

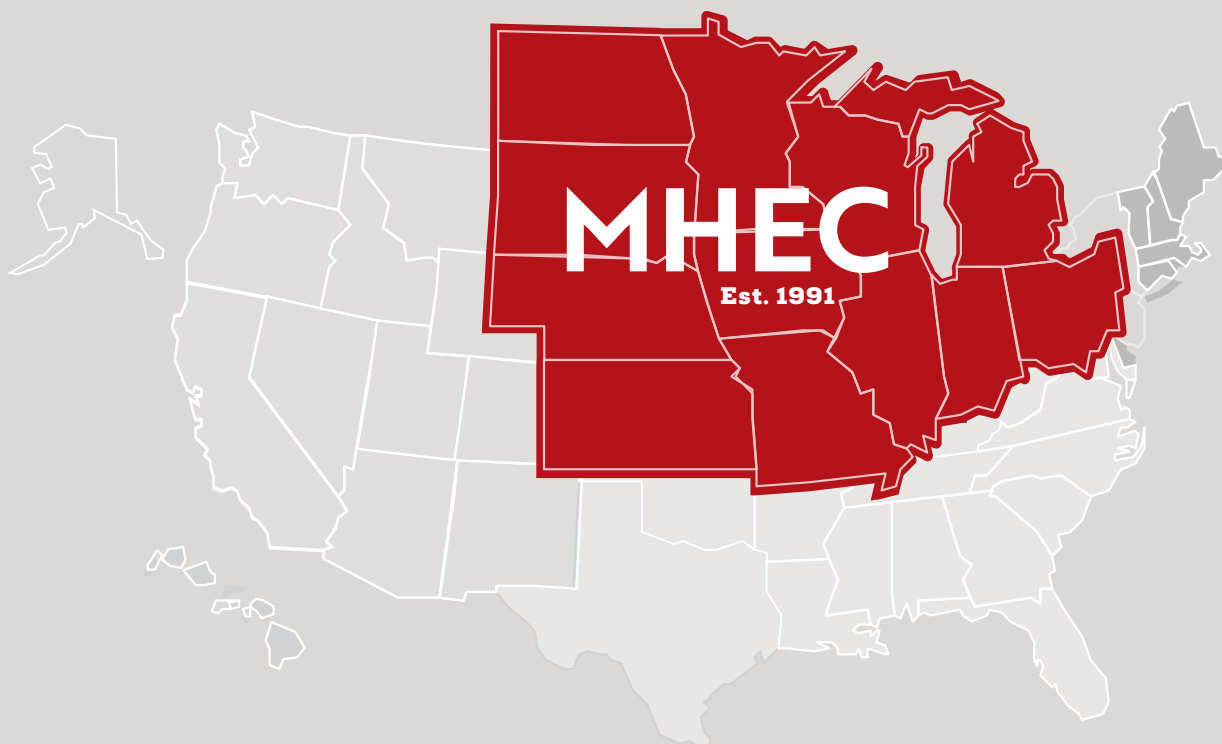


Higher Education in Focus 2019

*Essential Performance Indicators
for Midwestern States*



MICHIGAN



**North Dakota and South Dakota are members of both MHEC and the Western Interstate Commission for Higher Education (WICHE).*

ABOUT THE MIDWESTERN HIGHER EDUCATION COMPACT

The Midwestern Higher Education Compact (MHEC) is a nonprofit regional organization, established by statute, to assist Midwestern states in advancing higher education through interstate cooperation and resource sharing. Member states, all of which comprise the Midwest census region, are Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. Collectively, the Compact creates solutions that build higher education's capacity to better serve individuals, institutions, and states by leveraging the region's resources, expertise, ideas, and experiences through multi-state convening, programs, contracts, and research.

COMPACT LEADERSHIP, 2019-2020

Chair: Ms. Olivia Madison, Iowa Governor's Designee Iowa State University (retired); **Vice Chair:** Dr. David Eisler, Ferris State University; **Treasurer:** Rep. Rick Carfagna, Ohio Legislature; **Past Chair:** Dr. Ken Sauer, Indiana Commission for Higher Education

President: Ms. Susan G. Heegaard

© Copyright 2020 Midwestern Higher Education Compact. All rights reserved.

Data analysis was conducted by Shaun Williams-Wyche, research manager. MHEC would like to acknowledge the helpful feedback of members of the Review Panel for State Policy and Performance Data.

Correspondence concerning this report should be sent to Aaron Horn, associate vice president of research, aaronh@mhec.org.

Additional indicators are available in the MHEC Interactive Dashboard: <https://www.mhec.org/dashboard>.

Updates to this report may be found at: <http://www.mhec.org/research>.

Selected Indicators

	PAGE		PAGE
INTRODUCTION	4	Percentage of First-Time, Full-Time, Degree/Certificate-Seeking Students who Graduated within Three Years at First Public Two-Year Institution and Graduated within Six Years at First Four-Year Institution by Pell Grant Recipient Status	19
Percentage of Jobs in 2020 that Will Require a Postsecondary Education	6	Percentage of First-Time, Certificate/Degree-Seeking Students who Completed a Credential within Six Years at Any Institution: Full- vs. Part-Time Students	20
Job Openings by Occupation and Education Level between 2010 and 2020 (in Thousands)	6		
Percentage of Adults Aged 25-64 who have Attained a Postsecondary Credential by Race and Ethnicity	7	AFFORDABILITY	21
Public High School Graduate Trends Through 2032 by Race and Ethnicity	8	Percentage of Family Income Needed to Pay for Full-Time Enrollment at Public Two-Year Institutions	22
Percentage of High School Sophomores in the United States who Attained a Postsecondary Credential Before Age 27 by Income	8	Percentage of Family Income Needed to Pay for Full-Time Enrollment at Public Four-Year Institutions	23
		Percentage of Family Income Needed to Pay for Full-Time Enrollment at Public Two- and Four-Year Institutions by Race and Ethnicity	24
PREPARATION	9	Percentage of Public Four-Year College Graduates with Student Loan Debt	24
Percentage of Children Ages 3 to 4 Enrolled in Preschool	10	Average Student Loan Debt Among Public Four-Year College Graduates with Loans	25
Percentage of Students in Grade 8 Scoring at or Above Proficiency on the National Assessment of Educational Progress in Math, Reading, and Science by Race and Ethnicity	10		
Percentage of Students in Grade 8 Scoring at or Above Proficiency on the National Assessment of Educational Progress in Math, Reading, and Science by Income	11	FINANCE	26
Public High School Graduation Rates by Income	11	State and Local Educational Appropriations for Higher Education per FTE Student	27
Public High School Graduation Rates by Race and Ethnicity	12	State Fiscal Support for Higher Education per \$1,000 of Personal Income	27
Percentage of High School Graduates Taking the SAT	12	State and Local Educational Appropriations and Net Tuition Revenue as a Percentage of Total Educational Revenue for Public Postsecondary Institutions (per FTE Student)	28
Percentage of SAT-Tested High School Graduates Who Met or Exceeded College Readiness Benchmark Scores by Race and Ethnicity	13	State and Local Appropriations Relative to Total Educational Expenditures per FTE Student at Public Doctoral Universities	29
		State and Local Appropriations Relative to Total Educational Expenditures per FTE Student at Public Master's Universities	30
PARTICIPATION	14	State and Local Appropriations Relative to Total Educational Expenditures per FTE Student at Public Associate's Colleges	31
Percentage of High School Graduates Going Directly to College	15	State Need-Based Grant Aid per FTE Undergraduate Student	32
Percentage of Persons Aged 18-24 who are Currently Enrolled or Have Completed Any College Credit by Race and Ethnicity	15	Percentage of State Grant Aid Defined as Need-Based	33
Percentage of Dependent 18- to 24-Year-Old Residents who are Currently Enrolled or Have Completed Any College Credit by Income	16	Total State Need-Based Grant Aid Compared to Federal Pell Grant Aid (in Millions)	33
Percentage of Persons Aged 25-49 without an Associate Degree or Higher who are Currently Enrolled in College	16		
COMPLETION	17		
Percentage of First-Time, Full-Time, Degree/Certificate-Seeking Students who Transferred or Graduated within Three Years at First Public Two-Year Institution and Graduated within Six Years at First Four-Year Institution by Race and Ethnicity	18		

Introduction

Future Workforce Demands

In the United States, approximately 65 percent of all jobs in 2020 will require some level of postsecondary education, and the demand will reach 70 percent in Michigan (see Figure 1).¹ The projected demand for postsecondary education in Michigan spans all occupational categories, including managerial, STEM, community service, education, healthcare, food and personal services, sales and office support, and “blue collar” industries (see Figure 2).² In most of these categories, a diverse mix of postsecondary credentials from certificates to doctorates will be necessary for a responsive and flexible workforce.

While the demand for postsecondary credentials has increased, the share of “good jobs” (jobs that pay at least \$35,000 a year for adults under age 45) that do not require at least some education beyond high school decreased nationally from 32% in 1991 to 20% in 2015. During that same time period, the percentage of good jobs that require less than an associate degree decreased nationally from 51% to 34%. Furthermore, most new good jobs that do not require a bachelor’s degree have been going to workers with at least some college or an associate degree, not to workers with only a high school diploma.³

Increasing Educational Attainment in Michigan

Many states have set ambitious goals to improve the educational attainment of their residents in order to meet future workforce demands. Michigan aims to raise its college attainment level—the proportion of adults with a postsecondary certificate or degree—to 60 percent by 2030.⁴ Significant progress is needed, as 42% of adults in Michigan held an associate degree or higher in 2018.⁵ (Data on postsecondary certificate attainment are currently limited, but some analyses indicate that accounting for educational certificates would increase the postsecondary attainment rate by four percentage points.)⁶

In order to increase the overall college attainment rate in Michigan, however, it is increasingly necessary to address attainment disparities. Critical gaps persist in educational attainment by race and ethnicity as well as family income. Relative to the White population in Michigan, a lower percentage of adults from underrepresented racial and ethnic backgrounds (American Indians, Blacks, and Hispanics) have completed a credential (see Figure 3). Such disparities are particularly problematic in the context of future demographic trends, wherein the number of high school graduates from diverse racial and ethnic groups is projected to remain relatively stable, and the number of White high school graduates is expected to decline (see Figure 4).

Differences in college attainment by family income are evident in national data. Figure 5 shows that lower percentages of high school students from low-income families ultimately obtain a college credential than do students from higher-income families. For example, only 38% of high school sophomores in 2002 from families earning under \$25,000 per year earned a postsecondary credential by age 27, compared to 73% of sophomores from families earning over \$100,000 per year.

If these disparities in educational attainment are not reduced, many states will be unable to reach their college attainment goals, and a growing share of the population will not be well prepared for changing workforce and economic demands.

An Imperative for Future Prosperity

The ability of policymakers and others to help states increase college attainment levels carries significant implications for state revenue. Projections suggest that if a 60-percent attainment goal were fulfilled in Michigan by 2025, over \$2 billion in additional revenue would be generated through income tax, sales tax, property tax, Medicaid savings, and corrections savings.⁷ Moreover, policies that effectively raise levels of educational

attainment will yield important civic and health benefits including higher rates of voting, volunteerism, and healthful prenatal care.⁸ For example, health risk factors such as smoking are less prevalent among individuals who have a bachelor's degree or higher.⁹ Residents of Michigan also benefit from higher education in terms of higher earnings and lower unemployment, compared to those with only a high school diploma.¹⁰

About this Report

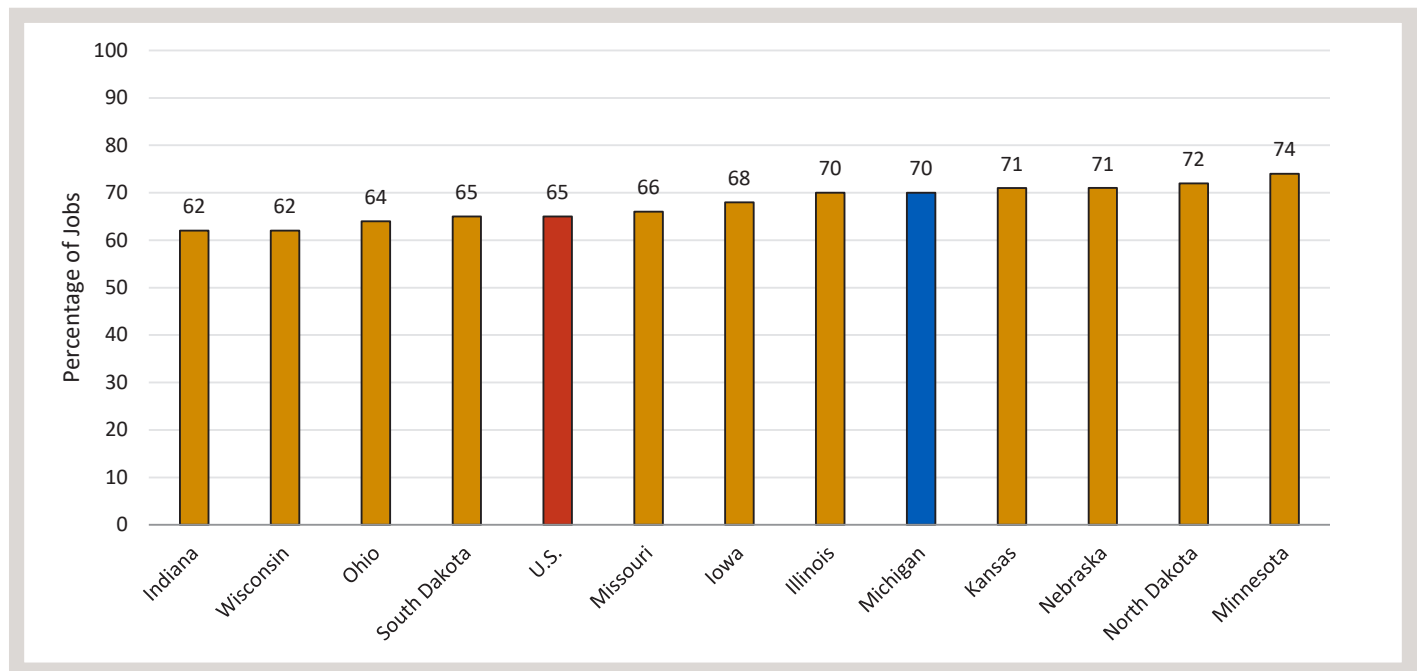
This report seeks to inform public discourse on higher education by providing key performance indicators

relevant to the goal of improving educational attainment for a healthy economy and society. Performance indicators are categorized within five areas: Preparation, Participation, Completion, Affordability, and Finance. Several indicators provide the national and MHEC regional values as well as the median of the top five states in the nation as possible benchmarks. Performance indicators are disaggregated by race/ethnicity and family income when data are available.

Figure 1. Percentage of Jobs in 2020 that Will Require a Postsecondary Education



About 70 percent of all jobs in Michigan will require some level of postsecondary education in 2020.

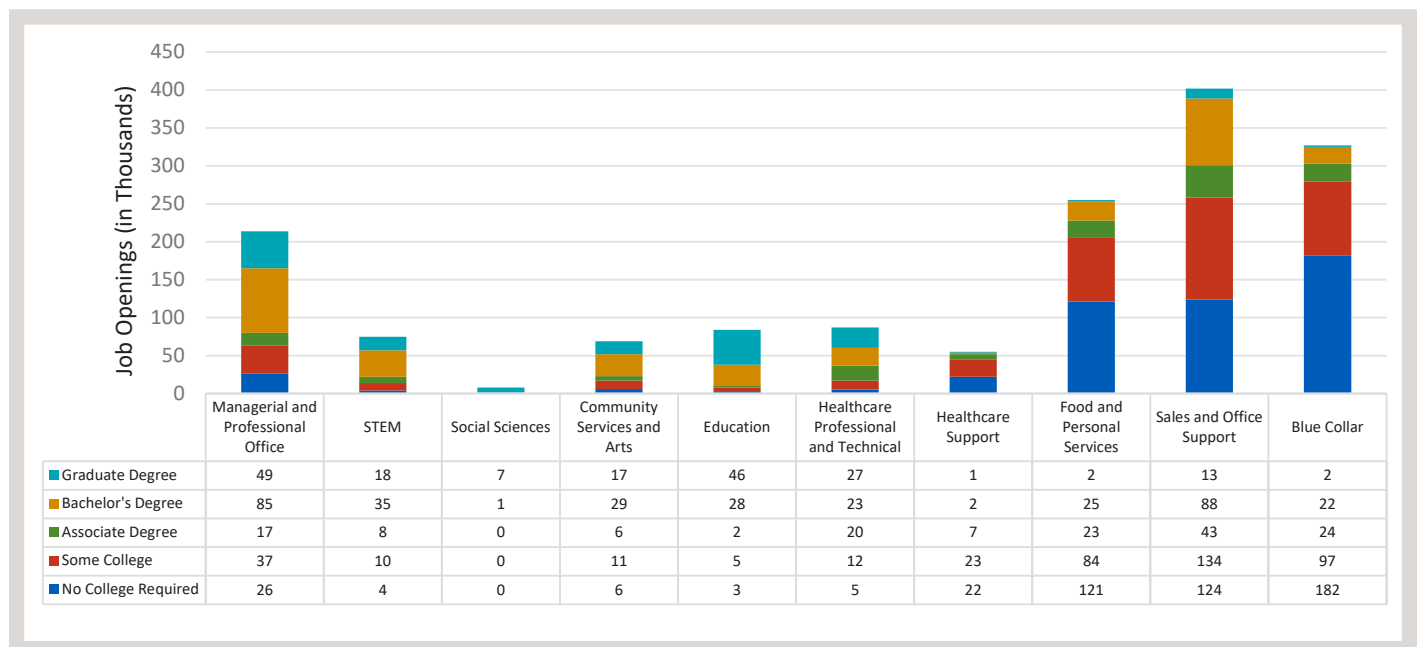


Source: The Georgetown University Center on Education and the Workforce. (2013). *Recovery: Job growth and education requirements through 2020*.

Figure 2. Michigan Job Openings by Occupation and Education Level between 2010 and 2020 (in Thousands)



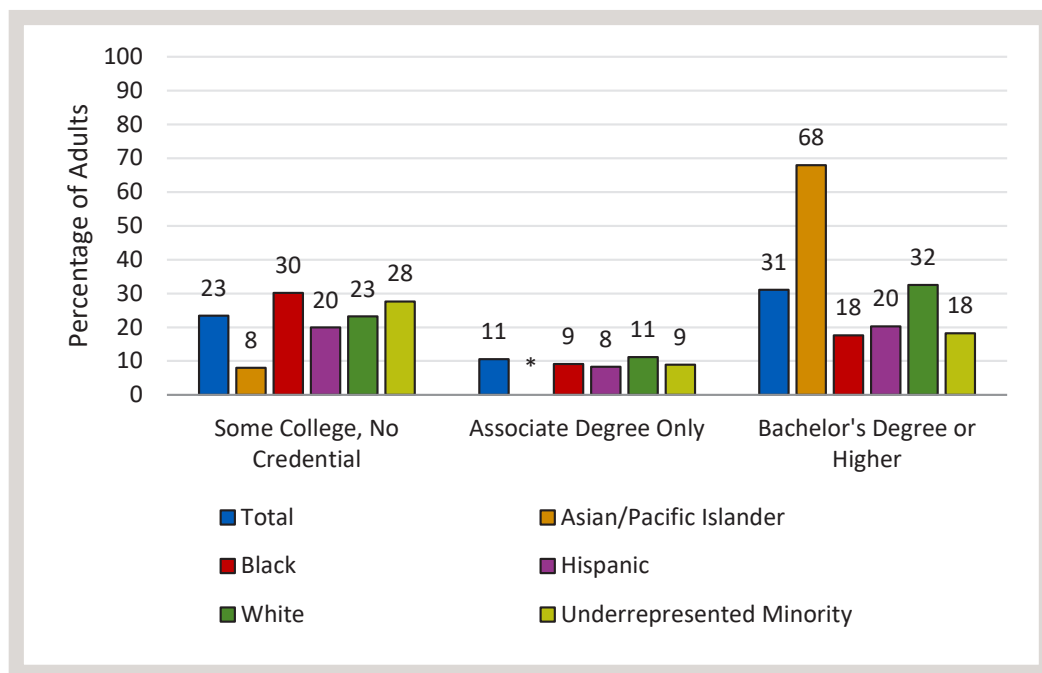
The projected demand for postsecondary education in Michigan spans all occupational categories.



Source: The Georgetown University Center on Education and the Workforce. (2013). *Recovery: Job growth and education requirements through 2020*.

Figure 3. Percentage of Adults Aged 25-64 in Michigan who have Attained a Postsecondary Credential by Race and Ethnicity

 *There are significant gaps in bachelor's degree attainment in Michigan between underrepresented minorities and Whites and Asian/Pacific Islanders.*



Source: U.S. Census Bureau. (2019). *ACS One-Year Estimates: 2018*.

Note: Certificate estimates are unavailable by race and ethnicity. The underrepresented minority category consists of American Indians, Blacks, and Hispanics.

* Estimates are unavailable due to small sample sizes. Estimates for American Indians were unavailable for all attainment levels due to small sample sizes.

Figure 4. Public High School Graduate Trends in Michigan Through 2032 by Race and Ethnicity

 **The number of underrepresented minority high school graduates in Michigan is projected to remain fairly stable, relative to a clear decline in the number of White graduates.**

Source: Western Interstate Commission for Higher Education. (2016). *Knocking at the College Door, 9th Ed.*

Note: The underrepresented minority category consists of American Indians, Blacks, and Hispanics.

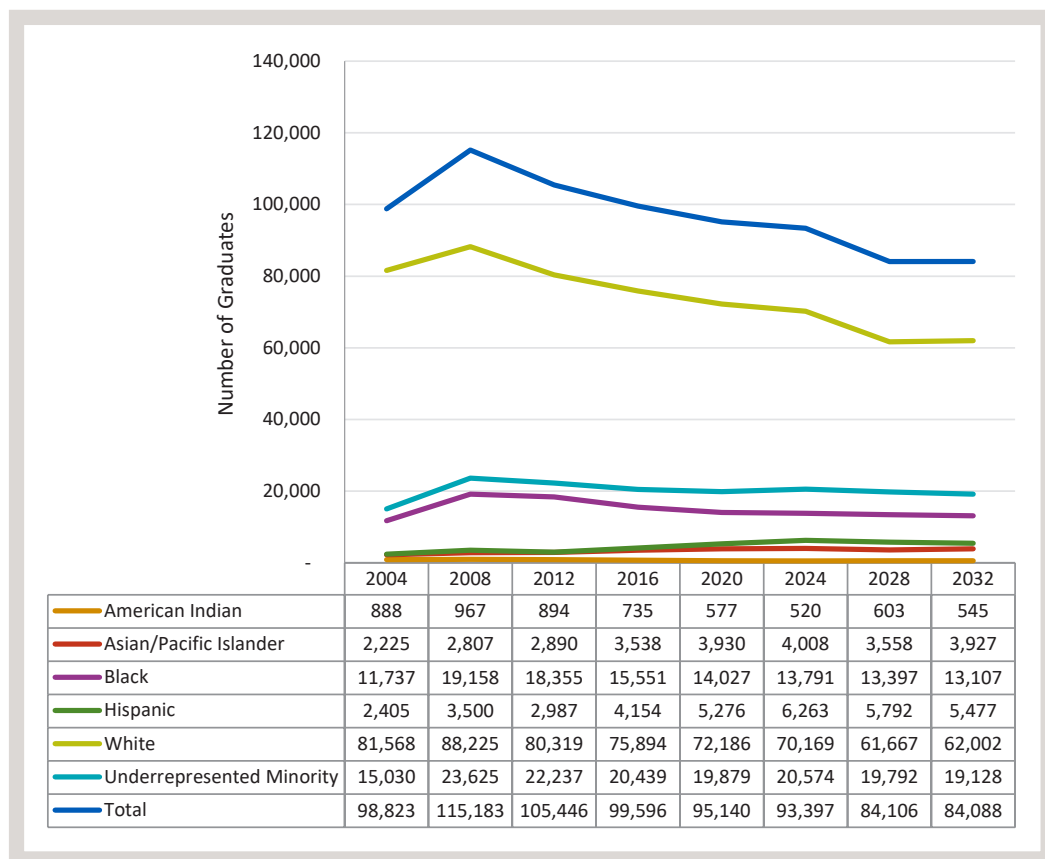

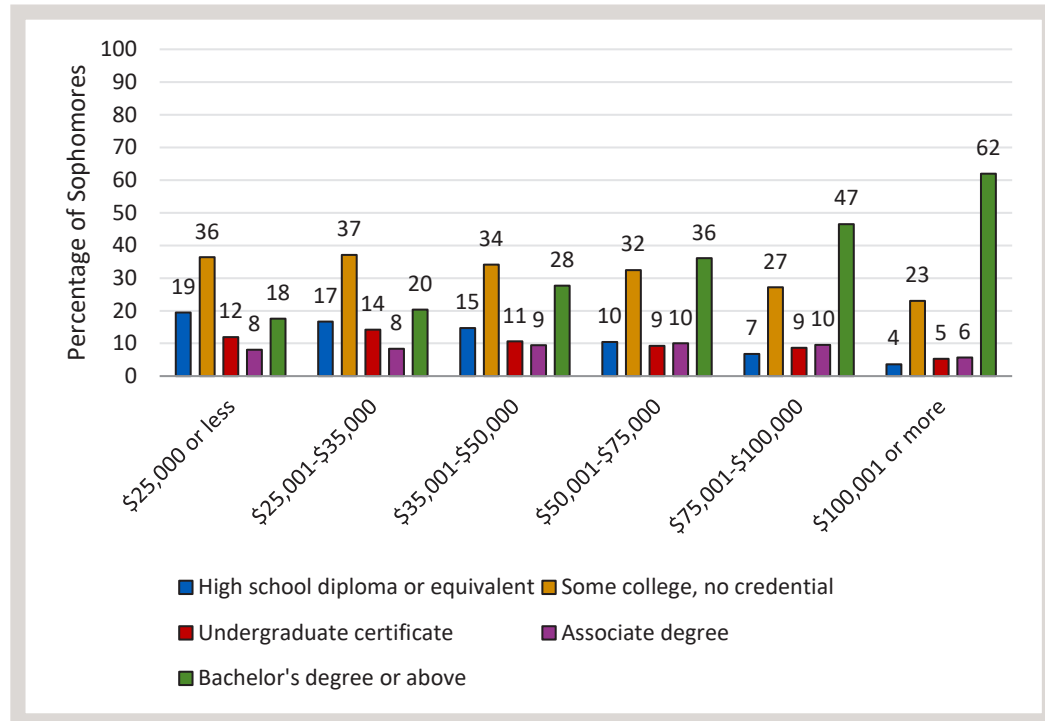


Figure 5. Percentage of High School Sophomores in the United States who Attained a Postsecondary Credential Before Age 27 by Income

 **Nationally, only 38% of high school sophomores in 2002 from families earning under \$25,000 per year earned a postsecondary credential by age 27, compared to 73% of sophomores from families earning over \$100,000 per year.**



Source: U.S. Department of Education, National Center for Education Statistics. (2002, 2012). *Education Longitudinal Study of 2002, High School Sophomores*.

Preparation

ABOUT THESE METRICS

Academic preparation constitutes a key leverage point for improving postsecondary outcomes. The extent to which students are academically prepared for college predicts bachelor's degree completion beyond the effects of race and ethnicity, socioeconomic status, institutional selectivity, attendance patterns, and academic performance during college.¹¹ The cumulative nature of both academic competencies and deficits necessitates an assessment of academic preparedness that spans pre-K education, middle school, and high school.

Preschool enrollment. An early indicator of academic preparation is defined by the percentage of children ages 3 to 4 enrolled in preschool. Early childhood education provides a critical foundation for successfully managing subsequent academic challenges. Relative to children in control groups, participants in high-quality, educationally-focused programs have exhibited greater long-term gains in IQ, lower rates of grade repetition and special education placements, and higher rates of high school graduation and college attendance.¹² Moreover, cost-benefit analyses of such programs have shown that benefits are 2.5 to 16.2 times greater than costs when accounting for such factors as adult earnings and cost savings in K-12 education, corrections, welfare, and healthcare.

Academic proficiency of 8th grade students. The percentage of students in grade 8 scoring at or above proficiency on the National Assessment of Educational Progress (NAEP) provides a measure of whether students enter high school with foundational skills and knowledge in such areas as math, reading, and science. In fact, 8th grade academic achievement has been found to be a highly significant predictor of college readiness among 12th grade students.¹³

Academic proficiency indicators are provided by race and ethnicity and income. Students who qualified for free- or reduced-price lunch were classified as low-income, while students who were not eligible to participate in the National School Lunch Program were classified as higher-income. Academic proficiency by race and ethnicity is measured among American Indian, Asian/Pacific Islander, Black, Hispanic, and White students.


High school completion. Graduation rates are based on the number of students who graduate in four years with a regular high school diploma.¹⁴ The completion of high school or its equivalent is typically required for college admissions.

High school completion indicators are provided by race/ethnicity and income. Completion by income is measured by graduation rates among low-income students who qualified for free- or reduced-price lunch and “higher”-income students who were not eligible to participate in the National School Lunch Program.

Academic proficiency of high school graduates.

The proportion of graduates taking the SAT who meet college readiness benchmarks provides a key measure of the academic preparation of college-bound students. Benchmark scores in Evidence-Based Writing (480) and Math (530) delineate a 75 percent likelihood of attaining at least a “C” in first-year college-level courses.¹⁵ Benchmark scores are provided by race and ethnicity.

Figure 6. Percentage of Children Ages 3 to 4 Enrolled in Preschool

 *The rate of preschool enrollment in Michigan is above the regional level.*

Source: U.S. Census Bureau. (2010-12, 2017-19). *American Community Survey One-Year: 2009-11, 2016-18*. Top 5 States, 2017: CT, NJ, VT, MA, NY.

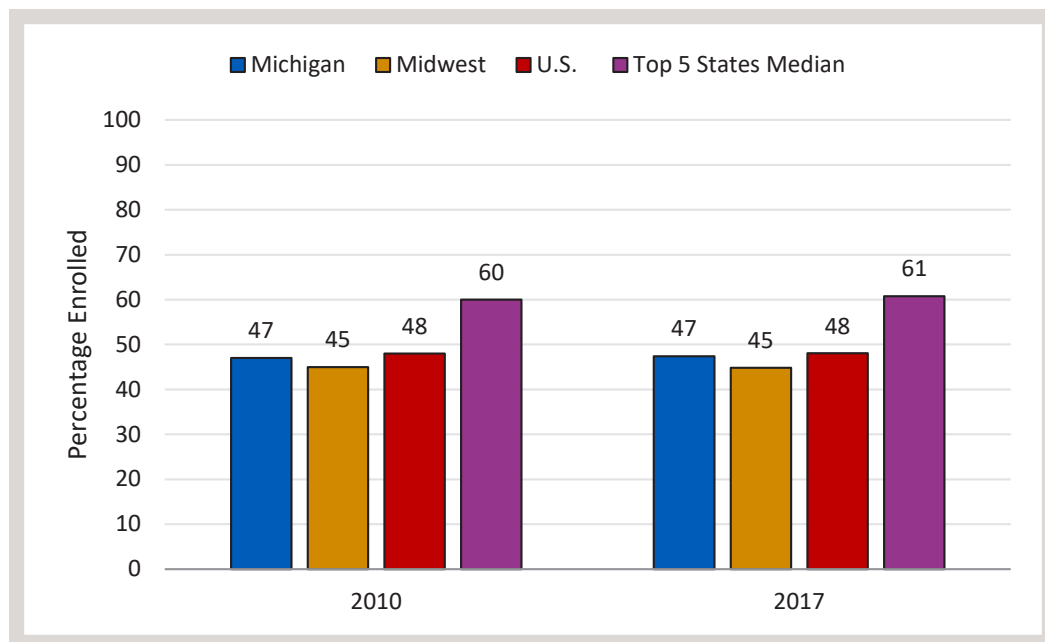

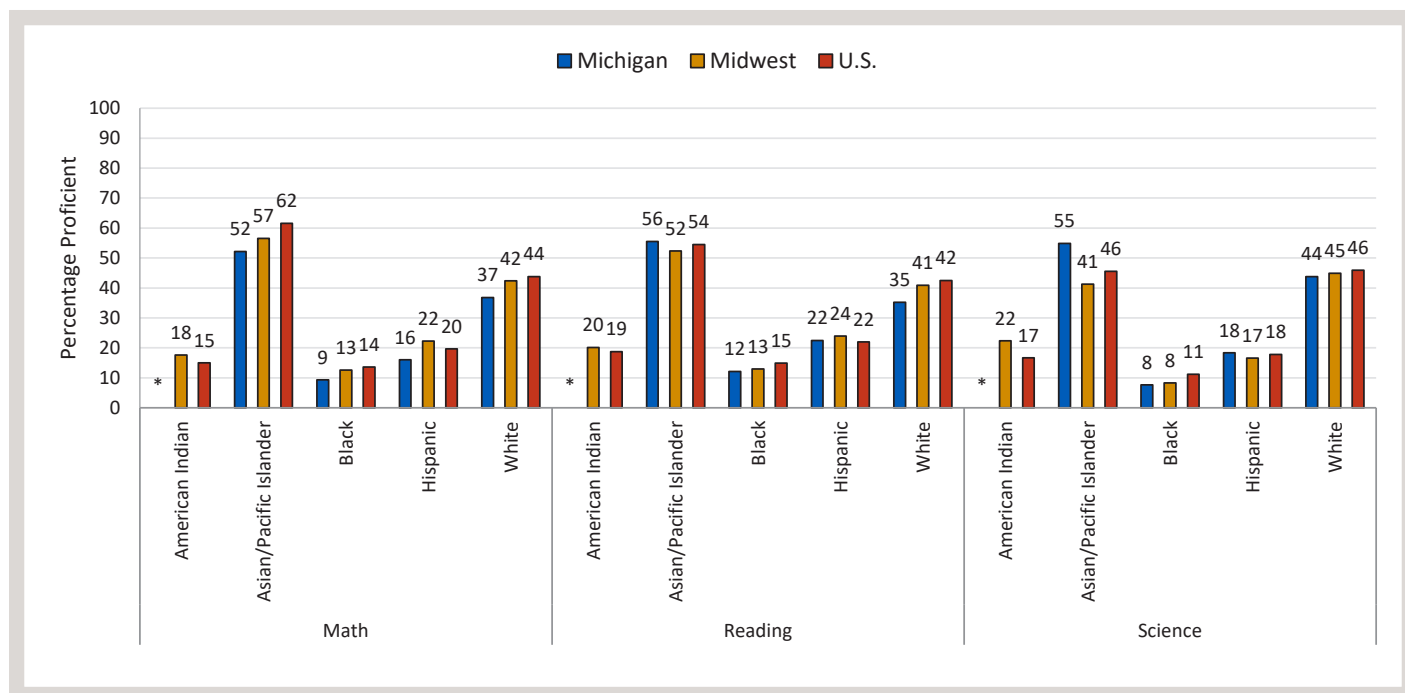


Figure 7a. Percentage of Students in Grade 8 Scoring at or Above Proficiency on the National Assessment of Educational Progress in Math, Reading, and Science by Race and Ethnicity


 *Less than half of 8th grade students in Michigan across most groups scored at or above the proficiency level in math, reading, or science. Proficiency in these subject areas was less common among Black and Hispanic students relative to White and Asian/Pacific Islander students.*

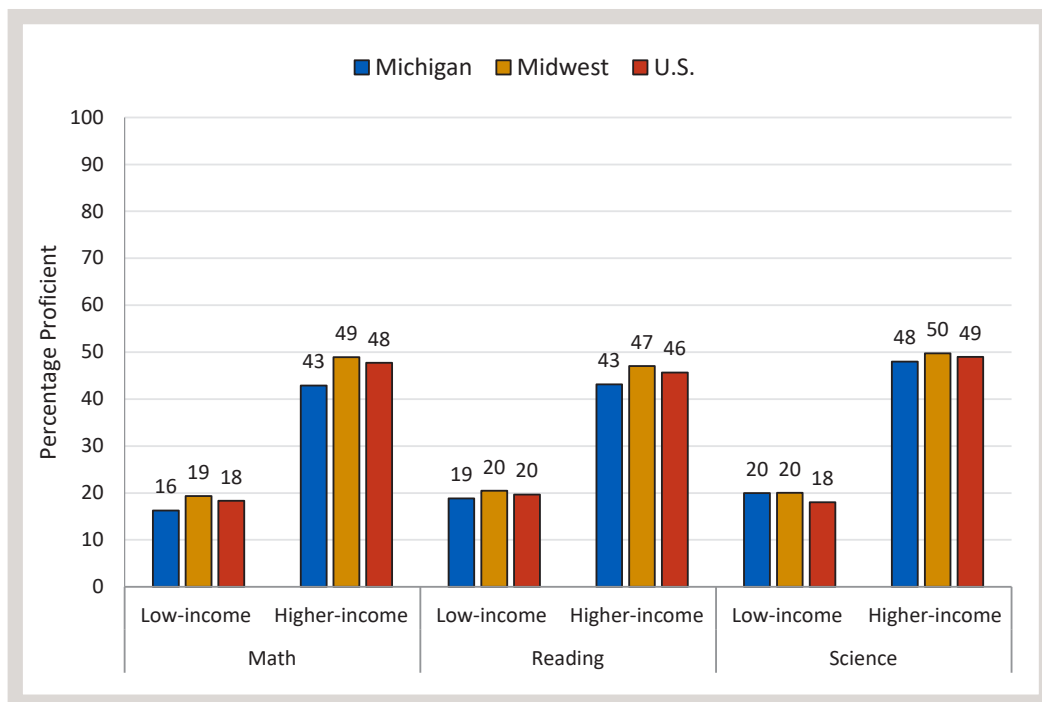


Source: National Center for Education Statistics. (2019). *National assessment of educational progress*. Estimates for NAEP Science are from 2015.

*Estimates are unavailable due to small sample sizes..


Figure 7b. Percentage of Students in Grade 8 Scoring at or Above Proficiency on the National Assessment of Educational Progress in Math, Reading, and Science by Income

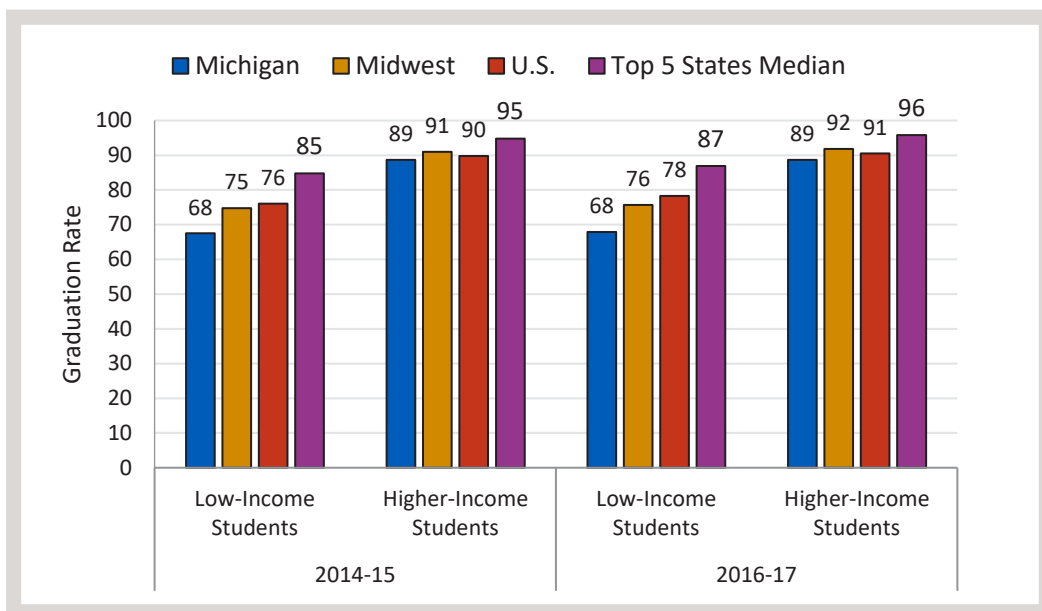
 **Proficiency rates in math, reading, and science were below 50 percent for both income groups in Michigan. In addition, a much larger percentage of students from higher-income families were proficient in these subject areas than were students from low-income families.**



Source: National Center for Education Statistics. (2019). *National assessment of educational progress*. Estimates for NAEP Science are from 2015.

Figure 8a. Public High School Graduation Rates by Income

 **The high school graduation rate gap between low-income and high-income students in Michigan was 21 percentage points in 2016-17, compared to the regional gap of 16 percentage points and the national gap of 13 percentage points.**



Source: U.S. Department of Education. (2015, 2017). *ED Data Express, ACGR*. Top 5 States, 2017 (includes ties): Low-Income Students: WV, KY, TX, SC, AR; Higher-income students: WV, IA, VT, MA, CT.

Figure 8b. Public High School Graduation Rates by Race and Ethnicity

 **American Indian, Black, and Hispanic high school students in Michigan graduate at lower rates than White and Asian/Pacific Islander students.**

Source: U.S. Department of Education. (2016-17). *ED Data Express, ACGR*. Top 5 States, 2017 (includes ties): All Students: IA, NJ, TN, KY, TX, WV.

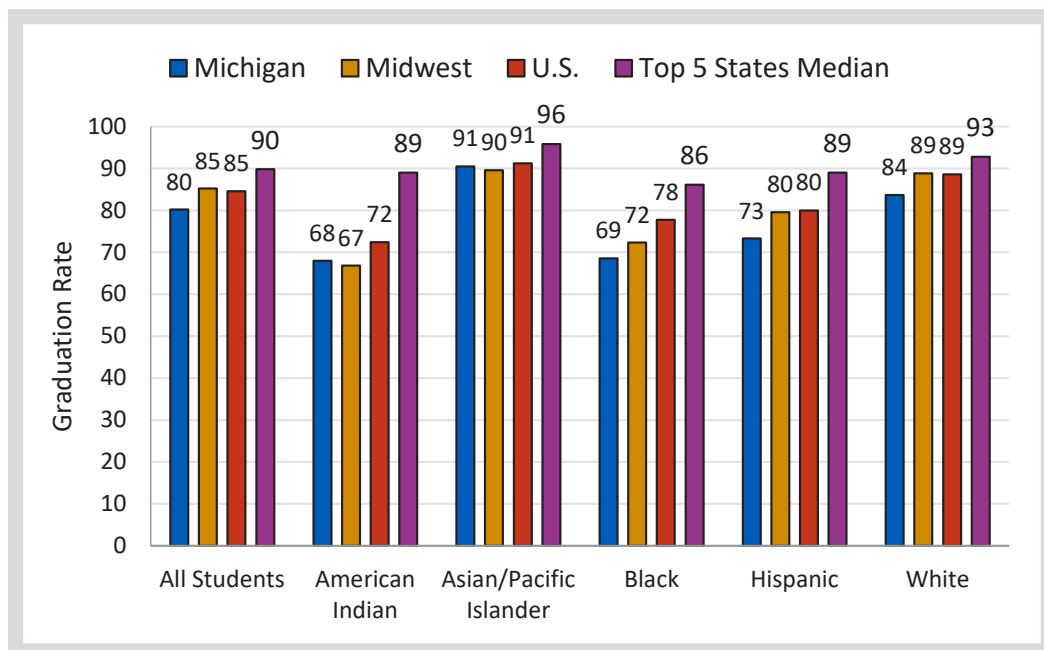
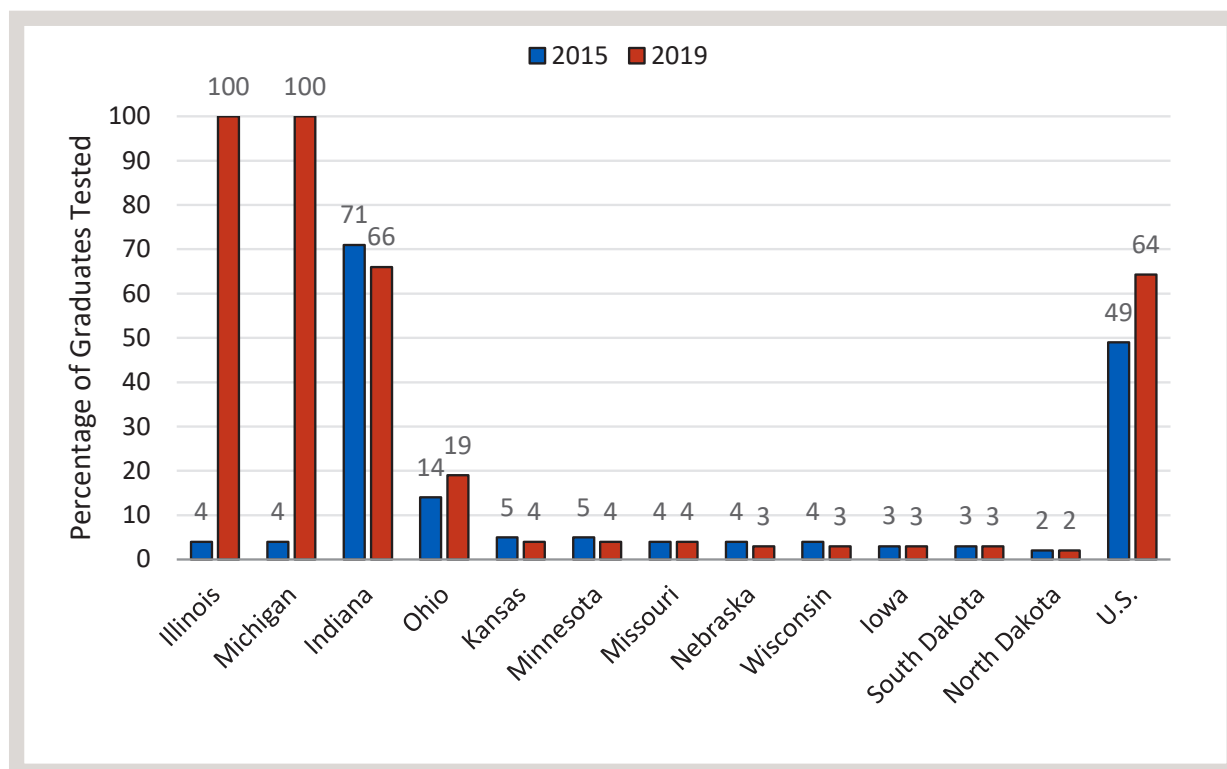


Figure 9. Percentage of High School Graduates Taking the SAT during 2015 and 2019


 **All high school graduates in Michigan took the SAT.¹⁶**

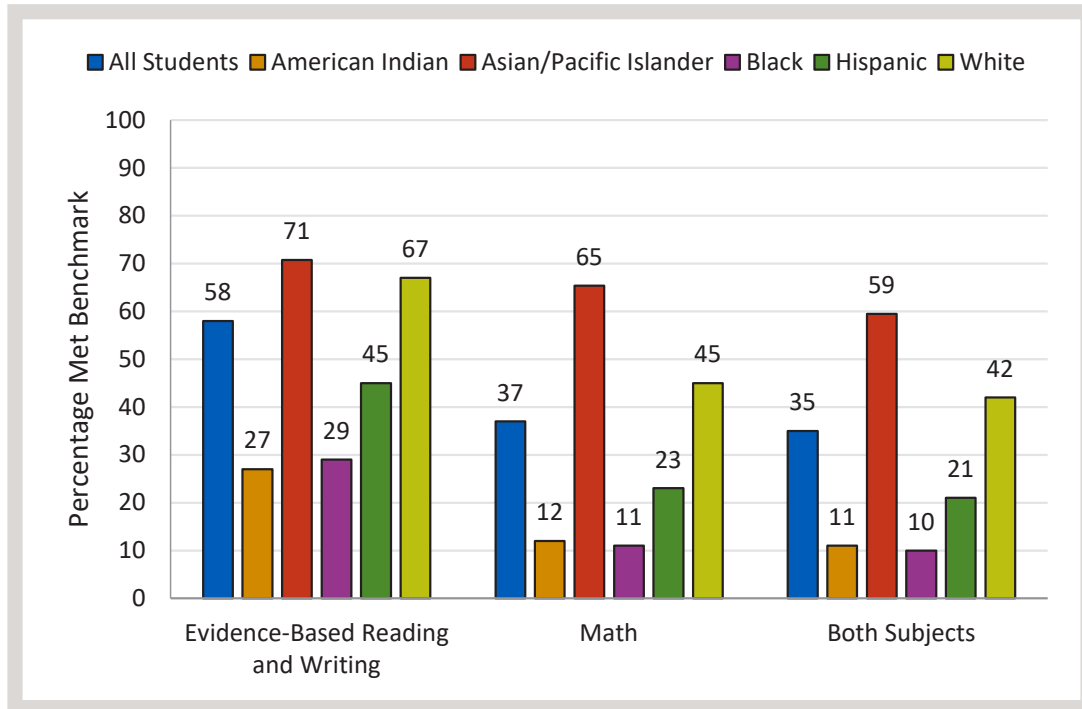


Source: College Board. (2019). *SAT Suite of Assessments Annual Report*.

Note. Some Midwestern states require high school students to take the SAT (Illinois and Michigan) or require students to take the ACT or SAT (Ohio).

Figure 10. Percentage of SAT-Tested High School Graduates Who Met or Exceeded College Readiness Benchmark Scores by Race and Ethnicity

 *About 35 percent of high school graduates in Michigan met or exceeded college readiness benchmarks in both tested subjects. Lower percentages of American Indians, Blacks, and Hispanics met performance benchmarks relative to Whites and Asian/Pacific Islanders.*



Source: College Board. (2019). *SAT Suite of Assessments Annual Report*.

Participation

ABOUT THESE METRICS

A critical challenge for policymakers is to ensure that residents can access a college education compatible with their aspirations and abilities. Postsecondary participation rates provide a general indication of whether opportunities for higher education need to be improved for both younger and older adults. Geographical location, for example, has been identified as a potential barrier for prospective college students. A recent national analysis estimated that 11.2 million adults live more than a 60-minute drive from a public two- or four-year college.¹⁷


Direct enrollment. The direct enrollment rate is defined as the percentage of high school graduates who enroll in a postsecondary institution during the fall immediately following high school completion.¹⁸ Postponed enrollment may lead to future obstacles to degree completion, such as diminishing academic skills and knowledge as well as the adoption of competing roles and obligations (e.g., work, family). Research has indicated that the odds of obtaining a bachelor's degree decrease when a student delays postsecondary enrollment after graduating from high school.¹⁹

Traditional-age enrollment. Participation among traditional-age students is defined as the percentage of all 18- to 24-year-old adults in the state who are currently enrolled in college or have completed any college credit or credential. Enrollment rates are provided for racial/ethnic and family income groups.

The enrollment gap by income is gauged by comparing college enrollment rates among dependent 18- to 24-year-old residents by the family income quartiles of all households in the state. Low income is delineated by the bottom quartile, middle income by the second and third quartiles, and high income by the top quartile.²⁰

Older adult enrollment. Participation among older adults is defined as the rate of enrollment among adults aged 25 to 49 who have earned at least a high school diploma or GED but have not yet earned an associate degree or higher.

Figure 11. Percentage of High School Graduates Going Directly to College

 **Approximately 66 percent of high school graduates in Michigan directly enrolled in college, a rate that exceeds the regional and national levels.**

Source: Western Interstate Commission for Higher Education. (2016). *Knocking at the College Door, 9th Ed.* NCES IPEDS. (2014, 2016). *Fall Enrollment File.* Top 5 states (includes ties): NY, MA, LA, CT, MS.

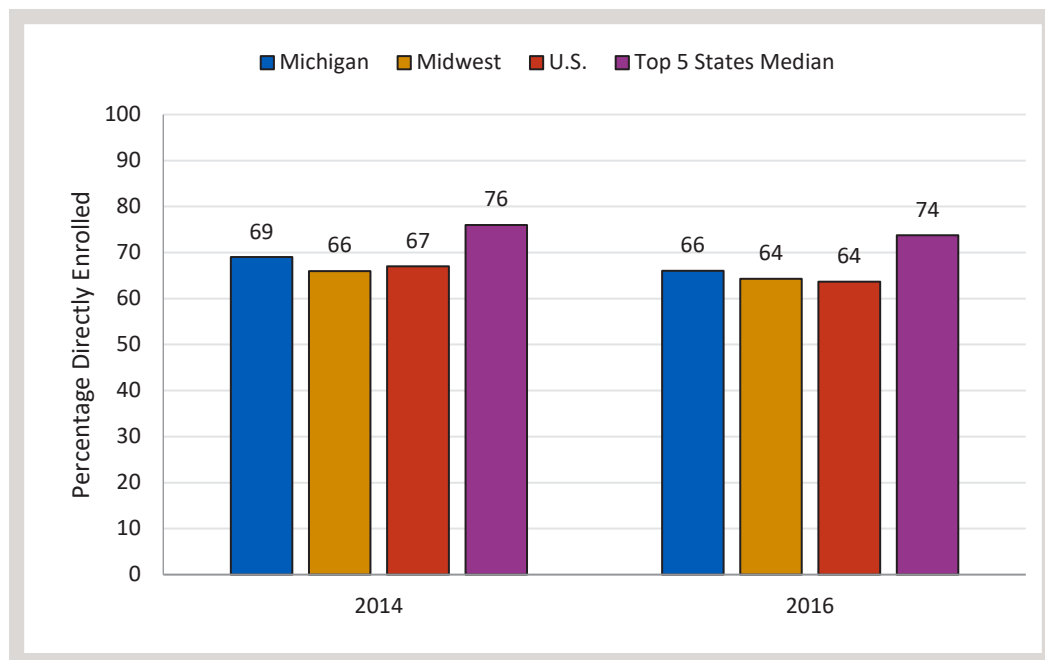



Figure 12a. Percentage of Persons Aged 18-24 who are Currently Enrolled or Have Completed Any College Credit by Race and Ethnicity

 **About 55 percent of underrepresented minorities in Michigan (ages 18-24) have gained access to college, compared to 71 percent of Whites.**

Source: U.S. Census Bureau. (2019). *American Community Survey One-Year Public Use Microdata Sample: 2018.* Top 5 States: 2018. (includes ties): MA, NY, NJ, CT, RI, ND, VT, MN, CA. Note. The underrepresented minority category comprises American Indians, Blacks, and Hispanics.

*Estimates are unavailable due to small sample sizes.

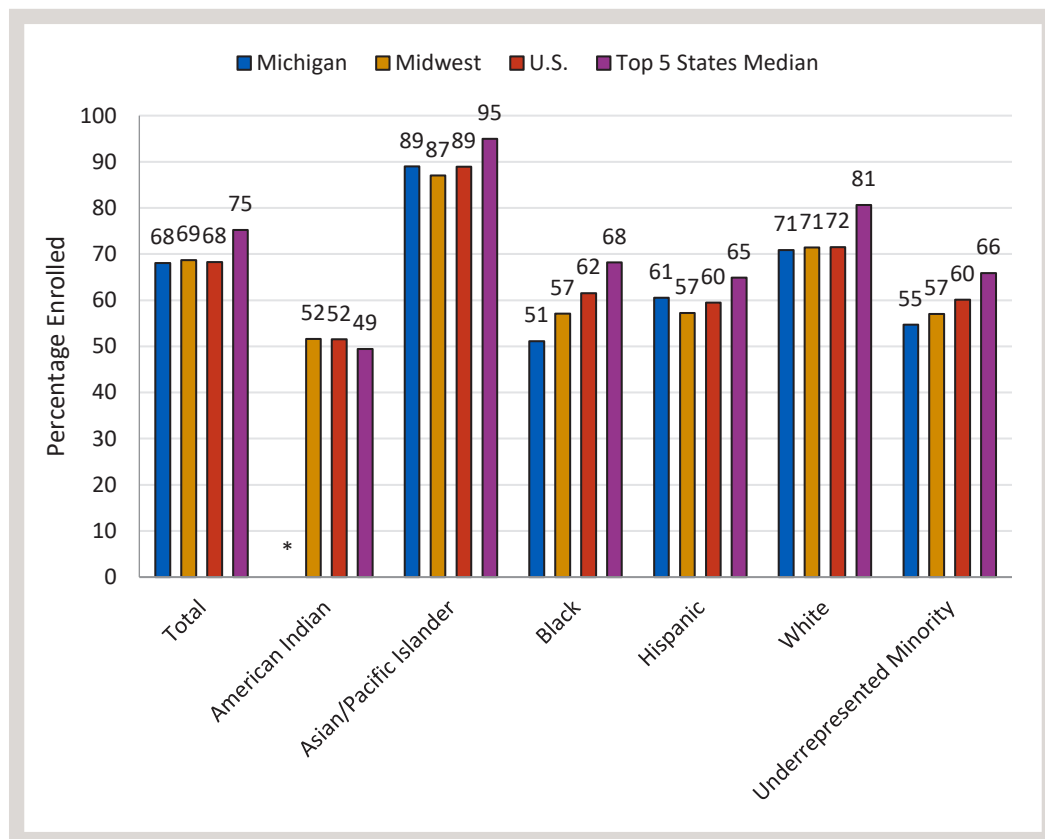

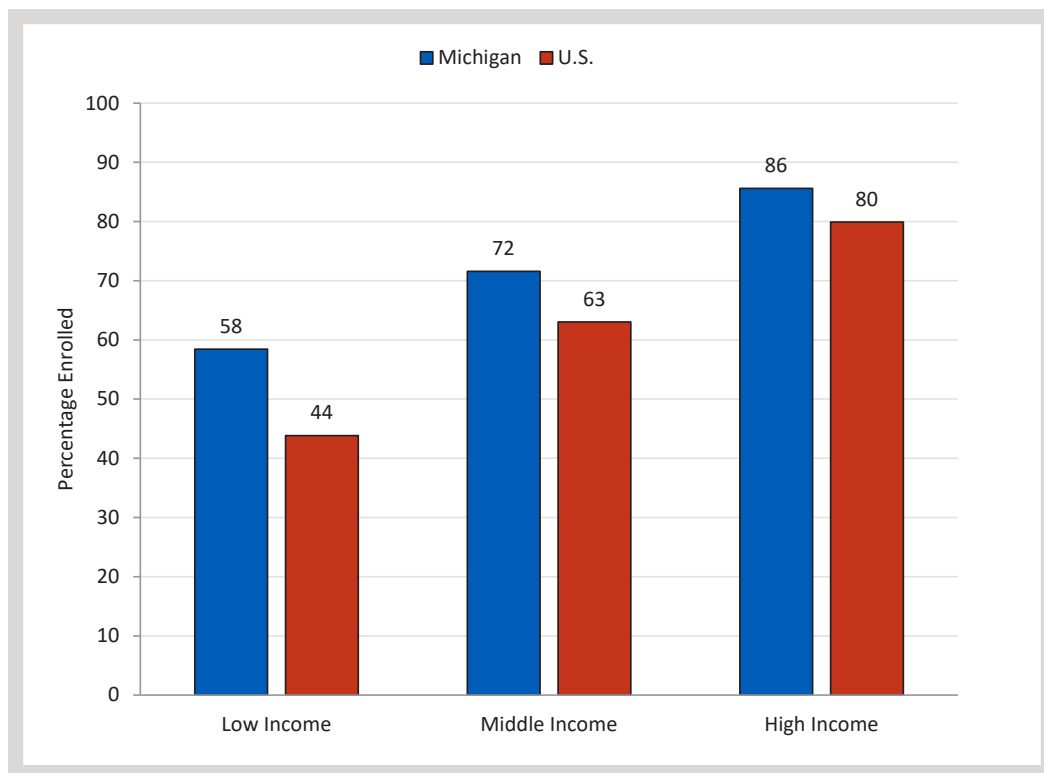


Figure 12b. Percentage of Dependent 18- to 24-Year-Old Residents who are Currently Enrolled or Have Completed Any College Credit by Income

 *The rates of college enrollment among low- and middle-income 18- to 24-year-old residents in Michigan are considerably lower than the enrollment rate for 18- to 24-year-old residents from high-income families.*

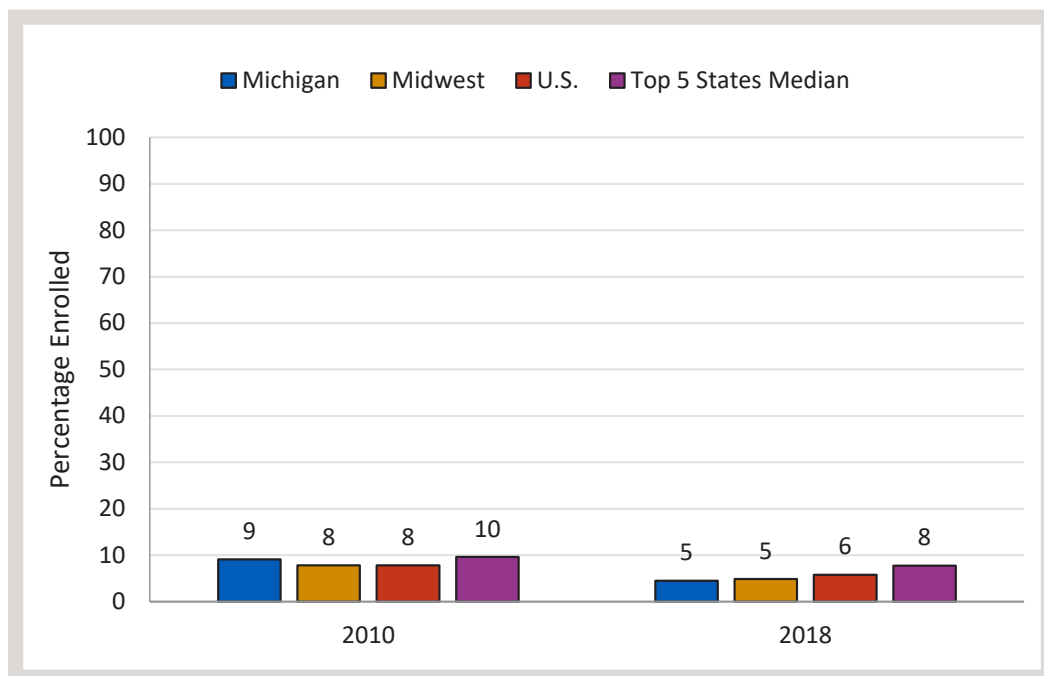


Source: U.S. Census Bureau. (2011, 2012, 2013, 2014, 2015). *Current Population Survey. Five-year estimates.*

Figure 13. Percentage of Persons Aged 25-49 without an Associate Degree or Higher who are Currently Enrolled in College

 *Michigan meets the regional benchmark in the proportion of older residents enrolled in college.*

Source: U.S. Census Bureau. (2011, 2019). *American Community Survey One-Year Public Use Microdata Sample: 2010, 2018. Top 5 States, 2018 (includes ties): CA, AK, UT, MD, MA.*



Completion

ABOUT THESE METRICS

While many states have made significant gains in postsecondary enrollment, rates of degree completion across the nation remain below expected levels. The failure to complete a degree program has negative consequences for both students and states. Since employers are more likely to demand an educational credential than a specific number of postsecondary credits, a premature departure from college can severely curb one's prospects for future employment and earnings. For example, individuals who have attained a bachelor's degree earn 14 to 26 percent more than those who have completed 16 years of schooling without graduating from college.²¹ Similarly, individuals who have earned a certificate or associate degree tend to earn significantly more than those who enrolled but did not graduate, particularly in health-related and technical fields.²² In addition, when students fail to graduate, the state fails to optimize its investment in higher education through lost institutional appropriations and student grant aid as well as lost revenue from state income tax.²³

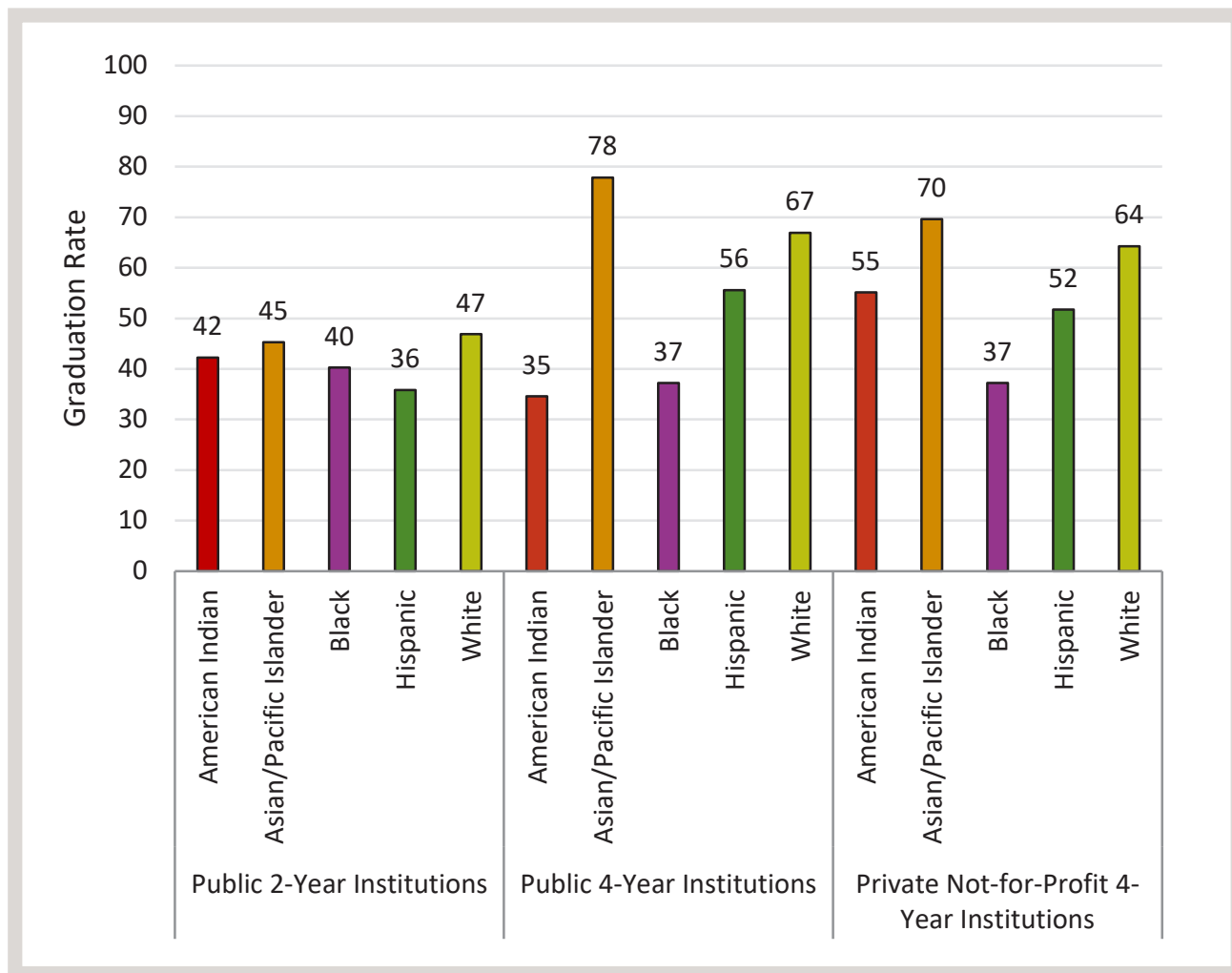
Institutional graduation rates. Institutional graduation rates are defined by the proportion of first-time, full-time students who graduate at their beginning institution. Specifically, graduation rates at two-year colleges are measured by the proportion of first-time, full-time certificate/degree-seeking students in the fall 2014 cohort who transferred or completed an associate degree or certificate at the first public two-year college within three years. Graduation rates at four-year institutions are defined by first-time, full-time, bachelor's degree-seeking students in the fall 2011 cohort who completed a bachelor's degree at the first four-year institution within six years (without accounting for transfer to another institution).

These indicators are provided for racial/ethnic groups and family income groups. Performance by income is estimated by comparing graduation rates among federal Pell grant recipients and non-Pell recipients. In 2018-19, a dependent student from a family with a household size of four (two parents and two children) and an adjusted gross income of \$60,000 or less would be eligible for a Pell Grant.²⁴

Credential completion rates. Credential completion rates are defined by the proportion of first-time, certificate/degree-seeking students in the fall 2012 cohort who completed a certificate or degree within six years at the first institution or elsewhere. The credential completion rate accounts for both part- and full-time students.


Figure 14. Percentage of First-Time, Full-Time, Degree/Certificate-Seeking Students who Transferred or Graduated within Three Years at First Public Two-Year Institution and Graduated within Six Years at First Four-Year Institution by Race and Ethnicity

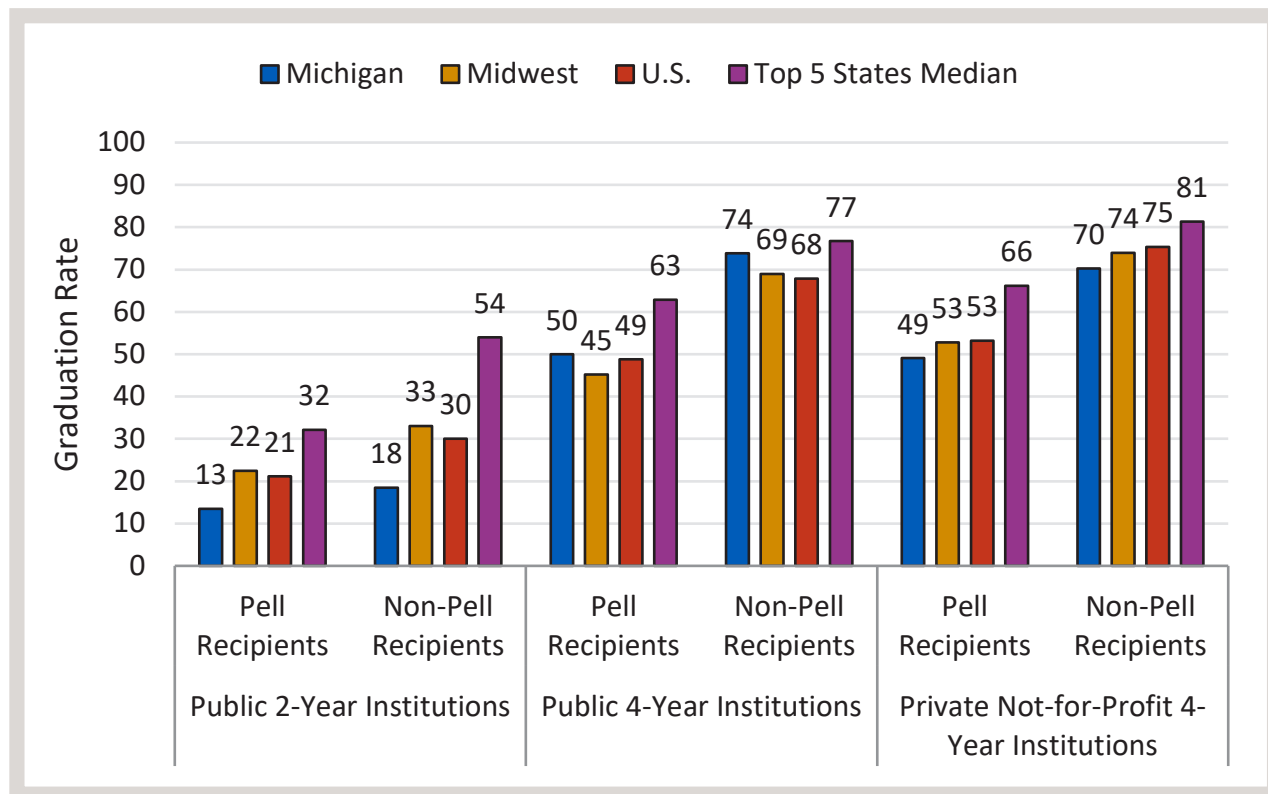
 *The graduation rates of American Indians, Blacks, and Hispanics in Michigan were lower than the graduation rates of Whites and Asian/Pacific Islanders across all types of institutions.*



Source: NCES IPEDS, (2017). *Graduation Rate*.


Figure 15. Percentage of First-Time, Full-Time, Degree/Certificate-Seeking Students who Graduated within Three Years at First Public Two-Year Institution and Graduated within Six Years at First Four-Year Institution by Pell Grant Recipient Status

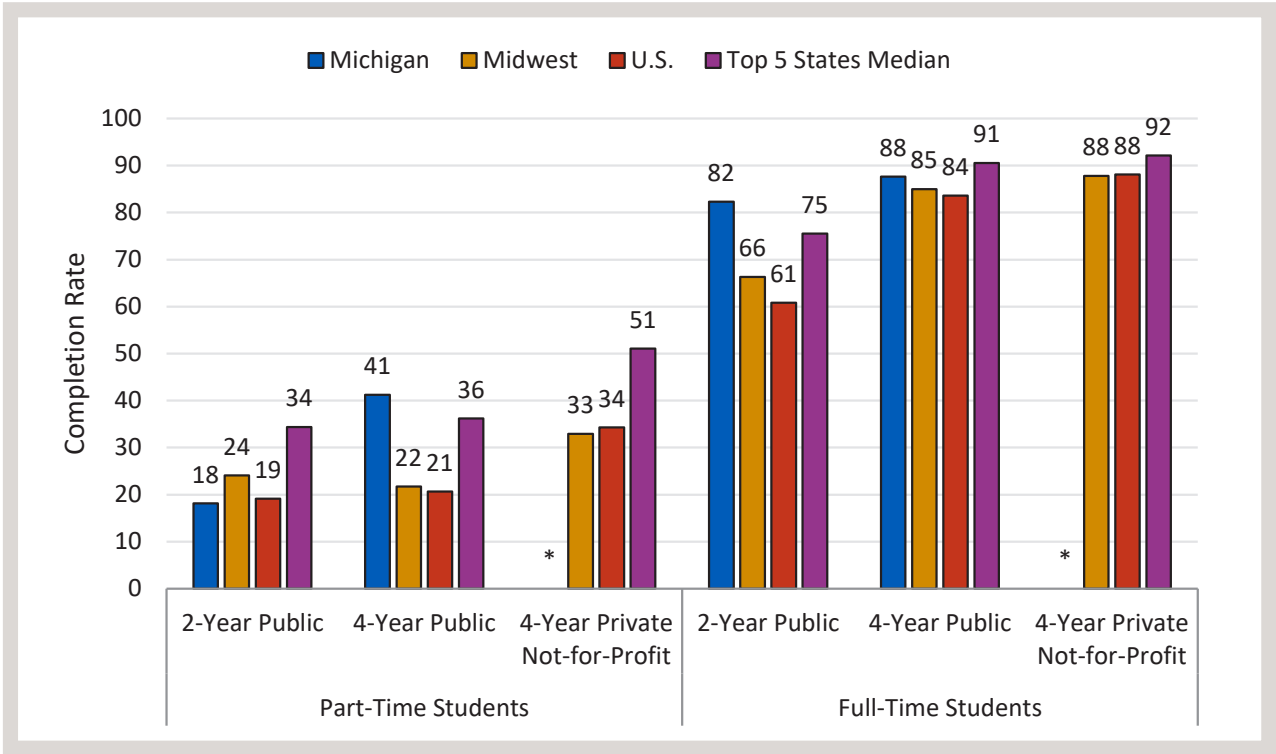
 *The graduation rates of low-income students (i.e., Pell Grant recipients) in Michigan lag behind the graduation rates of higher-income students at both two- and four-year institutions.*



Source: NCES IPEDS. (2017). *Graduation Rate*. Top 5 States, 2017 Public two-year: (Pell recipients: AK, SD, WY, ND, KS) (Non-Pell recipients: AK, SD, ND, WI, MS) Public four-year: (Pell recipients: IA, CA, NH, WA, FL) (Non-Pell recipients: DE, VA, IA, CA, NJ) Private not-for-profit four-year: (Pell recipients: MA, RI, CA, OR, PA) (Non-Pell recipients: MA, ME, CA, RI, CT).

Figure 16. Percentage of First-Time, Certificate/Degree-Seeking Students who Completed a Credential within Six Years at Any Institution: Full- vs. Part-Time Students

 *The credential completion rate of full-time students is significantly higher than the completion rate of part-time students in Michigan.*



Source: Shapiro, D., Dundar, A., Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y., A. (2019). *Completing college: A state-level view of student attainment rates* (Signature Report No. 16a). Herndon, VA: National Student Clearinghouse. Top 5 States: Part-time students: (Two-year public: GA, WI, MN, KY, NH) (Four-year public: NJ, MI, MT, VA, CA) (Four-year private not-for-profit: OR, MD, NJ, IL, ME), Full-time students: (Two-year public: MI, SD, ND, IL, FL) (Four-year public: IA, MD, NH, MN, VA) (Four-year private not-for-profit: RI, WA, OR, MD, PA).
 *Estimates are not available for all institution types.

Affordability

ABOUT THESE METRICS

Over the past few decades, college tuition and fees have increased at more than four times the rate of consumer prices, partly in response to reductions in state and local funding. These increases in tuition have occurred while the incomes of many low- and middle-income families have stagnated or declined. This is potentially problematic since a higher net price of college has been associated with lower rates of college enrollment and completion, particularly among students from low-income families.²⁵

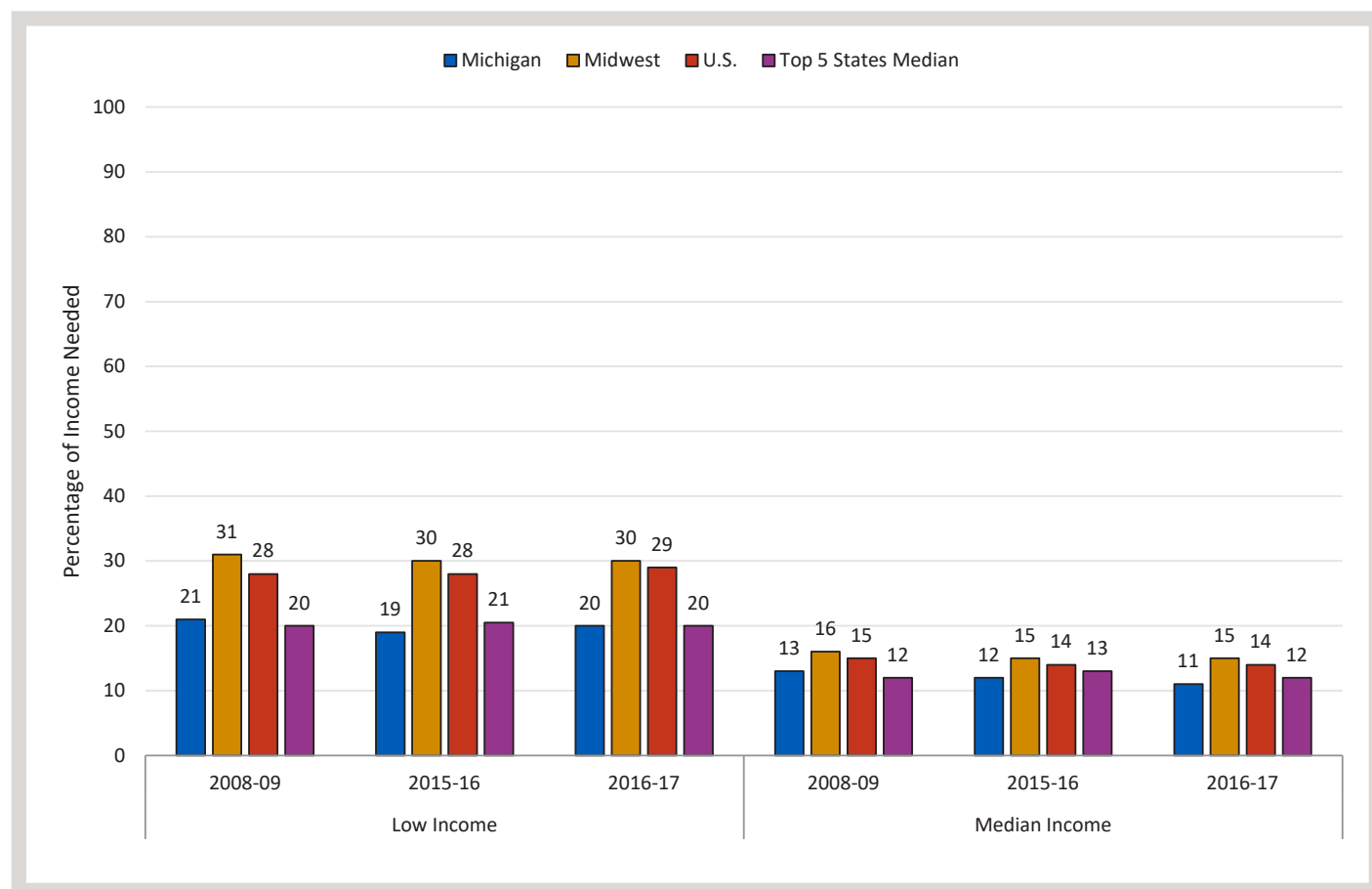
Ability to pay. The ability to pay for college is measured by the percentage of family income needed to pay the net price of full-time enrollment at public two- and four-year institutions. The average net price is calculated as the total cost of attendance (tuition and fees, books, supplies, and room and board) minus the average institutional, local, state, and federal grant aid. In order to assess the degree of affordability for students of different income levels, this indicator is presented for families with median income (\$67,027 in 2017) and low income, which is defined as an income equal to the federal poverty level for a family of four (\$24,600 in 2017). The indicator is also presented by the median income for families in each racial and ethnic group.

Student loan debt. Student loan debt is measured by the percentage of bachelor's degree recipients with student loan debt and the average student loan debt among bachelor's degree recipients with student loans at public four-year institutions (excluding credit card debt or borrowing from family members).²⁶

Figure 17a. Percentage of Family Income Needed to Pay for Full-Time Enrollment at Public Two-Year Institutions




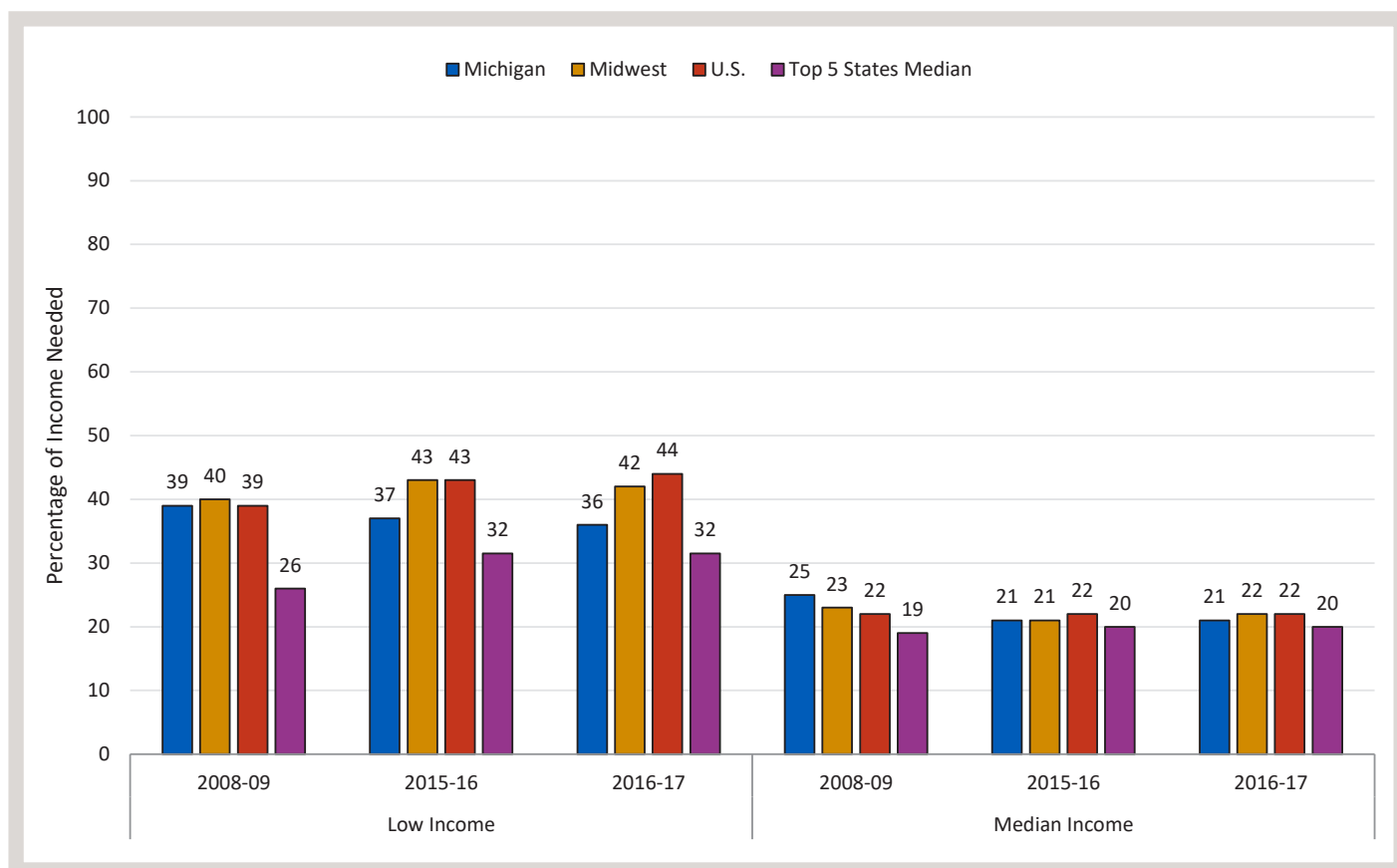
Two-year college attendance in Michigan for students from median-income families requires 11 percent of family income, compared to 20 percent of income for students from low-income families.



Source: NCES IPEDS. (2009, 2016, 2017). *Net price*. U.S. Census Bureau. (2010, 2017, 2018). *American Community Survey One-Year Public Use Microdata Sample: 2009, 2016, 2017*. Top 5 States, 2016-17 (includes ties): Low-Income Students: MS, GA, KY, IL, MI, RI, WY, AL, WA, AL, WA; Median income students: CT, WY, GA, MD, MI, VA, IL, KY, MA, MO, NE, NJ, AL, CA, DE, MS, NC, OR, RI, TN, TX, UT.


Figure 17b. Percentage of Family Income Needed to Pay for Full-Time Enrollment at Public Four-Year Institutions

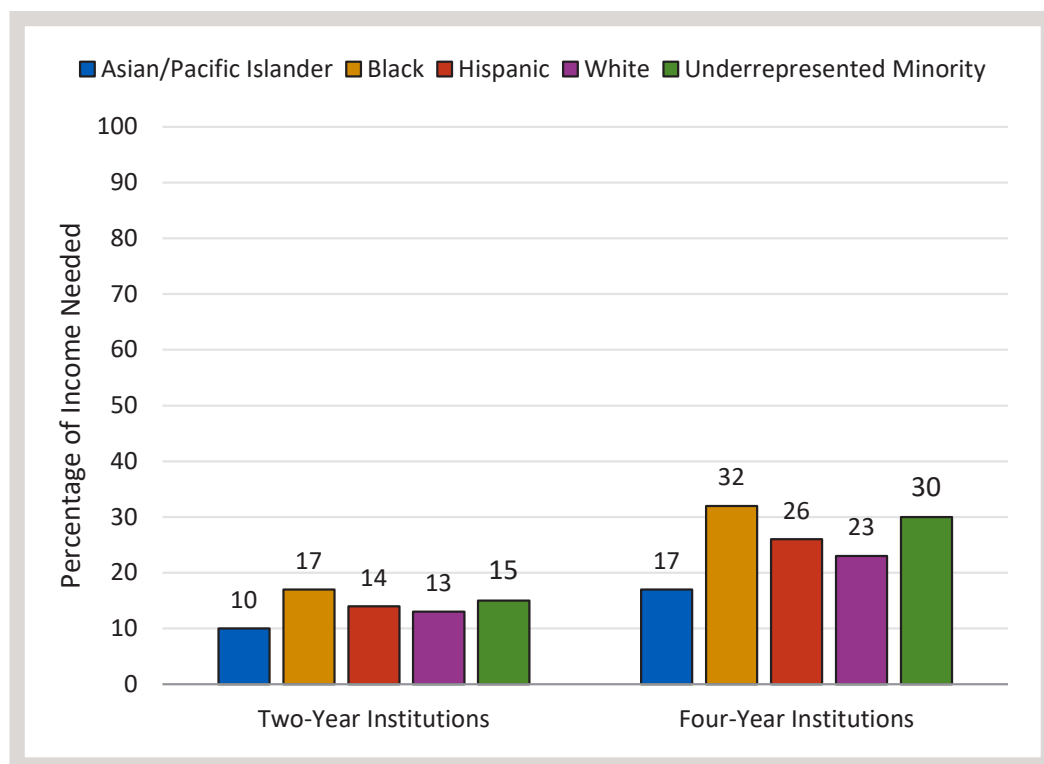
 *Four-year college attendance in Michigan for students from median-income families requires 21 percent of family income, compared to 36 percent of income for students from low-income families.*



Source: NCES IPEDS. (2009, 2016, 2017). *Net price*. U.S. Census Bureau. (2010, 2017, 2018). *American Community Survey One-Year Public Use Microdata Sample: 2009, 2016, 2017*. Top 5 States, 2016-17 (includes ties): Low-Income Students: IN, NY, WA, CA, AZ, NC; Median income students: ND, IN, UT, WY, HI, IA, ME, NY, AK, DE, MA, MN, MO, NE, AZ, CT, KS, MD, MI, MT, NC, TX.

Figure 17c. Percentage of Family Income Needed to Pay for Full-Time Enrollment at Public Two- and Four-Year Institutions by Race and Ethnicity


 **College attendance in Michigan requires a greater share of family income for underrepresented students than for White students.**



Source: NCES IPEDS. (2017). *Net price*. U.S. Census Bureau. (2018). *American Community Survey One-Year Public Use Microdata Sample: 2017*.

Note: The underrepresented minority category consists of American Indians, Blacks, and Hispanics. Estimates for some groups are unavailable due to small sample sizes.

Figure 18a. Percentage of Public Four-Year College Graduates with Student Loan Debt

 **The percentage of public four-year college graduates in Michigan with student loan debt is below the regional level.**

Source: Institute for College Access and Success. *College InSight* database. Top 5 States, 2017-18 (includes ties): AK, UT, HI, WA, WY, FL, LA.

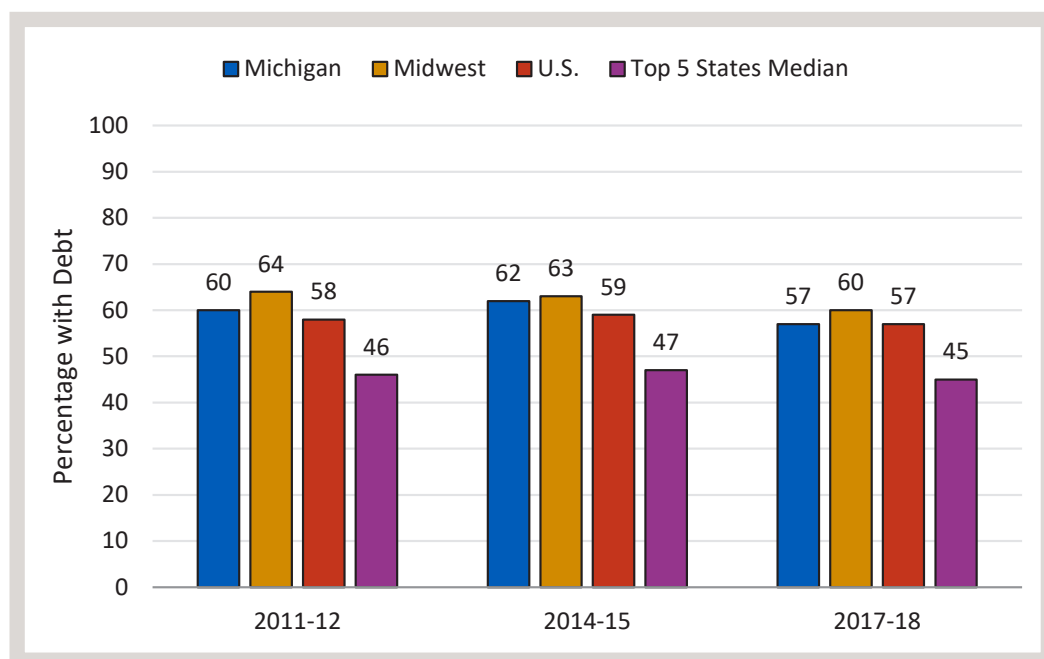
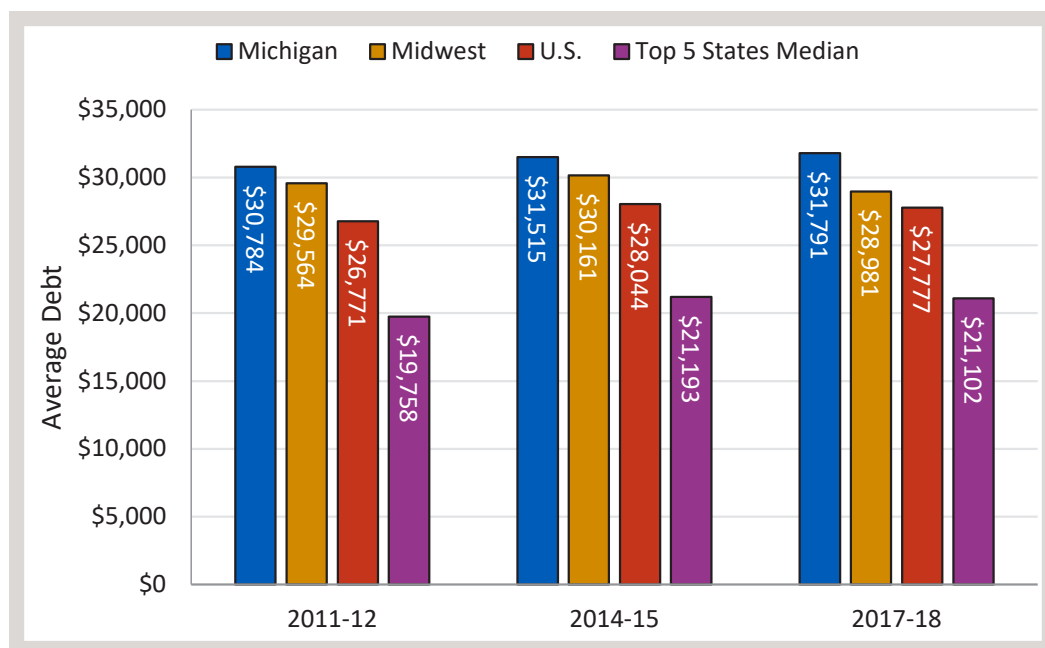


Figure 18b. Average Student Loan Debt Among Public Four-Year College Graduates with Loans

 *The average amount of loans held by public four-year college graduates with student loan debt in Michigan is above the regional and national levels.*

Source: Institute for College Access and Success. *College InSight* database. Top 5 States, 2017-18: CA, UT, WA, NM, FL.

Note: College graduates without debt are omitted from calculation. Estimates have been adjusted for inflation.



ABOUT THESE METRICS

Substantial financial investments are required to create and sustain a P-20 educational system that meets state needs for economic and social development. Altogether states allocated 10 percent of their budgets to higher education in 2018,²⁷ including general operating expenses (78 percent); research, agricultural extension, and medical education (10 percent); and student financial aid (11 percent).²⁸ Various factors influence funding for education within any particular state, including the tax base and structure, enrollment, expenditures for other public services, and economic conditions. Notably, state funding for higher education fell significantly following two major recessions (the tech bust in the early 2000s and the Great Recession in 2007-2009), but the ensuing economic recoveries did not result in reinvestment in higher education at pre-recession levels.²⁹ States also differ in the strategies used to ensure that postsecondary education remains affordable. Some concentrate funds into direct institutional appropriations, while others may focus more on need-based student aid.

Educational Appropriations. State and local educational appropriations for higher education include funds used for general public operations and public student financial aid. These appropriations exclude spending for research, agriculture-related programs, and medical education, as well as support for independent institutions or students attending them.³⁰

State funding effort. The state's overall effort to fund higher education is portrayed as state fiscal support for higher education per \$1,000 of personal income.³¹ This is one measure for assessing the level of funding for higher education relative to available resources. State fiscal support consists of state tax appropriations, local tax support, additional non-tax funds such as lottery revenue that support higher education, and funds appropriated to other state entities for specific higher education expenditures or benefits. State and local appropriations in this indicator are used for general operations, agriculture-related programs, public student aid, medical education, and support for independent institutions or students attending them.

State and student cost share. The relative share of the cost of higher education is represented by comparing educational appropriations and net tuition revenue as a percent of total educational revenue for public postsecondary institutions, including four-year, two-year, and less-than two-year institutions.

Institutional funding relative to expenditures. State and local appropriations are examined for public two- and four-year institutions in relation to educational expenditures, which reflect the total amount spent on instruction, student services, and academic support. State appropriations may influence the effectiveness and competitiveness of institutions as well as tuition rates.³²

Need-based aid funding. State funding for grant aid based on financial need (relative to solely merit or other criteria) is measured by the amount of need-based grant aid per FTE student. The receipt of grant aid has been linked with higher rates of college enrollment and degree completion.³³

Need-based aid commitment. The state's commitment to providing need-based aid is measured by (a) need-based aid as a percent of total grant aid allocations and (b) total state need-based aid relative to Pell grant aid. A state's total Pell grant allocation reflects the magnitude of financial need among college students.

Figure 19. State and Local Educational Appropriations for Higher Education per FTE Student

 **State and local funding for higher education in Michigan was below the regional and national levels in 2018.**

Source: SHEEO. (2019). *State higher education finance: FY 18*. Estimates have been adjusted for inflation. Educational appropriation estimates for Illinois have been adjusted to exclude legacy pension payments.

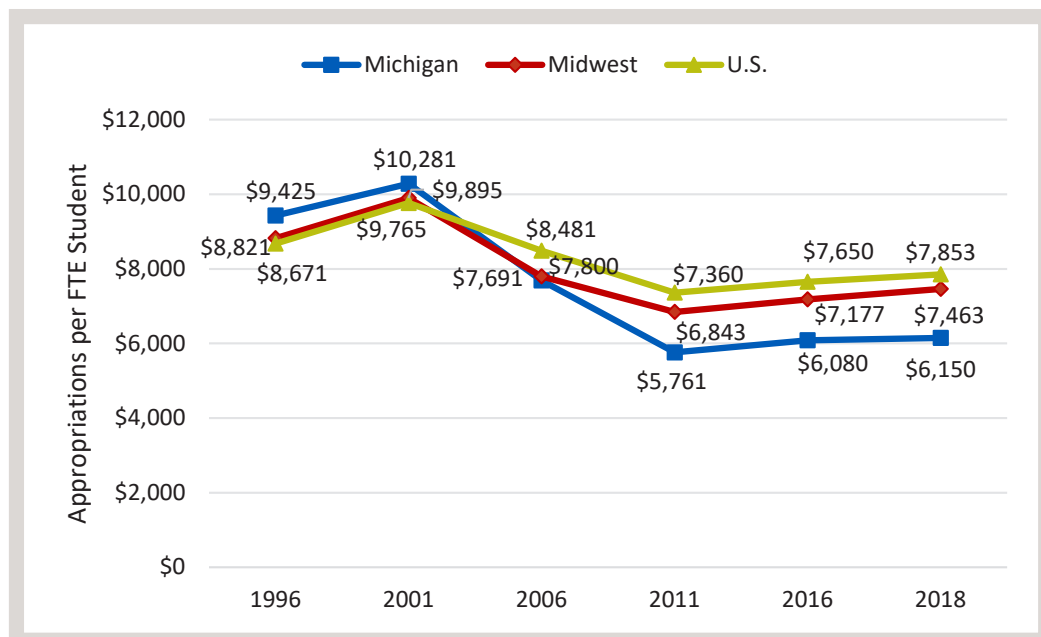


Figure 20. State Fiscal Support for Higher Education per \$1,000 of Personal Income

 **Funding per \$1,000 of personal income in Michigan was below the regional and national benchmarks in 2017.**

Source: SHEEO. (2019). *State higher education finance: FY 18*. Estimates have been adjusted for inflation. Top 5 States, 2017: WY, NM, ND, MS, NE.

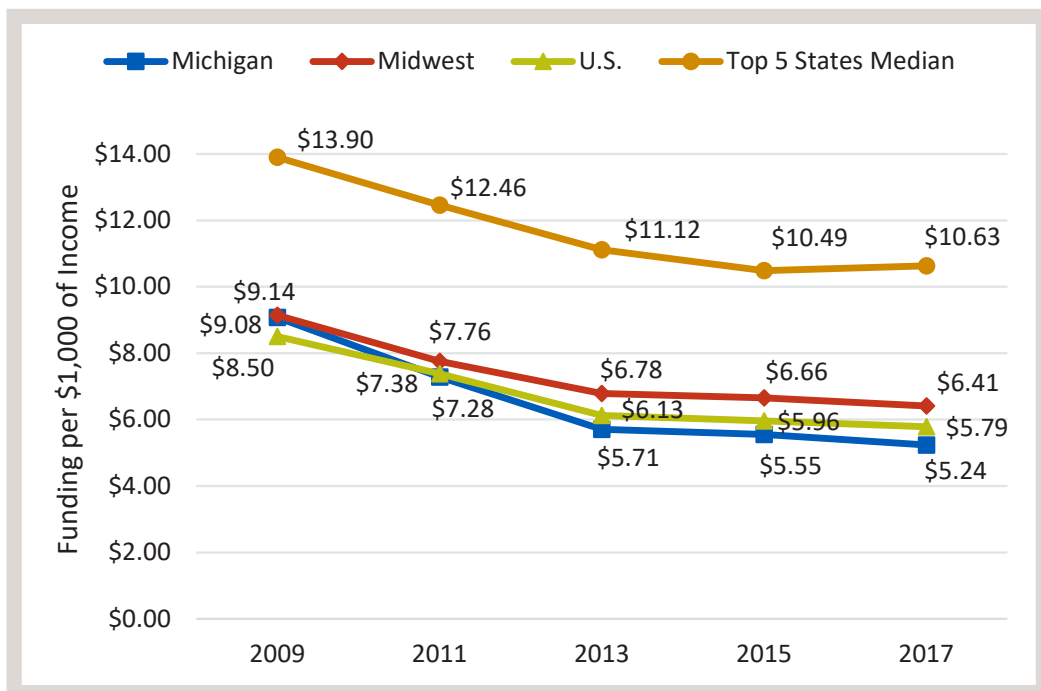
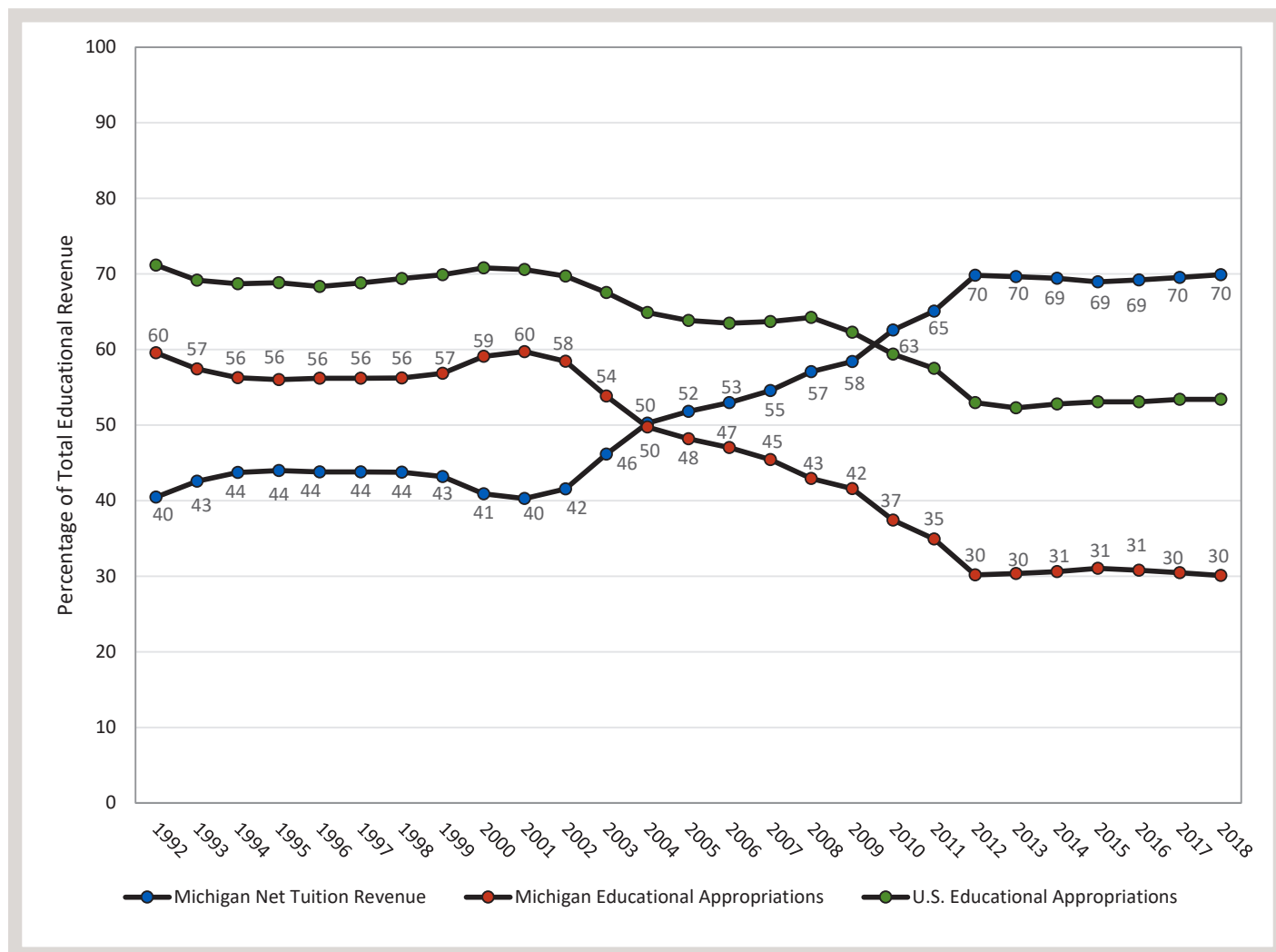


Figure 21. State and Local Educational Appropriations and Net Tuition Revenue as a Percentage of Total Educational Revenue for Public Postsecondary Institutions (per FTE Student)




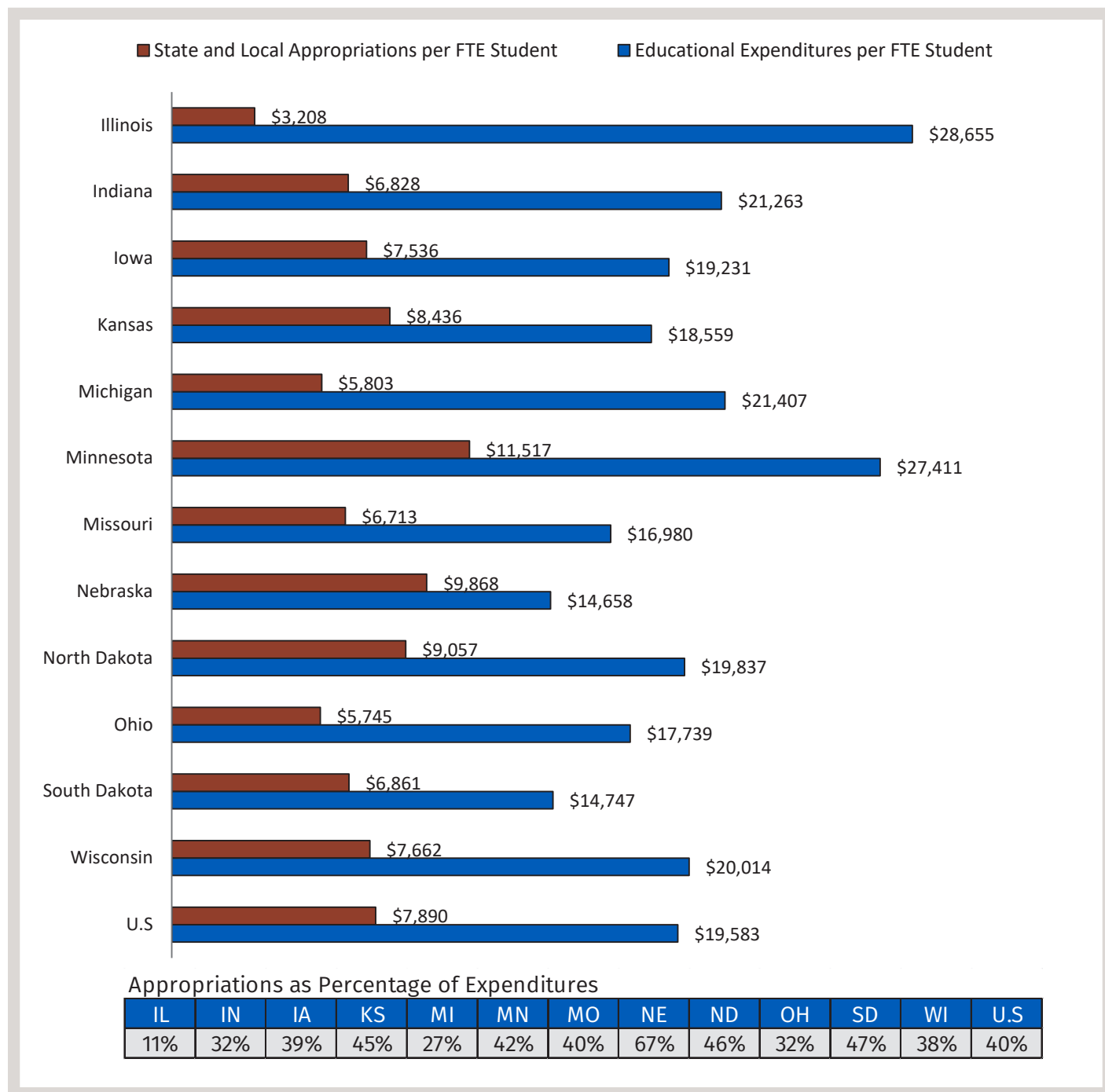
The student's share of the cost of enrollment currently exceeds the state's share, as net tuition revenue constitutes a relatively larger proportion of revenue among public colleges and universities in Michigan.



Source: SHEEO. (2019). *State higher education finance: FY 18*. Estimates have been adjusted for inflation. Educational appropriation estimates for Illinois have been adjusted to exclude legacy pension payments.

Figure 22a. State and Local Appropriations Relative to Total Educational Expenditures per FTE Student at Public Doctoral Universities

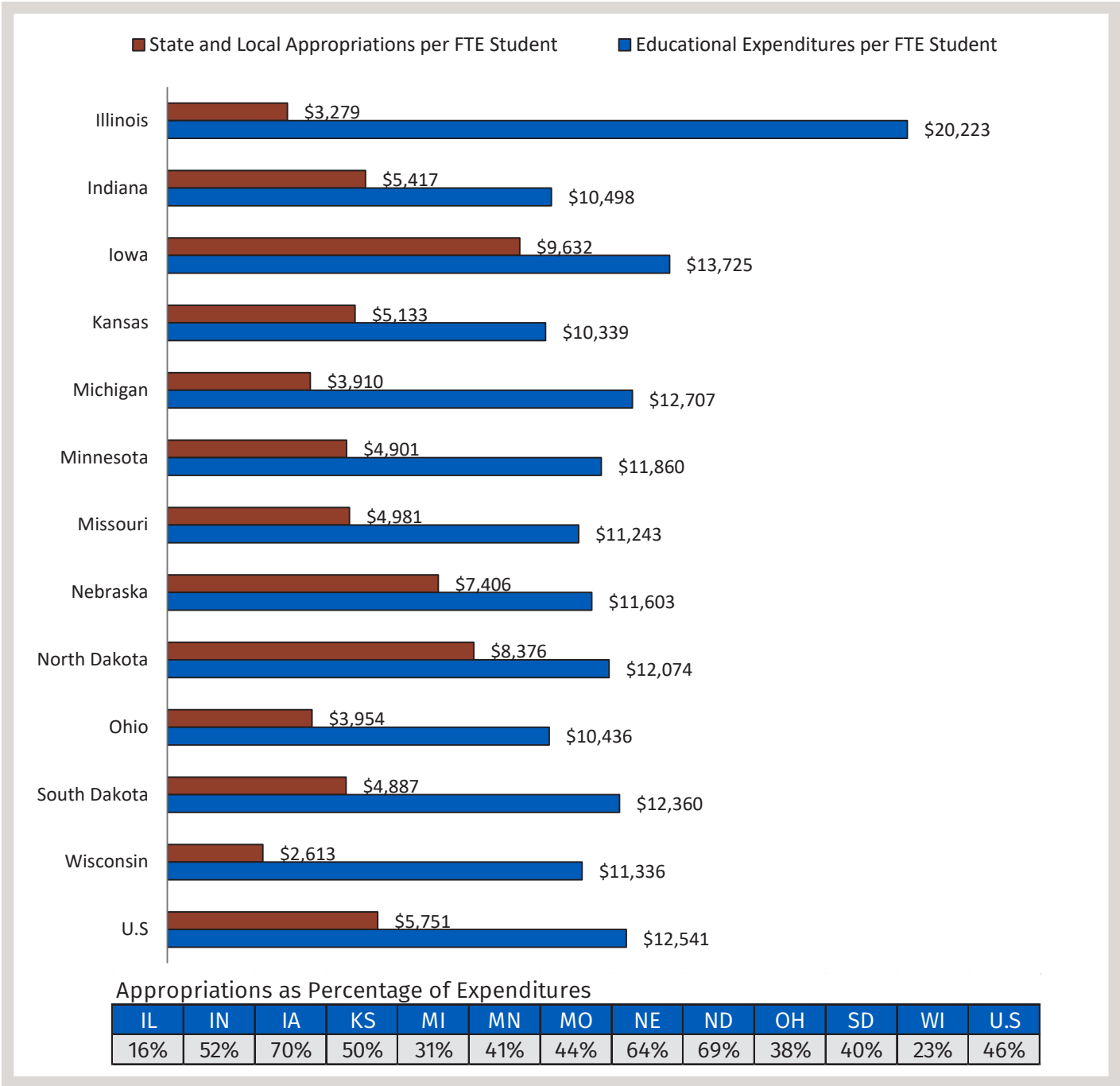
 *State and local appropriations in Michigan constitute 27 percent of educational expenditures at public doctoral universities, which is below the national level of 40 percent.*



NCES IPEDS. (2017). *Finance. 12-Month Enrollment*.

Figure 22b. State and Local Appropriations Relative to Total Educational Expenditures per FTE Student at Public Master’s Universities

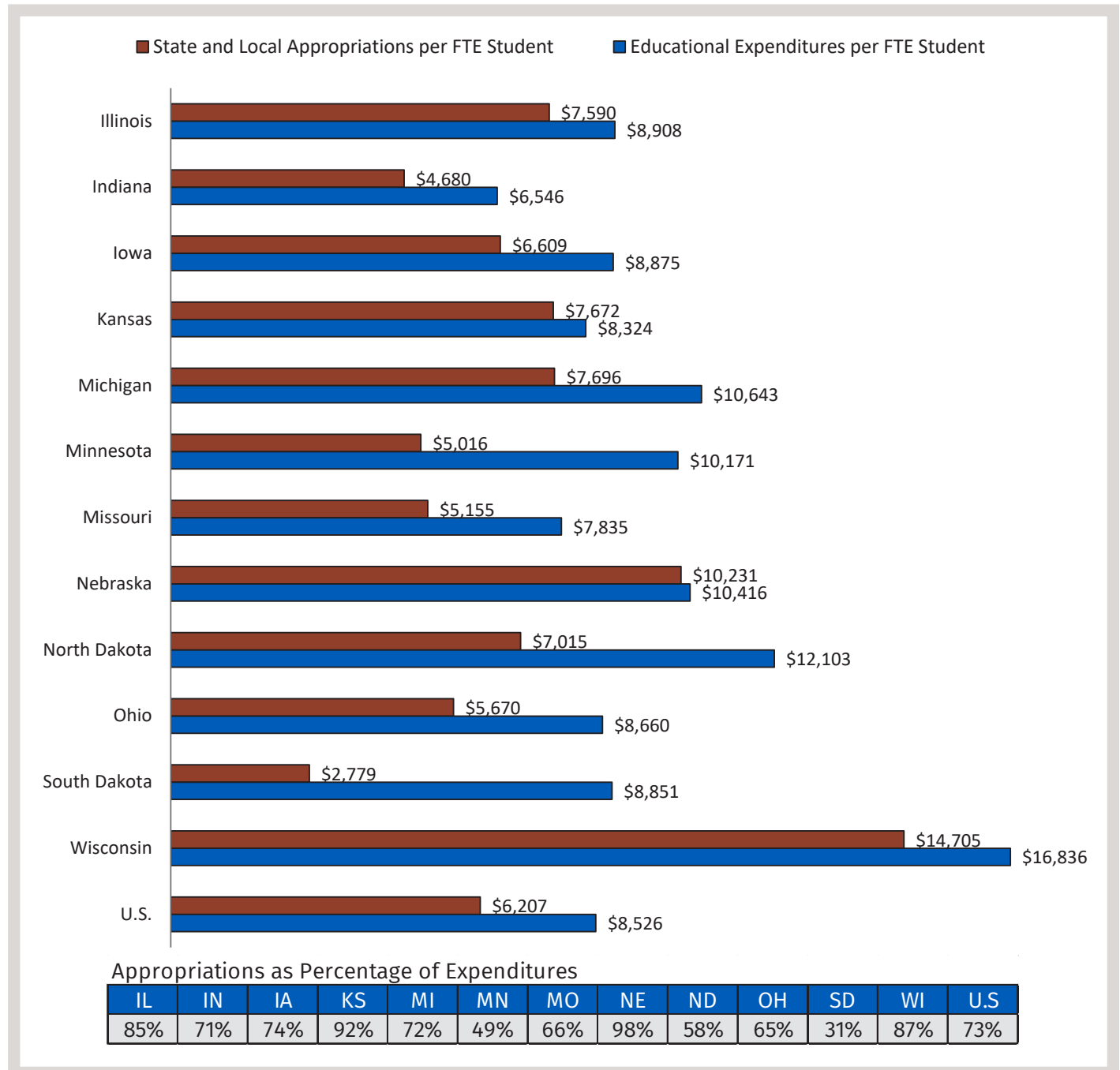
 *At master’s universities in Michigan, state and local appropriations reflect 31 percent of educational expenditures, which is below the national level of 46 percent.*



NCES IPEDS. (2017). *Finance, 12-Month Enrollment*.

Figure 22c. State and Local Appropriations Relative to Total Educational Expenditures per FTE Student at Public Associate's Colleges

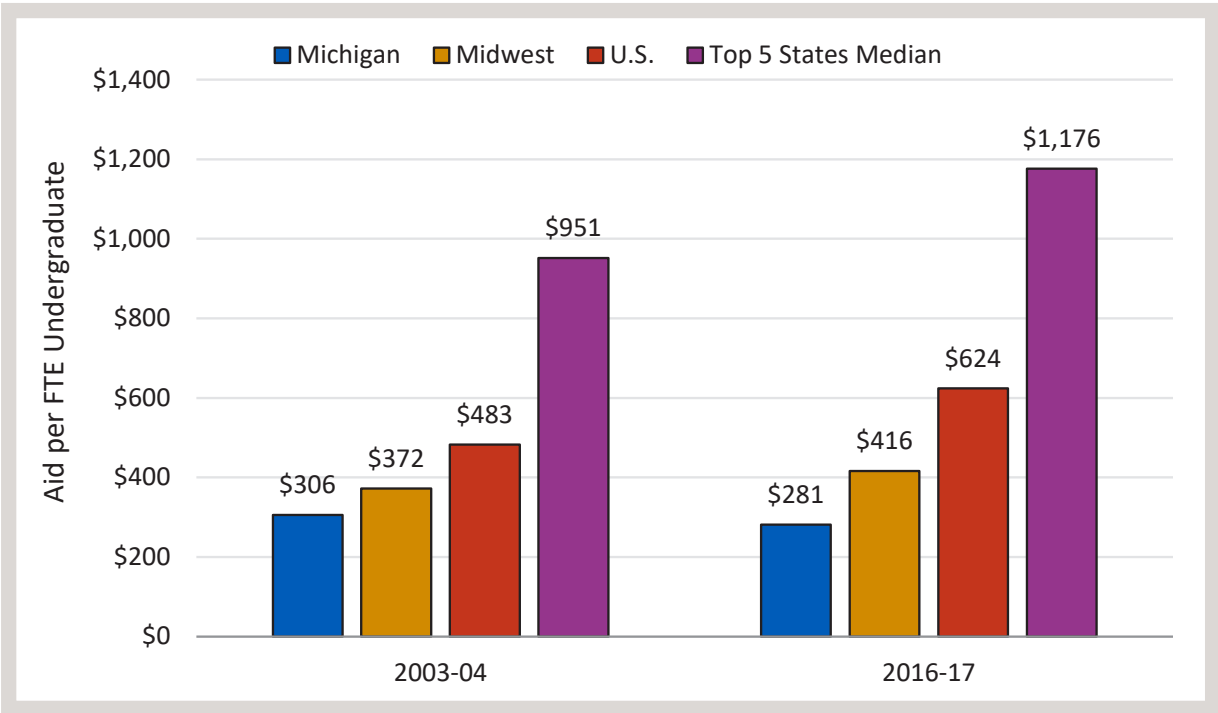
 *At two-year colleges in Michigan, state and local appropriations are equivalent to 72 percent of educational expenditures, which is below the national level of 73 percent.*



NCES IPEDS. (2017). *Finance, 12-Month Enrollment*.

Figure 23. State Need-Based Grant Aid per FTE Undergraduate Student

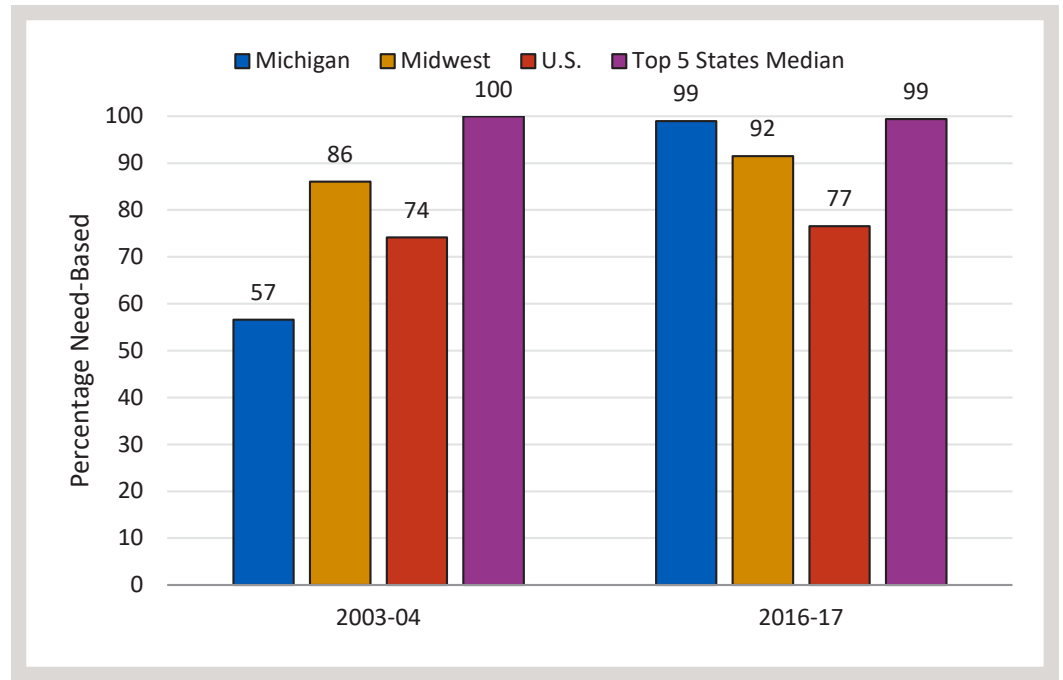
 *State need-based grant aid in Michigan decreased over the past decade and was below the regional and national benchmarks in 2016-17.*



Source: National Association of State Student Grant and Aid Programs (2005). *35th annual survey report on state-sponsored student financial aid for 2003-04 academic year*. National Association of State Student Grant and Aid Programs (2018). *48th annual survey report on state-sponsored student financial aid for 2016-17 academic year*. The 2004 estimates have been adjusted for inflation. Top 5 States, 2016-17: NJ, WA, CA, IA, NY.


Figure 24a. Percentage of State Grant Aid Defined as Need-Based

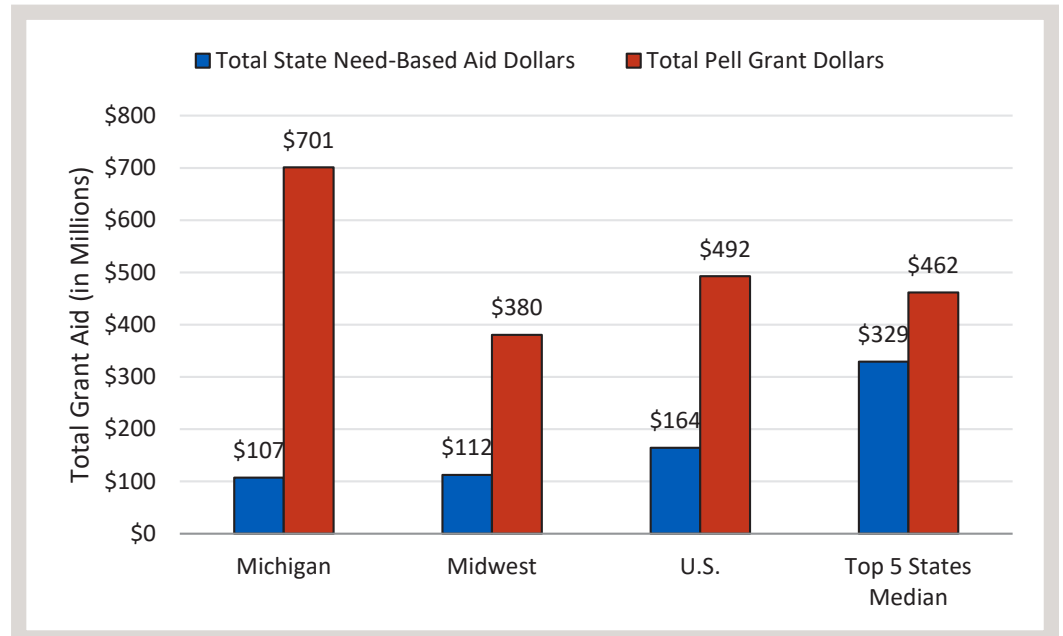
 **Michigan allocates 99 percent of its grant aid based on financial need (rather than solely merit or other criteria).**



Source: National Association of State Student Grant and Aid Programs (2005). *35th annual survey report on state-sponsored student financial aid for 2003-04 academic year*. National Association of State Student Grant and Aid Programs (2018). *48th annual survey report on state-sponsored student financial aid for 2016-17 academic year*. The 2004 estimates have been adjusted for inflation. Top 5 States, 2016-17 (includes ties): AZ, HI, KS, ME, OR, RI, TX, CA, IL, VT, PA, MN, CT, MD, MI, NJ, ID, IN, NC, WI, MA, WA, NY.

Figure 24b. Total State Need-Based Grant Aid Compared to Federal Pell Grant Aid (in Millions)

 **Regionally and nationally, state need-based aid dollars are about three times less than total Pell dollars. In contrast, the amount of state need-based aid dollars in Michigan is about 6.6 times less than the total amount of federal Pell Grant dollars.**



Source: National Association of State Student Grant and Aid Programs (2018). *48th annual survey report on state-sponsored student financial aid for 2016-17 academic year*. NCES IPEDS. (2017). *Student financial aid*. Top 5 States: WA, NJ, IN, CA, MN.

Endnotes

¹ The Georgetown University Center on Education and the Workforce. (2013). *Recovery: Job growth and education requirements through 2020*.

² Job categories were defined by the Georgetown University Center on Education and the Workforce: Managerial and Professional (e.g., management, business operations, finance, and legal); STEM (e.g., computer and mathematical science, architects and technicians, engineers and technicians, life and physical scientists); Social Sciences (psychologists, market research analysts, urban planners, survey researchers, economists, anthropologists, archeologists, sociologists, political scientists, historians, geographers); Community Service and Arts (e.g., social services, arts, design, sports, entertainment, media); Education; Healthcare (professionals and support); Food and Personal Services (e.g., protective services, food preparation and serving, personal care); Sales and Office Support; and Blue Collar (e.g., farming, fishing and forestry, construction and extraction, installation, maintenance and equipment repair, production, transportation and material moving). The Georgetown Center describes “Some College, No Degree” as an amorphous category in which some people with high school diplomas self-report their highest level of education in the “Some College” category. The U.S. Bureau of Labor Statistics defines “Some College, No Degree” as the “achievement of a high school diploma or equivalent plus the completion of one or more postsecondary courses that did not result in a degree or award.” It is generally accepted that this category includes completion of 1- and 2-year certificates.

³ Carnevale, A.P., Strohl, J., Cheah, B., and Ridley, N. (2017). *Good Jobs that Pay Without a BA*. Georgetown University Center on Education and the Workforce.

⁴ Lumina Foundation. (2019). *States with higher education attainment goals*. Retrieved from https://www.schev.edu/docs/default-source/about-section/council-files/2019-council-meetings/june-council-retreat/attainment_goal_state-rundown_021519.pdf

⁵ U.S. Census Bureau. (2019). *2018 American Community Survey One-Year Estimates*.

⁶ Lumina Foundation. (2019). *A stronger nation*. Retrieved from <http://strongernation.luminafoundation.org/report/2019/#nation>

⁷ National Center for Higher Education Management Systems. (2017). *Calculating the economic value of increasing college credentials by 2025*.

⁸ College Board. (2016). *Education pays 2016*. Retrieved from <https://research.collegeboard.org/trends/education-pays>

⁹ Rosenbaum, J. (2012). Degrees of health disparities: Health status disparities between young adults with high school diplomas, sub-baccalaureate degrees, and baccalaureate degrees. *Health Services and Outcomes Research Methodology*, 12(2-3), 156-168.

¹⁰ MHEC. (2019). *MHEC interactive dashboard: Benefits*. Retrieved from <https://www.mhec.org/research/mhec-interactive-dashboard>

¹¹ Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. Retrieved from <http://www2.ed.gov/rschstat/research/pubs/toolboxrevisit/toolbox.pdf>

¹² Pianta, R. C., Barnett, W. S., Burchinal, M., & Thornburg, K. R. (2009). The effects of preschool education: What we know, how public policy is or is not aligned with the evidence base, and what we need to know. *Psychological Science in the Public Interest*, 10(2), 49-88.

¹³ American College Testing. (2008). *The forgotten middle*. Retrieved from <https://www.act.org/content/dam/act/unsecured/documents/ForgottenMiddle.pdf>

¹⁴ This report uses the four-year adjusted cohort graduation rate, which is defined as “the number of students who graduate in four years with a regular high school diploma divided by the number of students who form the adjusted cohort for the graduating class. From the beginning of 9th grade (or the earliest high school grade), students who are entering that grade for the first time form a cohort that is “adjusted” by adding any students who subsequently transfer into the cohort and subtracting any students who subsequently transfer out, emigrate to another country, or die” (U.S. Department of Education, 2012). Retrieved from <http://eddataexpress.ed.gov/dataelementoverlay.cfm/deid/127/states/XX/>

¹⁵ College Board. (2019). *SAT suite of assessments annual report*. Retrieved from <https://reports.collegeboard.org/sat-suite-program-results/state-results>

¹⁶ The percentage of high school graduates taking the SAT is calculated from the actual number of SAT takers and the projected number of high school graduates.

- ¹⁷ Myers, B. (2019). *Who lives in education deserts?* Retrieved from <https://www.chronicle.com/interactives/education-deserts>
- ¹⁸ The number of graduates from private high schools in 2014 was estimated as the average of 2011 graduates and the projected number of graduates estimated by WICHE. The Private School Universe Survey does not provide data beyond 2011.
- ¹⁹ Bozick, R., & DeLuca, S. (2005). *Better late than never? Delayed enrollment in the high school to college transition*. *Social Forces*, 84(1), 527-550.
- ²⁰ Dependent is defined as age less than 25, not married with spouse present, with the household role of sibling, child, step child, family other, foster child or grandchild. The sample excludes individuals currently enrolled in high school but includes individuals without a high school diploma or certificate who are not currently enrolled in high school. Family income quartiles are based on all households in the state: low income is delineated by the bottom quartile; middle income is delineated by the middle quartiles; and high income is delineated by the top quartile. College enrollment is defined as current postsecondary enrollment or any level of college attainment, including some college or a specific credential. Sample sizes are too small to produce single-year estimates.
- ²¹ Bitzan, J. D. (2009). Do sheepskin effects help explain racial earnings differences? *Economics of Education Review*, 28(6), 759-766. Jaeger, D. A., & Page, M. E. (1996). Degrees matter: New evidence on sheepskin effects in the returns to education. *The Review of Economics and Statistics*, 78(4), 733-740.
- ²² Liu, V. Y., Belfid, C. R., & Trimble, M. J. (2015). The medium-term labor market returns to community college awards: Evidence from North Carolina. *Economics of Education Review*, 44, 42-55. Xu, D., & Trimble, M. (2016). What about certificates? Evidence on the labor market returns to nondegree community college awards in two states. *Educational Evaluation and Policy Analysis*, 38(2), 272-292. Bahr, P. R., Dynarski, S., Jacob, B., Kreisman, D., Sosa, A., & Wiederspan, M. (2015). *Labor Market Returns to Community College Awards: Evidence from Michigan*. A CAPSEE Working Paper. Center for Analysis of Postsecondary Education and Employment. Jepsen, C., Troske, K., & Coomes, P. (2014). The labor-market returns to community college degrees, diplomas, and certificates. *Journal of Labor Economics*, 32(1), 95-121.
- ²³ Schneider, M., & Yin, Lu. (2011). *The high cost of low graduation rates: How much does dropping out of college really cost?* Retrieved from www.air.org/sites/default/files/downloads/report/AIR_High_Cost_of_Low_Graduation_Aug2011_0.pdf
- ²⁴ Minnesota Office of Higher Education. (2018). *2018-2019 Estimated EFC, Federal Pell Grant and MN State Grant by Income, Household Size and College Type – Dependent Student*. The estimate assumes an expected family contribution of \$3,630 based on federal methodology for a dependent student using 2016 parental adjusted gross income.
- ²⁵ Hossler, D., Ziskin, M., Gross, J. P., Kim, S., & Cekic, O. (2009). Student aid and its role in encouraging persistence. In J. C. Smart (Ed.), *Higher education: Handbook of theory and research* (pp. 389-425). Netherlands: Springer Netherlands. Bowen, W. G., Chingos, M. M., & McPherson, M. S. (2009). *Crossing the finish line: Completing college at America's public universities*. Princeton, NY: Princeton University Press. Heller, D. E. (Ed.). (2001). *The effects of tuition prices and financial aid on enrollment in higher education: California and the nation*. Rancho Cordova, CA: EdFund. MHEC (2014). *Campus-based practices for promoting student success: Financial aid*. Retrieved from <http://www.mhec.org/research>.
- ²⁶ The Institute for College Access and Success. (2019). *Student debt and the class of 2018*. Retrieved from <https://ticas.org/wp-content/uploads/2019/09/classof2018.pdf>. The debt estimates reflect the average per-undergraduate borrower cumulative principal from institutional, state, federal, and private loans. The debt estimates do not take into account credit card debt and family loans, thereby underestimating the overall debt burden incurred through postsecondary education.
- ²⁷ NASBO. (2018). *2018 state expenditure report: Fiscal years: 2016-2018*. Retrieved from <https://www.nasbo.org/mainsite/reports-data/state-expenditure-report>
- ²⁸ State Higher Education Executive Officers. (2019). *State higher education finance*. Retrieved from <https://sheeo.org/project/state-higher-education-finance/> Expenditure figures do not include capital or debt service
- ²⁹ MHEC. (2018). *Evaluating state funding effort for higher education*. Retrieved from https://www.mhec.org/sites/default/files/resources/mhec_affordability_series6.pdf
- ³⁰ State Higher Education Executive Officers. (2019). *State higher education finance*. Retrieved from <https://sheeo.org/project/state-higher-education-finance/>
- ³¹ See note 30.
- ³² Mumper, M., & Freeman, M. L. (2005). The causes and consequences of public college tuition inflation. In J.C. Smart (Ed.), *Higher Education: Handbook of Theory and Research*, Vol. XX, 307-361. Norwell, MA: Springer.
- ³³ See note 25.



MIDWESTERN HIGHER EDUCATION COMPACT

105 Fifth Avenue South, Suite 450 Minneapolis, MN 55401

PHONE: (612) 677-2777 FAX: 612-767-3353 E-MAIL: mhec@mhec.org

VISIT MHEC'S WEBSITE AT: WWW.MHEC.ORG