

**COLLEGE FUNDING IN CONTEXT:  
UNDERSTANDING THE DIFFERENCE  
IN HIGHER EDUCATION APPROPRIATIONS  
ACROSS THE STATES**

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David Weerts  
Thomas Sanford  
Leah Reinert

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## **ABOUT THE AUTHORS**

DAVID J. WEERTS is Associate Professor and Director of the Jandris Center for Innovative Higher Education in the Department of Organizational Leadership, Policy, and Development at the University of Minnesota-Twin Cities. Weerts' teaching and scholarly interests include state financing of higher education, university-community engagement, and alumni giving, advocacy, and volunteerism. His research on these topics appears in leading higher education journals including *The Journal of Higher Education*, *Research in Higher Education*, and *the Review of Higher Education*. Weerts has eight years of experience in university advancement, and has held major gifts officer positions at the University of Wisconsin Foundation and University of Minnesota Foundation. He holds a Ph.D in higher education from the University of Wisconsin-Madison.

THOMAS SANFORD is an Affiliate Researcher with the Jandris Center for Innovative Higher Education in the Department of Organizational Leadership, Policy, and Development at the University of Minnesota-Twin Cities. Additionally, Sanford serves as an adjunct faculty member at Vanderbilt University and St. Cloud State University. Sanford's research and teaching interests include quantitative methodology, higher education finance, and organizational theory. His research has appeared in several leading higher education journals and has been highlighted in the *Chronicle of Higher Education* and *Inside Higher Education*. Thomas earned a Ph.D. in higher education for the University of Minnesota.

LEAH REINERT is a doctoral student in higher education and a graduate research assistant for the Department of Organizational Leadership, Policy, and Development at the University of Minnesota. Additionally, Leah has worked as a graduate research assistant for the Midwestern Higher Education Compact since September 2011. Her research interests include faculty issues, gender equity, diversity in higher education, higher education history, and pedagogical strategies. Leah earned her B.S. in University Studies and M.S.Ed. in Higher Education Administration from Southern Illinois University Carbondale.

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# TABLE OF CONTENTS

KEY FINDINGS	1
INTRODUCTION	5
BACKGROUND: THREE TYPES OF FACTORS INFLUENCE HIGHER EDUCATION FUNDING	6
FINDINGS FROM THE QUANTITATIVE ANALYSIS	8
CASE STUDIES	9
<i>A. Minnesota</i>	
<i>B. Pennsylvania</i>	
<i>C. Louisiana</i>	
<i>D. Colorado</i>	
FINDINGS FROM THE CASE STUDIES	20
CONCLUSION	22
METHODOLOGICAL APPENDIX	23
ENDNOTES	35

# KEY FINDINGS FROM COLLEGE FUNDING IN CONTEXT

## BACKGROUND

Access to a post-secondary education is a vital aspect of the American dream, allowing for equality of opportunity and a stable pathway to the middle class for all who are willing to work for it regardless of their background or socioeconomic status. Higher education not only improves the prospects for the employment and earnings of individuals, but has benefits that feed back into communities and society as a whole, including increases in civic participation and productivity, and preparedness for success in the global economy. Our shared commitment to these values is reflected in the growing numbers of Americans who are turning to higher education as a means to enhance their lives and in the increasing diversity of enrollment at colleges and universities across the country. But even as the need for some post-secondary training has become more important to our shared prosperity, states have reduced their investment in higher education.

State appropriations have historically been the most important source of funding for higher education, but over the past two decades that support has waned. Between 1990 and 2010, real appropriations per full time equivalent student (FTE) declined by 26.1 percent, putting funding today at its lowest level since 1990.<sup>1</sup> As real state spending per full time student decreased, institutions made up the difference by raising the price of attendance, shifting costs that were once a social investment onto students and their families instead. Over the same 20 year period, tuition costs have increased by 112 percent at 4-year public universities and by 71 percent at 2-year colleges.<sup>2</sup> In many cases states attempted to mitigate the burgeoning cost of attendance by expanding financial aid programs, but the increasing reliance on merit-based aid means that assistance often fails to reach those low-income households who need it most. As tuition costs grew by 112 percent between 1990 and 2010, the median household income stagnated, growing by just 2.1 percent.<sup>3</sup> With rising tuition and stagnating incomes, students and their families are taking on record levels of debt in order to pay for the opportunity to attend a college or university. In 2011, the total student debt held by American households outstripped credit card debt for the first time, a burden of more than \$1 trillion.<sup>4</sup>

Recessions put even more pressure on the higher education system by causing a shortfall in state revenues that tightens budgets and makes state investments more tenuous. These budgetary pressures can affect appropriations for years after the recession ends, and over the past generation the length of time that it has taken higher education funding to return to normalcy following a recession has increased.<sup>5</sup> In 2010 – three years after the onset of the Great Recession

—state appropriations for higher education were still 5 percent lower than their levels before the recession began, even though enrollment had jumped more than 19 percent due to the combination of young people entering higher education and unemployed workers seeking to build new skills.<sup>6</sup> This state disinvestment slows college completion, increases household debt, and undermines the social benefits of an educated citizenry that can be critical to a recovering state economy that depends on educated workers.

Yet some states have managed to retain their commitment to higher education despite three recessions over the past two decades and increasing pressures on state budgets from competing programs with growing costs. This report investigates the circumstances behind those budgetary decisions, matching performance in higher education appropriations to economic, political, and cultural factors that influence the level of state funding. We distinguish key trends across states that result in reductions to appropriations, providing a ranking of states by their funding performance after accounting for the most significant obstacles to budgeting for higher education. In addition, case studies of four states – Minnesota, Pennsylvania, Louisiana, and Colorado – look beyond the broad commonalities to understand decisions about state appropriations in context. The results of this study identify the most important considerations for policy makers in determining state appropriations and provide insights for advocates aiming to restore higher education as a top priority in state budgets.

## KEY FINDINGS

We analyzed patterns in state appropriations for higher education across all 50 states for the 20 year period from 1988 to 2009, looking at a broad array of factors that influence budgetary decisions. This study evaluates the importance of those factors, grouping them into three categories of influence on the outcome of state funding for higher education: economic, political, and cultural.

- Economic factors look at the constraints of the state budget due to limited resources, including changes in revenues, demographics, and competing state needs. Since higher education funding is discretionary, public colleges and universities often compete with other state priorities or are crowded out by the needs of programs that are mandated by state law.
- Political factors are based on expressions of power from the government, citizenry, or interest groups acting in the state.

- Cultural Factors are based in a state's history of religious, social, and ethnic values and its views toward supporting education as expressed in precedents or symbolic actions. These considerations are bound in the state's historical development of industry, civic participation, and the higher education system.

presidential voting data spans four-year periods, our results suggest that widespread economic struggles during these blocks of time may relate to voter participation in national elections and negatively impact state higher education budgets.

**FACTORS EXAMINED IN THE QUANTITATIVE ANALYSIS OF STATE SUPPORT FOR HIGHER EDUCATION**  
(ADAPTED FROM WEERTS, 2002, WEERTS & RONCA, 2007)

Economic Perspective	Political Perspective	Cultural Perspective
<i>State economic health</i> <ul style="list-style-type: none"> <li>• Unemployment rate</li> <li>• Availability of tax revenue</li> <li>• Per capita income</li> </ul> <i>Demographics: age, race, ethnicity</i> <ul style="list-style-type: none"> <li>• State population</li> <li>• Population of college-age (18-24) and residents over 65.</li> <li>• Population by race and ethnicity</li> </ul>	<i>State political environment</i> <ul style="list-style-type: none"> <li>• Gubernatorial influences (party affiliation)</li> <li>• Legislative influences (party affiliation)</li> </ul> <i>State spending priorities</i> <ul style="list-style-type: none"> <li>• K-12 education</li> <li>• Corrections</li> <li>• Health care</li> </ul>	<i>State civic participation</i> <ul style="list-style-type: none"> <li>• Voting participation in presidential and congressional elections</li> </ul> <i>Higher education sector profile</i> <ul style="list-style-type: none"> <li>• Composition of higher education system (i.e., proportion of private and public enrollment, etc)</li> </ul> <i>Level of educational completion</i> <ul style="list-style-type: none"> <li>• High school and college completion rates</li> </ul>

Based on the examination of the above economic, political, and cultural variables in our analysis, we found that:

**1) Strong, Diverse Economies Yield Better Funding Opportunities.**

Our model shows that the overall strength of the economy is one of the most important factors related to funding decisions for higher education, specifically identifying a relationship between high unemployment rates and FTE state appropriations that appears as a 7 percentage point decline in funding for every 1 percentage point increase in unemployment. The result suggests that better funding opportunities are available to states with stronger economies. Such states are likely to have a more diversified representation of industrial sectors and a greater ability to sustain investment in higher education. Meanwhile, states without these attributes may struggle to maintain support for higher education.

**2) Demographic Divides Influence Policy.**

Our analysis finds that for every 10 percentage point increase in the proportion of a state's population that is 65 or older, there is an almost 7 percent reduction in FTE state appropriations for higher education. This finding may foreshadow long-term strains for higher education related to population trends and the resulting competition over state dollars. Colleges and universities located in states that are retiree destinations may be especially vulnerable as the needs of aging populations compete for scarce resources.

**3) Culture Matters, But It Can Be Overshadowed By Economic Turbulence.**

Our research found a negative association between voting in presidential elections and state funding for higher education. Specifically, for every 10 percentage point increase in presidential voter participation over the past 20 years, there is a 1.5 percent decrease in FTE state appropriations. Since

**4) The History Of Support Sets The Standard For Current Support.**

Higher education budgets are largely incremental and reflect long standing values, patterns, and policy frameworks that set the standard for funding for state institutions since their inception. States that have historically funded their institutions at low rates are unlikely to catch up soon as they depend on the small, cumulative gains that are characteristic of budget decisions. Meanwhile, states that have historically supported higher education at a high rate may be more likely to maintain this established range of support for their institutions, unless they meet with significant countervailing budget pressures.

**CASE STUDIES**

The findings from our initial analysis allow us to identify which states provided higher and lower than expected support for higher education for the years between 1998 and 2009, after controlling for unemployment rates, the proportion of residents over 65, and voting behaviors. From these results we selected four states for case study in order to look more deeply into the specific context of allocating state funding for higher education. The four states we studied – Minnesota, Pennsylvania, Louisiana, and Colorado – present distinct approaches to higher education funding based in each state's unique history, geography, economy, culture, and politics. Although these approaches are deeply contextual, they do provide some common themes that cross state borders and offer general lessons for future funding decisions. These lessons include:

**1) Linking Higher Education Appropriations To Economic Development Can Create A Virtuous Cycle.**

The inextricable link between a state's economic performance and its higher education funding reveals a pathway for mutual reinforcement by tying appropriations to economic

development. Historically, both Minnesota and Pennsylvania developed a robust system of public and private higher education in relationship to sustaining a diversified economy with demand for highly-skilled labor. Louisiana and Colorado, in contrast, illustrate that states rich in natural resources may have difficulty creating an appetite for higher education among elected officials and the public at large. Louisiana's strong oil industry has slowed its transition to a knowledge-based economy since generations of Louisianans have been successful in making a living without a college degree. But while the social and economic challenges currently faced by Louisiana divert funds from educational investments and toward other priorities like health and incarceration, investing in educational attainment can also be viewed as spending toward the amelioration of persistent social problems that strain state budgets and economic performance. The Colorado case study revealed that recent economic development initiatives in the state have focused on tax breaks for the mining industry, rather than investing in human capital via higher education. A strategy that highlights the ability of education to open possibilities for the future economy, where citizens value access, and where education can mitigate the costs of other state programs like incarceration or poverty alleviation, is important for framing a discussion of state appropriations.

## *2) Governorships Matter.*

While partisan differences do not explain deviations in levels of higher education investment among the four states' legislatures, gubernatorial leadership may set the tone for higher education finance policy in a state. In these four cases the value of access appears to be the most salient issue for Democratic governors while performance and efficiency are most prominent for Republican governors. In Minnesota, for example, governors have focused on maintaining funding levels that offset or diminish the effects of increased tuition. In 1983, Democratic Governor Rudy Perpich created the Design for Shared Responsibility which ushered in the high-tuition, high aid model that has persisted to the present. In 2010, Democratic Governor Mark Dayton's revised budget reduced cuts to less than half of what was proposed by the Minnesota legislature. Republican governors in Louisiana and Pennsylvania, in contrast, rely on market-based strategies to address higher education costs and benefits. Louisiana Governor Bobby Jindal's education policy focuses on giving institutions the ability to raise tuition and be more competitive, while Pennsylvania Governor Tom Corbett's administration failed to pass a 50 percent cut to higher education funding and has since focused primarily on entrepreneurship strategies for institutional success.

## *3) High Tuition/High Aid Models Have Not Provided Consistent Support or Maintained Inclusive Access to Higher Education Over Time.*

Each of the four states studied here has made efforts to mitigate the effects of rising tuition costs or inferior access to higher education through offering need- or merit-based financial aid, with mixed results. Both Minnesota and Penn-

sylvania adopted a high tuition-high aid model, with the emphasis on need-based programs to bolster access. The Pennsylvania State Grant Program is considered by many funding experts to be one of the best in the country, yet maintaining adequate funding levels is difficult in the state where tuition is high and rising and graduates of Pennsylvania colleges and universities bear the second highest debt load in the country. Colorado's voucher-based COF and Louisiana's merit-based aid program, TOPS, both aim to improve access to higher education, but fail to reach those low-income students who need it most. In these states achievement gaps by income and race persist and are exacerbated by financial aid programs that do not meet the needs of the population.

## *4) Direct And Personal Connections Between Lawmakers And Institutions Raise The Priority Level Of Higher Education Funding.*

Institutions of higher education in Pennsylvania and Colorado have unique relationships with the policymakers involved in determining state appropriations for the sector. In Pennsylvania, institutional autonomy in advocating for support has contributed to a larger overall level of appropriations as the direct interaction between politicians and school leads to better funding opportunities. The case of Colorado shows the converse of that relationship. In Colorado, which imports many of its college-educated workers, policymakers may lack a direct connection with local institutions leading them to prioritize other concerns – like tax relief – above higher education funding. These examples point toward a strategy of institutional representatives reaching out to politicians individually in order to facilitate familiarity, loyalty, and trust in the public higher education system among the policymakers who apportion state budgets.

## *5) Anti-Tax And Anti-Government Political Sentiment Does Not Sufficiently Account For The Shared Benefits Of Education As A Public Good.*

Proponents of low taxes and limited government suggest that reducing funding for vital public services like higher education will result in increased efficiencies. But market-based programs like Colorado's COF have failed to meet their aims, leading to lower quality and declining access to post-secondary schooling. Anti-tax arguments that frame state funding for higher education as simply a cost fail to incorporate the widespread benefits of higher education to households, businesses, communities, and the state overall. This framing omits the positive returns that should be incorporated into any cost/benefit decision-making rubric. While higher education was once viewed as the key to individual prosperity, strong communities, and strong economies, this is no longer a widely held view. Given the tendency of anti-tax sentiment to disregard the important advantages of investment in higher education, institutions and advocates should emphasize the positive externalities of higher education and its ability to address community or state needs as a way to earn support among legislators, governors, and the general public.

## CONCLUSION

Over the past two decades, declines in state appropriations for higher education have resulted in increased costs, high student debts, and more barriers to securing a stable American middle class. This study provides focus for stakeholders and advocates distinguishing the goals, priorities, and obstacles that result in inadequate funding for higher education. Our results show a range of economic, political, and cultural factors that can be leveraged for greater support. While there is no single strategy for procuring funding for higher education, drawing together the lessons from our research presents a way forward, toward putting higher education back at the top of state agendas.

## ENDNOTES

1. Quintero, J. (March, 2012). The Great Cost Shift. How higher education cuts undermine the future middle class. Demos: New York, 15.
2. Ibid, 21.
3. Ibid, 26.
4. Mike Kantrowitz, Finaid.org.
5. Quintero, 18.
6. Ibid, 20.

## CROSS CASE ANALYSIS

Historically higher than expected support, under threat (1988-2008)		Historically lower than expected support, (1988-2008)	
MINNESOTA	PENNSYLVANIA	LOUISIANA	COLORADO
<p>Economy is stable, diversified with a mix of high and low skilled jobs</p> <p>Long history of commitment to higher education access (institution within every 30 miles)</p> <p>Large sector of public and private institutions.</p> <p>High level of educational attainment among citizens.</p> <p>Strong, need-based financial aid program for eligible students (Design for Shared Responsibility Framework)</p> <p><i>High Tuition, High Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>• FTE support dropped lower than expected in last decade (2003-2008)</li> <li>• Aid increasing, but not as fast as college costs</li> <li>• System may be overbuilt in relation to state capacity and needs</li> <li>• Gubernatorial authority focused on limiting the role of the state</li> </ul>	<p>Economy is large; diverse industries with a mix of high and low skilled jobs</p> <p>Large sector of public and private institutions with minimal oversight</p> <p>Average level of educational attainment among citizens.</p> <p>Robust, need-based financial aid program for eligible students (PA State Grant Program)</p> <p><i>High Tuition, High but Inadequate Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>• FTE support dropped lower than expected in last decade (2003-2008)</li> <li>• Students carry among the largest debt-loads in the country</li> <li>• Aid struggling to keep pace with college costs</li> <li>• System may be overbuilt in relation to state capacity and needs.</li> </ul>	<p>Economy largely reliant on non-skilled labor (natural resources)</p> <p>Small to modest sector of public and private higher education institutions.</p> <p>Low level of educational attainment among citizens</p> <p>High degree of competing social and economic priorities (incarceration, unemployment, government assistance)</p> <p>Financial aid primarily funded via merit-based program (TOPS Scholarship Program)</p> <p><i>Low Tuition, High Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>• FTE support has risen to higher than expected (2005-2008) due to economic/demographic impacts of Hurricane Katrina</li> <li>• Workforce projections not commensurate with attainment goals</li> <li>• Persistent social and economic problems inhibit educational investment</li> <li>• Tuition increasing, merit program may not achieve desired increases in attainment (disproportionately benefits those most likely to attend college).</li> <li>• Gubernatorial authority focused on higher education performance criteria for funding</li> </ul>	<p>Economy is stable, diversified with a mix of high and low skilled jobs</p> <p>Small sector of public and private higher education</p> <p>“Colorado Paradox:” High levels of attainment among older population, lower among younger population (import educated workers)</p> <p>Anti-tax culture evident by passage of Taxpayer Bill of Rights (TABOR), defeat of Colorado Promise Scholarships</p> <p>College Opportunity Fund (COF) provides vouchers for students attending higher education</p> <p><i>Moderate Tuition, Moderate Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>• COF has not kept up with tuition costs</li> <li>• Tuition rising rapidly under institutional financial accountability plans</li> <li>• May become a High tuition/moderate aid state as funding diminishes and tuition increases.</li> <li>• Public goods aspects of higher education funding fail to sway political decisions</li> </ul>

# INTRODUCTION

States have a fundamental interest in supporting higher education because the investment provides widespread returns. Individuals, communities, states, and society as a whole all reap the benefits of a sound educational system that trains skilled workers and exposes citizens to a broad range of ideas. But while some states have continually prioritized higher education and maintained adequate funding for a high quality and accessible system, other states have allowed higher education to wane with declining appropriations that threaten the capacity for high-quality services or put post-secondary education out of reach of many prospective students. This report explores the factors that influence decisions about state appropriations for higher education, including economic, political, and cultural motivations that impact the level of state support. The first section of the paper applies a quantitative model that identifies the factors that significantly influenced state appropriations between 1988 and 2009 for all states in the US. The second section of the paper augments the quantitative analysis with an in-depth look at four states that provide either higher or lower than expected support based on those factors identified as critical by our quantitative model. These case studies examine each state's history of funding decisions and their outcomes to identify common elements that shape appropriations across state borders. Together, the quantitative and qualitative analyses offer a set of lessons for policymakers and advocates who want to understand the factors that underlie decisions about state funding for higher education and to distinguish the goals, priorities, and obstacles to constructive policy solutions.

While state spending on higher education increased in absolute terms by \$10.5 billion from 1990 to 2010, it did not keep up with need as the cost of services escalated and a growing population of students entered the system. The amount states spent on higher education per full time equivalent student enrollment (FTE) actually declined by 26.1 percent over the period.<sup>1</sup> The most recent data reveals that total state support for higher education dropped 7.6 percent in fiscal year 2011-2012, with overall state spending dipping 4 percent lower than fiscal year 2007 – before budgets contracted in response to the Great Recession. Today, twenty-nine states are spending less on higher education than they did five years ago.<sup>2</sup>

The negative consequences of diminishing state support for higher education are well documented, and include rising tuition, cuts in financial aid, declines in faculty salaries,<sup>3</sup> enrollment freezes, cuts in course sections, and faculty layoffs.<sup>4</sup> Unfortunately, these adverse effects come at a time when the demand for well-prepared higher education graduates is only increasing. Today, the current population of young adults in the U.S. is larger, more racially and ethnically diverse, and more likely to enroll in college compared to the generation before them.<sup>5</sup> In addition, millions of students are flocking to community colleges and public universities to pick up new skills while waiting out a sluggish economy. Increased college ac-

cess across race, gender, and class is often cited as evidence of the opportunity for achievement and social mobility that is essential to ensure a flourishing democracy.<sup>6</sup> But with rising tuition costs and declining need-based financial aid, many states are seeing racial, ethnic, or income-based achievement gaps persist or even expand.<sup>7</sup> The current landscape of higher education financing puts college out of reach for many Americans at a time when the country most needs a diverse, educated citizenry prepared for work and civic participation.

A lack of consensus on the causes and solutions to the funding problem complicates the policy landscape. A range of stakeholders—students, families, policymakers, and institutional leaders—hold competing views about who bears responsibility for ensuring high quality, affordable, and accessible higher education for future generations. Many state officials suggest that institutions should focus their efforts on cutting costs, holding down tuition, and improving student learning.<sup>8</sup> Their emphasis reflects a widening view among many Americans who are increasingly skeptical about whether colleges and universities are doing all that they can to keep tuition affordable and control costs.<sup>9</sup> But tuition increases are associated with declining state support,<sup>10</sup> undermining access to higher education and thwarting the primary challenge perceived by institutional leaders: to grow revenue while maintaining educational quality and equitable admissions practices.<sup>11</sup>

State appropriations have been the most important base for sustaining public colleges and universities throughout U.S. history, and are critical to the future of public higher education.<sup>12</sup> Our research sheds light on the complex array of factors that explain variations in state investment in higher education across the U.S. over the past twenty years. We explain why some states are more likely to support higher education than others, expose the barriers to sustaining higher education as a state budget priority, and identify the opportunities to raise the profile of higher education on state agendas. Our research shows that while economic and demographic pressures significantly constrain budgeting decisions, states with strong gubernatorial support for higher education or robust connections between institutions, their advocates, and policy makers can raise the priority level of state appropriations for higher education. In addition, our qualitative research shows that the contextualization of the costs of post-secondary education alongside its shared, public benefits for economic development and civic participation is critical to maintaining adequate funding in the face of these fiscal constraints. Finally, we find that while high tuition/high aid models of funding allow some states to maintain a high level of overall funding, this type of allocation may fail to direct resources to the areas of greatest need, resulting in unequal access to higher education in the state. These findings offer a way forward for ensuring high-quality and accessible higher education through state appropriations by leveraging those factors most likely to impact budgetary decisions.

# BACKGROUND: THREE TYPES OF FACTORS INFLUENCE HIGHER EDUCATION FUNDING

Over the past twenty years, studies have found a dizzying array of economic, demographic, governance, and political factors associated with higher education budgeting decisions throughout the 50 states.<sup>13</sup> We divide these factors into three distinct but overlapping categories that allow for systematic evaluation of the mechanisms at work behind higher education funding decisions. Each category represents differing influences on the policy-making process: economic, political, and cultural.<sup>14</sup> Factors that fall into the economic category are grounded in the notion that higher education budgets stem from an analysis of state needs, the optimal use of funds, and the limited availability of resources. Political factors relate to power relationships that appear in budget negotiations, including factors at the gubernatorial and legislative levels, and among competing interest groups. Finally, the cultural frame suggests that state funding for higher education is the result of regional history, values, precedents, or symbolic actions that either thwart or facilitate funding opportunities for public colleges and universities. The following sections take a deeper look at each of these categories.

toward an older population, meeting the needs of older residents may crowd out appropriations for higher education.<sup>16</sup> Finally, accounting for the contribution of institutions of higher education toward the state economy – including the potential for an increased tax base and the development of skill-based industries – makes economic rationales a key part of the reasoning for maintaining or increasing the level of funding.<sup>17</sup>

## 2) POLITICAL FACTORS: Higher education funding decisions are based on expressions of power

The dynamics of political interaction at the gubernatorial, legislative, and interest group levels are critically important to understanding differences in levels of support for colleges and universities. The scope of independent gubernatorial power over funding decisions, or the need for legislative agreement over gubernatorial accords, has been shown to impact higher education appropriations in the past.<sup>18</sup> The degree to which political affiliation and party competition characterize such decisions places some emphasis on those aspects of political organization as well.<sup>19</sup> Beyond lawmakers, higher education governing boards, interest groups, and

professional organizations all lobby for priorities that may support or undermine adequate funding levels for post-secondary education in the state.<sup>20</sup> Finally, civic participation – evinced by rates of voter turnout or the existence of citizen assemblies – provides an avenue for expressions of

**TABLE 1. FACTORS EXAMINED IN THE QUANTITATIVE ANALYSIS OF STATE SUPPORT FOR HIGHER EDUCATION (ADAPTED FROM WEERTS, 2002, WEERTS & RONCA, 2007)**

Economic Perspective	Political Perspective	Cultural Perspective
<p><i>State economic health</i></p> <ul style="list-style-type: none"> <li>• Unemployment rate</li> <li>• Availability of tax revenue</li> <li>• Per capita income</li> </ul> <p><i>Demographics: age, race, ethnicity</i></p> <ul style="list-style-type: none"> <li>• State population</li> <li>• Population of college-age (18-24) and residents over 65.</li> <li>• Population by race and ethnicity</li> </ul>	<p><i>State political environment</i></p> <ul style="list-style-type: none"> <li>• Gubernatorial influences (party affiliation)</li> <li>• Legislative influences (party affiliation)</li> </ul> <p><i>State spending priorities</i></p> <ul style="list-style-type: none"> <li>• K-12 education</li> <li>• Corrections</li> <li>• Health care</li> </ul>	<p><i>State civic participation</i></p> <ul style="list-style-type: none"> <li>• Voting participation in presidential and congressional elections</li> </ul> <p><i>Higher education sector profile</i></p> <ul style="list-style-type: none"> <li>• Composition of higher education system (i.e., proportion of private and public enrollment, etc)</li> </ul> <p><i>Level of educational completion</i></p> <ul style="list-style-type: none"> <li>• High school and college completion rates</li> </ul>

## 1) ECONOMIC FACTORS: Higher education funding decisions are guided by an evaluation of optimal choices

State leaders are bound by the availability of revenue, the demographic composition of the population, and competing state needs, making levels of higher education funding based, in part, on choices about how to distribute limited resources. For example, as state revenues fall during a recession, discretionary funding for public colleges and universities may be cut to accommodate mandatory spending on other priorities.<sup>15</sup> Similarly, in states where demographics are skewed

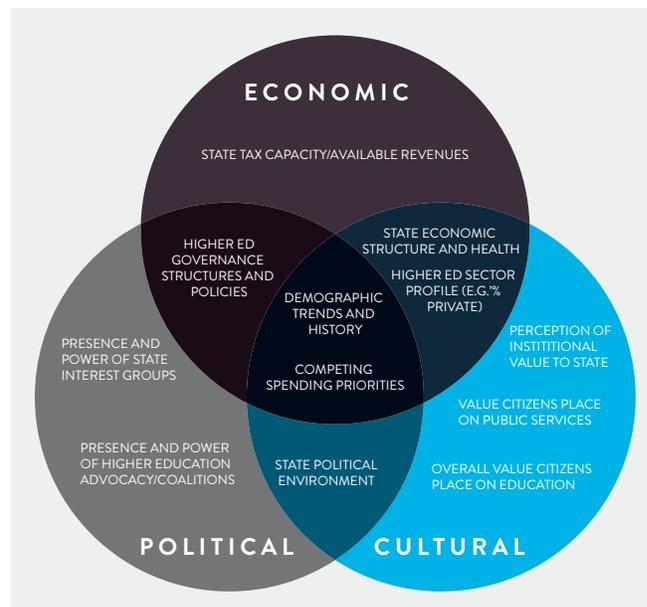
power from individuals outside of the field of professional politics, and studies show that states with more active citizens are likely to have higher appropriations for colleges and universities.<sup>21</sup> In some states, coalitions between campuses, interest groups, community and business leaders, and citizens have effectively provided colleges and universities with a base of power to garner state support for higher education.<sup>22</sup> These political relationships can help keep higher education – or certain campuses – on a state’s agenda.

**3) CULTURAL FACTORS:** Higher education funding decisions are based on regional values, history, and symbols

A state's history of support for higher education sets a precedent for current levels of support, as budgets change incrementally. As a result, institutions that have been historically well-funded are likely to stay ahead compared to other states that started with a smaller funding base and now are trying to catch up. Cultural factors help explain the historic commitment to public higher education in a state, contextualizing funding levels within long-standing values, precedents, or symbolic actions that may thwart or facilitate funding opportunities for public colleges and universities in either the past or the present. These considerations include a range of factors, such as attitudes toward public agencies and the development of and reliance on public education in the state. For instance, liberal states have shown a tendency for higher appropriations for colleges and universities in the past, suggesting that strongly progressive populations may be more likely to support public higher education than more conservative ones.<sup>23</sup> A state with a strong private system of higher education or one whose economic development centered on industries that did not require a college degree to enter the workforce may be slower to invest in higher education.<sup>24, 25</sup> But generalizing about cultural influences is complicated by the concurrence of oppositional factors and the existence of elements that are difficult to measure. Despite

these difficulties cultural factors are an important determinant of outcomes for explaining the position of higher education appropriations as a budget priority.

**FIGURE 1. THREE CATEGORIES OF FACTORS INFLUENCING THE STATE CONTEXT FOR HIGHER EDUCATION BUDGET DECISIONS**



**TABLE 2. IS HIGHER EDUCATION A BUDGET PRIORITY IN YOUR STATE? ATTRIBUTES OF STATES THAT VARY IN THEIR LEVEL OF SUPPORT FOR HIGHER EDUCATION**

	States are <b>MORE</b> likely to fund higher education if:	States are <b>LESS</b> likely to fund higher education if:
<b>State economic health</b>	<ul style="list-style-type: none"> <li>Economy is stable, diversified and subject to less intense fluctuations</li> <li>Low unemployment rate</li> <li>State economy relies on highly educated citizenry (knowledge economy)</li> </ul>	<ul style="list-style-type: none"> <li>Economy is unstable, less diverse, and subject to greater fluctuations</li> <li>High unemployment rate</li> <li>State economy less reliant on educated workers (e.g., manufacturing, tourism)</li> </ul>
<b>Demographic history and trends</b>	<ul style="list-style-type: none"> <li>Youthful populous: significant numbers of traditionally-aged college students (age 18-24)</li> </ul>	<ul style="list-style-type: none"> <li>Older populous: Large population of residents over 65 years old</li> </ul>
<b>State political environment</b>	<ul style="list-style-type: none"> <li>Civically engaged citizenry, professionalized legislature</li> </ul>	<ul style="list-style-type: none"> <li>Politically contentious, anti-tax sentiment, multi-party political environment</li> </ul>
<b>State spending priorities</b>	<ul style="list-style-type: none"> <li>Higher tax state: Higher overall spending on state services including higher education</li> </ul>	<ul style="list-style-type: none"> <li>Significant spending on state services at the expense of higher education (corrections, health care)</li> </ul>
<b>Higher education governance structure</b>	<ul style="list-style-type: none"> <li>Mixed results: Consolidated boards may increase the total appropriations for higher education, while centralized, consolidated structures may better protect funding for particular flagship campuses.</li> </ul>	<ul style="list-style-type: none"> <li>Mixed results: Consolidated boards may increase the total appropriations for higher education, while centralized, consolidated structures may better protect funding for particular flagship campuses.</li> </ul>
<b>State culture</b>	<ul style="list-style-type: none"> <li>Social, ethnic, and religious values place education as a high priority.</li> <li>Overall public confidence in state-sponsored services</li> </ul>	<ul style="list-style-type: none"> <li>Education devalued due to strength of non-knowledge economy industries.</li> <li>Lack of public confidence in state-sponsored services</li> </ul>
<b>Higher education system or institutional factors</b>	<ul style="list-style-type: none"> <li>Public higher education historically important to the development of the state</li> <li>Public colleges perceived as being engaged in priorities most salient to the state</li> <li>Strong higher education coalitions/advocacy organizations</li> </ul>	<ul style="list-style-type: none"> <li>History of strong private colleges in state that thwart the development of public colleges</li> <li>Public colleges perceived as disengaged from state interests/priorities</li> <li>Lack of formal, well organized advocates for higher education</li> </ul>

# FINDINGS

The quantitative portion of this study relies on regression analysis to understand the variables associated with differences in levels of state appropriations for higher education between 1988 and 2009, focusing on the effect of a range of economic, political, and cultural variables on state appropriations per FTE student enrollment. The appendix at the end of this report provides complete information about data sources, data collection procedures, the choice of funding per FTE as the measure of appropriations, the analytic technique, and the corresponding results. Table 1 illustrates the categorization of the economic, political, and cultural quantitative variables included in the estimation. For more information on the variables, model estimation, and significance testing please see the appendix.

## *1) Strong, diverse economies yield better funding opportunities.*

Our model shows that the overall strength of the economy is one of the most important factors related to funding decisions for higher education, specifically identifying a relationship between high unemployment rates and FTE appropriation that appears as a 7 percentage point decline in funding for every 1 percentage point increase in unemployment. The result suggests that better funding opportunities are available to states with stronger economies. Such states are likely to have a more diversified representation of industrial sectors and a greater ability to sustain investment in higher education. Meanwhile, states without these attributes may struggle to maintain support for higher education.

## *2) Demographic divides influence policy.*

Our analysis finds that for every 10 percentage point increase in the proportion of a state's population that is 65 or older, there is an almost 7 percent reduction in FTE state appropriations for higher education. This finding may foreshadow long-term strains for higher education related to population trends and the resulting competition over state dollars. Colleges and universities located in states that are retiree destinations may be especially vulnerable as the needs of aging populations compete for scarce resources.

## *3) Culture matters, but it can be overshadowed by economic turbulence.*

Our research found a negative association between voting in presidential elections and state funding for higher education. Specifically, for every 10 percentage point increase in presidential voter participation over the past 20 years, there is a 1.5 percent decrease in FTE state appropriations. Since presidential voting data spans four-year periods, our results suggest that widespread economic

struggles during these blocks of time may relate to voter participation in national elections and negatively impact state higher education budgets.

## *4) The history of support sets the standard for current support.*

Higher education budgets are largely incremental and reflect long standing values, patterns, and policy frameworks that set the standard for funding for state institutions since their inception. States that have historically funded their institutions at low rates are unlikely to catch up soon as they depend on the small, cumulative gains that are characteristic of budget decisions. Meanwhile, states that have historically supported higher education at a high rate may be more likely to maintain this established range of support for their institutions, unless they meet with significant countervailing budget pressures.

The quantitative portion of our analysis shows the common barriers that may prevent investment in higher education across states. These barriers relate to the capacity for investment, competing priorities such as special populations pulling funding away from higher education, and historical support. But while all states can be broadly characterized under these results, the differences between state contexts offer equally important insights into the pattern of higher education funding over time. Our qualitative analysis complements the quantitative model by revealing these specific insights for understanding funding decisions through measurement, history, and context.

# CASE STUDIES: MINNESOTA, PENNSYLVANIA, LOUISIANA, AND COLORADO

The findings from our quantitative analysis allow us to identify which states provided higher and lower than expected support for higher education for the years between 1998 and 2009, after controlling for unemployment rates, the proportion of residents over 65, and presidential voting behaviors. Table 3 shows the state ranking derived from these results by evaluating the actual support for higher education over time in relationship to the predictions of the quantitative model. From this list we selected four states for in-depth qualitative analysis: Minnesota and Pennsylvania out-performed the predictions of our model, and Louisiana and Colorado under-performed the predictions of our model. We chose these four states because they showed stable results across the modeling process, because they represent a variety of geographic regions, and because each state has a population size and distribution that is more representative of the nation than other smaller states that could have been included. More details about the methodology for qualitative analysis are found in the appendix. (See Table 3)

## MINNESOTA: HIGHER THAN EXPECTED APPROPRIATIONS

The story of state support for public higher education in Minnesota is deeply connected to its educational traditions and the development of its knowledge-based economy. Three themes emerged from our qualitative data collection and analysis that help to explain Minnesota's greater than expected commitment to higher education over the past two decades. These themes include: 1) the historic value accorded to educational access, 2) gubernatorial leadership and establishment of the "Design for Shared Responsibility," and 3) a knowledge-based economy which creates demand for an educated workforce.

### *Minnesota values access*

The last five decades reveal that college access is a strongly shared value among citizens and policymakers in Minnesota. In 1963, a legislative committee codified this value by creating the "35 mile rule," which demonstrated the state's prioritization of access to higher education by establishing a college campus within 35 miles of every Minnesotan. As a result of the 35 mile rule, between 1963 and 1983 Minnesota developed more 2 year campuses per capita than nearly any state in the country. Many towns viewed a college campus as a community asset and encouraged development.<sup>26</sup> Today a highly educated populace is the legacy of the 35 mile rule, evidenced by Minnesota's ranking as the 8th best-educated

state in the nation, with nearly 10 percent of Minnesotans holding advanced degrees and 63 percent with at least some college education. Access is central to this outcome and Minnesota's robust sector of 87 private postsecondary education institutions and 52 public institutions promotes widespread access to higher education in the state.

### *Gubernatorial leadership: Establishing a policy framework for higher education*

Gubernatorial leadership is a key factor explaining why Minnesota has supported higher education at higher than expected levels during the last two decades. Specifically, in 1983 leadership by Democratic Governor Rudy Perpich codified the state's commitment to higher education through the passing of the Funding Policy Statute (135A.01). The law, known as the "Design for Shared Responsibility," was spearheaded by the governor and approved by a democratically-controlled senate and house. It required the state to cover 2/3 of higher education instructional costs, leaving the remainder of costs to be paid by students and their families. Although the law asked students to pay a larger share of instructional costs, it significantly expanded financial aid for students in need via the Minnesota State Grant Program. The Design for Shared Responsibility adopts a high tuition/high aid model of financing higher education in the state.

While the law established a precedent for the future support of higher education, significant amendments to the Design for Shared Responsibility have impacted the overall approach to financing higher education Minnesota today. In 2005 a task force charged with annual review of the program noted that the state had drifted from its commitment to fund two-thirds of instructional costs. This occurred because appropriations for instruction are determined by the legislature, and percentages were adjusted over time. Consequently, by 2003, the original intent to provide two-thirds support for instructional costs per student had dropped to 54 percent for Minnesota State College and University students and 38 percent for University of Minnesota students. These important facts led the task force to recommend the repeal of the original funding policy.<sup>27</sup> In 2007, the legislature amended the policy in the following ways as reflected in the State Higher Education Objectives statute (135A.011):

"It is the policy of the legislature to provide stable funding, ~~including recognition of the effects of inflation;~~ for instructional services at public postsecondary institutions and that the state and students share the cost of those services public

postsecondary education. The legislature intends to provide at least 67 percent of the instructional services costs for each postsecondary system combined revenue from tuition, the university fee at the University of Minnesota, and state general fund appropriations to public postsecondary institutions. It is also the policy of the legislature that the budgetary process serves to support high quality public postsecondary education.”

The central impact of this new legislation was to shift the state’s commitment away from sharing costs toward supporting a percentage of revenue. Thus, as tuition revenue has increased, so has funding from the state aid program. Between 1990 and 2012, the need-based Minnesota State Grant Program rose from \$55 million to \$154 million in current dollars.<sup>28</sup> However, like other states, Minnesota’s postsecondary tuition and fee rates have increased more rapidly than federal and state student grant aid. The widest gap between tuition and levels of need based aid is at the University of Minnesota, the state’s flagship university. In response, the institution created the University of Minnesota Promise Scholarship, a need-based scholarship for Minnesota resident undergraduates with a family income up to \$100,000. The University began guaranteeing need-based aid for Pell eligible Minnesota resident undergraduates in fall 2005, and in 2009 expanded its need-based aid programs to include guaranteed need-based scholarships through Promise Scholarships. Eligible freshman receive awards ranging from \$570- \$4,000 each year for four years. Transfer student awards range from \$640- \$2,000 each year for two years.<sup>29</sup> This program illustrates a partnership between the state and university in trying to keep higher education within reach for low income Minnesota families.

Overall, our analysis of Minnesota’s high tuition/high aid model reveals a mixed legacy. On one hand, the Minnesota State Grant program has been lauded as an example of a strong program to be modeled by other states.<sup>30</sup> Among its strengths, Minnesota’s program is one of few that provide optimal funding to all qualified students. In addition, the program offers incentives that encourage progress toward a degree; students enrolled for at least 15 credit hours during the semester receive full-time awards and funding is pro-rated gradually as enrollment intensity declines. In addition, some credit Minnesota for its historical focus on need based aid as the primary tool for providing access to higher education. One small merit aid program called ACHIEVE Scholarships was funded between 2008 and 2011, which also required eligible students to demonstrate financial need or meet income guidelines. Today, all state aid in Minnesota is need-based.<sup>31</sup>

On the other hand, Minnesota’s high tuition/high aid model can be criticized for its association with the decline of overall affordability, as aid has not been as strong when compared to previous decades. Over time, the Minnesota legislature has decreased, increased, or held constant the tuition and fee maximums used in the grant award calculation, but these maximums have not maintained purchasing power

TABLE 3. STATE RELATIONSHIP TO PREDICTED OUTCOME

Rank	Higher than Predicted Levels of Appropriations	Lower than Predicted Levels of Appropriations
1	Iowa	Vermont
2	New Jersey	Montana
3	Maine	Louisiana
4	Hawaii	Kentucky
5	Wyoming	New Hampshire
6	Pennsylvania	Virginia
7	Minnesota	Mississippi
8	Massachusetts	Alabama
9	Rhode Island	Colorado
10	Georgia	Oregon
11	Connecticut	Tennessee
12	Wisconsin	West Virginia
13	New Mexico	New York
14	Illinois	Ohio
15	Florida	Washington
16	Kansas	Utah
17	Michigan	South Dakota
18	North Carolina	Maryland
19		Indiana
20		Alaska
21		Missouri
22		Oklahoma
23		Nevada
24		South Carolina
25		North Dakota
26		California
27		Idaho
28		Delaware
29		Arkansas
30		Texas
31		Nebraska
32		Arizona

Note: We followed the same methodology as Weerts and Ronca (2012) in calculating the residuals. First, the average residual was calculated for each state and the directional sign was recorded. Next, the absolute values of the residuals were averaged and the sign of the non-absolute residuals was applied.

over the last 25 years.<sup>32</sup> A central challenge is that the number of qualified awardees has risen over the past two decades, which has spread out the total appropriation for state aid among a larger pool of students. This is especially exasperat-

ed in difficult economic times. For example, in 2006, prior to the Great Recession, 71,108 Minnesota students received an average grant award of \$1,845. In 2012, the number of participants rose to 95,483, with an average award of \$1,450. These patterns illustrate that award levels fluctuate relative to larger patterns of economic health in the state. Given these trends, some policy analysts have declared that Minnesota more accurately represents a high tuition/moderate aid policy.<sup>33</sup> This is of special concern in Minnesota since the state has among the highest achievement gaps in the nation between White and non-White populations.<sup>34</sup> Adequate financial support remains a key policy tool to address this divide. Institutional programs such as the University of Minnesota Promise Scholarship will be increasingly important in providing access to Minnesota's changing population.

*Sustaining demand:*

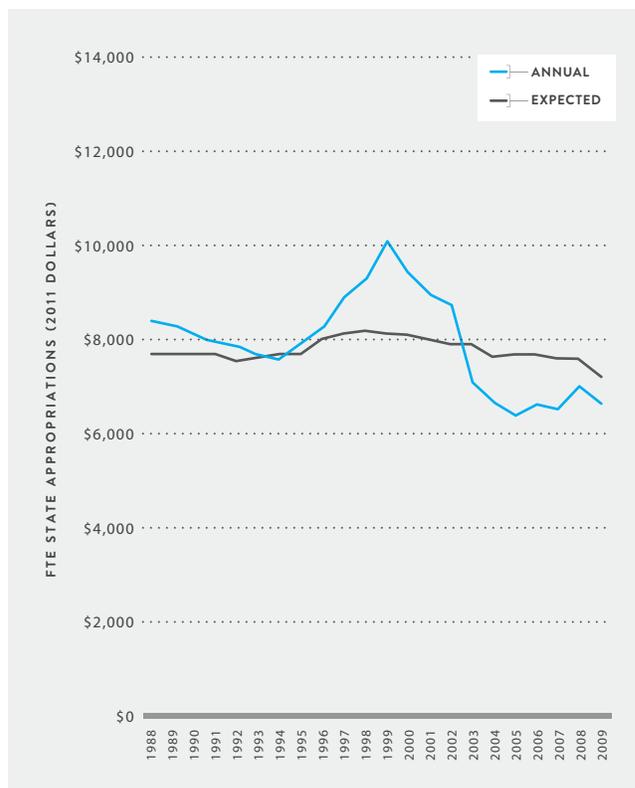
*Minnesota's knowledge-based economy*

As in all states, higher education policy decisions in Minnesota are informed by a larger state context. Minnesota is a diverse knowledge-driven economy that increasingly relies on a highly educated workforce, which benefits from higher education and makes higher education central to the state's economy. Historically sustained by farming, milling, and iron ore, today Minnesota's economic base is fueled by agribusiness (biofuel), manufacturing of medical devices, food processing, and service industries including finance, insurance, and real estate. The state hosts a thriving business community, housing 21 Fortune 500 companies, with the Minneapolis-St. Paul metro area boasting the largest per capita concentration of such companies in the country. Furthermore, Minnesota has a rich tradition of civic culture and civically minded business leaders who have historically recognized the benefits of higher education. National surveys suggest that Minneapolis-St. Paul and the surrounding suburbs have the highest level of civic engagement of any major metropolitan area in the country.<sup>35</sup> Overall, the state's historic emphasis on higher education access has paid dividends in creating a state culture and economic base that supports higher education as a public good.

*Maintaining its legacy: challenges for Minnesota*

Minnesota's rich socio-political history created favorable conditions for investment in higher education but the challenges in maintaining this legacy are formidable. Figure 2 presents a graph of the quantitative model for the state and provides context into funding changes already underway. In particular, the figure illustrates that Minnesota is susceptible to the volatile up-and-down funding patterns typical of state financing for higher education. A stable pattern of higher than expected funding prior to 1993 was followed by a dip in support with the onset of the 1993 recession, then a subsequent spike in support for higher education occurred in the mid-1990s reflecting the late century economic boom. Soon after, the 2001 recession resulted in a free fall in funding for higher education across the country, from which most states – including Minnesota – never fully recovered.

FIGURE 2. MINNESOTA



Fiscal year 2003 was especially dire for higher education, as 27 states imposed mid-year reductions in funding. And while enrollment continued to grow, funding per FTE student fell 12 percent compared to 15 years prior.<sup>36</sup> Funding edged up prior to the Great Recession in 2008, but began receding again as the economy crumbled. Minnesota was not immune from the larger economic trends and began to dip below expected levels of support from 2003 through 2008. (See Figure 2)

Republican Governor Tim Pawlenty's 8 years of service (2003-2011) coincides with a period of economic vacillation and Minnesota's ongoing dip in expected levels of support for higher education. Governor Pawlenty took office in the aftermath of the 2001 recession and led throughout the Great Recession that continues to dampen state budgets. Higher education appropriations fell steadily under his governorship, as did state appropriations to other public services and programs. Governor Pawlenty aimed to establish a limited but effective government, and higher education became a primary target for cutting costs and increasing efficiency. For example, the governor promoted online education as a means to cut costs while attracting more students, setting a goal for the Minnesota State and College University System to deliver 25 percent of its credits online by 2015.<sup>37</sup>

Democratic Governor Mark Dayton took office during a difficult financial period following the departure of Governor Pawlenty in 2008. To date, Governor Dayton's higher education leadership strategy has largely revolved around mitigating the magnitude of cuts for Minnesota colleges and universities. In 2011 the governor vetoed a Republican leg-

islature-proposed higher education appropriations budget that would have allocated less money than the previous year's budget by \$306.3 million. This proposal would have been the largest funding cut to higher education in the state's 154-year history.

### *Lessons from Minnesota*

Minnesota exemplifies a state trying to hang onto its legacy of support for higher education as economic challenges and political divides influence future investment in its public college and universities. Minnesota has benefited from many factors that have kept higher education a priority for state residents, but the tension between the rich heritage of access and the shifting prerogatives of influential governors makes funding outcomes uncertain. The Design for Shared Responsibility model set a precedent for future support but has been significantly altered over the years, putting funding per FTE in decline. Still, the overall value for access and framework for funding largely sustained opportunities for Minnesota students despite the incremental changes over the decades. Minnesota's high tuition/high aid strategy has maintained educational opportunity through turbulent economic and political times. It is also politically expedient, relying on the notion of shared responsibility and potentially benefiting all qualified students.

Minnesota's knowledge-based economy also keeps higher education access a priority for the state. The early infrastructure supporting education in Minnesota yielded dividends, creating a culture that values and supports education as a public good. Yet despite these important assets, keeping higher education a funding priority in Minnesota will be a challenge. With political and economic pressures working to undermine state support, Minnesota may slide from a position of stronger than expected funding for higher education to eventually falling behind.

### **PENNSYLVANIA: HIGHER THAN EXPECTED APPROPRIATIONS**

The unique historical conditions for the development of higher education in Pennsylvania have led to a large, well-funded higher education sector in the commonwealth. Three factors contribute to its greater than expected levels of support for higher education during the past two decades. First, an extensive higher education system grew in Pennsylvania without centralized design or planning, which led to the development of five separate public and private postsecondary education sectors that receive state support. Since no overarching organization represents these disparate institutions, individual campuses and systems are unencumbered in advocating for support relative to their unique interests. Second, Pennsylvania's State Grant Program is one of the largest student aid plans in the nation. Even as tuitions rise and appropriations decline, need-based aid provides an influx of dollars for eligible students and institutions. Finally, Pennsylvania's diverse, vibrant economy has grown alongside its higher education system. Higher education appropriations in Pennsylvania draw from the capacity of the nation's 6th larg-

est economy, allowing for historically steady and incremental funding for the sector. Collectively, these three factors explain Pennsylvania's history of support for higher education, but they do not fully insulate Pennsylvania from challenges to the system resulting from other budgetary pressures.

### *Sustaining a large, decentralized system*

The unbridled development of Pennsylvania's postsecondary education system, in part, explains why the commonwealth has supported higher education at higher than expected levels during the last two decades. Overall, few barriers have limited the scope and ambition of development among the commonwealth's 250 postsecondary education institutions.<sup>38</sup> As a result, five independent sectors of higher education developed without centralized design or planning. Separate charters and legislation support Pennsylvania's state owned institutions, state-related schools, private colleges and universities, community colleges, and private two-year trade schools. Advocacy for state funding occurs separately among these five sectors, as the institutions were organized according to disparate principles and serve distinct populations.

Research out of the University of Pennsylvania outlines how this context of independently established colleges and universities has impacted funding decisions, stating that "For higher education, the General Assembly largely has treated appropriations to various sectors of higher education incrementally and equally. The general practice has been that all sectors receive what they received the previous year, plus a little more, with the 'little more' being approximately equal for the state-owned universities, the state-related universities, the community colleges, and the private institutions."<sup>39</sup>

Research from the former special assistant to the Secretary of Education in Pennsylvania, David Tandberg, suggests that unregulated higher education systems may result in a larger total pool of funding for all colleges in the state. He found that consolidated boards are associated with lower levels of state appropriations for higher education, as funneling appropriations requests through a central lobbying agent (e.g., a consolidated board) may lessen the impact of the lobbying effort when compared to each campus advocating for itself. According to Tandberg, "...when an elected official hears from a central governing board official instead of a representative from an institution in his or her home district, the elected official may be less inclined to support the appropriations request."<sup>40</sup> Tandberg's research suggests that in Pennsylvania and other states with decentralized systems, institutions may achieve more positive results from interacting directly with politicians from their district as opposed to relying on a centralized lobbying body.

The ability to advocate independently may lead some institutions to better funding opportunities. Collectively, the result is a larger than expected total available stock of funding for higher education in the state, which may be derived irrespective of the larger considerations related to state need and capacity. In Pennsylvania, state-wide comprehensive planning is not prioritized, as outlined by the authors of the University of Pennsylvania study:

“The General Assembly requires the State Board of Education to prepare and submit to the General Assembly every five years a Master Plan for Higher Education. There is, however, little evidence that the General Assembly has used or even considered previous Master Plans, even when the State Board has managed to complete its work on time.”<sup>41</sup>

The report continues,

“In order to exert more direct control over public institutions of higher education, a fundamental change in current funding arrangements would be required, the likely vehicle for making that change would be statutory language. To date, Pennsylvania lawmakers have been restrained in the use of state statutes to influence higher education.”<sup>42</sup>

This disinterest in a statutory consolidation of institutional concerns presents an opportunity for colleges to attain the funding they need in order to achieve their specific educational goals.

#### *High tuition/High but inadequate aid*

Pennsylvania’s colleges and universities have evolved unfettered by mutual interdependence in an environment where appropriations decisions favored independent agency.<sup>43</sup> In this light, the University of Pennsylvania study describes Pennsylvania institutions as “pioneers in the art of market management and revenue maximization.”<sup>44</sup> One outcome of this uncoordinated approach was a substantial cost burden for students and their families. Higher education in the commonwealth is ranked 6th most expensive in the country. State-related institutions in Pennsylvania (Penn State, Temple, and Pittsburgh) are among the most expensive in the nation, charging considerably higher tuition than the commonwealth’s state-owned institutions and community colleges. Due to high tuition rates, graduates of Pennsylvania colleges and universities bear the second highest debt load in the country.<sup>45</sup>

High tuition in Pennsylvania may also be associated with unique cultural aspects of the region. As a mid-Atlantic state, Pennsylvania mirrors its historically high tuition neighbors, such as New Jersey and states in New England. In this area of the country high tuition may reflect the prominence of local private institutions that are highly tuition dependent.<sup>46</sup> To mitigate the impact of high tuition in Pennsylvania, the commonwealth instituted rare higher education legislation in 1963 that created the Pennsylvania Higher Education Assistance Agency (PHEAA).<sup>47</sup> The PHEAA administers the Pennsylvania State Grant Program which is considered by many funding experts to be one of the best in the country. Pennsylvania has been consistently singled-out as a rare example of a state with adequate funding to serve all qualified students.<sup>48</sup>

Yet relying on a grant program to finance Pennsylvania’s higher education investments produces mixed results. Some

research points to the high-tuition, high-aid model as an effective tool to encourage college enrollment.<sup>49</sup> Yet others have described the model as “high tuition/high debt” as many citizens in the commonwealth graduate with high college debts in relation to family incomes.<sup>50</sup> Pennsylvania is challenged by the model’s reliance on retaining the purchasing power of the state grants in relationship to rising costs. While appropriations for the program have increased over time, there has been a slide in the relative level of maximum awards during the last two decades.<sup>51</sup>

The prominence of the state grant program makes Pennsylvania unique in how it funds higher education. Overall, the state ranks 43rd in percent of budget allocated to higher education, but 2nd nationally for financial aid programs. On average, states allocate 9 percent of their higher education appropriations to financial aid, but Pennsylvania’s aid appropriations amount to 20 percent. As a result, only 75 percent of the total support for higher education in the commonwealth goes directly to institutions, compared to 89 percent nationwide, making the state grant program a significant component of overall investment in higher education in Pennsylvania.<sup>52</sup>

#### *Diversified, vibrant economy*

Pennsylvania has been able to sustain its expansive higher education system and corresponding state grants program with the support of a large, diversified economy. The commonwealth emerged as an early economic leader in the U.S. as agriculture, manufacturing, commerce, and transportation flourished in Pennsylvania’s early history. The steel industry that took root in the late 19th Century and the food processing industry that followed (Hershey Chocolate Factory, Heinz Co.) complemented the natural resource economy of the region. In addition, the economy is populated by knowledge-based industries, with a total of 14 Fortune 500 companies currently operating in Pennsylvania. With the inclusion of diverse industries, the commonwealth has the 6th largest economy in the United States.<sup>53</sup>

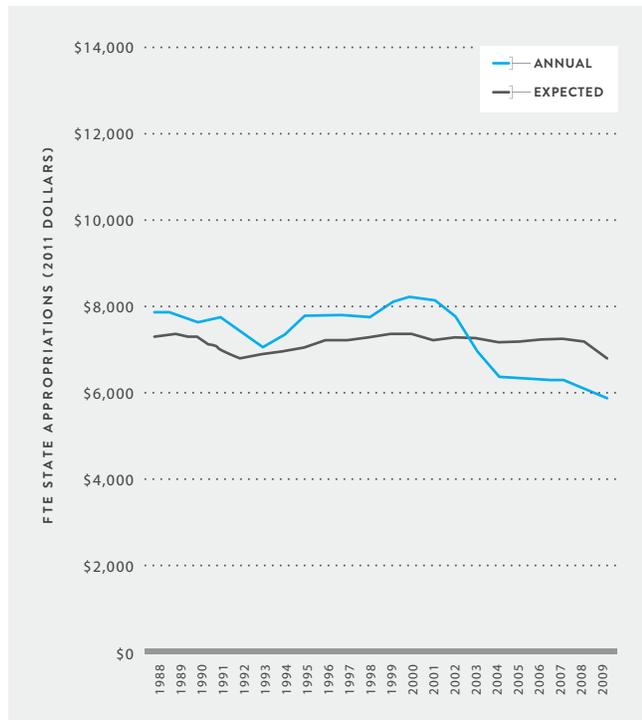
Because of its range of skilled and non-skilled industries, higher education attainment in Pennsylvania hovers around the national average.<sup>54</sup> Degree attainment is uneven between regions, with central rural counties sending a smaller proportion of students to college compared to the major metropolitan areas on the east and west sides of the state.<sup>55</sup> Yet, as a whole, the state has demonstrated a commitment to higher education, backed by a robust economy, through high funding and broad educational opportunities.

#### *Maintaining its legacy: challenges for Pennsylvania*

Paradoxically, Pennsylvania’s support for higher education might best be discussed as an unintended legacy, related to its weak state-wide governance structure. If this depiction is accurate, then support for higher education in Pennsylvania could be endangered by shifting political desires toward consolidation, inadequate adjustments to financial aid, or a faltering economy. Figure 3 illustrates that Pennsylvania consistently hovered above expected levels of support for higher

education prior to 2003. However, the commonwealth fell below levels of expected support in 2003 and has failed to recover since that time, which emulates patterns apparent in other states.

**FIGURE 3. PENNSYLVANIA**



Partisan shifts do not explain the funding reductions that have occurred since 2003. Pennsylvania's recent record reveals a two-party state with a balance of support between Republican and Democratic politicians and many elections won by small margins. While Pennsylvanians have voted for Democratic candidates in the past five Presidential elections, they also elected a Republican governor in three out of the past four gubernatorial contests.<sup>56</sup> Rather than the expression of partisan priorities, these results support past research showing funding decreases for higher education in politically competitive, multiparty states. Across party lines, lawmakers focused on reducing spending and cutting costs as budgetary pressures took prominence over the historical commitment to public investments like education.

The one notable exception to the overall lack of correspondence between political power and higher education funding occurred in 2011. During that year, Republican Governor Tom Corbett proposed a dramatic departure from past policy, with a 50 percent cut in appropriations for higher education. The Republican-controlled legislature responded with a less severe approach, reducing the cuts to 19 percent – still a substantial decrease in a system already facing declines. Following that decision bipartisan support passed the Higher Education Modernization Act, which focused on improving cost savings through increased competitiveness among state-owned institutions.<sup>57</sup> The law incites greater entrepreneurial behavior among campuses, including the development of

scholarly work for commercial application and connecting advanced degree programs to regional workforce needs.

### *Lessons from Pennsylvania*

A decentralized policy of institutional governance coupled with market and cultural forces created Pennsylvania's high priced system of colleges and universities. The Pennsylvania State Grant Program, which has been hailed as one of the leading need-based aid programs in the country, offsets some of the high and growing cost of education but has also made high student debt nearly requisite for Pennsylvania students seeking a degree. Overall, Pennsylvania's higher than expected appropriations may not be the product of a grand design. Instead, it may simply be that structural and economic forces have buoyed the system over time. It remains to be seen how Pennsylvania will move forward as market forces and policies focused on entrepreneurial ventures shape funding opportunities for higher education the commonwealth.

### **LOUISIANA: LOWER THAN EXPECTED APPROPRIATIONS**

Louisiana has provided lower than expected levels of support for higher education in the past two decades. The composition of the state economy and the resulting social outcomes provide two intrinsically linked explanations for the historical underfunding. First, the state relies primarily on low-skilled jobs to fuel its economy. Due to the dominance of agriculture and fuel production in the state, Louisiana has struggled to develop a culture to support higher education as a human capital investment. Second, the lack of investment in education is associated with an array of social and economic problems which divert resources and inhibit additional funding for higher education in Louisiana. Collectively, these factors create a perpetual cycle that has thwarted the kind of sustained investment that would propel Louisiana into the realm of adequate funding for higher education.

### *The struggle to transition to a knowledge economy*

Louisiana's reliance on agrarian and natural resource industries to sustain its economy is central to the story of higher education funding in the state. Rich, fertile land promotes agricultural production, with crops like indigo, sugar, and cotton contributing significantly to state revenues. Minerals, including sulfur, compose a major economic generator as well. Furthermore, Louisiana is the third leading refiner of petroleum and the second in the nation in the production of petrochemicals.<sup>58</sup> Altogether, the natural resource industry contributes almost 16 percent of the state's total GDP.<sup>59</sup>

In the realm of higher education funding, Louisiana's natural resource economy may be viewed as both a blessing and a curse. On one hand, the state's natural assets provide Louisiana with an economic base related to fuel and agricultural products. On the other hand, the reliance on these traditional assets has prevented the state from diversifying its economy, slowing its transition to developing innovative, knowledge-based industries. Research shows that economic dependence on energy or agriculture may lead to lower aca-

demographic achievement, as states or nations fail to identify education as crucial to economic success. For example, a recent report by the Organization for Economic Cooperation and Development (OECD) found a negative relationship between student performance and the percentage of natural resources contributing to a nation's GDP. Recent work by Emily Saleh and Louisiana's Commissioner of Higher Education James Purcell showed a similar connection between educational attainment and natural resource economies in states.<sup>60</sup> These researchers found that the number of people employed in the mining sector was negatively associated with the percentage of the adult population with an associate's degree or higher. They concluded that citizens in states that rely on natural resources may forego higher education in local economies that lack demand for postsecondary training.

Louisiana's job market reflects economic priorities that may undermine educational investment. Labor projections indicate that only 52 percent of all jobs in Louisiana will require some postsecondary training by the year 2020. Among 16 peer states in the Southern Region Education Board (SREB), Louisiana ranks near the bottom (15th) for the proportion of jobs requiring a graduate degree by the year 2020. Meanwhile, the state ranks 7th among its peers in jobs for high school dropouts over the same time period.<sup>61</sup> Louisiana ranks behind the rest of the country in terms of research and development, and technology jobs that are associated with economic vitality in the global economy.<sup>62</sup> These statistics reveal a demand for low-skilled workers in Louisiana that will persist as the economy develops over the next decade.

Low levels of educational attainment in Louisiana provide a corollary to the composition of labor demand in the state. Louisiana's educational attainment rate ranks third-lowest in the country.<sup>63</sup> In 2009, only 21 percent of adults ages 25 and older had a bachelor's degree or higher. This number barely rose over a decade, up from 19 percent in 2000, and ranks the state below others in the region including Mississippi, Alabama, Kentucky, Tennessee and Georgia.<sup>64</sup> The low degree attainment rates and anemic growth toward developing an educated workforce feedback into the state's reliance on low-skilled workers and keep appropriations levels low.

One glimmer of progress is found in reports suggesting that more Louisianans are heading to college immediately after high school. An SREB study issued in 2008 reported that 70 percent of high school students enroll in college within a year of graduation. This is 7 percentage points higher than the national average and represents a climb of 11 percentage points since 2000.<sup>65</sup> While high growth in enrollment among high school graduates suggests a promising trend toward building educational attainment, it is undermined by Louisiana's very low high school graduation rates. By 2006 only 3 out of 5 students who were high school freshman in 2002 had earned a high school degree, which means that a smaller proportion of the population is eligible for college. Due to this poor performance at the high school level the state was recently given a low 'chance for college' ranking by the SREB.<sup>66</sup>

In addition to these challenges, Louisianans enrolled in college are less likely to graduate when compared to their

peers from other states. During the last decade, graduation rates in Louisiana have been below average among states in the SREB. At public four-year institutions, the SREB region's six-year graduation rates for the 2003 cohort were below the national average and the SREB average for every major racial and ethnic group.<sup>67</sup> Since Louisiana is among the most diverse states in the country, achieving racial and ethnic parity in education should be a central component of educational services.

### *The legacy of low educational attainment*

Low levels of educational attainment and degree completion combined with bleak opportunities for well-educated workers have resulted in social and economic outcomes for Louisiana that feedback into lower state appropriations for higher education. A 2011 report by the Council for a Better Louisiana (CBL) draws a connection between the state's low educational attainment and spending on other public programs, such as corrections and health care. As these other programs grow they divert more funding from education and develop a cycle of state priorities that underinvests in education and results in further deterioration of economic and social indicators. The report specifically illustrates the relationship between education and incarceration, breaking down the incarcerated population of the U.S. into the 65 percent of prisoners without a high school degree and the 13 percent who have a college degree. For Louisiana, which bears the highest incarceration rate in the country, the correlation between low educational attainment and imprisonment is an expensive tradeoff. CBL also looks to health care spending as an implication of educational outcomes, as low-skilled workers are more likely to be unemployed or work in low-pay jobs without access to employer-provided benefits. In 2011, the national unemployment rate for those with a high school degree was 9.4 percent, while bachelor's degree holders had unemployment far below the national average, at 4.3 percent. In Louisiana household wealth reflects this disparity; the state ranks 4th lowest in median household net worth. The CBL report relates these outcomes to the need for publicly-funded health care programs, explaining that 38 percent of individuals ages 25 or older without a high school degree live in households participating in Medicaid, compared to 7 percent with a bachelor's degree or higher.<sup>68</sup>

Higher education provides an avenue for Louisiana to address its persistent problems related to poverty, crime, unemployment, and asset building. Yet at the same time these social and economic challenges become funding priorities that reduce the available budget for higher education. The result is a perpetual cycle of low educational outcomes and poor social conditions. Under these circumstances Louisiana's attempts to develop an economy that can break out of the low-skill trap are held back by its existing social conditions and investments in education fail to materialize. The authors of the CBL report summarize these connections:

"All these statistics simply make the point quantitatively that we all know intuitively. Educational at-

tainment levels drive nearly every social indicator we struggle with in Louisiana from poverty, to crime, to health care and self-sufficiency. And the higher the education attainment levels, the better the outcomes. Certainly, our failings in elementary and secondary education contribute heavily to this. Those with high school degrees or less are the ones that struggle at the very bottom of the socio-economic ladder. But it is post-secondary education that adds the real value and counters those outcomes.”<sup>69</sup>

### Charting state support for higher education in Louisiana

Louisiana’s natural resource economy and the social challenges of a low-skilled, low-educated workforce provide context to the levels of spending on higher education observable throughout the state’s history. But rapid economic fluctuations over the past two decades have made the story more complex. As illustrated in figure 4, spending on higher education in Louisiana fell consistently below expected levels of support prior to the mid-1990s. However, an economic upturn in Louisiana during the mid-to-late 1990s cut unemployment in half, resulting in a steady climb in appropriations for colleges and universities during that period.<sup>70</sup> As depicted in our model, this boosted support for higher education in Louisiana to expected levels from the late 1990s to the early 2000s.

Following this period of growth, the devastation imposed by Hurricane Katrina in 2005 radically changed the economic and demographic landscape of Louisiana. The state’s population suddenly decreased by 250,000 after the hurricane and unemployment jumped from 4.9 percent in August 2005 to 11.2 percent one month later. Soon after, Congress passed the Hurricane Katrina Unemployment Relief Act of 2005 which allocated \$400 million to Louisiana and neighboring states. Unemployment remained at 11 percent or above from September to November of 2005, but Congressional funding and other relief efforts soon reduced the rate to 6 percent.<sup>71</sup>

Hurricane Katrina affected state support for higher education in two important ways. First, the natural disaster resulted in an immediate drop in enrollment on many campuses in Louisiana, which explains the spike in appropriations per FTE shown in figure 4. Fewer students were being educated relative to existing levels of appropriations, resulting in more support per FTE for the state. Second, rebuilding New Orleans and surrounding communities resulted in a post-Katrina economic boom that provided additional revenues for higher education. By 2008 Louisiana reached the SREB average in FTE funding for higher education, a marker that eluded the state for years before.<sup>72</sup> The result is illustrated in figure 4: in the years between 2005 and 2008 Louisiana provided higher than expected levels of state support for higher education.

(See Figure 4)

Since the end of the post-Katrina rebound in 2008, economic pressures and political changes challenged Louisiana’s ability to sustain its momentum of support for higher education. Most importantly, the economic recession that began

FIGURE 4. LOUISIANA



in late 2008 ushered in a decline in revenues and a resulting 29 percent cut in higher education appropriations between 2009 and 2011 – a total loss of more than \$300 million for education spending.<sup>73</sup>

Sweeping political changes also shifted the philosophy of funding. Historically, Louisianans balanced a conservative executive branch of government with a legislature dominated by the Democratic Party. Republican governors, however, exerted significant power in setting the agenda for higher education policy and funding in the state, based on the governor’s final authority over Louisiana’s budget. In the case of a budget deficit, governors may cut funding from each budget category by up to 3 percent without the approval of the legislative branch. Executive use of this power over the past 5 years has reduced appropriations for higher education.<sup>74</sup> Moreover, in 2011 Republicans took over both the legislative and executive branches of government, eliminating any check on the conservative political philosophy toward public spending.

The current Governor of Louisiana, Republican Bobby Jindal, was elected into office in 2007 with an agenda for higher education that focused primarily on increasing performance and improving graduation rates. Under this stance, the cuts to higher education appropriations enacted by Jindal are justified by low performance, and the governor has cited faculty sabbaticals and time spent outside the classroom as unproductive costs.<sup>75</sup>

In order to align with the Governor’s focus on performance, the legislature and the Board of Regents recently revised the funding formula for higher education from allocation according to the number of students enrolled to compensation for completion rates. Changes in the funding formula and complementary legislation shifted the cost of education from the state to households and locked colleges

and universities into performance targets. In 2010, Act 741 established the Granting Resource and Autonomy for Diplomas Act (GRAD Act) which created six-year agreements on long term performance goals between the Board of Regents and participating institutions. In exchange for meeting these objectives, the institutions receive greater autonomy and flexibility with tuition increases and financial and program management.<sup>76</sup> The legislation also permits institutions to increase tuition up to 10 percent per academic year until they meet the average cost of their Southern peers.<sup>77</sup>

Louisiana's current strategy reflects a focus on performance and a shift to increasing funding through tuition. Compared to many other states in the south and across the country, Louisiana's annual costs of \$4,282 for a 4-year public institution are relatively low. In that sense, despite the fact that tuition and fees rose 43 percent between 1990-91 and 2009-10 in Louisiana, tuition may be seen as having room to grow.<sup>78</sup>

State aid programs are keeping pace with rising tuition in Louisiana, most prominently the Taylor Opportunity Program for Students (TOPS) Scholarship Program. TOPS is a merit-based program that awards any Louisiana high school student who earns a score of at least 20 on the ACT and a GPA of at least 2.5 full tuition for any in-state public post-secondary institution. Overall, the average state grant aid per FTE in Louisiana is \$883, which is more than 20% of tuition costs and a much larger proportion than is observed in many other states.<sup>79</sup> Since the TOPS program covers the full cost of tuition, state support for higher education will grow with rising tuition costs.

Because of the combination of support from TOPS and low tuition, a recent report by the Brookings Institution categorized Louisiana as a "low tuition, high aid" state. The clear eligibility requirements of merit-based programs like TOPS have proven effective in increasing college enrollment.<sup>80</sup> Yet these programs largely support those students who are already bound for college and less likely to need the aid.<sup>81</sup> A report by the National Association of State Student Grant & Aid Programs showed that 35 percent of dependent recipients of Louisiana state grants in 2009-10 were from families with incomes above \$80,000, although the median household income during that fiscal year was \$45,433.<sup>82</sup> The more affluent group of students received 45 percent of all state grant funds. Louisiana's focus on merit aid results in the state ranking lowest in the nation for aid allocated to students with financial need – a mere 16 percent of aid is need-based.<sup>83</sup> Given the stark differences in Louisiana by income, race, and academic achievement, merit aid policies are not likely to be the most efficient policy for raising educational attainment for the majority of Louisianans.

### *Lessons from Louisiana*

Louisiana's lower-than-expected state support for higher education is largely explained by its economic composition and political attitudes toward funding. Most significantly, the state has historically relied on a low-skilled workforce for its resource-based economy. Low educational attainment in the

state is associated with this economic legacy and correlates to a host of economic and social challenges that divert funding from higher education. Under these conditions, Louisiana struggles to develop a culture that supports investment in higher education and the infrastructure to attract and generate jobs for more educated workers. Louisiana ranks among the highest states in losing educated workers, illustrating that the state has difficulty gaining traction toward a more diverse, knowledge-based economy.<sup>84</sup>

Changing social and economic conditions have placed Louisiana in a transitional struggle toward a different kind of economy. But while current funding policy is focused on improving the performance of higher education, tying funding opportunities to performance and relying on merit-based student aid are unlikely to meet the needs of the population. It remains to be seen whether these policies facilitate cultural change around the value of college, and future economic opportunities for the region.

### **COLORADO: LOWER THAN EXPECTED APPROPRIATIONS**

The political, cultural, and structural factors that have thwarted funding for public colleges and universities in Colorado are a unique composite of legislative experiments and demographic pressures. In particular, we identify two key factors that inhibit the state's commitment to funding higher education: 1) the passing of the Taxpayer Bill of Rights in 1992; and 2) the "Colorado Paradox" that gives rise to a large block of voters who are disconnected from public institutions. The details of these two constraints exemplify the pressures of a state facing both restrictions on revenue collection and a population in transition.

### *TABOR and its legacy*

The Taxpayer Bill of Rights (TABOR) is undoubtedly the most significant factor impacting higher education spending in Colorado during the past 20 years. The law explains much of why support for higher education decreased in the 1990s and remained lower than expected ever since. TABOR amended the state constitution to require approval from the electorate for "certain state and local government spending; to allow additional initiative and referendum elections; and to provide for the mailing of information to registered voters."<sup>85</sup> Under this amendment, appropriations are subject to the discretion of voter willingness to pay, putting budget priorities into a public contest for funding that may emphasize self-interested taxation policies over the shared benefits of public goods.

Douglas Bruce, a conservative activist who moved to Colorado in 1986, authored TABOR and led an unsuccessful statewide campaign to pass the amendment in both 1988 and 1990. However, during the early 1990s as the economy experienced an unprecedented expansion, anti-government sentiment swept through Colorado. Although political leaders from both parties, interest groups, local governments and state agencies all led a campaign in opposition to TABOR, the public desire for less legislative control over the state bud-

get led to the bill passing with 53.7 percent of the vote.<sup>86</sup>

The TABOR Amendment placed extreme restrictions on spending and revenue decisions within the state legislature. Among these restrictions, the amendment prevents the legislature from increasing taxes without a popular vote and limits how much revenue the state can keep and how much it can spend. TABOR imposes the strictest revenue and spending limits in the nation. A study completed in 2002 by the Bell Policy Center evaluating TABOR confirmed that TABOR has critically impaired Colorado's ability to establish budgetary priorities and programs.<sup>87</sup>

Figure 5 illustrates funding patterns for higher education in Colorado relative to our quantitative model. As the figure shows, strong revenues during the 1990s expansion sustained higher education funding through the early 2000s in the expected range of state support. However, the 2001 recession reduced tax revenues and led to a precipitous fall in funding for higher education as a result of the new spending restrictions. TABOR's impact was fully expressed in 2003, as Colorado enacted some of the highest mid-year cuts for higher education in the country, slashing 16 percent from the budget.<sup>88</sup> By the following year, the state took steps to mitigate the impact of TABOR on higher education, establishing a state aid program called the College Opportunity Fund (COF). The COF created a voucher-based system to deliver state appropriations and fund financial aid through a stipend available to all Colorado residents that would offset rising state tuition costs at the public (and eligible private) higher education institution of their choice. The goals of the COF specifically addressed the restrictions of the TABOR amendment, and provided the legal framework to make higher education funding exempt from its limits. In addition, authors of the legislation believed that the market forces introduced through the COF would induce colleges to be more efficient in their operations and promote access to higher education for underrepresented populations, such as minority students and students from lower socio-economic backgrounds.

(See Figure 5)

Voters provided some additional relief for higher education in 2005 with Referendum C. The referendum reasserted the shared interest in funding priority programs like higher education by providing a temporary suspension to the limitations on revenue growth that TABOR created. This five-year time out, aimed at balancing the budget while maintaining adequate spending for vital programs, allowed the legislature to provide greater appropriations to both K-12 and higher education. The resulting climb in state funding for higher education is depicted in Figure 5.

In 2009, the Western Interstate Commission on Higher Education (WICHE) evaluated COF and found that the policy failed to meet the majority of its aims. While the report revealed that the policy was successful in exempting higher education from TABOR, it also showed that access suffered under the COF market-based policies. The problems were evident from the decline in enrollments as the policy went into effect, even though enrollments nationwide continued to grow. In particular, students from underrepresented ra-

FIGURE 5. COLORADO



cial or ethnic groups, low income students, and adult learners over 25 were less likely to be enrolled under COF than previously. The WICHE report concluded that “COF has failed to live up to its original intentions to improve access and impose a more conscious market orientation on institutions, while making public policies relating to higher education less transparent overall.”<sup>89</sup>

While COF freed higher education from the spending constraints imposed by TABOR, it did not address the key challenges of student access. WICHE evaluators proposed placing higher education back under the traditional state appropriations process, while acknowledging that to do so would once again put colleges and universities under the requirements of TABOR. With only these two imperfect alternatives on the table, higher education funding in Colorado faces a credible threat. To date, the reliance on the COF program has failed to offset the precipitous decline in funding for higher education in Colorado, which keeps state appropriations at lower than expected levels.

Senate Bill 10-003 was signed into law in 2010 to address the problems of student access. The bill establishes local governing boards that can set higher tuition rates with the approval of the Colorado Commission on Higher Education.<sup>90</sup> As a result of the law, Colorado colleges and universities have developed institutional financial accountability plans which call for significant tuition increases in exchange for strategies to protect low income students.<sup>91</sup> In relationship to its peers, Colorado has been historically categorized as a moderate tuition/moderate aid state.<sup>92</sup> However, the rapid rises in tuition may point to the possibility of Colorado becoming a high-tuition/moderate-aid state in the near future.

### *The Colorado Paradox and anti-tax culture*

Another important factor associated with lower than ex-

pected support for higher education relates to what policy-makers in the state call the “Colorado Paradox.” The Colorado Paradox refers to the demographic contradiction that the state ranks among the highest in proportion of people who have a college degree, but in the lowest proportion of residents who enroll in and complete college. Colorado ranks third among states by the percentage of 26-64 year olds holding college degrees, with 45.8 percent of residents college-educated. But unlike the majority of states, older Coloradans are more educated than the younger population. The large number of educated people who relocate to Colorado due to its rich cultural and recreational opportunities generate the imbalance.<sup>93</sup> In 2009, for example, Colorado imported 1,145 college-educated residents per 100,000, ranking 14th among states. But the state falls below the U.S. average in the percentage of young college-aged adults enrolled in higher education, creating great disparities in educational attainment among the younger, more diverse population. As a result, the gap in college attainment between minority and white students in Colorado is the third highest in the nation.<sup>94</sup>

Since the most powerful group of the electorate was educated out of state, the Colorado Paradox may generate less urgency among legislators to support higher education and lawmakers may be less likely to have loyalty to and affiliation with local institutions. Higher income, highly educated Coloradans who lack firm connections to public institutions in the state may focus on tax reform as the most salient policy consideration, leaving those with less power and lower socio-economic status with little leverage to bolster higher education as a funding priority.

The 2008 failure to pass Amendment 58 illustrates the relationship between the Colorado Paradox and higher education funding. One provision of the amendment addressed the inequities in access to higher education by investing 60 percent of the proceeds from the repeal of oil and gas subsidies toward the support of Colorado Promise Scholarships. The scholarship program was designed to triple the state’s investment in need-based scholarships and address disparities in opportunity.<sup>95</sup> Democratic Governor Bill Ritter was a key force behind the initiative, receiving support from Sen. Chris Romer, a Denver Democrat and Republican Hank Brown. Brown however, later rescinded his backing, citing the detriments of the bill on the oil and gas industry.<sup>96</sup>

The ballot initiative failed, with 58 percent of Coloradans voting against the amendment. Among the strongest most vocal opponents to the bill were the National Taxpayers Union and the Colorado Competitive Council. They argued that the provisions combining a severance tax increase with efforts to restrict permits would create an anti-fuel production climate, harming an industry critical to the state economy. Furthermore, opponents suggested that the bill unfairly placed the burden of fixing broad financial problems on the energy industry.<sup>97</sup> The framing for objections to the amendment cast economic development policy from an industry or tax perspective, rather than from the perspective of funding for public goods with shared benefits.

The struggles of creating a cohesive narrative around

Amendment 58 and educational investment in general reflect the attitudes of the politically divided state. Over the past 25 years, four of Colorado’s five governors were members of the Democratic Party, while legislative power consistently leaned Republican. Since the late 1980s, elections for legislative positions were close, reflecting a greater balance of party affiliation among the population, although the Republican Party continued to dominate the legislature.

### *Lessons from Colorado*

Colorado provides lower-than-expected levels of support for higher education due to the legal and structural barriers enforced by TABOR, and the cool higher education spending climate associated with the Colorado Paradox. Due to TABOR and its legacy, the anti-tax sentiment that caught fire in the 1990s had a lasting effect on Colorado higher education and public services in general. Under its restrictions, funding for public services in Colorado achieved historic lows, and its performance neared the bottom of state rankings.<sup>98</sup>

Today, higher education funding is no longer bound by the spending and revenue limitations of TABOR, yet overall spending through appropriations and the COF has not mitigated the impact of the amendment. While leaders from both business and education have voiced their concerns about higher education appropriations to the legislature, that call for funding has not translated to increased support.<sup>99</sup> Paradoxically, a well-educated and powerful voting block of state residents may inhibit support of higher education in Colorado if they are less likely to feel loyalty and affiliation with local institutions. Economically powerful industries can turn this inclination to their advantage when making the case against supporting higher education in Colorado.

Colorado’s unusual political and cultural history advanced a number of structural barriers that impede support for higher education in the state. Nancy McCallin, president of the Colorado Community College System, and Bruce Benson, president of the University of Colorado, suggest that the result is a flawed system that increases competition for state services, while those services increasingly need more funding. In such a context, state legislatures may use the discretionary funding of higher education to compensate for other pressures during tight fiscal years. Subsequently, higher education struggles to sustain support in the shadow of more pressing, non-discretionary priorities.

# FINDINGS FROM THE CASE STUDIES

**M**innesota, Pennsylvania, Louisiana, and Colorado present four distinct approaches to higher education funding based in each state's unique history, geography, economy, culture, and politics. Although these approaches are deeply contextual, they do provide some common themes that cross state borders and offer general lessons for future funding decisions. Table 4 draws these lessons together by summarizing the key attributes of each state that help to explain higher and lower than expected levels of support for higher education. (See Table 4)

## *1) Linking Higher Education Appropriations to Economic Development Can Create a Virtuous Cycle.*

The inextricable link between a state's economic performance and its higher education funding reveals a pathway for mutual reinforcement by tying appropriations to economic development. Historically, both Minnesota and Pennsylvania developed a robust system of public and private higher education in relationship to sustaining a diversified economy with demand for highly-skilled labor. Louisiana and Colorado, in contrast, illustrate that states rich in natural resources may have difficulty creating an appetite for higher education among elected officials and the public at large. Louisiana's strong oil industry has slowed its transition to a knowledge-based economy since generations of Louisianans have been successful in making a living without a college degree. But while the social and economic challenges currently faced by Louisiana divert funds from educational investments and toward other priorities like health and incarceration, investing in educational attainment can also be viewed as spending toward the amelioration of persistent social problems that strain state budgets and economic performance. The Colorado case study revealed that recent economic development initiatives in the state have focused on tax breaks for the mining industry, rather than investing in human capital via higher education. A strategy that highlights the ability of education to open possibilities for the future economy, where citizens value access, and where education can mitigate the costs of other state programs like incarceration or poverty alleviation is important for framing a discussion of state appropriations.

## *2) Governorships Matter.*

While partisan differences do not explain deviations in levels of higher education investment among the four states' legislatures, gubernatorial leadership may set the tone for higher education finance policy in a state. In these four cases the value of access appears to be the most salient issue for Democratic governors while performance and efficiency is most prominent

for Republican governors. In Minnesota, for example, governors have focused on maintaining funding levels that offset or diminish the effects of increased tuition. In 1983, Democratic Governor Rudy Perpich created the Design for Shared Responsibility which ushered in the high-tuition, high aid model that has persisted to the present. In 2010, Democratic Governor Mark Dayton's revised budget reduced cuts to less than half of what was proposed by the Minnesota legislature. Republican governors in Louisiana and Pennsylvania, in contrast, rely on market-based strategies to address higher education costs and benefits. Louisiana Governor Bobby Jindal's education policy focuses on giving institutions the ability to raise tuition and be more competitive, while Pennsylvania Governor Tom Corbett's administration failed to pass a 50 percent cut to higher education funding and has since focused primarily on entrepreneurship strategies for institutional success.

## *3) High Tuition/High Aid Models Have Not Provided Consistent Support or Maintained Inclusive Access to Higher Education Over Time.*

Each of the four states studied here has made efforts to mitigate the effects of rising tuition costs or inferior access to higher education through offering need- or merit-based financial aid, with mixed results. Both Minnesota and Pennsylvania adopted a high tuition-high aid model, with the emphasis on need-based programs to bolster access. The Pennsylvania State Grant Program is considered by many funding experts to be one of the best in the country, yet maintaining adequate funding levels is difficult in the state where tuition is high and rising and graduates of Pennsylvania colleges and universities bear the second highest debt load in the country. Colorado's voucher-based COF and Louisiana's merit-based aid program, TOPS, both aim to improve access to higher education, but fail to reach those low-income students who need it most. In these states achievement gaps by income and race persist and are exacerbated by financial aid programs that do not meet the needs of the population.

## *4) Direct and Personal Connections Between Lawmakers and Institutions Raise the Priority Level of Higher Education Funding.*

Institutions of higher education in Pennsylvania and Colorado have unique relationships with the policy-makers involved in determining state appropriations for the sector. In Pennsylvania, institutional autonomy in advocating for support has contributed to a larger overall level of appropriations as the direct interaction between politicians and school leads to better funding opportunities. The case of Colorado shows the converse

of that relationship. In Colorado, which imports many of its college-educated workers, policymakers may lack a direct connection with local institutions leading them to prioritize other concerns – like tax relief – above higher education funding. These examples point toward a strategy of institutional representatives reaching out to politicians individually in order to facilitate familiarity, loyalty, and trust in the public higher education system among the policymakers who apportion state budgets.

**5) Anti-Tax and Anti-Government Political Sentiment does Not Sufficiently Account for the Shared Benefits of Education as a Public Good.**

Proponents of low taxes and limited government suggest that reducing funding for vital public services like higher education will result in increased efficiencies. But market-based programs like Colorado’s COF have failed to

meet their aims, leading to lower quality and declining access to post-secondary schooling. Anti-tax arguments that frame state funding for higher education as simply a cost fail to incorporate the widespread benefits of higher education to households, businesses, communities, and the state overall. This framing omits the positive returns that should be incorporated into any cost/benefit decision-making rubric.

While higher education was once viewed as the key to individual prosperity, strong communities, and strong economies, this is no longer a widely held view. Given the tendency of anti-tax sentiment to disregard the important advantages of investment in higher education, institutions and advocates should emphasize the positive externalities of higher education and its ability to address community or state needs as a way to earn support among legislators, governors, and the general public.

**TABLE 4. CROSS CASE ANALYSIS**

Historically higher than expected support, under threat (1988-2008)		Historically lower than expected support, (1988-2008)	
MINNESOTA	PENNSYLVANIA	LOUISIANA	COLORADO
<p>Economy is stable, diversified with a mix of high and low skilled jobs</p> <p>Long history of commitment to higher education access (institution within every 30 miles)</p> <p>Large sector of public and private institutions.</p> <p>High level of educational attainment among citizens.</p> <p>Strong, need-based financial aid program for eligible students (Design for Shared Responsibility Framework)</p> <p><i>High Tuition, High Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>FTE support dropped lower than expected in last decade (2003-2008)</li> <li>Aid increasing, but not as fast as college costs</li> <li>System may be overbuilt in relation to state capacity and needs</li> <li>Gubernatorial authority focused on limiting the role of the state</li> </ul>	<p>Economy is large; diverse industries with a mix of high and low skilled jobs</p> <p>Large sector of public and private institutions with minimal oversight</p> <p>Average level of educational attainment among citizens.</p> <p>Robust, need-based financial aid program for eligible students (PA State Grant Program)</p> <p><i>High Tuition, High but Inadequate Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>FTE support dropped lower than expected in last decade (2003-2008)</li> <li>Students carry among the largest debt-loads in the country</li> <li>Aid struggling to keep pace with college costs</li> <li>System may be overbuilt in relation to state capacity and needs.</li> </ul>	<p>Economy largely reliant on non-skilled labor (natural resources)</p> <p>Small to modest sector of public and private higher education institutions.</p> <p>Low level of educational attainment among citizens</p> <p>High degree of competing social and economic priorities (incarceration, unemployment, government assistance)</p> <p>Financial aid primarily funded via merit-based program (TOPS Scholarship Program)</p> <p><i>Low Tuition, High Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>FTE support has risen to higher than expected (2005-2008) due to economic/demographic impacts of Hurricane Katrina</li> <li>Workforce projections not commensurate with attainment goals</li> <li>Persistent social and economic problems inhibit educational investment</li> <li>Tuition increasing, merit program may not achieve desired increases in attainment (disproportionately benefits those most likely to attend college).</li> <li>Gubernatorial authority focused on higher education performance criteria for funding</li> </ul>	<p>Economy is stable, diversified with a mix of high and low skilled jobs</p> <p>Small sector of public and private higher education</p> <p>“Colorado Paradox:” High levels of attainment among older population, lower among younger population (import educated workers)</p> <p>Anti-tax culture evident by passage of Taxpayer Bill of Rights (TABOR), defeat of Colorado Promise Scholarships</p> <p>College Opportunity Fund (COF) provides vouchers for students attending higher education</p> <p><i>Moderate Tuition, Moderate Aid</i></p> <p><b>Key issues:</b></p> <ul style="list-style-type: none"> <li>COF has not kept up with tuition costs</li> <li>Tuition rising rapidly under institutional financial accountability plans</li> <li>May become a High tuition/moderate aid state as funding diminishes and tuition increases.</li> <li>Public goods aspects of higher education funding fail to sway political decisions</li> </ul>

# CONCLUSION

**T**his study used quantitative and qualitative analysis to identify factors influencing decisions about higher education funding at the state level, allowing stakeholders and advocates to distinguish goals, priorities, and obstacles to constructive policy solutions. Among all of the variables examined in our quantitative model, economic downturns and the growth of aging populations emerged as most important in explaining differences in support among states over the last two decades. These results are contextualized within the case studies of Minnesota, Pennsylvania, Louisiana, and Colorado, to show how history, culture, power, and public narratives can impact decisions about state appropriations in light of economic and demographic trends. While there is no single strategy to securing adequate funding for higher education, drawing together the lessons from our quantitative and qualitative research presents a way forward, toward putting higher education back on state agendas.

# METHODOLOGICAL APPENDIX

## QUANTITATIVE METHODS AND DATA SOURCES

Data were collected on all variables identified by the study's conceptual framework that were readily quantifiable for all 50 states for a period of 21 years (1988-2009). Table A1 illustrates how we mapped variables to each of the perspectives discussed in the report. Detailed information about data sources and collection procedures are available in a codebook provided by Demos on request.

One of the challenges in conducting longitudinal analyses is accounting for the nested or clustered data. Observations in a longitudinal study have a temporal order are nested within subjects overtime, and as a result are correlated or dependent. In this case, our dataset contains repeated measures that are nested within states. The dependency among the repeated measures violates the traditional assumption of independence in multiple regression. To account for the dependency due to the repeated measures, a linear mixed model (LMM) was utilized. LMMs account for the dependency among the repeated measures through the variance-covariance structure of the model (Fitzmaurice, Laird, & Ware, 2004; Singer & Willett, 2003).

A second issue affecting the analysis was the presence of missing data. Descriptive statistics (not presented) showed that missing data was limited to 14 observations, within three predictors: HSGRAD (4), FYTUI (1), TYTUI (9). The percentage of missing data was below one percent within any individual predictor and across all predictors. The data were treated as missing at random and imputed utilizing expectation-maximization with bootstrapping (EM) (Honaker, King, & Blackwell, 2011). The final dataset comprised 1100 observations.

The study's dependent variable is the natural log of full-time equivalent (FTE) state appropriations in real dollars from one year to the next from 1988-2009. Our dependent variable was adjusted for inflation using the All Urban Consumer Price Index from the U.S. Bureau of Labor Statistics. We chose to use FTE state appropriations as a dependent variable because we wanted to explain changes in state appropriations after controlling for changes in enrollment. While states like Tennessee are beginning to shift to appropriating a majority of state funds based on institutional outcomes, historically states have funded their public institutions primarily on enrollment (Hauptman, 2001).

### LINEAR MIXED MODELS

Linear mixed models (LMM) are useful and appropriate when the researcher is interested in answering questions about individual change and variability, questions concern-

ing the mean growth curve, and questions concerning covariates of change. LMMs are the most appropriate statistical technique for several reasons. First, using LMMs allows the researchers to ask questions about and model within-group change and between-group change simultaneously (Raudenbush & Bryk, 2002). Second, the LMM accounts for the nested nature of longitudinal data (dependency among the repeated measures). Third, LMMs incorporate a random error term that accounts for measurement unreliability. Fourth, LMMs account for between group differences by incorporating fixed and random effects, which allows the researcher to fit the most parsimonious model. Fifth, LMMs can accommodate missing data under the assumption of missing at random (Long & Pellegrini, 2003; Collins, Schafer, & Kam, 2001). Finally, LMMs can also accommodate both dynamic and static predictors. This condition was essential for the current study because our dataset contains both types of predictors. In matrix notation, the general form of the LMM can be expressed as:

$$y_i = X_i \beta + Z_i b_i + \epsilon_i$$

Where  $X_i$  is the design matrix for the fixed effects,  $Z_i$  is the design matrix for the random effects,  $\beta$  is a vector of fixed effects,  $b_i$  is a vector of random effects, and  $\epsilon_i$  is a vector of random errors.

### RESEARCH DESIGN AND DATA ANALYSIS

To answer the study's research question, we utilize a linear-mixed model (LMM) with first-order autocorrelation. Specifically, the model incorporates fixed effects for each of the predictors identified in the study's conceptual framework, a random intercept effect for each state, and first-order autocorrelation of the error term. The composition of our final model can be divided into its structural and stochastic portions. The structural portion of the model contains the fixed effects, which account for between state differences and define the group level growth curve. While, the stochastic portion (in LMM notation) contains the composite residual  $r_{ij}$ , where the values for  $r$  for state  $i$  on occasion  $j$  is:

$$r_{ij} = [b_{1i} + \Phi \epsilon_{ij} - 1 + \epsilon_{ij}]$$

Where  $b_{1i}$  represents the random effect for states,  $\Phi \epsilon_{ij} - 1$  represents the first-order autoregressive term, and  $\epsilon_{ij}$  is the residual error.

The inclusion of the random intercept effect helps to account for the dependency due to the repeated measures and

allows for state differences in the longitudinal covariation of the dependent variable and the predictors. The incorporation of the first-order autoregressive term into the model allows us to model the remaining autocorrelation present in observations that are a year apart from one another after controlling for the fixed and random effects (Pinheiro and Bates, 2000).

At each year mean FTE state appropriations is predicted by each independent variable aligned in the same year in the dataset. Time-varying predictors, also referred to as dynamic predictors, were lagged in the dataset by the researchers to address potential issues of endogeneity (Singer & Willet, 2003). In other words, we are modeling how our dependent variable (FTE state appropriations) and the predictors identified by the study's conceptual framework covary over time, or their longitudinal covariation.

If a time-varying predictor systematically changes in the same way as FTE state appropriations, then the predictor is considered to be significantly related to FTE state appropriations over time. For example, if mean FTE state appropriations increases and then decreases over time, and the predictor does the same, then the predictor will be positively and significantly related to FTE state appropriations. If there is no systematic change between FTE state appropriations and the predictor, then the two variables will not covary over time (Pellegrini & Long, 2003).

To begin, we performed graphical and descriptive analyses to explore patterns in the data. *Table A1* shows the mean FTE state appropriations have declined from 1988-2009; however, excluding the disruption in the trend line that corresponds to the most recent recession, FTE state appropriations appear to follow a cyclical pattern. *Table A2* presents descriptive statistics for all variables identified by the study's conceptual framework.

We took two distinct approaches in our model building. In our first approach, we included all the variables identified in the study's conceptual framework in the model. We refer to this model as the "kitchen sink model." While this approach ensured all of the theoretically relevant variables were included, it ignored considerations of parsimony and overspecification. Obviously, these are considerations that should not be ignored. The model results are presented in *Table A3*.

In our second approach, we followed Weerts and Ronca's (2012) model building approach. Their approach allows for the inclusion of all theoretically relevant predictors, but also allows us to create the most parsimonious model (Weerts & Ronca, 2012). Specifically, we built six models (not presented) matched to the study's six theoretical constructs. To determine which variables were included in each of the six models, we examined all pairwise correlations. If the absolute value of the correlation between any two predictors was greater than 0.50, then univariate models were fit to determine which predictor explained more variation in the response. Only the variable that best explained variation in the response was retained. Next, the results from these six models were combined into a final model utilizing the same methodology described above in the six construct model

building process. The model results are presented in *Table A4*, and the results of the model comparison are presented in *Table A5*, with the correlation matrix for the final model shown in *Table A6*.

Finally, the model assumptions were examined for their tenability. As with linear regression, statistical inference in LMMs is contingent on assumptions about the error term (Long, 2011). Specifically, we assume that both the random errors and random effects are normally distributed with a mean equal to zero. Additionally, we assume that the random errors are independent between time points, and have constant variance over time. Finally, we assume that the random effect is independent of the random errors. Our examination of the residuals and random effect suggests that the tenability of these assumptions is reasonable.

**TABLE A1: VARIABLES ASSIGNED TO THEORETICAL FRAMEWORK**

<b>Economic Perspective</b>
<i>State economic health</i>
PCINC (per capita personal income: 2011 dollars)
UERATE (state unemployment rate: %)
PCREV (per capita revenue by state: 2011 dollars)
TOTEXP (Total state government expenditures in 2011 dollars)
TOTREV (total state revenues in 2011 dollars)
<i>Demographic: Age, race, ethnicity</i>
CPCTHPOP (percent change in Hispanic population compared to previous year)
CPCTM3POP (percent change in total minority population as compared to previous year)
PCTEPOP (percent of population by state, 65 and older)
PCTHPOP (percent of total Hispanic origin population by state)
PCTM3POP (percent of total minority population)
POP (total state population)
<b>Political Perspective</b>
<i>State political environment</i>
GOVPRTY (party of governor: R/D)
PCTHSEREP (percent of republicans in lower house)
PCTSENREP (percent of republicans in state senate)
<i>State spending priorities</i>
PCEDUC (K-12 spending per capita: 2011 dollars)
PCHLTH (health care spending per capita: 2011 dollars)
PCCORR (corrections spending per capita: 2011 dollars)
<b>Cultural Perspective</b>
<i>State civic participation</i>
CNGVPR (Federal congressional elections voter participation %)
PRSVPR (Federal presidential elections voter participation %)
REGION (Geographical region of the US)
<i>Higher education sector profile (enrollment and composition)</i>
PCTTYENR (percent of two-year college enrollment)
NUMPUB (# of public institutions in a state)
FLAGS (# of flagship institutions in state)
PCTPRVENR (percent of higher education students enrolled in private for— or non-profit colleges)
TOTENR (Total state enrollment of higher education students)
<i>Educational completion</i>
HSGRAD (total number of high school diploma recipients by state)
<i>Costs incurred by students</i>
TUIPUB (total tuition and fees revenue for public higher education in 2011 dollars)

**TABLE A2: DESCRIPTIVE STATISTICS**

Variable	Mean	SD	Frequencies	Percent
FTE State Appropriations	7,694	2,140		
Number of Flagship Institutions	2.04	1.58		
Percent of Students Enrolled at Private Colleges	21.22	12.20		
Percent of Students Enrolled at a Two-Year Colleges	32.30	13.45		
Per Capita K-12 Expenditures	1392	328		
Number of High School Graduates	50,544	54,585		
Total State Population	5,515,925	6,049,778		
Percent of Population age 65 and older	12.61	1.92		
Percent of the population that is Minority	12.99	9.18		
Percent of the population that is Hispanic Origin	7.50	8.77		
Total State Revenue	29,236,434,182	36,220,229,536		
Per Capita Revenue	5,605	2,238		
Total State Expenditures	27,728,876,112	34,425,373,545		
Per Capita Corrections	5,234	1,824		
Per Capita Health Care Expenditures	174	87		
Per Capita Personal Income	35,842	6,271		
Unemployment Rate	5.26	1.59		
Congressional Election Voter Participation Rate	46.57	7.52		
Presidential Election Voter Participation Rate	60.03	6.69		
Republican Governor	.52	.50		
Percentage of State Senate that is Republican	45.87	16.63		
Percentage of Lower State House that is Republican	45.51	16.23		
<b>Region</b>				
New England			6	12%
Mid East			5	10%
Great Lakes			5	10%
Plains			7	14%
Southeast			12	24%
Southwest			4	8%
Rocky Mountains			5	10%
Far West			6	12%

**TABLE A3: "KITCHEN SINK" MODEL RESULTS**

		Random Effects	SD	Residual
		State		
		First-Order Serial Correlation (AR 1)	0.097	0.061
		$\Phi = .8699794$		
Fixed Effects	Value	SE	t-value	p-value
(Intercept)	4.694722	0.4823399	9.733223	0.0000
Unemployment Rate	-0.009831	0.0014174	-6.936412	0.0000
Percent of Population age 65 and older	-0.006426	0.0029965	-2.144470	0.0322
Presidential Election Voter Participation Rate	-0.001418	0.0003601	-3.938957	0.0001
Per Capita Health Care Expenditures	0.000029	0.0000318	0.906757	0.3647
Per Capita Personal Income	0.000000	0.0000012	0.349072	0.7271
Per Capita Revenue	0.000005	0.0000023	2.127108	0.0336
log(Total State Expenditures)	-0.048317	0.0436203	-1.107680	0.2683
log(Total State Revenue)	-0.062630	0.0162437	-3.855669	0.0001
Percent of the population that is Hispanic Origin	-0.000647	0.0016198	-0.399211	0.6898
Percent of the population that is Minority	0.000028	0.0008597	0.032949	0.9737
Republican Governor	-0.001539	0.0032102	-0.479517	0.6317
Percentage of Lower State House that is Republican	-0.000100	0.0002704	-0.369688	0.7117
Percentage of State Senate that is Republican	-0.000250	0.0002330	-1.073151	0.2835
Per Capita K-12 Expenditures	-0.000017	0.0000214	-0.796902	0.4257
Per Capita Corrections Expenditures	0.000012	0.0000066	1.881003	0.0603
Percent of Students Enrolled at Private Colleges	0.001387	0.0007111	1.950759	0.0514
Percent of Students Enrolled at a Two-Year Colleges	0.000261	0.0003895	0.670222	0.5029
Number of Flagship Institutions	-0.009157	0.0168300	-0.544092	0.5893
Number of High School Graduates	0.000000	0.0000003	-1.095138	0.2737
log(State Population)	0.124955	0.0556837	2.244019	0.0250
Congressional Election Voter Participation Rate	0.000184	0.0003569	0.516081	0.6059
REGION - Mid-East	0.100762	0.0700437	1.438554	0.1579
REGION - Great Lakes	0.062449	0.0744457	0.838851	0.4064
REGION - Plains	0.016684	0.0613792	0.271814	0.7871
REGION - Southeast	0.021941	0.0637162	0.344348	0.7323
REGION - Southwest	0.089325	0.0823969	1.084081	0.2847
REGION - Rocky Mountains	0.065029	0.0677227	0.960228	0.3426
REGION - Far West	0.162097	0.0685003	2.366365	0.0228

**TABLE A4: FINAL MODEL RESULTS**

		Random Effects	SD	Residual
		Final Model Results First-Order Serial Correlation (AR 1) $\Phi = .8672816$	0.094	0.060
Fixed Effects	Value	SE	<i>t</i> -value	<i>p</i> -value
(Intercept)	4.08858	0.04424	92.41	0.0000
Unemployment Rate	-0.07134	0.00969	-7.44	0.0000
Percent of Population age 65 and older	-0.00679	0.00292	-2.32	0.0202
Presidential Election Voter Participation Rate	-0.00157	0.00035	-4.53	0.0000
Per Capita Health Care Expenditures	0.00004	0.00003	1.17	0.2405

**TABLE A5: RESULTS OF MODEL COMPARISON**

Model Fit Statistics	Final Model <i>(reduced model)</i>	“Kitchen Sink” Model <i>(full model)</i>
df	8	32
AIC	-4372	-4088
BIC	-4332	-3929
LogLik	2194	2076
Likelihood ratio test ( $\Lambda$ )	235	
p-value	< 0.0001	

**TABLE A6: FINAL MODEL CORRELATION MATRIX**

	(Intr)	Unemployment Rate	Percent of Population Age 65 and Older	Presidential Election Voter Participation Rate
Unemployment Rate	-0.011			
Percent of Population age 65 and older	-0.802	-0.145		
Presidential Election Voter Participation Rate	-0.437	-0.024	-0.037	
Per Capita Health Care Expenditures	-0.143	0.142	0.007	0.012

# REFERENCES

- Collins, L., Schafer, J., & Kam, C. (2001). A comparison of inclusive and restrictive strategies in modern missing data procedures. *Psychological Methods*, 6, 330-351.
- Fitzmaurice, L., Laird, N. M., & James, H. Ware (2004). *Applied longitudinal analysis*: Wiley & Sons.
- Hauptman, A. M. (2001). Reforming the ways in which states finance higher education. *The states and public higher education policy: Affordability, access, and accountability*, 64-80.
- Honaker, J., King, G., & Blackwell, M. (2011). Amelia II: A program for missing data. *Journal of Statistical Software*, 45(7), 1-47.
- Long, J. D. (2011). *Longitudinal data analysis for the behavioral sciences using R*: Sage Publications, Inc.
- Long, J. D., & Pellegrini, A. D. (2003). Studying Change in Dominance and Bullying with Linear Mixed Models. *School Psychology Review*, 32(3), 401-418.
- Pellegrini, A. D., & Long, J. D. (2003). A sexual selection theory longitudinal analysis of sexual segregation and integration in early adolescence. *Journal of Experimental Child Psychology*, 85(3), 257-278.
- Pinheiro, J. C., & Bates, D. M. (2000). *Mixed-effects models in S and S-PLUS*: Springer Verlag.
- Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods (Vol. 1)*: Sage Publications, Inc.
- Singer, J. D., & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*: Oxford University Press, USA
- Weerts, D. J. (2002). *State governments and research universities: A framework for a renewed partnership*. New York: RoutledgeFalmer.
- Yin, R. K. (2001) *Case study research: Designs and methods*, (3rd ed.). Thousand Oaks, CA: Sage Publications.

# QUALITATIVE METHODS AND DATA SOURCES

Document review was the primary method of data collection employed in the case studies. Documents such as state policy studies, governing board reports, newspaper clippings, government, institutional, and policy agency websites, and related written materials informed the analysis. A protocol developed by Weerts (2002) was employed to retrieve qualitative data in relation to the rational, political, and cultural perspectives identified in the literature review. The procedure for coding and analyzing the data was informed by Yin (2001).

This qualitative phase of study has two important limitations worth noting. First, the analysis focuses on a small number of states from which to draw conclusions about higher and lower than predicted levels of state support for higher education. The four institutions alone cannot explain the entire universe of factors explaining differences in state support for higher education. As such, the case study is valuable in illustrating contextual differences that may exist in some states, understanding that it is not fully generalizable across institutions and states. Second, the report draws fully on written reports and materials to draw conclusions about state political history and other factors related to support for higher education. Interviews with key informants would serve to triangulate the written data in future studies.

## QUALITATIVE DATA COLLECTION PROTOCOL THEMATIC AREAS FROM CONCEPTUAL FRAMEWORK

### *Economic and Demographic factors*

To what extent is funding for higher education in STATE X based on economic measures such as state tax capacity, availability of state revenues, and general economic conditions?

To what extent is funding for higher education in STATE X based on changes in the overall population of the state, enrollment levels, diversity, and participation rates of the particular institutions?

### *Political factors*

Describe the politics of the budgeting process in STATE X, and explain how it affects appropriations for higher education.

To what extent does the Governor affect the level of appropriations for higher education in STATE X, and higher education in general? Historically, how important has the Governor been in planning for the future of higher education in STATE X?

Describe the political climate surrounding legislative support for higher education in STATE X. To what extent has this climate, or the actions of individual legislators, influenced the level of appropriations during the past two decades?

What priority is given to higher education in STATE X, compared to other competing state agencies or programs such as corrections, K-12 schools, etc?

### *Higher Education Governance*

Describe the governing system in STATE X. How does the governance structure of higher education in your state affect the level of appropriations allocated to institutions?

*Cultural Factors (Historical traditions/Public attitudes)*

Historically, to what degree has STATE X supported higher education?

Describe the current level of citizens' collective value accorded to higher education. What significant events or historical precedents may have shaped citizens' attitudes toward higher education?

To what degree do public attitudes reflect the growth of appropriations for Institution X?

Historically, how has the legislature treated higher education? What degree of autonomy or flexibility (e.g. tuition) has been afforded to colleges since its existence?

*Institutional Strategies and Characteristics*

Have institutional strategies been employed to maintain or strengthen state support for higher education in STATE X? Building coalitions, etc? Explain the reasons behind the success or failure of these strategies.

## DATA SOURCES FOR STATE PROFILES

### MINNESOTA

- Burbach, K. (2012, February 16). Dayton stresses compromise, jobs and education in speech. *Minnesota Daily*. Retrieved from <http://www.mndaily.com/2012/02/16/dayton-stresses-compromise-jobs-and-education-speech>
- Boyte, H., Dobson, L., Kawashama-Ginsburg, K., Knuckey, J., & Levine, P. (2010). *Tale of Two Cities: Civic Health in Miami and Minneapolis-St. Paul*. National Conference on Citizenship.
- Citizens League. (2004). Trouble on the horizon: Growing demands and competition, limited resources, and changing demographics in higher education. Retrieved from <http://www.citizensleague.org/highereducation/html/Final%20final.11%2005.pdf>
- Financial aid program data. (2012). Minnesota Office of Higher Education. Retrieved from <http://www.ohe.state.mn.us/mPg.cfm?pageID=410>
- Fine, K. K. (1993). A history of Minnesota higher education policy: A policy analysis. Saint Paul, MN: *Minnesota House of Representatives*. Retrieved from <http://www.eric.ed.gov/PDFS/ED360888.pdf>
- Friedrich, A. (2011, August 23). 10 consequences of state cuts to public higher education. *Minnesota Public Radio News*. Retrieved from <http://oncampus.mpr.org/2011/08/10-things-state-cuts-are-doing-to-public-higher-education/>
- Itasca Project. (2012). Higher education partnerships for prosperity. Retrieved from <http://www.theitascaproject.com/Itasca%20Project%20-%20Higher%20Ed%20White-paper%20FINAL2.pdf>
- Johnston, L. (2011). 1986 – 2011 and beyond. Greater Minnesota. Retrieved from <http://www.greatermnnesota.net/25years/intro.html>
- Marketwire. (2012, July 10). Business and higher education leaders identify framework for solutions for challenges facing higher education and Minnesota. Retrieved from [http://www.msnbc.msn.com/id/48134303/ns/business-press\\_releases/t/business-higher-education-leaders-identify-framework-solutions-challenges-facing-higher-education-minnesota/#.UBf2GY5Zvbf](http://www.msnbc.msn.com/id/48134303/ns/business-press_releases/t/business-higher-education-leaders-identify-framework-solutions-challenges-facing-higher-education-minnesota/#.UBf2GY5Zvbf)
- Minnesota Budget Bites (2012). Minnesota Budget Project. Retrieved from <http://minnesotabudgetbites.org/>
- Minnesota House of Representatives. (2012). Retrieved from <http://www.house.leg.state.mn.us/>
- Minnesota Management and Budget. (2012). Retrieved from <http://www.mmb.state.mn.us/home>
- Minnesota Office of Higher Education (2006). Report from the task force to study the implementation of higher education funding policy. Retrieved from <http://www.ohe.state.mn.us/pdf/HigherEdFundingPolicyReport01-06.pdf>
- Minnesota Office of Higher Education (2012). Retrieved from <http://www.ohe.state.mn.us/>
- Minnesota Office of the Revisor of Statutes. (2012). Retrieved from <https://www.revisor.mn.gov/index.php>
- Minnesota political parties. (2010). Retrieved from <http://www.city-data.com/states/Minnesota-Political-parties.html>
- Minnesota Senate. (2012). Retrieved from <http://www.senate.leg.state.mn.us/>
- Nord, J. (2011, March 23). Battle lines drawn as advocates try to fend off GOP proposal for biggest higher-ed cuts ever. *MinnPost*. Retrieved from <http://www.minnpost.com/politics-policy/2011/03/battle-lines-drawn-advocates-try-fend-gop-proposal-biggest-higher-ed-cuts-ev>
- Nord, J. (2011, March 30). Legislature passes bills to cut higher ed funds. *Minnesota Daily*. Retrieved from <http://www.mndaily.com/2011/03/30/leg-passes-bills-cut-higher-ed-funds>
- Ostermeier, E. (2012, April 19). Minnesota poised to set democratic presidential winning streak for non-southern states. *University of Minnesota Humphrey School of Public Affairs*. Retrieved from [http://blog.lib.umn.edu/cspg/smartpolitics/2012/04/minnesota\\_poised\\_to\\_set\\_democr.php](http://blog.lib.umn.edu/cspg/smartpolitics/2012/04/minnesota_poised_to_set_democr.php)
- Post, T. (2011, July 19). Bill cuts funding for higher education by 10%. *Minnesota Public Radio News*. Retrieved from <http://minnesota.publicradio.org/display/web/2011/07/19/shutdown-higher-education-bill/>
- Washington Higher Education Coordinating Board. (2011). Fitting together policy environment, educational system designs, and leadership: What's best for Washington? Retrieved from <http://www.wsac.wa.gov/sites/default/files/GovernancePaper-2011.pdf>

### PENNSYLVANIA

- 225 years of building better lives. (2012). University of Pittsburgh. Retrieved from <http://www.225.pitt.edu/>
- About Lincoln. (2012). Lincoln University of the Commonwealth of Pennsylvania. Retrieved from <http://www.lincoln.edu/about.html>
- Act 188 of 1982. (2012). Pennsylvania State System of Higher Education. Retrieved from <http://www.passhe.edu/inside/legal/Pages/Act-188.aspx>
- Armenti, A. (2008). *Declining public support for higher education in Pennsylvania* [PowerPoint slides]. Retrieved from <http://www.calu.edu/about-us/files/Baruch-College-Presentation-Slides.pdf>
- Bezilla, M. (2012). Board of trustees history. Pennsylvania State University Board of Trustees. Retrieved from <http://www.psu.edu/trustees/timeline/index.html>
- Board of governors. (2012). Pennsylvania State System of Higher Education. Retrieved from <http://www.passhe.edu/inside/bog/Pages/BOG-Home.aspx>
- Board of trustees. (2012). Pennsylvania State University Board of Trustees. Retrieved from <http://www.psu.edu/trustees/index.html>
- Board of trustees. (2010). Bylaws of Temple University of the Commonwealth System of Higher Education. Temple University. Retrieved from <http://www.temple.edu/secretary/documents/bylaws-01-32-00.pdf>
- Bryan, E. (2008, December 2). What's wrong with Pennsylvania higher education. Commonwealth Foundation. Retrieved from <http://www.commonwealthfoundation.org/research/detail/whats-wrong-with-pennsylvania-higher-education>
- College completion. (2012). *The Chronicle of Higher Education*. Retrieved from [http://collegecompletion.chronicle.com/state/#state=pa&sector=public\\_four](http://collegecompletion.chronicle.com/state/#state=pa&sector=public_four)
- Crosby, W. (2012, February 15). Corbett plans to cut higher education funding. *The Duquesne Duke*. Retrieved from <http://www.theduquesneduke.com/corbett-plans-to-cut-higher-education-funding-1.2782882#.UBgt6o5Zvbf>
- Executive office of the president. (2012). Temple University. Retrieved from <http://www.temple.edu/president/>
- Fontana, W. (2012, March 7). Fontana discusses higher education and effect of funding cuts. *Dormont-Brookline Patch*. Retrieved from <http://dormont-brookline.patch.com/articles/fontana-discusses-higher-education-and-effect-of-funding-cuts>
- Gallery of speakers' portraits. (2012). The Pennsylvania General Assembly. Retrieved from [http://www.legis.state.pa.us/WU01/VC/visitor\\_info/gallery/gallery.pdf](http://www.legis.state.pa.us/WU01/VC/visitor_info/gallery/gallery.pdf)
- Mansfield University News. (2012, July 10). Governor Corbett signs Higher Education Modernization Act. Retrieved from [http://www.northcentralpa.com/feed-item/2012-07-10\\_governor-corbett-signs-higher-education-modernization-act](http://www.northcentralpa.com/feed-item/2012-07-10_governor-corbett-signs-higher-education-modernization-act)
- Murphy, J. (2011, June 24). Pa. house appropriations committee moves bills that would provide funding to Penn State, Pitt, Temple, and Lincoln Universities. *The Patriot News*. Retrieved from [http://www.pennlive.com/midstate/index.ssf/2011/06/pa\\_house\\_appropriations\\_commit.html](http://www.pennlive.com/midstate/index.ssf/2011/06/pa_house_appropriations_commit.html)
- Office of Postsecondary and Higher Education. (2012). Pennsylvania Department of Education. Retrieved from [http://www.education.state.pa.us/portal/server.pt/community/office\\_of\\_postsecondary\\_higher\\_education/7236](http://www.education.state.pa.us/portal/server.pt/community/office_of_postsecondary_higher_education/7236)
- Pennsylvania. (2012). United States Census Bureau. Retrieved from <http://quickfacts.census.gov/qfd/states/42000.html>
- Pennsylvania Commission for Community Colleges. (2012). Retrieved from <http://www.pacomunitycolleges.org/>
- Pennsylvania Education Advocacy Network. (2012). Retrieved from <http://www.epic.org/public-advocacy/pa-education-advocacy-network/>
- Pennsylvania election results. (2012). Retrieved from <http://uselectionatlas.org/RESULTS/state.php?fips=42&f=0&off=99>
- Pennsylvania facts 2012. (2012). Pennsylvania State University Harrisburg. Retrieved from [http://pasdc.hbg.psu.edu/sdc/pasdc\\_files/pastats/PaFacts\\_2012.pdf](http://pasdc.hbg.psu.edu/sdc/pasdc_files/pastats/PaFacts_2012.pdf)
- Pennsylvania General Assembly. (2012). Retrieved from <http://www.legis.state.pa.us/>
- Pennsylvania Higher Education Assistance Agency. (2012). Retrieved from <http://www.pheaa.org/index.html>
- Pennsylvania higher education spending. (2012, April 2). Commonwealth Foundation. Retrieved from <http://www.commonwealthfoundation.org/research/detail/pennsylvania-higher-education-spending>

Pennsylvania history. (2012). Pennsylvania General Assembly. Retrieved from [http://www.legis.state.pa.us/wu01/vc/visitor\\_info/pa\\_history/whole\\_pa\\_history.htm](http://www.legis.state.pa.us/wu01/vc/visitor_info/pa_history/whole_pa_history.htm)

Pennsylvania Office of the Budget. (2012). Retrieved from <http://www.portal.state.pa.us/portal/server.pt?open=512&objID=4408&mode=2>

Pennsylvania State System of Higher Education. (2012). Retrieved from <http://www.passhe.edu/Pages/default.aspx>

Pennsylvania State System of Higher Education. (2012). The Pennsylvania State System of Higher Education: Service students and the commonwealth. Retrieved from <http://www.calu.edu/alumni/files/2013%20PASSHE%20budget%20info.pdf>

Pennsylvania State University. (2012). Retrieved from Office of Postsecondary and Higher Education. (2012). Pennsylvania Department of Education. Retrieved from [http://www.education.state.pa.us/portal/server.pt/community/office\\_of\\_postsecondary\\_higher\\_education/7236](http://www.education.state.pa.us/portal/server.pt/community/office_of_postsecondary_higher_education/7236)

Romeo, T. (2012, March 12). Gov. Corbett defends higher education funding cuts in Pennsylvania. *CBS Philly*. Retrieved from <http://philadelphia.cbslocal.com/2012/03/12/gov-corbett-defends-higher-education-funding-cuts-in-pennsylvania/>

Selingo, J. (2011, March 9). In Pennsylvania, campus leaders prepare to trim budgets as they fight governor's proposed cuts. *The Chronicle of Higher Education*. Retrieved from <http://chronicle.com/article/Campus-Leaders-in-Pennsylvania/126670/>

Standing orders of the board of trustees. (2011). Pennsylvania State University System of the Commonwealth of Pennsylvania. Retrieved from <http://www.psu.edu/trustees/pdf/standingorders.pdf>

Temple University. (2012). Retrieved from <http://www.temple.edu/>

University of Pittsburgh fact book 2012. (2012). University of Pittsburgh. Retrieved from <http://www.ir.pitt.edu/factbook/documents/fb12.pdf>

Zumeta, W. & Fawcett-Long, J. (1996). State policy and budget developments. *The NEA 1996 almanac of higher education*. Retrieved from [http://beta.nea.org/assets/img/PubAlmanac/ALM\\_96\\_07.pdf](http://beta.nea.org/assets/img/PubAlmanac/ALM_96_07.pdf)

## LOUISIANA

About Louisiana. (2012). Department of Administration. Retrieved from [http://doa.louisiana.gov/about\\_economy.htm](http://doa.louisiana.gov/about_economy.htm)

Addo, K. (2012, June 10). Colleges: Effects of cuts severe. *The Advocate*. Retrieved from <http://theadvocate.com/home/3042457-125/colleges-effects-of-cuts-severe>

Addo, K. (2012, July 11). Moffett announces retirement plans. *The Advocate*. Retrieved from <http://theadvocate.com/home/3307538-125/head-of-ul-system-president>

Beam, J. (2012, July 11). Beam: Higher ed loses another leader. *American Press*. Retrieved from <http://www.americanpress.com/Beam-7-12-12>

Blum, J. (n.d.). The governor's race: Higher ed. *The Advocate*. Retrieved from <http://theadvocate.com/home/1058259-79/story.html>

Board of Regents. (2012). Master plan for public postsecondary education in Louisiana. Retrieved from [http://www.regents.doa.louisiana.gov/assets/docs/Planning/MasterPlan-FINAL-2011\\_0901.pdf](http://www.regents.doa.louisiana.gov/assets/docs/Planning/MasterPlan-FINAL-2011_0901.pdf)

Board of Regents. (2012). State of Louisiana. Retrieved from <http://www.regents.state.la.us/>

Council for a Better Louisiana. (2011). *Louisiana fact book 2011*. Baton Rouge, LA: Author. Retrieved from [http://cabl.org/pdfs/CABL\\_Fact\\_Book\\_PDF\\_2011.pdf](http://cabl.org/pdfs/CABL_Fact_Book_PDF_2011.pdf)

Council for a Better Louisiana. (2012). Retrieved from <http://cabl.org/default.aspx>

David R. Poynter Legislative Research Library. (2012). Membership in the Louisiana House of Representatives 1812 – 2016. Louisiana House of Representatives. Retrieved from [http://house.louisiana.gov/H\\_PDFdocs/HouseMembership\\_History\\_CUR-RENT.pdf](http://house.louisiana.gov/H_PDFdocs/HouseMembership_History_CUR-RENT.pdf)

Education Commission for the States. (2012). Postsecondary governance: Online database. Retrieved from <http://www.wiche.edu/info/publications/policyCOE.pdf>

Finley, S. J. (1999). The progress of education in Louisiana. *Southwest Educational Development Laboratory*. Retrieved from <http://www.sedl.org/pubs/pic01/welcome.html>

Hodgson, F. (2010, December 6). Louisiana's higher education system not making the grade. *The Pelican Post*. Retrieved from <http://www.thepelicanpost.org/2010/12/06/louisianas-higher-education-system-not-making-the-grade/>

Kiley, K. (2012, May 2). Watch your mouth. *Inside Higher Ed*. Retrieved from <http://www.insidehighered.com/news/2012/05/02/lsu-presidents-dismissal-shows-influence-politics-university-leadership>

Kiley, K. (2012, July 2). What's up with boards these days? *Inside Higher Ed*. Retrieved from <http://www.insidehighered.com/news/2012/07/02/trustees-are-different-they-used-be-and-uva-clashes-will-be-more-common>

Landrieu, M. (2012). About Louisiana. Retrieved from <http://landrieu.senate.gov/louisiana/>

Louisiana. (2012). United States Census Bureau. Retrieved from <http://quickfacts.census.gov/qfd/states/22000.html>

Louisiana Office of Student Financial Assistance. (2012). Retrieved from <http://www.osfa.la.gov/index.jsp>

Louisiana Postsecondary Review Commission. (2012). Board of Regents State of Louisiana. Retrieved from <http://laperc.org/pressReleases/081009.cfm>

Louisiana State Legislature. (2012). Retrieved from <http://www.legis.state.la.us/>

Louisiana State Senate. (2012). Retrieved from <http://senate.la.gov/default.asp>

Moller, J. (2010, October 22). Health care and higher education are focus of budget cuts outlined by Gov. Bobby Jindal. *The Times-Picayune*. Retrieved from [http://www.nola.com/politics/index.ssf/2010/10/health\\_care\\_and\\_higher\\_educati.html](http://www.nola.com/politics/index.ssf/2010/10/health_care_and_higher_educati.html)

Moller, J. (2011, February 13). Louisiana universities bracing for another round of budget cuts. *The Times Picayune*. Retrieved from [http://www.nola.com/education/index.ssf/2011/02/louisiana\\_universities\\_bracing.html](http://www.nola.com/education/index.ssf/2011/02/louisiana_universities_bracing.html)

Office of Planning and Budget. (2012). State of Louisiana Division of Administration. Retrieved from <http://www.doa.louisiana.gov/opb/index.htm>

Parmley, K., Bell, A., L'Orange, H. & Lingenfelter, P. (2009). State budgeting for higher education in the United States: As reported for fiscal year 2007. *State Higher Education Executive Office*. Retrieved from <http://laperc.org/pressReleases/081009.cfm>

Sabludowsky, S. (2012, July 27). Jindal continues major campaign cash – Regents pick with Ray Brandt. *Bayou Buzz*. Retrieved from <http://www.bayoubuzz.com/component/k2/item/38764-jindal-continues-major-campaign-cash-regents-pick-with-ray-brandt>

Southern Regional Education Board. (2011). *Louisiana: Featured facts*. Atlanta, GA: Author. Retrieved from <http://publications.sreb.org/2011/LA.pdf>

Southern Regional Education Board. (2012). How SREB serves Louisiana. Retrieved from <http://www.sreb.org/page/1058/louisiana.html>

State of Louisiana. (2012). Retrieved from <http://louisiana.gov/>

University of Louisiana System. (2012). Retrieved from <http://www.ulsystem.net/>

## COLORADO

2013 Year of the Student. (2012). Retrieved from [http://www.denverpost.com/news/ci\\_20109489/colorado-joint-budget-committee-oks-2012-13-funding](http://www.denverpost.com/news/ci_20109489/colorado-joint-budget-committee-oks-2012-13-funding)

Bell Policy Center. (2002). *Understanding TABOR: The first steps*. Denver, CO: Author. Retrieved <http://quickfacts.census.gov/qfd/states/08000.html>

Birch, B. A. (2012, January 4). Colorado to appeal education funding lawsuit. *Education News*. Retrieved from <http://www.educationnews.org/education-policy-and-politics/colorado-to-appeal-education-funding-lawsuit/>

Buchanan, W., Hedges, C., Sobanet, H. (2009). Four things we all need to know about Colorado's fiscal challenges [PowerPoint slides]. Retrieved from <http://www.slideshare.net/GreatEducationColorado/four-things-to-know-about-colorados-fiscal-challenges>

Colorado. (2012). U.S. Census Bureau. Retrieved from <http://quickfacts.census.gov/qfd/states/08000.html>

Colorado Attorney General. (2012). *Lobato v. Colorado*. Retrieved from [http://www.coloradoattorneygeneral.gov/departments/state\\_services/education/lobato](http://www.coloradoattorneygeneral.gov/departments/state_services/education/lobato)

Colorado Commission on Higher Education. (2002). *Higher education master plan 2001 – 2002*. Denver, CO: Author. Retrieved from [http://www.state.tn.us/thec/Divisions/PPR/planning/pdf/state\\_master\\_plans/Colorado\\_MP\\_01-02.pdf](http://www.state.tn.us/thec/Divisions/PPR/planning/pdf/state_master_plans/Colorado_MP_01-02.pdf)

Colorado Commission on Higher Education. (2012). Colorado Department of Education. Retrieved from <http://highered.colorado.gov/cche.html>

Colorado Department of Higher Education. (2012). Retrieved from <http://highered.colorado.gov/dhedefault.html>

Colorado economy. (2012). Retrieved from [http://www.netstate.com/economy/co\\_economy.htm](http://www.netstate.com/economy/co_economy.htm)

Colorado General Assembly. (2001). Amendment 23: A brief overview. Retrieved from <http://www.colorado.gov/cs/Satellite?blobcol=urldata&blobheader=application%2Fpdf&blobkey=id&blobtable=MungoBlobs&blobwhere=1239161152127&ssbinary=true>

Colorado General Assembly. (2012). Retrieved from <http://www.leg.state.co.us/clics/clics2012B/cslFrontPages.nsf/HomeSplash?OpenForm>

Colorado governors since 1861. (2011). Colorado State Archives. Retrieved from <http://www.colorado.gov/dpa/doit/archives/office/gov.html>

Colorado Legislative Council. (2012). Ballot and blue book. Retrieved from <http://www.colorado.gov/cs/Satellite/CGA-LegislativeCouncil/CLC/1200536134742>

Colorado political parties. (2012). Retrieved from <http://www.city-data.com/states/Colorado-Political-parties.html>

Cotton, A. (2012, April 15). CU president: Colorado's state funding for colleges imperiled. *The Denver Post*. Retrieved from [http://www.denverpost.com/news/ci\\_20399315/cu-president-state-funding-colleges-imperiled](http://www.denverpost.com/news/ci_20399315/cu-president-state-funding-colleges-imperiled)

Education Commission for the States. (2012). Postsecondary governance: Online database. Retrieved from <http://www.wiche.edu/info/publications/policyCOF.pdf>

Engdahl, T. (2011, December 13). Lobato case dominates discussion. EdNews Colorado. Retrieved from <http://www.ednewscolorado.org/2011/12/13/29970-lobato-case-top-of-mind>

Engdahl, T. (2011, December 19). What if there's no money? *EdNews Colorado*. Retrieved from <http://www.ednewscolorado.org/2011/12/19/30241-what-if-theres-no-money>

Engdahl, T. (2012, March 18). Group calls for school finance reform. *EdNews Colorado*. Retrieved from <http://www.ednewscolorado.org/2012/03/18/34763-group-says-its-time-to-reform-school-finance>

Great Education Colorado. (2012). Retrieved from <http://www.greateducation.org/>

Helman, J. (2010, October 15). Higher education funding in Colorado. *The Denver Post*. Retrieved from [http://www.denverpost.com/opinion/ci\\_16340629](http://www.denverpost.com/opinion/ci_16340629)

Johnson, D. M. & McMaken, R. W. (2001, March). Tax revenues in the American states, the tax revolt, and Colorado's TABOR Amendment. Paper presentation at the Ludwig Von Mises Institute, Auburn, AL. Retrieved from <http://mises.org/pdf/asc/2004/asc2004mcmaken.pdf>

Lav, I. J. & Williams, E. (2010). *A formula for decline: Lessons from Colorado for states considering TABOR*. Washington, D. C.: Center on Budget and Policy Priorities. Retrieved from <http://www.cbpp.org/files/10-19-05fp.pdf>

Reichardt, R. (2012, January 23). Commentary: Options for higher ed funding. EdNews Colorado. Retrieved from <http://www.ednewscolorado.org/2012/01/23/31665-commentary-options-for-higher-ed-funding>

School Finance Partnership. (2012). Retrieved from <http://www.schoolfinancepartnership.org/main.html>

Schroyer, J. (2012, February 10). Douglas Bruce from LA lawyer to convicted tax evader. *The Gazette*. Retrieved from <http://www.gazette.com/articles/bruce-133198-history-doug.html>

The Bell Staff. (2003). Ten years of TABOR. The Bell Policy Center. Retrieved from <http://bellpolicy.org/sites/default/files/TABOR10.pdf>

Western Interstate Commission for Higher Education. (2005). *An evaluation of Colorado's college opportunity fund and related policies*. Boulder, CO: Author. Retrieved from <http://www.wiche.edu/info/publications/policyCOF.pdf>

# ENDNOTES

1. Quintero, J. (March, 2012). The great cost shift. How higher education cuts undermine the future middle class. Demos: New York.
2. Kelderman, E., (2012). State Support for Colleges Falls 7.6% in 2012 Fiscal Year, *Chronicle of Higher Education*. <http://chronicle.com/article/State-Support-for-Higher/130414/>.
3. Ehrenberg, R. G., (2006). *What's Happening to Public Higher Education?* Greenwood Press, Portsmouth, NH.
4. Harkness, P. (June, 2012). Public universities reach tipping point after years of decreased education funding. *Governing Magazine*.
5. Quintero, J. (2012). The great cost shift: How higher education cuts undermine the future middle class. Demos: New York.
6. Pasque, P. (2010). *American Higher Education, Leadership, and Policy: Critical Issues and the Public Good*. New York: Palgrave Macmillan.
7. The Education Trust, University of Maryland System Report Card, May 2012, [www.edtrust.org/sites/edtrust.org/files/Maryland\\_report\\_card.pdf](http://www.edtrust.org/sites/edtrust.org/files/Maryland_report_card.pdf).
8. Ibid.
9. Immerwahr J., Johnson, Ott, A., and Rochkind, J., (February, 2010). *Squeeze Play 2010: Continued Public Anxiety On Cost, Harsher Judgments On How Colleges Are Run*. A Joint Project of The National Center for Public Policy and Higher Education and Public Agenda.
10. National Center for Public Policy and Higher Education *The Iron Triangle: College presidents talk about costs, access, and quality*. (2008) *National Center for Public Policy and Higher Education*. Retrieved from [http://www.highereducation.org/reports/iron\\_triangle/IronTriangle.pdf](http://www.highereducation.org/reports/iron_triangle/IronTriangle.pdf).
11. Harkness, "Public universities reach tipping point."
12. Thelin, J. (2004), *A History of American Higher Education*. Johns Hopkins Press, Baltimore, MD.
13. Relevant sources include, but are not limited to:  
Alexander, F. K. (2001). *Disparities in state tax effort for financing higher education*. A paper presented at the Cornell Higher Education Research Institute (CHERI) Higher Education Policy Conference: Financing Higher Education in the 21st Century, May 21-23, 2001.  
Archibald, R. B., & Feldman, D. H. (2006). State Higher Education Spending and the Tax Revolt. *Journal of Higher Education* 77(4) 618-644.  
Baldwin, C. A. (2007). *Higher education and appropriations: All stick and no carrot?* Paper presented at the American Association for Educational Research Annual Conference, Chicago, IL.  
Hovey, H. A. (1999). *State spending for higher education in the next decade: The battle to sustain current support*. Washington, D.C.: National Center for Public Policy and Higher Education.  
Hossler, D., Lund, J. P., Ramin, J., Westfall, S., & Irish, S. (1997). State funding for education: The Sisyphean task. *Journal of Higher Education*, 68(2), 160-190.  
Kane, T. J., Orszag, P. R., & Gunter, D. L. (2003). *State fiscal constraints and higher education spending: The role of Medicaid and the business cycle*. Discussion Paper No. 11. Washington, D.C.: The Urban Institute.  
Lowry, R. C. (2001). The effects of state political interests and campus outputs on public university revenues. *Economics of Education Review*, 20, 105-119.  
McLendon, M. K., Hearn, J.C., & Mokher, C. G. (2009). Partisans, professionals, and power: The role of political factors in state higher education funding. *Journal of Higher Education*, 80(6), 686-713.  
Rizzo, M. J., (2006). State preferences for higher education spending: A panel data analysis, 1977-2001. In R. Ehrenberg, (Ed). *What's happening to public higher education?* Westport, CT: Praeger.  
Tandberg, D. A. (2008). The politics of state higher education funding. *Higher Education in Review*, 5, 1-36.  
Toutkoushian, R., K. & Hollis, P. (1998). Using panel data to examine legislative demand for higher education. *Education Economics*, 6, 2, 141-158.  
Weerts, D. J. & Ronca, J. M., (2006). Examining differences in state support for higher education: A comparative study of state appropriations for research universities. *Journal of Higher Education*, 77(6), 935-965.  
Weerts, D. J., & Ronca, J. M. (2012). Understanding Differences in State Support for Higher Education Across States, Sectors, and Institutions: A Longitudinal Study. *The Journal of Higher Education*, 83(2), 155-185.
14. These theoretical frameworks appear in detail in the following sources: Weerts, D. J. (2002). *State governments and research universities: A framework for a renewed partnership*. New York: RoutledgeFalmer.  
Weerts, D. J., & Ronca, J. M. (2007). *Determinants of state appropriations for higher education from 1985-2005: An organizational theory analysis*. Working paper No. 013, Wisconsin Center for the Advancement of Postsecondary Education (WISCAPE), University of Wisconsin-Madison.
15. Hoenack S., & Pierro, D. (1990). An econometric model of a public university's income and enrollments. *The Journal of Economic Behavior and Organization*, 14, 403-423.  
Layzell, D. T. & Lyddon, J. W., (1990). *Budgeting for higher education at the state level: Enigma, paradox, and ritual*. San Francisco: Jossey-Bass.  
Toutkoushian, "An economist's perspective."  
Lowry, "The effects of state," McLendon, Hearn, & Mokher, "The politics of funding,"  
Rizzo, "State preferences."
16. Weerts, & Ronca, "Understanding Differences."  
McLendon, Hearn, & Mokher, "The politics of funding" and Rizzo, "State preferences."
17. Hines, E. R., Hickrod, A. G., & Pruyne, G. B. (1989). *State Support of Higher Education: From Expansion to Steady State to Decline, 1969-1989*. MacArthur/Spencer Series No. 9. Normal, Ill.: Center for Education Finance and Higher Education.
18. Barrilleaux C. & Berkman, M. (2003). Do governor's matter? Budgeting rules and the politics of state policymaking. *Political Research Quarterly*, 56, 4, 409-417.
19. Rizzo, "State preferences."
20. Ibid.
21. Ibid.
22. Weerts, "Beating the odds."
23. Archibald & Feldman, "State Higher Education."
24. Layzell & Lyddon, "Budgeting for higher education," and Weerts, D. J. (2008, November 7). *Power, identity, and inequities in state support for public college and universities in Massachusetts*. Research paper presentation, Association for the Study of Higher Education, Jacksonville, FL.
25. Weerts, D. J. (2002). *State governments and research universities: A framework for a renewed partnership*. New York: RoutledgeFalmer and Weerts & Ronca, "Examining differences."
26. Fine, K., (1993). A history of Minnesota higher education policy: A policy analysis. Minnesota House of Representatives: St. Paul, MN.
27. Report from the Task Force to Study the Implementation of the Higher Education Funding Policy, A report required under session laws 2005, Chapter 107.
28. State Appropriations for Financial Aid Programs (1998-2013). Minnesota Office of Higher Education. Source <http://www.ohe.state.mn.us/pdf/FAAppropriation-sHist.pdf>
29. U Promise Scholarships: Frequently Asked Questions. <http://upromise.umn.edu/faq.html>
30. Brown Center on Education Policy at Brookings (2012). "Beyond Need and Merit Strengthening State Grant Programs". <http://www.brookings.edu/research/reports/2012/05/08-grants-chingos-whitehurst>.
31. ACHIEVE Scholarship data, Minnesota Office of Higher Education. Source: [http://www.ohe.state.mn.us/mPg.cfm?pageID=1876&1534-D83A\\_1933715A=1f3ad656e4ee8d60ac8bbe5ab68b58736b7991](http://www.ohe.state.mn.us/mPg.cfm?pageID=1876&1534-D83A_1933715A=1f3ad656e4ee8d60ac8bbe5ab68b58736b7991)
32. Report from the task Force to Study and implementation of Higher Education Funding Policy, A report required under session laws 2005, Chapter 107.
33. Personal communication with Meredith Fergus, analyst, Minnesota Office of Higher Education, September 10, 2012.
34. Cunningham, G., (March 25, 2012). *Closing the Five Educational Achievement Gaps*. Star-Tribune, <http://www.startribune.com/local/yourvoices/144108146.html>.
35. Boyte, H., Dobson, L., Kawashama-Ginsburg, K., Knuckey, J., & Levine, P., (2010). *Tale of Two Cities: Civic Health in Miami and Minneapolis-St. Paul*. National Conference on Citizenship.
36. Zuzman, A. (2005). Challenges facing higher education in the twenty-first century. In Altbach, P.G., Berdahl, R.O., & Gumpport, P.J. (Eds.), *American education in the twenty-first century: Social, political, and economic changes* (2nd ed., pp. 115-160). Baltimore, MD: The John Hopkins University Press.
37. Read more: <http://www.insidehighered.com/news/2010/06/17/pawlenty#ix-zz266lloFCX> Inside Higher Ed.
38. Testimony of Lois Johnson, Associate Vice Chancellor for Administration and Finance, Pennsylvania House Education Committee Meeting, Higher Education as an Industry, April 16, 2009. <http://www.aicup.org/LinkClick.aspx?fileticket=DPdFKuuvWDo%3D&tabid=185&mid=1345>.
39. A Rising Tide: The current state of higher education in the Commonwealth of Pennsylvania. The Learning Alliance for Higher Education. Available at: [http://www.thelearningalliance.info/Commonwealth\\_Report\\_10.pdf](http://www.thelearningalliance.info/Commonwealth_Report_10.pdf).
40. Tandberg, D. A., (in press). The Conditioning Role of State Higher Education Governance Structures. *Journal of Higher Education*.
41. A Rising Tide: The current state of higher education in the Commonwealth of Pennsylvania. The Learning Alliance for Higher Education. Available at: [http://www.thelearningalliance.info/Commonwealth\\_Report\\_10.pdf](http://www.thelearningalliance.info/Commonwealth_Report_10.pdf).
42. Ibid.
43. Ibid.
44. Ibid.
45. Matthew Reed and Debbie Cochrane, "Student Debt and the Class of 2011," The Institute for College Access and Success Project on Student Debt, October 2012, <http://projectonstudentdebt.org/files/pub/classof2011.pdf>.
46. See Layzell, D.T., Lyddon, J.W., (1990). *Budgeting for Higher Education at the State Level: Enigma, Paradox, and Ritual*. ERIC Identifier: ED332562. Washington D.C.: ERIC Clearinghouse on Higher Education.
47. A rising tide.

48. Brown Center on Education Policy at Brookings (2012). "Beyond Need and Merit Strengthening State Grant Programs". <http://www.brookings.edu/research/reports/2012/05/08-grants-chingos-whitehurst>.
49. A rising tide.
50. "Cuts clash with college attainment goals." Quote by Joni Finney, director of the Institute for Higher Education Policy at the University of Pennsylvania. The Notebook, Summer 2012, (19)6. <http://thenotebook.org/summer-2012/124849/cuts-clash-college-attainment-goals>.
51. 2010-2011, Pennsylvania State Grant Program. Year by Year Summary Statistics Report. Available: <http://www.pheaa.org/about/pdf/yearssummarystats.pdf>.
52. Testimony of Lois Johnson.
53. Pennsylvania Facts 2012. Retrieved from [http://pasdc.hbg.psu.edu/sdc/pasdc\\_files/pastats/PaFacts\\_2012.pdf](http://pasdc.hbg.psu.edu/sdc/pasdc_files/pastats/PaFacts_2012.pdf).
54. Lumina Foundation: A strong nation through higher education. Pennsylvania state profile. [http://www.luminafoundation.org/state\\_work.html](http://www.luminafoundation.org/state_work.html).
55. Rising tide report.
56. Pennsylvania Election Results. (2012). General Elections. Retrieved from <http://uselectionatlas.org/RESULTS/state.php?fips=42&f=0&off=99>
57. Mansfield University News. (2012, July 10). Governor Corbett signs Higher Education Modernization Act. Retrieved from [http://www.northcentralpa.com/feeditem/2012-07-10\\_governor-corbett-signs-higher-education-modernization-act](http://www.northcentralpa.com/feeditem/2012-07-10_governor-corbett-signs-higher-education-modernization-act).
58. About Louisiana (2012), Department of Administration. Retrieved from [http://doa.louisiana.gov/about\\_economy.htm](http://doa.louisiana.gov/about_economy.htm)
59. Carnevale, Anthony P and Smith, Nicole. A Decade Behind: Breaking Out of the Low-Skill Trap in the Southern Economy, Georgetown University, July 2012: pp 49. <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/DecadeBehind.FullReport.073112.pdf>.
60. Saleh, E, & Purcell, J., (2012) Pass the books. Hold the Oil. An investigation into the link between statewide natural resources and education. Annual meeting for the Southern Association for Institutional Research (SAIR).
61. Anthony P Carnevale and Nicole Smith.
62. Ibid.
63. Ibid.
64. [http://cabl.org/pdfs/CABL\\_Fact\\_Book\\_PDF\\_2011.pdf](http://cabl.org/pdfs/CABL_Fact_Book_PDF_2011.pdf).
65. Louisiana students flock to college, but completion rate is low, regional study shows [http://www.nola.com/education/index.ssf/2010/12/louisiana\\_students\\_flock\\_to\\_co.html](http://www.nola.com/education/index.ssf/2010/12/louisiana_students_flock_to_co.html).
66. Measuring success by degrees: The status of college completion in SREB states. SREB, 2010 [http://publications.sreb.org/2010/10E13\\_Measuring\\_Success.pdf](http://publications.sreb.org/2010/10E13_Measuring_Success.pdf).
67. Southern Regional Education Board. (2011). *Louisiana: Featured facts*. Atlanta, GA: Author. Retrieved from <http://publications.sreb.org/2011/LA.pdf>.
68. Ibid.
69. Ibid.
70. Board of Regents. (2012). Master plan for public postsecondary education in Louisiana, p 7. Retrieved from [http://www.regents.doa.louisiana.gov/assets/docs/Planning/MasterPlan-FINAL-2011\\_0901.pdf](http://www.regents.doa.louisiana.gov/assets/docs/Planning/MasterPlan-FINAL-2011_0901.pdf).
71. Decade behind. <http://www9.georgetown.edu/grad/gppi/hpi/cew/pdfs/DecadeBehind.FullReport.073112.pdf>.
72. Board of Regents. (2012). Master plan for public postsecondary education in Louisiana, p 7. Retrieved from [http://www.regents.doa.louisiana.gov/assets/docs/Planning/MasterPlan-FINAL-2011\\_0901.pdf](http://www.regents.doa.louisiana.gov/assets/docs/Planning/MasterPlan-FINAL-2011_0901.pdf).
73. Moller, J. (2011, February 13). Louisiana universities bracing for another round of budget cuts. *The Times Picayune*. Retrieved from [http://www.nola.com/education/index.ssf/2011/02/louisiana\\_universities\\_bracing.html](http://www.nola.com/education/index.ssf/2011/02/louisiana_universities_bracing.html).
74. Moller, J. (2010, October 22). Health care and higher education are focus of budget cuts outlined by Gov. Bobby Jindal. *The Times-Picayune*. Retrieved from [http://www.nola.com/politics/index.ssf/2010/10/health\\_care\\_and\\_higher\\_education.html](http://www.nola.com/politics/index.ssf/2010/10/health_care_and_higher_education.html)
75. Ibid. and Moller, "Louisiana universities."
76. Board of Regents, "Master plan."
77. Moller, "Louisiana universities."
78. Quinterno, 2012.
79. Beyond need and merit: Strengthening state grant programs. Brookings Institution, May 2012.
80. Ibid.
81. See Heller, D. E. & Rain, P. (Eds). *State merit scholarship programs and racial inequality. The Harvard Civil Rights Project*.
82. National Association of State Student Grant & Aid Programs. NASSGAP Annual Survey, 2009-10. <http://www.nassgap.org/viewrepository.aspx#>.
83. Beyond need and merit: Strengthening state grant programs, Brookings Institution.
84. Council for a Better Louisiana. (2011). *Louisiana fact book 2011*. Baton Rouge, LA: Author. Retrieved from [http://cabl.org/pdfs/CABL\\_Fact\\_Book\\_PDF\\_2011.pdf](http://cabl.org/pdfs/CABL_Fact_Book_PDF_2011.pdf).
85. Colorado Legislative Council. (2012). Ballot and blue book. Retrieved from <http://www.colorado.gov/cs/Satellite/CGA-LegislativeCouncil/CLC/1200536134742>.
86. Ibid.
87. Bell Policy Center. (2002). *Understanding TABOR: The first steps*. Denver, CO: Author. Retrieved <http://quickfacts.census.gov/qfd/states/08000.html>
88. Zusman, A. (2005). Challenges facing higher education in the twenty-first century. In Altbach, P.G., Berdahl, R.O., & Gumpert, P.J. (Eds.), *American education in the twenty-first century: Social, political, and economic changes* (2nd ed., pp. 115-160). Baltimore, MD: The John Hopkins University Press.
89. Western Interstate Commission on Higher Education (2009). An Evaluation of Colorado's College Opportunity Fund and Related Policies A Report Prepared for the Colorado Department of Higher Education. Available: <http://www.wiche.edu/pub/12271>.
90. Colorado Commission on Higher Education (November 2010). Accelerated erosion in state support—50 percent overall reduction: What is means to Colorado Higher Education [http://higher.ed.colorado.gov/Finance/Budget/2010/201011\\_HEStateSupport.pdf](http://higher.ed.colorado.gov/Finance/Budget/2010/201011_HEStateSupport.pdf).
91. Colorado Department of Higher Education. Budget and Finance. Financial Accountability Plans. <http://higher.ed.colorado.gov/Finance/Budget/>.
92. Personal correspondence. Celina Duran, Financial Aid Director, Colorado Department of Higher Education, October 12, 2012.
93. Lumina Foundation President Op-Ed on Colorado Paradox, "Edu"preneurial Exchange. <http://edupreneurgroup.com/2012/01/03/lumina-foundation-president-op-ed-on-colorado-paradox/>.
94. College Completion in Colorado: The impact on the workforce and the economy, Education Commission of the States, National Center for Higher Education Management Systems (NCHEMS) <http://www.boostingcollegecompletion.org/wp-content/uploads/2011/12/COLORADO-DATA-PPT.pdf>.
95. Amendment 58 tackles the "Colorado Paradox" [http://www.denverpost.com/opinion/ci\\_10762545](http://www.denverpost.com/opinion/ci_10762545).
96. Colorado Oil and Natural Gas Severance Taxes, Amendment 58 (2008) [http://ballotpedia.org/wiki/index.php/Colorado\\_Oil\\_and\\_Natural\\_Gas\\_Severance\\_Taxes\\_Amendment\\_58\\_\(2008\)](http://ballotpedia.org/wiki/index.php/Colorado_Oil_and_Natural_Gas_Severance_Taxes_Amendment_58_(2008)).
97. Ibid.
98. Buchanan, W., Hedges, C., Sobanet, H. (2009). Four things we all need to know about Colorado's fiscal challenges [PowerPoint slides], slide 15. Retrieved from <http://www.slideshare.net/GreatEducationColorado/four-things-to-know-about-colorados-fiscal-challenges>
99. Lav, I. J. & Williams, E. (2010). *A formula for decline: Lessons from Colorado for states considering TABOR*. Washington, D. C.: Center on Budget and Policy Priorities. Retrieved from <http://www.cbpp.org/files/10-19-05sfp.pdf>.



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