</b>	<b>76.9%</b>	<b>\$4,961</b>	<b>\$7,917</b>	<b>61.5%</b>	<b>5.5%</b>	<b>2.9%</b>

Source: Research Council calculations from data from Integrated Postsecondary Education Data System.

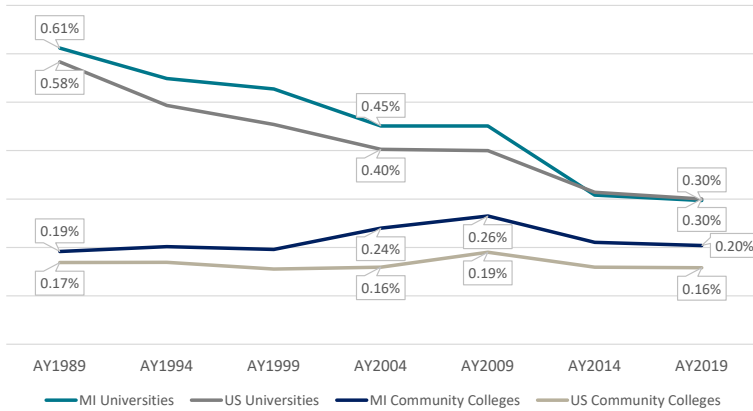
remained relatively stable despite the decline in the public subsidy share, effectively showing that stable tax effort was not sufficient to keep up with overall higher education revenue growth.

**Chart 25** (on page 37) tracks the tax effort for public universities and public community colleges based

on public subsidy revenue. Tax effort is calculated separately for Michigan institutions and for all U.S. institutions. In the chart, tax effort for Michigan institutions of higher education is calculated as total public subsidy revenue to all Michigan institutions as a percentage of Michigan personal income. Similarly, tax effort for all U.S. institutions is total public sub-

**Chart 25**

## Public Subsidy as a Percent of Personal Income



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Michigan and U.S. personal income data from the U.S. Bureau of Economic Analysis. Public subsidy revenue is included for all 635 public universities and 935 public community colleges that reported data to IPEDS in each year, including institutions that were not part of the report's comparison groups.

sidy revenue as a percentage of U.S. personal income.

The chart documents a significant decline in public tax effort for public universities. Tax effort for Michigan universities declined from 0.61 percent of Michigan personal income in AY1989 to 0.30 percent in AY2019. Similarly, U.S. universities experienced a decline in tax effort from 0.58 percent of U.S. personal income at the start of the period to 0.30 percent by AY2019. In short, tax effort for public universities was cut in half over the 30-year period we examined – both in Michigan and nationally.

For community colleges, tax effort was much more stable. Michigan community colleges saw tax effort increase from 0.19 percent of Michigan personal income in AY1989 to 0.26 percent of personal income in AY2009 before the percentage fell back to 0.20 percent in AY2019. Still, tax effort had increased very slightly by the end of the 30-year period. Public tax effort was even more stable for U.S. community colleges, starting at 0.17 percent of U.S. personal income in AY1989, growing to a peak of 0.19 percent

of personal income by AY2009, and then declining to 0.16 percent of U.S. personal income by AY2019.

For public universities, the sharp decline in public tax effort is largely responsible for the decline in the public subsidy share of combined revenue per student. For Michigan, if tax effort for universities had remained constant at the AY1989 rate of 0.61 percent of personal income, the resulting increase in state support would have more than doubled the amount of public subsidy revenue per student from \$5,852 to \$12,048, an increase of \$6,196 per student.

For U.S. universities, maintaining a constant tax effort of 0.58 percent of U.S. personal income would have similarly raised public subsidy revenue per student at U.S. universities from \$7,887 to \$16,019. That reflects an increase of \$8,132.

## Tax Effort and Budget Constraints in Michigan

Examining the situation in Michigan more deeply, two observations are worth noting. First, the decline in tax effort for higher education in Michigan reflected a broader decline in overall tax effort in the state during this period. The decline is particularly evident when comparing state revenue to the state's constitutional revenue limit. In 1978, Michigan voters approved a series of amendments to the state constitution that established new tax limitations on the state and on local units of government; those amendments are commonly referred to as the Headlee Amendment.

One of the provisions placed a limit on state revenue collections. Section 26 of the Michigan Constitution requires annual state revenue from all sources as a percentage of total personal income in Michigan to be no greater than the same percentage calculated for Fiscal Year (FY)1979. Effectively, that provision now limits state revenue collections to 9.49 percent of annual Michigan personal income. During the first 20 years of its implementation between FY1980 and FY2000, the revenue limit was exceeded three times; each time by less than one percent of overall revenue.

However, the state experienced a significant slowing

In short, tax effort for public universities was cut in half over the 30-year period we examined - both in Michigan and nationally.

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

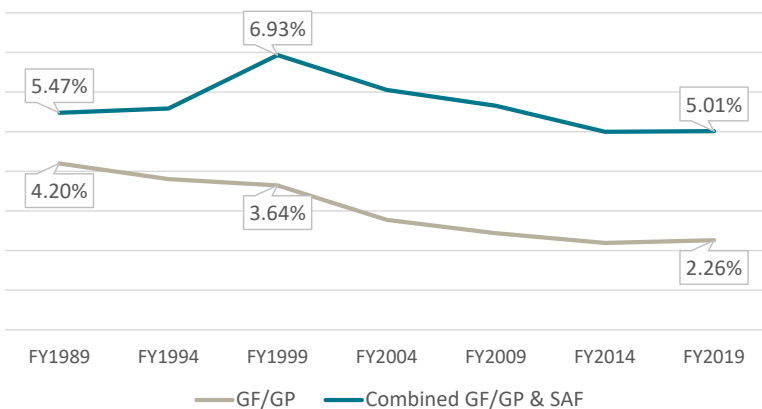
of revenue growth between FY2000 and FY2010 due to both difficult economic conditions and employment losses in Michigan as well as various tax policy decisions such as the gradual decline in the state's income tax and major reductions in business taxation between 1999 and 2011. As a result, revenues are now well below the constitutional limit. In FY2000, state revenue was about \$160 million above the revenue limit; by FY2020, state revenue was \$11.9 billion (about 26 percent) below the limit.

The revenue slowdown was particularly pronounced for Michigan's two major revenue funds that account for the lion's share of discretionary state revenue: the General Fund and the School Aid Fund. Revenue in these funds come primarily from Michigan's major taxes, and both are currently utilized to fund portions of state appropriations for universities and community colleges.

Michigan's General Fund/General Purpose (GF/GP) revenue in particular experienced sharp declines between FY2000 and FY2010 before reversing course following the Great Recession. As a result, **Chart 26** shows General Fund/General Purpose revenues as a percentage of Michigan personal income declined from 4.20 percent in FY1989 to 2.26 percent in FY2019 – a 46 percent decline in tax effort by this

**Chart 26**

Michigan Revenue as Percent of Personal Income



Source: Research Council calculations. State revenue data from Michigan Senate Fiscal Agency. Personal income data from the U.S. Bureau of Economic Analysis.

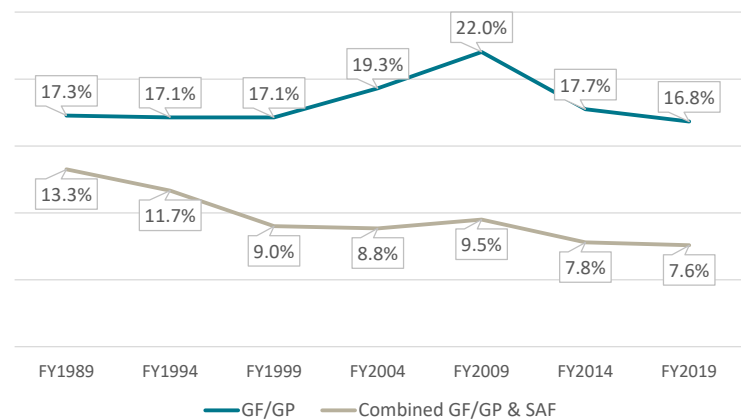
measure.

Looking at a broader measure that combines General Fund and School Aid Fund revenues, revenue as a percentage of personal income initially rises between FY1989 and FY1999, but this was entirely due to the impacts of school finance reforms implemented beginning in 1994 with the adoption of Proposal A. That proposal resulted in a large increase in dedicated School Aid Fund revenues. These new revenues replaced large amounts of local property tax revenue which had traditionally supported K-12 schools. In **Chart 26**, FY1999 is the first data point to fully incorporate the impact of Proposal A. Following that year, combined revenue as a percent of personal income also fell for the next 20 years. This general decline in state tax effort drove the specific decline observed in Michigan's tax effort for higher education.

Second, it is important to note that state operating grants to universities and community colleges as a percent of state revenue in FY2019 were at historic lows. Thus, while state revenue growth has been sluggish in and of itself, operating support to Michigan public institutions of higher education has been even slower. **Chart 27** illustrates that postsecondary operating grants were spared from heavy budget cuts initially. Between FY1989 and FY2009, operat-

**Chart 27**

Operating Support to Postsecondary Institutions as Percent of State Revenue



Source: Research Council calculations. Public subsidy revenue data from Integrated Postsecondary Education Data System. State revenue data from Michigan Senate Fiscal Agency.

ing grants to Michigan universities and community colleges grew from 17.3 percent to 22.0 percent of GF/GP revenue. While these operating grants were not completely exempt from rounds of budget cutting during the state's budget challenges, other areas of the budget bore a disproportionate burden in keeping the state's budget in balance.

That changed over the last 10 years of the analysis period. In FY2012, operating grants to Michigan universities were cut by \$213 million (a 15 percent decline), and funding for community college operations was cut by \$12 million (a 4.1 percent decline). As a result, operating support as a percentage of GF/GP revenue and as a percentage of combined GF/GP and SAF revenue dropped significantly by FY2019. In the big picture, the reduction in Michigan's general tax effort contributed to the reduction in tax effort for public postsecondary institutions, but at the same time, universities and community colleges now receive a smaller percentage of these state revenues. Following the significant budget cuts in FY2012 (particularly for universities), higher education operations played a relatively larger role in achieving budget savings than the rest of the state budget.

## The Impact of Changes in the Public Subsidy on Affordability

In this section, the analysis moves back to the core question of affordability. The report has documented the decline in affordability of tuition and fee charges at both public universities and community colleges. Annual charges as a percentage of median household incomes have grown over the last 30 years, both nationally and in Michigan. Further, institutional spending growth cannot fully explain this growth in annual tuition and fee charges.

In terms of the public subsidy, the report also shows that public subsidy revenue over the last 30 years makes up a much smaller share of overall education revenue at public institutions. That is particularly true for public universities, and the analysis in the previous section demonstrates that universities have responded to their declining public subsidy share by increasing tuition and fee charges.

This section demonstrates that the vast majority of

the decline in tuition affordability at public universities can be attributed to this same slow growth in public subsidy revenue. Since public subsidy revenue grew faster for community colleges, the subsidy-related impact on affordability is significantly smaller for these institutions.

To measure the impact of declines in the public subsidy share of revenue on university affordability, the report compares the actual growth path of per-student tuition revenue with an adjusted path that models how tuition and fee revenue would have grown without a decline in the public subsidy share. "Adjusted growth tuition" takes per-student tuition and fee revenue for the first data year of the analysis (AY1989) and grows that amount in subsequent years by the overall growth rate in total education revenue from both tuition and fees and the public subsidy. This reflects the overall revenue growth that institutions received to meet education-related spending growth. Adjusted growth tuition thus serves as a proxy for tuition and fee revenue under a scenario where the public subsidy and gross tuition shares of education revenue remained constant over the full period.

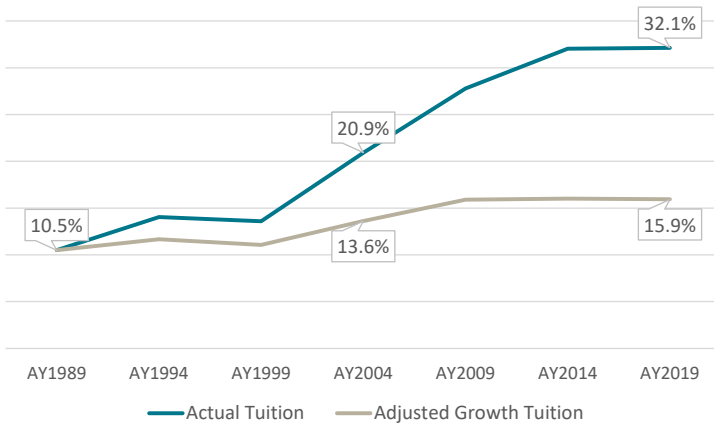
**Chart 28** (on page 40) replicates the analysis of affordability used earlier in the report by comparing both actual tuition revenue per student and the adjusted growth tuition revenue proxy for Michigan public universities as a percent of Michigan's median household income. Consistent with the previous findings, actual per-student tuition revenue as percentage of median income has grown more than three-fold over the period, rising from 10.5 percent in AY1989 to 32.1 percent by AY2019.

However, looking only at adjusted growth tuition, which excludes any growth induced by the declining public subsidy share, the results look much different. Adjusted growth tuition revenue rises from 10.5 percent of median income to only 15.9 percent by AY2019. For Michigan universities, then, only around 25 percent of the growth in tuition revenue as a percent of median income (5.4 percentage point growth for adjusted growth tuition divided by 21.6 percentage point growth for actual tuition) was driven by long-term growth in overall education revenue and the institutional spending that it supports. The

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

**Chart 28**

Tuition as Percent of Median Household Income - Michigan Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Tuition is measured as total gross tuition revenue across all Michigan universities divided by aggregate full-time equivalent enrollment. Michigan median household income is taken from Current Population Survey, U.S. Bureau of the Census.

majority of the decline in affordability is again related to the added growth to tuition and fee revenue tied to sluggish public subsidy revenues.

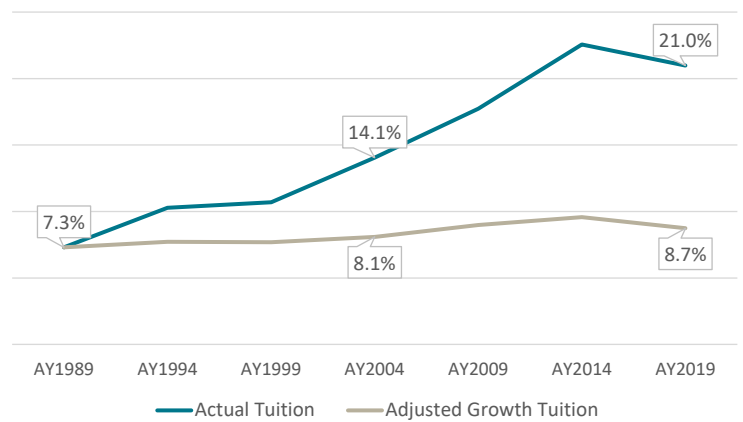
For U.S. universities, the story is much the same, but the impact of the declining public subsidy share is even greater. **Chart 29** shows that while actual tuition revenue grew from 7.3 percent of median income in AY1989 to 21.0 percent of median income in AY2019, adjusted growth tuition revenue as a percentage of median income grew by only 1.4 percentage points from 7.3 percent to 8.7 percent. This suggests that long-run trend growth in total education revenue accounted for only about 7 percent of the rise in the income burden of tuition and fees (1.4 percentage point growth in adjusted growth tuition divided by 13.7 percentage point growth for actual tuition). The vast majority (about 93 percent) was attributable to the decline in the public subsidy share.

### Key Observations on Public Subsidy Impacts

Slow growth in public operating support to universities and community colleges – the public subsidy to higher education – has played a major role in fueling

**Chart 29**

Tuition as Percent of Median Household Income - U.S. Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Tuition is measured as total gross tuition revenue across the 471 U.S. universities in the comparison group divided by aggregate full-time equivalent enrollment. U.S. median household income is taken from Current Population Survey, U.S. Bureau of the Census.

growth in tuition and fee charges, particularly for four-year universities. Looking at affordability, most of the decline in observed tuition and fee affordability – as measured by increases in tuition and fee revenue as a percent of median household income – is attributable to the resulting decline in the public subsidy share of total education revenues for universities. That correlation is less clear, however, among community colleges. Major findings include:

- The share of university education revenues coming from public subsidy operating support has fallen sharply across the 30 years examined; the share has fallen for community colleges as well, but to a much smaller extent.
- The decline in the public subsidy share of education revenue for universities can be linked to a general decline in tax effort for university operations. Total public subsidy revenue for universities as a percent of personal income was reduced by half between AY1989 and AY2019
- Tuition and fee affordability has gotten worse at



both universities and community colleges. Per-student tuition revenue as a percent of median household income for universities has gone up three-fold across the 30-year period of analysis; for community colleges, it has doubled.

- Further, 75 percent of the increase in tuition revenue as a percent of median income for Michigan universities is tied to tuition growth

needed to offset slower public subsidy revenue growth. Nationally, the percentage is even higher (over 90 percent).

- Overall, sluggish growth in public operating support for higher education (especially for universities) is a major factor in the declining affordability of tuition and fee charges.

## Financial Aid Discounts to Tuition

One last factor merits consideration. Many students and families are not required to pay the full tuition and fee charges imposed by a university or community college. The availability of financial aid grants helps to further subsidize the actual out-of-pocket costs paid toward tuition and fees for these students. In the final section, the report examines the impact of grant aid on college and university affordability.

As the report has documented, gross tuition revenue per student has grown faster than typical household incomes, meaning that tuition and fee charges are becoming less affordable to the average household. Further, the decline in affordability is largely driven by the slow growth in the public subsidy to higher education.

However, gross tuition and fee revenue is not exclusively paid by the student or family. An institution's tuition and fee charge is effectively the "sticker price" of an educational program. Many students receive financial aid grants that help discount that sticker price. Some of these grants come from the public sector and represent what can be considered a second tier of public subsidy targeted toward selected students. Federal Pell grants, for instance, provide support to low-income students. State financial aid programs often provide grant aid to students based on both merit and financial need.

Other institutional grant aid – both need-based and merit-based – comes directly from college or university resources; and some students receive grant aid from other private sources.

To get a full picture of the affordability of tuition and fees, these discounts also need to be considered.

To what degree do financial aid grants mitigate the growth in "sticker price" tuition and fee charges? Is higher education still getting less affordable after this additional grant aid is included in the analysis?

In this section, the report moves to consider the "out-of-pocket" costs to students and families after any financial aid discounts. Financial grant aid has indeed helped to offset some of the growth in tuition and fee charges. However, growth in grant aid has not been sufficient to fully offset the growth in tuition and fee charges driven by slow growth in the public subsidy to higher education. Additionally, major reductions to state-based financial aid programs in Michigan a decade ago have meant that grant aid to Michigan students has been less of a benefit than it has to students in other parts of the country.

## Financial Aid Grants and Net Tuition Revenue

Beginning in AY2004, changes in both Governmental Accounting Standards Board (GASB) standards and IPEDS reporting standards resulted in more nuanced reporting of gross tuition revenue by institutions of higher education. Prior to that year, institutions reported only on gross tuition revenue, which included both payments from students and families as well as amounts paid through financial aid grants from public, private, and institutional sources. The new reporting standards broke gross tuition revenue out into two components:

- **Net Tuition Revenue:** the amount paid by students or families, which would include any amounts paid from student loan proceeds or work-study wages

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

- **Financial Aid Grants:** the amount paid through federal, state, local, institutional, or private financial aid grants

These new data allow for a deeper analysis of education revenues over the 15-year period between AY2004 and AY2019 by breaking out the true out-of-pocket cost to students and families from tuition and fee charges covered by financial aid grants. In the subsections below, gross tuition revenue analyzed in the previous section is split into these two components.

### Universities

For universities, grant aid revenue per FTE student grew faster than gross revenue from tuition and fee charges over this period. As a result, financial aid grants cushioned students and families from a portion of the growth in tuition and fee charges.

**Chart 30** illustrates the relative growth of both components of per-student gross tuition revenue at Michigan universities. Financial grant revenue per student grew at an 8.2 percent annual rate from \$1,437 in

AY2004 to \$4,665 in AY2019; as a result, grant aid absorbed a greater share of overall growth in gross tuition revenue. This allowed for slower growth in net tuition revenue paid directly by students and families. The analysis in the previous section documented average annual growth of 6.4 percent for per-student gross tuition. Financial aid grants helped reduce growth in net tuition revenue to 5.2 percent per year.

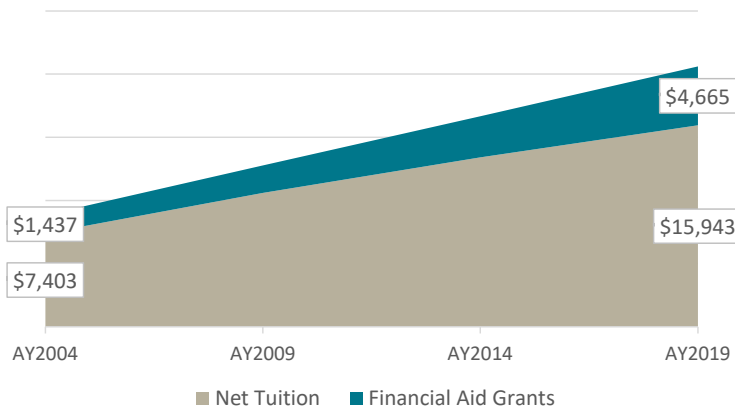
The data look very similar on a national basis for universities. **Chart 31** shows per-student financial grant revenue rose from \$1,209 in AY2004 to \$3,757 in AY2019, reflecting average annual growth of 7.9 percent. Again, that growth was sufficient to absorb a greater share of observed 6.6 annual growth in gross tuition revenue growth noted in the last section, allowing for more modest annual growth of 5.1 percent for net tuition revenue over the period.

### Community Colleges

Community colleges also saw growth in per-student grant aid revenue that exceeded net tuition revenue

**Chart 30**

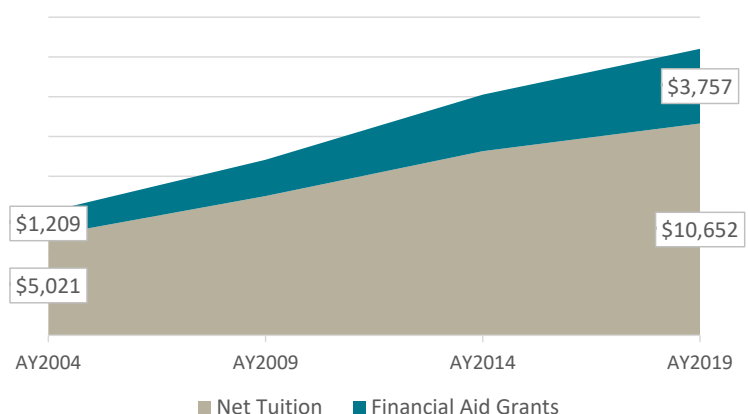
Net Tuition and Aid Revenue per Student - Michigan Universities



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Financial aid grants reflect grant aid used to discount tuition paid by student. Aggregate revenue is divided by aggregate full-time equivalent enrollment at Michigan universities to calculate per-student amount.

**Chart 31**

Net Tuition and Aid Revenue per Student - U.S. Universities

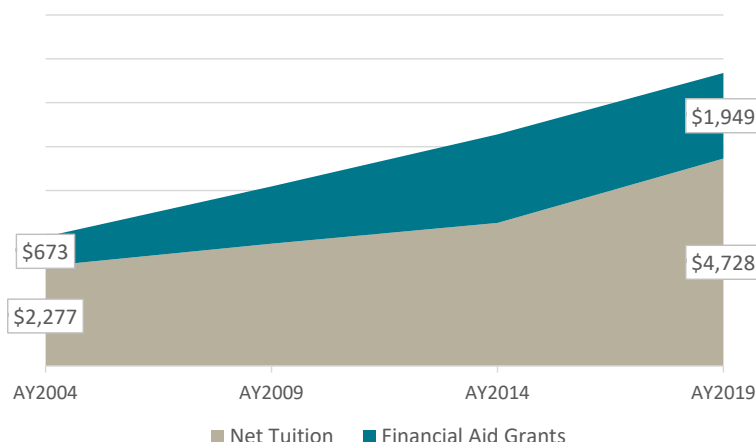


Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Financial aid grants reflect grant aid used to discount tuition paid by student. Aggregate revenue is divided by aggregate full-time equivalent enrollment for the 471 U.S. universities in the comparison group to calculate per-student amount.

growth. **Chart 32** shows financial aid grant revenue at Michigan community colleges growing from \$673 per student in AY1989 to \$1,949 per student in AY2019; equating to annual growth of 7.3 percent. Per-student net tuition grew at a slower 5.0 percent annual rate over the period, lower than the 5.6 percent annual increase for total gross tuition revenue. However, Michigan community colleges were an outlier in one important respect: per-student grant aid fell between AY2014 and AY2019. For both universities and all U.S. community colleges, grant aid per student grew consistently across the 30-year period. The next subsection will address a contributing factor to this unique decline: sharp reductions in state-based financial aid that occurred in 2010.

**Chart 32**

Net Tuition and Aid Revenue per Student - Michigan Community Colleges



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Financial aid grants reflect grant aid used to discount tuition paid by student. Aggregate revenue is divided by aggregate full-time equivalent enrollment at Michigan community colleges to calculate per-student amount.

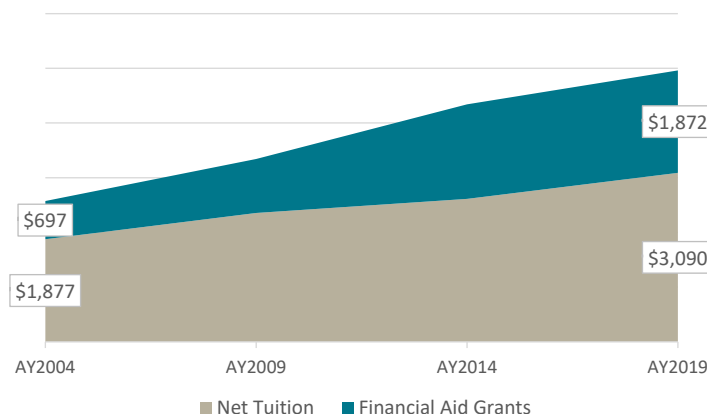
At the national level, **Chart 33** shows that financial aid grant revenue per student grew at an annual rate of 6.8 percent over the period, rising from \$697 to \$1,872 per student. That is double the growth rate of 3.4 percent realized for net tuition revenue. The significant increase in financial aid grants per student

helped offset a greater portion of the 5.6 percent overall annual increase in per-student gross tuition revenue.

## Affordability

**Chart 33**

Net Tuition and Aid Revenue per Student - U.S. Community Colleges



Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Financial aid grants reflect grant aid used to discount tuition paid by student. Aggregate revenue is divided by aggregate full-time equivalent enrollment for the 680 U.S. community colleges in the comparison group to calculate per-student amount.

As summarized in **Table 13** (on page 44), faster annual growth in per-student financial aid grant revenue helped offset some of the gross tuition increase that would have otherwise been imposed on students and families. However, even after factoring in this grant aid, net tuition revenue per student, which should be the best reflection of typical out-of-pocket expenses for students and families, still grew faster than typical household incomes. Increases in grant aid were not sufficient to reverse the trend of declining affordability.

**Chart 34** and **Chart 35** (on page 44) illustrate the impact of financial aid grants on affordability for Michigan universities and U.S. universities, respectively. The charts compare the growth of gross tuition revenue as a percent of median household income (the same measure introduced in the last section) with the

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

**Table 13**

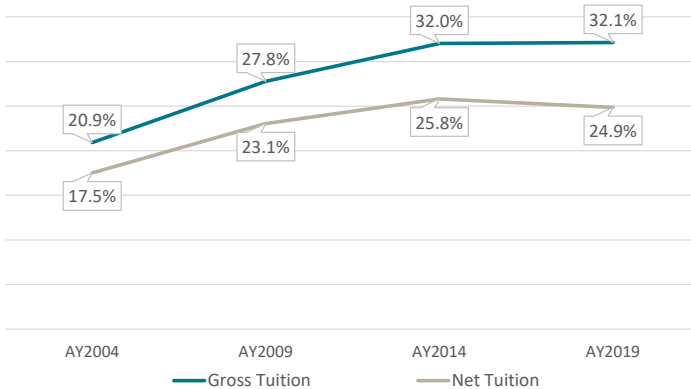
### Growth in Net Tuition versus Financial Aid Grants

	Net Tuition per FTE Student			Financial Aid Discount per FTE Student		
	AY2004	AY2019	Growth	AY2004	AY2019	% Change
MI Universities	\$7,403	\$15,943	5.2%	\$1,437	\$4,665	8.2%
US Universities	\$5,021	\$10,652	5.1%	\$1,209	\$3,757	7.9%
MI Community Colleges	\$2,277	\$4,728	5.0%	\$673	\$1,949	7.3%
US Community Colleges	\$1,877	\$3,090	3.4%	\$697	\$1,872	6.8%

Source: Research Council calculations based on data from Integrated Postsecondary Education Data System. Financial aid grants reflect grant aid used to discount tuition paid by student. Aggregate net tuition and aid discount revenue is divided by aggregate full-time equivalent enrollment for each institutional category to calculate per-student amounts.

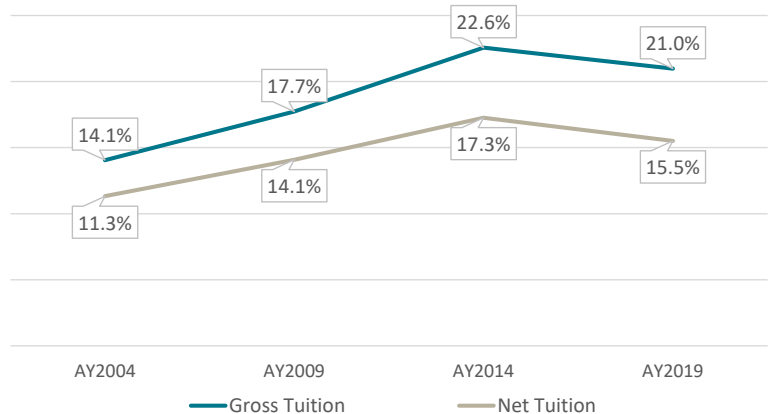
**Chart 34**

### Tuition Revenue as Percent of Median Income Michigan Universities



**Chart 35**

### Tuition Revenue as Percent of Median Income U.S. Universities



Source: Research Council calculations based on revenue data from Integrated Postsecondary Education Data System. Annual median household income data from Current Population Survey, U.S. Census Bureau. Aggregate gross tuition and net tuition revenue for the 471 U.S. public universities in the comparison group is divided by aggregate full-time equivalent enrollment for those institutions to calculate per-student revenue.

growth of net tuition revenue after subtracting grant aid as a percent of median income. For both Michigan and U.S. universities, grant aid has mitigated some of the decline in affordability, but annual tuition and fee revenue has still grown as a percent of median incomes even after factoring in this grant aid. For Michigan universities, net tuition revenue per student grew from 17.5 percent to 24.9 percent of median household income between AY2004 to AY2019, while it grew from 11.3 percent to 15.5 percent of median income for all U.S. universities over the same period.

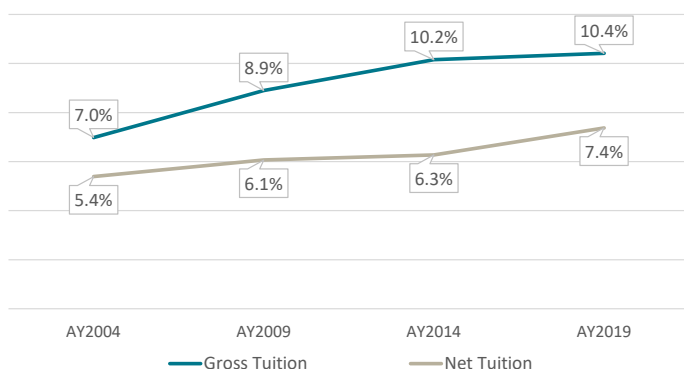
For Michigan community colleges, **Chart 36** (on page 45) shows the growth in grant aid has had only

a limited impact on affordability. Net tuition revenue per student had grown from 5.4 percent to only 6.3 percent between AY2004 and AY2014 but grew to 7.4 percent of median income by AY2019.

For community colleges nationally, however, financial grant aid did play a larger role in muting the impact of tuition and fee growth on affordability. While gross tuition revenue per student grew from 5.8 percent to 7.2 percent of median household income over the 15-year period examined (see **Chart 37** on page 45), net tuition revenue adjusted for grant aid grew only slightly from 4.2 percent to 4.5 percent of median income. Growth in grant aid almost entirely offset

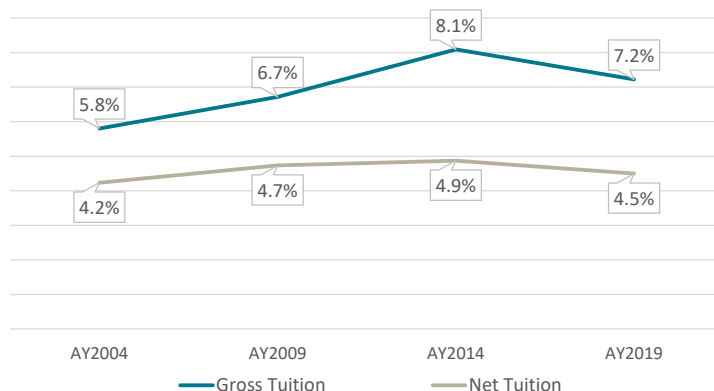
**Chart 36**

Tuition Revenue as Percent of Median Income  
Michigan Community Colleges



**Chart 37**

Tuition Revenue as Percent of Median Income  
U.S. Community Colleges



Source: Research Council calculations based on revenue data from Integrated Postsecondary Education Data System. Annual median household income data from Current Population Survey, U.S. Census Bureau. Aggregate gross tuition and net tuition revenue for the 471 U.S. public universities in the comparison group is divided by aggregate full-time equivalent enrollment for those institutions to calculate per-student revenue.

the growth in gross tuition revenue per student.

## Who Gets Financial Aid?

The results above suggest that growth in financial aid grants have helped offset some of the increase in tuition and fee charges over time. However, financial aid growth was not sufficient to prevent an overall decline in affordability. It is also notable that Michigan community colleges appear to have gained significantly less from financial aid grants than their national counterparts. What accounts for this difference?

The analysis in the previous section shows the aver-

age impact of financial aid grants across all students, but it is important to remember that not everyone receives financial aid grants. Some students and families do pay the full tuition and fee charges set by institutions. How has the availability of financial aid grants for Michigan students versus all students nationally changed over the period of analysis?

The availability of financial grant aid for Michigan students has trended in the opposite direction of availability for all students nationally. **Table 14** provides detail on the percentage of first-time, full-time undergraduate students that received financial aid grants and the average grant award for those stu-

**Table 14**

Financial Aid Grants to First-Time, Full-Time Undergraduate Students

	Academic Year 2008-09		Academic Year 2018-19	
	Percent	Avg Award	Percent	Avg Award
U.S. Universities	57.4%	\$6,267	74.6%	\$9,645
Michigan Universities	76.3%	\$5,442	72.6%	\$10,801
U.S. Universities	62.9%	\$3,807	70.1%	\$5,574
Michigan Community Colleges	85.7%	\$3,319	64.0%	\$5,502

Source: Research Council calculations based on revenue data from Integrated Postsecondary Education Data System. Percentage receiving aid reflects the aggregate number of first-year, first-time undergraduates receiving federal, state, local, or institutional grant aid divided by the aggregate number of first-year, first time undergraduates in a degree-seeking program for each institutional category. Average grant award is calculated as total federal, state, local, and institutional grant aid divided by the number of students who received aid.



## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

dents in both AY2009 and AY2019.

In AY2009, the percentage of Michigan students benefitting from grant aid awards was significantly higher than the national average; that applied to both university and community college students in the state. By AY2019, that had changed significantly. Nationally, the percentage of first-time, full-time students receiving grant aid jumped from 57.4 percent to 74.6 percent for university students; and from 62.9 percent to 70.1 percent for community college students. In Michigan, however, the share of students receiving grant aid awards fell over this period. By AY2019, the percentage of first-time, full-time enrollees at Michigan universities receiving grant aid was two percentage points lower than that for their national counterparts. For Michigan community college students, that difference was even greater at six percentage points below the national average.

This divergence in award rates is the result of a major reduction in state financial aid funding tied to budget reductions implemented in state FY2010 to address a large budget shortfall that year. The FY2010 Higher Education Budget Act reduced state support for financial aid programs by 64 percent<sup>F</sup>. That included the elimination of all existing merit-

based state financial aid and significant reductions to need-based aid programs.

The impact of the reduction is evident with more detailed data on financial aid. **Table 15** looks at financial aid grant awards by source for first-time, full-time undergraduates at universities in Michigan and at the national level. While award rates for federal aid grew both in Michigan and nationally, there was a sharp decline in award rates from state and local sources for Michigan undergraduates following the reduction to state aid programs. The percentage of first-time, full-time undergraduates receiving state/local grant aid declined from 55.6 percent in AY2004 to 11.7 percent in AY2019. Nationally, the state/local award rate increased gradually over that period.

It is also notable that Michigan universities were able to draw somewhat more heavily on institutional grant aid to make up for some of the decline in state-based aid over that period; although award rates for institutional aid grew significantly across U.S. public universities as well.

Looking at the same data for community colleges, **Table 16** (page 47) shows the same sharp decline in state/local grant aid availability for Michigan community college students, with award rates falling from a peak of 39.6 percent in AY2009 to 19 percent by AY2019. Again, that ran counter to the national trend where state/local grant award increased over the

<sup>F</sup> See House Fiscal Agency, [Background Briefing: State Financial Aid Programs](#), March 2010 for additional background on programs that were reduced and eliminated.

**Table 15**

First-Time, Full-Time Undergraduate Students Receiving Financial Aid Grants by Source - Universities

	Federal		State/Local		Institutional	
	Percent	Avg Award	Percent	Avg Award	Percent	Avg Award
U.S. Universities						
2003-04	22.4%	\$3,003	30.1%	\$2,427	26.3%	\$3,003
2008-09	24.2%	\$4,245	33.8%	\$3,223	35.0%	\$4,238
2013-14	33.2%	\$4,622	35.4%	\$3,824	44.6%	\$5,512
2018-19	35.5%	\$5,094	38.8%	\$4,645	56.4%	\$6,345
Michigan Universities						
2003-04	22.5%	\$2,932	55.6%	\$1,850	36.2%	\$3,299
2008-09	25.1%	\$4,266	53.2%	\$1,710	47.5%	\$4,565
2013-14	31.2%	\$4,643	16.4%	\$1,668	60.2%	\$6,567
2018-19	30.8%	\$5,256	11.7%	\$2,862	69.0%	\$8,525

**Table 16**

First-Time, Full-Time Undergraduate Students Receiving Financial Aid Grants by Source - Community Colleges

	Federal		State/Local		Institutional	
	<i>Percent</i>	<i>Avg Award</i>	<i>Percent</i>	<i>Avg Award</i>	<i>Percent</i>	<i>Avg Award</i>
U.S. Community Colleges						
2003-04	35.0%	\$2,758	24.7%	\$1,197	10.4%	\$1,225
2008-09	44.6%	\$3,610	37.0%	\$1,528	13.2%	\$1,675
2013-14	61.9%	\$4,433	36.7%	\$1,788	14.6%	\$2,009
2018-19	52.6%	\$4,974	38.8%	\$2,345	18.2%	\$2,102
Michigan Community Colleges						
2003-04	32.0%	\$2,576	36.4%	\$1,308	12.6%	\$885
2008-09	55.7%	\$3,615	39.6%	\$1,484	18.0%	\$1,355
2013-14	70.6%	\$4,560	16.9%	\$2,339	15.0%	\$1,572
2018-19	51.8%	\$4,983	19.0%	\$3,192	19.5%	\$1,742

Source: Research Council calculations based on revenue data from Integrated Postsecondary Education Data System. Percentage receiving aid reflects the aggregate number of first-year, first-time undergraduates receiving grant aid from each source divided by the aggregate number of first-year, first time undergraduates in a degree-seeking program for each institutional category. Average grant award is calculated as total grant aid from each source divided by the number of students who received aid from that source.

period; and while Michigan universities were able to lean more heavily on institutional grant aid to offset the declines in state/local aid, the same was not true for Michigan community colleges. Institutional aid award rates increased only slightly over the period, consistent with the national trend for all community colleges.

In short, the significant reduction to state-based financial aid programs has moved Michigan from a being state where a relatively high percentage of college students attending public institutions receive grant aid to offset the tuition and fee “sticker price” of higher education to a state where that percentage is now below average. This also helps explain why net tuition revenue growth per student at Michigan’s community colleges is significantly higher than the national average.

### Key Observations on Financial Aid Grants and Affordability

Financial aid grants from public, private, and institutional sources help discount tuition and fee charges for students who receive them. This lowers the out-of-pocket cost of higher education from the formal

tuition and fee charges established by a college or university. Further, financial grant revenue has grown faster than revenue from tuition and fee charges. For this reason, out-of-pocket net tuition revenues have grown more slowly than gross tuition revenues attributable to sticker prices tuition and fee charges.

Still, the growth in grant aid has not been sufficient to prevent declines in tuition and fee affordability, even after the aid is factored into the equation. Key observations from the data analysis of financial aid growth include:

- Financial aid grant revenue per student has grown faster than revenue coming from “sticker price” tuition and fee charges at both universities and community colleges over the 15-year period. This is true both in Michigan and nationally and means that out-of-pocket costs for tuition and fees have grown more slowly than tuition and fee charges set by institutions.
- Even after accounting for grant aid, however, net tuition and fee revenues have still grown faster than typical household incomes. Financial aid has only mitigated the decline in tuition affordability; it has not offset the observed

### Michigan Financial Aid Reductions in FY2010

Prior to FY2010, public funding for postsecondary education (both universities and community colleges) in Michigan came primarily from the state's discretionary General Fund/General Purpose (GF/GP) revenue<sup>1</sup>; and GF/GP budget stress between FY2000 and FY2010 triggered a major reduction in state-based financial aid programs.

GF/GP revenue in Michigan fell consistently between FY2000 and FY2008 during a period that many refer to as a "single state recession" marked by job losses and sluggish economic growth in the state. Then, just as revenues showed signs of recovery, the Great Recession took hold nationally. Revenues plummeted once again; by FY2010, GF/GP revenue bottomed out at \$7.7 billion; down by 28 percent from its FY2000 peak of \$10.7 billion.

Faced with a projected \$1.5 billion GF/GP budget shortfall, the enacted FY2010 Higher Education reduced state financial aid programming by \$139 million; a 64 percent cut from prior year levels.<sup>2</sup>

The largest component of the reductions was the elimination of the \$80.5 million Michigan Promise Grant program. The program was created in 1999 as the Michigan Merit Award program to provide financial aid to students achieving qualifying scores on the Michigan Education Assessment Program (MEAP) exam. The program awarded qualifying students \$2,500 to attend an approved postsecondary institution in the state of Michigan or \$1,000 to an equivalent institution outside the state.

In 2006, the program was restructured as the Promise Grant program with had been altered significantly with the goal of increasing access to higher education. The amount of the award was increased to \$4,000; students were required only to take a new standardized state exam (now called the Michigan Merit Exam); they were no longer required to achieve a certain level of proficiency. Further, the funds were awarded upon successful completion of two years of college credit while earning at least a 2.5 grade point average. This represented a sea change for the state in subsidizing the provision of higher education services directly through the students rather than in appropriations to the universities and community colleges.

In addition, the two largest need-based financial aid programs – the State Competitive Scholarship and Tuition Grant programs – were reduced by a combined \$46.4 million, or roughly 52 percent of their prior year funding. Competitive Scholarships of up to \$1,300 had been available to students attending either public or private institutions who achieved a qualifying ACT test score and demonstrated financial need; the budget reduction reduced the maximum award to \$510.

The Tuition Grant program provided scholarships to students with financial need that attended private colleges and universities. Total annual awards were capped at \$2,100 (with any Competitive Scholarship received counting toward that limit). As a result of the budget reduction, maximum awards were reduced to \$1,610, program eligibility for graduate students was eliminated, and a \$3 million limit was established for individual private colleges (students at two Michigan colleges – Baker College and Davenport College – had received \$27.3 million in grant aid under the program in the year prior to the cut).

As the report notes, these changes resulted in a significant reduction in the availability of grant aid for Michigan students at a time when grant aid levels were increasing elsewhere in the country.

<sup>1</sup> Today, operating grants to Michigan community colleges are paid entirely from the state's School Aid Fund which had traditionally been used exclusively to finance K-12 education. The same is true for roughly 20 percent of operating grants to state universities. These shifts can also be attributed to the same GF/GP budget stress noted in this section.

<sup>2</sup> For details on the reductions, see Kyle I. Jen, Memo to House Appropriations Subcommittee on Higher Education, [Implementation of FY 2009-10 Financial Aid Appropriations](#), December 21, 2009.

growth in tuition and fee charges.

- For Michigan institutions, a large reduction in state-based grant aid implemented as part of the FY2010 state budget has had a unique impact. Before the reduction, the percentage of Michigan students receiving financial grant aid was significantly higher than the national average. After the reduction, however, Michigan students are less likely to receive grant aid.
- The impact of this reduction was particularly significant for Michigan community colleges. Michigan universities were able to increase institutional financial aid grants to help offset some of the loss in state-based grant aid. Community colleges were less able to do so. While financial aid grants have largely offset growth in tuition and fee charges at community colleges nationally, this has not been the case for Michigan community colleges.

## Summary and Major Findings

Substantial research demonstrates the value of higher education to both individual students and the broader society. Yet, data show that tuition and fee charges - the price of a college degree - at public institutions of higher education have grown faster than typical incomes. Further, an important driver behind this decline in affordability is the stagnant long-term growth over recent decades in the public subsidy for university and college operations. Slow growth in public operation support has meant that institutions of higher education have resorted to greater increases in tuition and fee charges in order to achieve normal operating revenue growth to support education-related spending. This trend has been particularly prominent for four-year universities, both in Michigan and across the United States.

This conclusion draws from four major data findings in the report on growth trends for tuition and fee charges, institutional spending, public subsidy revenue, and financial aid grant funding.

**First, growth in tuition and fee charges at public universities and community colleges is making college less affordable to the typical household.**

This is particularly true for public universities where average annual tuition and fee charges as a percentage of median household income has grown almost three-fold over the 30-year period from AY1989 to AY2019. Public community colleges have also seen tuition and fee growth outpace incomes, but to a lesser extent. Still, average community college tuition and fee charges nationwide absorbed almost the twice the share of median household income in

AY2019 than they did in AY1989.

**Second, tuition and fee growth has been significantly greater than growth in institutional education spending per student.** While per-student spending growth certainly factors into the growth in tuition and fee charges, it does not account for all of the growth. Instruction/Student Services spending at public universities grew only half as fast as tuition and fee charges during the 30-year period analyzed, while Administration and Support Services spending grew around 60 to 70 percent as fast for Michigan and U.S. universities. Spending growth at public community colleges was closer in magnitude to tuition and fee growth – particularly for Michigan community colleges – but tuition and fee growth was still higher both in Michigan and nationally. Spending alone can not explain the sharp growth rates observed for tuition and fee charges.

**Third, stagnant growth in public subsidy revenue is primarily responsible for making college less affordable, especially for four-year universities.**

For public universities nationally, virtually all of the difference between tuition and fee growth and the growth in median household incomes – in other words, all of the tuition and fee growth that has resulted in reduced affordability over time – is attributed to an increase in tuition and fee share of education revenue. And that increased share, by definition, results from slow growth in public subsidy revenue for universities. The public subsidy share of university education revenue has declined precipitously over the 30-year period of analysis at the expense of the

## EXAMINING THE PRICE OF HIGHER EDUCATION IN MICHIGAN

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tuition and fee share.

Growth in public subsidy revenue for public community colleges has been somewhat stronger over the period, resulting in a more stable public subsidy share of education revenue. Still, that share has declined for both U.S. and Michigan community colleges, which has also contributed to declines in tuition and fee affordability.

**Finally, while financial aid grants have helped reduce out-of-pocket tuition and fee costs to students and families, they have not offset tuition and fee growth.** Even after controlling for grant aid revenue per student, net tuition growth still resulted in decreased affordability for college students – in both Michigan and nationally, and at both universities and community colleges.

Further, large reductions in state-based financial aid programs implemented in Michigan to address a large revenue shortfall in FY2010 has reduced the percentage of Michigan college students – both at

public universities and community colleges – that receive financial grant aid. This runs counter to the national trend that saw sizable increases in the percentage of students receiving grant aid over the period. The reductions caused Michigan to shift from being a state where grant aid receipt rates were quite high to being a state where the percentage of students receiving grant aid is below the national average.

In summary, public operating support for higher education has grown very slowly for the past three decades, particularly for four-year universities. This has made earning a college degree significantly less affordable for the average student over the last three decades. State policymakers in Michigan and elsewhere should work to push the budget pendulum in the opposite direction with significantly greater budget investments aimed at making higher education more affordable for the next generation of college students.

### Implications for Public Policy

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While postsecondary education remains critical to the economic well-being of workers and of society as a whole, it has become increasingly more expensive to secure over the last three decades; and the data make clear that state-level disinvestments in postsecondary education have played a prominent role in driving this decrease in affordability, especially for those seeking a bachelor's degree. This is particularly true in Michigan. The state followed the national trend of providing very slow growth in public subsidy support between 1989 and 2019, driving down the public subsidy share of education revenue for public community colleges and, particularly, for the state's public universities. On top of that, however, the state also slashed much of its state-based financial aid programs during budget challenges following the Great Recession.

Despite efforts to enhance affordability through tuition restraint provisions in state appropriations bills, the price of higher education has grown less affordable. Tuition and fee charges in Michigan and nationally

have generally grown as a share of median household incomes, even after adjusting for the availability of financial aid grants.

Reversing the trend in college affordability at public institutions will require greater public investments in higher education. Clearly, one option for policymakers is to reverse the 30-year trend documented in this report and increase direct public subsidy support to colleges and universities. However, the results of this study show that there will be challenges to this approach. First, it is likely that some of the increased revenue obtained from faster growth in the public subsidy would be retained to support increased educational spending rather than mitigating tuition and fee charges. This would be particularly true in the short run, and to the extent that the reinvestment in the public subsidy for postsecondary education was Michigan-specific as opposed to being part of a broader national trend.

It should be noted that some research suggests that



increased institutional spending results in improved student outcomes. But if the goal of additional investments in university and community college operations is to improve affordability, increases in the public subsidy may need to be accompanied by thoughtful tuition restraint provisions. Optimally, those provisions would recognize that any given percentage increase in public funding has variable impacts across different institutions; those with a greater dependency on tuition and fee revenue get more “bang for the buck” than those that are more dependent on public subsidy revenue.

Second, Michigan’s four-year public universities in particular are now much more tuition dependent than they were 30 years ago. That means that a given percentage increase in public subsidy revenue per student will have less “bang for the buck” in terms of leaving room for institutions to reduce or slow the growth of tuition and fees while maintaining growth in total education revenues at a rate consistent with its long-run trend. Moving the needle on university affordability will require significant growth in the public subsidy, sufficient to reverse the 30-year trend seen in the data by increasing the public subsidy share of these education revenues.

A second option for policymakers would be to increase the public investment in state-based financial aid. This would help reduce the out-of-pocket costs of postsecondary education to students and families, even if “sticker price” tuition and fee charges remain relatively high.

To that end, state policymakers have already begun to make new public investments in postsecondary financial aid. A new state program, Michigan Reconnect, offers significant new funding to meet community college tuition and fee costs for Michigan residents aged 25 or older who have a high school diploma but no college degree.

Even more notably, the state enacted supplemental appropriations in October 2022 earmarking \$250 million to support a new Michigan Achievement Scholarship program. The new program would provide scholarships to eligible high school graduates to support full-time enrollment at postsecondary institutions in Michigan. Scholarships would be up to \$5,500 for enrollment at a Michigan public university, \$2,750 for enrollment at a Michigan community college, and a \$4,000 for enrollment at an independent Michigan college or university. The program would also support scholarships of up to \$2,000 for enrollment in qualified occupational training programs. Budget intent language also provides that funding be increased by \$50 million each year until the scholarship program is fully funded for all eligible students.

If Michigan policymakers can come to an agreement on program requirements and – even more importantly – commit to maintaining significant ongoing funding for the program, the new investment could be instrumental in reversing the disinvestment in state-based financial aid that occurred as Michigan navigated significant budget challenges during the Great Recession.

## Endnotes

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- 2 U.S. Department of Education, National Center of Education Statistics, [\*Digest of Education Statistics 2020\*](#), Table 330.10
- 3 Sandy Baum, [\*College Student Debt: What State and Institutional Leaders Should Know\*](#), Midwestern Higher Education Compact policy report, June 2020.
- 4 See, for instance, Mark McNutt, *Why Does College Cost So Much?*, U.S. News & World Report, September 22, 2014, [www.usnews.com/news/college-of-tomorrow/articles/2014/09/22/why-college-costs-so-much-over-spending-on-faculty-amenities](http://www.usnews.com/news/college-of-tomorrow/articles/2014/09/22/why-college-costs-so-much-over-spending-on-faculty-amenities)
- 5 Archibald and Feldman, *Why Does College Cost So Much?* New York: Oxford University Press, 2010.
- 6 Wexler, Ellen, *Why is Tuition So High?*, Inside Higher Ed, February 9, 2016, <https://www.insidehighered.com/news/2016/02/09/study-increased-student-aid-not-faculty-salaries-drives-tuition>
- 7 Meara, Richards, and Cutler, "[\*The Gap Gets Bigger: Changes in Mortality and Life Expectancy, by Education\*](#)," *Health Affairs*, Vol. 27(2), 2008.
- 8 Ma, Pender, and Welch, [\*Education Pays 2019: The Benefits of Higher Education for Individuals and Society\*](#), The College Board, 2019.
- 9 Ibid.
- 10 Oreopoulos and Salvanes, "Priceless: The Non-pecuniary Benefits of Schooling," *Journal of Economic Perspectives*, Vol. 25(1), 2011.
- 11 See Moretti, "Estimating the Social Return to Higher Education: Evidence from Longitudinal and Repeated Cross-Sectional Data," *Journal of Econometrics*, Vol. 121(1-2), 2004 for a discussion and estimation of these spillover effects.
- 12 Bartik, Miller-Adams, Pittelko, and Timmeney, [\*Economic Benefits and Costs of Tuition-Free College in Illinois\*](#), Prepared for the Joyce Foundation and the Illinois Governor's Office, 2021.
- 13 [\*Final Report of the Lt. Governor's Commission on Higher Education and Economic Growth\*](#), December 2004.
- 14 Webber, Douglas (2017). *State Disinvestment and Tuition at Public Institutions*, Economics of Education Review 60:1-4; David Deming and Christopher Walters (2017). *The Impact of Price Caps and Spending Cuts on U.S. Postsecondary Attainment*, Working Paper 23736, Cambridge, MA: National Bureau of Economic Research; and Preston Cooper (2017). *Pennies on the Dollar: The Surprisingly Weak Relationship between State Subsidies and College Tuition*, Washington DC: American Enterprise Institute