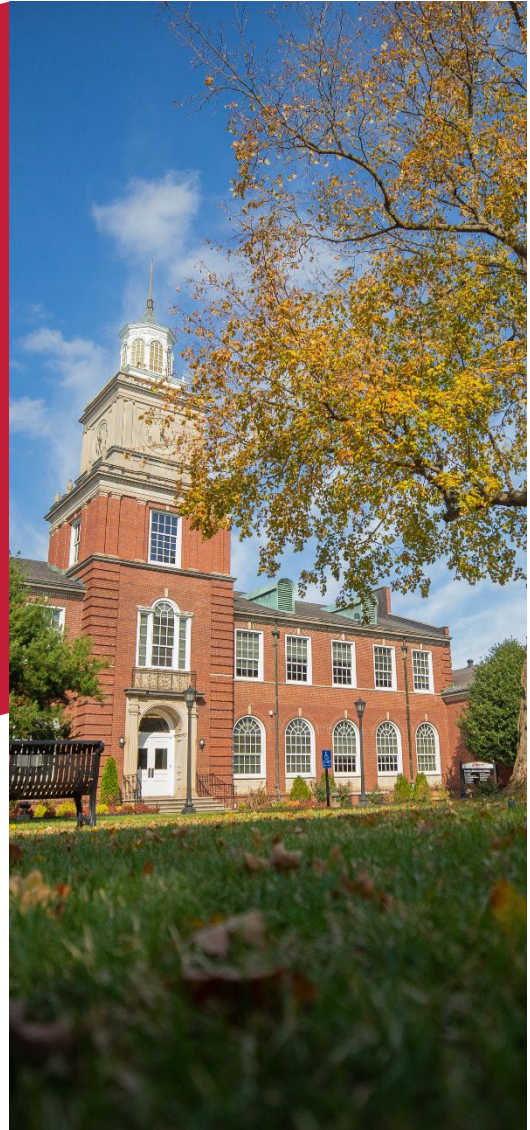


This report highlights 22 Key Performance Indicators and provides four years of comparable data with other Tennessee universities



APSU Key Performance Indicator Assessment Report

Spring 2024

Decision Support and Institutional Research

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Decision Support and Institutional Research

Ratios as Performance Indicators

Ratio and proportion analysis are some of the most powerful tools used in higher education. They are used as devices to analyze and interpret the health of an institution and assist in determining the direction in which it should move. Ratio analysis can help administrators check whether the institution is doing better this year than it was last year; and, due to its ability to standardize information, it can indicate if the institution is doing better or worse than other institutions regardless of geographic location or institutional role, scope, and mission.



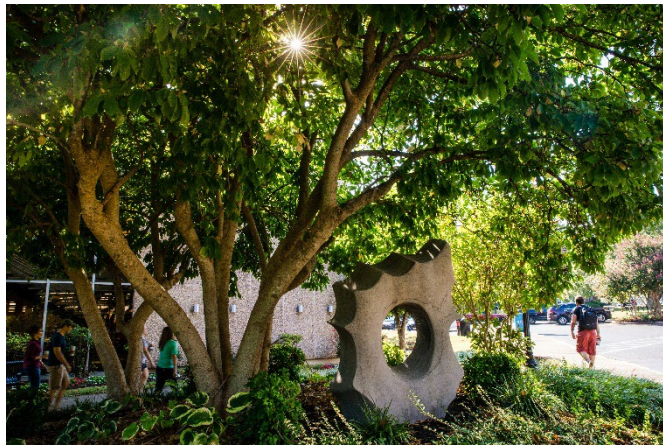
While ratio and proportion analyses are mainly found in finance, they can be effectively used in decision making, forecasting and planning, communication, coordination, and control of all areas within higher education. Therefore, ratios have wide applications and are of vital importance in the overall management of higher education (KPMG, 2010).

The use of ratios and proportions over primary data should be a significant consideration when analyzing the health of an institution. Quite simply, primary data in themselves are a report of an event which has no specific economic meaning. These numbers stand alone, being unrelated to anything else that they affect or that affect them. To make events meaningful, they must be compared with data that are relational (Trucker, 1961). It should be noted, however, that while primary data have absolute values, ratios only have relative values in that they contain no real meaning unless they are observed longitudinally. Only then can the true value of a ratio be appreciated.

Higher education institutions are inundated with so much primary data it can be difficult to decide which to use and how to relate it with other data. The researcher should ask the question, “What type of information should the ratio relate?” Furthermore, the researcher should also ask, “What can be done with this information that is obtained from the ratio?”

Throughout this analysis, ratios and percentages are used interchangeably in order to give the reader a greater ease in understanding the actual relationships between the variables used. However, it should be noted that ratios, percentages, and proportions are essentially measuring the same thing.

Converting the ratio $1/5$ to a percent is the same thing as solving a proportion. Therefore, $1/5 = x/100 = 20/100 = .20$. In this case, .20 is referred to as the proportion. When this proportion is then multiplied by 100, the answer is 20%.



List of Indicators

According to a report from the National Conference of State Legislatures (2015), 32 states now have some type of performance-based funding model for their higher education institutions. The list below includes 22 specific performance indicators that are used by at least some of these states and could be used to determine overall institutional health.

Provided with each indicator is a definition, the calculation of the indicator, strengths and weaknesses of the indicator, where to find the data, and what is the general optimal performance of the indicator for an institution. This list is based from an exhaustive literature review and is grounded on the following:

- strength of the indicator to measure specific outcomes;
- ability of the indicator to be used against other institutions regardless of role, scope, or mission;
- ability of the indicator to be relatively fair to all institutions regardless of role, scope, or mission.



Most of the data gathered for this report came from the National Center for Education Statistics' Integrated Postsecondary Education Data Service (IPEDS) and includes the most updated data available from 2021-22.

National Conference of State Legislatures. (2015). Performance funding for higher education. National Conference of State Legislatures. <http://www.ncsl.org>.

Tahey, P., Salluzzo, R., Prager, F., Mezzina, L., & Cowen, C. (2010). Strategic financial analysis for higher education: identifying measuring, and reporting financial risks (7th ed.). KPMG Sweden.

Tucker, S.A. (1961). Successful managerial control by ratio analysis. McGraw Hill.

1. Indicator: Freshmen Admitted to Enrolled

Description: The percent of all degree-seeking freshmen who were admitted by the institution as compared to those who actually enrolled.

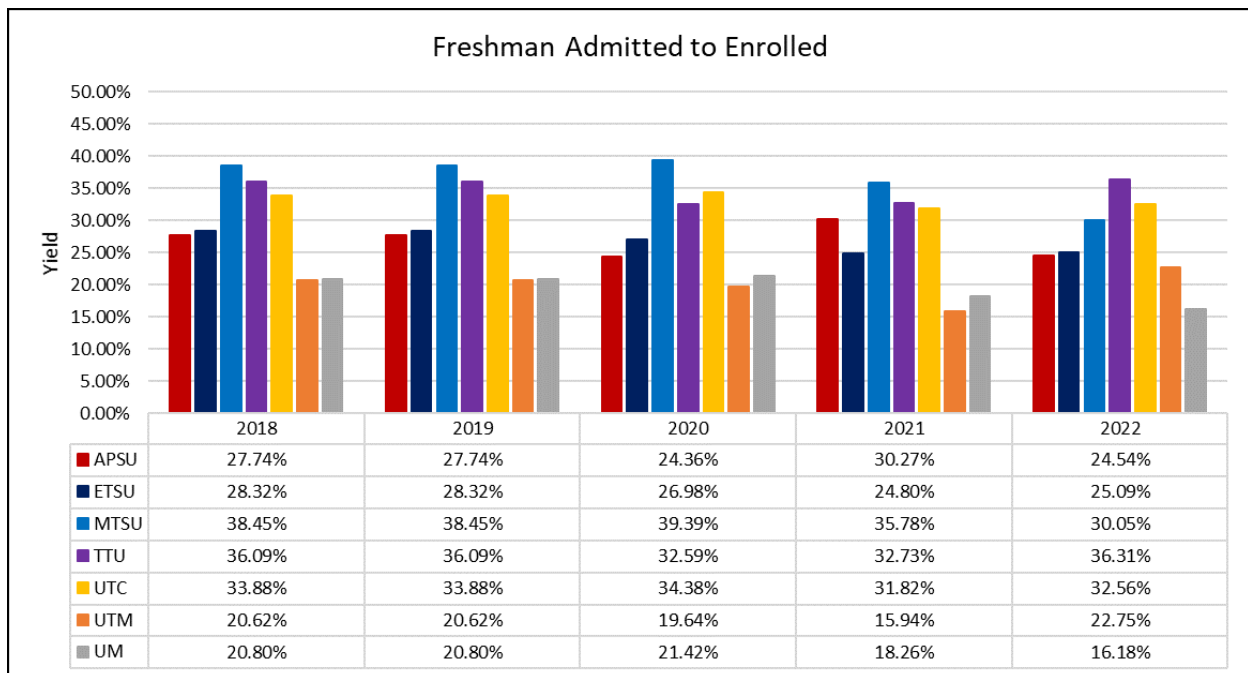
Calculation: *Total Number of Applicants Enrolled/Total Number of Applicants Admitted*

Advantages: Indicates appeal, strength and/or rigor of an institution.

Disadvantages: This measure may be dependent on factors that cannot be controlled by the institution such as free/reduced tuition policies from other states.

Where to find Comparable Data: IPEDS Fall Enrollment.

Optimal Performance: Higher yields indicate more admitted students choose to attend the institution.



NOTE: Tennessee State University did not report any data on this variable

2. Indicator: First-Time Full-Time Retention Rate

Description: The number of students within a freshman cohort who returned the following year.

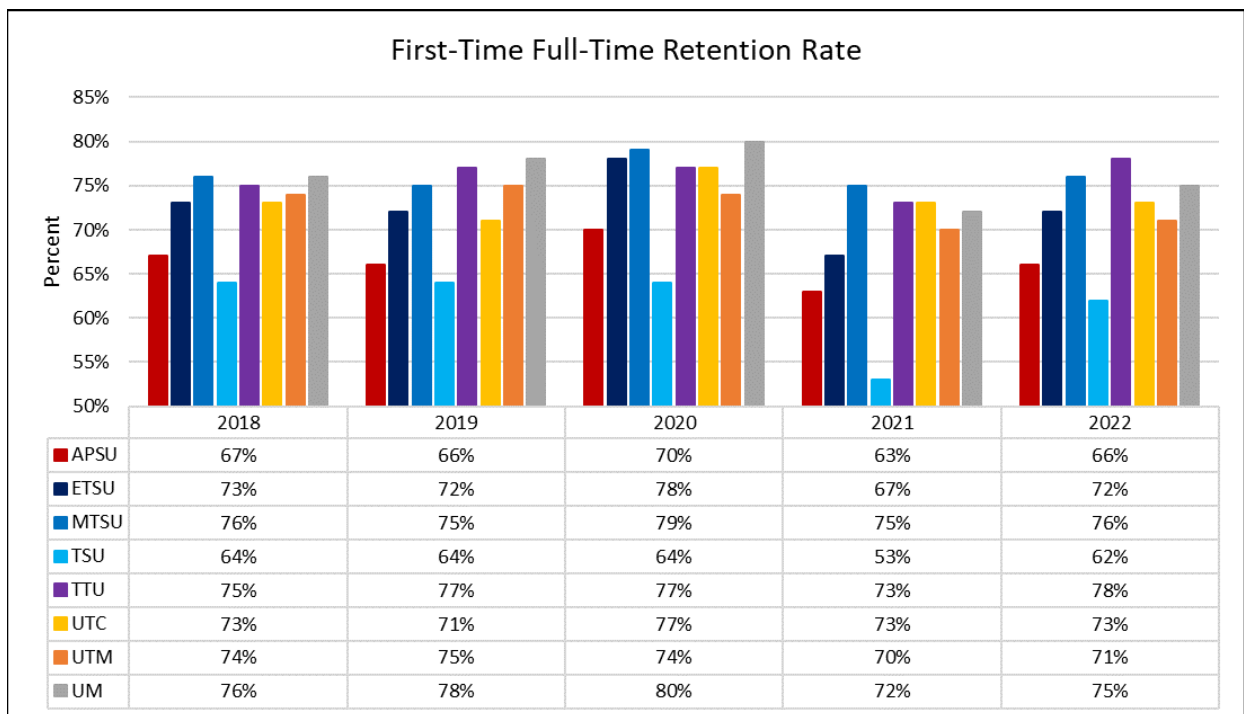
Calculation: *First-Time Full-Time Cohort Who Returned Following Year/Total First-Time Full-Time Freshman Cohort*

Advantages: Indicates strength of an institution by showing how many of the federally-defined first-time full-time freshman cohort students returned to the institution the following fall.

Disadvantages: This number does not include transfer or part-time freshmen and, furthermore, is related to the institution’s admissions criteria.

Where to Find Comparable Data: IPEDS Retention.

Optimal Performance: In general, the higher the percentage, the more freshmen are returning to the institution. Low percentages usually indicate a high level of student attrition due to dropout or transfers from the institution.



NOTE: Cohort includes only baccalaureate-seeking students

3. Indicator: First-Time Full-Time 6-Year Graduation Rate

Description: The number of students within a freshman cohort who graduated within six years.

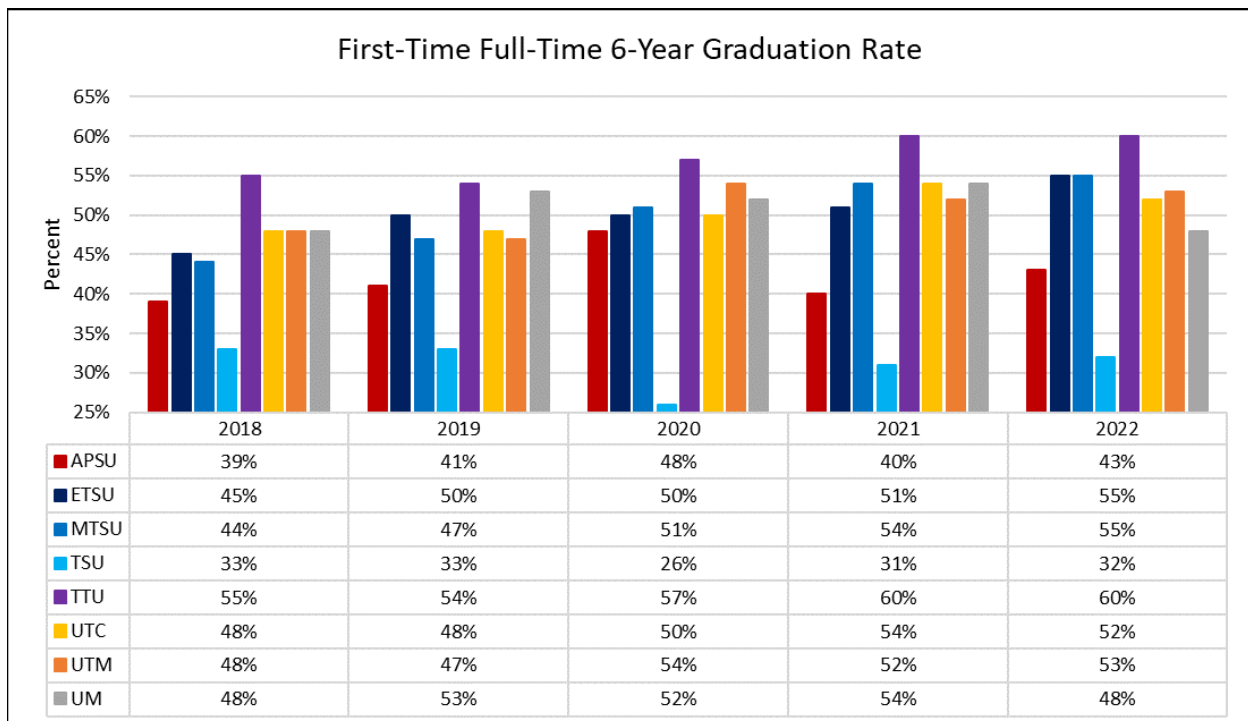
Calculation: *First-Time Full-Time Cohort Graduating Within 6 Years/Total First-Time Full-Time Freshman Cohort*

Advantages: Indicates strength of an institution by showing how many federally-defined first-time full-time freshman cohort graduated from the institution within six years.

Disadvantages: This number does not include transfer or part-time freshmen and, furthermore, is related to the institution’s admissions criteria.

Where to Find Comparable Data: IPEDS Graduation.

Optimal Performance: In general, the higher the percentage, the more freshmen within the cohort are graduating. Low percentages usually indicate a high level of student attrition due to dropout or transfers from the institution.



4. Indicator: Undergraduate Degrees Per Undergraduate FTE

Description: Number of undergraduate degrees per academic year as compared to the undergraduate FTE for the same year.

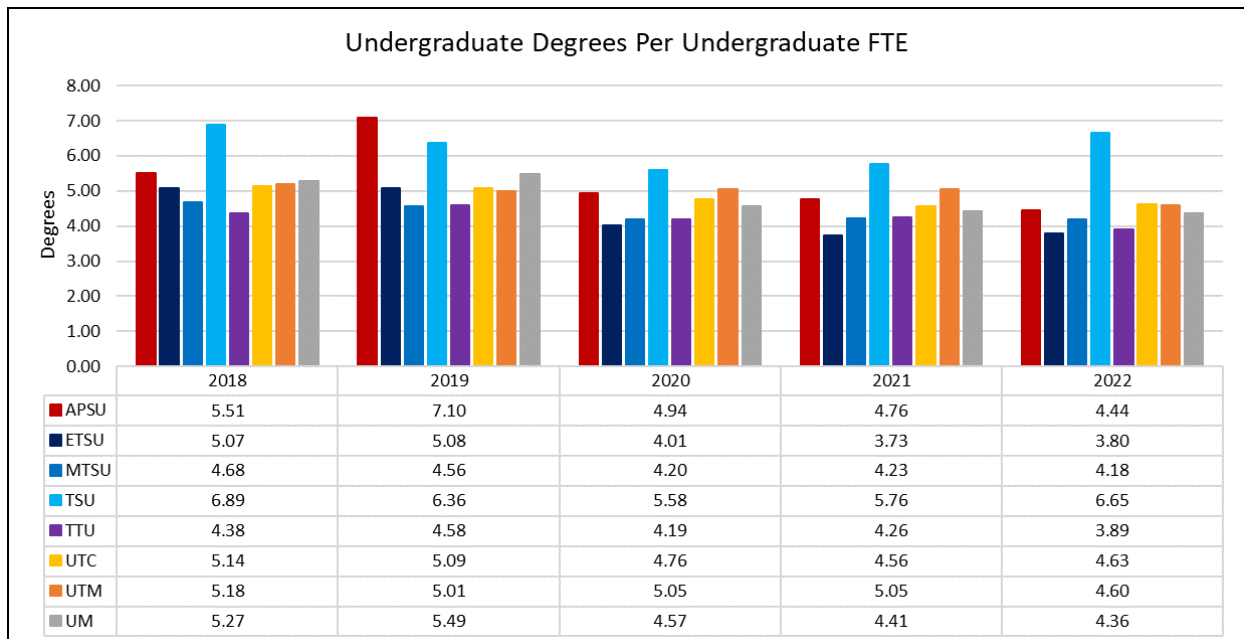
Calculation: *Undergraduate Degrees per Academic Year/(Total Undergraduate Credit Hours/24)*

Advantages: A proxy indicator of strength of an institution by showing, in general, how many undergraduate student credit hours are being replenished after students graduate.

Disadvantages: A few academic programs with large enrollments can skew this institutional number. Furthermore, since the credit hours of those who graduated during the academic year are also included within this number, strength could be slightly inflated.

Where to Find Comparable Data: IPEDS Graduation and IPEDS 12-Month Enrollment.

Optimal Performance: In general, the higher the ratio, the more credit hour production there is to offset those students who graduate. Significant higher ratios, however, could signal attrition of students within the institution who have a higher classification.



5. Indicator: Graduate Degrees Per Graduate FTE

Description: Number of graduate degrees per academic year as compared to the graduate FTE for the same year.

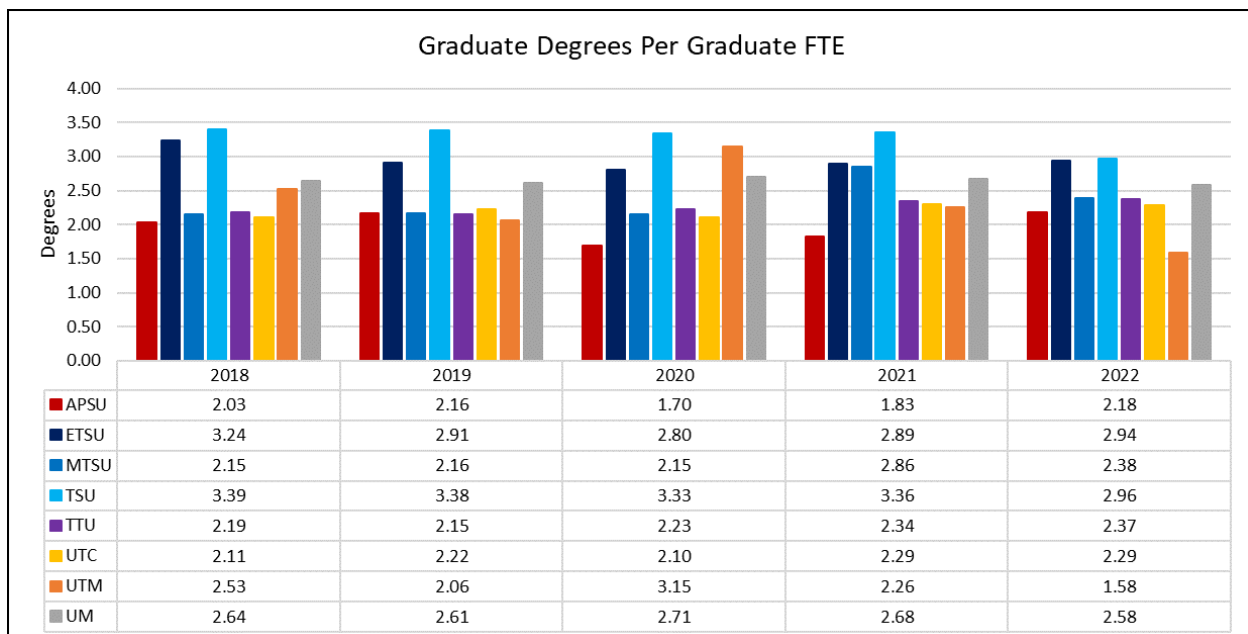
Calculation: *Graduate Degrees per Academic Year/(Total Graduate Credit Hours/18)*

Advantages: A proxy indicator of strength of an institution by showing, in general, how many graduate student credit hours are being replenished after students graduate.

Disadvantages: A few academic programs with large enrollments can skew this institutional number. Furthermore, since the credit hours of those who graduated during the academic year are also included within this number, strength could be slightly inflated.

Where to Find Comparable Data: IPEDS Graduation and IPEDS 12-Month Enrollment.

Optimal Performance: In general, the higher the ratio, the more credit hour production there is to offset those students who graduate. Significantly higher ratios could signal attrition of graduate students within the institution.



6. Indicator: Student Headcount to Full-Time Faculty Ratio

Description: The ratio of undergraduate and graduate students to full-time faculty.

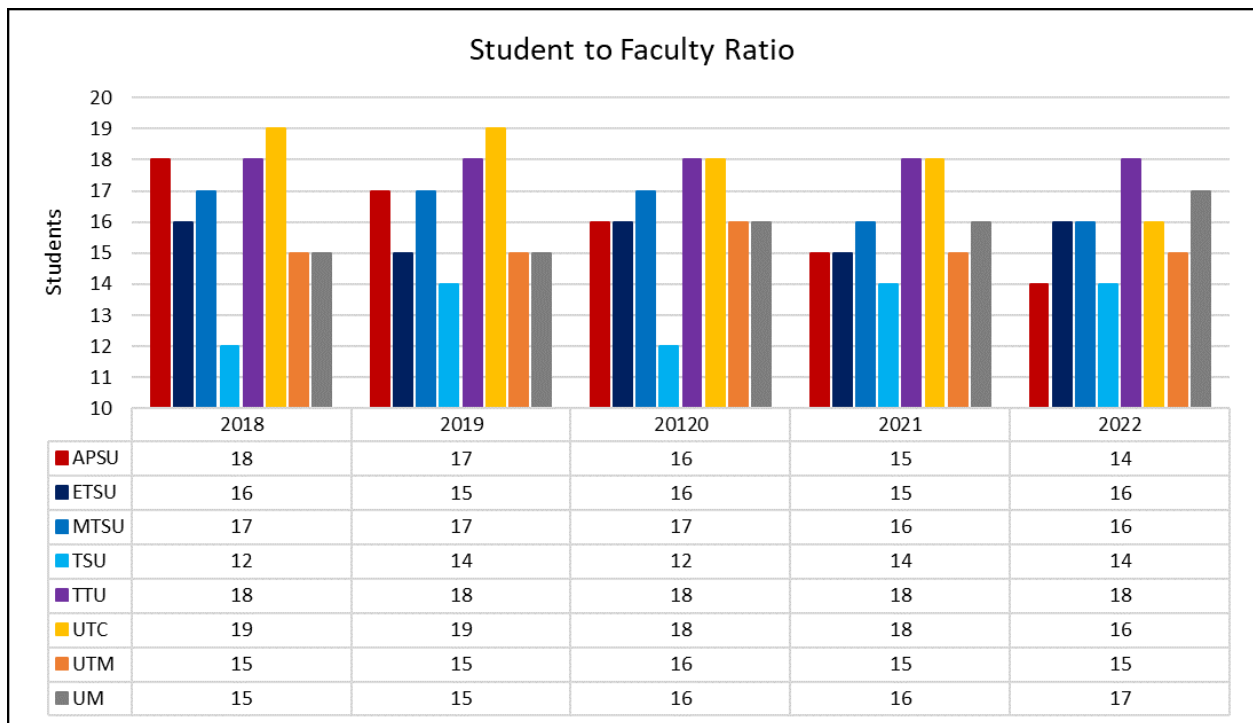
Calculation: *Total Number of Students/Total Number of Full-Time Instructional Faculty*

Advantages: Indicates efficiency of an institution.

Disadvantages: 1) Larger ratios do not necessarily mean greater efficiency or higher quality; 2) Some academic programs require a specific ratio; 3) This indicator may be skewed toward smaller specific/elite institutions.

Where to Find Comparable Data: IPEDS HR and IPEDS Fall Enrollment/12-Month Enrollment.

Optimal Performance: In general, lower numbers indicate greater faculty availability and smaller average class sizes.



7. Indicator: FTE Student to Full-Time Non-Instructional Staff

Description: The ratio of undergraduate and graduate students to full-time staff.

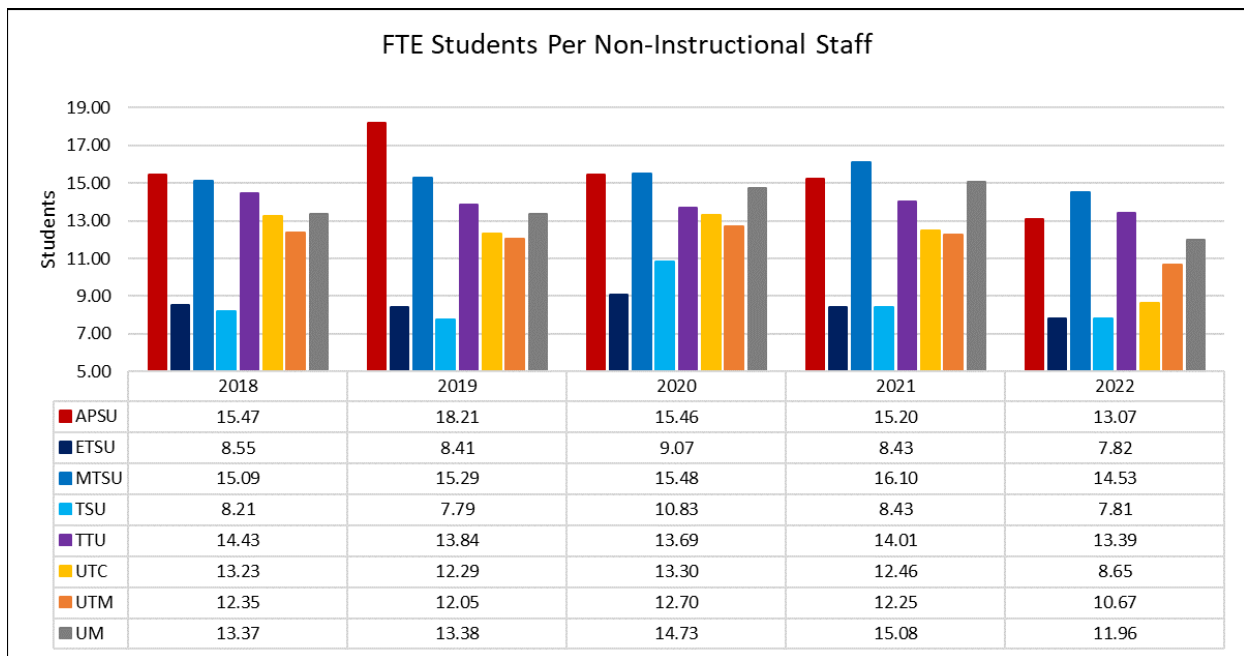
Calculation: *Total FTE Students/Total Full-Time Non-Instructional Staff*

Advantages: Indicates efficiency of an institution.

Disadvantages: Larger ratios do not necessarily mean greater efficiency or higher quality. This indicator may be skewed against larger institutions that have more centers and programs.

Where to find Comparable Data: IPEDS HR and IPEDS Fall Enrollment/12-Month Enrollment.

Optimal Performance: In general, higher ratios indicate the efficiency of non-instructional staff to students and/or credit hours produced. Numbers significantly higher may indicate institutions that may be under-resourced with non-instructional staff.



8. Indicator: Percent of Full-Time Minority Faculty

Description: The percent of minority full-time faculty to total full-time faculty.

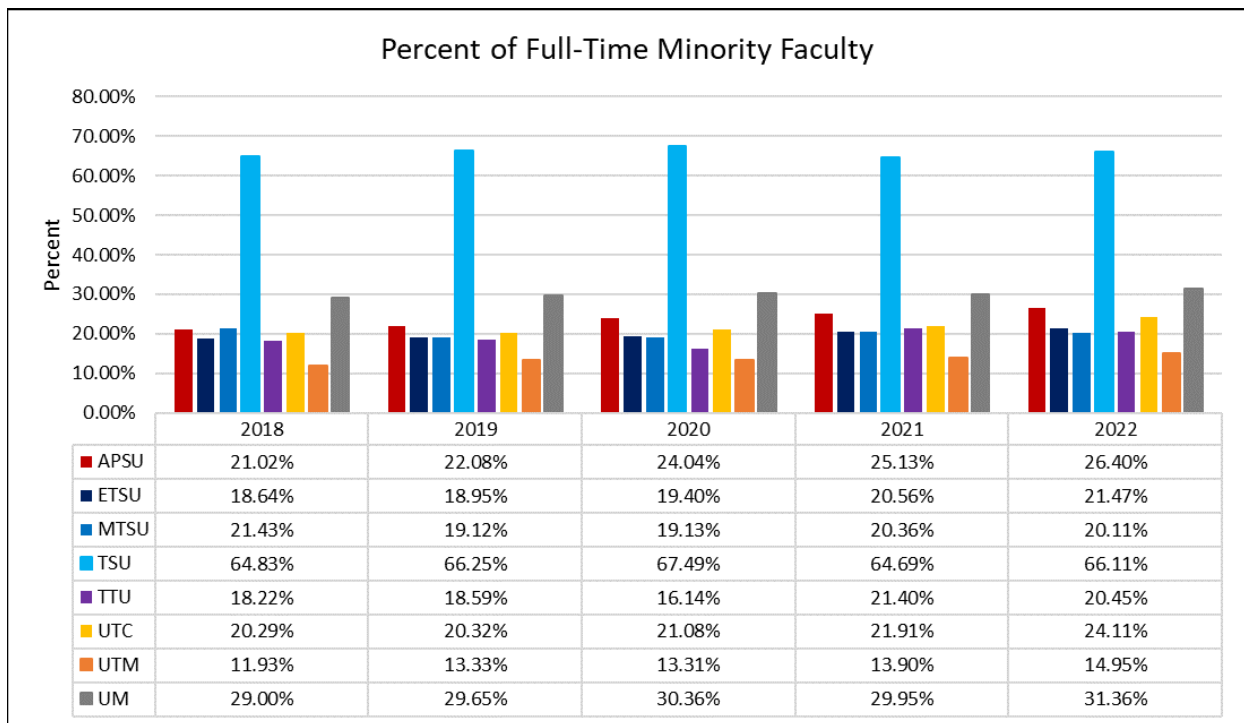
Calculation: *Total Full-Time Minority Instructional Staff/Total Full-Time Instructional Staff*

Advantages: Indicates the diversity of an institution.

Disadvantages: This percentage may be related strongly to the race/ethnic makeup of the community at large and may also be influenced by the role, scope and mission of the institution.

Where to find Comparable Data: IPEDS HR data.

Optimal Performance: In general, higher percentages indicate the greater diversification of full-time faculty by the institution.



9. Indicator: Percent of Full-Time Minority Staff

Description: The percent of minority full-time staff to total full-time staff.

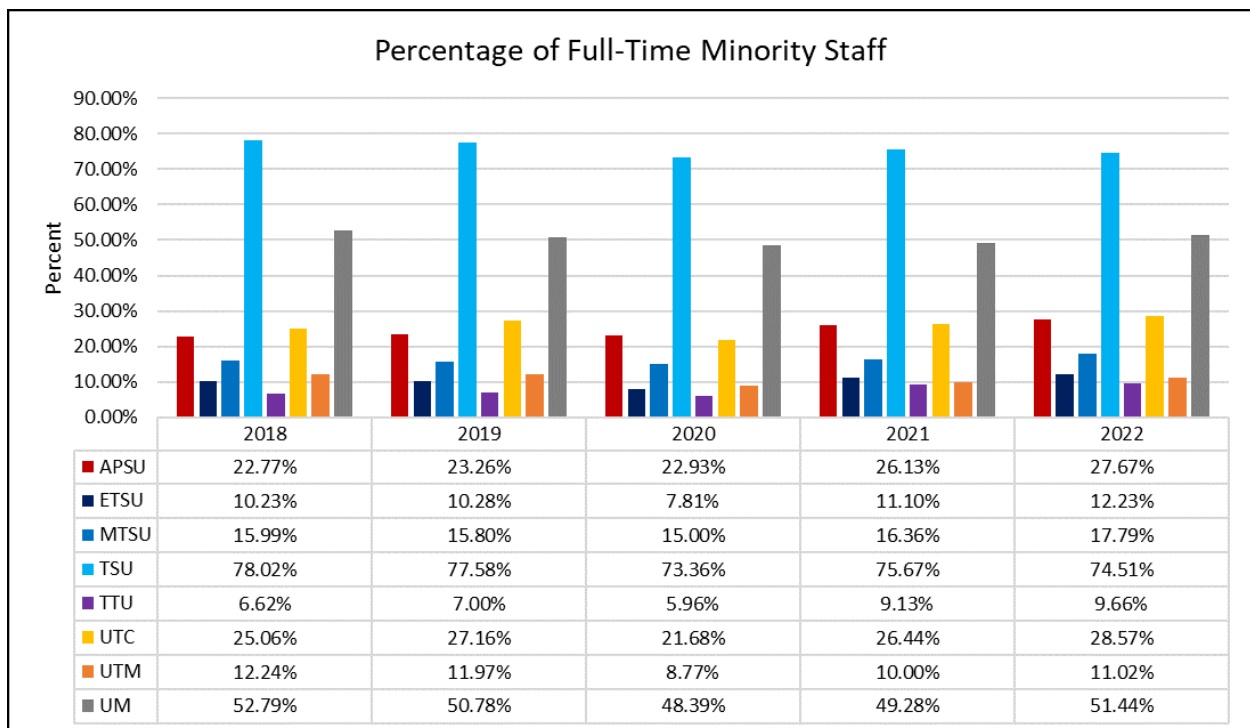
Calculation: *Total Full-Time Minority Non-Instructional Staff/Total Full-Time Non-Instructional Staff*

Advantages: Indicates the diversity of an institution.

Disadvantages: This percentage may be related strongly to the race/ethnic makeup of the community at large and may also be influenced by the role, scope and mission of the institution.

Where to find Comparable Data: IPEDS HR data.

Optimal Performance: In general, higher percentages indicate the greater diversification of full-time staff by the institution.



10. Indicator: Full-Time Staff to Full-Time Faculty Ratio

Description: The ratio of full-time staff to full-time faculty.

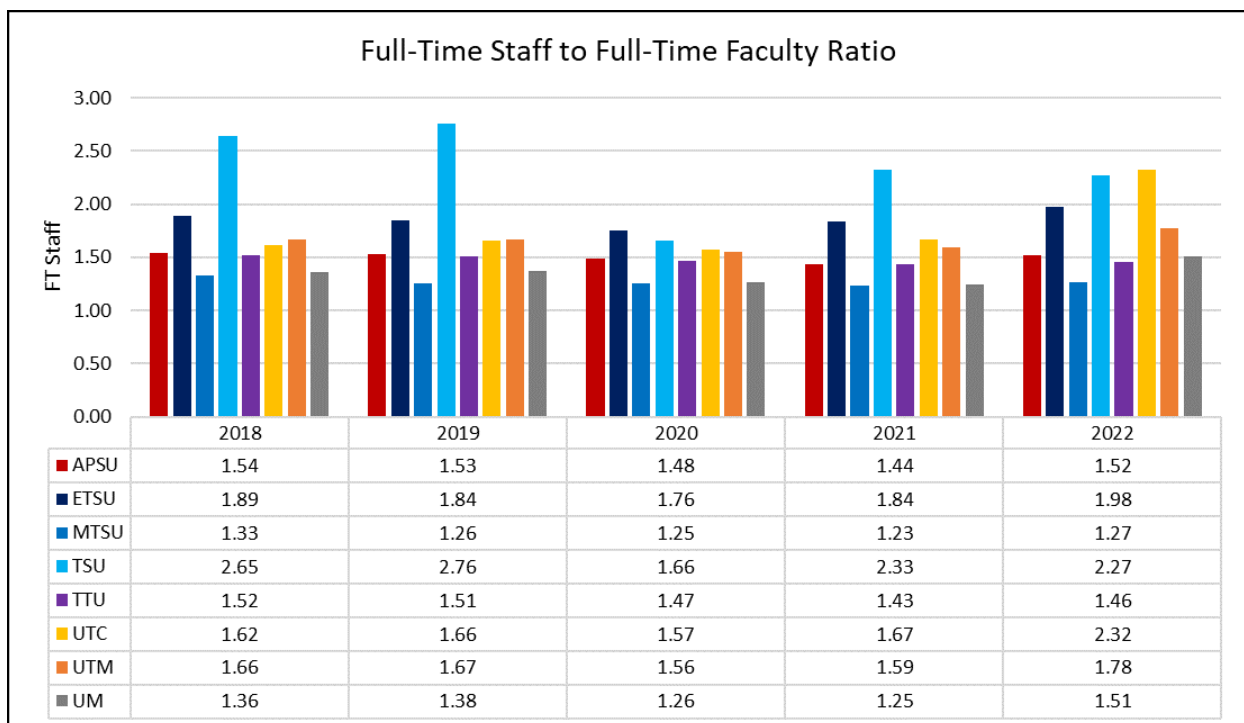
Calculation: *Total Full-Time Non-Instructional Staff/Total Full-Time Instructional Staff*

Advantages: Indicates employee balance of institution.

Disadvantages: Since the number of staff is directly related to the number of offices within an institution, those institutions that have a greater demand for academic support and physical plant services as well as institutions with more than one campus will tend to have higher staff counts.

Where to find Comparable Data: IPEDS HR data.

Optimal Performance: In general, higher ratios indicate the possibility of staff surplus.



11. Indicator: Total Expenditures Per FTE (Financial Stewardship)

Description: The total amount of expenses an institution incurs in relation to its total FTE.

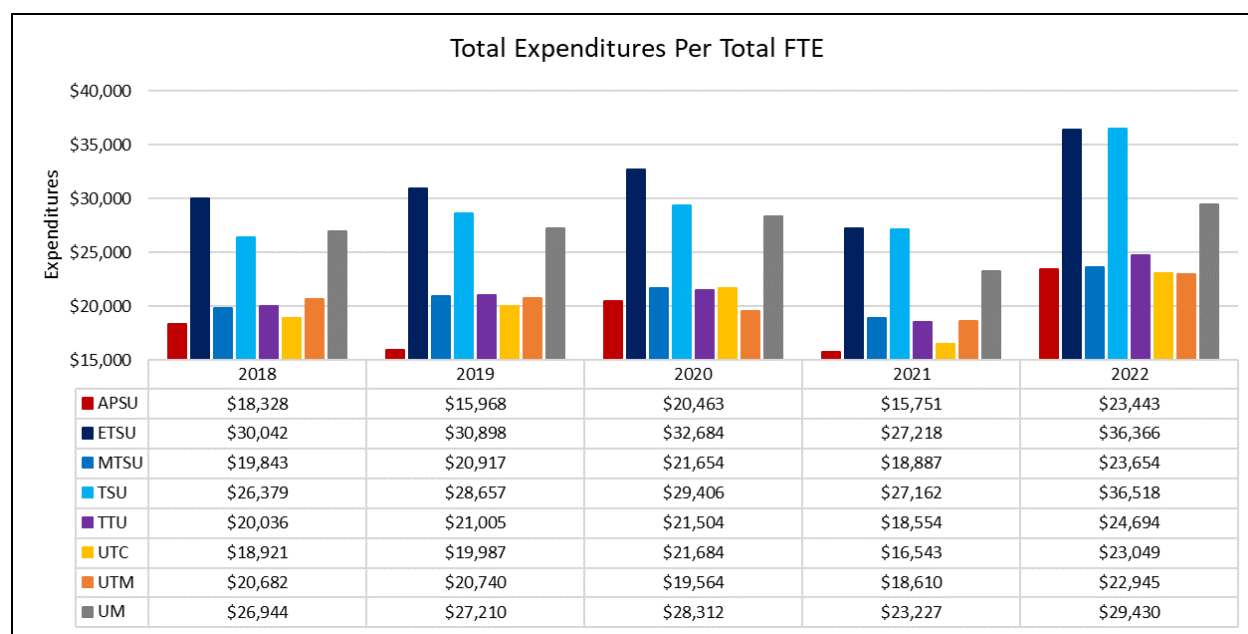
Calculation: *Total Expenses and Deductions/Total FTE*

Advantages: Indicates those institutions that may be more efficient with resources. Gives a more accurate picture than using cost per total credit hour because the FTE calculation allows this indicator to differentiate between undergraduate and graduate hours.

Disadvantages: May negatively affect institutions that invest in significant capital improvement projects as well as large academic support or instructional support priorities.

Where to Find Comparable Data: IPEDS Finance and 12-Month Enrollment.

Optimal Performance: In general, the lower the ratio, the more efficient the institutions are in relationship to spending per student. Ratios that are significantly lower may point to institutions that could be the most affected by state budget reductions.



12. Indicator: Number of Degrees per \$100,000 of Expenditures

Description: Total number of undergraduate and graduate degrees per academic year as a ratio to total expenditures.

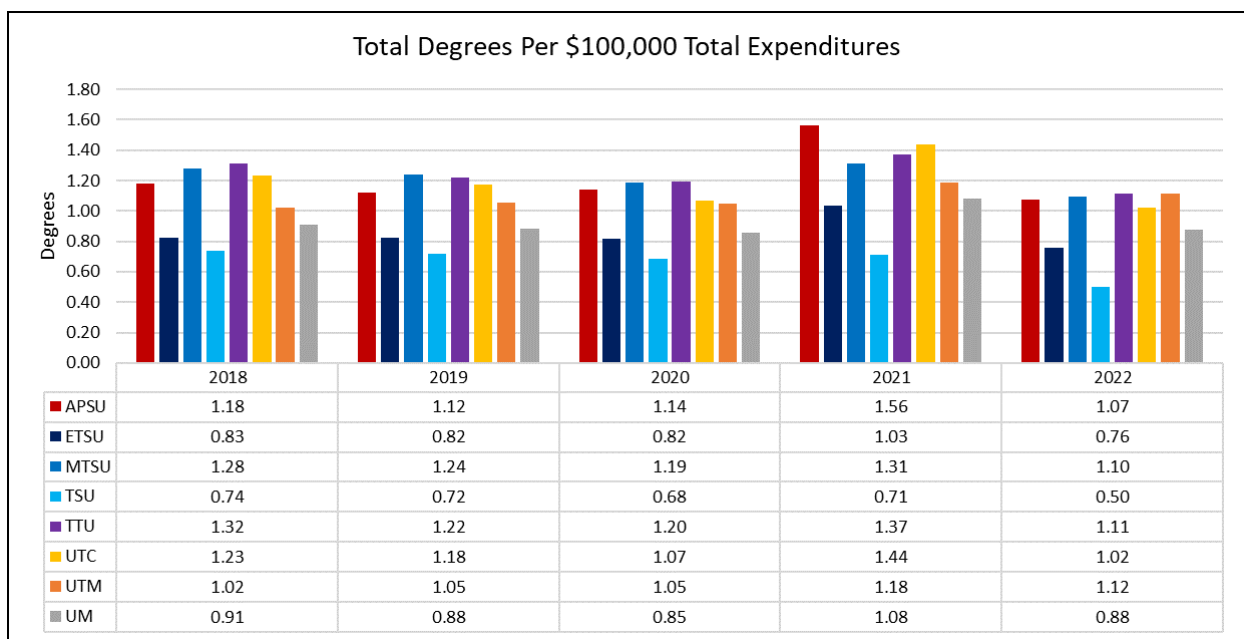
Calculation: $Total\ Degrees / (Total\ Expenses\ and\ Deductions / \$100,000)$

Advantages: Indicates the overall cost associated with supporting students to achieve a college degree.

Disadvantages: This measure is usually weighted against universities that have strong research agendas and expenditures. Also, it does not directly address the credit hours produced by students who do not earn a degree.

Where to Find Comparable Data: IPEDS Finance and IPEDS Completions.

Optimal Performance: In general, higher ratios indicate lower amounts expended for degrees.



13. Indicator: Total Expenditures Per Credit Hour

Description: Total amount of expenses and deductions as a ratio to total undergraduate and graduate credit hour production.

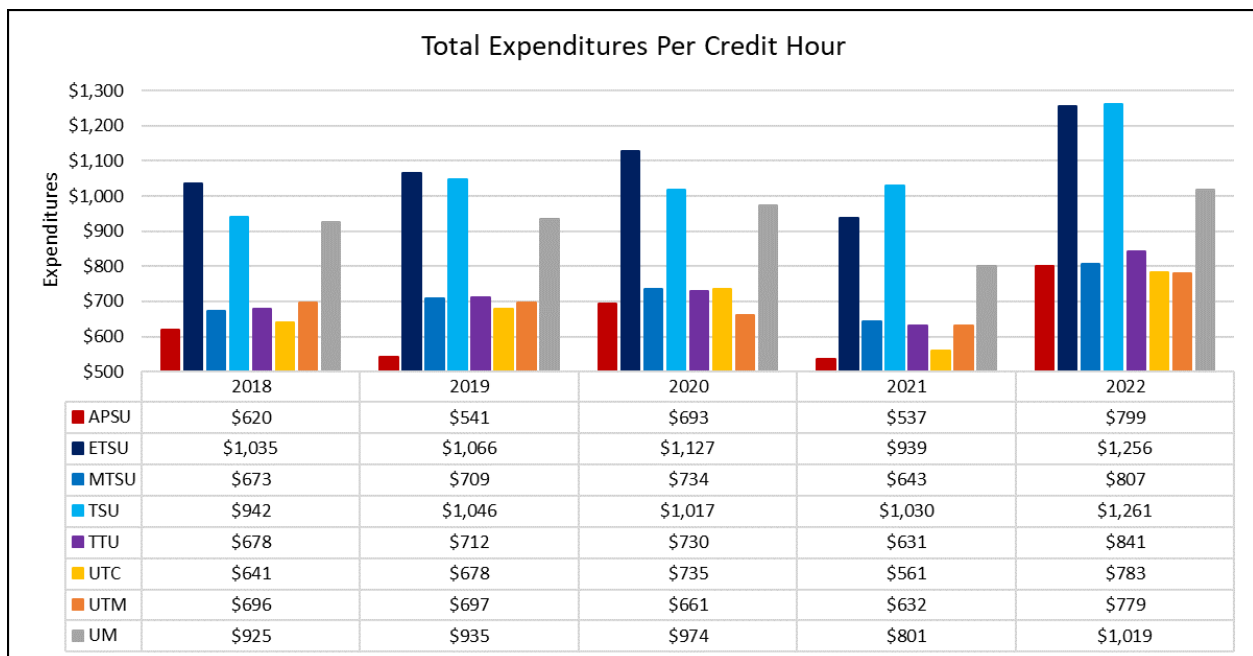
Calculation: *Total Expenses and Deductions/Total undergraduate and graduate credit hours.*

Advantages: Indicates those institutions that may be more efficient with resources. Indicates the overall cost associated with supporting student credit hours.

Disadvantages: Gives a less accurate picture than using expenditures per FTE because it does not differentiate between undergraduate and graduate hours. This measure is usually weighted against universities that have strong research agendas and expenditures.

Where to Find Comparable Data: IPEDS Finance and IPEDS Completions.

Optimal Performance: In general, lower ratios indicate lower amounts expended for credit hour production.



14. Indicator: Instructional Expenditures Per FTE Student

Description: Total instructional expenditures as related to total student FTE.

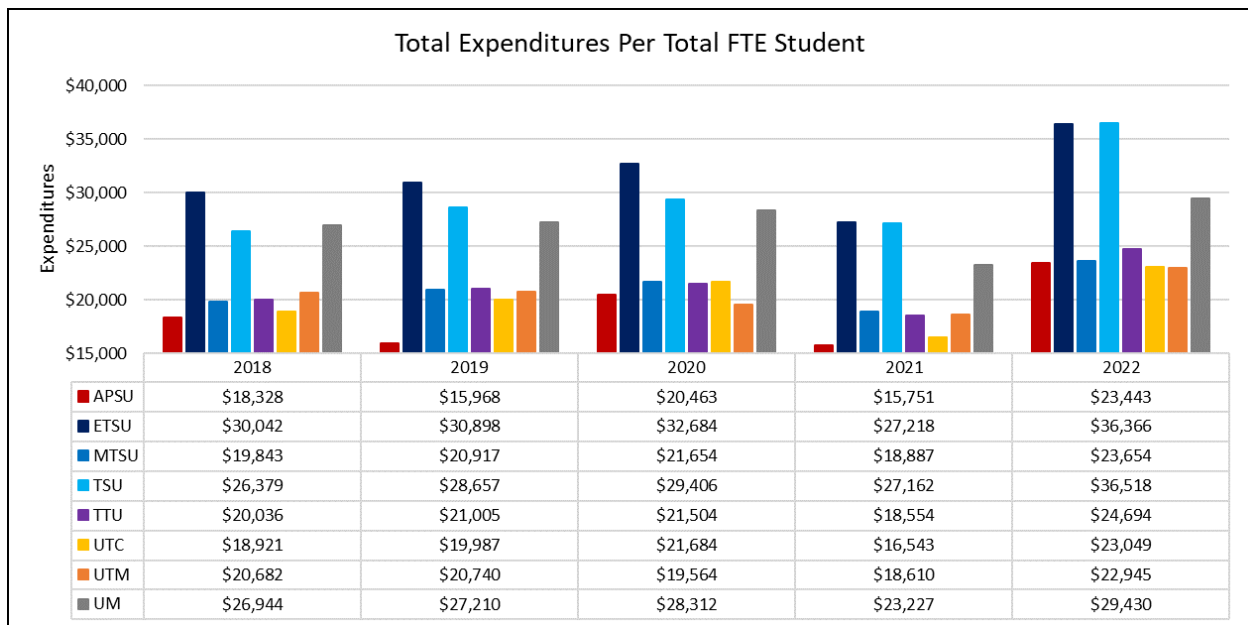
Calculation: *Total Instructional Expenditures/Total FTE*

Advantages: Indicates efficiency of an institution.

Disadvantages: May not account for higher cost programs or higher demand in those programs. Is significantly varied based on the institution's role, scope, and mission.

Where to Find Comparable Data: IPEDS Finance and Fall Enrollment and 12-Month Enrollment.

Optimal Performance: In general, lower amounts indicate greater stewardship. However, significantly lower amounts may indicate where an institution's instructional resources may not be keeping up with student demand.



15. Indicator: State Revenue as a Percentage of Total Revenue

Description: Total amount of state appropriations as a percent of the institution’s total revenue.

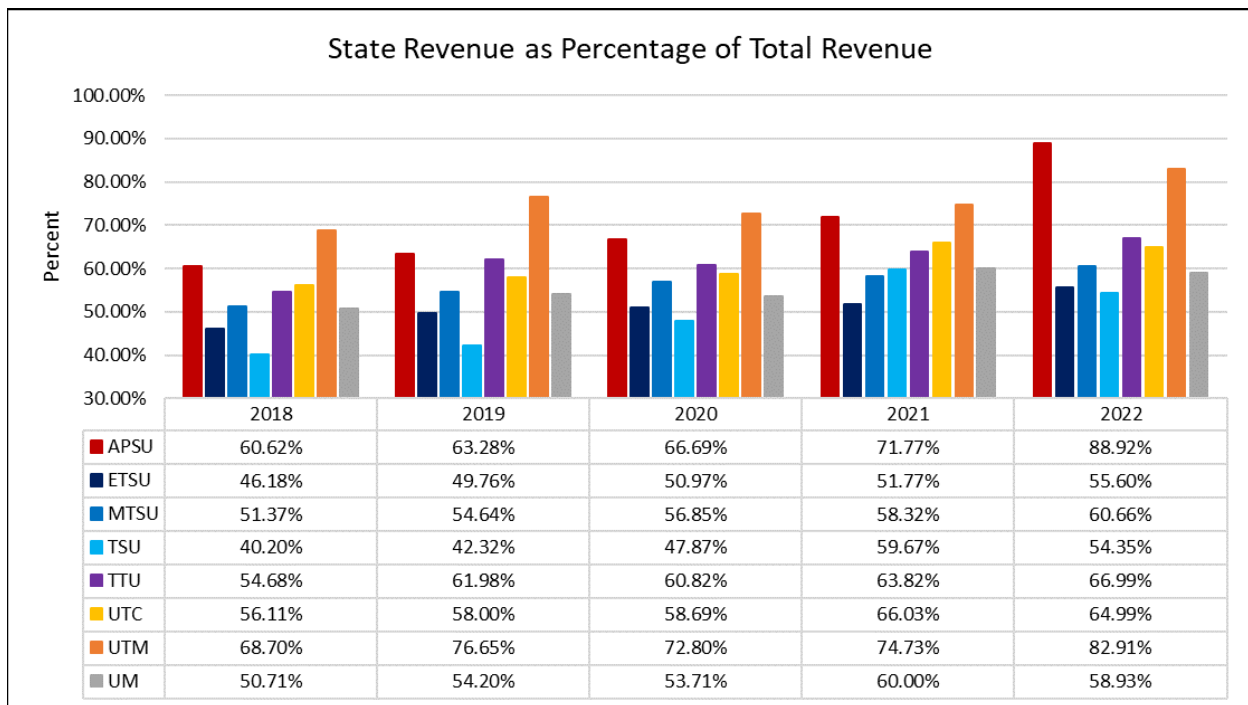
Calculation: *Total State Appropriations/Total Operating Revenues*

Advantages: Indicates the amount of support an institution is receiving from the state.

Disadvantages: May be inflated for those institutions that have special centers, operations, or state-supported programs.

Where to Find Comparable Data: IPEDS Finance and Completions.

Optimal Performance: In general, lower values indicate lower state support and increased reliance by the institution to external forms of funding.



16. Indicator: State Revenue Per FTE Student

Description: Total state appropriations as a ratio to total student FTE.

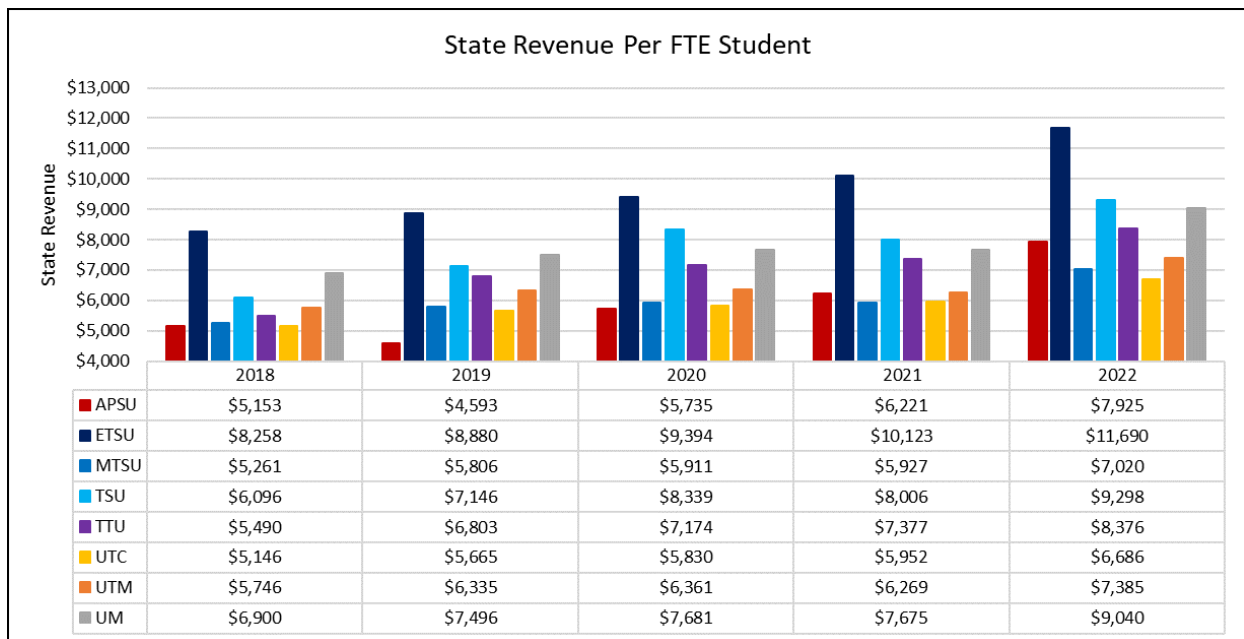
Calculation: *Total State Appropriations/Total Undergraduate and Graduate FTE*

Advantages: Indicates the overall level of support the state is giving an institution as measured by the number of students the institution serves.

Disadvantages: This measure is usually weighted against universities that do not have strong research agendas, centers, or special programs.

Where to Find Comparable Data: IPEDS Finance and IPEDS Completions.

Optimal Performance: In general, higher ratios indicate higher state appropriations per FTE student.



17. Indicator: Endowment Income Per Student FTE

Description: Total endowment revenue per student FTE.

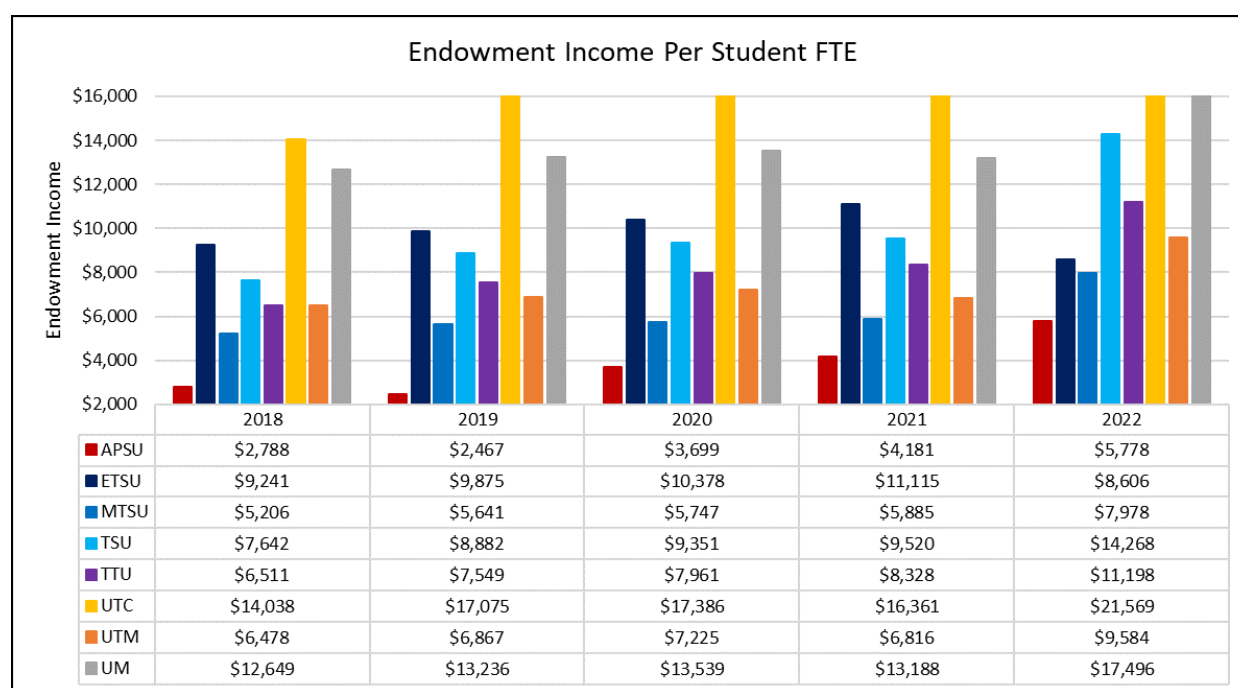
Calculation: *Value of Endowment Assets at Beginning of Year/Total Student FTE*

Advantages: Indicates the strength of an institution and how the institution manages its endowment resources.

Disadvantages: May be skewed in favor of research institutions and/or institutions with large collegiate athletic programs or research centers.

Where to Find Comparable Data: IPEDS Finance, Fall Enrollment, 12-Month Enrollment.

Optimal Performance: The higher the amount, the greater the institution's endowment is relative to students. Higher amounts also indicate an institution's greater opportunity of supporting its role, scope, and mission during state and/or tuition revenue decreases.



18. Indicator: Primary Reserve Ratio

Description: Measures expendable resources within the context of operating size and is a measure of relative wealth or wealth against commitments of the institution.

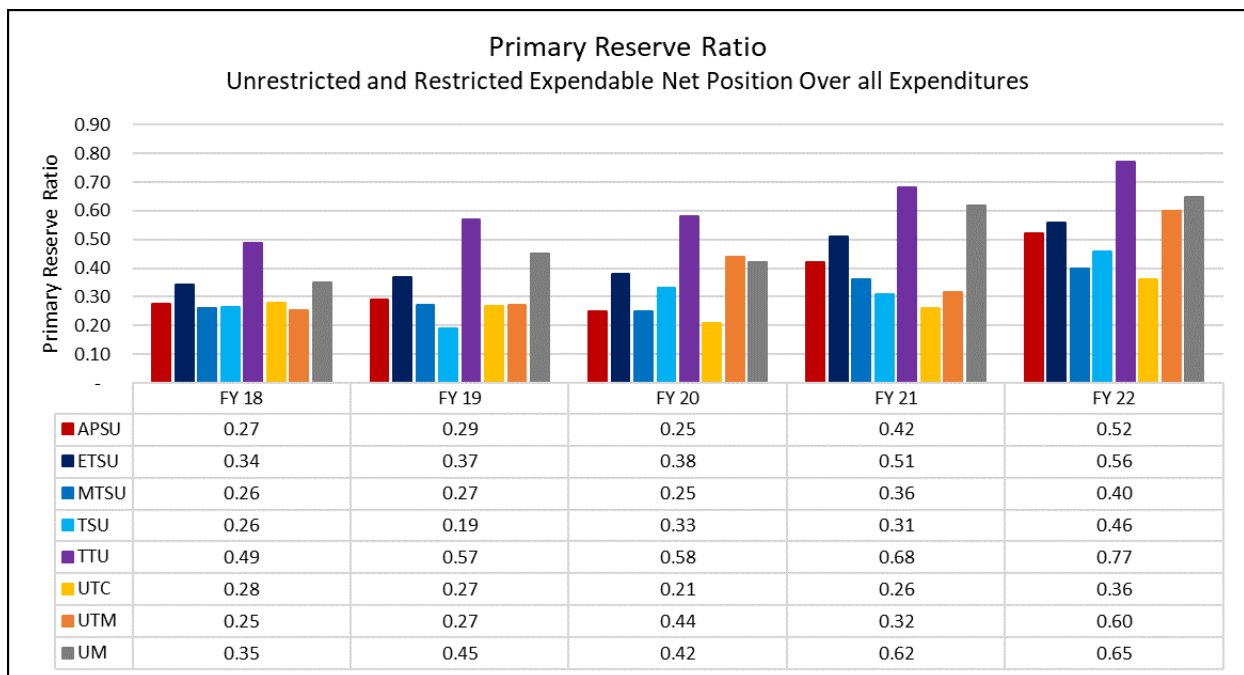
Calculation: *Restricted and Unrestricted Net Assets/Total Expenses*

Advantages: Trend analysis indicates whether an institution has increased its net worth in proportion to the rate of growth in its operating size.

Disadvantages: Since expenses, rather than revenues, are a better indicator of operating size, smaller institutions are more volatile to increased capital expenditures such as Plant Operations and Maintenance (PO&M).

Where to Find Comparable Data: APSU Business and Finance.

Optimum Performance: Net assets should increase at least in proportion to the rate of growth in operating size. If they do not, the same dollar amount of expendable net assets will provide a smaller margin of protection against adversity as the institution grows in dollar level of expenses. Therefore, a negative or decreasing trend over time indicates a weakening financial condition.



19. Indicator: Financial Viability Ratio

Description: Measures one of the most basic determinants of clear financial health; the availability of expendable net assets to cover debt should the institution need to settle its obligations as of balance sheet.

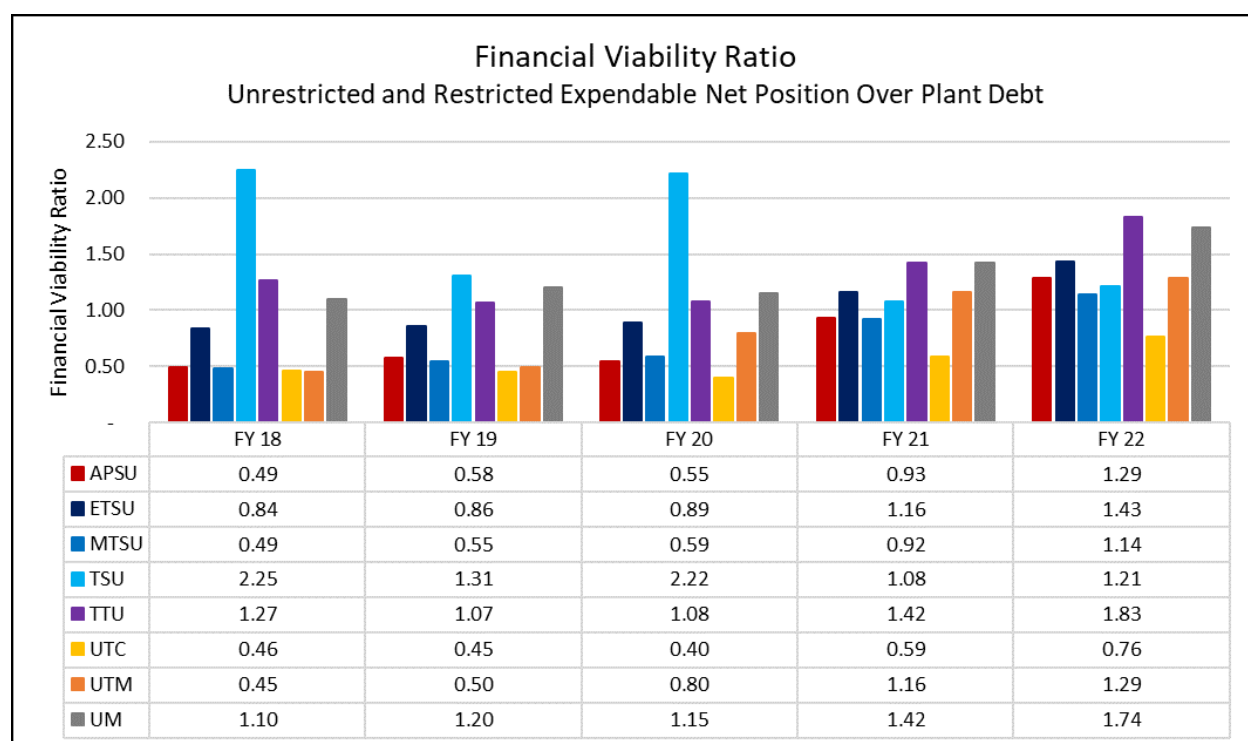
Calculation: *Total Restricted and Unrestricted Net Assets/Total Debt*

Advantages: A ratio of 1:1 or greater indicates that, as of the balance sheet date, an institution has sufficient expendable net assets to satisfy debt obligations.

Disadvantages: The 1:1 ratio should not serve as an objective since most institutions would find this relationship unacceptable. However, the level that is “right” is institution-specific and may not be a good comparator across institutions.

Where to Find Comparable Data: APSU Business and Finance.

Optimum Performance: In general, higher amounts indicate greater institutional assets to pay off and/or exceed institutional debt. Ratios less than 1:1 indicate that an institution does not have enough assets to meet institutional debt.



20. Indicator: Return on Net Assets

Description: Determines whether an institution is financially better off than in previous years by measuring total economic return.

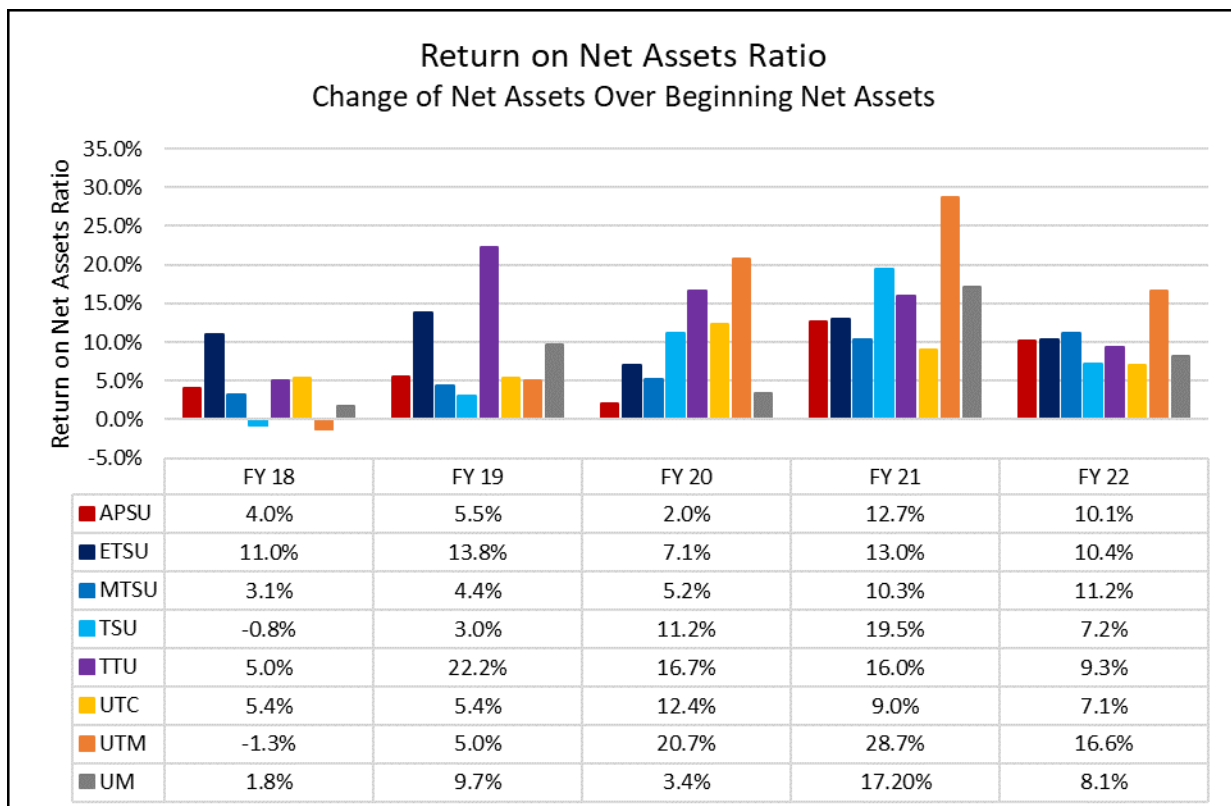
Calculation: $(Total\ Net\ Assets\ Current\ Year - Total\ Net\ Assets\ Previous\ Year) / Total\ Net\ Assets$

Advantages: Institutions should establish a real rate of return target in the range of proximately 3 to 4 percent. However if an institution’s strategic plan calls for activities that will consume substantial resources, such as program expansion, a high return on net assets may be required in order to maintain a properly capitalized institution.

Disadvantages: This ratio could be affected by a number of volatile items including the performance of financial markets and overall endowment income.

Where to Find Comparable Data: APSU Business and Finance.

Optimum Performance: A decline in this ratio may be appropriate and even warranted if it reflects a strategy to better fulfill the institution’s mission. On the other hand, an improving trend indicates that the institution is increasing its net assets and is likely to be able to set aside financial resources to strengthen its future financial flexibility.



21. Indicator: Net Operating Revenues

Description: Indicates whether an institution is operating within its existing resources.

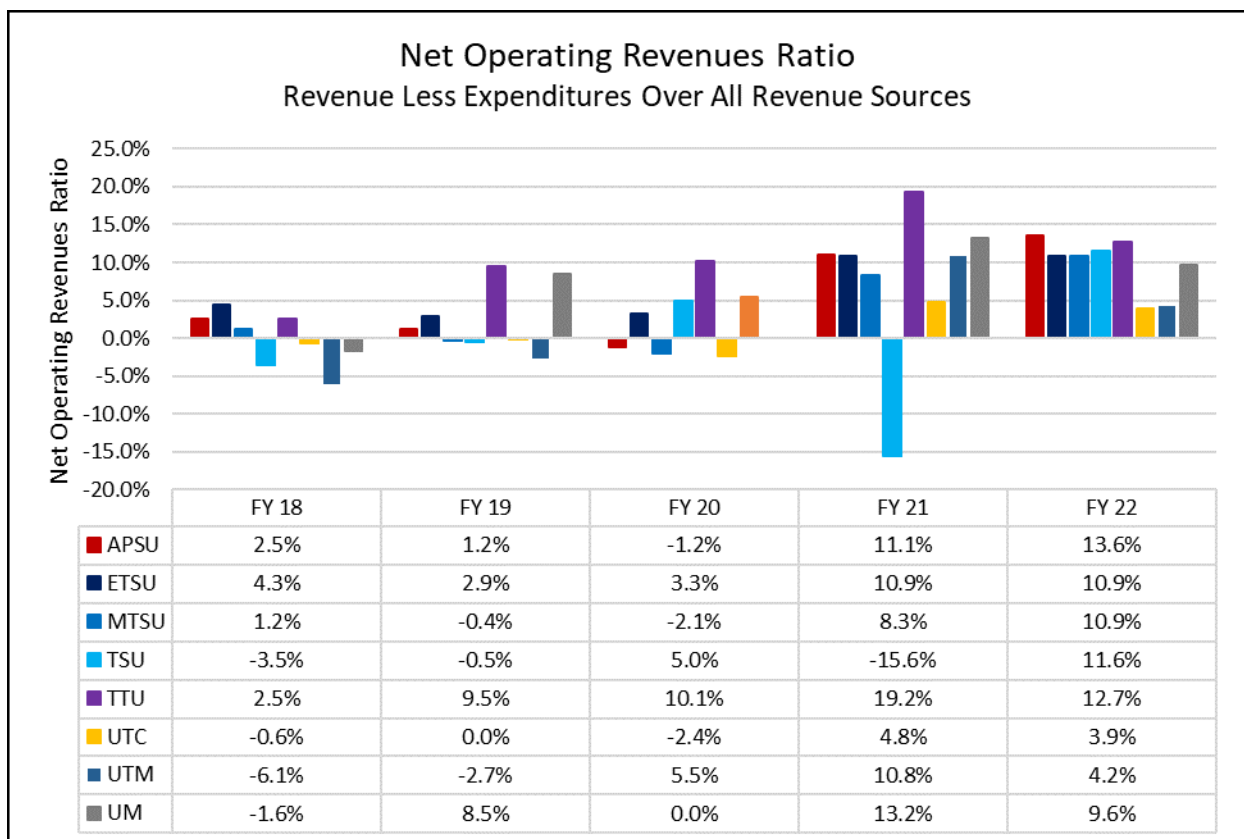
Calculation: $\text{Operating Income (Loss) + Net Nonoperating Revenue (Expenses)} / \text{Operating Revenues + Nonoperating revenues}$

Advantages: Generally speaking, the larger the surplus, the stronger the institution's financial performance as a result of the year's activities. A negative ratio indicates a loss for the year.

Disadvantages: A pattern of large deficits can weaken an institution's financial strength.

Where to Find Comparable Data: APSU Business and Finance

Optimum Performance: A general target should be at least 2 to 4 percent over an extended period of time.



22. Indicator: Composite Financial Index

Description: A combination of the four major financial ratios to indicate overall financial health of an institution.

Calculation: *Primary Reserve Ratio+Financial Viability Ratio+Return on Net Assets Ratio+Net Operating Revenues*

Advantages: The index is based on a 10-point scale. A score of three represents minimal financial health and equates to the minimums within each of the four financial ratios.

Disadvantages: The same as listed for all four of the financial ratios.

Where to Find Comparable Data: APSU Business and Finance.

Optimum Performance: Higher scores, for instance those above six, indicate that the institution enjoys strong financial health and would be able to weather financial difficulties and/or invest in new programs and activities.

