

CAN FEDERAL INTERVENTION IMPACT COLLEGE AFFORDABILITY?: AN  
ASSESSMENT OF FEDERAL MAINTENANCE OF EFFORT LEGISLATION AT  
AMERICAN PUBLIC REGIONAL UNIVERSITIES

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## ABSTRACT

The finance of public higher education in America is, of course, a joint responsibility that falls between the state, federal government and individual students (Thelin, 2013). Sadly, at a time when the nation appears poised to commit itself to significantly expand the percentage of its adult population with degrees and certificates, state funding cuts challenge public access institutions as never before. Recent reports strongly suggest that AASCU institutions are encountering funding issues that are more severe than their larger public flagship university counterparts.

This study used a modified version of the Carnegie Classification that provide additional information into the AASCU institutions that may prove more relevant to how they have been impacted by federal intervention since the recent recession.

This study examined reported data from multiple sources relevant to the intended output. The primary data instruments were the Integrated Postsecondary Education Data System (IPEDS), the National Center for Educational Statistics, the State Higher Education Finance Report and the Delta Cost Project. For geographic classification, the study utilized the 2010 Basic Classification of publicly controlled Master's Colleges and Universities published by the Carnegie Foundation for the Advancement of Teaching as initially modified by Kinkead (2009) and later by Katsinas. To assess economic periods before, during, and after recessions, the definitions of recession from the non-partisan National Bureau of Economic Research were used.

In order to compare the current economic situation of higher education, the current economic situation of the country was taken into consideration. The analysis of state investment and tuition cost before, during, and after the recession could potentially reflect the relationship

between these two key revenue sources and the possible impact, if any of Maintenance of Effort legislation.

## DEDICATION

I would like to dedicate the completion of this dissertation to my mother, Joyce Bryant, and my father, Chuck Clark. I was fortunate to be raised in a family where both parents made many sacrifices to enhance educational opportunities for both my sister and me. The years of private school payments, supporting everything that we were interested and involved in, and the unwavering support in good times and bad have shaped my outlook and perspective and I cannot even put into words the level of appreciation I have for everything you all have done.

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CHAPTER I:  
INTRODUCTION TO STUDY

**Introduction**

As America entered the second decade of the 21st century, it found itself again in the midst of a major enrollment boom in higher education. The late Clark Kerr, former University of California president and chairman of the Carnegie Commission on Higher Education Policy Studies and its successor, the Carnegie Commission on Higher Education, predicted a “tidal wave” of new students entering traditional college-going years starting in 1997 and extending at least through the year 2010. Kerr (1997) referred to the incoming wave as “the grandchildren of the World War II GIs” and argued that this trend was inevitable and that unfortunately higher education was becoming a stagnant service (Kerr, 1993). Rendon and Hope (1996) also cited the growing boom of students in their 1996 publication *Educating the New Majority*, not only mentioning the growth spurt in students, but also the influx of more diverse groups of students on campus. There may not necessarily *be* a standard or typical college student anymore, they argued. College students do not have to be an elitist group, they can come from any background and any demographic. First generation students, international students, minority students, on-line students and adult returners are just a few small examples of sub groups found in higher education. As younger generations of Americans become more diverse, they note, these groups will make up a rising percentage of the growing student populations on campuses nationwide. That prediction, made in 1996, has come to pass nearly two decades later.

It appears that this is the first enrollment boom among the last three not to be accompanied by major federal investments in public higher education's physical infrastructure. This, despite evidence that strongly suggests the enrollment boom initially predicted to end by 2010, will continue well into the future. One recent study found that the U.S. population grew by over 36 million people in just over a decade from 1997 to 2008. During this same period of just over a decade, the study shows that enrollments at U.S. public higher education institutions jumped by over 2.5 million students (Harris, 2011). Estimated deferred maintenance across public higher education as reported by state higher education finance officers grew by billions of dollars and many states do not have adequate funds or plans for their future needs (Harris, Katsinas, & Manns, 2012).

This decline in master planning is troubling. In each of the enrollment booms over the past seventy years, major federal aid for operating budgets and facilities accompanied injections of increased student financial aid. In the case of post-World War II, returning veterans received generous GI Bill benefits for tuition, fees, and living expenses, while institutions received federal help through the Surplus Property Act of 1944, which even funded huts for campus housing across the country (Harris, 2011; Thelin, 2004). The Higher Education Facilities Act, signed into law in December of 1963, was one of the first pieces of federal legislation signed after Lyndon B. Johnson's ascension to the presidency following the assassination of John F. Kennedy. The Higher Education Facilities Act and its successor, Title VII of the Higher Education Act of 1965, provided billions of dollars of matching federal grants for states to support public higher education facilities construction to meet the 1960s enrollment boom (Harris, 2011). Federal matching grants in turn spurred the states to construct the facilities needed to create new community colleges and to support the expansion and broadening of the mission of the former

teacher's colleges into full-fledged state universities during the "baby boom" period from 1965 to 1973. The federal government also supported college affordability programs through established grants to fund additional financial aid incentive programs like Pell Grants and federal work study which are still widely used today.

According to a December 2011 report (*Challenging success: Can college degree completion be increased as states cut budgets?*) from The University of Alabama's Education Policy Center, when asked to respond to the item "To increase the number of adults with college degrees and certificates, a long-term plan exists in my state to finance operating budgets," just 4 of 51 directors of state community college systems were in agreement, compared to 36 in disagreement (11 were neutral or did not know). When asked to respond to the item, "To increase the number of adults with college degrees and certificates, a long-term plan exists in my state to finance capital budgets," just 3 of 51 directors of state community college systems were in agreement, compared to 40 in disagreement (8 were neutral or did not know) (Katsinas, D'Amico, & Friedel, 2011).

The lack of long-term plans for operating and capital budgets- traditionally, a primary role for the state, speaks to a clear lack of a national consensus regarding the funding of public higher education, both at the national and state levels. A successful higher education system would require leadership and investment from both those in the academic sector and those in government having a clear vision as to what role each other should play (Brown, 1996). In his dramatic first address to a Joint Session of Congress in February 2009, President Barack Obama stated that the nation had slipped from first in the world in adult baccalaureate degree attainment to eighth. He pledged support for policies to expand college going to restore America to number one in the world by 2020 (Obama, 2009). The president maintains throughout his time in office

that higher education is imperative to a successful economy, and should be attainable for all Americans. As president, Obama has supported policies that expanded the total number of students on Pell Grants by more than 50% from 2008 to 2011. Increases in federal support have raised the number of Pell recipients from 6 to 9 million students. Additionally, for the 2013-2014 academic years, Pell Grant awards were raised to a maximum of \$5,635 (Kanter, 2012). Other provisions, such as the American Opportunity Tax Credit (AOTC), are currently providing over 9 million students with up to \$10,000 in tax credits to be used for tuition and fees for four years of college (U.S. Treasury, 2010).

The finance of public higher education in America is, of course, a joint responsibility that falls between the state, federal government and individual students (Thelin, 2013). Sadly, at a time when the nation appears poised to commit itself to significantly expand the percentage of its adult population with degrees and certificates, state funding cuts challenge public access institutions as never before. The Delta Cost Project has documented a long-term trend of massive funding cuts at publicly controlled from FY1999 to FY2010 which in turn forces institutions to rely increasingly on tuition hikes. Their recent report (*Trends in College Spending: Where does the Money Come From? Where does it Go?*) concluded that new money filtering in through institutions to supplement declining state support, is coming from the students attending the institutions (Desrochers, Lentham, & Wellman, 2010). In Alabama, after the Fiscal Year 2013 Education Budget was approved by the Alabama State Senate on April 18, 2012, Senate Budget Chairman Tripp Pittman was quoted as saying that public higher education sustained larger operating budget cuts than did elementary and secondary education because “they can raise tuition” as an alternative source of revenue. Gordon Stone, the executive director of the Alabama Higher Education Partnership, which represents Alabama’s 14 public universities

in the legislature, argued that these cuts would impact the states' ability to offer affordable higher education (Associated Press, 2012). According to a recent article in *The Chronicle of Higher Education*, Grapevine, which has documented state tax appropriations in public higher education each year since 1960, estimated a 7.6% shortfall in state support from 2011-2012, putting the amount of state support behind where it was in 2007 (Kelderman, 2012). These spending cuts will have long-term impacts on higher education, according to Paul Lingenfelter, the president of the State Higher Education Executive Officers. In the same article from *The Chronicle*, Lingenfelter argued that these shortfalls would increase the cost that falls onto the students, and decrease the access to higher education for many (Kelderman, 2012).

Recent years have seen an increased effort by the federal government to provide increased levels of assistance, particularly in the form of Pell Grants, to those seeking access to higher education. President Obama has made the most substantial investment in student aid since the establishment of the G.I. Bill (White House Press Secretary Report, 2012). During his recent re-election campaign, President Obama (2012) addressed a particular manner in which his administration was able to provide financial assistance to millions of college students, "We did it by taking \$60 billion that was going to banks and lenders as middlemen for the student loan program, and we said, 'Let's just cut out the middleman. Let's give the money directly to students.'" Pell Grant recipients are using this resource to access higher education in many different types of campuses, not just at large state flagship universities.

The increase in the level of access to higher education is benefiting students from diverse backgrounds including community college students. A February 2012 study by The University of Alabama's Education Policy Center of the impact of increased Pell funding at Kansas community colleges revealed that from fall of 2008 through fall of 2010, the amount of Pell

Grant dollars in Kansas nearly doubles from \$20.5 to \$40.4 million. Over the same two-year span, Pell Grant funding at the Kansas' rural community colleges experienced a growth from \$14.5 million to \$26.9 million. That equates to a total growth of \$12.3 million, an 85% increase over that time span (Katsinas et al., 2012).

But are the increases in federal student financial aid keeping pace with the tuition increases that have resulted from an accelerating pace of state-level operating budget cuts? A number of studies would clearly indicate that there are unintended costs associated with shifting the burden for financing public higher education from the states to students and their families. These costs are often a detriment to financial status of incoming students, and the access institutions that might serve them. Many public flagship institutions have tried to compensate for the declining state operating budget funding through dramatic increases in tuition. At The University of Alabama, for example, since 2006 tuition has increased by 63% for in-state residents, while tuition for out-of-state students has increased by 43% (Grayson, 2012). Yet even with those large tuition increases, UA's tuition has lagged behind those increases found at other public flagship universities. In her 2012 biannual state of the university address, President Judy Bonner justified The University of Alabama's increases during a period of enrollment growth by stating, "While we have raised tuition, we have not raised tuition faster than our peers" (Grayson, 2012).

While much of the media's attention is on public flagships, the nation's 272 regional universities, often referred to as *Public Master's Colleges and Universities* (MCUs) in the nomenclature of the Carnegie Foundation for the Advancement of Teaching's 2010 Basic Classification (Carnegie Foundation, 2011), face a different set of challenges. Their funding streams are more limited. They typically do not have large externally funded research grants,

and their curricula typically do not include the professional programs in law, medicine, and engineering that can result in wealthy alumni to make private gifts to offset state cuts. According to John Clinton Kinkead II's 2009 study, which used 2005 Carnegie Basic Classification data to propose a geographic classification of public master's colleges and universities into rural, suburban, and urban groupings, 94% or 250 of the 266 institutions classified by the Carnegie Basic Classification as public MCUs were members of the American Association of State Colleges and Universities (AASCU) (Kinkead, 2009). These 266 public MCUs served 2.5 million unduplicated headcount students in the fall of 2006, according to Kinkead, but AASCU, which lists 420 institutional members, states that its member institutions serve over 4 million students (AASCU, 2012). This suggests that the AASCU institutions may not be accurately presented in the Carnegie Classification.

Recent reports strongly suggest that AASCU institutions are encountering funding issues that are more severe than their larger public flagship university counterparts. According to a 2008 presentation by Angelo Armenti, the former president of California University of Pennsylvania and author of *Public Higher Education is Privatizing Without a Plan*, state systems were already experiencing a sharp decline in public funding prior to the "Great Recession." At the California University of Pennsylvania, state support over a 13-year period from 1995 to 2008 declined by 37% even as their enrollments increased (Armenti, 2008). Armenti also argues that this type of "privatization" in state higher education will eventually result in a complete loss of state funding, if similar budgeting trends continue. He goes as far to say that Pennsylvania State University, the state's public flagship university, could be faced with a burden of funding 100% of itself by as early as the year 2033.

Similarly, F. King Alexander, the president at Louisiana State University, who also served as President at California State University Long Beach, states that there has been an overall loss of state education dollars, which has in turn resulted in states relying on increases in tuition dollars to compensate (Alexander, 2010). Alexander was one of the seven college presidents invited by President Obama to talk about federal efforts to support college affordability in February 2012. President Obama consistently mentioned affordability in higher education as a major issue of concern during the 2012 Presidential campaign (Nelson, 2011). Not surprisingly, after making college access and affordability a topic of concern in the campaign, the President has continued to address the issues. In a 2012 speech attended by higher education partners at a summer roundtable, President Obama stated, “Americans as a whole now owe more on student loans than they do on their credit cards. And that is wrong, because we cannot afford to price the middle class and folks who aspire to go into the middle class, we can't price them out of the college education market.” The President’s consistent mentioning of the cost of higher education, and the problematic theme that higher tuition costs can create for students and their families suggests that this issue will not likely go away anytime soon, and may likely get worse before it gets better. Student debt becoming the most significant debt for those pursuing a better life can actually put them in a financial hole, thus it remains an issue with candidates in the 2016 presidential campaign.

On an April 2012 panel at the National Center for the Study of Collective Bargaining in Higher Education and Professions, King Alexander noted that AASCU Institutions serve many more first time enrolled college students. These students are more likely to be dependent upon federal student financial aid to access higher education (Alexander, 2012). But if federal student aid is not keeping up with college tuition increases caused by declining state appropriations and

operating budget cuts, what happens to access in our country? The likely scenario if federal aid is outpaced by the other variables, there will be restricted access and opportunity for a larger percentage of students seeking affordable higher education.

### **Problem Statement**

Higher education access in America is a shared responsibility between the states, the federal government, and students and their families. Much attention has been paid to operating budget cuts at the state level and their impact on flagship universities, regional universities, and community colleges, but little attention to date has been paid to how the how changes in state operating revenues and changes in student aid together may impact access.

This study examines whether federal Maintenance of Effort (MOE) provisions written into 2009 American Recovery and Reinvestment Act (ARRA)—popularly known as the federal stimulus package—promoted college affordability at public comprehensive colleges and universities. The ARRA legislation’s MOE provisions required states to follow one of two prescribed methods by which to maintain total state expenditures for public higher education in FY2009, FY2010, and FY2011 at FY2006 levels (Department of Education, 2009). The goal of ARRA MOE provisions was to not allow states in the “Great Recession” to cut public higher education funding causing them to raise tuition and or get rid of vital services (AASCU, 2010). Did the federal ARRA MOE provisions preserve total state expenditure for public higher education operating budgets thereby moderating tuition increases, and thus allowing more students to benefit from significantly expanded investments in federal need-based student aid through increases in Pell Grants? This is the question addressed in observable differences among attendance patterns and financial information of full- and part-time students and by geographic type of institution served—rural, suburban, or urban at AASCU institutions.

Maintenance of Effort (MOE) has been used for many decades in other government sectors for the matching of state and federal dollars. For example, signs along construction areas of interstate highways might typically indicate how a 10% state funding match for a given project draws down a 90% match from federal highway funding. Maintenance of Effort funds are also used in Medicaid matching and welfare-to-work funding under the Family Support Act's Temporary Aid to Needy Families program matches a federal share that approaches equality with the of state match (The Urban Institute, 1998). There are many others, including job training under the Workforce Investment Act. However, provisions requiring states to maintain their investment in public higher education are relatively new.

Inclusion of the Maintenance of Effort (MOE) provisions in the February 2009 ARRA stimulus package was strongly supported by the American Association of State Colleges and Universities and their member institutions. The MOE provisions were proposed in response to the fact that some state governments were rapidly cutting state operating budgets for public higher education institutions at such high rates that any resulting tuition increases would basically offset any foreseeable increases in federal need-based student financial aid packages that Congress might pass. The federal government, while offering financial support programs available to students, had previously not directly intervened to encourage states to make higher education more affordable by controlling or influencing states to maintain operating budgets. The ARRA's MOE provisions gave a practical financial incentive to state lawmakers to maintain total public higher education spending at FY2006 levels (Alexander, Harnisch, Hurley, & Moran, 2010). This in turn allowed the substantial increases approved by the Congress and signed into law by the Administration to increase federal Pell Grants to help more students accomplish the federal goal of expanding college attendance and degree completion. Thus, the goal of the MOE

provisions was to restore the appropriate federal-state partnership for access to higher education, so that federal funds for student financial aid would be used *in addition* to state aid through operating budgets (Alexander, Harnisch, Hurley & Moran, 2010). The central objective of the proposed research study is to determine if these MOE provisions actually accomplished this public policy objective, by examining the impact on AASCU member institutions over nine fiscal years covering a time period before, during, and after the Great Recession.

The members of the American Association of State Colleges and Universities comprise a large proportion of public higher education in the United States, even though their institutional names and missions are not as well-known as the state flagship universities with high profile intercollegiate athletic teams. AASCU is represented by 420 public college and university members throughout the United States and the U.S. Territories, including institutions in Puerto Rico and Guam. The AASCU institutions are diverse in their enrollment sizes, ranging from 845 students at the smallest institution and climbing to approximately 58,000 students. The average enrollment for an AASCU institution is 10,430. Their total enrollment in 2015 is approximately 4 million students or roughly 48% of the undergraduate enrollment at the nation's public four-year institutions (AASCU, 2015). The AASCU institutions are strategically placed in urban, suburban, and rural geographic settings to attract students of targeted regions, whether they are from small rural towns or the inner cities of urban regions. According to the annual report (2012), while some AASCU colleges and universities offer associate degree programs as well as degrees through their law schools, med schools and other doctoral level programs, their focal point is degree attainment through basic undergraduate programs, which includes some online degree programs (AASCU, 2012).

The AASCU institutions are highly committed to place, as most of their students are from geographic areas within several hours' drive of the institutions. Stressing the importance of location within each state for AASCU institutions is evident in their ongoing "Stewardship of Place" program. Being a steward of place and providing successful public engagement as an AASCU institution means there is an interactive and mutually beneficial relationship between the institution and the surrounding community (Votruba, 2002). In being stewards of place, AASCU institutions engage in the prospects of local economy, seeking out partnerships and engagement opportunities (AASCU, 2012). Argued here is that learning whether or not the federal government's Maintenance of Effort provisions worked, and if so, their impact, could potentially be very important as the federal government considers methods by which college affordability can be maintained and enhanced.

As he addressed a crowd at the University of Buffalo, President Barack Obama (2013) committed his administration to producing higher education bargains for the middle class. Obama cited quality education as the one of the most important aspects for economic mobility, and higher education as the most important investment in one's life. The President also acknowledged the barrier of costs, versus the expected increase in salary, which he listed as 250% (increase in tuition) against 16% (expected increase in salary) (Obama, 2013). He also proposed further reforms to create and maintain affordability, including implementing a new rating system to highlight the best value opportunities among higher education institutions. President Obama's reform efforts were aimed at creating competition among colleges to enhance their "bang for their buck," and offering more affordable repayment options for students to pay on their student loans (Obama, 2013). The value and affordability incentives would potentially make AASCU institutions a more appealing option for those deciding on a college.

Due largely to statewide economic hardships across the country coinciding with the Great Recession that began in June 2007, many higher education institutions are facing continued cuts in state funding, and while enrollments are going up at public access colleges the financial contribution from their states are not increasing (D'Amico, Friedel, & Katsinas, 2012). The sluggish nature of the recovery has only increased the short-term pressures on the state funding and the need to increase tuition even higher simply to maintain current service levels (D'Amico, Friedel, & Katsinas, 2012). The long-term trend of substituting tuition for state operating fund cuts in public higher education appears to be continuing (Desrochers & Kirschstein, 2010). Institutions supplant state support with ever-higher tuition, shifting the burden to fund the institutions from state governments to students and their families. These funding cuts come just as enrollment demands increase, placing even greater financial burdens on large numbers of students. In 2010-2011, 43 states made budget reductions in state higher education funding, using an increase in tuition dollars to fill in the part of the reduction gap (Johnson, Oliff, & Williams, 2011). As a result of these cuts, institutions increasingly rely more on out-of-pocket costs from students and their families. Institutions are forced to reduce programs, cut services, lay off staffs, and have reduced the overall financial aid packages students receive. In extreme cases, such as in Minnesota, over 9,000 students have lost their financial aid packages entirely (Johnson, Oliff, & Williams, 2011). The situation may also be worsening. According to a study by Katsinas and the Alabama Education Policy Center (2014), in FY2013-FY2014, 14 states reported insufficient levels of state appropriations to cover the rate of inflation. The number of states reporting this for FY2014-FY2015 jumped to 31, suggesting the timeliness of the proposed study. Katsinas (2016) reported recent data showing discrepancies in state operating budgets and levels of inflation, that only two states, Utah and Massachusetts have appropriated state funds at

or above the HEPI levels over a five year period from FY2011-12 through FY2015-16. The lack of appropriations is seen as a threat to access.

### **Purpose and Significance of the Study**

To date little research has examined the overall impact that federal Maintenance of Effort provisions have had on public higher education. This study examined the relationship of state higher education budgets just before the introduction of federal Maintenance of Effort provisions, during the period of their enactment, and just after the expiration of the MOE's. The years under study were FY2005-06 through FY2013-14, and similar data from other similar economic periods will be collected and observed as a source of comparison. Data from the U.S. Department of Education's National Center for Education Statistics was obtained and analyzed to learn if MOE impacted public higher education operating revenues, and if so, how. This study specifically investigated the impact of MOE at AASCU member institutions for the selected time frame. Such analysis has particular importance in our current national enrollment boom, as many large states have long capped their public flagship university enrollments; for these states how the AASCU institutions fare is critical to expanding baccalaureate degree attainment over the long haul.

### **Research Questions**

The study examined the influence federal ARRA Maintenance of Effort provisions on controlling higher education cost increases at public four year institutions of higher education that serve large numbers of first-generation, first-time-in-college, minority, and low income students. The institutions examined were the 420 member institutions that belong to the American Association of State Colleges and Universities.

The purpose of the MOE provisions were to control college costs and specifically to limit the usage of state budget cuts of public higher education, presumably as a vehicle to obtain funds without a tax increase, that could then be reallocated to other state budgetary functions through tuition increases. In past recessions, tuition rose by more than double digits in many states, and was never reduced after the recessions ended. The higher permanent tuition levels mean that federal state financial aid purchasing power has been dramatically reduced over time. This is a matter of great importance to access-oriented members of AASCU, because their academic program profiles mean that they do not have programs that can land large federal research grants or wealthy alumni to make up a hole in state funding. The following research questions were examined throughout the study:

1. Did the average total operating revenues at AASCU institutions increase over a nine year period from FY 2005 to FY 2014;
2. Did the average tuition costs increase at AASCU institutions over a nine year period from FY 2005 to FY 2014;
3. Did the average state appropriations increase at AASCU institutions over a nine year period from FY 2005 to FY 2014;
4. Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their operating revenues across nine years from FY 2005 to FY 2014;
5. Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large

classifications in their in-state tuition and fees costs across nine years from FY 2005 to FY 2014; and

6. Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their state appropriations across nine years from FY 2005 to FY 2014?

### **Definition of Terms**

The terminology referenced throughout is extensive as it relates to higher education populations and finances. The terms are defined to aid the reader in the understanding of each key word or term and how they apply to the research. Many of the terms are taken from the glossary of the National Center for Education Statistics.

American Recovery and Reinvestment Act of 2009 (ARRA) - Signed into law in 2009 by President Obama. Intended to provide federal financial assistance to: create and maintain existing jobs; spur an economic growth in the country to prevent a continued recession; and to add transparency to government spending (Recovery.gov, 2009).

American Association of State Colleges and Universities (AASCU) - Formerly the Association of Teacher Education Institutions, AASCU institutions are state supported colleges and universities that aim to extend higher education to more citizens (AASCU, 2012).

Associate's degree – An academic award that usually requires at least 2 but less than 4 years of full-time equivalent college work (National Center for Education Statistics, 2012).

Carnegie Basic Classification- a classification of institutions of higher education coding structure developed by the Andrew W. Carnegie Foundation for the Advancement of Teaching (National Center for Education Statistics, 2012)

Calculation of Full Time Enrollment (FTE) students – The number of FTE students is calculated based on the reported attendance, provided by the individual institutions in their IPEDS enrollment figures for the fall term. (National Center for Education Statistics, 2012).

Delta Cost Project – A higher education research project that provides analysis and resources to deepen the understanding of how colleges acquire and spend money (Delta Cost Project, 2015).

Education and General Expenditures (EG)– Costs incurred by the institution in order to provide academic instruction, student services, academic support, institutional support, public service, operation and maintenance of plant, and scholarships and services (National Center for Education Statistics, 2012).

Enrollment (EF) survey – One of the nine components of Integrated Postsecondary Education Data System that collects data annually on the number of full- and part-time students enrolled (on a census date in the fall) in Title IV postsecondary institutions in the United States and its outlying areas, by level (undergraduate, graduate, first-professional), and by race/ethnicity and gender of student. Institutions report on students enrolled in courses toward a degree or other formal award; students enrolled in courses that are part of a vocational program, including those enrolled in off-campus centers; and high school students taking regular college courses for credit. Fall Enrollment was the former name for this component (National Center for Education Statistics, 2012).

Expenses – The outflow or other exhaustion of assets or incurrence of liabilities from delivering or producing goods, rendering services, or carrying out other activities that constitute the institution's central operations or in generating revenues (National Center for Education Statistics, 2012).

Full-time student – For undergraduates, a student enrolled for 12 or more semester credits, or 12 or more quarter credits, or 24 or more contact hours a week each term (National Center for Education Statistics, 2012).

Government appropriations – Revenues that an institution receives through acts of a legislative body, except grants and contracts. These funds are intended to be used to meet an institutions current operating expenses. (National Center for Education Statistics, 2012).

Imputation – A calculation method of estimating data for an entity that did not respond to a data item or survey (National Center for Education Statistics, 2012).

Integrated Postsecondary Educational Data System (IPEDS) – The Integrated Postsecondary Education Data System conducted by the NCES that began in 1986. All postsecondary institutions that have a Program Participation Agreement with the Office of Postsecondary Education (OPE), U.S. Department of Education are currently required to report data using a web-based data collection system. The IPEDS system succeeded the Higher Education General Information Meetings Surveys that began in 1966. (National Center for Education Statistics, 2012).

Maintenance of Effort (MOE) - Legislation written into the ARRA in 2009, relating to U.S. higher education funding. A purpose of MOE was to prevent state's officials from raising tuition costs past designated levels, to offset state budget cuts to higher education programs. This would force states to maintain a level of state investment in higher education. A requirement contained in certain legislation or regulations that a recipient must maintain/contribute a specified level of financial effort in a specified area in order to receive Federal assistance funds, which ensures that those funds are used to supplement, but not supplant, expenditures of the recipient's funds (Environmental Protection Agency, 2012).

National Bureau for Economic Research (NBER) – A private research organization chartered by Congress, aimed at creating data and analysis that ultimately promotes greater economic understanding (NBER, 2015)

National Center for Education Statistics (NCES) – The National Center for Education Statistics (NCES), in the Institute of Education Sciences, is the statistical agency of the U.S. Department of Education and the primary federal provider of education statistics on the condition of American education (National Center for Education Statistics, 2012). National Center for Education Statistics- Primary entity for collecting and analyzing education related data (National Center for Education Statistics, 2012).

Part-time student – An undergraduate student enrolled for either 11-semester credits or less, or less than 24 contact hours a week, or 11 quarter credits or less (National Center for Education Statistics, 2012).

Pell Grant Program- Provides grant assistance to eligible undergraduate postsecondary students with demonstrated financial need to help meet education expenses (National Center for Education Statistics, 2012).

Private institution – An educational institution controlled by a private individual(s) or by a nongovernmental agency, operated by other than publicly elected or appointed officials and supported primarily by non-public funds. These institutions may be either for-profit or not-for-profit (National Center for Education Statistics, 2012).

Public institution – An educational operated by publicly elected or appointed school officials and is supported primarily by public funds (National Center for Education Statistics, 2012).

State appropriations – All dollars received by the institution through acts of a state legislative body, except grants and contracts and amounts reported as capital appropriations (National Center for Education Statistics, 2012).

Tuition – The amount of money charged to students for instructional services that can be charged per term, per course, or per credit (National Center for Education Statistics, 2012).

Tuition and fees (revenues) – Revenues from all tuition and fees charged to students (net of refunds and discounts and allowances) for educational purposes (National Center for Education Statistics, 2012).

Undergraduate student – A student enrolled in a program, such as an associate degree program or a vocational or technical program that is below the baccalaureate degree (National Center for Education Statistics, 2012).

Unduplicated headcount – The sum of students enrolled for credit where each student is counted only once during the reporting period, regardless of when the student enrolled (National Center for Education Statistics, 2012).

### **Assumptions**

The following assumptions were made for the purpose of this study:

1. It was assumed that all data entered into the Integrated Postsecondary Education Data System and reported by the same for the years under study, 2005-2006 to 2013-2014, were correct;
2. Public regional institutions are constantly changing in enrollment size, thus impacting the data collection and classification; and
3. There was a sufficient number of institutions within each classification group that provided the examined data for the nine year period of the study.

### **Limitations**

The following limitations were made for this research study:

1. The researcher was limited to the availability of data released by IPEDS;
2. The researcher was limited by the level of participation by those AASCU institutions;
3. Institutions were subject to closing and mergers during the nine year study, impacting data collection;
4. Institution enrollments varied throughout the nine years of the study, thus enrollments from the 2010-2011 academic year were used to classify institutions by size; and
5. Certain classification groups within the Katsinas Modified Carnegie Classification System provided a small response sample

### **Delimitations**

The following delimitations applied to this research study:

1. Only in-state tuition and fees were collected and examined for AASCU institutions; and
2. Only public higher education institutions were examined. Private school data was not gathered.

## CHAPTER II: LITERATURE REVIEW

This chapter provides a review of all of the literature covering the American Recovery and Reinvestment Act, state education funding, American Association of State Colleges and Universities, Maintenance of Effort, and the financial investments from states to public higher education. It is organized and categorized into relevant subsections that include state funding support for higher education; the American Recovery and Reinvestment Act of 2009, Pell Grants and other need based aid for undergraduates; the Association for American Colleges and Universities and their role in American higher education; Maintenance of effort legislation; and the classification of AASCU institutions in the Carnegie 2010 Classification system.

### **State Funding for Higher Education**

The pursuit of higher education is arguably one of the most important opportunities for individuals that are seeking a way for an improved future. The chance to enhance your life through knowledge is appealing for those that may seek to open additional avenues of career opportunities and potentially a more secure financial future. In terms of education funding, the current generation, and likely future generations may not have the same support from their state that previous generations of college students have had. State support can keep the cost of attendance more affordable when they invest sufficient financial resources. Unfortunately, the economy fluctuates, and students today may just be victims of pursuing higher education around the time of an economic recession. The recession, combined with declining state funding of higher education, and tuition costs that continue to rise, even at public institutions is endangering

the opportunity to pursue higher education for many individuals. When tuition costs have to make up the financial gap left by other funding streams that are drying up, that passes an additional financial burden on to students and their families (Rizzo, 2004)

State support of higher education didn't just begin to slow down overnight. There has been a noticeable decline in state funding levels of higher education for decades according to Cornell University economist Michael Rizzo, who has studied the state funding levels for higher education. His 2004 findings showed a sharp decline in state funding from the 1970s to the early 2000s, which was even before the current economic downfall. Rizzo found that from 1974 to 2000, a period of just 25 fiscal years, economic support from the state to public institutions rose from \$30 billion to \$60 billion. According to Rizzo, the rise in state support based on dollar amount is still troubling even while the funding amount doubled in terms of real dollars. Over that time period, the actual amount of funding support increase was less than 1% and over that same time period from FY1974 to FY2000, the amount of state dollars invested declined from totaling 78% of the total institutional cost to 43% (Rizzo, 2004). F. King Alexander, a former president of an AASCU institution who currently serves as president of Louisiana State University, recently presented more current data that reveals that state support for higher education in FY2011 was the lowest it has been since FY1965, per \$1,000 of income (postsecondary.org, 2012). In 2011, the state support for higher education stood at \$5.89 per \$1000 of personal income. Figure 1 from the Postsecondary Education Opportunity shows the trend of decreasing state fiscal support and increasing personal income contributions to higher education.

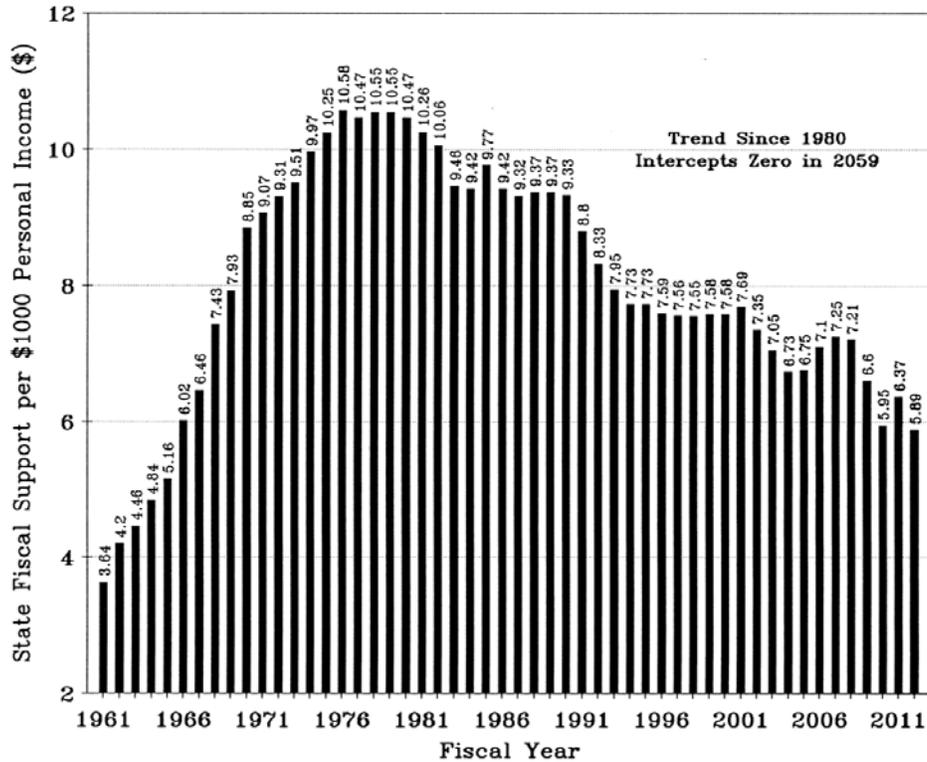


Figure 1. State fiscal support for operating expenses of higher education per \$1000 of personal income FY 1961-FY2012. Source: Postsecondary Education Opportunity. Public policy analysis of opportunity for postsecondary education, Volume 236, February 2012.

In recent decades, state tax appropriations for public higher education operating budgets have been viewed by political leaders as discretionary funds that can be reduced because public colleges and universities can compensate for them with tuition and fee increases. That state legislative mindset, along with court mandated funding increases for K-12 funding, has left public higher education forces in many states in a tough scramble for dollars. As tuition continually rises, decade after decade, some public college and universities are driving toward private institution status in terms of the cost. With these rising costs, and perhaps as more students become eligible for Pell grant dollars, the states are moving the responsibility for college finance away from the state and the institutions and towards the individual, collecting ever higher tuition amounts along with the rising fees (Rizzo, 2004). The American higher

education system rose to prominence globally during the previous generations when public money was made more readily available. On the other hand, as funding diminishes, our place in the global rankings has dwindled as well (Goldin & Katz, 1999).

Overall, the financial commitment on the part of state and local governments to higher education has increased substantially over the past several decades. In 1985, state and local governments combined provided \$29.1 billion in direct support for general operating expenses of public and independent higher education institutions. This investment increased to \$42.1 billion in 1995, \$69.2 billion in 2005, and \$88.9 billion by 2008. According to the Bureau of Labor Statistics, considering the change due to inflation, that \$29.1 billion investment in 1985 would be the equivalent of \$41.22 billion in 1995, \$52.8 billion in 2005, and \$58.23 billion by the year 2008. The adjusted costs for inflation still show a dramatic decrease to actual combined support for higher education by the state and local governments. (U.S. Department of Labor, inflation calculator, 2014).

The State Higher Education Finance FY2010 report, released by the State Higher Education Executive Officers, is published annually to provide an assessment of the individual state and local government support of their colleges and universities. According to the document, the SHEF report “builds on and augments the surveys of various federal agencies” to aggregate data into multiple categories (SHEEO, 2011). These include reports produced by the National Center for Education Statistics located within in the U.S. Department of Education, The U.S. Census Bureau, and other federal economic departments. The SHEEO reports offer institutional comparisons with national trends (SHEEO, 2011). The SHEF FY2010 report concluded that after a brief period of increase in state and local monetary support of higher education from 2006-2008, the looming recession ended that period of economic recovery and

projected it would take years to regain the financial momentum because the severity of the recession was enough to seriously threaten the strength of higher education throughout the country (SHEEO, 2011).

SHEEO's data in their FY2010 report did in fact show that the recession starting in 2008, cut into the state support for Higher Education. The money that through 2008 had found its way to postsecondary institutions was now being reallocated elsewhere to plug up holes in other financially strapped areas. To the rescue was the American Recovery and Reinvestment Act that was approved February of 2009. The ARRA was intended to provide stabilizing funds to areas impacted by the recession in an effort to regain economic stability. As long as states could maintain total spending that was on par with FY2006 levels, they could take advantage of funds approved by the Secretary of Education to bridge the gaps in state higher education funding (SHEEO, 2011).

From the end of the FY2009 to FY2011, the supplemental funds provided by the ARRA appeared to have served a sufficient purpose to stabilize education investment funds. Although each state had the same opportunity, there were only 15 states that took advantage of ARRA funds for higher education. That money totaled \$2.3 billion of the \$88.9 billion total higher education investment. The following year, the number of states utilizing the ARRA financial disbursements jumped to 43 states that were using the money for their higher education needs. The total investment in 2009, \$89.1 billion was virtually the same as in 2008. In 2010, the total investment including the ARRA funds was \$88.5 billion. With the ARRA funds over the 2008 to 2010 fiscal years, there was less than a one percent decrease in overall funding, showing that the ARRA funds were necessary to maintain higher education funding (SHEEO, 2011).

## **The American Recovery and Reinvestment Act of 2009**

The Maintenance of Effort legislation actually stems from the American Recovery and Reinvestment Act. The ARRA was passed by Congress early in 2009 and quickly signed into law by President Barack Obama. This Act was intended to provide funding into various sectors that would aim to reinvigorate and stabilize the American economy. If not for the implementation of ARRA, a desperate financial situation in higher education, and the country, would likely have worsened. The goal of the ARRA was to create jobs, provide tax cuts, and provide funding for grant-based aid (Recovery.gov, 2012). In order to meet the demands of transparency, Congress established the recovery.gov website, to provide a detailed account of the spending and disbursements of the ARRA.

As initially passed, the ARRA was slated to provide \$787 billion into the country's economy through a variety of funding initiatives. That number has since been bumped up to nearly \$850 billion to supplement funds into seven major functional areas where the stimulus funds have been invested: education, tax relief, state fiscal relief, infrastructure, health care, energy and low-income financial protection. Every state received ARRA funds, according to the recovery.org information site (2012), and detailed information on expenditures can be found through the site's search pages.

The educational commitment from the ARRA funds was a great financial boost to the U.S. Department of Education. The funds committed to education were a direct, noticeable contribution and yet the entire ARRA commitment to individual states could benefit the education system even more indirectly. Ideally, additional funding across numerous line items of a state budget could lessen the blow of potential cuts to education. The U.S. Department of Education distributed funds to states in a number of categories. In Alabama, for example, ARRA

funds were invested in both K-12 education and public higher education as well. As of 2013, over \$1.2 billion in ARRA federal stimulus funds have been awarded to public education at all levels in Alabama (recovery.gov, 2012). These funds did not come in lump sum but were dispersed categorically throughout Alabama's different educational structures. Those include state stabilizing funds, support for low-income schools, special education grants, technology grants, rehabilitation grants, Independent living funds, funds for homeless students, Pell Grant increases and work study funds. Many of these categories are more relevant to Alabama's K-12 system. The major areas of impact for higher education come from the areas under state fiscal stabilization funds, Pell grants, and federal work-study funding (U.S. Department of Education, 2012). State fiscal stabilization funds were instituted as a one-time appropriation under the ARRA in 2009. They were itemized as a lump sum stimulus of over \$53 billion nationwide. According to the U.S. Department of Education fact-debriefing (2010), the goal of the stabilization funds were to

1. Help stabilize state and local government budgets in order to minimize and avoid reductions in education and other essential public services;
2. Help ensure that local educational agencies (LEAs) and public institutions of higher education (IHEs) have the resources to avert cuts and retain educational personnel and staff;
3. Help support the modernization, renovation, and repair of school and college facilities; and
4. Help advance early learning through post-secondary education reforms to benefit students and families.

Pell Grant funds were already a source of financial assistance for many higher education attendees. Though the ARRA funds did not initiate the Pell Grant program, it did provide generous increases to the existing funds. The ARRA included an additional \$17 billion of new funding for Pell Grants. Prior to ARRA in 2009, the maximum Pell Grant award was capped at

\$4,731. With ARRA support, the maximum award was immediately raised to \$5,350, an increase of \$619 or 13%. That increase benefitted not only those students that previously qualified for Pell, but there were around 800,000 more students that could utilize the grant beginning in 2009. With Pell Grants' target demographic being lower income students, that additional number of students qualifying for the grant is even more relevant (McCann, 2012). Another component of the ARRA funds that were set aside to provide financial support to qualifying students were the additional federal work-study funds (McCann, 2012). The additional work-study funds could, in some cases, compliment the max Pell awards increase to create additional financial support for lower-income students. With ARRA's MOE provisions effectively impacting tuition rate hikes, it is likely that the increases in federal student aid stimulated positively college enrollments (Kennamer, Katsinas, & Schumacker 2011).

The increases in the levels of available aid and moderated tuition increases provided access to higher education to thousands more U.S. students, fitting nicely into President Obama's 2020 Goal for American education. The main two components of that goal are to increase community college and four-year college graduates by 10 million and to have every American complete at least one year of higher education or job training education in an effort to make America a world leader in terms of its educated workforce (Kanter, 2012).

The Obama administration has taken on an extensive focus on higher education funding. To assist in making affordability and quality a realistic outcome, there are current measures being presented to increase federal investment in higher education, while defining and stimulating increased state investment in their public institutions. The increase in Pell money and availability was one statute, and helping students to deal with potential debt was another. Income-based repayment for student loans and Public Service Loan Forgiveness ease the

financial burden to students and recent college graduates. Shared responsibilities at both the state level and the federal level, include a few key components. One of these, Campus-Based Aid Reform, could provide an additional \$10 billion to public institutions that most effectively serve their student body and can create and maintain academic opportunities that can lead to additional employment prospects. Another is called the First in the World Innovation Fund. This fund would potentially provide funding to programs that can demonstrate a plan to reduce cost for college students, improve learning outcomes and completion rates, while lessening the time to earn a degree (Kanter, 2012).

### **American Association of State Colleges and Universities**

American Association of State Colleges and Universities (AASCU) institutions are a vital component of the American higher education system. Based in Washington, DC, this organization aims to provide educational opportunities to students, primarily of a specific area or region served by the relevant AASCU institution. AASCU aims to economically benefit the local communities that support its institutions (AASCU, 2012). AASCU dates back to 1961 when its institutions were initially known as the Association of State Colleges and Universities (ASCU). It became the American Association of State Colleges and Universities in 1967, branching out from what had previously been known as the Association of Teacher Education Institutions, as many of the current members of AASCU were at one point solely focused on providing higher education for those going into the teaching profession. Strong membership and growth has allowed these institutions to offer additional educational opportunities. It was in 1967 that the ATEI was renamed the American Association of State Colleges and Universities (Hager, 1970). AASCU's founding became necessary as similar institutions faced challenges together with the enrollment boom that would follow World War II. These institutions would

see their student numbers swell to extraordinary levels, bringing unexpected trials along the way (Hager, 1970).

In 2011, AASCU celebrated its 50<sup>th</sup> anniversary. A common theme of their timeline involved the ability for AASCU institutions to provide an accessible education for its students (AASCU documentary, 2011). Accessibility is defined by AASCU in a number of ways that allowed for students to attend a member institution. They reference members of the armed forces who were able to enroll in great numbers when they returned from active duty. These opportunities were there for GIs returning from war in previous generations, and remain true today as over 420,000 members of U.S. Armed Forces are enrolled in AASCU institutions. African Americans students were another demographic that benefitted by the mission of AASCU institutions. During America's Civil Rights Movement, when many higher education institutions fought integration efforts, AASCU institutions opened their doors to African American students to provide them the opportunity for education. Midway through the 20th century, when women did not have the advantages of certain education and opportunities, it was again the AASCU institutions that allowed them the chance to pursue academic goals that were more advanced than their traditional expectations (AASCU documentary, 2011).

AASCU institutions also focus heavily on catering to first-generation college students and non-traditional college students. These individuals are enrolling in higher numbers and can rely on AASCU member institutions to help them acclimate to a goal of higher education when they may otherwise seek out blue-collar career opportunities. While some state schools and flagship institutions have to cap enrollments, AASCU institutions still promote accessibility. Affordability is another key component advantage of AASCU institutions. Historically, state higher education institutions have promoted lower tuition costs as an advantage. Cost of

attendance is a barrier to access for many. AASCU institutions have been able to keep their tuition costs low in comparison to other institutions while still offering the same educational benefits (AASCU documentary, 2011). As state funding dwindles, it is important that AASCU institutions receive sufficient funding to maintain their lower cost benefit, so that can continue to cater to their target audience.

Table 1 displays a tuition data retrieved from collegeboard.org, alongside data retrieved from IPEDS. It shows the difference in year to year tuition increases and the percentage year to year increases that have occurred over time at AASCU institutions, compared with the tuition increases at private four-year institutions, public four-year institutions. Affordability and access are two of the major goals that AASCU promotes, therefore the tuition information showing how AASCU stacks up against other institutional types is important. Table 1 also includes the maximum Pell Grant awarded for the corresponding years, and how the maximum amount changes over the nine-year period of time. The Pell amounts are important in the public institution sector as tuition and fee increases diminish the overall purchasing power of Pell.

Table 1

*Average Tuition and Fees by College Type Including Private Four-year, Public Four-year, Public Two-year, and AASCU Institutions*

	Fiscal Year	Private				Public								Pell Grants				
		Non-Profit Four-Year				Two-Year			All Four Year			Regional Universities			Max Award	Yearly Change		
		T&F (average)	Yearly Change		T&F (average)	Dollars	%	T&F (average)	Dollars	%	T&F (average)	Dollars	%	T&F (average)		Dollars	%	Dollars
			Dollars	%											Dollars			
Pre-ARRA	2005-06	\$20,980			\$2,182			\$5,492			\$ 4,754			\$4,050				
	2006-07	\$22,308	\$1,328	6.3%	\$2,266	\$84	3.8%	\$5,804	\$312	5.7%	\$ 5,024	\$ 270	5.7%	\$4,050	\$0	0.0%		
	2007-08	\$23,420	\$1,112	5.0%	\$2,294	\$28	1.2%	\$6,191	\$387	6.7%	\$ 5,352	\$ 328	6.5%	\$4,310	\$260	6.4%		
ARRA	2008-09	\$24,818	\$1,398	6.0%	\$2,382	\$88	3.8%	\$6,599	\$408	6.6%	\$ 5,683	\$ 331	6.2%	\$4,731	\$421	9.8%		
	2009-10	\$25,739	\$921	3.7%	\$2,569	\$187	7.9%	\$7,073	\$474	7.2%	\$ 6,035	\$ 352	6.2%	\$5,350	\$619	13.1%		
	2010-11	\$26,766	\$1,027	4.0%	\$2,742	\$173	6.7%	\$7,629	\$556	7.9%	\$ 6,441	\$ 406	6.7%	\$5,550	\$200	3.7%		
Post-ARRA	2011-12	\$27,883	\$1,117	4.2%	\$2,973	\$231	8.4%	\$8,276	\$647	8.5%	\$ 6,907	\$ 466	7.2%	\$5,550	\$0	0.0%		
	2012-13	\$28,989	\$1,106	4.0%	\$3,154	\$181	6.1%	\$8,646	\$370	4.5%	\$ 7,235	\$ 328	4.7%	\$5,550	\$0	0.0%		
	2013-14	\$30,131	\$1,142	3.9%	\$3,241	\$87	2.8%	\$8,885	\$239	2.8%	\$ 7,488	\$ 253	3.5%	\$5,645	\$95	1.7%		

Notes:

1. Tuition and fee information for AASCU institutions retrieved from Integrated Postsecondary Education Data System (IPEDS)
2. Tuition and Fee information for private institutions, all public 4-year and all public 2 year institutions retrieved from collegeboard.org
3. Regional u = AASCU 367 of the 390
4. % change = year to year percentage change

Today AASCU continues to be a major impact on the landscape of higher education, as it has for over 50 years. The 420 AASCU member institutions provide service and cater to a demographic of student that might otherwise not have the opportunity to attend college. According to its website, the strategic plans the five fundamental purposes of AASCU are

1. To promote understanding, appreciation and support for the public purpose of public higher education and the distinctive contributions of those institutions that comprise the AASCU membership;
2. To support member institutions in their mission to prepare students who can be demonstrably competitive and effective in an economy and a society that requires global literacy;
3. To advocate for effective public policy at the federal level and to provide both federal and state policy analysis to advance member institutions and the students they serve;
4. To provide leadership for effective policy development and program support that will strengthen academic quality, promote access and inclusion, foster regional stewardship and economic progress, and facilitate educational innovation; and
5. To create professional development opportunities for member presidents and their spouses and partners, system executives and other senior leaders and to undertake a systematic approach to fostering new leaders who will contribute to educational innovation. (AASCU, 2012)

In addition, access and inclusion are two of the core values of these colleges and universities.

Current AASCU president Muriel Howard was quoted in response to a 2011 higher education economic impact survey the organization administered. Howard stated this in response to the results (2011), “This survey confirms that ours are publicly engaged institutions that our members are enriching the communities they serve, rooting their importance in the American infrastructure” (p. 1). That survey showed that the state colleges and universities represented by AASCU are responsible for the creation of jobs and improvement to the economic infrastructure of their surrounding areas (AASCU, 2011). AASCU’s aim to continue the positive impact on institutional regions is evident with some of their initiatives to prepare graduates to immediately

impact their community. Certain programs intentionally focused on filling the gaps in health care with nurses, and pushing doctoral degree recipients into teaching will perpetuate a cycle of health and education that can have long-term benefits (AASCU, 2010). The overall benefit of AASCU institutions is that they fill a void for communities and students that other institutions may leave. AASCU institutions provide an irreplaceable service to the students and the communities they serve. According to the AASCU Annual Report (2011), it is also one of the few presidential organization associations that have a vested focus on state policy and trends in each of the 50 states. Today's AASCU still aims to produce the same type of educational environment that Hager (1970) mentioned in his description of the earlier version of the organization, when he stated that AASCU will "build the kinds of programs that can be most valuable for cast members of young people in modern American society" (p. 7). Table 2 shows the state-by-state run down for the current AASCU institutions as of January 2015. AASCU's web site displays the information. Some states employ a Board of Regents, which AASCU lists as a member, but those were not counted as member institutions in the table. The amount of AASCU institutions vary from state to state. For example, there are multiple states with just one AASCU institution. Smaller states such as Rhode Island carry just one institution with AASCU membership, and larger states such as Nevada and Arizona do as well. Texas (26), California (24) and New York (25) have the most AASCU institutions.

Table 2

*AASCU Institutions by State*

State/Territory	Number of Institutions	State/Territory	Number of Institutions
Alabama	10	Nebraska	6
Alaska	4	Nevada	1
Arizona	1	New Hampshire	2
Arkansas	10	New Jersey	11
California	24	New Mexico	3
Colorado	8	New York	25
Connecticut	4	North Carolina	13
District of Columbia	2	North Dakota	6
Florida	6	Ohio	6
Georgia	17	Oklahoma	11
Guam	1	Oregon	5
Hawaii	2	Pennsylvania	17
Idaho	1	Puerto Rico	1
Illinois	11	Rhode Island	1
Indiana	12	South Carolina	12
Iowa	1	South Dakota	3
Kansas	5	Tennessee	9
Kentucky	6	Texas	26
Louisiana	12	Utah	4
Maine	6	Vermont	5
Maryland	10	Virgin Islands	1
Massachusetts	10	Virginia	8
Michigan	9	Washington	6
Minnesota	9	West Virginia	5
Mississippi	6	Wisconsin	6
Missouri	10	Wyoming	11
Montana	3	International	3

## **Student Financial Aid in Higher Education**

Student financial aid has become an increasingly important part of higher education. Nearly all institutions house an office whose sole purpose is to deal with student financial aid. For this study, the primary student aid focus of the researcher was the Pell Grant. Pell Grant awards are a key component of higher education funding affordability. While state budgets account for just over \$9 billion, the federal government nearly quadruples that amount in supplying more than \$35 billion into the federal Pell Grant system (Dynarski & Scott-Clayton, 2013).

The Federal Pell Grant Program was established to provide monetary education grants that do not have to be repaid, to primarily low-income undergraduate students. The intention of the Pell Grant remains to encourage increased access opportunities to attend higher education (U.S. Department of Education, 2012). Pell Grants are the U.S. Government's biggest monetary effort to close the enrollment gap for lower and some qualifying middle-income students. Pell Grants were a component of the 1972 Higher Education Act and were named for Senator Claiborne Pell. They were originally referred to as Basic Education Opportunity Grants until 1980 and have since been commonly referred to as Pell Grants (Curs, Singell, & Waddell, 2007). In the academic year 2011-2012, there were over 5,000 institutions that allowed the use of Pell Grant awards. According to the US Department of Education (2012), Pell Grant amounts are dependent on a few major factors:

1. **The cost of attendance:** The total cost of attendance is determined by the institution. Cost of attendance includes more than just the dollar amount for tuition, and can also include other fees such as books, housing, board, and other potential personal expenses;
2. **The individual student's enrollment status at their institution:** A student will be classified as either full-time or part-time at an institution depending on the amount of hours they are enrolled in;

3. Expected contribution from the student's family: According to the US Department of Education website (2012), the expected family contribution or EFC, is a component of the financial need formula that Congress established. The EFC formula includes a student's income or their parent's income and other financial assets, size of their family, and any other family members attending college at the time. By adding a percentage of the sums of net income and net assets, a student's EFC is figured. The EFC will determine whether or not a student is eligible for a Pell Grant; and
4. Length of attendance: Pell Grant access can also be dependent a student attending for a complete academic year, or just a single semester (Department of Education, 2012).

The Federal Student Aid Handbook is released annually and available online. The handbook provides additional insight on Pell Grant awards. A recipient of any Pell Grant funds would first need to complete their FAFSA form to determine eligibility, and for those students that meet the criteria, they will then receive the Pell funds (FSA Handbook, 2014). Many institutions now require the funds to be distributed through their student account, so the institution receives tuition and other fees prior to the remaining balance being distributed over to the student.

### **Maintenance of Effort**

Maintenance of Effort (MOE) legislation as it pertains to higher education can be a direct combatant to the increasing cost of attending public institutions of higher education. In a policy brief regarding federal and state funding, Alexander et al. (2010) stated that only if states adhere to a certain level of funding would they be eligible for additional federal financial incentives. This legislation did not represent the norm as a directive from the federal government, whose previous intervention in higher education affordability was mostly limited to student financial aid-type packages, and not directly offering state support. This legislation was met with division amongst state representatives, some supporting it as it was written, and some who opposed it claiming it would ultimately not have an impact on the financial decisions made by state

legislators (Alexander, 2010). Supporters of these MOE provisions can point to the Elementary and Secondary Education Act (ESEA) as an example of successful federal intervention. The ESEA, passed in 1965, successfully protected state education appropriations during the previous economic hardships and the current MOE could have a similar result on higher education at a time when the country's economy is again struggling (Alexander et al, 2010).

AASCU and its membership strongly supported MOE provisions for higher education since the initial testimony from F. King Alexander in 2007. That testimony and the organizational support provided the argument that the federal money would be used as supplemental funds for state use, and that money would not simply replace the other funds that states were allocating to higher education initiatives (Alexander et al., 2010). MOE type legislation was not new though it was new to higher education. According AASCU's policy brief (2010) listed reasons for including them in federal legislation are that were

1. Enable the federal government to pursue on a sustained basis national educational attainment and workforce priorities that it in part funds;
2. Leverage federal resources to incentivize states to maintain their funding responsibilities for public higher education;
3. Can help mitigate rising tuition prices by encouraging states to invest adequately in their public higher education systems;
4. Provide a more predictable funding framework for state colleges and universities, thus, diminishing the fluctuation in state funding for higher education that has long been associated with the ebb and flow of economic cycles; and
5. Respect state and institutional sovereignty by providing financial incentives, but not legal mandates or tuition control. (Alexander et al., 2010, p. 4)

Shortly after Alexander's initial 2007 testimony, MOE provisions became a part of the Higher Education Opportunity Act of 2009. States could not take advantage of funding initiatives within the ARRA without adhering to the MOE (Alexander, 2011). Much of the

literature reviewed stems from work and influence from F. King Alexander. Alexander has been at the forefront of Maintenance of Effort legislation and the research backing its relevance as well as garnering additional support within the AASCU community as his work made public regional institutions a focal point at a pivotal time during the economic recession.

### **Carnegie Classifications**

The Carnegie Classification framework was used as a component of the research design for the study. The most recent modification to the Carnegie Classification came in 2010 and served as one of the keys to the institutional comparison within the research methodology that is presented in Chapter IV of the study.

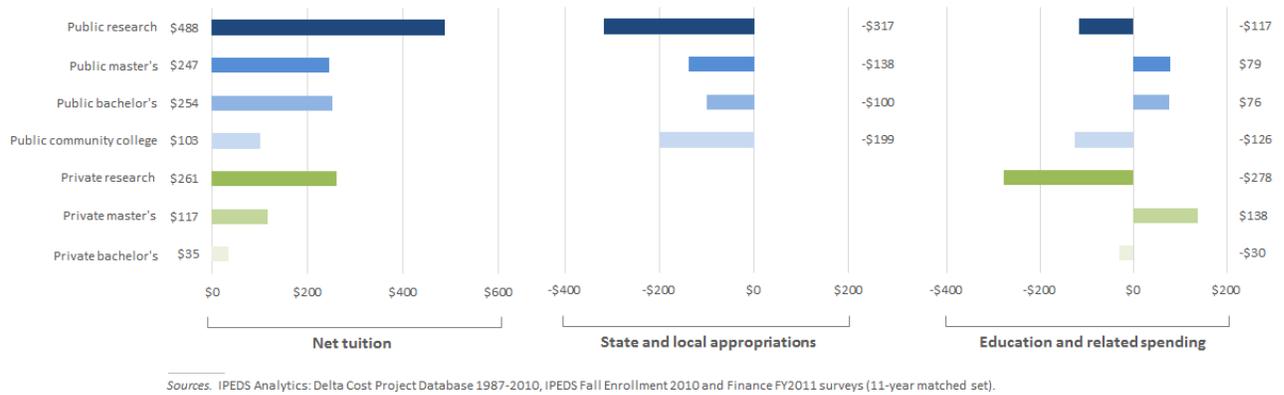
The Carnegie Classification is a product from within the Carnegie Foundation for the Advancement of Teaching and more specifically the Carnegie Commission on Higher Education. The Carnegie Foundation was established in 1905 as an educational research and policy center (McCormick & Zhao, 2005). The classification system was initially developed in 1970 and has since been modified numerous times (Carnegie Foundation, 2011). Clark Kerr oversaw the Carnegie Commission on Higher Education at the time of the classification system's creation. Initially, Kerr saw this as an opportunity to group institutions by "what they did and who taught whom" looking at information such as degrees awarded and institutional specializations (McCormick and Zhao, 2005). The current framework of the Carnegie Classification is used to study various data outputs across today's U.S. higher education institutions. After the most recent update in 2010, there are six classifications within the Carnegie model (Carnegie Foundation, 2011): 1) basic classification; 2) undergraduate programs; 3) graduate programs; 4) enrollment profile; 5) undergraduate profile; and 6) size and setting.

The Carnegie Classification system is commonly used by policy and research organizations, utilizing its institutional groupings framework. What we know and how we understand American higher education institutions can be traced back to the comparisons within Carnegie Classifications. The Carnegie Classification is vital to understanding the fiscal challenges that AASCU institutions face. A good example of how the Carnegie Classification groupings implicitly impact our understanding can be found in the Delta Cost Project. The Delta Cost Project used Carnegie to provide research-based insight on recent college spending. To show how the Delta Cost Project organized their research, examples of data charts are provided. In their published results (2011), the Delta Cost Project, as seen in Figures 2 and 3, use the basic Carnegie Classification system to show results. These figures depict enrollment, net tuition, and fees, state and local appropriations, and education related costs.

	2001	2006	2010	2011	10-year change	1-year change
Public research	3,113,987	3,463,496	3,756,635	3,842,189	23.4%	2.3%
Public master's	1,732,573	1,957,235	2,140,314	2,174,590	25.5%	1.6%
Public bachelor's	207,703	240,899	273,489	286,506	37.9%	4.8%
Community colleges	3,017,667	3,513,551	4,273,255	4,420,199	46.5%	3.4%
Private research	838,742	933,109	992,470	1,017,831	21.4%	2.6%
Private master's	862,639	1,021,111	1,117,879	1,152,952	33.7%	3.1%
Private bachelor's	576,248	631,908	670,656	683,891	18.7%	2.0%

Sources. IPEDS Analytics: Delta Cost Project Database 1987-2010, IPEDS Fall Enrollment 2010 (11-year matched set).

Figure 2. Fall FTE enrollment, FY 2001–FY 2011.



*Figure 3.* Changes in net tuition revenue, state and local appropriations, and education related costs, FY 2010–FY 2011 (in 2011 dollars).

In this presentation of financial data submitted to IPEDS, institutions are grouped into different categories and it is not assumed that these categories of institutions are vastly different from one another.

The Carnegie Basic Classification groups institutions based upon the highest degree awarded, thus the resulting data compiled by the Delta Cost Project, though accurate, may not well reflect the entire reality of the financial data in the classifications. The Delta Cost Project used the Carnegie Classifications of Doctoral granting institutions and within, splits them into Public or Private Research Institutions. That is a particularly broad category considering it includes all doctoral granting institutions, including “moderate,” “higher” and “highest.” A more accurate depiction would reexamine the categories to provide a more realistic data output- more relevant to all institutions. The Delta Cost Project used IPEDS data in their economic study. According to the 2105 Carnegie Classification, the median research and development totals were \$319 million, \$39 million and \$5.7 million, respectively. In this classification, institutions such as CSU-Fullerton, an AASCU institution with approximately 33,000 undergraduates, and California-Berkley, are classified as “doctoral” but financially these are vastly different institutions.

This study used a modified version of the Carnegie Classification to provide additional information into the AASCU institutions that may prove more relevant to how they have been impacted by federal intervention since the recent recession. This system first developed by Katsinas and Hardy at the University of Alabama's Education Policy Center was used in 2005 and 2010 Basic Carnegie Classification of Associates Colleges. Institutions that were classified at that time as public master's colleges were included in Katsinas' Modified Carnegie Classification. The Katsinas classification included institutions labeled as rural, suburban or urban institutions and subcategorized them based on their size and location. Table 3 shows a breakdown of the Modified Carnegie System piloted for the study. There were a total of 390 AASCU institutions included in the classification. There were 49 institutions rural small institutions, 90 rural medium and 122 rural large. There were 13 suburban small institutions, and 42 suburban large. There were 21 urban small and 53 urban large institutions. There were 13 suburban small and 42 suburban large institutions. There were 21 urban small and 53 urban large institutions.

Table 3

*The Modified Carnegie Basic Classification of Public Access Universities in the United States, Institutions, Enrollment, and Full-time Faculty*

Carnegie Type	Institutions		Enrollment	
	Numbers	%	Numbers	%
Rural Small	49	13	148,983	4
Rural Medium	90	23	465,899	12
Rural Large	122	31	1,460,073	38
Rural Totals	261	67	2,074,955	53
Suburban Small	13	3	75,353	2
Suburban Large	42	11	612,444	16
Suburban Totals	55	14	687,797	18
Urban Small	21	5	149,746	4
Urban Large	53	14	979,764	25
Urban Totals	74	19	1,129,510	29
Totals	390	100	3,892,262	100

Notes. 1. Enrollment figures obtained from the Integrated Postsecondary Education Data System (IPEDS) 2. The Carnegie 2010 Basic Classification of Masters Colleges and Universities was modified by Katsinas (2016, forthcoming)

When grouped into their modified Carnegie Classification, the differences are apparent that the financial data. The following series of tables focus on the breakdown of the reported financial data submitted by the AASCU institutions included in the study.

### **Rural Classification**

Tables 4-6 show the IPEDS data for reported operating revenues from the rural small, rural medium and rural large institutions. Table 4 represents the institutional operating revenue from rural small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 5 represents the institutional operating revenue from rural medium AASCU institutions over the

nine-year period of study, FY 2005-2014, and Table 6 represents the institutional operating revenue from rural large AASCU institutions over the nine year period of study, FY 2005-2014.

Tables 7-9 show the IPEDS data for reported in-state tuition and fees from the rural small, rural medium and rural large institutions. Table 7 represents the in-state tuition and fees from rural small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 8 represents the in-state tuition and fees from rural medium AASCU institutions over the nine-year period of study, FY 2005-2014, and Table 9 represents the in-state tuition and fees from rural large AASCU institutions over the nine-year period of study, FY 2005-2014.

Tables 10-12 show the IPEDS data for reported in-state tuition and fees from the rural small, rural medium and rural large institutions. Table 10 represents the state appropriations from rural small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 11 represents the state appropriations from rural medium AASCU institutions over the nine-year period of study, FY 2005-2014, and Table 12 represents the state appropriations from rural large AASCU institutions over the nine-year period of study, FY 2005-2014.

Table 4

*AASCU Institutional Operating Revenue for Rural Small Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenues	Average Annual % Change
Pre-ARRA Period	2005-2006	49	\$1,260,960,000	\$26,270,000	
	2006-2007	49	\$1,322,400,000	\$27,550,000	4.9%
	2007-2008	49	\$1,288,800,000	\$26,850,000	-2.5%
ARRA Period	2008-2009	49	\$1,304,640,000	\$27,180,000	1.2%
	2009-2010	49	\$1,321,920,000	\$27,540,000	1.3%
	2010-2011	49	\$1,376,160,000	\$28,670,000	4.1%
Post-ARRA Period	2011-2012	49	\$1,443,360,000	\$30,070,000	4.9%
	2012-2013	49	\$1,442,880,000	\$30,060,000	0.0%
	2013-2014	49	\$1,447,680,000	\$30,160,000	0.3%

Notes. N=48 AASCU rural small institutions reporting total operating revenue throughout the nine years of study

Table 5

*AASCU Institutional Operating Revenue for Rural Medium Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenue	Average Annual % Change
Pre-ARRA Period	2005-2006	90	\$2,820,720,000	\$33,580,000	
	2006-2007	90	\$2,986,200,000	\$35,550,000	5.9%
	2007-2008	90	\$2,971,080,000	\$35,370,000	-0.5%
ARRA Period	2008-2009	90	\$3,107,160,000	\$36,990,000	4.6%
	2009-2010	90	\$3,192,000,000	\$38,000,000	2.7%
	2010-2011	90	\$3,424,680,000	\$40,770,000	7.3%
Post-ARRA Period	2011-2012	90	\$3,550,680,000	\$42,270,000	3.7%
	2012-2013	90	\$3,559,920,000	\$42,380,000	0.3%
	2013-2014	90	\$3,596,880,000	\$42,820,000	1.0%

Note. N=84 AASCU rural medium institutions reporting total operating revenue throughout the nine years of study

Table 6

*AASCU Institutional Operating Revenue for Rural Large Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenue	Average Annual % Change
Pre-ARRA Period	2005-2006	122	\$12,275,400,000	\$99,800,000	
	2006-2007	122	\$12,997,410,000	\$105,670,000	5.9%
	2007-2008	122	\$13,110,570,000	\$106,590,000	0.9%
ARRA Period	2008-2009	122	\$13,921,140,000	\$113,180,000	6.2%
	2009-2010	122	\$14,559,510,000	\$118,370,000	4.6%
	2010-2011	122	\$15,406,980,000	\$125,260,000	5.8%
Post-ARRA Period	2011-2012	122	\$16,152,360,000	\$131,320,000	4.8%
	2012-2013	122	\$16,552,110,000	\$134,570,000	2.5%
	2013-2014	122	\$16,854,690,000	\$137,030,000	1.8%

*Note.* N=122 AASCU rural large institutions reporting total operating revenue throughout the nine years of study

Table 7

*AASCU Institution Tuition and Fees for Rural Small Schools*

	Fiscal Year	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Average Annual % Change
Pre-ARRA Period	2005-2006	49	\$237,120	\$4,940	
	2006-2007	49	\$251,232	\$5,234	6.0%
	2007-2008	49	\$263,856	\$5,497	5.0%
ARRA Period	2008-2009	49	\$281,712	\$5,869	6.8%
	2009-2010	49	\$294,624	\$6,138	4.6%
	2010-2011	49	\$307,488	\$6,406	4.4%
Post-ARRA Period	2011-2012	49	\$327,072	\$6,814	6.4%
	2012-2013	49	\$341,040	\$7,105	4.3%
	2013-2014	49	\$352,512	\$7,344	3.4%

*Note.* Rural small N=48 AASCU institutions reporting tuition and fees for the entire nine year period

Table 8

*AASCU Institution Tuition and Fees for Rural Medium Schools*

	Fiscal Year	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Average Annual % Change
Pre-ARRA Period	2005-2006	90	\$361,452	\$4,303	
	2006-2007	90	\$381,192	\$4,538	5.5%
	2007-2008	90	\$406,560	\$4,840	6.7%
ARRA Period	2008-2009	90	\$429,408	\$5,112	5.6%
	2009-2010	90	\$454,944	\$5,416	5.9%
	2010-2011	90	\$483,336	\$5,754	6.2%
Post-ARRA Period	2011-2012	90	\$516,768	\$6,152	6.9%
	2012-2013	90	\$542,220	\$6,455	4.9%
	2013-2014	90	\$560,196	\$6,669	3.3%

*Note.* Rural Medium N= 84 AASCU institutions reporting tuition and fees for the entire nine year period

Table 9

*AASCU Institution Tuition and Fees for Rural Large Schools*

	Rural Large	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Average Annual % Change
Pre-ARRA Period	2005-2006	122	\$587,694	\$4,778	
	2006-2007	122	\$621,150	\$5,050	5.7%
	2007-2008	122	\$664,077	\$5,399	6.9%
ARRA Period	2008-2009	122	\$705,897	\$5,739	6.3%
	2009-2010	122	\$755,835	\$6,145	7.1%
	2010-2011	122	\$808,110	\$6,570	6.9%
Post-ARRA Period	2011-2012	122	\$865,920	\$7,040	7.2%
	2012-2013	122	\$908,970	\$7,390	5.0%
	2013-2014	122	\$940,950	\$7,650	3.5%

*Note.* Rural Large N=122 AASCU institutions reporting tuition and fees for the entire nine year period

Table 10

*AASCU State Appropriations for Rural Small Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriations	Average Annual % Change
Pre-ARRA Period	2005-2006	49	\$731,040,000	\$15,230,000	
	2006-2007	49	\$792,000,000	\$16,500,000	8.3%
	2007-2008	49	\$876,960,000	\$18,270,000	10.7%
ARRA Period	2008-2009	49	\$856,800,000	\$17,850,000	-2.3%
	2009-2010	49	\$806,880,000	\$16,810,000	-5.8%
	2010-2011	49	\$807,840,000	\$16,830,000	0.1%
Post-ARRA Period	2011-2012	49	\$788,640,000	\$16,430,000	-2.4%
	2012-2013	49	\$797,280,000	\$16,610,000	1.1%
	2013-2014	49	\$842,880,000	\$17,560,000	5.7%

*Note.* Rural Small N= 48 AASCU institutions reporting state appropriations the entire nine year period

Table 11

*AASCU State Appropriations for Rural Medium Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriations	Average Annual % Change
Pre ARRA Period	2005-2006	90	\$1,872,360,000	\$22,290,000	
	2006-2007	90	\$2,024,400,000	\$24,100,000	8.1%
	2007-2008	90	\$2,199,960,000	\$26,190,000	8.7%
ARRA Period	2008-2009	90	\$2,112,600,000	\$25,150,000	-4.0%
	2009-2010	90	\$1,996,680,000	\$23,770,000	-5.5%
	2010-2011	90	\$2,034,480,000	\$24,220,000	1.9%
Post ARRA Period	2011-2012	90	\$1,906,800,000	\$22,700,000	-6.3%
	2012-2013	90	\$1,916,880,000	\$22,820,000	0.5%
	2013-2014	90	\$2,006,760,000	\$23,890,000	4.7%

*Note.* Rural medium N= 84 AASCU institutions reporting state appropriations for the entire nine year period

Table 12

*AASCU State Appropriations for Rural Large Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriation s	Average Annual % Change
Pre-ARRA Period	2005-2006	122	\$6,928,380,000	\$56,790,000	
	2006-2007	122	\$7,472,500,000	\$61,250,000	7.9%
	2007-2008	122	\$8,027,600,000	\$65,800,000	7.4%
ARRA Period	2008-2009	122	\$7,616,460,000	\$62,430,000	-5.1%
	2009-2010	122	\$7,283,400,000	\$59,700,000	-4.4%
	2010-2011	122	\$7,323,660,000	\$60,030,000	0.6%
Post-ARRA Period	2011-2012	122	\$6,989,380,000	\$57,290,000	-4.6%
	2012-2013	122	\$7,002,800,000	\$57,400,000	0.2%
	2013-2014	122	\$7,395,640,000	\$60,620,000	5.6%

*Note.* Rural large N= 122 AASCU institutions reporting state appropriations over the entire nine year period

**Suburban Classification**

Tables 13-14 show the IPEDS data for reported operating revenues from the suburban small and suburban large institutions. Table 13 represents the institutional operating revenue from suburban small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 14 represents the institutional operating revenue from suburban AASCU institutions over the nine-year period of study, FY 2005-2014.

Tables 15-16 show the IPEDS data for reported in-state tuition and fees from the suburban small and suburban large institutions. Table 15 represents the in-state tuition and fees from suburban small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 16 represents the in-state tuition and fees from suburban large AASCU institutions over the nine-year period of study, FY 2005-2014.

Tables 17-18 show the IPEDS data for reported in-state tuition and fees from the suburban small and suburban large institutions. Table 17 represents the state appropriations from suburban small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 18 represents the state appropriations from suburban large AASCU institutions over the nine-year period of study, FY 2005-2014.

Table 13

*AASCU Institutional Operating Revenue for Suburban Small Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenue	Average Annual % Change
Pre-ARRA Period	2005-2006	13	\$143,480,000	\$35,870,000	
	2006-2007	13	\$153,000,000	\$38,250,000	6.6%
	2007-2008	13	\$155,720,000	\$38,930,000	1.8%
ARRA Period	2008-2009	13	\$166,640,000	\$41,660,000	7.0%
	2009-2010	13	\$171,520,000	\$42,880,000	2.9%
	2010-2011	13	\$185,200,000	\$46,300,000	8.0%
Post-ARRA Period	2011-2012	13	\$189,480,000	\$47,370,000	2.3%
	2012-2013	13	\$193,280,000	\$48,320,000	2.0%
	2013-2014	13	\$197,080,000	\$49,270,000	2.0%

*Note.* Suburban small N= 4 AASCU institutions reporting op. revenue for the entire nine year period

Table 14

*AASCU Institutional Operating Revenue for Suburban Large Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenue	Average Annual % Change
Pre- ARRA Period	2005-2006	42	\$3,726,660,000	\$88,730,000	
	2006-2007	42	\$3,975,720,000	\$94,660,000	6.7%
	2007-2008	42	\$4,020,240,000	\$95,720,000	1.1%
ARRA Period	2008-2009	42	\$4,236,540,000	\$100,870,000	5.4%
	2009-2010	42	\$4,569,180,000	\$108,790,000	7.9%
	2010-2011	42	\$4,714,920,000	\$112,260,000	3.2%
Post- ARRA Period	2011-2012	42	\$5,068,560,000	\$120,680,000	7.5%
	2012-2013	42	\$5,045,040,000	\$120,120,000	-0.5%
	2013-2014	42	\$5,236,980,000	\$124,690,000	3.8%

*Note.* Suburban Large N=42

Table 15

*AASCU Institution Tuition and Fees for Suburban Small Schools*

	Fiscal Year	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Average Annual % Change
Pre- ARRA Period	2005-2006	13	\$21,948	\$5,487	
	2006-2007	13	\$22,784	\$5,696	3.8%
	2007-2008	13	\$24,300	\$6,075	6.7%
ARRA Period	2008-2009	13	\$26,472	\$6,618	8.9%
	2009-2010	13	\$27,916	\$6,979	5.5%
	2010-2011	13	\$29,792	\$7,448	6.7%
Post- ARRA Period	2011-2012	13	\$32,084	\$8,021	7.7%
	2012-2013	13	\$33,876	\$8,469	5.6%
	2013-2014	13	\$35,220	\$8,805	4.0%

*Note.* Suburban Small N=4 AASCU institutions reporting in-state tuition and fee data for the entire nine year period

Table 16

*AASCU Institution Tuition and Fees for Suburban Large Schools*

	Fiscal Year	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Average Annual % Change
Pre- ARRA Period	2005-2006	42	\$211,028	\$5,277	
	2006-2007	42	\$220,855	\$5,541	5.0%
	2007-2008	42	\$235,726	\$5,916	6.8%
ARRA Period	2008-2009	42	\$249,938	\$6,277	6.1%
	2009-2010	42	\$268,664	\$6,722	7.1%
	2010-2011	42	\$280,814	\$7,046	4.8%
Post- ARRA Period	2011-2012	42	\$304,815	\$7,609	8.0%
	2012-2013	42	\$315,502	\$7,871	3.4%
	2013-2014	42	\$325,645	\$8,121	3.2%

*Note.* Suburban large N=42 AASCU institutions reporting in-state tuition and fee data for the entire nine year period

Table 17

*AASCU State Appropriations for Suburban Small Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriations	Average Annual % Change
Pre- ARRA Period	2005-2006	13	\$80,360,000	\$20,090,000	
	2006-2007	13	\$88,080,000	\$22,020,000	9.6%
	2007-2008	13	\$96,360,000	\$24,090,000	9.4%
ARRA Period	2008-2009	13	\$86,200,000	\$21,550,000	-10.5%
	2009-2010	13	\$77,640,000	\$19,410,000	-9.9%
	2010-2011	13	\$84,640,000	\$21,160,000	9.0%
Post - ARRA Period	2011-2012	13	\$79,760,000	\$19,940,000	-5.8%
	2012-2013	13	\$79,480,000	\$19,870,000	-0.4%
	2013-2014	13	\$81,200,000	\$20,300,000	2.2%

*Note.* Suburban Small N=4 AASCU institutions reporting for the entire nine year period

Table 18

*AASCU State Appropriations for Suburban Large Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriations	Average Annual % Change
Pre- ARRA Period	2005-2006	42	\$2,301,600,000	\$54,800,000	
	2006-2007	42	\$2,451,540,000	\$58,370,000	6.5%
	2007-2008	42	\$2,654,400,000	\$63,200,000	8.3%
ARRA Period	2008-2009	42	\$2,457,000,000	\$58,500,000	-7.4%
	2009-2010	42	\$2,388,960,000	\$56,880,000	-2.8%
	2010-2011	42	\$2,526,720,000	\$60,160,000	5.8%
Post- ARRA Period	2011-2012	42	\$2,317,560,000	\$55,180,000	-8.3%
	2012-2013	42	\$2,375,100,000	\$56,550,000	2.5%
	2013-2014	42	\$2,579,640,000	\$61,420,000	8.6%

*Note.* Suburban Large N= 42 institutions reporting state appropriations for the entire nine year period

**Urban Classification**

Tables 19-20 show the IPEDS data for reported operating revenues from the urban small and urban large institutions. Table 19 represents the institutional operating revenue from suburban small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 20 represents the institutional operating revenue from urban AASCU institutions over the nine-year period of study, FY 2005-2014.

Tables 21-22 show the IPEDS data for reported in-state tuition and fees from the suburban small and suburban large institutions. Table 21 represents the in-state tuition and fees from urban small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 22 represents the in-state tuition and fees from urban large AASCU institutions over the nine-year period of study, FY 2005-2014.

Tables 23-24 show the IPEDS data for reported in-state tuition and fees from the suburban small and suburban large institutions. Table 23 represents the state appropriations from urban small AASCU institutions over the nine-year period of study, FY 2005-2014. Table 24 represents the state appropriations from urban large AASCU institutions over the nine-year period of study, FY 2005-2014.

Table 19

*AASCU Institutional Operating Revenue for Urban Small Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenue	Average Annual % Change
Pre-ARRA Period	2005-2006	21	\$442,170,000	\$49,130,000	
	2006-2007	21	\$463,410,000	\$51,490,000	4.8%
	2007-2008	21	\$464,130,000	\$51,570,000	0.2%
ARRA Period	2008-2009	21	\$457,200,000	\$50,800,000	-1.5%
	2009-2010	21	\$524,520,000	\$58,280,000	14.7%
	2010-2011	21	\$539,190,000	\$59,910,000	2.8%
Post-ARRA Period	2011-2012	21	\$558,900,000	\$62,100,000	3.7%
	2012-2013	21	\$576,090,000	\$64,010,000	3.1%
	2013-2014	21	\$570,330,000	\$63,370,000	-1.0%

*Note.* Urban small N=19 AASCU institutions reporting op. revenue for the entire nine year period

Table 20

*AASCU Institutional Operating Revenue for Urban Large Schools*

	Fiscal Year	Institutions Within Category	Total Operating Revenues	Average Operating Revenue	Average Annual % Change
Pre- ARRA Period	2005-2006	53	\$7,651,610,000	\$144,370,000	
	2006-2007	53	\$8,058,120,000	\$152,040,000	5.3%
	2007-2008	53	\$7,945,230,000	\$149,910,000	-1.4%
ARRA Period	2008-2009	53	\$8,409,510,000	\$158,670,000	5.8%
	2009-2010	53	\$8,859,480,000	\$167,160,000	5.4%
	2010-2011	53	\$9,463,150,000	\$178,550,000	6.8%
Post- ARRA Period	2011-2012	53	\$10,020,180,000	\$189,060,000	5.9%
	2012-2013	53	\$10,195,610,000	\$192,370,000	1.8%
	2013-2014	53	\$10,444,710,000	\$197,070,000	2.4%

*Note.* N= 53 AASCU institutions reporting operating revenue for the entire nine year period

Table 21

*AASCU Institution Tuition and Fees for Urban Small Schools*

	Fiscal Year	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Average Annual % Change
Pre- ARRA Period	2005-2006	21	\$78,679	\$4,141	
	2006-2007	21	\$84,341	\$4,439	7.2%
	2007-2008	21	\$90,934	\$4,786	7.8%
ARRA Period	2008-2009	21	\$97,071	\$5,109	6.7%
	2009-2010	21	\$102,239	\$5,381	5.3%
	2010-2011	21	\$108,927	\$5,733	6.5%
Post- ARRA Period	2011-2012	21	\$116,888	\$6,152	7.3%
	2012-2013	21	\$122,645	\$6,455	4.9%
	2013-2014	21	\$126,711	\$6,669	3.3%

*Note.* Urban small N=19 AASCU institutions reporting in-state tuition and fees for the entire nine year period

Table 22

*AASCU Institution In-State Tuition and Fees for Urban Large Schools*

	Fiscal Year	Institutions Within Category	Total Tuition and Fees	Average Tuition and Fees	Annual % Change
Pre- ARRA	2005-2006	53	\$253,234	\$4,778	
	2006-2007	53	\$268,922	\$5,074	6.2%
	2007-2008	53	\$286,147	\$5,399	6.4%
ARRA	2008-2009	53	\$305,333	\$5,761	6.7%
	2009-2010	53	\$329,978	\$6,226	8.1%
	2010-2011	53	\$353,404	\$6,668	7.1%
Post- ARRA	2011-2012	53	\$384,515	\$7,255	8.8%
	2012-2013	53	\$403,277	\$7,609	4.9%
	2013-2014	53	\$416,474	\$7,858	3.3%

*Note.* Urban large N=53 AASCU institutions reporting tuition and fee data for the entire nine year period

Table 23

*AASCU State Appropriations for Urban Small Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriations	Average Annual % Change
Pre- ARRA Period	2005-2006	21	\$286,290,000	\$31,810,000	
	2006-2007	21	\$301,770,000	\$33,530,000	5.4%
	2007-2008	21	\$343,170,000	\$38,130,000	13.7%
ARRA Period	2008-2009	21	\$340,200,000	\$37,800,000	-0.9%
	2009-2010	21	\$297,000,000	\$33,000,000	-12.7%
	2010-2011	21	\$308,070,000	\$34,230,000	3.7%
Post- ARRA Period	2011-2012	21	\$290,610,000	\$32,290,000	-5.7%
	2012-2013	21	\$292,950,000	\$32,550,000	0.8%
	2013-2014	21	\$307,620,000	\$34,180,000	5.0%

*Note.* Urban small N= 9 AASCU institutions reporting state appropriations over the entire nine year period

Table 24

*AASCU State Appropriations for Urban Large Schools*

	Fiscal Year	Institutions Within Category	Total State Appropriations	Average State Appropriations	Average Annual % Change
Pre ARRA Period	2005-2006	53	\$4,486,980,000	\$84,660,000	
	2006-2007	53	\$4,918,930,000	\$92,810,000	9.6%
	2007-2008	53	\$5,294,700,000	\$99,900,000	7.6%
ARRA Period	2008-2009	53	\$4,757,810,000	\$89,770,000	-10.1%
	2009-2010	53	\$4,594,570,000	\$86,690,000	-3.4%
	2010-2011	53	\$4,865,400,000	\$91,800,000	5.9%
Post- ARRA Period	2011-2012	53	\$4,344,410,000	\$81,970,000	-10.7%
	2012-2013	53	\$4,339,110,000	\$81,870,000	-0.1%
	2013-2014	53	\$4,747,740,000	\$89,580,000	9.4%

*Note.* Urban large N=53 AASCU institutions reporting state appropriations for the entire nine year period

CHAPTER III:  
METHODOLOGY

**Introduction**

In the late 2000s, as the country struggled through a severe economic recession, public institutions of higher education were by no means immune. As state funding steeply declined, public colleges and universities resorted to other methods to enhance their financial positions. Many were forced to hike tuition substantially to compensate for lost state dollars. The Maintenance of Effort provisions written into the American Recovery and Reinvestment Act (ARRA) of 2009 were an effort to promote affordability for students attending public colleges and universities.

The federal device, or Maintenance of Effort provisions, requiring states to maintain total spending for public higher education in FY2009, FY2010, and FY2011, all at FY2006 levels as a condition of accepting American Recovery and Reinvestment Act funds had often been used in other federal programs. But this was the first time it had been used for public higher education. To date there is minimal published data that shows the impact of MOE provisions. This study examined the average state operating revenues, average in-state tuition and fees costs, and average state appropriations from FY2005-2006 through FY2013-2014 for institutions belonging to the AASCUs. These fiscal years cover a nine-year span to allow the assessing for years before, during and after the Great Recession when the Maintenance of Effort legislative pieces were written into the ARRA. The MOE legislation was thought to have an impact on tuition costs at the public regional institutions, potentially resulting in greater access and affordability.

## **Research Questions**

The research questions included the following:

1. Did the average total operating revenues at AASCU institutions increase over a nine year period from FY 2005 to FY 2014;
2. Did the average in-state tuition and fees costs increase at AASCU institutions over a nine year period from FY 2005 to FY 2014;
3. Did the average state appropriations increase at AASCU institutions over a nine year period from FY 2005 to FY 2014;
4. Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their operating revenues across nine years from FY 2005 to FY 2014;
5. Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their in-state tuition and fees costs across nine years from FY 2005 to FY 2014;
6. Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their state appropriations across nine years from FY 2005 to FY 2014?

## **Research Design**

This study examined reported data from multiple sources relevant to the intended output. The primary sources which data was obtained include the Integrated Postsecondary Education Data System (IPEDS), the National Center for Educational Statistics, the State Higher Education Finance Report and the Delta Cost Project. For geographic classification, the study pilot tested a classification of publicly controlled Master's Colleges and Universities published by the Carnegie Foundation for the Advancement of Teaching as initially modified by Kinkead (2009) and later by Katsinas (2016, forthcoming).

To compare the current economic situation of higher education, the current economic situation of the country was taken into consideration. The analysis of state investment and tuition cost before, during and after the recession could potentially reflect the relationship between these two key revenue sources and the possible impact, if any, of Maintenance of Effort legislation.

The study used the modified geographic classification developed initially by Kinkead and modified more recently by Katsinas (Katsinas, 2016 forthcoming) to group the institutions geographically. Those institutions were examined as a large group as well as within their geographic subcategory and the geographic subcategories are also separated into additional subgroups based on their enrollment. Those sub groups included rural small, rural medium and rural large; suburban small, and suburban large; and urban small, and urban large. There was a time period consisting of nine fiscal years examined. To be consistent in the time periods studied, three years immediately before ARRA were considered, as well as the three years during ARRA, and then the three years immediately after ARRA were examined. The first three fiscal years (FY2005-2006, FY2006-2007, FY2007-2008) covered the three fiscal years prior to the

American Recovery and Reinvestment Act where maintenance of effort legislation was not incorporated into the budgets of the AASCU institutions. The next three years (FY2008-2009, FY2009-2010, FY2010-2011) covered the three fiscal years during the influence of the American Recovery and Reinvestment Act's maintenance of effort legislation. Lastly, the remaining three year fiscal period (FY2011-2012, FY2012-2013, FY2013-2014) covered the three fiscal years after the American Recovery and Reinvestment Act when maintenance of effort provisions were not mandated. Data was collected among the institutions using three variables for each of the years in the examined time periods. Those variables include in-state tuition and fees, operating revenues, and state appropriations.

#### **Criteria for Institutional Use**

To accurately assess the impact of Maintenance of Effort on AASCU institutions, access to institutional data is necessary to provide an accurate outcome to the research questions. For the years relevant in this study, AASCU institutions that were part of the modified Carnegie Classification group utilized for the study and that provided the examined data sets for the full number of years within the study were considered. AASCU institutions not submitting data to IPEDS for all of the years in the study were not utilized. Institutions examined for this study were chosen based on a number of factors: (a) All institutions included are public regional colleges and members of the American Association of State Colleges and Universities, (b) the institutions are within the U.S., or U.S. territories and (c) the institutions reported the examined data through IPEDS for the nine fiscal years of the study

## **Data Analysis Procedures and Intended Output**

All of the data was acquired from the sources and transferred into the Microsoft Excel format. The data were filed into a number of separate categorical spreadsheets, at which point there were calculation formulas inserted to determine the measured outcomes.

All data analysis was performed using SPSS (version 22). The researcher performed a series of one-way repeated measures analyses of variance (ANOVAs). The within-subjects independent variable in these analyses was time, as measured by fiscal year. Time was comprised of nine levels and was modeled successively from fiscal year 2005-2006 to fiscal year 2013-2014. The dependent variables were operating revenues (RQ 1, measured in \$millions), in-state tuition (RQ 2, measured in dollars), and state appropriations (RQ 3, measured in \$millions). The researcher also performed a two-way mixed ANOVA to address RQ's 4-6. Time was again modeled as the within-subjects variable. Institutional type was modeled as the between-subjects variable and consisted of seven levels (rural small, rural medium, rural large, suburban small, suburban large, urban small, and urban large). The dependent variables in the mixed ANOVA were operating revenues (RQ 4), in-state tuition (RQ 5), and state appropriations (RQ 6). In all analyses, the researcher determined the appropriate level of significance to be  $p < .05$ .

Prior to interpretation, the researcher determined that the assumptions of ANOVA were met. All dependent variables are continuously measured. All independent between subject variables are categorical in nature. No continuously-measured covariates were modeled in this study. The primary assumption the researcher explored was sphericity ( $\epsilon$ ) for the within-subjects variable and homogeneity of variance for the between subjects variable. Sphericity is the within-subjects analogy to homogeneity of variance and holds that (1) variances across conditions (i.e., fiscal years) are equal and (2) covariances between pairs of conditions (i.e., pairs of fiscal years)

are equal (Field, 2015). The researcher adopted the recommendations of Field (2014) when sphericity is violated, which are (1) the interpretation of the multivariate significance tests, (2) the Bonferroni correction for pairwise comparisons, and (3) the Greenhouse-Geisser or Huynh-Feldt adjustment to degrees of freedom.

To control for type I (familywise) error, the researcher also conducted several pairwise comparisons, such as planned contrasts and post hoc tests. Planned contrasts compare groups without inflating family wise error because of how the statistical test partitions variance. By contrast, post hoc tests adopt a stricter acceptance criterion so as to not inflate type I error. For all research questions, polynomial trend analysis was conducted as the planned contrast. Field (2013) noted that polynomial trend analysis is useful when the levels of within-subjects variables have a meaningful order (e.g., successive intervals of time). The Bonferroni post hoc procedures were applied to RQ1 through RQ3 to control for family wise (type I) error. Games-Howell post hoc procedures were applied in a like manner for RQ4.

The output includes the following information:

1. Tables displaying tuition and fees for AASCU institutions;
2. Tables displaying tuition and fees for AASCU institutions categorized by sub groups rural, urban, and suburban;
3. Tables displaying state appropriations for AASCU institutions;
4. Tables displaying state appropriations for AASCU institutions categorized by sub groups rural, urban, and suburban;
5. Tables displaying state operating revenues for AASCU institutions; and
6. Tables displaying state operating revenues for AASCU institutions categorized by sub groups rural, urban, and suburban.

## CHAPTER IV:

### RESULTS

The purpose of this study was to examine the relationship of state higher education budgets just before the introduction of federal Maintenance of Effort provisions, during the period of their enactment, and just after the expiration of the MOEs. The nine years under study were FY2005-2006 to FY2013-2014. Federal NCES/IPEDS data for the universe of the 390 member institutions represented by the American Association of State Colleges and Universities (AASCU) were collected. Data analysis was performed using SPSS (version 22). Statistical analyses included descriptive statistics, a three separate one-way repeated measures analyses of variance (ANOVAs), and three separate two-way mixed ANOVAs (RQs 4 through 6). The results of this study are presented in this chapter. The first section describes the sample using descriptive statistics. Subsequent sections organized the results based on research question.

#### **Sample**

Institution-level financial data from the AASCU was obtained for 390 distinct, identifiable institutions from IPEDS. Institutions are also classified geographically using a method proposed by Katsinas similar to the geographic classification of the Associate's College sector contained in the Carnegie Basic Classification in 2005 and 2010. Thus, the initial analysis of financial and other data from public regional universities began with the 390 institutions in the IPEDS data base that were listed as members of AASCU as of August 2014. In order to conduct the analysis, data were needed from the 390 institutions for each of the nine years under study. Twenty-three institutions failed to either report data for all nine years or were the subject of

closings and mergers, which caused them to be removed from the study. The researcher organized the institutions into one of seven geographic types as suggested by Katsinas, based upon enrollment and geographic location: rural small, rural medium, rural large, suburban small, suburban large, urban small and urban large. Descriptive statistics were used to first analyze the data set.

Data tables were also formed based on the variables examined including total average operating revenues, average in-state tuition and fees, and the average state appropriations received by regional universities across the United States. The data presented in Chapter IV begins with Table 24, which displays the average total operating revenues across 376 regional universities that reported financial data to IPEDS for each of the nine years under review (FY2005-2006 to FY2013-2014). For the convenience of readers, data tables presenting averages for total operating revenues, state appropriations, and tuition and fees will also present the inflation percentage using the Higher Education Price Index, and the maximum federal Pell Grant award, and the year-to-year change in dollars and percentages.

The Higher Education Price Index (HEPI) is maintained by the Commonfund.org. It is different from the Consumer Price Index, and more appropriate to the research here, in that HEPI formally recognizes the reality that students do not own their own homes. By presenting the maximum Pell Grant award data, readers can see how year-to-year changes in total operating revenues, state appropriations, and tuition and fees compare to changes in the foundational program of federal student aid for economically-needy students.

Table 26 displays the in-state tuition and fees available for the reporting institutions. It also displays the average annual tuition increase, the percent annual average increase and how it

compares to the Higher Education Price Index inflation percentage, as well as the increases in the maximum Pell Grant Award that is distributed annually.

Table 25

*Total Operating Revenues at US Regional Universities, 2005-2006 to 2013-2014, in Dollars, and Year-to-year Change, with Inflation (Higher Education Price Index), and Maximum Federal Pell Grant in Dollars and Year-to-year Change*

	Pre-ARRA Period			ARRA Period			Post-ARRA Period		
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
<i>Total Operating Revenues (includes state appropriations, tuition and fees, and all other revenues)</i>									
Average	\$79,231,539	\$84,040,343	\$83,781,486	\$88,301,085	\$92,809,639	\$98,203,838	\$103,516,509	\$105,155,340	\$107,143,712
Year-to-Year Change		\$4,808,804	-\$258,857	\$4,519,599	\$4,508,554	\$5,394,199	\$5,312,671	\$1,638,831	\$1,988,372
Year-to-Year Change		6.1%	-0.3%	5.4%	5.1%	5.8%	5.4%	1.6%	1.9%
<i>Inflation Rate (Higher Education Price Index)</i>									
Year	5.1%	2.8%	5.0%	2.3%	0.9%	2.3%	1.7%	1.6%	3.0%
<i>Federal Pell Grants</i>									
Max Pell Award	\$4,050	\$4,050	\$4,310	\$4,731	\$5,350	\$5,550	\$5,550	\$5,550	\$5,645
Year-to-Year Change		\$0	\$260	\$421	\$619	\$200	\$0	\$0	\$95
Percentage Change		0.0%	6.4%	9.8%	13.1%	3.7%	0.0%	0.0%	1.7%

*Notes.* 1. Operating revenue retrieved Integrated Postsecondary Education Data System (IPEDS) 2. Inflation rate is based on the Higher Education Price Index (HEPI), obtained from commonfund.org 3. Pell Grant data obtained through U.S. Department of Education

Table 26

*Average In-state Tuition, Year-to-year Tuition Increases (in Dollars and Percentages), Inflation (Higher Education Price Index) and Maximum Federal Pell Grant (in Dollars and Year-to-year Percentage Increases)*

	Pre-ARRA Period			ARRA Period			Post-ARRA Period		
	2005- 2006	2006- 2007	2007- 2008	2008- 2009	2009- 2010	2010- 2011	2011- 2012	2012- 2013	2013- 2014
<i>Tuition (in-state)</i>									
Average	\$4,754	\$5,024	\$5,352	\$5,683	\$6,035	\$6,441	\$6,907	\$7,235	\$7,488
Year-to-Year Change		\$270	\$328	\$331	\$352	\$406	\$466	\$328	\$253
Year-to-Year Percentage Change		5.7%	6.5%	6.2%	6.2%	6.7%	7.2%	4.7%	3.5%
<i>Inflation Rate (Higher Education Price Index)</i>									
Year	5.1%	2.8%	5.0%	2.3%	0.9%	2.3%	1.7%	1.6%	3.0%
<i>Federal Pell Grants</i>									
Max Pell Grant Award	\$4,050	\$4,050	\$4,310	\$4,731	\$5,350	\$5,550	\$5,550	\$5,550	\$5,645
Year-to-Year Change		\$0	\$260	\$421	\$619	\$200	\$0	\$0	\$95
Percentage Change		0.0%	6.4%	9.8%	13.1%	3.7%	0.0%	0.0%	1.7%

*Notes.* 1. Tuition data retrieved Integrated Postsecondary Education Data System (IPEDS) 2. Inflation rate is based on the Higher Education Price Index (HEPI), obtained from commonfund.org 3. Pell Grant data obtained through U.S. Department of Education

Table 27 displays state appropriation data available for the reporting institutions. It also displays the average year-to-year changes in amount of state appropriations, the percent annual average increase and how it compares to the Higher Education Price Index inflation percentage, as well as the increases in the maximum Pell Grant Award that is distributed annually. All data included in Table 27 was collected through IPEDS.

Table 27

*Average State Appropriations at US Regional Universities, 2005-2006 to 2013-2014, in Dollars, and Year-to-year Change, With Inflation (Higher Education Price Index), and Maximum Federal Pell Grant in Dollars and Year-to-year Change*

	Pre-ARRA period			ARRA			Post-ARRA		
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
<b>State Appropriations</b>									
Average (in dollars)	\$ 46,944,334	\$ 50,783,891	\$ 54,764,032	\$ 51,219,260	\$ 49,106,005	\$50,581,942	\$ 47,058,410	\$ 47,310,144	\$ 50,539,027
Year-to-Year Change (in dollars)		\$ 3,839,557	\$ 3,980,141	-\$ 3,544,772	-\$ 2,113,255	\$ 1,475,937	-\$ 3,523,532	\$ 251,734	\$ 3,228,883
Year-to-Year Change (percent)		8.2%	7.8%	-6.5%	-4.1%	3.0%	-7.0%	0.5%	6.8%
<b>Inflation Rate (Higher Education Price Index)</b>									
Year	5.1%	2.8%	5.0%	2.3%	0.9%	2.3%	1.7%	1.6%	3.0%
<b>Federal Pell Grants</b>									
Max Pell Award	\$4,050	\$4,050	\$4,310	\$4,731	\$5,350	\$5,550	\$5,550	\$5,550	\$5,645
Year-to-Year Change (\$)		\$0	\$260	\$421	\$619	\$200	\$0	\$0	\$95
Percentage Change		0.0%	6.4%	9.8%	13.1%	3.7%	0.0%	0.0%	1.7%

Notes. 1. State appropriation data retrieved Integrated Postsecondary Education Data System (IPEDS) 2. Inflation rate is based on the Higher Education Price Index (HEPI), obtained from commonfund.org 3. Pell Grant data obtained through U.S. Department of Education

## Research Results 1

A one-way repeated measures ANOVA was conducted on fiscal year data. The within-subjects independent variable was time. Time was comprised of nine levels and was modeled successively from 2005-2006 to 2013-2014. Operating revenue (in \$millions) served as the dependent variable. The researcher determined the level for statistical significance to be  $p < .05$ , and polynomial trend planned contrasts and Bonferroni corrected post hoc tests on significant findings.

Mauchley's test indicated that the assumption of sphericity had been violated,  $\chi^2(35, n = 376) = 6225.15, p < .001$ , therefore multivariate and Greenhouse-Geisser corrected tests are reported ( $\epsilon = .152$ ). The results show that operating revenues were significantly affected over time,  $V = .403, F(8, 368) = 31.088, p < .001$ , partial  $\eta^2 = .403$ ; Greenhouse-Geisser corrected  $F(91.70, 455.07) = 91.709, p < .001$ , partial  $\eta^2 = .197$ . Contrasts revealed a significant linear trend,  $F(1, 375) = 100.755, p < .001$ , partial  $\eta^2 = .212$ , indicating that budgets increased proportionately over time (see Figure 4). Save only from 2006-2007 to 2007-2008, every other year was significantly different than one another at  $p = .001$ . See Table 28 for means and standard deviations.

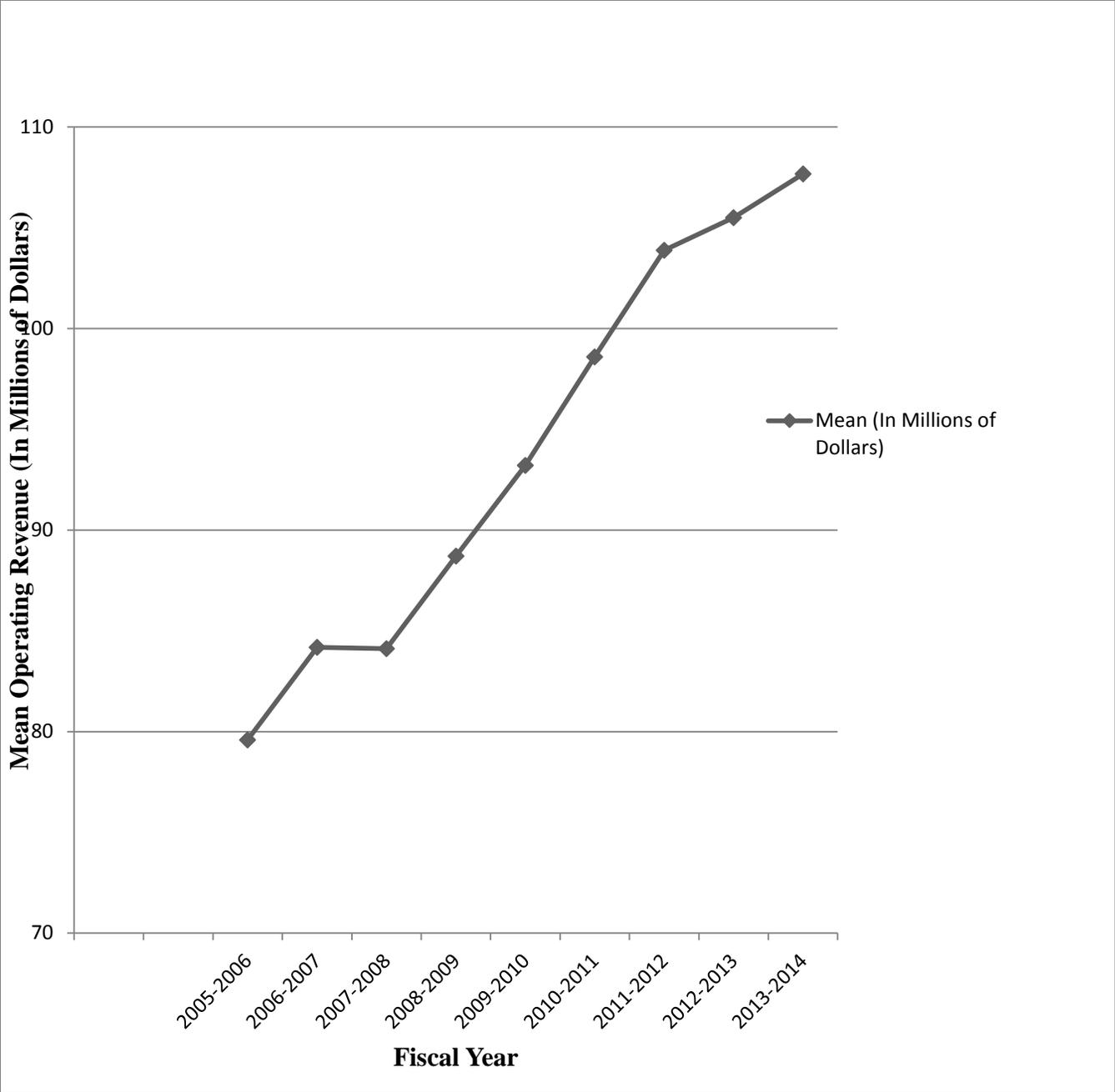


Figure 4. Estimated marginal means of AASCU operating revenue.

Table 28

*Means and Standard Deviations and Successive Mean Differences for Operating Revenues*

Fiscal Year	Mean (In Millions of Dollars)	Standard Deviation (in Millions of Dollars)	$\Delta M$ (in Millions of Dollars)
2005-2006	79.58	96.96	
2006-2007	84.18	102.13	4.6
2007-2008	84.11	106.18	-0.07
2008-2009	88.7	118.99	4.59
2009-2010	93.21	123.71	4.51
2010-2011	98.59	132.31	5.38
2011-2012	103.88	137.61	5.29
2012-2013	105.49	141.36	1.61
2013-2014	107.66	145.43	2.17

*Note.* 376 AASCU institutions provided operating revenue for the length of the study

## Research Results 2

The researcher then conducted a one-way repeated measures ANOVA with time again serving as the within-subjects independent variable. Time was again comprised of nine levels and was modeled successively from fiscal year 2005-2006 to fiscal year 2013-2014. In-state tuition fees (in dollars) served as the dependent variable. The researcher determined the level for statistical significance to be  $p < .05$ , and polynomial trend planned contrasts and Bonferroni corrected post hoc tests on significant findings.

Mauchley's test indicated that the assumption of sphericity had been violated,  $\chi^2(35, n = 372) = 3341.59, p < .001$ , therefore multivariate and Greenhouse-Geisser corrected tests are reported ( $\epsilon = .226$ ). The results show that in-state tuition fees were significantly affected over time,  $V = .871, F(8, 364) = 306.749, p < .001$ , partial  $\eta^2 = .871$ ; Greenhouse-Geisser corrected

$F(1.81, 670.66) = 1534.95, p < .001, \text{partial } \eta^2 = .805$ . Contrasts revealed a significant linear trend,  $F(1, 371) = 2142.931, p < .001, \text{partial } \eta^2 = .852$ , indicating that in-state tuition fees increased proportionately over time (see Figure 5). In every comparison, fiscal year was significantly different from one another at  $p < .001$ . See Table 29 for means and standard deviations.

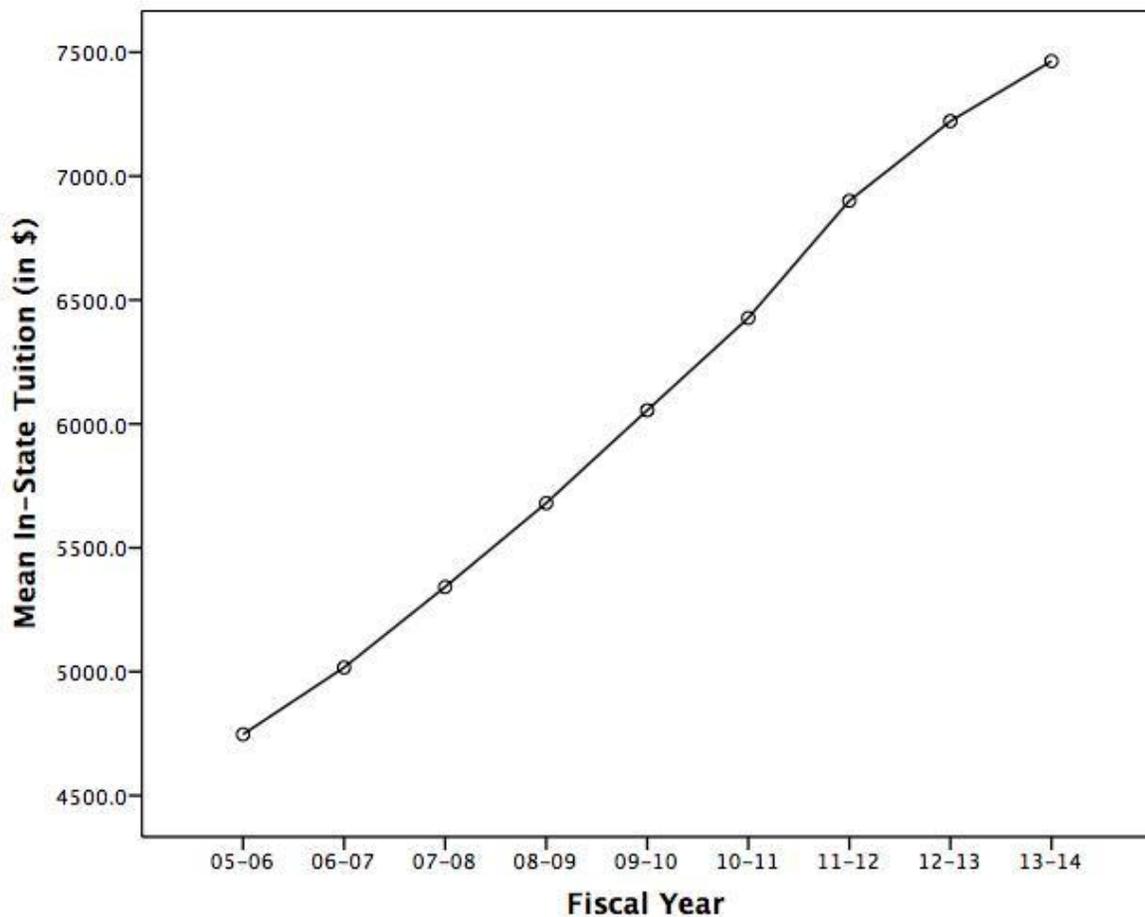


Figure 5. Estimated marginal means of AASCU in-state tuition and fees.

Table 29

*Means and Standard Deviations for AASCU In-State Tuition Fees*

Fiscal Year	Mean (in dollars)	SD (in dollars)	$\Delta M$ (in dollars)
2005-2006	4747	1593	
2006-2007	5017	1727	270
2007-2008	5342	1823	325
2008-2009	5680	1946	338
2009-2010	6055	1978	375
2010-2011	6428	2051	373
2011-2012	6901	2110	473
2012-2013	7222	2195	321
2013-2014	7464	2211	242

*Note.* 372 AASCU Institutions reporting in-state tuition

### Research Results 3

The researcher then conducted a one-way repeated measures ANOVA with time again serving as the within-subjects independent variable. Time was again comprised of nine levels and was modeled successively from fiscal year 2005-2006 to fiscal year 2013-2014. In-state state appropriations (in \$ millions) served as the dependent variable. The researcher determined the level for statistical significance to be  $p < .05$ , and polynomial trend planned contrasts and Bonferroni corrected post hoc tests on significant findings.

Mauchley's test indicated that the assumption of sphericity had been violated,  $\chi^2(35, n = 367) = 2623.84, p < .001$ , therefore multivariate and Greenhouse-Geisser corrected tests are reported ( $\epsilon = .272$ ). The results show that state appropriations were significantly affected over time,  $V = .474, F(8, 359) = 40.394, p < .001$ , partial  $\eta^2 = .474$ ; Greenhouse-Geisser corrected  $F(2.16, 795.98) = 36.119, p < .001$ , partial  $\eta^2 = .090$ . Contrasts revealed a significant cubic trend,  $F(1, 366) = 136.10, p < .001$ , partial  $\eta^2 = .271$ , indicating that the mean for state

appropriations changed directions twice over time (see Figure 6). Save only from 2011-2012 to 2012-2013 (mean difference = 0.25,  $p = 1.0$ ), every successive year comparison was significantly different than one another at  $p = .001$ . Moreover, the plot reveals that in each of the three years prior to ARRA, state appropriations increased significantly to their highest point. During ARRA, state appropriations decreased until 2010-2011. Following ARRA, state appropriations again continued to decrease into 2011-2012 (mean difference =  $-\$3.54$  million,  $p < .001$ ) before plateauing in 2012-2013 (mean difference =  $\$0.25$  million,  $p = 1.0$ ) and beginning to rebound upward in 2012-2013 (mean difference =  $\$3.26$  million,  $p < .001$ ). See Table 30 for means and standard deviations.

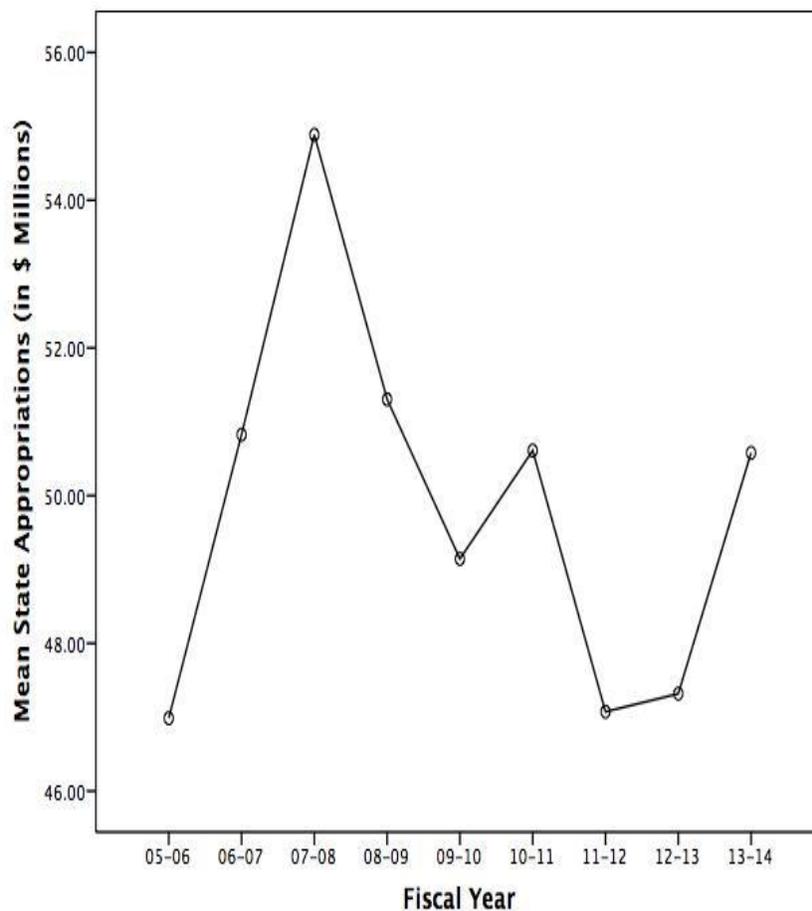


Figure 6. Estimated marginal means of AASCU state appropriations.

Table 30

*Means and Standard Deviations for AASCU State Appropriations*

Fiscal Year	Mean (in millions of dollars)	Standard Deviation (in millions of dollars)	$\Delta M$ (in millions of dollars)
2005-2006	46.99	50.78	
2006-2007	50.83	57.06	3.84
2007-2008	54.89	58.56	4.06
2008-2009	51.3	53.16	-3.59
2009-2010	49.14	50.74	-2.16
2010-2011	50.61	53.81	1.47
2011-2012	47.07	48.87	-3.54
2012-2013	47.32	48.25	0.25
2013-2014	50.58	54.73	3.26

*Note.* 367 AASCU institutions reporting state appropriations

#### **Research Results 4**

A two-way mixed ANOVA was conducted on fiscal year data. The within-subjects independent variable was time. The between-subjects independent variable was institution type. Time was comprised of nine levels and was modeled successively from 2005-2006 to 2013-2014. Institution type was comprised of seven levels: rural small, rural medium, rural large, suburban small, suburban large, urban small, and urban large. Average operating revenue (in \$millions) served as the dependent variable. The researcher determined the level for statistical significance to be  $p < .05$ , and polynomial trend planned contrasts and Bonferroni corrected post hoc tests on significant findings.

Mauchley's test indicated that the assumption of sphericity had been violated,  $\chi^2(35, n = 376) = 5969.74, p < .001$ , therefore multivariate and Greenhouse-Geisser corrected tests are reported ( $\epsilon = .153$ ). Consistent with the findings in RQ 1, the results show a significant main

effect for time on the operating revenues,  $V = .171$ ,  $F(8, 361) = 9.293$ ,  $p < .001$ , partial  $\eta^2 = .171$ ; Greenhouse-Geisser corrected  $F(1.227, 451.554) = 21.438$ ,  $p < .001$ , partial  $\eta^2 = .055$ . Contrasts revealed a significant linear trend,  $F(1, 364) = 23.71$ ,  $p < .001$ , partial  $\eta^2 = .061$ , indicating that budgets increased proportionately over time.

There was also a significant main effect for institutional type,  $F(6, 368) = 12.114$ ,  $p < .001$ , partial  $\eta^2 = .133$ . These differences are explained by the simple economies of scale inherent between institutions of various sizes. Naturally, it reasons that as institutional size grows, so does the relative magnitude of their budget. Of greater interest is the comparison between institutions of similar size that differ by geographic location.

### **Comparison of Small Institutions**

A significant main effect was observed,  $F(2, 58) = 3.968$ ,  $p = .024$ , partial  $\eta^2 = .061$ , when only small schools were examined indicating that urban small institutions had significantly higher operating revenues than rural small institutions (mean difference = 28.51 million,  $p = .025$ ). The interaction between institutional type and operating revenue was significant,  $V = .451$ ,  $F(16, 104) = 1.894$ ,  $p = .029$ , partial  $\eta^2 = .226$ ; Greenhouse-Geisser corrected  $F(3.057, 88.643) = 3.734$ ,  $p = .014$ , partial  $\eta^2 = .114$ . Contrasts revealed a significant linear trend,  $F(2, 58) = 4.144$ ,  $p = .021$ , partial  $\eta^2 = .125$ , indicating that budgets increased proportionately over time, however the rate at which urban small (slope = 2.10 million) and suburban small institutions (slope = 1.76 million) increased per year was greater than rural small institutions (slope = 0.52 million). Figure 7 displays these increases over time. Table 31 presents the means and standard errors of small and medium institutions.

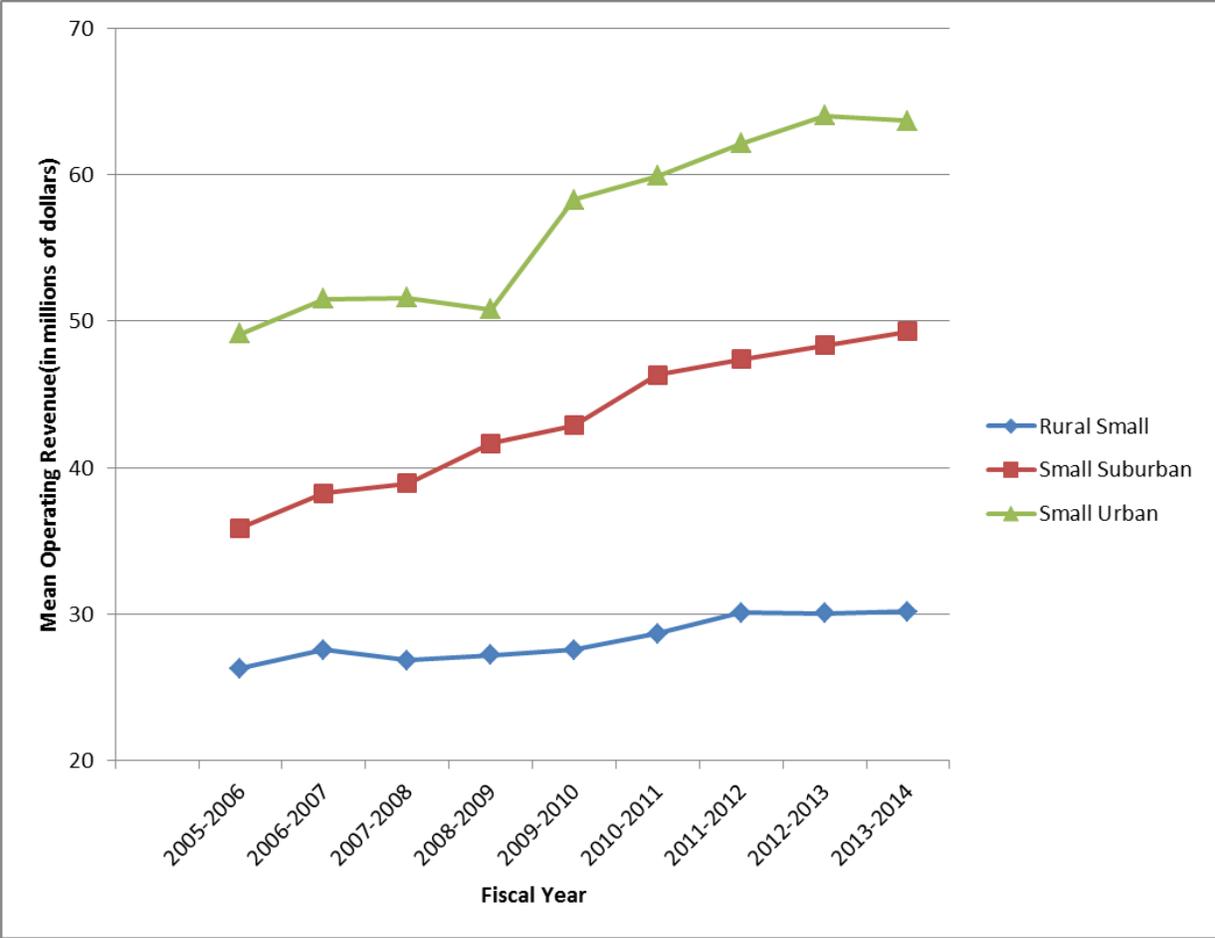


Figure 7. Estimated marginal means of AASCU operating revenues (small institutions).

Table 31

*Means and Standard Deviations for AASCU Operating Revenues at Small to Medium Institutions*

Fiscal Year	Rural Small	Suburban Small	Urban Small	Rural Medium
2005-2006	26.27 (12.78)	35.87 (44.27)	49.13 (29.51)	33.58 (9.66)
2006-2007	27.55 (13.46)	38.25 (46.61)	51.49 (31.07)	35.55 (10.17)
2007-2008	26.85 (14.12)	38.93 (48.90)	51.57 (32.60)	35.37 (10.67)
2008-2009	27.18 (15.97)	41.66 (55.30)	50.80 (36.87)	36.99 (12.07)
2009-2010	27.54 (16.54)	42.88 (57.29)	58.28 (38.20)	38.00 (12.50)
2010-2011	28.67 (17.71)	46.30 (61.34)	59.91 (40.89)	40.77 (13.39)
2011-2012	30.07 (18.34)	47.37 (63.54)	62.10 (42.36)	42.27 (13.87)
2012-2013	30.06 (18.86)	48.32 (65.33)	64.01 (43.55)	42.38 (14.26)
2013-2014	30.16 (19.40)	49.27 (67.21)	63.67 (44.81)	42.82 (14.67)

*Notes.* 1. Mean score, in millions of dollars (Standard Error) 2. Rural Small N=48 3. Suburban Small N=4 4. Urban Small N=9 5. Rural Medium N=84

**Comparison of Large Institutions**

A significant main effect was observed,  $F(2, 227) = 3.355, p = .037$ , partial  $\eta^2 = .029$ , when only large schools were examined indicating that urban large institutions had significantly higher operating revenues than suburban large institutions (mean difference = 62.52 million,  $p = .039$ ). The interaction between institutional type and operating revenue was not significant ( $p = .199$ ). Figure 8 displays any differences from year to year. Table 32 presents the means and standard errors of the large institutions.

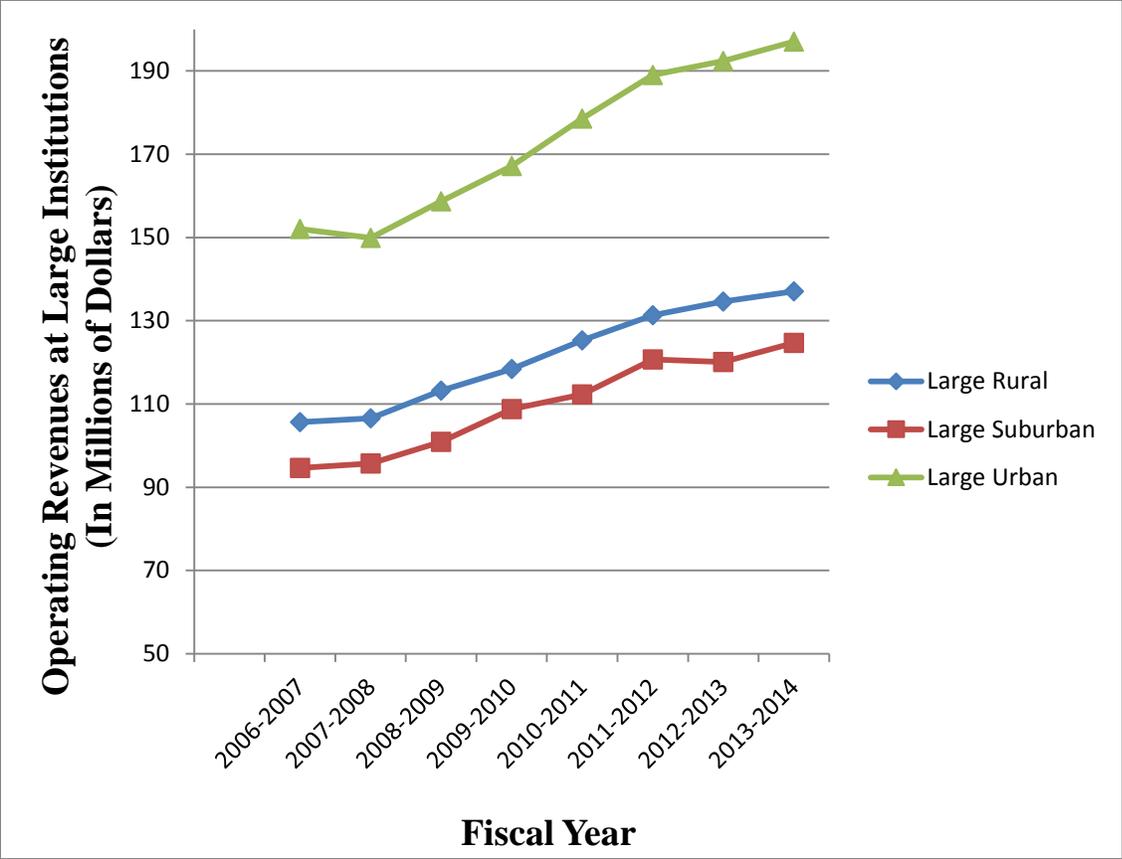


Figure 8. Estimated marginal means of AASCU operating revenues (large institutions).

Table 32

*Means and Standard Deviations for Operating Revenues at Large AASCU Institutions*

Fiscal Year	Rural Large	Suburban Large	Urban Large
2005-2006	99.80 (10.03)	88.73 (16.40)	144.37 (14.24)
2006-2007	105.67 (10.56)	94.66 (17.26)	152.04 (14.99)
2007-2008	106.59 (11.08)	95.72 (18.12)	149.91 (15.74)
2008-2009	113.18 (12.55)	100.87 (20.53)	158.67 (17.83)
2009-2010	118.37 (13.01)	108.79 (21.28)	167.16 (18.48)
2010-2011	125.26 (13.94)	112.26 (22.29)	178.55 (19.79)
2011-2012	131.32 (14.43)	120.68 (23.59)	189.06 (20.50)
2012-2013	134.57 (14.84)	120.12 (24.26)	192.37 (21.07)
2013-2014	137.03 (15.28)	124.69 (24.98)	197.07 (21.68)

*Note:* 1. Mean score, in millions of dollars (Standard Error) 2. Rural Large N=122 3. Suburban Large N=42 4. Urban Large N=53

### Research Results 5

A two-way mixed ANOVA was conducted on fiscal year data. The within-subjects independent variable was time. The between-subjects independent variable was institution type. Time was comprised of nine levels and was modeled successively from 2005-2006 to 2013-2014. Institution type was comprised of seven levels: rural small, rural medium, rural large, suburban small, suburban large, urban small, and urban large. In-state tuition (in dollars) served as the dependent variable. The researcher determined the level for statistical significance to be  $p < .05$ , and polynomial trend planned contrasts and Bonferroni corrected post hoc tests on significant findings.

Mauchley's test indicated that the assumption of sphericity had been violated,  $\chi^2(35, n = 376) = 3168.87, p < .001$ , therefore multivariate and Greenhouse-Geisser corrected tests are reported ( $\epsilon = .233$ ). Consistent with the findings in RQ 2, the results show a significant main

effect for time on in-state tuition,  $V = .684$ ,  $F(8, 357) = 96.37$ ,  $p < .001$ , partial  $\eta^2 = .684$ ; Greenhouse-Geisser corrected  $F(1.865, 678.91) = 476.73$ ,  $p < .001$ , partial  $\eta^2 = .567$ . Contrasts revealed a significant linear trend,  $F(1, 364) = 677.91$ ,  $p < .001$ , partial  $\eta^2 = .651$ , indicating that in-state tuition increased proportionately over time.

There was also a significant main effect for institutional type,  $F(6, 364) = 2.845$ ,  $p = .010$ , partial  $\eta^2 = .045$ . These differences are explained by the simple economies of scale inherent between institutions of various sizes. Naturally, it reasons that as institutional size grows, so does the relative magnitude of their budget. Of greater interest is the comparison between institutions of similar size that differ by their geographic location and modified Carnegie classification.

### **Comparison of Small Institutions**

There were no statistically significant differences between institution type and in-state tuition ( $p = .379$ ), nor was the interaction between institution type and in-state tuition significant ( $p = .308$ ). Figure 9 displays the year to year changes in in-state tuition and fees at small institutions. Table 33 presents the means and standard errors of small and medium institutions.

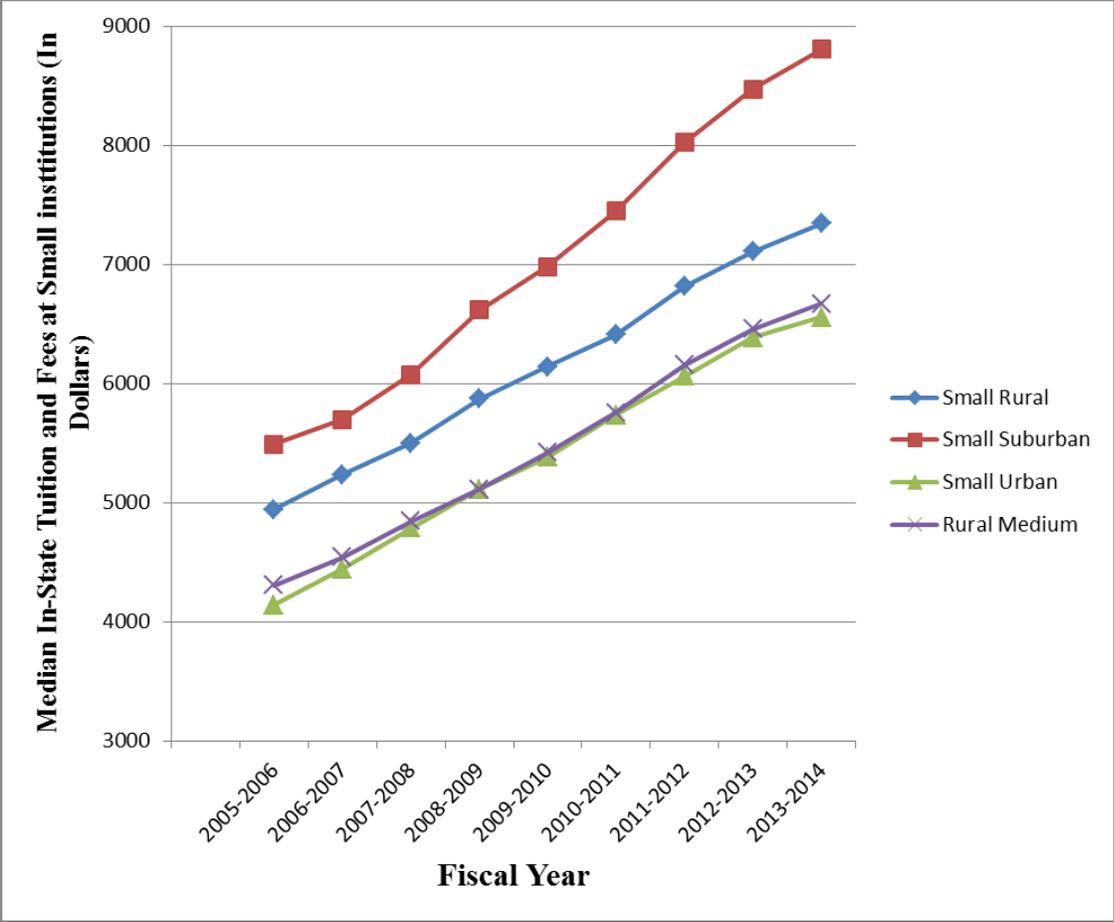


Figure 9. Estimated marginal means of AAASCU in-state tuition and fees (small institutions).

Table 33

*Means and Standard Deviations for In-State Tuition and Fees at Small to Medium AASCU Institutions*

Fiscal Year	Rural Small	Suburban Small	Urban Small	Rural Medium
2005-2006	4940.41 (220.65)	5487.25 (787.87)	4141.37 (557.11)	4303.69 (172.96)
2006-2007	5234.20 (239.67)	5696.25 (855.79)	4439.75 (605.14)	4538.59 (187.87)
2007-2008	5497.75 (252.98)	6075.25 (903.34)	4786.50 (638.75)	4840.84 (198.31)
2008-2009	5869.75 (269.92)	6618.50 (963.81)	5109.25 (681.52)	5112.45 (211.58)
2009-2010	6138.76 (273.15)	6979.75 (975.32)	5381.50 (689.66)	5416.13 (214.11)
2010-2011	6406.86 (283.28)	7448.25 (1011.53)	5733.38 (715.26)	5754.58 (222.06)
2011-2012	6814.10 (289.73)	8021.75 (1034.53)	6058.25 (731.52)	6152.19 (227.11)
2012-2013	7105.39 (301.85)	8469.75 (1077.81)	6383.50 (762.13)	6455.14 (236.61)
2013-2014	7344.96 (303.47)	8805.00 (1083.62)	6556.75 (766.23)	6669.95 (237.88)

*Notes.* 1. Mean score, in dollars (Standard Error) 2. Rural Small N=48 3.Suburban Small N=4 4.Urban Small N=9 5. Rural Medium N=84

**Comparison of Large Institutions**

There were no statistically significant differences between institution type and in-state tuition ( $p = .311$ ), nor was the interaction between institution type and in-state tuition significant ( $p = .428$ ). Table 34 presents the means and standard errors of large institutions.

Table 34

*Means and Standard Deviations for In-State Tuition at AASCU Large Institutions*

Fiscal Year	Rural Large	Suburban Large	Urban Large
2005-2006	4778.33 (143.84)	5277.91 (232.33)	4778.51 (205.14)
2006-2007	5050.48 (156.25)	5541.80 (252.36)	5074.36 (222.83)
2007-2008	5399.30 (164.93)	5916.11 (266.38)	5399.27 (235.21)
2008-2009	5739.11 (175.97)	6277.28 (284.21)	5761.12 (250.95)
2009-2010	6145.17 (178.07)	6722.50 (287.61)	6226.24 (253.95)
2010-2011	6570.16 (184.68)	7046.33 (298.28)	6668.00 (263.38)
2011-2012	7040.79 (188.88)	7609.43 (305.07)	7255.53 (269.37)
2012-2013	7390.61 (196.78)	7871.09 (317.83)	7609.95 (280.64)
2013-2014	7650.90 (197.84)	8121.96 (319.54)	7858.93 (282.15)

*Notes.* 1. Mean score, in \$ Millions (Standard Error) 2. Rural Large N=122 3. Suburban Large N=42 4. Urban Large N=53

### Research Results 6

A two-way mixed ANOVA was conducted on fiscal year data. The within-subjects independent variable was time. The between-subjects independent variable was institution type. Time was comprised of nine levels and was modeled successively from 2005-2006 to 2013-2014. Institution type was comprised of seven levels: rural small, rural medium, rural large, suburban small, suburban large, urban small, and urban large. State appropriations (in \$ millions) served as the dependent variable. The researcher determined the level for statistical significance to be  $p < .05$ , and polynomial trend planned contrasts and Bonferroni corrected post hoc tests on significant findings.

Mauchley's test indicated that the assumption of sphericity had been violated,  $\chi^2(35, n = 376) = 2561.39, p < .001$ , therefore multivariate and Greenhouse-Geisser corrected tests are reported ( $\epsilon = .268$ ). Consistent with the findings in RQ 3, the results show a significant main

effect for time on state appropriations,  $V = .214$ ,  $F(8, 352) = 11.947$ ,  $p < .001$ , partial  $\eta^2 = .214$ ; Greenhouse-Geisser corrected  $F(2.146, 770.387) = 9.002$ ,  $p < .001$ , partial  $\eta^2 = .024$ . Contrasts revealed a significant cubic trend,  $F(1, 359) = 34.863$ ,  $p < .001$ , partial  $\eta^2 = .089$ , indicating that the mean for state appropriations changed directions twice over time (Figure 10).

There was also a significant main effect for institutional type,  $F(6, 359) = 2.845$ ,  $p < .001$ , partial  $\eta^2 = .214$ . These differences are explained by the simple economies of scale inherent between institutions of various sizes. Naturally, it reasons that as institutional size grows, so does the relative magnitude of their budget. Of greater interest is the comparison between institutions of similar size that differ by geographic location.

### **Comparison of Small Institutions**

A significant main effect was observed,  $F(2, 56) = 5.460$ ,  $p = .007$ , partial  $\eta^2 = .163$ , for small institutions such that urban small institutions had significantly higher state appropriations than rural small (mean difference = 17.28 million,  $p = .005$ ) institutions. The interaction between institutional type and state appropriation approached statistical significance,  $V = .568$ ,  $F(16, 100) = 2.476$ ,  $p = .003$ , partial  $\eta^2 = .284$ ; Greenhouse-Geisser corrected  $F(4.957, 138.784) = 2.129$ ,  $p = .066$ , partial  $\eta^2 = .071$ .

Contrasts revealed a significant cubic trend,  $F(2, 56) = 5.162$ ,  $p = .009$ , partial  $\eta^2 = .156$ , and sextic trend,  $F(2, 56) = 7.952$ ,  $p = .001$ , partial  $\eta^2 = .221$ , indicating that the mean for state appropriations changed directions, respectively, twice or five times over the period of analysis (Figure 10). A visual analysis of the plots indicates the sextic trend is largely influenced by the more pronounced fluctuations in state appropriations among the urban small institutions, and to a lesser degree, the fluctuations among the suburban small institutions. The trend for rural small schools is much less pronounced, and more closely mirrors a cubic distribution.

In the three years prior to ARRA, state appropriations increased significantly to their highest point. Pre-ARRA, the growth rate for rural small and suburban small was roughly equivalent. By contrast, the growth rate for urban small institutions was significantly higher, particularly between 2006-2007 and 2007-2008.

During ARRA, state appropriations generally decreased until 2010-2011. Urban Small institutions experienced a slight initial decline, and followed by a pronounced decline and rebound toward the end of ARRA in 2011-2012. By contrast, suburban small institutions experienced two consecutive years of substantial decrease, followed by a similar rebound. Rural small schools saw a gradual decrease over the period of ARRA, followed by a relative plateau which lasted well into the post-ARRA years.

Following ARRA, state appropriations again continued to decrease into 2011-2012. In 2012-2013, state appropriations increased for urban small institutions, while remaining relatively constant for suburban small and rural institutions. By 2013-2014, the growth rate was again more pronounced for urban small institutions. Figure 10 displays the year-to-year differences in state appropriations at small institutions. See Table 35 for means and standard errors.

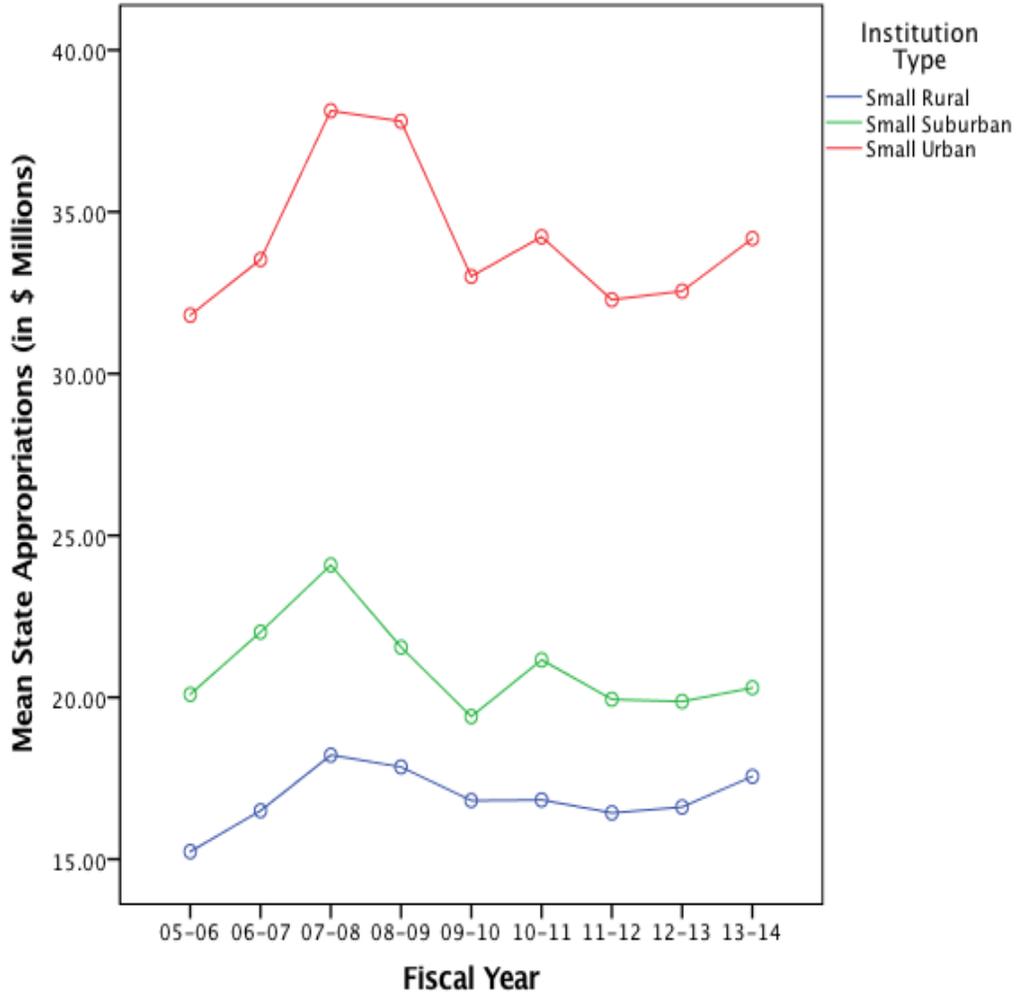


Figure 10. Estimated marginal means of AASCU state appropriations (small institutions).

Table 35

*Means and Standard Deviations in Millions of Dollars for State Appropriations at Small to Medium AASCU Institutions*

Fiscal Year	Rural Small	Suburban Small	Urban Small	Rural Medium
2005-2006	15.23 (6.64)	20.09 (22.78)	31.81 (16.11)	22.29 (5.06)
2006-2007	16.50 (7.52)	22.02 (25.78)	33.53 (18.23)	24.10 (5.73)
2007-2008	18.22 (7.63)	24.09 (26.17)	38.13 (18.51)	26.19 (5.82)
2008-2009	17.85 (6.96)	21.55 (23.87)	37.80 (16.88)	25.15 (5.30)
2009-2010	16.81 (6.61)	19.41 (22.66)	33.00 (16.02)	23.77 (5.04)
2010-2011	16.83 (7.02)	21.16 (24.05)	34.23 (17.01)	24.22 (5.34)
2011-2012	16.43 (6.40)	19.94 (21.93)	32.29 (15.51)	22.70 (4.87)
2012-2013	16.61 (6.30)	19.87 (21.58)	32.55 (15.26)	22.82 (4.80)
2013-2014	17.56 (7.20)	20.30 (24.69)	34.18 (17.46)	23.89 (5.49)

*Notes.* 1. Mean score, in \$ millions (Standard Error) 2. Rural small N=48 3. Suburban small N=44. Urban small N=9 5. Rural Medium N=84

### Comparison of Large Institutions

A significant main effect was observed,  $F(2, 099, 468.064) = 3.968, p < .001$ , partial  $\eta^2 = .105$ , for large institutions such that urban large institutions had significantly higher state appropriations than large rural (mean difference = 28.64 million,  $p = .023$ ) and large suburban (mean difference = 30.44 million,  $p = .008$ ) institutions. The interaction between institutional type and state appropriation was significant,  $V = .156, F(16, 434) = 2.302, p = .003$ , partial  $\eta^2 = .079$ ; Greenhouse-Geisser corrected  $F(4.198, 468.06) 2.757, p = .025$ , partial  $\eta^2 = .024$ .

Contrasts revealed a significant cubic trend,  $F(2, 223) = 3.957, p = .020$ , partial  $\eta^2 = .034$ , indicating that the mean for state appropriations changed directions twice over time (see Figure 11). Moreover, the plot reveals that in each of the three years prior to ARRA, state appropriations increased significantly to their highest point. Pre-ARRA, the growth rate for

large rural and suburban large was roughly equivalent. By contrast, the growth rate for urban large institutions was significantly higher.

During ARRA, state appropriations decreased until 2010-2011. Again, the rate of decrease was relatively similar for rural large and suburban large institutions; whereas the rate of decrease for urban large institutions was much more pronounced. In 2010-2011, urban large and suburban large institutions rebounded, while rural large institutions plateaued. In 2010-2011, the gap in state appropriations between rural large and suburban large institutions had nearly closed (mean difference = \$0.13 million).

Following ARRA, state appropriations again continued to decrease into 2011-2012. The rate of decrease for urban large institution's rate of decrease was again more pronounced, followed in magnitude, respectively, by suburban large and rural large institutions. In 2012-2013, the growth rate plateaued for urban large institutions, and again for rural large institutions. By contrast, the growth rate increased for suburban large institutions, again narrowing the gap in state appropriations between rural large and suburban large institutions (mean difference = \$0.85 million). By 2013-2014, state appropriations began increasing across the board for large institutions. The largest rate of growth occurred in urban institutions, followed in magnitude, respectively, by suburban and rural institutions. For the second time in the nine-year analysis period, average state appropriations for suburban large institutions were higher than appropriations for rural large institutions (mean difference = \$0.80 million). See Table 36 for means and standard errors.

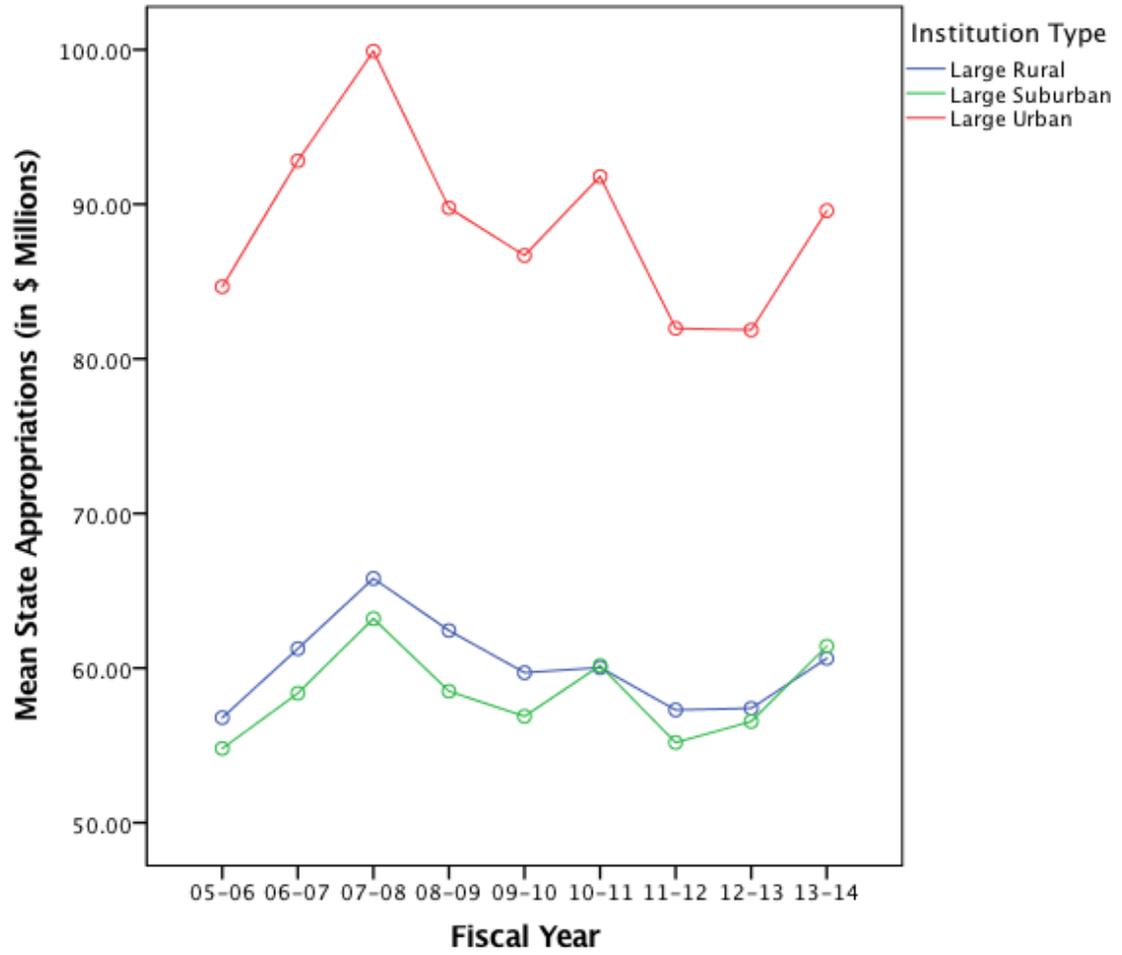


Figure 11. Estimated marginal means of AASCU state appropriations (large institutions).

Table 36

*Means and Standard Deviations for State Appropriations at AASCU Large Institutions*

Fiscal Year	Rural large	Suburban Large	Urban large
2005-2006	56.79 (4.12)	54.80 (6.72)	84.66 (5.98)
2006-2007	61.25 (4.67)	58.37 (7.60)	92.81 (6.77)
2007-2008	65.80 (4.74)	63.20 (7.72)	99.90 (6.87)
2008-2009	62.43 (4.32)	58.50 (7.04)	89.77 (6.27)
2009-2010	59.70 (4.10)	56.88 (6.68)	86.69 (5.95)
2010-2011	60.03 (4.35)	60.16 (7.09)	91.80 (6.32)
2011-2012	57.29 (3.97)	55.18 (6.47)	81.97 (5.76)
2012-2013	57.40 (3.91)	56.55 (3.36)	81.87 (5.67)
2013-2014	60.62 (4.47)	61.42 (7.28)	89.58 (6.48)

*Notes.* 1. Mean score, in \$ Millions (Standard Error) 2. Rural Large N=122 3. Rural Large N=42 4. Urban Large N=53

### Research Analysis RQ 1

*Did the average total operating revenues at AASCU institutions increase over a nine-year period from FY 2005 to FY 2014?*

The average operating revenue at the 376 public regional institutions for which data was obtained in each of the nine years of the study increased over most of the year-to-year periods examined over the nine year time span of the study. There was only one academic year, FY2006-2007 to FY2007-2008, in which the average amount of money reported for operating revenues failed to increase.

In FY2005-2006, the first academic year of the study, the starting dollar amount of the average operating revenues for the AASCU institutions examined was approximately \$79.6 million. That amount increased to approximately \$84 million in FY2006-2007, an increase of nearly \$5 million and approximately 6%. From FY2006-2007 to FY2007-2008, the average

operating revenue declined to approximately \$84 million, a decline of about .5%. This was the final year of the pre-American Recovery and Reinvestment act that was examined.

During the ARRA period, increases in operating revenue again were restored and maintained at a steady rate. From FY2008-2009 to FY2009-2010, the average operating revenues were back up to approximately \$93 million, an increase of 5%. From FY2009-2010 to FY2010-2011, the average amount of operating revenue increased to over \$98.5 million, an increase of approximately 5.8%. The average percentage increase for state operating revenues during the ARRA period which included maintenance of effort legislation were approximately 5.4%, 5.1% and 5.8%, all steady and consistent increases.

The post-ARRA time period continued to show increases in operating revenue. From FY2010-2011 to FY2011-2012, there was an increase to approximately \$103.8 million, an increase of 5.4%. The 5.4% increase was down from the percentage increase in the previous fiscal year, which began a trend of lesser increases to state operating revenues. From FY2011-2012 to FY2012-2013, the average operating amount increased by only \$1.9 million to \$105.5 million, which was an increase of only 1.6%. The following fiscal year, FY2013-2014, showed an increase of \$2.5 million to \$107.6 million, an increase of 1.9%. Comparing that increase to the HEPI increase, in the year prior to ARRA, HEPI increase by a rate of 5% in FY2007-2008 while operating revenues decreased by .3%. By the final year of ARRA in FY2010-2011, the HEPI had an annual increase of 2.3% while operating revenues increase at 5.8%.

The trend in the increases for operating revenue was a nearly linear increase throughout the years studied, the exception being in FY2007-2008, the final year before ARRA. The increases in operating revenue slowed down just before ARRA, then maintained a steady level of

increase between approximately 5.4% to 5.8%. After ARRA, the level of increase declined in the percentages by comparison to the ARRA period.

### **Research Analysis RQ2**

*Did the average tuition costs increase at AASCU institutions over a nine year period from FY 2005 to FY 2014?*

The average in-state tuition and fees increased of the 372 public regional institutions in which data was obtained for the entire nine-year period in each of the years examined for the duration of the study. There were increases in dollar and percentage amount for the pre-ARRA years, the years during the ARRA period, and the years examined immediately after the ARRA.

In FY2005-2006, the initial reported average tuition cost among the ASCU institutions in the study was \$4,747. From FY2005-2006 to FY2006-2007, the average tuition and fees amount increased by \$270 to \$5,017, an increase of 5.7%. From FY2006-2007 to FY2007-2008, the average tuition and fees amount increased by \$318 to \$5,322, an increase of 6.5%.

In the first year of the study for the time period in which the American Recovery and Reinvestment Act was enacted, FY2008-2009, the average amount of in-state tuition and fees increased a total of \$328 to \$5,680, an increase of 6.2%. From FY2008-2009 to FY2009-2010, there was an increase of \$375 to the average tuition and fees cost for average cost of \$6,055, an increase of 6.2%. In the final fiscal year of the ARRA, FY2010-2011, there was an increase of \$393 to the average tuition and fees cost for a total average of \$6,428, an increase of 6.7% from the previous year. The increased during the ARRA period were similar in percentage (6.2%, 6.2% and 6.7%) to the final year of the pre-ARRA period examined (6.5%).

The post-ARRA time period examined showed increased in the average in-state tuition and fees. In the first fiscal year of this time period, FY2011-2012, there was an increase of \$466

on the average amount for the AASCU institutions examined in the study, bringing the average for in-state tuition and fees to \$6,901, an increase of 7.2%. From FY2011-2012 to FY 2012-2013, there was an increase of \$321 for a total of \$7,222, an increase of 4.7% from the previous fiscal year. In the final year of the post ARRA period examined, FY2013-2014, there was an increase of \$242 for the average in-state tuition cost, bringing the average costs to \$7,464, an increase of 3.5%.

The percentage increases during the ARRA years (6.2%, 6.2%, and 6.7%) were consistent with the final year of the pre-ARRA (6.5%) era examined. An initial increase in the percentage of the post ARRA years examined (7.2%) was followed by subsequent declines in the percentage increase for the final two years of the study (4.7% and 3.5%).

### **Research Analysis RQ3**

*Did the average state appropriations increase at AASCU institutions over a nine-year period from FY 2005 to FY 2014?*

The amount of average state appropriations reported by the 367 public regional institutions in which data was obtained for the entire nine year period did not show a consistent pattern, and fluctuated during the years examined in the study.

The initial fiscal year in the pre-ARRA period examined, FY2005-2006, started with an average state appropriation amount of \$46.9 million for the AASCU institutions examined in the study. From FY2005-2006 to FY2006-2007, the average amount of state appropriations increased to \$50.7 million. The average increase per institution was approximately \$3.8 million or 8.2%. From FY2006-2007 to FY2007-2008, the average amount of state appropriations increased to \$54.7 million. The average increase per institution was approximately \$3.9 million or 7.8%.

In the first year of the study which included the American Recovery and Reinvestment Act's maintenance of effort provisions, FY2008-2009, there was a decline in state appropriations from the previous fiscal year. The average state appropriation amount in FY2008-2009 was \$51 million, representing a decline of approximately \$3.5 million or -6.5%. From FY2008-2009 to FY2009-2010, there was an additional decrease in state appropriations bring the average to \$49.1 million. This represented an approximate decline of an average of \$2.1 million or -4.1%. From FY2009-2010 to FY2010-2011, the average state appropriation amount showed an increase. The increase brought the total to approximately \$50.6 million, an increase of nearly \$1.5 million or 3%. Still, if the purpose of MOE was to stabilize the state funding, it can be argued that much deeper cuts in state funding were prevented because of MOE.

The first fiscal year of the post-ARRA time period examined showed a decline in the reported averages in state appropriations for the AASCU institutions examined. The decline brought the average down to approximately \$47 million, representing a decline of approximately \$3.5 million, or -7%. From FY2011-2012 to FY2012-2013, there was another increase in the average reported amount of state appropriations for the AASCU institutions examined in the study. The increase brought the total average amount to \$47.3 million, representing an increase of approximately \$250,000, or .5%. From FY2012-2013 to FY2013-2014, there was an increase of approximately \$3.2 million, or 6.8% bringing the average reported state appropriation to \$50.8 for the final year of the study. It is worth noting that the single deepest cut did occur during in the period of time after ARRA, in FY 2011-2012, the very first year after ARRA.

The state appropriation variable was the only financial variable measured in the study that did not represent a linear growth pattern for the years examined. It appeared to show a

quadratic output, as there were increases and declines at separate times throughout the years examined.

#### **Research Analysis RQ4**

*Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their operating revenues across nine years from FY 2005 to FY 2014?*

Considering the variables examined in the study, the researcher concludes that the classification demographic did have a significant effect on the institutions average operating revenue. As expected, the size of the institution had a noticeable impact in the average operating revenue. In FY 2005-2006, the first year of the study, rural small institutions had an average operating revenue of \$26.27 million. By contrast, rural medium institutions had an operating revenue of \$33.58 million that same fiscal year, and rural large institutions had a larger operating revenue of \$99.8 million. Suburban and urban institutions held the same trend in FY 2005-2006 where the smaller demographic reported a smaller operating revenue, and the larger institutions reported higher operating revenues. In the first year of the ARRA, FY 2008-2009, rural small institutions had an average operating revenue \$27.18 million. Rural medium institutions reported an average operating revenue of \$36.99 million, an increase of \$9.81 million over rural small colleges. That same fiscal year, FY 2008-2009, rural large institutions reported an average operating revenue of \$113.18 million resulting in an increase of over \$76 million over the rural medium and \$86 million over rural small colleges. In the first year after the end of the ARRA, FY 2011-2012, rural small institutions had an average operating revenue of approximately \$30 million. Rural medium institutions reported an average operating revenue of \$40 million, an increase of approximately \$10 million over rural small colleges. That same fiscal year, FY

2011-2012, rural large institutions reported an average operating revenue of approximately \$131.32 million resulting in an increase of approximately \$89 million over the rural medium and \$101 million over rural small colleges. Increased size resulted in increased operating revenues.

Tables 30 and 31 display the mean operating revenue of each type of institution in the study. When examining institutions that shared the same size but different geographic classification, there was a significant increase in reported operating revenue. In the small institutions, rural small reported the lowest average operating revenues, suburban small reported increased operating revenues, and rural large reported the highest average operating revenues. In FY 2005-2006, the first year of the study, rural small institutions had an average operating revenue of \$26.27 million. Suburban small institutions had an operating revenue of \$35.87 million that same fiscal year, and urban small institutions had a larger operating revenue of \$49.13 million. In the first year of the ARRA, FY 2008-2009, Rural Small institutions had an average operating revenue \$27.18 million. Suburban Small institutions reported an average operating revenue of \$41.66 million, an increase of \$14.48 million over rural small colleges. That same fiscal year, FY 2008-2009, urban small institutions reported an average operating revenue of \$50.8 million resulting in an increase of over \$9.14 million over the suburban small and \$23.62 million over rural small colleges. In the first year after the end of the ARRA, FY 2011-2012, rural small institutions had an average operating revenue of approximately \$30.07 million. Suburban small institutions reported an average operating revenue of \$47.37 million, an increase of approximately \$17.3 million over rural small colleges. That same fiscal year, FY 2011-2012, urban small institutions reported an average operating revenue of approximately \$62.10 million resulting in an increase of approximately \$14.73 million over the rural medium and \$32.03 million over rural small colleges.

When comparing the large institutions suburban large reported the lowest average operating revenues, rural large reported increased operating revenues and urban large reported the highest average operating revenues. In FY 2005-2006, the first year of the study, suburban large institutions had an average operating revenue of \$88.73 million. Rural large institutions had an operating revenue of \$99.8 million that same fiscal year, and urban large institutions had a larger operating revenue of \$144.37 million. In the first year of the ARRA, FY 2008-2009, suburban large institutions had an average operating revenue \$100.87 million. Rural large institutions reported an average operating revenue of \$113.18 million, an increase of \$12.31 million over suburban large colleges. That same fiscal year, FY 2008-2009, urban large institutions reported an average operating revenue of \$158.67 million resulting in an increase of over \$45.49 million over the rural large and \$57.8 million over suburban large colleges. In the first year after the end of the ARRA, FY 2011-2012, suburban large institutions had an average operating revenue of approximately \$120.68 million. Rural large institutions reported an average operating revenue of \$131.32 million, an increase of approximately \$10.64 million over suburban large colleges. That same fiscal year, FY 2011-2012, urban large institutions reported an average operating revenue of approximately \$189.06 million resulting in an increase of approximately \$57.74 million over the rural large and \$68.38 million over suburban large colleges. The analysis showed that operating revenue was impacted by both the geographic variable and the size variable.

### **Research Analysis RQ5**

*Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their in-state tuition and fees costs across nine years from FY 2005 to FY 2014?*

When the classification groups were examined with the average in-state tuition and fees, the researcher concludes that the classification demographic did have a significant effect on the institutions average in-state tuition and fees. Size of the institution had an impact with urban institutions as the institution size increased, so did the average in-state tuition and fees. In rural and suburban institutions, however, the average in-state tuition and fee costs were not always higher at the larger institutions. In the first year of the study, FY 2005-2006, average in-state tuition and fee costs at rural small institutions was \$4940. At suburban small institutions the cost was \$5487. In that same fiscal year, FY 2005-2006, average in-state tuition and fees at rural large institutions was \$4778, a decline of \$162 from the rural small average. In FY 2005-2006, average in-state tuition and fees at suburban large institutions was \$5227, a decline of \$260 from the suburban small institutions.

In the first year of the ARRA period, FY 2008-2009, average in-state tuition and fee costs at Rural Small institutions was \$5869. At suburban small institutions the cost was \$6618. In that same fiscal year, FY 2008-2009, average in-state tuition and fees at rural large institutions was \$6145, a decline of \$473 from the rural small average. In FY 2008-2009, average in-state tuition and fees at suburban large institutions was \$6277, a decline of \$341 from the suburban small institutions.

In the first year after the end of the ARRA period, FY 2011-2012, average in-state tuition and fee costs at rural small institutions was \$6814. At suburban small institutions the cost was \$8021. In that same fiscal year, FY 2011-2012, average in-state tuition and fees at rural large institutions was \$7040, an increase of \$226 from the rural small average. In FY 2011-2012, average in-state tuition and fees at suburban large institutions was \$7609, a decline of \$412 from the suburban small institutions. The three types of size demographics showed different

relationships over the nine-year period. Urban institutions maintained a larger average tuition and fees cost in the larger institutions. Suburban institutions maintained a smaller average tuition and fees cost at the larger institutions, and the rural institutions had different relationships based on the year.

Studying the variables using their geographic classification also produced significant relationships. In the small demographic, urban small institutions reported the lowest average in-state tuition and fees cost for the duration of the nine-year period. Suburban small institutions reported the highest in-state tuition and fees for the duration of the nine year period, and the rural small institutions reported in-state tuition and fees cost that were in-between urban small and suburban small. Comparing the larger intuitions, urban large institutions reported the lowest average in-state tuition and fees cost for the duration of the nine-year period. Suburban large institutions reported the highest in-state tuition and fees for the duration of the nine-year period, and the rural large institutions reported in-state tuition and fees cost that were in-between urban large and suburban large.

### **Research Analysis RQ6**

*Is there a statistically significant average difference between rural small, suburban small, urban small, rural medium, rural large, suburban large, and urban large classifications in their state appropriations across nine years from FY 2005 to FY 2014?*

When examining the average state appropriation variable with the Carnegie classifications, there was a significant relationship observed. Predictably, the institutions with a larger budget also had more severe changes in the average state appropriations from year to year. A larger budget equated to larger changes.

When looking at the small institutions, urban small institutions maintained the highest state appropriations throughout the nine-year period of study. Rural small intuitions maintained the lowest state appropriations and suburban small institutions reported average state appropriation amounts that stayed in between. In FY 2005-2006, urban small institutions reported an average state appropriation of \$31.81 million. Suburban small reported average state appropriations of \$20.09 million, and rural small reported average state appropriations of \$15.23 million. By FY 2008-2009, the first year of ARRA, urban small institutions reported \$37.8 million in state appropriations, while suburban small institutions reported average state appropriations of \$21.55 million and rural small reported \$17.85 million. By FY 2011-2012, the first year after the end of ARRA, urban small institutions reported \$32.29 million in state appropriations while suburban small institutions reported average state appropriations of \$19.94 million and rural small reported \$16.43 million. Over the course of the nine-year period, the largest budgets fluctuated the most.

When looking at the large institutions, urban large institutions maintained the highest state appropriations throughout the nine-year period of study. Suburban large intuitions maintained the lowest state appropriations with one exception in FY 2010-2011 and rural large institutions reported average state appropriation amounts that stayed in between with exception of FY 2010-2011. In FY 2005-2006, urban large institutions reported an average state appropriation of \$84.66 million. Suburban large reported average state appropriations of \$54.8 million, and rural small reported average state appropriations of \$56.79 million. By FY 2008-2009, the first year of ARRA, urban large institutions reported \$89.77 million in state appropriations while suburban large institutions reported average state appropriations of \$58.5 million and rural large reported \$62.43 million. By FY 2011-2012, the first year after the end of

ARRA, urban large institutions reported \$81.97 million in state appropriations, while suburban large institutions reported average state appropriations of \$55.18 million and rural large reported \$57.29 million. Over the course of the nine-year period, the largest budgets fluctuated the most, however there were exceptions in one fiscal year in FY 2010-2011 just with suburban large and rural large institutions.

## CHAPTER V: FINDINGS AND CONCLUSIONS

This chapter includes the findings from the research study, along with the conclusions from the researcher, suggestions for practice and future studies. College student financial aid is a billion-dollar per year industry. The impact of the higher education costs that are the responsibility of the student can have an ultimate impact on the entire economy of the nation. Public higher education costs is a shared responsibility among the student and their family, the state, and the federal government. Student loan debt is at an all-time high; in 2014, the national student loan debt for students in the United States reached \$1.2 trillion. The total amount of student loans has increased greatly just since the beginning of the Great Recession in 2008. From 2008 to 2014, student loans have increased by a rate of 84% (Rayfield, 2015).

The focus on these 390 AASCU institutions reflects the researcher's personal concern regarding the vital role these types of institutions play in promoting access to such a significant number of students, and if and how federal intervention was impacting their ability to fulfill their mission as an access institution. AASCU institutions operate with a goal to provide four-year degree seeking students with an opportunity to attend accredited regional colleges at a rate that is likely to be more affordable than most state flagship institutions. With the tuition costs continuing to climb nationally, the researcher wanted to examine how federal maintenance of effort provisions impacted AASCU institutions financially in terms of operating revenues, in-state tuition and fees, and amount of state appropriations. The entire 390 AASCU member institutions were examined according to their geographic type, known within the modified

Carnegie Classification. Of those 390, state appropriation data was obtained from 367 and operating revenue data was obtained from 376 throughout the nine-year period, and 372 institutions provided in-state tuition and fee data throughout the nine year period. Those geographic sub-classes included groupings into rural, suburban, and urban groups, and then further broken down by the size of the institution. The geographic classification continued to build on Kinkead's (2009) original study, which has been reclassified by Katsinas (Katsinas, 2016). Kinkead grouped the institutions 264 public MCU's in the 2005 Basic Carnegie class, of which over 90% were AASCU institutions, into seven geographic types. Katsinas used a modified reclassification which was utilized in this study and gives a more accurate representation of AASCU institutions than previous similar studies have done by extending the classification across the universe of AASCU's 390 institutions. Katsinas classified these institutions into sub-categories of urban, suburban, or rural based on their location and proximity to metropolitan areas. The institutions are further placed in sub-groups based on their size. This study is the pilot to use the modified reclassification of the 2010 Carnegie Basic Classification with AASCU institutions to examine tuition and fees, operating revenues, and state appropriations.

The research study was designed to examine the variables of average operating revenue, average in-state tuition and fees, and average state appropriations of the AASCU institutions within their modified Carnegie Classification. The researcher wanted to see if these variables increased over a time period that included the American Recovery and Reinvestment Act and the accompanying maintenance of effort legislation. Table 37 shows the year-to-year percentage change for average operating revenue, average in-state tuition, and average state appropriations for the nine years of the study from FY 2005-2006 through FY 2013-2014.

Table 37 also shows the corresponding year to year change in the Higher Education Price Index inflation rate for the nine years of study to show the amount of year to year percent change in the variables, as compared to the inflation rate.

Table 37

*Average Year-to-year Change in Annual Tuition, State Appropriations, and Operating Revenues at US Regional Universities, 2005-2006, in Dollars*

	Pre-ARRA period			ARRA			Post-ARRA		
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
HEPI	5.1%	2.8%	5.0%	2.3%	0.9%	2.3%	1.7%	1.6%	3.0%
<b><i>Tuition (in-state)</i></b>									
Year-to-Year Change (percentage)		5.7%	6.5%	6.2%	6.2%	6.7%	7.2%	4.7%	3.5%
<b><i>Total Operating Revenues (includes state appropriations, tuition and fees, and all other revenues)</i></b>									
Year-to-Year Change (percentage)		6.1%	-0.3%	5.4%	5.1%	5.8%	5.4%	1.6%	1.9%
<b><i>State Appropriations</i></b>									
Year-to-Year Change (percentage)		8.2%	7.8%	-6.5%	-4.1%	3.0%	-7.0%	0.5%	6.8%

Notes: 1. Tuition and fees, state appropriations and operating revenue changes calculated based on reported IPEDS data  
2. HEPI percentage retrieved from commonfund.org

The researcher created a unique data set utilizing information that was reported by the institutions and available in the IPEDS database. The researcher used a nine-year time period of data for the study to examine the annual changes before, during, and after the ARRA. Those periods included the three years immediately prior to the American Recovery and Reinvestment Act's influence on higher education finance (FY2005-2006 through FY2007-2008), the three years during the American Recovery and Reinvestment Act (FY2008-2009 through FY2010-

2011), and the three years immediately following the American Recovery and Reinvestment Act (FY2011-2012 through FY2013-2014). The subsequent analysis produced the following findings.

### **Findings**

The first finding of the study was that the largest percentage increase in in-state tuition and fees at the AASCU institutions examined in the study occurred in the fiscal year immediately after the maintenance of effort legislation concluded.

The study examined a nine fiscal year period of time, which incorporated years prior to the ARRA, years during the ARRA, and years immediately after the maintenance of effort legislation within the American Recovery and Reinvestment Act concluded. In FY2007-2008, the year immediately preceding the ARRA, the percent annual average in-state tuition at AASCU institutions increased at a rate of 6.5%. Throughout the ARRA period when the influence of the maintenance of effort legislation was included, AASCU institutions were able to hold the line in stabilizing the in-state tuition and fees at a similar rate of increase. The rates for those three fiscal years were 6.2% in FY2008-2009, 6.2% in FY2009-2010, and 6.7% in FY2010-2011. That is an average increase over the three-year period of time of 6.4% per year, down slightly from the 6.5% in FY2007-2008.

Immediately following examined ARRA periods, in FY2011-2012, the average in-state tuition and fees at AASCU institutions within the study jumped to 7.2%. An increase from the last fiscal year prior to ARRA, and an even greater increase from the three-year average during the ARRA period. It is also notable that during that FY2011-2012 period, that 7.2% increase was 4.23 times higher than the rate of inflation for that same year, according to the Higher Education Price Index.

For second finding, in the year immediately following the conclusion of the maintenance of effort legislation, AASCU institutions received the largest observed cut in state appropriations.

The fiscal year 2011-2012, which the researcher noted was the year in which the greatest increase in in-state tuition and fees among AASCU institutions was observed, was also the year that the same institutions received the largest cuts in state appropriations. As noted, in FY2011-2012 there was a tuition and fees increase of 7.2% more than the previous year. In that same fiscal year table 37 shows that there was also a state appropriations cut in FY2011-2012 of 7%. This funding cut was the most severe for the entire period of time observed by the researcher. In the years prior to the beginning of the ARRA period, there were subsequent increases in state appropriations of 8.2% in FY2006-2007 and 7.8% in FY2007-2008. During the ARRA period, state appropriations fluctuated and ultimately that period of time averaged an annual percentage cut in state appropriations of 2.5%.

For the third finding, from year 1 to year 9 of the study, the average in-state tuition and fees cost at the observed AASCU institutions increased over 57%, total operating revenues increased 35%, and state appropriations increased by 8%.

While the percentage and dollar increases from year to year fluctuate throughout the time period of the study, the constant that consistently remained was that tuition and fee amounts continued to climb, though the other examined variables all increased over the nine years of the study.

In year 1 of the study, FY 2005-2006, the average in-state tuition and fees cost at the examined AASCU institutions was approximately \$4700. Throughout the study, over the next eight fiscal years, the AASCU institutions examined showed an increase in tuition on average of

approximately 5.8% per year. That average percentage increase resulted in a change in tuition and fees cost from approximately \$4700 to approximately \$7400. That equates to a dollar amount increase of approximately \$2700 over the course of the study.

It is important to note how the change in tuition and fees cost associated with this study of AASCU institutions compares to other public higher education institutions. According to College Board (2016), in FY2005-2006, the average tuition and fees cost for all public, four-year higher education institutions was approximately \$6700. By FY2013-2014, that figure had increased to approximately \$9000. In FY2005-2006, College Board reports the average tuition and fees cost for public, two-year institutions was approximately \$2600. By FY2013-2014, that average cost increase was approximately \$3300 for the public, two-year institutions. The tuition and fees cost for AASCU institutions fit between the tuition and fees at the public, two-year institutions and the all public, four-year institutions, a finding which can lead to the belief that the state flagship institutions likely carry a far greater cost for the student. With no increases in wage percentages for recent graduates, even modest increased in tuition and fees that they have to front out of pocket, will potentially impact their overall debt scenario and potentially lead to further financially hardship.

When adding Pell into the equation, the max Pell award value increased by 39% over the course of the study. However, it was only in one three-year span that the maximum Pell Grant increase percentage eclipsed the rate of percentage increase for in-state tuition and fees. During the ARRA period from FY 2008-2009 through FY 2010-2011, the max Pell Grant award increased by \$819 or 17%. In that same period of time, in-state tuition and fees at AASCU institutions within the study increased by \$758 or 13%. This showed that during ARRA, MOE

legislation's positively impacted affordability at AASCU institutions. Table 38 displays the average changes in the data.

Table 38

*Average Year-to-year, Three-year and Nine-year Change in Annual Tuition, State Appropriations, and Operating Revenues at US Regional Universities, 2005-2006 to 2013-2014, in Dollars*

	Pre-ARRA period			ARRA			Post-ARRA		
	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
HEPI	5.1%	2.8%	5.0%	2.3%	0.9%	2.3%	1.7%	1.6%	3.0%
<b>Tuition (in-state)</b>									
Average (\$)	\$4,754	\$5,024	\$5,352	\$5,683	\$6,035	\$6,441	\$6,907	\$7,235	\$7,488
Yr-to-Yr Change (\$)		\$270 (5.7%)	\$328 (6.5%)	\$331 (6.2%)	\$352 (6.2%)	\$406 (6.7%)	\$466 (7.2%)	\$328 (4.7%)	\$253 (3.5%)
3-Year Change	\$598 (12.5%)			\$758 (13%)			\$581 (8%)		
9-year change	\$2,734 (57%)								
<b>Total Operating Revenues (includes state appropriations, tuition and fees, and all other revenues)</b>									
Average (\$)	\$79,231,539	\$84,040,343	\$83,781,486	\$88,301,085	\$92,809,639	\$98,203,838	\$103,516,509	\$105,155,340	\$107,143,712
Yr-to-Yr Change (\$)		\$4,808,804 (6.1%)	<b>-\$2,588,57 (-0.3%)</b>	\$4,519,599 (5.4%)	\$4,508,554 (5.1%)	\$5,394,199 (5.8%)	\$5,312,671 (5.4%)	\$1,638,831 (1.6%)	\$1,988,372 (1.9%)
3-Year Change	\$4,549,947(6%)			\$9,902,753 (11%)			\$3,627,203 (4%)		
9-year change	\$27,912,173 (35%)								
<b>State Appropriations</b>									
Average (\$)	\$ 46,944,334	\$ 50,783,891	\$ 54,764,032	\$ 51,219,260	\$ 49,106,005	\$ 50,581,942	\$ 47,058,410	\$ 47,310,144	\$ 50,539,027
Year-to-Year Change (\$)		\$3,839,557 (8.2%)	\$3,980,141 (7.8%)	<b>-\$3,544,772 (-6.5%)</b>	<b>-\$2,113,255 (-4.1%)</b>	\$1,475,937 (3%)	<b>-\$3,523,532 (-7%)</b>	\$251,734 (0.5%)	\$3,228,883 (6.8%)
3-Year Change	\$1,819,698 (17%)			<b>-\$637,318 (-1%)</b>			\$3,480,617 (7%)		
9-year change	\$3,594,693 (8%)								
<b>Federal Pell Grants</b>									
Max Pell	\$4,050	\$4,050	\$4,310	\$4,731	\$5,350	\$5,550	\$5,550	\$5,550	\$5,645
Yr-to-Yr Change (\$)		\$0 (0%)	\$260 (6.4%)	\$421 (9.8%)	\$619 (13.1%)	\$200 (3.7%)	\$0 (0%)	\$0 (0%)	\$95 (1.7%)
3-Year Change	\$260 (6%)			\$819 (17%)			\$95 (1%)		
9-year change	\$1,595 (39%)								

Notes: 1. Tuition and fees, state appropriations and operating revenue changes calculated based on reported IPEDS data  
2. HEPI percentage retrieved from commonfund.org

## Conclusions

For the first conclusion, the American Recovery and Reinvestment Act did show an impact on the rate of increase for the reported in-state tuition and fees averages for the public regional institutions examined in the study.

One of the stated goals of the maintenance of effort legislation within the American Recovery and Reinvestment Act was for state institutions to “hold the line” on tuition increases throughout the duration of the ARRA period. The passing of the tuition burden onto student attendees had become an increasing problem and the risk of pricing students out of an affordable college option was a constant concern amongst AASCU institutions. While regulating tuition costs did not necessarily mean that states needed to decrease tuition amounts, maintaining an increase relative to that of recent years was an attainable solution.

Immediately prior to the ARRA period that enacted maintenance of effort provisions, the three fiscal years included in the study produce an average in-state tuition and fees amounts of \$4,754 in FY 2005-2006, \$5,024 in FY2006-2007, and \$5,352 in FY2007-2008. The corresponding increases by percentage were 5.7% from FY2005-2006 to FY 2006-2007 and 6.5% from FY2007-2008.

During the three fiscal year period from FY2008-2009 through FY2010-2011, there were comparable increases for the in-state tuition and fees averages for the AASCU institutions that were examined. From fiscal year FY2007-2008 to FY2008-2009, there was only a \$3 increase in the average total tuition increase, growing from a \$328 average increase to a \$331 average increase. The percentage difference rose at a rate of only 6.2% in FY2008-2009 after a rate of 6.5% in FY2007-2008. The following fiscal year of the ARRA period, FY2009-2010, produced a percentage increase at the same rate of 6.2%, and a total annual average tuition increase of \$352. There was merely a slight increase in the average percent for the final fiscal year examined within the American Recovery and Reinvestment Act in FY2010-2011. FY2010-2011 included a 6.7% increase from FY2009-2010. Immediately after the American Recovery and Reinvestment Act period, during FY2011-2012, after the conclusion of the maintenance of effort

legislation, the largest percentage increase and largest dollar amount took place. From FY2010-2011 to FY2011-2012, there was an average annual tuition and fee increase of \$466 among the AASCU institutions included in the study- a percentage increase of 7.2%.

Access to higher education will likely be an increasingly important component of long term financial success. There are obviously exceptions and individuals that do very well for themselves, however, as Selingo noted (2016), decades have passed since the last time a large percentage of the population could gain financial success without a college education.

For the second conclusion, geographic classification and size did not have a noticeable impact on the financial elements of public regional institutions examined in the study during the maintenance of effort legislation.

Considering the variables examined in the study, the researcher concludes that the geographic region did not have a noticeable impact on the combination of the location and size of the AASCU institutions. The data examined shows differences in the sub classifications, however the analyzed data shows that either the different classifications show similar patterns of change throughout the study, or the changes don't appear to be related to the size and location of the institution. Put differently, the cuts were applied to all institutions across the board. MOE, as a result, helped all of the observed institutions and the state cuts immediately after ARRA had a negative impact on all of the institutions.

Tuition and fees examined for the AASCU institutions within the study (see Tables 33 and 34) show that while there is a discrepancy in the tuition and fees amounts in the different categories, those amounts were not impacted by the maintenance of effort legislation. Mostly the institutions, regardless of their category and sub classification, appear to follow the same type of linear growth pattern. For instance, the small suburban classification begins with the highest

average starting tuition and fees cost at \$5487 in Year 1 of the study and maintained the highest tuition and fees amount through each year of the study ending in year 9 at an average of \$8805. The lowest tuition and fees cost collected were among the small urban classification of schools. In Year 1 of the study, the average tuition and fees cost at the small urban institutions was \$4141. This sub group maintained the lowest average tuition and fees cost throughout the study and in Year 9 the average cost of tuition and fees was \$6556. Tables 33 and 34 also show that the size itself did not necessarily impact the in-state tuition and fees cost. For example, the category of small suburban institutions began with and maintained the highest average tuition and fee cost, while the small urban began with and maintained the lowest average tuition and fees cost.

For the third conclusion, maintenance of effort legislation did impact state appropriations at AASCU institutions during the American Recovery and Reinvestment Act Period.

One of the goals of the maintenance of effort legislation was to entice individual states to maintain investment levels on par with FY 2006, throughout the time frame designated in the American Recovery and Reinvestment Act (FY 2009, FY 2010 and FY 2011). This was especially important to AASCU institutions and the first generation students that they serve, as the countries public regional colleges and universities. Part of the mission of the AASCU institutions is to provide a more affordable alternative to students seeking a four-year degree. Having to increase tuition to supplement for lacking state investment would have a negative impact on AASCU students and distort the mission of institutions within the organization.

With fiscal year 2006 serving as the basis for investment in higher education institutions, if institutions could maintain funding efforts along the same level of financial commitment, it would show the level of impact that the maintenance of effort legislation had. In FY 2006-2007, the average state appropriation among examined AASCU institutions was approximately \$50.8

million. The fiscal years impacted by the ARRA and observed within the study were FY 2008-2009, FY 2009-2010, and FY 2010-2011. In FY 2008-2009, the average amount of state appropriation for AASCU institutions was \$51.3 million. That shows an increase from FY 2006 levels. The approximate total dollar amount increase from FY 2006-2007 to FY 2008-2009 was approximately \$500,000 or an increase of nearly 1%. In FY2009-2010, the average state appropriation amount among the examined AASCU institutions was \$49.1 million. This showed a slight decrease from the previous year of approximately \$2.2 million or about 4.3%. Compared to FY 2006 levels, the \$49.1 million average appropriation amount in FY 2009-2010 was a decrease of approximately \$1.7 million, or about \$3.3 million. This is a decrease from FY 2006 levels, but a very modest one, especially in a time of recession. In FY 2010-2011, state appropriations went back up from the previous year and returned to nearly identical levels to FY 2006. In FY 2010-2011 the average state appropriation commitment among the examined AASCU institutions was \$50.6 million. That represented an increase of approximately \$1.5 million or around 3%. From the FY2006 levels, FY 2010-2011 represented a decrease from the initial \$50.8 million of only around \$200,000 or a decrease of 0.4%. Referring to the overall impact of the ARRA, President Obama (2014) stated that the policy work by his administration halted the Great Recession from becoming another Great Depression. The ARRA provided relief not just to AASCU institutions and higher education, but also succeeded in job creation and benefitted millions of people financially.

Considering the period of economic recession that the country was in, the state appropriation levels still held the line of the amount in the fiscal years that the maintenance of effort provisions intended to impact. It is also important to note that immediately after the period impacted by the ARRA, state appropriations took the most severe cuts compared to the other

years examined in the study. Table 30 shows that in FY2011-2012 the average state appropriation amount for the examined AASCU institutions was back down to around \$47 million. That represents a decrease of around \$3.8 million or a decrease of about 7.5% from FY2006 levels. The following year in FY 2012-2013, state appropriation levels at the examined AASCU institutions were recorded at an average of \$47.3 million. In relation to FY2006 levels, that represents a decrease of around \$3.5 million or about 6.9%.

### **Recommendations for Policy**

The first recommendation is to promote a plan that includes maintenance of effort legislation for free or more affordable tuition at AASCU institutions and include MOE in other federal funding programs available to students based on the financial need to benefit low-income students.

Several states have enacted plans on the community college level to create free education plans for students attending their two-year institutions. President Obama recently made a pledge to construct a plan to spread the existing free community college plans to all of the nation's public community colleges. Free community college plans have included partnerships with local businesses to boost job creation and placement for graduates. Part of the very mission of AASCU is to involve its institutions in community engagement as Stewards of Place. Expanding on President Obama's community college plan to include AASCU institutions could lead to further higher educational opportunities for students wanting to obtain a four-year degree. Education and career preparation should extend beyond the goals established by the community college sector's focus on the technical workforce.

AASCU Policy Analysts, Barmak Nassirian, Daniel Hurley and Thomas Harnisch (2014) discussed the option of a federal and State partnership to incentivize state higher education

funding commitments using incentives increased amount of Pell Grants for states to distribute, and using the state's level of higher education investment to determine the amount of Pell increases it would receive. The maintenance of effort piece of the equation is important because it would eliminate the states response to providing free or more affordable college tuition which would likely be to decrease state appropriations. With the MOE written into the free public regional tuition, states are more likely to respond by maintaining their levels of state appropriations for higher education so they do not miss out on further federal money available to them.

The second recommendation is to develop a partnership plan for federal and state governments to promote AASCU institutions as a more affordable four-year higher education option.

In recent years there has been a noticeable push to promote community colleges as an affordable educational alternative to more costly four-year degree programs. Around the state of Alabama, television personality Mike Rowe was featured in a number of commercials campaigning for young adults to "Go Build Alabama." Rowe highlighted the benefits of a technical degree and experience in a trade profession as an alternative to a generous paying career path that would limit the need for student loans. This campaign was funded in part by the Alabama Construction Recruitment Institute, established by the Alabama legislature in 2009.

In addition to the state funded promotion for technical schools and two-year degrees, other states are moving forward with their own free community college initiatives. Tennessee is set to begin their free two-year degree program, and recently President Obama unveiled his hope for a plan to make this a national mandate. These are potentially great initiatives by federal and local governments; however, lost in the discussion are the public regional four-year institutions.

There is still more interest in four-year degrees, and there is an opportunity for a partnership between state and federal organizations to market and promote the type of specializations and opportunities that are available at state AASCU colleges, highlighting the difference in tuition and fees and other costs as part of the promotion.

### **Recommendations for Further Study**

The first recommendation is to examine the state-by-state breakdown of in-state tuition and fees and state appropriations and the impact the state may have on affordability at AASCU institutions. While the geographic classifications that were used in this study considered the rural, suburban, and urban groups, they were not analyzed by the state that they serve. The February 2016 study by The University of Alabama Education Policy Center shows a state-by-state breakdown of predicted fiscal strain among community colleges. This study by Katsinas, Malley, and Warner uses current and predicted data to classify each state by its current or predicted level of hardship among community colleges. Those hardships were broken down by the rural, Suburban, and urban groups, and if no fiscal strain was evident, that was also noted. This particular type of data is relevant to state policy makers and lobbyist who focus on the level of financial cuts to state higher education institutions. Being able to predict the hardships at access institutions gives more relevance to the ongoing fight for higher education dollars.

There may also be sufficient differences in the amount of money that a state is able to appropriate to the public regional institutions because of the volume of these types of institutions within their state. For instance, the state of California is helping to fund 23 AASCU member institutions across the state. Pennsylvania currently has 18. Naturally, when more institutions are fighting for a piece of the same funding resource, there is not always as much to go around for these institutions. States such as Oregon, that only assist in finding 3 AASCU institutions,

and Nevada which currently has one AASCU institutions may be able to devote more resources to these institutions, solely because there are so few of them.

The second recommendation is to examine what the minimum enrollment size that AASCU suburban, urban, and rural institutions need to be to be economically viable. In today's changing economic climate, many state institutions are forced to fight for and share resources that they used to be able to obtain more readily. State institutions that are struggling to bring in enough revenue and attract enough students may be susceptible to merging or having to shut their doors altogether. There were multiple institutions in this study that merged with others during the course of the study.

Vital information for future would be to examine what the minimum enrollment size would be for each sub group, rural, urban and suburban to remain economically viable. The merging or closing of institutions, while having an initial negative impact on employees and those dependent on services from the specific college, may in fact be a solution that still supports public higher education as resources can be shifted to more economically stable institutions, likely still convenient to the student.

A recent article at InsideHigherEd predicted that there will be an increase in closures and mergers in the coming years. Woodhouse (2015) noted that closures and mergers could potentially triple by the end of 2017, stating that small colleges are the most vulnerable right now, and larger public institutions are more likely to merge due to their revenue struggles. Individual state policy officials having the knowledge of what the cutoff point would be for their AASCU institutions would potentially give them a smoother transition in the event that colleges consistently dropped below that number forcing a change in the status of the institution.

The third recommendation is to examine what amount of operating revenue at AASCU institutions comes from Pell Grant money. The notion that increased tuition costs that are passed on to the student to bridge the gap from decreases in funding levels is not a new one. This study showed that average tuition and fee increases by percentage, were greater than any percentage increases in state appropriations. If tuition and fees are increasing at a greater rate than state appropriations, the student consumer is responsible for making up that financial gap. Discovering what amount of that tuition and fees hike that contributes to the overall operating revenue comes from Pell would give insight to how many students depend on financial aid via Pell Grant are having to use more of their grant for tuition and fees, which means less of their grant goes to other living expenses. When the purchasing power of the Pell Grant is offset by the increases in costs to the student, the increases in the maximum Pell benefit are not as beneficial as they may seem on paper.

Pell Grants are a primary funding source recipients to use to make higher education more affordable. The primary use of these grants is to pay for the tuition and fees portion of higher education, with the remainder of the grant to go to the use of other expenses for the student recipient. Those expenses, such as housing, food, and transportation remain a costly line item for students. Tuition increases eat up more of the Pell Grant money, offsetting its increase and diminishing the purchasing power of the grant money. Showing the impact of increases in Pell money as part of a college's revenue stream could display how the federal government is merely distributing money to students that goes directly to the bottom line of the institution, rather than making a college education more affordable for those that need it.

## **Closing Remarks**

The cost of access in higher education has the potential to deter students from pursuing the opportunity, taking on larger amounts of debt if they do proceed, and with AASCU institutions it can impact them financially to the point where declining enrollments may ultimately lead to cuts in programs, work furloughs and lay-offs, or even mergers and closing the doors.

As example of the maintenance of effort period's impact on tuition and enrollment, one could look at Alabama regional institution Jacksonville State University. Looking at fall full time enrollment data gathered through IPEDS, in the ARRA and MOE years FY2008 through FY2011, Jacksonville State had an average full time enrollment of 6,350 students. Throughout the ARRA and MOE fiscal years, FY2008-2009 through FY2010-2011, those students paid an average in-state tuition and fees cost of \$4,992. After the conclusion of the MOE within ARRA, from FY2012 through FY2014, the average full time enrollment at Jacksonville State University dropped from 6,350 to 6,058, a difference of 292 full time students. The tuition and fees cost, post ARRA at Jacksonville State from FY2011-2012 through FY2013-2014, increased from an average of \$4,992 to \$6,557, an increase of \$1,655.

There are spikes in tuition and declining enrollments at public regional institutions after the success of the maintenance of effort within the American Recovery and Reinvestment Act. This is a dangerous trend for higher education access and one that should be monitored closely.

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## APPENDIX A:

### KATSINAS' MODIFIED CARNEGIE CLASSIFICATION SYSTEM OF PUBLIC MASTER'S COLLEGES AND UNIVERSITIES

Institutions were classified into the Katsinas Modified Carnegie Classification of Master's Colleges. The institutions were previously used in the 2010 Basic Carnegie Classification of public Master's Colleges (MCU's). The modified classification provides a peer institution classification that places the colleges into a classification demographic with other colleges with a further common makeup regarding geography and size. Dr. Stephen Katsinas and Dr. David, of The University of Alabama Education Policy Center, developed the classification system which is used in the Katsinas Modified Carnegie Classification.

The classification system includes three geographic types and three size types. The geographic types, rural, suburban, and urban are based on the institutions proximity to major metropolitan areas of the country. Those institutions which are located outside of metropolitan areas of at least a population of 500,000 are classified as rural. Urban and suburban institutions are classified due to their location within an area with at least a 500,000 person population. The size component is classified based on the institutions full-year unduplicated headcount per the IPEDS data. Small institutions have a full-year unduplicated headcount of less than 2,500 students. Medium institutions have a full-year unduplicated headcount enrollment between 2,501 and 7,500 students. Large institutions have a full-year unduplicated headcount enrollment greater than 7,501 enrolled students.

APPENDIX B:

AASCU INSTITUTION AND GEOGRAPHIC TYPE

	Unit ID #	Institutions	State	Geo type
1	237525	Marshall University	WV	RL
2	102553	University of Alaska Anchorage	AK	RL
3	102614	University of Alaska Fairbanks	AK	RL
4	100654	Alabama A & M University	AL	RL
5	100724	Alabama State University	AL	RL
6	100830	Auburn University at Montgomery	AL	RL
7	101480	Jacksonville State University	AL	RL
8	102368	Troy University	AL	RL
9	101879	University of North Alabama	AL	RL
10	106458	Arkansas State University-Main Campus	AR	RL
11	107983	Southern Arkansas University Main Campus	AR	RL
12	366711	California State University-San Marcos	CA	RL
13	122755	San Jose State University	CA	RL
14	123572	Sonoma State University	CA	RL
15	126182	Adams State College	CO	RL
16	127741	University of Northern Colorado	CO	RL
17	130776	Western Connecticut State University	CT	RL
18	133650	Florida Agricultural and Mechanical University	FL	RL
19	433660	Florida Gulf Coast University	FL	RL
20	134130	University of Florida	FL	RL
21	138789	Armstrong Atlantic State University	GA	RL
22	139366	Columbus State University	GA	RL
23	139861	Georgia College & State University	GA	RL
24	141264	Valdosta State University	GA	RL
25	154095	University of Northern Iowa	IA	RL
26	142115	Boise State University	ID	RL
27	144892	Eastern Illinois University	IL	RL
28	145813	Illinois State University	IL	RL
29	147703	Northern Illinois University	IL	RL
30	149222	Southern Illinois University Carbondale	IL	RL
31	148654	University of Illinois at Springfield	IL	RL
32	149772	Western Illinois University	IL	RL
33	150136	Ball State University	IN	RL
34	151324	Indiana State University	IN	RL
35	151342	Indiana University-South Bend	IN	RL

36	151306	University of Southern Indiana	IN	RL
37	155025	Emporia State University	KS	RL
38	155061	Fort Hays State University	KS	RL
39	155681	Pittsburg State University	KS	RL
40	156620	Eastern Kentucky University	KY	RL
41	157386	Morehead State University	KY	RL
42	157401	Murray State University	KY	RL
43	157951	Western Kentucky University	KY	RL
44	159647	Louisiana Tech University	LA	RL
45	159717	McNeese State University	LA	RL
46	160038	Northwestern State University of Louisiana	LA	RL
47	160612	Southeastern Louisiana University	LA	RL
48	159993	University of Louisiana Monroe	LA	RL
49	165024	Bridgewater State University	MA	RL
50	165820	Fitchburg State University	MA	RL
51	167987	University of Massachusetts-Dartmouth	MA	RL
52	162584	Frostburg State University	MD	RL
53	163851	Salisbury University	MD	RL
54	161554	University of Southern Maine	ME	RL
55	169248	Central Michigan University	MI	RL
56	171456	Northern Michigan University	MI	RL
57	172051	Saginaw Valley State University	MI	RL
58	174783	Saint Cloud state university	MN	RL
59	173920	Minnesota State University-Mankato	MN	RL
60	175272	Winona State University	MN	RL
61	179566	Missouri State University	MO	RL
62	179557	Southeast Missouri State University	MO	RL
63	176965	University of Central Missouri	MO	RL
64	176372	University of Southern Mississippi	MS	RL
65	197869	Appalachian State University	NC	RL
66	198464	East Carolina University	NC	RL
67	199102	North Carolina A & T State University	NC	RL
68	199148	University of North Carolina at Greensboro	NC	RL
69	199218	University of North Carolina at Wilmington	NC	RL
70	200004	Western Carolina University	NC	RL
71	200280	University of North Dakota	ND	RL
72	183080	Plymouth State University	NH	RL
73	187134	The College of New Jersey	NJ	RL
74	187046	Thomas Edison State College	NJ	RL
75	187897	New Mexico Highlands University	NM	RL
76	190691	CUNY York College	NY	RL

77	196158	SUNY at Fredonia	NY	RL
78	196149	SUNY College at Cortland	NY	RL
79	196176	SUNY College at New Paltz	NY	RL
80	196246	SUNY College at Plattsburgh	NY	RL
81	196200	SUNY College at Potsdam	NY	RL
82	207041	East Central University	OK	RL
83	207263	Northeastern State University	OK	RL
84	210146	Eastern Oregon University	OR	RL
85	210429	Western Oregon University	OR	RL
86	211644	Clarion University of Pennsylvania	PA	RL
87	212115	East Stroudsburg University of Pennsylvania	PA	RL
88	212160	Edinboro University of Pennsylvania	PA	RL
89	213020	Indiana University of Pennsylvania-Main Campus	PA	RL
90	213349	Kutztown University of Pennsylvania	PA	RL
91	214041	Millersville University of Pennsylvania	PA	RL
92	243151	University of Puerto Rico at Cayey	PR	RL
93	217420	Rhode Island College	RI	RL
94	217882	Clemson University	SC	RL
95	218724	Coastal Carolina University	SC	RL
96	220075	East Tennessee State University	TN	RL
97	221847	Tennessee Technological University	TN	RL
98	221740	The University of Tennessee at Chattanooga	TN	RL
99	226091	Lamar University	TX	RL
100	227526	Prairie View A & M University	TX	RL
101	227881	Sam Houston State University	TX	RL
102	228431	Stephen F Austin State University	TX	RL
103	228501	Sul Ross State University	TX	RL
104	228529	Tarleton State University	TX	RL
105	224554	Texas A & M University-Commerce	TX	RL
106	224147	Texas A & M University-Corpus Christi	TX	RL
107	228705	Texas A & M University-Kingsville	TX	RL
108	228802	The University of Texas at Tyler	TX	RL
109	225502	University of Houston-Victoria	TX	RL
110	229814	West Texas A & M University	TX	RL
111	230603	Southern Utah University	UT	RL
112	230737	Utah Valley University	UT	RL
113	232186	George Mason University	VA	RL
114	232423	James Madison University	VA	RL
115	233277	Radford University	VA	RL
116	234827	Central Washington University	WA	RL
117	235097	Eastern Washington University	WA	RL

118	237011	Western Washington University	WA	RL
119	240329	University of Wisconsin-La Crosse	WI	RL
120	240365	University of Wisconsin-Oshkosh	WI	RL
121	240417	University of Wisconsin-Stout	WI	RL
122	240189	University of Wisconsin-Whitewater	WI	RL
123	100812	Athen state university	AL	RM
124	101587	University of West Alabama	AL	RM
125	106467	Arkansas Tech University	AR	RM
126	107071	Henderson State University	AR	RM
127	106412	University of Arkansas at Pine Bluff	AR	RM
128	108092	University of Arkansas-Fort Smith	AR	RM
129	441937	California State University-Channel Islands	CA	RM
130	110495	California State University-Stanislaus	CA	RM
131	115755	Humboldt State University	CA	RM
132	128106	Colorado State University-Pueblo	CO	RM
133	127185	Fort Lewis College	CO	RM
134	127556	Mesa State College	CO	RM
135	138716	Albany State University	GA	RM
136	138983	Augusta State University	GA	RM
137	138956	Augusta Technical College	GA	RM
138	139250	College of Coastal Georgia	GA	RM
139	139463	Dalton State College	GA	RM
140	139719	Fort Valley State University	GA	RM
141	139764	Georgia Southwestern State University	GA	RM
142	140483	Middle Georgia College	GA	RM
143	240754	University of Guam	GU	RM
144	141565	University of Hawaii at Hilo	HI	RM
145	142328	Lewis-Clark State College	ID	RM
146	151388	Indiana University-East	IN	RM
147	151333	Indiana University-Kokomo	IN	RM
148	152266	Purdue University-North Central Campus	IN	RM
149	156082	Washburn University	KS	RM
150	157058	Kentucky State University	KY	RM
151	159009	Grambling State University	LA	RM
152	159382	Louisiana State University at Alexandria	LA	RM
153	159407	Louisiana State University-Eunice	LA	RM
154	159416	Louisiana State University-Shreveport	LA	RM
155	159966	Nicholls State University	LA	RM
156	160649	Southern University at Shreveport	LA	RM
157	161217	University of Maine at Augusta	ME	RM
158	169910	Ferris State University	MI	RM

159	171146	University of Michigan-Flint	MI	RM
160	174233	University of Minnesota-Duluth	MN	RM
161	178341	Missouri Southern State University	MO	RM
162	178387	Missouri Western State University	MO	RM
163	178624	Northwest Missouri State University	MO	RM
164	178615	Truman State University	MO	RM
165	175342	Alcorn State University	MS	RM
166	175616	Delta State University	MS	RM
167	180179	Montana State University	MT	RM
168	198507	Elizabeth City State University	NC	RM
169	199111	University of North Carolina at Asheville	NC	RM
170	199281	University of North Carolina at Pembroke	NC	RM
171	200059	Dickinson State University	ND	RM
172	180948	Chadron State College	NE	RM
173	181215	University of Nebraska at Kearney	NE	RM
174	181783	Wayne State College	NE	RM
175	187967	New Mexico Institute of Mining and Technology	NM	RM
176	188304	Western New Mexico University	NM	RM
177	196042	Farmingdale State College	NY	RM
178	196219	SUNY at Purchase College	NY	RM
179	196237	SUNY College at Old Westbury	NY	RM
180	196033	SUNY College of Agriculture and Technology at Cobleskill	NY	RM
181	196006	SUNY College of Technology at Alfred	NY	RM
182	196112	SUNY Institute of Technology at Utica-Rome	NY	RM
183	205443	Shawnee State University	OH	RM
184	206914	Cameron University	OK	RM
185	207209	Langston University	OK	RM
186	207661	Rogers State University	OK	RM
187	207847	Southeastern Oklahoma State University	OK	RM
188	208646	Portland State University	OR	RM
189	215284	University of Pittsburgh-Johnstown	PA	RM
190	218229	Lander University	SC	RM
191	218733	South Carolina State University	SC	RM
192	218645	University of South Carolina-Aiken	SC	RM
193	219046	Black Hills State University	SD	RM
194	219082	Dakota State University	SD	RM
195	219259	Northern State University	SD	RM
196	219602	Austin Peay State University	TN	RM
197	221768	The University of Tennessee-Martin	TN	RM
198	222831	Angelo State University	TX	RM
199	226833	Midwestern State University	TX	RM

200	226152	Texas A & M International University	TX	RM
201	224545	Texas A & M University-Texarkana	TX	RM
202	227377	The University of Texas at Brownsville	TX	RM
203	229018	The University of Texas of the Permian Basin	TX	RM
204	232566	Longwood University	VA	RM
205	240268	University of Wisconsin-Eau Claire	WI	RM
206	240277	University of Wisconsin-Green Bay	WI	RM
207	240374	University of Wisconsin-Parkside	WI	RM
208	240462	University of Wisconsin-Platteville	WI	RM
209	240480	University of Wisconsin-Stevens Point	WI	RM
210	240426	University of Wisconsin-Superior	WI	RM
211	237330	Concord University	WV	RM
212	237899	West Virginia State University	WV	RM
213	102632	University of Alaska Southeast	AK	RS
214	106485	University of Arkansas at Monticello	AR	RS
215	128391	Western State Colorado University	CO	RS
216	451671	University of South Florida Sarasota-Manatee	FL	RS
217	140960	Savannah State University	GA	RS
218	167288	Massachusetts College of Liberal Arts	MA	RS
219	163338	University of Maryland Eastern Shore	MD	RS
220	161235	University of Maine at Fort Kent	ME	RS
221	161244	University of Maine at Machias	ME	RS
222	161341	University of Maine at Presque Isle	ME	RS
223	173124	Bemidji State University	MN	RS
224	174358	Minnesota State University-Moorhead	MN	RS
225	175078	Southwest Minnesota State University	MN	RS
226	177940	Lincoln University	MO	RS
227	176035	Mississippi University for Women	MS	RS
228	176044	Mississippi Valley State University	MS	RS
229	180522	Montana State University-Northern	MT	RS
230	180416	Montana Tech of the University of Montana	MT	RS
231	180692	The University of Montana-Western	MT	RS
232	198543	Fayetteville State University	NC	RS
233	200226	Mayville State University	ND	RS
234	200253	Minot State University	ND	RS
235	200572	Valley City State University	ND	RS
236	181534	Peru State College	NE	RS
237	183062	Keene State College	NH	RS
238	186876	The Richard Stockton College of New Jersey	NJ	RS
239	187648	Eastern New Mexico University-Main Campus	NM	RS
240	188058	Northern New Mexico College	NM	RS

241	196185	SUNY College at Oneonta	NY	RS
242	201432	Bowling Green State University-Firelands	OH	RS
243	201690	Central State University	OH	RS
244	206613	Wright State University-Lake Campus	OH	RS
245	207306	Northwestern Oklahoma State University	OK	RS
246	207351	Oklahoma Panhandle State University	OK	RS
247	207865	Southwestern Oklahoma State University	OK	RS
248	207722	University of Science and Arts of Oklahoma	OK	RS
249	213613	Lock Haven University	PA	RS
250	213783	Mansfield University of Pennsylvania	PA	RS
251	215266	University of Pittsburgh-Bradford	PA	RS
252	215275	University of Pittsburgh-Greensburg	PA	RS
253	218061	Francis Marion University	SC	RS
254	218654	University of South Carolina-Beaufort	SC	RS
255	233897	The University of Virginia's College at Wise	VA	RS
256	230913	Johnson State College	VT	RS
257	230931	Lyndon State College	VT	RS
258	231165	Vermont Technical College	VT	RS
259	235167	The Evergreen State College	WA	RS
260	237215	Bluefield State College	WV	RS
261	237385	Glenville State College	WV	RS
262	106245	University of Arkansas at Little Rock	AR	SL
263	106704	University of Central Arkansas	AR	SL
264	110422	California Polytechnic State University-San Luis Obispo	CA	SL
265	110538	California State University-Chico	CA	SL
266	110547	California State University-Dominguez Hills	CA	SL
267	110556	California State University-Fresno	CA	SL
268	409698	California State University-Monterey Bay	CA	SL
269	110510	California State University-San Bernardino	CA	SL
270	128771	Central Connecticut State University	CT	SL
271	140164	Kennesaw State University	GA	SL
272	141334	University of West Georgia	GA	SL
273	145336	Governors State University	IL	SL
274	149231	Southern Illinois University Edwardsville	IL	SL
275	152248	Purdue University-Calumet Campus	IN	SL
276	157447	Northern Kentucky University	KY	SL
277	165866	Framingham State University	MA	SL
278	167729	Salem State University	MA	SL
279	162007	Bowie State University	MD	SL
280	164076	Towson University	MD	SL
281	163204	University of Maryland-Baltimore County	MD	SL

282	169798	Eastern Michigan University	MI	SL
283	170082	Grand Valley State University	MI	SL
284	171137	University of Michigan-Dearborn	MI	SL
285	185262	Kean University	NJ	SL
286	185590	Montclair State University	NJ	SL
287	184782	Rowan University	NJ	SL
288	187444	William Paterson University of New Jersey	NJ	SL
289	190549	CUNY Brooklyn College	NY	SL
290	190558	CUNY College of Staten Island	NY	SL
291	190637	CUNY Lehman College	NY	SL
292	190664	CUNY Queens College	NY	SL
293	196121	SUNY College at Brockport	NY	SL
294	196194	SUNY College at Oswego	NY	SL
295	206941	University of Central Oklahoma	OK	SL
296	211158	Bloomsburg University of Pennsylvania	PA	SL
297	211361	California University of Pennsylvania	PA	SL
298	216010	Shippensburg University of Pennsylvania	PA	SL
299	216038	Slippery Rock University of Pennsylvania	PA	SL
300	216764	West Chester University of Pennsylvania	PA	SL
301	220978	Middle Tennessee State University	TN	SL
302	230171	Dixie State College of Utah	UT	SL
303	232982	Old Dominion University	VA	SL
304	129215	Eastern Connecticut State University	CT	SL
305	139311	Clayton State University	GA	SL
306	447689	Georgia Gwinnett College	GA	SL
307	151379	Indiana University-Southeast	IN	SL
308	186201	Ramapo College of New Jersey	NJ	SL
309	186371	Rutgers University-Camden	NJ	SL
310	101709	University of Montevallo	AL	SS
311	168263	Westfield State University	MA	SS
312	196167	SUNY at Geneseo	NY	SS
313	196264	SUNY Empire State College	NY	SS
314	211608	Cheyney University of Pennsylvania	PA	SS
315	377555	University of Washington-Bothell Campus	WA	SS
316	240471	University of Wisconsin-River Falls	WI	SS
317	102094	University of South Alabama	AL	UL
318	110529	California State Polytechnic University-Pomona	CA	UL
319	110486	California State University-Bakersfield	CA	UL
320	110574	California State University-East Bay	CA	UL
321	110565	California State University-Fullerton	CA	UL
322	110583	California State University-Long Beach	CA	UL

323	110592	California State University-Los Angeles	CA	UL
324	110608	California State University-Northridge	CA	UL
325	110617	California State University-Sacramento	CA	UL
326	122409	San Diego State University	CA	UL
327	122597	San Francisco State University	CA	UL
328	126818	Colorado State University	CO	UL
329	127565	Metropolitan State University of Denver	CO	UL
330	130493	Southern Connecticut State University	CT	UL
331	131520	Howard University	DC	UL
332	133951	Florida International University	FL	UL
333	132903	University of Central Florida	FL	UL
334	136172	University of North Florida	FL	UL
335	144005	Chicago State University	IL	UL
336	147776	Northeastern Illinois University	IL	UL
337	151102	Indiana University-Purdue University-Fort Wayne	IN	UL
338	151111	Indiana University-Purdue University-Indianapolis	IN	UL
339	156125	Wichita State University	KS	UL
340	160621	Southern University and A & M College	LA	UL
341	159939	University of New Orleans	LA	UL
342	166638	University of Massachusetts-Boston	MA	UL
343	161873	University of Baltimore	MD	UL
344	178420	University of Missouri-St Louis	MO	UL
345	175856	Jackson State University	MS	UL
346	199157	North Carolina Central University	NC	UL
347	199139	University of North Carolina at Charlotte	NC	UL
348	181394	University of Nebraska at Omaha	NE	UL
349	185129	New Jersey City University	NJ	UL
350	186399	Rutgers University-Newark	NJ	UL
351	190512	CUNY Bernard M Baruch College	NY	UL
352	190567	CUNY City College	NY	UL
353	190594	CUNY Hunter College	NY	UL
354	190600	CUNY John Jay College Criminal Justice	NY	UL
355	196130	SUNY College at Buffalo	NY	UL
356	202134	Cleveland State University	OH	UL
357	209807	Southern Oregon University	OR	UL
358	217864	The Citadel-The Military of South Carolina	SC	UL
359	218964	Winthrop University	SC	UL
360	221838	Tennessee State University	TN	UL
361	221759	The University of Tennessee	TN	UL
362	220862	University of Memphis	TN	UL
363	229179	Texas Woman's University	TX	UL

364	228787	The University of Texas at Dallas	TX	UL
365	229027	The University of Texas at San Antonio	TX	UL
366	227368	The University of Texas-Pan American	TX	UL
367	225414	University of Houston-Clear Lake	TX	UL
368	225432	University of Houston-Downtown	TX	UL
369	232937	Norfolk State University	VA	UL
370	131399	University of the District of Columbia	DC	UL
371	448840	University of South Florida-St. Petersburg	FL	UL
372	151360	Indiana University-Northwest	IN	UL
373	163453	Morgan State University	MD	UL
374	163259	University of Maryland-Baltimore	MD	UL
375	199999	Winston-Salem State University	NC	UL
376	190646	CUNY Medgar Evers College	NY	UL
377	217819	College of Charleston	SC	UL
378	218742	University of South Carolina-Upstate	SC	UL
379	234155	Virginia State University	VA	UL
380	377564	University of Washington-Tacoma Campus	WA	UL
381	160630	Southern University at New Orleans	LA	US
382	168430	Worcester State University	MA	US
383	162283	Coppin State University	MD	US
384	174020	Metropolitan State University	MN	US
385	177551	Harris-Stowe State University	MO	US
386	441900	Nevada State College	NV	US
387	229063	Texas Southern University	TX	US
388	230782	Weber State University	UT	US
389	243665	University of the Virgin Islands	VI	US
390	171571	Oakland University	MI	US