12-1-2016

Mutual Fund of the Minds: a Correlational Study on Education and the Economy at the State Level

Aaron Jay Bredenkamp
University of Nebraska at Omaha

MUTUAL FUND OF THE MINDS: A CORRELATIONAL STUDY ON EDUCATION AND THE ECONOMY AT THE STATE LEVEL

By

Aaron Jay Bredenkamp

A DISSERTATION

Presented to the Faculty of

the Graduate College of the University of Nebraska

In Partial Fulfillment of Requirements for the Degree of Doctor of Education

Major: Educational Administration

Under the Supervision of

Kay Keiser, Ed.D., Chair

Omaha, Nebraska

December 2016

Supervisory Committee:

Richard H. Christie, Ed.D.

C. Elliott Ostler, Ed.D.

ABSTRACT

MUTUAL FUND OF THE MINDS: A CORRELATIONAL STUDY ON EDUCATION AND THE ECONOMY AT THE STATE LEVEL

Aaron J. Bredenkamp

University of Nebraska, 2016

Advisor: Dr. Kay A. Keiser

During his tenure, President Barak Obama promoted education as a key to economic prosperity. However, in the post recession economy, many states reduced school funding. In Nebraska, the Governor attempted to reduce taxes for voters, while the Legislature examined how to balance the budget with a school funding formula that continually called for increased funding.

Chapter One outlines this ongoing conflict between state and federal policy. Chapter Two provides a historical context of school finance policy with the state of Nebraska's school finance history being provided in even greater detail. The indicators used to measure the economic impact of education are also discussed in Chapter Two.

This correlational study builds upon the idea of the economic impact of education by examining the relationship between the Gross State Product and three areas of economic development, i.e. educational attainment, natural resource revenue, and tourism. It also examines the relationship between the degree to which a state funds education and educational attainment, income, and the Gross State Product.

The study found that education attainment had a statistically significant correlation with Gross State Product ($r_s(50) = .395$, $p = .005$), while neither natural resource revenue nor tourism had a statistically significant relationships with the Gross State Product.

The study also found that income had a statistically significant correlation with the percentage at which a state funds education ($r_s = -.328$, $n = 50$, $p = .020$). It was also found that this was a negative, or inverse, relationship.

These findings were then shared with current education finance policymakers within the state of Nebraska. Implications were derived from their opinions that address the current state of school finance, both overall as well specifically within the state of Nebraska.

It is hope that this study will provide policymakers richer research to utilize for decision making as well as deepen the dialog on the importance and impact of educational funding between educators, taxpayers, and policymakers.

DEDICATION

This dissertation is dedicated to my Grandfather, Ralph "Bud" Selk, who loved learning but was never able to achieve anything beyond an 8th grade education due to other responsibilities. His sacrifices led to a chain of events that allowed me to fully pursue my own education.

It is also dedicated to my mother, Jacqueline Bredenkamp, who made education an expectation, not a option, and instilled in me the passion and persistence of life long learning.

And finally to my father, Richard Bredenkamp, who supported me in pursuing a career in education, rather than follow him in his own. Since then he has continually recounted the Loren Eiseley essay "The Star Thrower", reminding me that I make a difference everyday, one starfish at a time. Thank you.

ACKNOWLEDGEMENTS

The journey that has led me to this point has truly been an unexpected one; but not been one that I have traveled alone. There were many along the way that supported, encouraged, and showed me the way.

I want to thank the educators who inspired me to enter the profession; Ms. Penner and Mr. Flowerday. As well as the mentors, who guided me once I did; Dennis Bega, Gillian Cohen-Boyer, Mary D'Angelo, Laura Dobroski, Carolyn Eggert, Kim Eymann, Ann Howard, Curt Peterson, Maryanne Ricketts, and Dr. Tony Weers.

I want to thank my peers, who inspire me everyday to be better at my profession; my fellow 2005 Chicago corps members of Teach For America, my Teaching Ambassador Fellow colleagues, and the staff at Westside Community Schools.

Thank you to UNO and its faculty, particularly Dr. Keiser and Dr. Smith, for teaching me to be connected to my community and to never stop learning.

Thank you to all of my family and friends who have supported me in my profession, particularly my brother, Nicholas Bredenkamp, who has done things far more heroic than I, but continually makes me feel like my work is important.

Most of all, thank you to my wife, Allison, and my son, August, for being the inspiration and motivation that drives me every day.

Table of Contents

Page

List of Tables

List of Figures

CHAPTER ONE

INTRODUCTION

Educating America's youth is expensive. The 2010-2011 school year alone cost the United States over $527 billion dollars to fund public elementary and secondary schools (Digest of Educational Statistics. Table 2). These expenses have steadily increased over time, costing the nation more and more each year (Digest of Educational Statistics. Table 28, Digest of Educational Statistics. Table 235.10). In fact, school revenues more than doubled every decade between 1940 and 1990 (Odden & Picus, 2008). Furthermore, financing education is the largest portion of most state and local budgets (Odden & Picus, 2008).

President Obama touted education as an economic stimulus (White House, 2014) and continually called for federal increases in education funding in his proposed budgets (President's 2015 Budget Proposal for Education; President's 2014 Budget Request for the U.S. Department of Education; Perez, 2012). During his time in office, however, many states decreased educational funding due to shrinking state budgets (Oliff, 2012).

As federal and state policy, perception, and practice continue to differ it brings to question whether educational expenditures should be considered a cost, particularly a sunken cost that should be reduced in order to divert tax dollars towards more solvent investments. Or should educational expenditures be considered investments that make a positive impact on the economy and thus be increased in order to realize the greatest return for tax revenues?

One method of exploring this question is to analyze the impact education has on a state's economy. This could be conducted by examining different educational factors,

such as educational attainment or the percentage of educational expenditures against the Gross State Product, which measures the state's economy.

If there would be no significant relationship between these educational factors and the Gross State Product, then educational expenditures could be treated as sunken costs, and cuts could be justified. However, if there is a significant relationship between education and the Gross State Product, then educational expenditures could be considered more of an investment, meaning it could be argued that educational expenditures do have a beneficial impact on the economy and thus treated in a manner which maximizes their economic impact.

This analysis could also be a key element in aiding states in determining educational funding policy. Currently there is a large discrepancy between states to the degree at which education is funded and no best practices for policy are followed.

A National Context

Nationally the amount spent on education has continually increased. Even in years when the Gross Domestic Product decreased and the economy has shrunk, spending by educational institutions continued to increase (Digest of Educational Statistics. Table 28).

This could be interpreted as the educational industry continuing to grow in spite of slowing economies. However, this is more likely due to the increase in costs associated with the educational system rather than an economic theory that supports increased investment by policymakers in education.

As the population of students increases in the United States (Digest of Educational Statistics. Table 39, Digest of Educational Statistics. Table 201.10) so does the overall cost of educating the swelling student body. Other economic forces, such as

inflation and the raising administrative and operational costs of a school, also add to the increasing amount needed to educate America's students.

This continually increasing cost of the educational system paired with a recent recession has forced educational funding into the forefront of political discussions; as states and the nation determine the best way spend each precious dollar of their dwindling budgets.

Many states have decided to decrease school funding during the recent years of economical hardship. (Oliff, 2012) So, educational expenses and expenditures have had an inverse relationship, meaning while education has become more expensive, states have actually decreased the funding that goes towards it. This, in return, means many programs have been cut from schools, staffs have been reduced, and class sizes have increased. These cuts, and the changes they forced schools to make, have already diminished the quality of the educational system in America (Zhao, 2011; Zhao, 2012). This is especially true in lower income areas, where the recent budgetary constraints have been even more dramatic and have removed key programs that help some of America's most at-risk students (Resmovits, 2012).

However, some believed educational spending should have been cut even more, in order to devote funding into other areas and to solve current budgetary balance issues. They argued that the educational system was already too expensive and does not produce good enough results to justify such an expensive, and rising, price tag. They call for lowering education funding, so that money can be spent on more important economical matters. (McCluskey, 2011).

In 2011, Wisconsin's Governor Scott Walker cut educational spending by $1.85 billion in order to balance the state budget. He defended his actions by stating that "Our budget chooses to fix our problems now, so that our children and our grandchildren don't face the same challenges we face today" (Associated Press, 2011, para. 4). This is an example of how some policymakers believe education to be an inflated expense that must be lowered in order to balance state budgets.

Other's believe educational expenditures must be reduced so taxpayers can afford other-more economically prosperous programs. Kentucky Governor Steve Beshear was criticized for cutting higher-education funding and keeping K-12 funding flat, even though the student population and costs would continue to increase in the future, while he also supported giving tax breaks to the development of a religious themed amusement park. He believe the theme park would create jobs and make an economic impact (Knapp, 2012; Musgrave, 2011). Polices such as these are examples on how some policymakers believe investing in private businesses is more economically rewarding than investing in education.

This mentality also perpetuates the idea that education is a cost to taxpayers, one in which has little to no positive economical impact. Here, education is certainly not treated as an investment that will improve poor economies or benefit society financially as a whole. Thus, the thought is, that educational funding should to be limited during declining economies, so money can instead be spent in others areas that will grow the economy and return America to a time of prosperity.

President Obama did not agree. In spite of the economy, President Obama continuously called for an increase in funding for education. In his proposal for the 2013

budget, education was the single largest percentage increase of any discretionary item (Perez, 2012). President Obama justified these increases in spending by claiming education is an economical investment that will directly have a positive impact on America's economy.

In his "Education Blueprint" the president outlined how he feels that an increase in educational funding will lead to an increase in economical prosperity. It states:

> The President believes that education is a cornerstone of creating an American economy built to last. Based on the idea of shared responsibility in advancing and innovating our way to a better economy, education is an essential cornerstone. We must comprehensively reform our education system as we confront reductions in state funding of education. Ultimately, building a world-class education system and high-quality job training opportunities will equip the American economy to advance business growth, encourage new investment and hiring, spark innovation, and promote continued economic growth and prosperity (White House, 2014, p. 1).

It goes on to describe how the Federal government will rebuild America's economy through education, by supporting students access to and completion of higher educational programs as well as education reform at the K-12 level in order to better prepare America's students for the future.

This is a vastly different approach than those previously mentioned that wished to decrease or flat-line educational spending. In this scenario, the President does not view education as a cost to the American people, but rather as an investment, one in which the entire nation will benefit from in the future.

Former United States Secretary of Education, Arne Duncan, worked hard to amplify the President's opinion during his time in office. Throughout his tenure as the Secretary of Education, he continually stressed the importance of increasing educational funding as a means to improve the economy. On his annual bus tour in 2011, where he

traveled the US to promote education, Secretary Duncan said. “No other issue is more critical to our economy and our way of life than education.” (U.S. Department of Education Press Office, 2011, para. 3). Again, this is much different than the view of cutting spending in the area of education in order to direct money towards other investments. Here, education is the investment.

It is not only the current administration that has called for an increase in educational funding at the Federal level. Over the last twenty years, the Federal government has doubled its educational spending. In 1990, the federal share of total K-12 spending in the United States made up just 5.7% (10 Facts About K-12 Educational Funding). In 2011, that number had almost doubled, with the Federal government now contributing 10.8% of the overall budget for education in America (The Federal Role in Education). It is apparent that at the Federal level education is seen as a strong economical investment and one that should be continuously funded in order realize an overall strong economy.

A Local Context

Nebraska experienced similar debates within the state, when in 2013 politicians propose school finance reforms as well as attempt to increase tax equity by lowering certain taxes. The OpenSky Policy Institute refutes that such measures can coincide, stating that “the portion of Nebraska’s economy being invested in state aid to schools is lower now than it has been in fifteen years, and the governor’s proposal would essentially maintain this historically low level of investment” (Grundman, 2013, para. 1).

Renee Fry, OpenSky Policy Institute Executive Director, also disagreed directly with Governor Heineman on the topics of state aid and property taxes. Fry proclaimed

that “Nebraska ranked 43rd in the country in terms of state-aid to local governments and 49th in regard to state aid to schools. Low levels of state aid mean school districts and other local governments in Nebraska have to rely more heavily on property taxes to support the services they provide” (Brown, 2013, para. 4).

The Governor responded by stating, “As Governor, I want to lower taxes on Nebraskans, not increase them as advocated by the OpenSky Policy Institute. Taxing more services, thereby increasing taxes on low and middle income Nebraskans, is not a good idea” (Heineman, 2013, para. 5). And went on to say, “I am disappointed that the OpenSky Policy Institute wants to increase taxes on Nebraskans in order to increase government spending. I disagree with this group’s idea of increased taxes and increased spending” (Heineman, 2013, para. 8).

This taxation debate also occurred as legislators in Lincoln debated a school aid formula that is “bound to have winners and losers”, as reported by the Omaha World Herald (Stoddard, 2013, para. 1). Kate Sullivan, State Senator for the 41st legislative district of Nebraska, claimed, “for a variety of reasons there were some imbalances in the formula” (Stoddard, 2013, para. 5). She now chairs an educational committee that has attempted to further equalize the manner in which state aid is collected and distributed.

Imbalances weren’t the only issue at the time, as the formula was also expected to calculate school aid at $1 billion dollars for the 2013-2014 school year (Stoddard, 2012). Bill Avery, State Senator for the 28th legislative district of Nebraska, declared this amount to be “not sustainable” claiming, “We won't spend that kind of money” (Stoddard, 2012, para. 9).

Stoddard (2012) noted that school aid is the key to balancing the state's budget. Citing Lavon Heidemann, State Senator for the 1st legislative district of Nebraska, who said that school aid is "the thing that makes the budget work or not work" (para. 14). She goes on to explain that spending reductions are the preferred method by legislatures to balance budgets, as opposed to increasing taxes. This usually means education is under-funded, at least according the state aid formula.

School administrators criticized this approach, arguing the actual state aid growth allocated by policymakers, does not equal the increases in expenses for schools because of the state's repetitive cost-cutting measures (Stoddard, 2012). Angelo Passarelli, a Millard Public Schools administrator from Omaha, NE, expressed this criticism, particularly for the larger districts in the state, stating "the state needs to step up and help (school districts) when they have nowhere else to go" (Stoddard, 2013, para. 6). Virgil Harden, executive director of business for the Grand Island Public Schools, echoed this, stating that "we're going to advocate for kids and the dollars in the bank to educate them" (Stoddard, 2012, para. 26).

However, while it is the policymakers and school officials who generally hold such debates, it is the voters who will ultimately be impacted by their outcomes. With the Baby Boomer's children graduated from the education system and America experiencing a dwindling birth rate, more and more citizens are funding an educational system they no longer use (Sandler, 2013).

Rational

Currently, educational revenues cost taxpayers approximately 5.1% of their personal income (Odden & Picus, 2008). With the average American paying an average

income tax rate of 10.1%, that means over half the taxes collected from income go towards education (Steverman, 2015).

Odden & Picus (2008) argue that "5.1% of personal income devoted to education represents a considerable effort on behalf of our schools considering all the other items that individuals could purchase with annual income either for themselves or thought government tax revenues" (p 7).

Ward (1987) stated, "The school financing policies of a nation reflect the value choices of the people, the order of priorities they establish in the allocation of their resources, and their political philosophy" (p. 463). Thus, as the population of those actively using the educational system shifts and political turmoil on taxation and funding increases, it will become essential to prove education as an investment.

The economical impacts of educational funding, as supported by research, and effective policies for school funding, must be communicated by school stakeholders in order to not only protect and preserve current educational funding, but also to effectively argue for future-necessary increases.

Currently, 83 cents of every dollar that funds education comes from the state and local levels (10 Facts About K-12 Educational Funding). Because education is primarily funded at the local level where budgets can vary, there are large disparities between what states actually pay for education. Thus, it is hard to determine the overall perception of how much should be spent on educational funding in America.

Often per pupil costs are examined in order to normalize the funding data. The intent is to be able to compare how much each state is spending on each student. This comparison is then used as a scale factor to determine to what degree each state, and its

residence, value education (Frohlich, 2014). It is assumed that the more a state spends per pupil the more it values education more and vice versa for states that spend less. However, per pupil spending varies drastically across the United States (Per Pupil Spending Varies Heavily Across the United States, 2015)

If this logic were true it would also mean that the overall public's value on education also varies drastically from state to state. While this may be true, the degree to which there are disparities most likely makes this logic false. The state of New York, for instance, spent the most in 2010, at $18,618 per student. In the same year, Utah spent the least, by only allocating $6064 per student (Dixon, 2012). That is over a $12,000 difference between the two locations. Does this imply that the residents of New York value education three times more than those of Utah?

Most likely not, as there are many factors that skew this data and thus make this comparison unsound. First simply being the cost of living. According to the Census Department, New York City had a cost of living index of 216.71%, with 100% being the national average. Salt Lake City's cost of living, however, was very close to the national average at 100.6%. That means that the cost of goods and services in New York City were over twice as expensive as those in Salt Lake City (U.S. Census Bureau, Table 728.).

This would imply that it is also twice as expensive to educate a child in New York than it is in Utah. Thus making differences in per pupil spending justifiable, but not comparable. This also means that per pupil spending analysis would need to be normed even further to allow for proper comparisons to be made and for this statistics to be able

to be used to gauge whether a state's residence, and policymakers, view education as a cost or an investment.

It may be more beneficial to analyze the percentage each state spends on education from its overall budget to determine how much certain areas of the country perceive the value education. Rather than comparing what each student costs, this statistic would show how much of their overall revenue they are willing to commit towards education, in lieu of investing it in other areas. This would show which states are willing to give more of their overall budget towards education than others.

Warren Buffett is often quoted for saying "Price is what you pay. Value is what you get" (Buffett, 2014, para 35). Christiansen (2014) argues that it is educators' responsibility to communicate the "value" of education to taxpayers. He defines "value" as "the benefit that people get from service or products that they buy" (para. 5).

Christiansen (2014) goes on to note that value is subjective and that it cannot be defined by the school system, but instead must be defined by the taxpayer. He claims that taxpayers will be more willing to invest in education when they feel the "value of what they buy is greater than the price they pay" (para. 2).

However, with such a diversity of conflicting methods of examining states' financial support, how do educators begin to frame the topic for taxpayers? Additional economic analysis must be done in order to create more convincing economic indicators. Ones that show how the value of education extends beyond the price they pay through taxes.

One can not only focus on the taxpayers, as it is the policymakers that they elect that guide the taxes they pay and how they are then doled out to public programs.

Therefore, it becomes essential to examine if there is a correlation between the price states pay and the financial benefit they receive from funding the education of their citizens.

Problem Statement

The purpose of this study was to determine if there is a relationship between educational and the state economy. This is done so in two manners. The first examines the relationship between education attainment and the economy at the state level. The second examines the relationship between educational expenditures and the economy at the state level.

The research was conducted via a quantitative study using data previous collected by other institutions. This data was scaled in order to allow statistics to be comparable. This study was designed to examine if greater educational attainment is correlated with a greater Gross State Product and if greater investment in education, i.e. larger percentage educational expenditures for the state, are correlated with a larger Gross State Product.

The intent of this study was to provide more in-depth analysis on state expenditures for education. It is hoped that the results of this study can then be used by educators to have a deeper dialog with both taxpayers and policymakers on not only the importance of, but also the impact of investments in education.

Research Questions

Research Question #1: Is there a correlation between per capita Gross State Product and educational attainment, Natural Resource Revenue per square mile, and market share of tourism?

Research Question #2: Is there a correlation between percentage of educational expenditures funded by the state and the educational attainment within that state?

Research Question #3: Is there a correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state?

Research Question #4: Is there a correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product?

Definition of Terms

The researcher has chosen to define the following terms in order to provide clarification throughout this study. Many of these terms are business vocabulary that may not be familiar to some educators.

Educational Attainment – because this study focuses on the K-12 educational system, educational attainment for this study means successfully completing this sector of the educational system, i.e. graduating high school.

Educational Expenditures – money spent funding the operating costs of the educational system.

Equalization Formula Aid – Equalization formula aid is financial assistance given by a higher level of government-the state-to a lower level government-school district-to equalize the fiscal situation of the lower-level government, because school districts vary in their ability to raise such local funds equally. In general, equalization formula aid increases the property wealth per pupil of a school district decreases (Odden, 2008, p. 394)

Gross state product (**GSP**) - the market value of the output of goods and services produced by a state's economy. It may alternatively be defined as the aggregate earnings of labor and property furnished by the state's residents (Kendrick & Jaycox, 1965, p. 154).

Human Capital – the present value of earnings that individuals can produce (Kaplow, 2011, pg 245).

Internal Rate of Return - is a rate of return used to measure and compare the profitability of investments. The term internal refers to the fact that its calculation does not incorporate environmental factors (e.g., the interest rate or inflation) (Wikipedia).

Private Good - A private good is a good that has rivals in consumption, meaning only one person can consume the good at a time, and are excludable, meaning suppliers can prevent people who do not pay from consuming it (Ray & Anderson, 2015).

Public Good - A public good is the opposite of a private good and are not excludable and do not have rivals in consumption, meaning multiple people can consumer them at once (Ray & Anderson, 2015). A public good is also a commodity or service that is provided without profit to all members of a society, either by the government or a private individual or organization (Oxford Dictionaries, 2015).

Real Income - a measure of the purchasing power of wages. (Aversa & Figuroa, 2015).

Solvent - State of financial soundness whereby an entity can meet its monetary obligations as they fall due. (Business Dictionary, n.d.)

Sunk costs – Money already spent and permanently lost. Sunk costs are past opportunity costs that are partially (as salvage, if any) or totally irretrievable and, therefore, should be considered irrelevant to future decision making. (Business Dictionary, n.d.)

Assumptions

The following assumptions were made during this study: The data collected by the National Center for Education Statistics, the US Census Bureau, the Office of Natural Resources Revenue, the US Bureau of Economic Analysis, and the Office of Travel and Tourism Industries was accurate.

Limitations

2012 Data is used for this dissertation, as it was the most current-complete data set available by the National Center for Education Statistics, the US Census Bureau, the Office of Natural Resources Revenue, the US Bureau of Economic Analysis, and the Office of Travel and Tourism Industries was accurate.

As the data presented was collected from 2012, the policy discussion included in this research also primarily revolves around this same time period. However, as time progresses, new data becomes available, new officials become elected, and new policy is enacted this discussion can change.

Delimitations

The researcher made the following delimitations: Data from 2012 was analyzed. The data was previously collected by other agencies. The research for this study was solely quantitative.

Significance of the Study

This study is significant because most analysis of educational expenditures are simply scaled per capita in order to make it comparable across states. This study correlates educational attainment and expenditures with a state's economy in an effort to find if educational leads to a healthier state economy.

It provides additional methods in which to compare state practices beyond simply scaling according to populous. This goes beyond the standard practice of norming educational expenditures and attempts to find connections between education and economy.

It also provides policymakers with a more in-depth analysis of educational expenditures in which to make more informed policy decisions from. All of this is indented to assist in a deeper dialog on the importance of educational expenditures between educators, taxpayers, and policy makers.

Outline of the Study

In Chapter Two a review of literature is provided. The review of literature explores the history of school finance within the United States. The school finance history within the state of Nebraska given in greater detail. This provides a context on current state school finance policies and provides background how they were established.

Research on the economical impact of education is also explored and summarized in order to describe the complexity on the understanding of the economical impact of education. Different methods are presented, as are findings on the impact education makes on earnings potential for participants.

Chapter Three outlines the research design, the data that was utilized, and the manner in which it was analyzed. Chapter Four then provides tables to show how data was organized as well as a statistical analysis of the results of the research.

Chapter Five provides a conclusion of this analysis as well as a discussion of the implications drawn from the results. The implications were derived from sharing the analysis and conclusion with current school finance policymakers. A summary of the

research and the implication for further research are also presented and discussed in Chapter Five.

CHAPTER TWO

Review of Literature

National Context: Brief History of School Finance in United States

The United States was not founded with a nationwide system of free-to-attend, tax-supported, public schools in place. In fact, the public school system is relatively new in regards to American history, only being fully established towards the later part of the 19th century. Prior to this time period, most schools were still exclusively local entities that were private and/or religious institutions, just as they were in Europe (Pulliam & Patten, 2003).

However, leaders of the new republic felt that education was the key to participating in and preserving a successful democracy. Or, as Franklin D. Roosevelt would put it two centuries later, "Democracy cannot succeed unless those who express their choice are prepared to choose wisely. The real safeguard of democracy, therefore, is education" (Roosevelt, 1938, p. 538).

Thomas Jefferson (1786) would have agreed as he heralded earlier in history stating "I think by far the most important bill in our whole code is that for the diffusion of knowledge among the people" (Jefferson, 1786, para. 2).

Jefferson was not only a founding father of our country, but also of our public educational system. Five years prior, he had proposed that the state of Virginia create a public school system (Jefferson, 1781) and he would do so again in 1817 with his proposed Elementary Education Act (Wagoner, 2004).

However, the funding of these philosophies would prove to be more difficult than anticipated, and lead to a historical debate. One which continues today, namely, who pays for the education of American children?

Initial American education philosophy and practice closely mirrored that of Europe at the time, where educating one's child was considered to be a private, not public, matter (Pulliam & Patten, 2003). Odden and Piccus (2008) noted of education at the time that "providing for education was a mandate for parents and masters, not governments" (p 10).

There had been proposals for universal education in Europe during the Reformation, however, churches still mostly controlled education and only the wealthy had the means to pay the masters fees to send their children to school (Pulliam & Patten, 2003). This would eventually lead to philanthropic groups opening "charity schools" to educate those who could otherwise not afford it.

This practice caught on in America as well, with such agencies as the Society for the Propagation of Gospel, an agency of the Anglican church, funding an educational system for American children who otherwise would not have had the opportunity to attend (Pulliam & Patten, 2003). These charitable groups, however, did have special interest in the foundation of these schools, as they were used as a means to promote their particular religion and ethics.

Eventually, American educational theory would extend beyond charitable contributions, and the foundation of a public school system would emerge. In fact, America has been funding education with resources collected from its citizens longer than it has been an independent nation. As far back as the early seventeenth century,

locally derived funds have financed local-public schools, usually from land grants, gifts, rate bills, and lotteries (Brimley, Garfield, & Verstegen, 2012).

By 1618, Virginia had already earmarked funds for education, although these funds would be eliminated seven years later. In 1671 Maryland attempted to use duties on tobacco products and fines for crimes to aid in funding for education, however, these funds were limited as were their impact (Pulliam & Patten, 2003).

Massachusetts would be the first to succeed in a formal public educational system and in 1635, the town of Boston voted to utilize local financing to open a public school and opened the Boston Latin School, making it the first public school in America (Jenks, 1886).

In 1642, the state required parents and masters to address the educational needs of the colony's sons and servants (Cubberley, 1920). It did not, however, state how this education should be obtained, only that parents were responsible to insure that it was done (Jernegan, 1918). Instead the state entrusted "certain chosen men" to determine if one's parents were negligent of these duties and thus could enforce fines or even remove the children from the home for being so (Owings & Kaplan, 2006).

Five years later, in 1647, the General Court of Massachusetts would go on to pass the Old Deluder Satan Act which required all towns with 50 families or more to have a teacher of reading and writing, and any town with 100 families or more were required to establish a secondary school.

The intent of these schools, however, were still religious based, as it was believed being able to read the Scripture was essential to students' salvation as well as ethical citizenship (Laud, 1997). This was common at the time, as most colonial laws

constituting education were more about increasing the moral values rather than academic knowledge of its student population (Boylan & Mcclellan, 1992).

However, the significance of this legislation was its inclusionary practice. Unlike Europe, where education was still limited to the elite, this policy provided free education to all children living in towns of 50 or more families. This type of access was a milestone in education worldwide (Laud, 1997).

The law was also significant in establishing one of the first systems of financing schools, one which is still the outline for today's modern financing system (Stillwaggon, 2012). The law called for the schools to be "paid either by the parents or masters of such children, or by the inhabitants in general" (Shurtleff, 1853, p. 203).

At the time it was not uncommon for governments to mandate educational requirements for its citizens without providing any financial support to aid them in meeting these requirements (Pulliam & Patten, 2003). Furthermore, every town with 50 or more families were required to either fund a school of their own or financially contribute to the school of a larger town if they did not operate their own (Odden & Piccus, 2008).

This policy led to the foundation of schools being financed through local taxation and 1644, Dedham, Massachusetts was the first town to levy local property taxes in order to afford public education. (Jackson, 1909)

Schools, however, functioned totally independently of one another, particularly financially. There were no state laws or regulations in place to help contribute to the costs of operating a public school. Therefore, there were immediate financial, and thus

educational, disparities between different locales. Larger, and thus wealthier, towns were more capable of financing their schools than their smaller-poorer counterparts.

This legislation led to many other states following suit, both philosophically and financially founding public education systems of their own. This inaugurate public education system eventually expanded beyond Massachusetts and by 1820, 13 of the 23 established states had constitutional provisions pertaining to education, and 17 had statutory provisions (Odden & Piccus, 2008).

This evolution in state statute would eventually lead to states rewriting their constitutions in order to create formal statewide systems of public education as well as establish government responsibility in financing the system (Guthrie, Springer, Rolle, & Houck, 2007).

Baker, Green, & Richards (2008) share a more pragmatic viewpoint, stating:

> From a public economic perspective, governments intervene to compensate for the failure of private markets to effectively and efficiently distribute goods or services that governments (or those who elect them) feel are important. Education is one such service…In a practical sense, government intervention in the financing of public schools in the United States, typically translates into state and/or federal education policy seeking to increase overall spending or to redistribute the level of educational production. (p. 16)

This development, however, was not without controversy, as it initiated criticism that persists today, namely, who should have control of the educational system and how do we pay for it? In fact, education was omitted from the Constitution; as policy makers feared including it would spur debates that would lead to an impasse (Brimley, Garfield,

& Verstegen, 2012). In doing so, education was allowed to become a function of the state, including the financing of it (Owings & Kaplan, 2006).

By financing the system, states also took part of the control of the educational system away from individuals and churches, and made it a government matter. The resolution to this conflict was the creation of the local school board, who would function as liaison for the individuals in working with the state.

Initial state funding, however, was still quite limited, and the majority of revenue continued to be derived at the local level. This established one of the most contested educational policies in history, namely the continued reliance on local property taxes to fund education (Coons, Clune, & Stephen, 1970; Kozol, 1991; Lui, 2006; Roscigno, Tomaskovic-Devey, & Crowley, 2006; Wise, 1968; Wise & Weinstein, 1976).

Just as in the late 17th century, some states attempted alternative revenue streams; Ohio enacted a fuel tax, Connecticut generated fees via liquor licenses, North Dakota utilized a poll tax, and Indiana proposed a taxation of insurance premiums (Guthrie, Springer, Rolle, & Houck, 2007). However, property taxes endured as the preferred means to fund public education (Benson & O'Halloran, 1987).

By the 1800's, most states were allowing local governments the ability to levy property taxes in order to fund their school systems (Odden & Piccus, 2008). This system created educational disparities right from the start, with larger-wealthy school districts being able to generate more and spend more money per pupil than smaller-less wealthy ones, just as was the case in Massachusetts centuries before.

These disparities were recognized as early at 1905, when one of the first studies in American public school finance, a dissertation written by Ellwood P. Cubberley from

Columbia University, was published. He stated, “There is little excuse for a system of taxation for education if the income from such taxation is to be distributed in a larger proportion to those communities best able to care for themselves” (Cubberley, 1905, p. 4).

Or as Brimley, Garfield, & Verstegen (2012) put it:

> Extremely wide differences in local taxpaying ability to meet the costs of education in hundreds of school districts (in a few instances, more than a thousand) in a state make a mockery of the theory of equality of educational opportunity for all school pupils, unless the state does something to help the financially weak districts. (p. 169)

This critique is a direct contradiction of the original Massachusetts model, where smaller communities were instructed to fund larger communities educational systems if they did not have the means to create their own. It also initiates the idea of educational equality via financial resources and ushered in the idea that states should act as regulator of locally created funds in order to ensure such equality.

However, this too came with criticism, as Cubberley (1905) recounts when Henry Bernard , Rhode Island’s State Superintendent, was opposed by citizens in 1843, who claimed “he might as well take a man’s ox to plough his neighbor’s fields as to take a man’s money to educate his neighbor’s children” (p. 73). Bernard’s experience was not unique, as many of these debates evolved into litigious (Guthrie, Springer, Rolle, & Houck, 2007).

In 1874 the Michigan Supreme court heard Stuart v. School District No. 1 of Village of Kalamazoo, where citizens challenged tax collection to fund a public high

school (Russo, 2008). The court determined the state did have the right to levy taxes in order to fund a complete system of education, and established an essential precedence in school finance (Guthrie, Springer, Rolle, & Houck, 2007).

This shift from strictly local funding towards a more state driven model mirrored other delocalization practices and opinions of the time. Around the same time, others, including Cubberly himself, proposed the standardization of education as governed by the state as another means of ensuring equality in America. In the same dissertation he state that, "the duty of the state is to secure for all as high a minimum of good instruction, but not to reduce all to this minimum; to equalize the advantage to all as nearly as can be done with the resources at hand" (Cubberley, 1905, p. 3).

Initially states attempted to make education more equitable by distributing equal amounts of money per pupil to local districts through the use of "flat grant" programs (Odden & Piccus, 2008). The intent was to assist the state in establishing a baseline educational system by providing a fixed amount of funding for each student within the state, but these flat grants were quickly recognized as being insufficient (Owings & Kaplan, 2006). Furthermore, they did little to address disparities between districts (Guthrie, Springer, Rolle, & Houck, 2007).

By the 1920s, states began to institute "minimum foundation programs", which provided even greater financial support from the state and were financed with both state and local revenue (Odden & Piccus, 2008). This was the first state aid structure to address the disparity in local property taxes and was designed to distribute more money to districts with smaller property tax bases per pupil (Owings & Kaplan, 2006).

This equalization aid was designed to eliminate the differences in local entities ability to generate revenue to finance education. However, over time even these resources proved to be insufficient, as increases in educational costs outpaced state contribution increases, and local entities once again had to raise additional revenue beyond the minimum foundation program. Which meant schools once again turned towards the use local property taxes. This lead back to the original issue of educational inequality caused by disparities in per pupil expenditures. States, and even the federal government to some extent, would continue to increase funding and contribute in an effort to offset local tax disparities.

School finance litigation would also escalate beginning in the 1960's and put even further pressure on states to insure equitable per pupil revenues. Most of this litigation stemmed from low-income and low-spending districts, where plaintiffs argued that revenue disparities were not only unfair, but also unconstitutional (Odden & Piccus, 2008).

All of this would lead to states taking on more and more of the responsibility of financing education. As seen in Table 2.1, the percentage of the educational expenditures for the state has nearly tripled over the last century, from 16.5% to 45.2%.

Table 2.1

Percentage distribution of revenues for public elementary and secondary schools, by source of funds: Selected years, 1919-20 through 2011-12

Year	Federal	State	Local
1919-20	0.3	16.5	83.2
1929-30	0.4	16.9	82.7
1939-40	1.8	30.3	68.0
1949-50	2.9	39.8	57.3
1959-60	4.4	39.1	56.5
1969-70	8.0	39.9	52.1
1979-80	9.8	46.8	43.4
1989-90	6.1	47.1	46.8
1990-91	6.2	47.2	46.7
1991-92	6.6	46.4	47.0
1992-93	7.0	45.8	47.2
1993-94	7.1	45.2	47.8
1994-95	6.8	46.8	46.4
1995-96	6.6	47.5	45.9
1996-97	6.6	48.0	45.4
1997-98	6.8	48.4	44.8
1998-99	7.1	48.7	44.2
1999-2000	7.3	49.5	43.2
2000-01	7.3	49.7	43.0
2001-02	7.9	49.2	42.9
2002-03	8.5	48.7	42.8
2003-04	9.1	47.1	43.9
2004-05	9.2	46.9	44.0
2005-06	9.1	46.5	44.4
2006-07	8.5	47.4	44.1
2007-08	8.2	48.3	43.5
2008-09	9.6	46.7	43.8
2009-10	12.7	43.4	43.9
2010-11	12.5	44.2	43.3
2011-12	10.2	45.2	44.6

Source: Digest of Educational Statistics. Table 235.10

However, Table 2.2 shows how much states can differ on this contribution. South Dakota contributes the least, percentage wise, by providing 30.7% of the overall educational revenue for the K-12 system. Nebraska contributes the second to last, providing only 30.9% of its K-12 systems revenues. Meanwhile, Vermont contributes 88.3% of the revenues for its K-12 system.

Table 2.2

Percentage of Revenue for public elementary and secondary schools funded by the state funds: 2011-12

State	Percentage of Funds from State
Alabama	55.4
Alaska	64.8
Arizona	40.9
Arkansas	51.5
California	56.3
Colorado	43.3
Connecticut	38.7
Delaware	58.6
Florida	36.3
Georgia	42.8
Hawaii	85.3
Idaho	63.2
Illinois	32.2
Indiana	54.5
Iowa	44.4
Kansas	55.4
Kentucky	54.2
Louisiana	42.8
Maine	40.0
Maryland	43.5
Massachusetts	39.2
Michigan	57.1
Minnesota	64.1
Mississippi	49.4
Missouri	32.0
Montana	47.5
Nebraska	30.9
Nevada	33.0
New Hampshire	36.0
New Jersey	39.5
New Mexico	68.0
New York	39.4
North Carolina	60.1
North Dakota	50.4
Ohio	44.3
Oklahoma	49.2
Oregon	49.2
Pennsylvania	35.8
Rhode Island	37.2

South Carolina	45.6
South Dakota	30.7
Tennessee	45.2
Texas	41.1
Utah	52.4
Vermont	88.3
Virginia	38.0
Washington	59.1
West Virginia	58.2
Wisconsin	44.2
Wyoming	51.2

Source: Digest of Educational Statistics. Table 235.20

Liu (2006) suggests the issue of equalization extends beyond states boundaries by noting these inconsistencies of educational opportunities among states. He states, "even if intrastate disparities were eliminated, substantial disparities across states would remain" (p. 1).

Because schools are still funded primarily at the state level, which means state's historical and current policy is the primarily guide for resources available to schools, it becomes beneficial to analyze the funding and policies of states on an individual basis.

Local Context: Brief History of School Finance in Nebraska

Foundation of School Finance in Nebraska. Property taxes have always been the primary source of funding for Nebraska's educational system. Historically these taxes were mostly generated through a general state tax (Bergquist et al, 2014). Until 1965 when the Legislature created the first state income tax, which had the corollary effect of eliminating the previous state property tax according to constitutional mechanisms already in place (Gould, 1998).

This shift in tax burden spurred a political battle between the states most powerful economic interests (Bergquist et al, 2014) and in 1966, the business community lobbied voters to repeal the state income tax. However, the agricultural community also convinced voters to eliminate the state property taxes, which left the state without any major sources of revenue.

The following year, the state reestablished both the state income tax and the state property tax as a compromise to the tax burden being solely placed on the business or the agricultural community. The Legislature also enacted its first comprehensive school

funding reform with the passing of the School Foundation and Equalization Act (LB 448, 1967).

This separated school aid into three categories; Foundation aid, which was based on the number of students enrolled in a district. Equalization aid, which was a formula meant to equalize the amount of funding between school districts based upon property valuation. And Incentive aid, which provided a financial incentive for school districts that offered summer school programs, employed teachers with advanced degrees or both (Gould, 1998).

The School Foundation and Equalization act was also suppose to fund 40% of the expenditures for the state's K-12 system. However, the state never achieved more than a 13% funding, despite several legislative efforts to increase funding. This led to districts continuing to rely on local property taxes as the primary source of revenue in order to offset the state's insufficient funding.

In 1986, the Legislature passed LB662 (LB 662, 1986) which would have increased the sales tax rate in order to increase revenue to educational funding. It also included a measure to consolidate schools in order to address tax havens present within the state (Gould, 1998). These tax havens occurred in districts that only contained elementary schools, where property taxes were lower than those in K-12 districts. However, voters perceived this measure as a loss of local control and voters rejected the policy in referendum (Bergquist et al., 2014).

By the conclusion of the 1980's there was a wide disparity of tax revenue and spending for school districts statewide. "School district property tax levies ranged from 75 cents to $3.25 per $100 of property valuation – with the highest rates in districts with

low property wealth. That meant the owner of a property valued at $100,000 for tax purposes would have been paying anywhere from $750 to $3,250 a year in property taxes to the local school district, depending on the location of the property" (Bergquist et al., 2014, p. 6).

These exorbitant tax rates were still insufficient in providing equitable per pupil funding across the state. The wealthiest district in the state, Thayer County School District 47, had $7,119.97 total revenue to spend per pupil. While the states poorest district, Thurston County School District 16, only had $1,313.46 available per pupil (Gould v Orr, 1993). This meant that Thayer pupils realized benefits from funding over 5 times greater than Thurston, while Thayer residents were also paying a lower tax levy than Thurston.

Furthermore, Nebraska collected twice as much property tax per student as the U.S. average, $2,918 compared to $1,570 annually nationally, but only funded half as much through state aid to school districts, $842 compared to $1,675 nationally (Nebraska School Financing Review Commission, 1990).

The debate over school district organization and school funding policy finally led to the School Finance Review Commission being formed 1988. After 18 months of deliberation, which included public hearings as well as presentation from experts, the commission proposed five objectives to be for a new school finance system (Gould, 1998).

It proposed that 20% of all state income tax revenues should be dedicated for support of public schools (Nebraska School Financing Review Commission, 1990). This would help to provide an increase in the overall level of state support to 45% of the

aggregate operational costs of the school system. Even though a 45% level of state funding would leave the remaining 55% to be generated at the local level, it was hoped that this measure would cause a 15% reduction in aggregate property taxes levied (Nebraska School Financing Review Commission, 1990).

It also proposed an implementation of equalization based distribution formula to assure that all school districts can meet the "realistic needs of students and which will measure district wealth in terms of both its available income tax resources and property tax resources." (Nebraska School Financing Review Commission, 1990, p. 45).

It was recommended a base spending lid be applied in order to achieve "real and effective growth limitations" (Nebraska School Financing Review Commission, 1990, p. 45). This measure was required by LB 611 (LB 611, 1989), with the commission supporting the bill's suggestion that spending limit should be "sensitive to differences in needs and resources of the schools" (Nebraska School Financing Review Commission, 1990, p. 45). The goal of the spending lid was to insure that future increases in state funding would result in a reduction in property taxes, rather than an overall increase in spending by districts. The commission suggested an initial base lid range of 4% to 6.5%.

The commission also recommended that the measures be funded in a sustainable manner through permanent state sales and/or income taxes (Nebraska School Financing Review Commission, 1990). The commission left the levels of these taxes to be determined by the legislature and the governor according to projected revenues and budgetary obligations.

While the commission's reports did address several specific issues to Nebraska School finance, many of the ideas contained within it were not unique, as it was similar to

the formula currently being used in Kansas and borrowed ideas offered previously from the Nebraska Council of School Administrators (The Commission Report, n.d.).

The commission estimated the plan would cost $211.3 million to fund the 1990-1991 school year, with $118 of the funds being generated from income tax. This would result in a 16.1% reduction in property (Nebraska School Financing Review Commission, 1990). However the commission chose not to suggest alternative methods to finance the remaining funds necessary for their proposals.

Coinciding with the publishing of the commission's report, John Gould and his brother filed suit against the state of Nebraska and then Governor Orr on behalf of his daughters. The suit concurred with many of the issues discussed within the commissions report and was filed seeking the following actions:

1. a declaration that the plaintiffs were being denied due process of law, equal protection of the law, equal and adequate educational opportunity, and uniform and proportionate taxation in violation of the Constitution of the State of Nebraska;
2. a declaration that the present statutory structure for funding public schools in Nebraska is unconstitutional and inadequate;
3. an injunction permanently enjoining the defendants from implementing the unconstitutional educational funding statutes currently in effect;
4. a mandamus issued to the Governor requiring her to recommend that the Legislature enact legislation pertaining to the schools of Nebraska which will comply with the requirements of the Nebraska Constitution;

5. a ruling that the court would retain jurisdiction of the matter for purposes of enforcing its order and judgments; and such other relief as the court may deem the plaintiffs to be entitled to (Gould v. Orr, 1993, p. 164).

The plaintiffs claimed the current state school finance model "resulted in substantial disparity among districts, with the distribution from the School Foundation and Equalization Fund being insufficient to offset the local tax revenue differentials caused by local wealth disparities" (Gould v. Orr, 1993, p. 163).

They went on to suggest that this inequity "resulted primarily from the fact that the poorer districts have materially smaller tax bases than the wealthier districts", which caused "significantly higher educational tax levies being assessed against property owners in the poorer districts, with the poorest districts having the highest property tax levies in the state" (Gould v. Orr, 1993, p. 163). The suit deemed the existing school finance policy unconstitutional due to these inequalities.

Although the case would not be settled until 1993, it motivated some legislators to act upon the recommendations of the report published by the commission and would continue to be referenced in the development of future school finance policy within the state (The Gould Case, n.d.).

LB 1059: TEEOSA. One such bill that was influenced by the Gould case was Legislative Bill 1059 (LB 1059, 1990), also know as Tax Equity and Educational Opportunities Support Act or TEEOSA. "In the history of the Nebraska Legislature, there are very few bill numbers that have the fame or infamy of Legislative Bill 1059" (TEEOSA, n.d., para. 1).

While the intent of LB 1059 (LB 1059, 1990) was to lower property taxes, it also echoed many of the goals and recommendations from the report previously published by the commission (Bergquist et al., 2014).

The bill had 36 sections and was comprised mostly of new language to be incorporated into law, with some sections including amends to be made to existing statutes relevant to the subjects of education and revenue (Withem et al., 1990)

Section 2 was divided into subsections with the first outlined the need for legislative change which were outlined as such:

> (a) Nebraska currently finances over 70% of the costs of operating its public school system from the property tax and other local sources while nationally only 43% of the costs are supported by property taxes and other local sources;
>
> (b) State support for the public school system has not kept pace with the increased costs of operating such system;
>
> (c) Nebraska has a higher per capita property tax burden than most other states while the overall state arid local per capita tax burden in the state is below the national average;
>
> (d) The cost of operating the public school system is near the national average in per pupil cost as well as per capita spending;
>
> (e) The overreliance on property tax for the support of the public school system has resulted in great disparities in local property tax rates; and
>
> (f) The overreliance on the property tax for the support of the public school system has created inequitable educational fiscal resources for students (Withem et al., 1990, p. 3).

While the majority of these findings were geared towards tax relief, concerns about the ability of school districts to operate, the level of support to be expected from the state, and educational opportunities afforded to students where also referenced (Dulaney, 2007).

The second subsection outlined the intent of the bill, namely to create a system of financing the public school system which will:

> (a) Provide state support from all sources of state funding for 45% of the general fund operating expenditures of school districts;
>
> (b) Reduce the reliance on the property tax for the support of the public school system;
>
> (c) Broaden financial support for the public school system by dedicating a portion of the revenue received from the state income tax for support of the system;
>
> (d) Keep pace with the increasing cost of operating the public school system;
>
> (e) Assure each district a foundation support level for the operation of schools within each district taking into consideration the taxable wealth and other accessible resources of the district;
>
> (f) Assure a greater level of equity of educational opportunities for students in all districts;
>
> (g) Assure a greater level of equity in property tax rates for the support of the public school system; and

> (h) Assure that there is a shift to sustainable revenue sources, other than property tax, for the support of the public school system through the establishment of limits on the growth of general fund budgets of districts (Withem et al., 1990, p. 4).

Section 4 begins the process of outlining how these intents can be met, stating that 20% of all income tax receipts collected by the state should be dedicated to funding public education, just as the Commission Report suggested two years earlier (Funding Nebraska's schools, 1990). However, it went beyond the commission report stating that 20% of identifiable individual income tax receipts should be returned to the school district where such receipts originated (Gould, 1998).

Additionally, any individual income taxes not identified as originating from a particular school district, as well as 20% of corporate, nonresident, trust and other non-individual income tax receipts, would be allocated through the equalization formula (Withem et al., 1990).

This definition of this equalization formula and how it is calculated is delineated in sections 5-11, summarized by the basic equation of:

Needs – Resources = Aid

The needs of a district were calculated using a tiered structure that uses the average daily membership of different grade groupings, i.e., kindergarten, grades 1-6 plus full-day kindergarten, grades 7 and 8, and grades 9 to 12 (Withem et al., 1990).“The tiered cost per student varied among the different grade groupings on the theory that it generally cost more to educate a high school student, for instance, than a kindergarten student” (Dulaney, 2007, p. 77).

Resources would be calculated by adding together the amount of revenue a district receives from property taxes, the income tax rebate as defined earlier, and other receipts (Withem et al., 1990), These receipts included:

- Public power district sales tax revenue
- Nonresident high school tuition receipts
- Tuition on receipts from individuals, other school districts, or any other source except those derived from adult education
- Transportation receipts
- Interest on investments
- Other miscellaneous local receipts
- Special education receipts
- Receipts from the state for wards of the court and wards of the state
- All receipts from the Temporary School Fund
- Pro rata motor vehicle license fee receipts
- Other miscellaneous state receipts
- Impact aid receipts to the extent allowed by federal law;
- All other non-categorical federal receipts (Withem et al., 1990)

Just as other states attempted to find funding sources outside of local property taxes during the late seventeenth century, these receipts represented revenues generated outside the traditional stream of local property taxes and effectively acted to reduce the amount of state aid a district receives.

LB 1059 (LB 1059, 1990) also supported increases in state sales and income tax rate as another means of finding alternative revenue sources (Bergquist et al., 2014). State

sales tax would rise from 4% to 5% and the state income tax primary rate would increase to 3.7% (Withem et al., 1990).

The bill then proceeds to outline new spending limitations for school districts in sections 14 through 20 (Withem et al., 1990). It limited districts to having a budgetary growth rates between 4% and 6.5% (Withem et al., 1990).

The Department of Education determined each district's allowable growth rate (Withem et al., 1990). "Essentially, a district would receive a higher growth rate if it did not have high spending the year before or would receive a lower growth rate if it had high spending the year before" (TEEOSA, n.d., para. 18).

Districts could exceed this growth rate by 1%, if 75% or more of the school board approved the measure or by any amount if approved by voters during a special election (Withem et al., 1990). The intent of the spending list was to insure property tax relief by limiting and making school spending more consistent, rather than allow schools to freely raise revenues by raising taxes (Fey, 2015).

Senator Scott Moore, a cosponsor of the bill and representative of the 24th legislative district of Nebraska, stated "I firmly believe that this piece of legislation has the potential to be probably the biggest piece of legislation we passed in this Legislature in the last twenty years and probably the next twenty years after that" (Education and Revenue Committees, 1990, p. 2). He stated the bill was crafted with both the taxpayers as well as the students of the Nebraska's school system (Education and Revenue Committees, 1990).

Senator Moore cited statistics that showed the overall tax burden on Nebraskans was average, with Nebraska ranking 10th in the nation in terms of property tax rates, 38th in the nation in terms of income taxes collected, and 42nd for sales tax collected.

This placed Nebraska 27th nationally for overall tax burden. He believed the tax shift suggested by LB 1059 (LB 1059, 1990) would increase school revenues and also provide property tax relief by shifting how those revenues are collected from taxpayers (Education and Revenue Committees, 1990). He stated a formula that would be often quoted as a means for property tax relief, namely that "the more the state contributes to state aid, the less local governments will have to request in terms of property tax revenue" (Dulaney, 2007, p. 101).

Committee member Gene Koepke, an interim provost at Kearney State College, agreed that there needed to be great support from the state in order to decrease property taxes. He claimed that more 70% of the aggregate cost of running the public school system in Nebraska was funded from local support, compared to 45% nationally.

He went onto claim that "while state governments across the United States have assumed a greater responsibility for public education, Nebraska in recent years has gone the other direction" (Education and Revenue Committees, 1990, p. 22). Stating that "our problem is not tied to expenditures; our problem is tied rather to source of funding" (Education and Revenue Committees, 1990, p. 23).

Not everyone, however, agreed that LB 1059 (LB 1059, 1991) was the "silver bullet" it was being presented to be. Former state senator John DeCamp cautioned that in LB 1059 (LB 1059, 1990) "property is still the fundamental measure, the fundamental underpinning of financing education" (Education and Revenue Committees, 1990, p. 48).

He stated that he had hoped the bill would find other-more accurate measurements of wealth (Education and Revenue Committees, 1990). He argued, “we don't have the agrarian economy of a hundred years ago where everybody had an eighty or a quarter section, or whatever. Now we have an economy based on wage earners, entrepreneurs; an economy based on consumption of goods. The true measures of ability to pay, the true measures of wealth in an economy like this are income, sales, income tax, and sales tax” (Education and Revenue Committees, 1990, p. 48).

He also claimed the bill was focused more on tax relief than it was improving education, stating, “you cannot divorce the financing of education from the quality of education” (Education and Revenue Committees, 1990, p. 49).

He also felt the bill would better serve urban schools than it did rural schools, due to a decrease in state aid for smaller schools (Dulaney, 2007). This also meant money from the property rich, but generally income poor, i.e. rural communities, would be paying for more the education expenditures for urban communities, or taxpayers who were property poor but had higher incomes (Education and Revenue Committees, 1990).

Although similar arguments would arise during the legislative process and assorted amendments would be proposed, the bill would remain consistent with the initial version, including the tax increases and the distribution formula remaining essentially the same as the originally proposal (TEEOSA, n.d.). The bill was passed on April 3rd, 1990, in a 30-14 vote (O’Donnell, 1990).

However Governor Orr was less supportive of the bill, announcing that she would veto the bill the following day (Cordes, 1990). Governor Orr had previously made her skepticism on the bill known during the debate of the bill, questioning if it would in fact

actually lower property taxes (Education and Revenue Committees, 1990). She contended, “I believe that it would have been apparent that the combination of the tax provisions with the school finance provisions prevents LB 1059 from meeting either of its two purported purposes. It does NOT achieve property tax relief, and it does NOT promote educational equity. Rather, it is simply the largest spending and tax increase measure to be considered in the history of the State of Nebraska” (O’Donnell, 1990, p. 2160).

She concluded her letter to the legislature by listing ten objections she had to the bill, which included criticism the property taxes were still inevitable with the bill and that the bill was unfair to “one in three households” given the new method of tax collection (O’Donnell, 1990, p. 2161). She also criticized the bills ability to create educational equity and claiming that many of the factors of the bill were actually contradictory towards creating educational equality (O’Donnell, 1990).

Senator Ron Withem, the chair of the Educational Committee at the time and representative for the 14th legislative district of Nebraska, responded by reminding the legislature that if this bill was not passed it was estimated that property taxes could rise as much as 16.5% (Floor Transcripts, 1990). He also cautioned that other states had experienced litigation to determine if their school finance system were “fair” and that similar action could be taken here if LB 1059 did not pass (Floor Transcripts, 1990, p. 13341).

He went on to say: “it moves the state from being the next to the last in the terms of state support for education up to the middle. We aren't going to be any leaders, but we're going to be up to the middle. It deals with the inequities

that exist. You're not going to see the types of gross, gross, gross inequities where an individual that owns property, the same type of property paying four or five, six times as much as another individual the same type of property, just based simply on the school district in which they live" (Floor Transcripts, 1990, p. 13342).

He concluded by stating that LB 1059 (LB 1059, 1990) was "the right thing to do" (Floor Transcripts, 1990, p. 13343). Enough of his colleagues agreed, as the bill passed with a 32-14 over-ride vote.

During a previous floor debate for the bill, David Landis, the senator from the 46th legislative district of Nebraska, would summarize the importance of LB 1059 (LB 1059, 1990) stating, "you cannot go through the checkered history of Nebraska school finance without coming to the conclusion that there are kids in this state who did not receive education of the first quality because of the areas that they come from. It's not because it's not wished for, or hoped for, but because the wealth of the district is such that they are just not capable of providing it" (p. 10555).

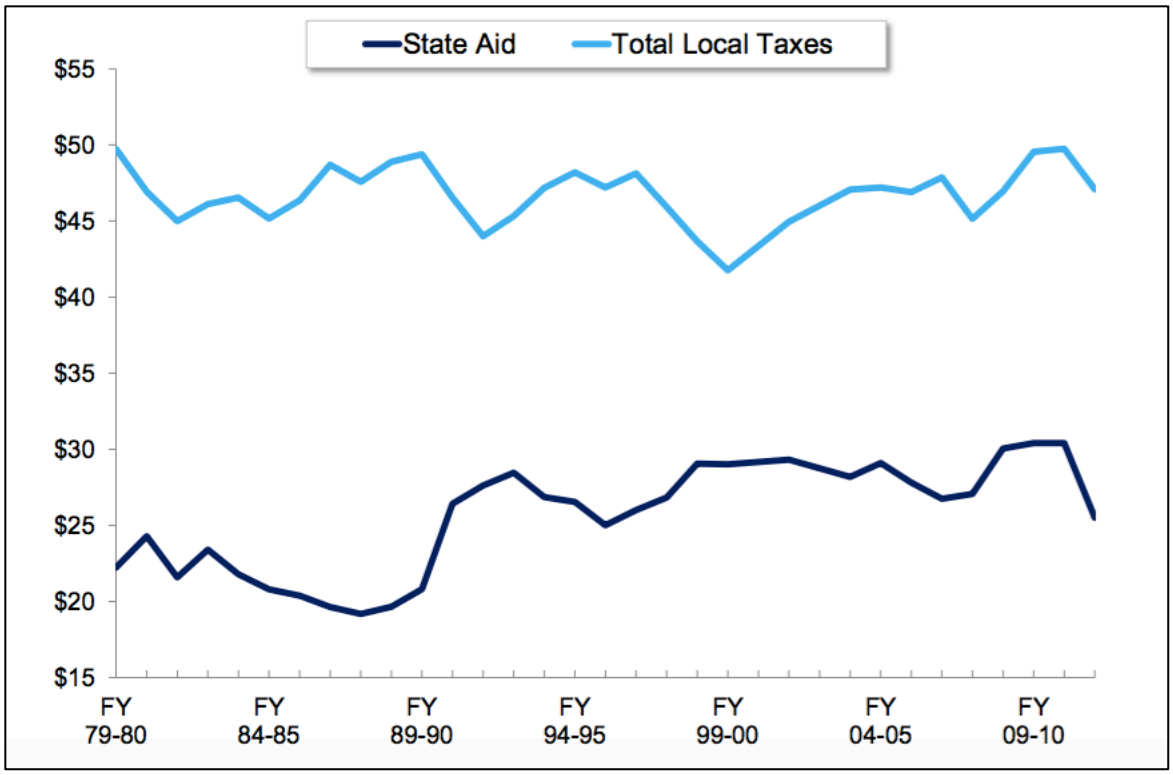
He would go on to say, "We owe kids in this state a good public education, no matter where they come from, no matter how wealthy their parents are, no matter how wealthy their district is, that's our constitutional obligation. And 1059 seeks to replace a system which falls short, in my estimation, of that constitutional obligation" (p. 10556).

Later, Dulaney (2007) would call this fulfillment of constitutional obligations with the passing of LB 1059 (LB 1059, 1990) as "one of the most remarkable feats of political achievement in the modern era of Nebraska history" (p. 101).

School Finance in Nebraska after TEEOSA. While there have been adjustments made to LB 1059, the overall concept of LB 1059 (LB 1059, 1990) has remained fairly consistent (Bergquis et al., 2014). Some of these adjustments have attempted to better direct equalization aid towards districts with higher costs in transportation, special education, and/or have a large number of students living in poverty (Bergquist, Fry, O'Hanlon, Grundman, 2014). However, many of the adjustments have also altered the equalization equation in an attempt to balance the state budget, rather than adjusting to the actual expenditures of a district (A. Rikli, personal communication, April 12, 2013).

In 2012, for instance, Nebraska's K-12 schools stated that the funding formula "works best when fully funded" (para. 2), but when this number is beyond what the state can afford spending reductions on state aid are generally preferred over tax increases (Stoddard, 2012). This means schools continue to cover any gap between state aid and expenditures with local taxes. Heath Mellow, a senator from 5th legislative district of Nebraska, noted this during the budget short fall of 2012 stating "our decision on state aid has a direct link to property taxes" (Stoddard, 2012, para. 34).

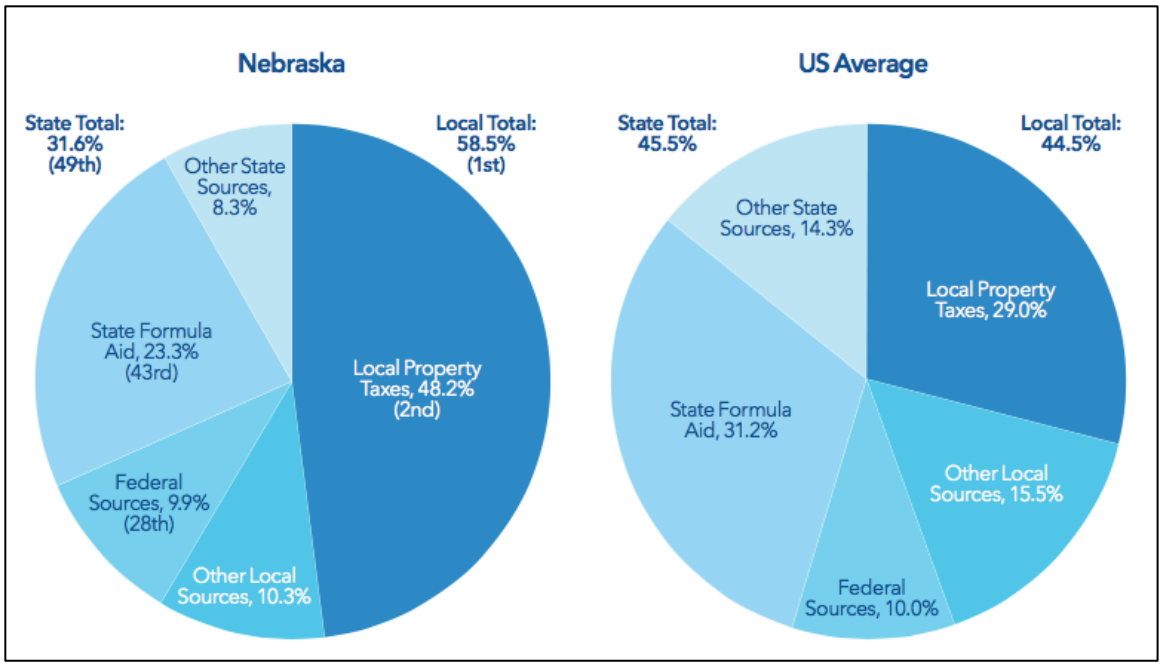
Figure 2.1 concurs with Senator Mello, as it shows the inverse relationship between state aid and local income taxes over time. When state aid is increased, total local taxes have also decreased during the same time period.



Source: Opensky Policy Institute. (2015). Budget Briefing. p. 10

Figure 2.1. State Aid and Taxes per $1,000 of Nebraska Personal Income

However, Nebraska school funding continues to rely most heavily on local taxes. This can be seen in Figure 2.2, which shows how the public school funding in Nebraska compares to the national average which shows that Nebraska's schools are funding more by local taxes than another state.



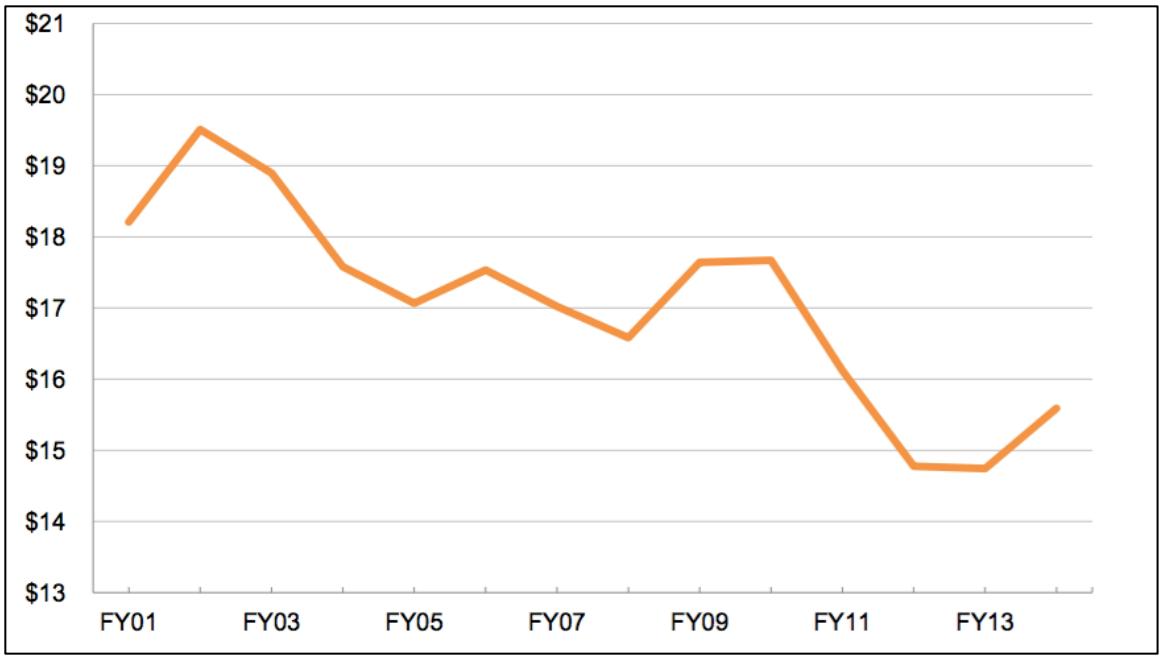
Source: Bergquist, K.S, Fry, R., O'Hanlon, K, & Grundman, D. (2014). Investing in Our Future: An Overview of Nebraska's Education Funding System, OpenSky Policy Institute, p. 20

Figure 2.2: How Nebraska Compares to the National Average Public school funding by source, 2011/12

Nebraska school funding is also the second more reliant on local property taxes than most states. Nebraska ranks 2nd nationally in this category with 48.2% of school revenues derived from local property taxes.

The state formula aid, however, ranks 43rd with only 23.3% of school funding in Nebraska being funded through TEEOSA. In fact, in 1990, when TEEOSA was installed, Nebraska ranked 49th in the country in percentage of K-12 educational funding provided by the state and today still ranks 49th in the nation (Digest of Educational Statistics. Table 235.20).

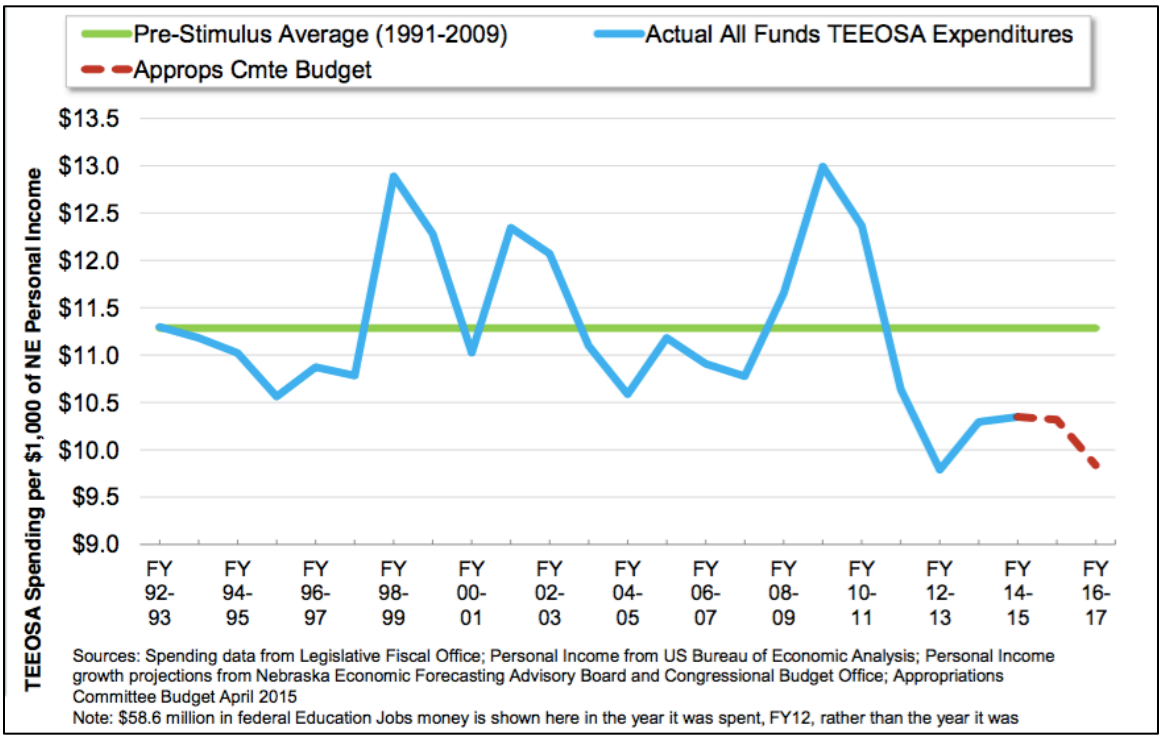
As figure 2.3 shows, state support to school districts per $1000 of personal income has actually declined since 2001.



Source: Opensky Policy Institute. (2015). Budget Briefing. p. 8

Figure 2.3: State Aid to Municipalities, Counties, and School Districts per $1,000 of Nebraska Personal Income

Furthermore, funding from TEEOSA has also declined and remains below the 1991-2009 average for school funding, as seen in Figure 2.4.



Source: Opensky Policy Institute. (2015). Budget Briefing. p. 6

Figure 2.4: Nebraska School Funding Commitment from TEEOSA

All of this contributes to Nebraska inability to shift funding for schools away from local property taxes. In 2013, Nebraska's Tax Modernization Committee (2013) claimed in their report "Nebraska makes greater use of the property tax to fund public services than other states in the nation or region. Achieving the same average balance of sources in the region or nation would require a $200 million to $300 million shift and reduction in use of property tax" (p. 33).

This would also mean that this loss of property tax funding would need to be made up elsewhere. If this funding is to be supported by the state, legislators may need to be explained the value, and economic impact, education has, as Christiansen (2014) suggests.

Cohn (1997) foreshadows the importance of not making policymakers aware of such returns, as often resources are directed away from initiatives that are perceived to have low economic value, in favor of others that are perceived to have high economical value. Coombs and Hallak (1987) explain this economically, stating "since any nation (or community or individual) has only a limited supply of economic resources to use in any given period, a decision to use some of them for a specific purpose, such as education, means sacrificing the opportunity to spend those same resources on something else" (p. 13).

Kara (2010) agrees, arguing that that these calculations can have both personal and political impacts, stating

> It is important to estimate the rate of return to investment in education more accurately since it provides a guideline for individuals as to whether they continue or stop schooling, and for the countries, especially

> developing countries, in determining how to allocate limited resources among competing sectors, including education in the development process. (p. 154)

Therefore, an increase in the explanation and understanding of economic indicators that examine the economic impact of education is an essential element to arguing an increase in state aid for education.

Summary of Economic Indicators for Education

Becker (1993) observes that policymakers and researchers are concerned about the role of education in promoting economic and cultural progress, but often base their opinions on "grossly inaccurate notions" (p. 161). However, calculating accurate economic information can be difficult. Disagreement on how different characteristics of education apply to defining it economically and financially has lead to differing calculations, analysis, and ultimately opinions on the economic impact of education.

Generally, a benefit-cost return (BCR) is utilized in the public sector to analyze, or even justify, government expenditures by comparing the benefits from investment versus the cost of the investment (Phillips & Phillips, 2005). However, social benefits, such as those realized from an investment in public education, can be difficult to measure (Benson & O'Halloran, 1987). These benefits, often called externalities or spillover benefits, i.e. benefits that effect other members of the community, are difficult to identify as well as measure (Psacharopoulos & Patrinos, 2004).

Return on investment (ROI) is a more preferred economic indicator for the private sector in determining the fiscal benefit to investing (Phillips & Phillips, 2005). In terms of human capital, returns on investment for education have been calculated since the

1950's, however, even modern models are critiqued for quality and accuracy due to the use of different models and sample sets which produces non-comparable data (Psacharopoulos & Patrinos, 2004; Kara, 2010).

Becker (1993) believes that "rates of return provide the most convenient and complete summary of the economic effects of education" (p. 160). "The internal rate of return is the rate of interest that equates the discounted present value of expected benefits and the discounted present value of costs" (Kara, 2010, p. 154).

Becker (1993) calculates the internal rate of return using the following formula:

$$\sum_{t=1}^{n} \frac{B_t - C_t}{(1+r)^t} = 0$$

where B_t is the benefits of education C_t is the cost of education, and r is the internal rate of rate of return.

In this equation cost is calculated using Hansen's (1993) definition, which includes "(1) school costs incurred by society, that is, teacher's salaries, supplies, interest, and depreciation on capital, (2) opportunity costs incurred by individuals, namely, income foregone during school attendance, and (3) incidental school related costs incurred by individuals, for example books and travel" (p. 130).

Educational, however, costs can be just as difficult to calculate as returns (Kara, 2010). Coombs and Hallak (1987) describe several additional-distinct ways to calculate educational costs (p. 13-17):

- Opportunity costs (or Sacrifice Costs)– Opportunity costs measure the cost of education by comparing them to the most profitable alternative where those funds could have been used.

- Resource Cost versus Money Costs – Resource Cost measure the sum of physical units needed for the educational system; such as the number of teachers, number of textbooks, and square footage of a school. Money Costs measure the actual cost of purchasing these units.
- Factor Costs – Factor Costs are the prices paid for the various factors of production, or necessary resource input, for the educational system. Because these factors behave differently, they should be analyzed separately and can be expressed in either real or monetary terms.
- Current Cost versus Capital Costs – Current costs incorporate the human resource and consumable supplies used within one fiscal year of operation. Capital costs relate to more durable items, such as buildings and equipment. Capital costs can be amortized over their lifetime and charged to each year of service, but analysts must be aware if figures include capital outlays or only the current operating costs.
- Total Expenditures – The sum of current and capital expenditures over a given budgetary period. Often these expenditures are broken into different sub categories, such as teachers' salaries and benefits, instructional supplies, maintenance and repairs, etc. There is often a difference between the approved budget for the coming year and the actual expenditure during that year. Often valuable resources used in the educational process are left out of total expenditures. Therefore analysts should use total expenditures cautiously.
- Current versus Constant Prices – Currant prices are the actual expenditures paid. Due to inflation, these costs can appear exaggerated when compared to previous

years. Therefore analysts must convert these costs using a "deflator" to be able to more accurately compare a timeline of expenditures.

- Public versus Private costs – Public costs are those financed by the government. Private costs are those paid by individuals, such as school fees, textbooks, purchase of uniforms, etc.
- Unit Cost – Unit costs compare costs between different levels of education, institutions, geographical area, or times. Average cost per students is an often reference unit cost. Because it is an average figure for a defined group, it may not be accurate for any individual member within that group.

Likewise, the benefits of education are also debatable, social or not. Researchers identify differing benefits in arguing the classification of education as either a public or private good (Adams & Mccormick, 1993; Benson & O'Halloran, 1987; Labaree, 1997; Levin, 1987; Malkin & Wildavsky, 1991).

Traditionally private goods and public goods are discussed as goods that have rival in consumption and are excludable (Ray & Anderson, 2015). Education, however, does not fit neatly in either category, regardless of whether it is funded publically or privately, (Baker, Green, & Richards, 2008).

As noted earlier, the forefathers of the United States, and even churches, were interested in the public good aspects of education, namely as a catalyst to promote their own political or religious ideology (Benson & O'Halloran, 1987). Education also produces the social benefits of reducing crime, preserves families, and reduces social dependencies (Levin, 1972). Therefore, some economists also advocate for the allocation of government resources towards education using this "public good" argument (Malkin,

& Wildavsky, 1991). However, as noted earlier, “social benefits are hard to measure and the calculus of determining what amounts of educational expenditures maximize the net value of social benefits is imprecise” (Benson, & O'Halloran, 1987, p. 496).

Furthermore, Malkin and Wildavsky (1991) argue that education is only viewed as a public good because societal opinion deems it so and, because of it’s inherent characteristics, places it in the public market, which translates into it being provided by the government. However, Adams and Mccormick (1993) maintain that the role of the government and society’s view are not sufficient in determining a public versus private good.

Benson and O'Halloran (1987) suggest there is a duality to education that must be considered, stating it should be recognized as both a public good as well as a private good. However, Levin (1987) cautions, “that schools are expected to provide both public and private benefits raises a potential dilemma” (p. 630).

Labaree (1997) agrees, observing:

> Schools, it seems, occupy an awkward position at the intersection between what we hope society will become and what we think it really is, between political ideals and economic realities. This in turn leads to some crucial questions: Should schools present themselves as a model of our best hopes for our society and a mechanism for remaking that society in the image of those hopes? Should schools focus on adapting students to the needs of society as currently constructed? Or should they focus primarily on serving the individual hopes and ambitions of their students? (p. 41)

Thus, aside from the public benefits, there are also many private benefits that must be considered when determining the economic returns from education (Education: What's It Worth, 2013; Levin, 1987). The most prominent, and one which is discussed later in more detail, is an increase in personal income that is associated with higher educational attainment (Psacharopoulos & Patrinos, 2004). However, there are many other private benefits associated with education, including some that are not directly monetary, such as trainability, health, and access to information (Haveman & Wolfe, 1984).

Furthermore, private returns are higher than "social" returns, due to the subsidized nature of education limiting the personal investment one makes in their own education (Psacharopoulos & Patrinos, 2004). Benson and O'Halloran (1987), however, point out that education can be considered to be a private good because families do purchase it through the payment of taxes, fees, or a combination of the two. They also stress that families have a choice, which is indicative of private goods, to either send their child to public or private school. They even calculate educational expenditures per child to have an income elasticity of 1.0 or greater, meaning as families become wealthier they chose more expensive-private education.

This wealth, they assume, also contributes to greater property tax payments which subsidize the education of lower income families (Benson & O'Halloran, 1987).

Baker, Green, & Richards, (2008) explain:

> From an economic perspective, governments raise funding for education for public schooling through taxes on the value of properties, on the income of individuals and businesses, and on the consumption of goods

> and services. By allocation to public schooling, governments then invest those tax revenues back into children, who will in turn generate earnings exceeding what they might have earned without schooling, and who will purchase more goods and own property, yielding tax revenue for the next generation of public school students. (pg 2)

Often, such returns on human capital investments, such as education, are calculated using wages, which are also the source of most tax revenue, both directly and indirectly (Kaplow, 2011, p. 245). However, this revenue is only realized when the income is actually earned and taxes are collected.

Some research has attempted to actually calculate how much an income increases based upon educational attainment. Sianesi and Van Reenen **(**2003**)** conservatively calculated that a one-year increase in the mean years of education is correlated with a rise of 3-6% in per-capita income. Others have calculated this return to be even higher, such as Johnston (2011) who found this number to be closer to 10%. And Cohn (1997) notes that often these numbers are below their true value as "measured returns are very likely to fall short of the "true" returns, since non-monetary and external benefits are almost always excluded from the calculation of private and social benefits, respectively" (p. 204).

The Mincer Earnings Function calculates earnings as a function of schooling and is "one of the most widely used models in empirical economics" (Lemieux, 2006, p. 128). Mincer's (1974) models the natural logarithm of earnings as a function of years and years of labor market experience.

$$\ln E_t = \ln E_0 + rS + \beta_1 \mathrm{t} + \beta_2 t^2$$

where E_t is earnings, E_0 is the earnings of an individual with no education or experience, S is the number of years of schooling, and r is the rate of return for education, as previously discussed. Here t is the number of years in the labor market, which is calculated by taking one's age (A) minus their number of years in school (S) as well as the age at which they entered education (b), or

$$t = (A - S - b)$$

Thus,

$$\ln E_t = \ln E_0 + rS + \beta_1 (A - S - b) + \beta_2 (A - S - b)^2$$

Studies continue to use the Mincer Earning Function, or models closely resembling it, to estimate earnings regression (Lemieux, 2006). The Mincer Earning Function can also be used to calculate the rate of return for education by utilizing historical earnings information from census data (Kara, 2010).

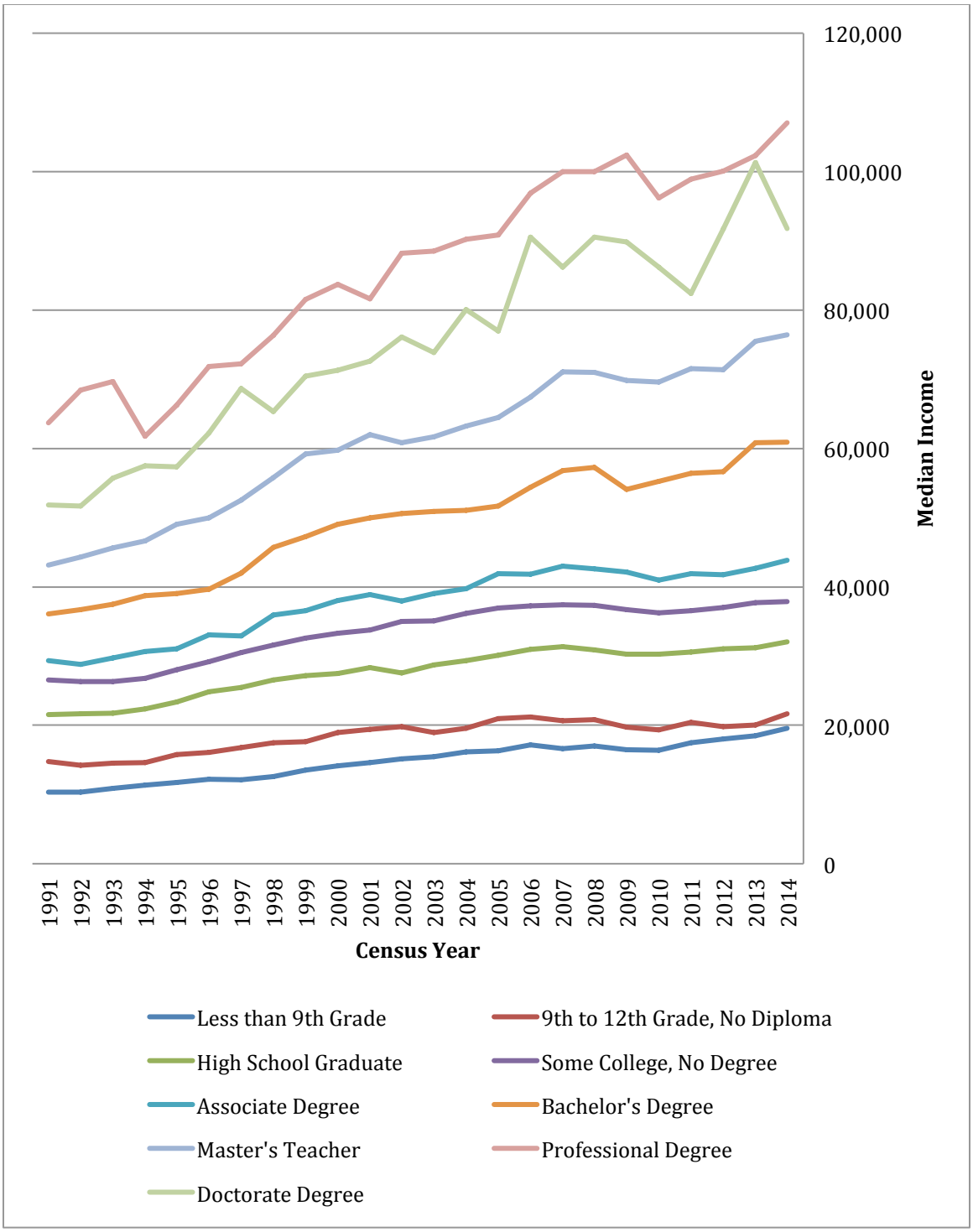
Psacharopoulos and Patrinos, (2004) found the returns of education based upon different tiers of education attainment. Table 2.3 shows how these returns are the highest within Primary and Secondary education levels; with Men's experiencing a 20% return for a Primary education and a 14% return for secondary education. Women have a lower rate of return for a Primary education, 13%, but have a higher rate of return for a Secondary education, 18%.

Table 2.3
Rate of Returns of Education by Gender and Educational Attainment

Educational Level	Men	Women
Primary	20.1	12.8
Secondary	13.9	18.4
Higher	11.0	10.8
Overall	8.7	9.8

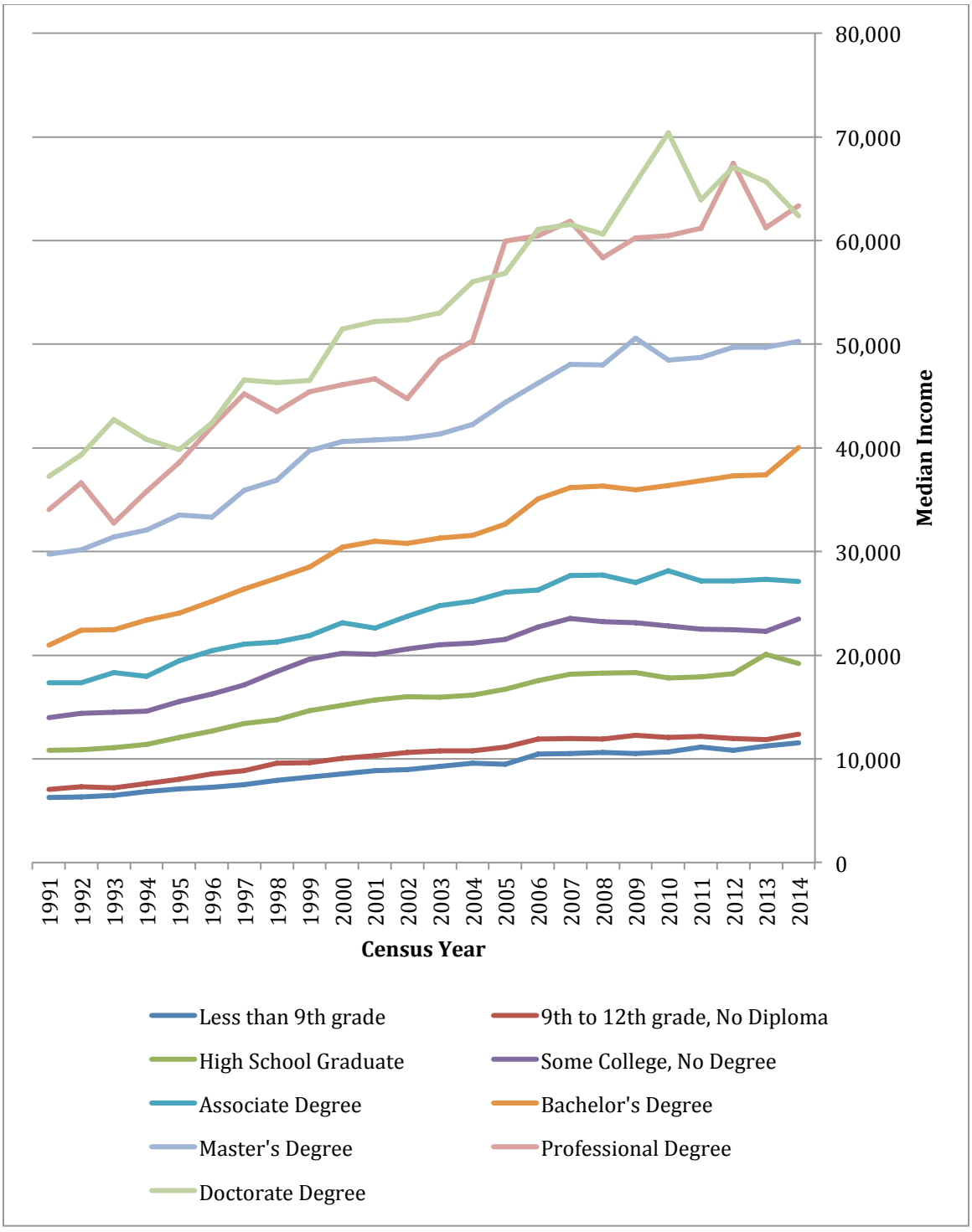
Source: Psacharopoulos, G., & Patrinos, H. (2004). Table 5. Returns to education by gender (p. 116)

The census bureau also categorizes the population into different tiers of educational attainment. This census data can be used to provide a more infographic interpretation of the impact of education on earnings using historical data. As seen in Figure 2.5 and Figure 2.6, there is a direct relationship for educational attainment and earnings, i.e. the more education one receives the greater income they earn.



Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from: http://www.census.gov/hhes/www/income/data/historical/people/

Figure 2.5: Median Income by Educational Attainment of Males 25 Years Old and Over by Median Income from 1991 to 2014



Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from: http://www.census.gov/hhes/www/income/data/historical/people/

Figure 2.6: Median Income by Educational Attainment of Females 25 Years Old and Over by Median Income from 1991 to 2014

An individual with a terminal degree earns substantially more than some one without any high school education, with men who have a doctoral degree earning 4.7 times more than a male with no secondary education and women with doctoral degrees earning 5.4 times what a women with no secondary education made in 2014 (Table 2.4 and Table 2.5).

Table 2.4
Educational Attainment (Less than Ninth Grade) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	4,467	19,553	19,553	3,644	11,558	11,558
2013	4,682	18,503	18,806	3,664	11,249	11,433
2012	4,510	18,002	18,562	3,674	10,841	11,178
2011	4,633	17,505	18,427	3,839	11,113	11,698
2010	4,757	16,384	17,791	3,897	10,680	11,597
2009	4,736	16,473	18,177	4,036	10,516	11,604
2008	4,973	17,043	18,740	4,201	10,625	11,683
2007	5,036	16,625	18,983	4,070	10,539	12,034
2006	5,283	17,169	20,160	4,257	10,451	12,272
2005	5,475	16,321	19,785	4,579	9,496	11,512
2004	5,520	16,171	20,268	4,742	9,576	12,002
2003	5,405	15,461	19,901	4,734	9,296	11,966
2002	5,705	15,130	19,910	5,015	8,965	11,797
2001	5,809	14,594	19,515	5,196	8,846	11,829
2000	5,724	14,131	19,426	5,195	8,546	11,748
1999	5,728	13,529	19,229	5,397	8,261	11,742
1998	5,641	12,571	18,248	5,419	7,914	11,488
1997	5,839	12,157	17,886	5,647	7,505	11,042
1996	6,139	12,174	18,298	5,775	7,276	10,936
1995	6,277	11,723	18,097	6,020	7,096	10,954
1994	6,507	11,324	17,902	6,183	6,865	10,853
1993	6,734	10,895	17,584	6,423	6,480	10,458
1992	7,000	10,374	17,157	6,921	6,337	10,480
1991	7,143	10,319	17,499	7,065	6,268	10,629

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.5
Educational Attainment (Doctoral Degree) - People 25 Years Old and Over
by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	2,082	91,770	91,770	1,475	62,388	62,388
2013	2,309	101,336	102,994	1,241	65,673	66,748
2012	2,150	91,742	94,598	1,210	67,057	69,144
2011	1,976	82,376	86,714	1,121	63,913	67,279
2010	1,900	86,200	93,601	1,136	70,417	76,463
2009	1,755	89,845	99,137	987	65,587	72,370
2008	1,622	90,575	99,595	942	60,619	66,656
2007	1,601	86,171	98,392	823	61,554	70,284
2006	1,649	90,511	106,279	782	61,091	71,733
2005	1,656	76,937	93,268	749	56,820	68,881
2004	1,573	80,033	100,308	734	55,996	70,182
2003	1,606	73,853	95,063	773	53,003	68,225
2002	1,514	76,147	100,204	663	52,336	68,870
2001	1,488	72,642	97,135	653	52,181	69,775
2000	1,520	71,271	97,976	584	51,460	70,742
1999	1,451	70,461	100,148	600	46,511	66,108
1998	1,443	65,319	94,816	567	46,275	67,172
1997	1,338	68,643	100,990	508	46,545	68,479
1996	1,215	62,255	93,571	527	42,431	63,775
1995	1,149	57,356	88,542	457	39,821	61,472
1994	1,183	57,478	90,867	462	40,793	64,490
1993	1,149	55,751	89,978	447	42,737	68,974
1992	1,053	51,681	85,471	358	39,322	65,032
1991	929	51,845	87,917	337	37,242	63,153

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Less drastic disparities occur between each level of education attainment as well. By attending high school, but not receiving a diploma, men made 11% more than those who did not and women made 7% more. By graduating high school, males' incomes rise by 48% over those who do not graduate and are 64% greater than males who did not attend high school in 2014. Women with a high school diploma made 55% more than those without one and 66% more than women with no secondary education in 2014 (Table 2.4, 2.6, and 2.7).

Table 2.6
Educational Attainment (9^{th} – 12^{th} Grade: No Diploma) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	6,445	21,701	21,701	5,934	12,364	12,364
2013	6,120	20,021	20,349	5,692	11,840	12,034
2012	6,418	19,780	20,396	5,898	11,981	12,354
2011	6,650	20,437	21,513	6,235	12,193	12,835
2010	6,625	19,356	21,018	6,003	12,075	13,112
2009	6,948	19,720	21,760	6,175	12,278	13,548
2008	7,158	20,845	22,921	6,413	11,904	13,090
2007	7,200	20,643	23,571	6,286	11,982	13,681
2006	7,684	21,184	24,874	6,750	11,914	13,989
2005	7,276	20,934	25,378	6,812	11,136	13,500
2004	7,254	19,593	24,557	6,982	10,751	13,475
2003	7,245	18,990	24,444	6,965	10,786	13,884
2002	7,488	19,802	26,058	7,103	10,613	13,966
2001	7,421	19,434	25,987	7,376	10,330	13,813
2000	7,226	18,915	26,003	7,565	10,063	13,834
1999	7,085	17,653	25,091	7,525	9,632	13,690
1998	7,366	17,462	25,348	7,559	9,582	13,909
1997	7,601	16,818	24,743	7,661	8,861	13,037
1996	7,671	16,058	24,136	7,929	8,544	12,842
1995	7,490	15,791	24,377	8,122	8,057	12,438
1994	7,286	14,584	23,056	7,943	7,618	12,043
1993	7,377	14,550	23,483	8,152	7,187	11,599
1992	7,524	14,218	23,514	8,248	7,293	12,061
1991	7,759	14,736	24,989	8,561	7,055	11,964

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.7
Educational Attainment (High School Graduate) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	28,988	32,080	32,080	27,688	19,208	19,208
2013	29,036	31,188	31,698	27,640	20,060	20,388
2012	28,115	31,064	32,031	27,717	18,213	18,780
2011	28,295	30,616	32,228	28,051	17,887	18,829
2010	28,307	30,250	32,847	28,314	17,826	19,356
2009	28,946	30,303	33,437	28,154	18,340	20,237
2008	28,450	30,879	33,954	28,217	18,293	20,115
2007	27,988	31,337	35,781	28,134	18,162	20,738
2006	28,253	31,009	36,411	28,538	17,546	20,603
2005	28,077	30,134	36,531	28,409	16,695	20,239
2004	27,799	29,332	36,763	28,561	16,165	20,260
2003	26,800	28,763	37,024	28,976	15,962	20,546
2002	26,298	27,526	36,222	29,161	15,972	21,018
2001	25,954	28,343	37,900	28,945	15,665	20,947
2000	26,175	27,480	37,777	28,968	15,153	20,831
1999	26,278	27,188	38,643	29,798	14,652	20,825
1998	25,636	26,542	38,528	29,330	13,786	20,012
1997	25,777	25,453	37,447	29,332	13,407	19,725
1996	25,510	24,814	37,296	29,212	12,702	19,091
1995	24,909	23,365	36,069	28,785	12,046	18,596
1994	24,704	22,387	35,392	29,110	11,390	18,007
1993	24,682	21,782	35,154	29,171	11,089	17,897
1992	25,143	21,645	35,797	29,596	10,901	18,028
1991	25,297	21,546	36,537	30,149	10,818	18,345

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

These difference add up over time, as can be seen with Synthetic Work-Life Earnings estimate calculated by the US Census Bureau. While some of the differences in educational attainment and income levels may not appear to be that drastic in a single year, over a worker's lifetime these disparities can be millions of dollars. "In this way, Synthetic Work-Life Earnings estimates demonstrate how seemingly small differences add up over a lifetime" (Julian, 2012, para. 2).

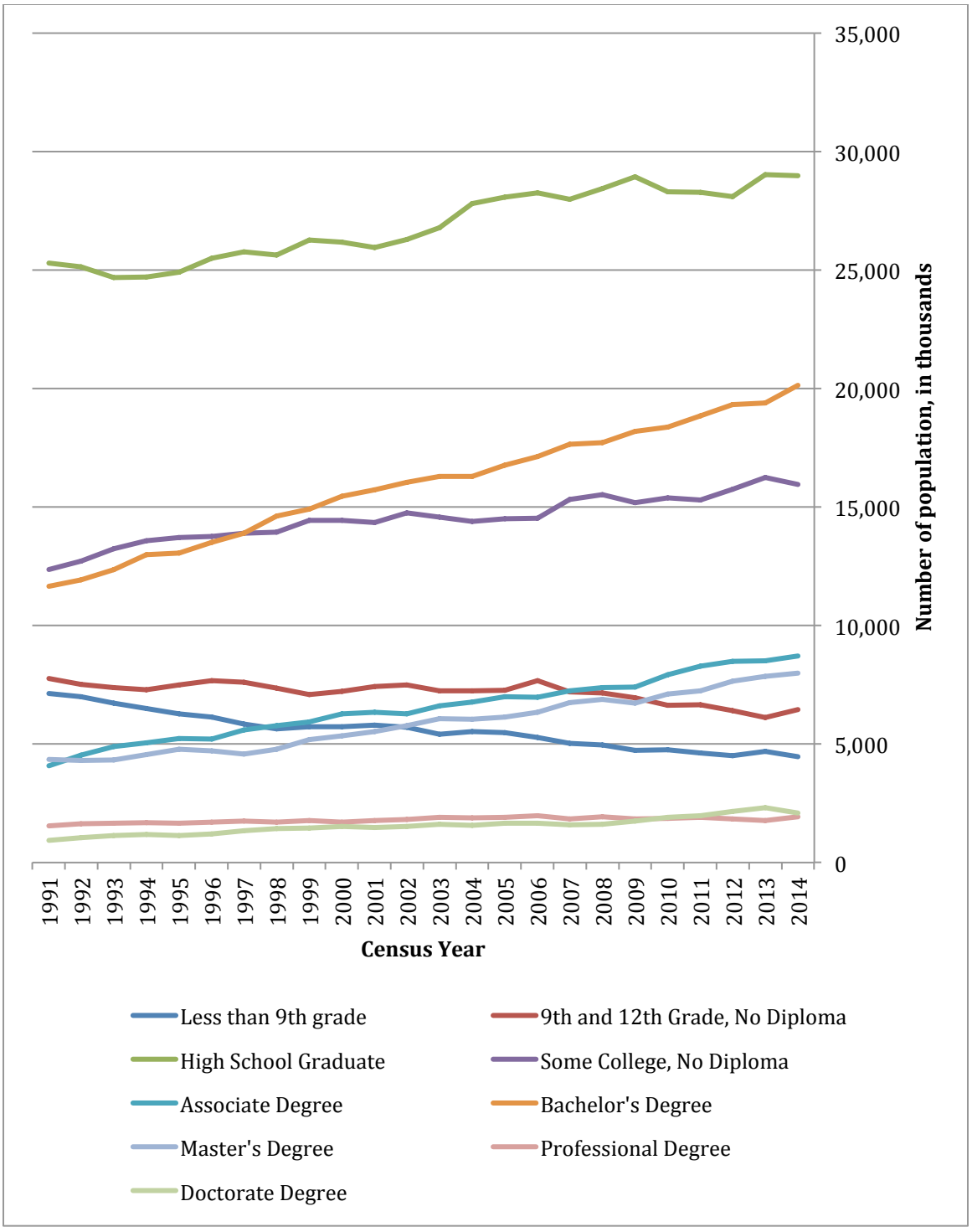
Table 2.8 shows how a person with a doctoral degree will make approximately 2.6 million dollars more over their lifetime than some with less than a high school education. By graduating high school, one can make $272,000 more over the course of one's life than some who do not graduate and $435,000 more than someone with no secondary education.

Table 2.8
Synthetic Work-Life Earnings by Educational Attainment

Educational Attainment	Synthetic work-life earnings	Margin of error
None to 8th Grade	936,000	7,000
9th to 12th Grade	1,099,000	7,000
High School graduate	1,371,000	3,000
Some college	1,632,000	5,000
Associate's degree	1,813,000	9,000
Bachelor's degree	2,422,000	8,000
Master's degree	2,834,000	13,000
Professional degree	4,159,000	33,000
Doctorate degree	3,525,000	29,000

Source: US Census Bureau. Work-Life Earnings by Field of Degree and Occupation for People With a Bachelor's Degree: 201. Retrieved November 22, 2015 from: https://www.census.gov/prod/2012pubs/acsbr11-04.pdf

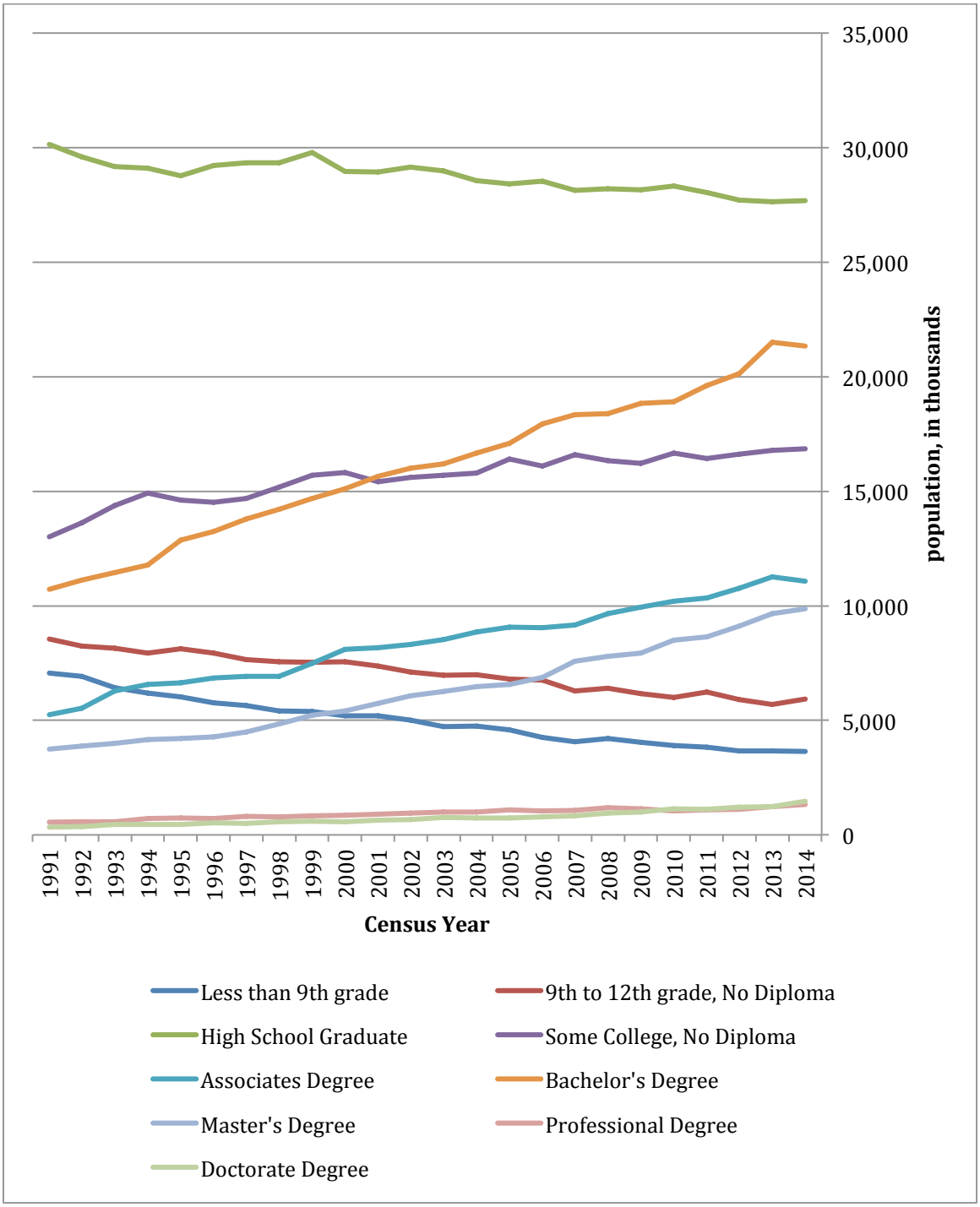
Educational attainment is also on the rise. From 1991 to 2014 lower paying education attainment levels have decreased, while higher paying have increased. For men, those with less than a 9th grade education has decreased nearly 38% and those with some high school, but no diploma, decreased 17% during this time (Figure 2.7).



Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from: http://www.census.gov/hhes/www/income/data/historical/people/

Figure 2.7: Population (in thousands) by Educational Attainment of Males 25 Years Old and Over from 1991 to 2014

Women experienced similar declines, with a 48% decrease in those with less than a high school education and a 31% decline in those with some secondary education but did not graduate (Figure 2.8).



Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from: http://www.census.gov/hhes/www/income/data/historical/people/

Figure 2.8: Population (in thousands) by Educational Attainment of Females 25 Years Old and Over from 1991 to 2014

Meanwhile, higher educational attainment, and thus higher incomes, have risen within the same time period. Men saw an increase in secondary and all post secondary categories (Figure 2.8).

- High School Graduate: Increased by 15 %
- Some College, No Degree: Increased by 29%
- Associated Degree: Increased by 114%
- Bachelor's Degree: Increased by 73%
- Master's Degree: Increased by 84%
- Professional Degree: Increased by 25%
- Doctorate Degree: Increased by 124%

Although women with a high school diploma decreased by 8%, they also had increases in post secondary education, with most having greater increases than men experienced during the same time period (Figure 2.8).

- Some College, No Degree: Increased by 30%
- Associated Degree: Increased by 111%
- Bachelor's Degree: Increased by 99%
- Master's Degree: Increased by 164%
- Professional Degree: Increased by 137%
- Doctorate Degree: Increased by 338%

Kara (2000) warns that in nations with limited resources will compare education to other "competing sectors" to determine how to properly allocate the scarce resources they have. The recent recession has certainly left many states with limited resources, with education being cut in lieu of other sectors (Oliff, 2012).

However, Levin (1987) observed, “schools are expected to play a major role in contributing to economic growth and full employment for the nation and its regions” (p. 630). If the taxes paid by those who earn more money are considered, the benefits for states to have an educated workforce becomes very significant (Brimley, Garfield, & Verstegen, 2012). Therefore, additional research on the degree to which education is correlated to the economy becomes important for policymakers to know.

Table 2.9
Educational Attainment (Less than Ninth Grade) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	4,467	19,553	19,553	3,644	11,558	11,558
2013	4,682	18,503	18,806	3,664	11,249	11,433
2012	4,510	18,002	18,562	3,674	10,841	11,178
2011	4,633	17,505	18,427	3,839	11,113	11,698
2010	4,757	16,384	17,791	3,897	10,680	11,597
2009	4,736	16,473	18,177	4,036	10,516	11,604
2008	4,973	17,043	18,740	4,201	10,625	11,683
2007	5,036	16,625	18,983	4,070	10,539	12,034
2006	5,283	17,169	20,160	4,257	10,451	12,272
2005	5,475	16,321	19,785	4,579	9,496	11,512
2004	5,520	16,171	20,268	4,742	9,576	12,002
2003	5,405	15,461	19,901	4,734	9,296	11,966
2002	5,705	15,130	19,910	5,015	8,965	11,797
2001	5,809	14,594	19,515	5,196	8,846	11,829
2000	5,724	14,131	19,426	5,195	8,546	11,748
1999	5,728	13,529	19,229	5,397	8,261	11,742
1998	5,641	12,571	18,248	5,419	7,914	11,488
1997	5,839	12,157	17,886	5,647	7,505	11,042
1996	6,139	12,174	18,298	5,775	7,276	10,936
1995	6,277	11,723	18,097	6,020	7,096	10,954
1994	6,507	11,324	17,902	6,183	6,865	10,853
1993	6,734	10,895	17,584	6,423	6,480	10,458
1992	7,000	10,374	17,157	6,921	6,337	10,480
1991	7,143	10,319	17,499	7,065	6,268	10,629

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.10
Educational Attainment (9^{th} – 12^{th} Grade: No Diploma) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	6,445	21,701	21,701	5,934	12,364	12,364
2013	6,120	20,021	20,349	5,692	11,840	12,034
2012	6,418	19,780	20,396	5,898	11,981	12,354
2011	6,650	20,437	21,513	6,235	12,193	12,835
2010	6,625	19,356	21,018	6,003	12,075	13,112
2009	6,948	19,720	21,760	6,175	12,278	13,548
2008	7,158	20,845	22,921	6,413	11,904	13,090
2007	7,200	20,643	23,571	6,286	11,982	13,681
2006	7,684	21,184	24,874	6,750	11,914	13,989
2005	7,276	20,934	25,378	6,812	11,136	13,500
2004	7,254	19,593	24,557	6,982	10,751	13,475
2003	7,245	18,990	24,444	6,965	10,786	13,884
2002	7,488	19,802	26,058	7,103	10,613	13,966
2001	7,421	19,434	25,987	7,376	10,330	13,813
2000	7,226	18,915	26,003	7,565	10,063	13,834
1999	7,085	17,653	25,091	7,525	9,632	13,690
1998	7,366	17,462	25,348	7,559	9,582	13,909
1997	7,601	16,818	24,743	7,661	8,861	13,037
1996	7,671	16,058	24,136	7,929	8,544	12,842
1995	7,490	15,791	24,377	8,122	8,057	12,438
1994	7,286	14,584	23,056	7,943	7,618	12,043
1993	7,377	14,550	23,483	8,152	7,187	11,599
1992	7,524	14,218	23,514	8,248	7,293	12,061
1991	7,759	14,736	24,989	8,561	7,055	11,964

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.11
Educational Attainment (High School Graduate) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	28,988	32,080	32,080	27,688	19,208	19,208
2013	29,036	31,188	31,698	27,640	20,060	20,388
2012	28,115	31,064	32,031	27,717	18,213	18,780
2011	28,295	30,616	32,228	28,051	17,887	18,829
2010	28,307	30,250	32,847	28,314	17,826	19,356
2009	28,946	30,303	33,437	28,154	18,340	20,237
2008	28,450	30,879	33,954	28,217	18,293	20,115
2007	27,988	31,337	35,781	28,134	18,162	20,738
2006	28,253	31,009	36,411	28,538	17,546	20,603
2005	28,077	30,134	36,531	28,409	16,695	20,239
2004	27,799	29,332	36,763	28,561	16,165	20,260
2003	26,800	28,763	37,024	28,976	15,962	20,546
2002	26,298	27,526	36,222	29,161	15,972	21,018
2001	25,954	28,343	37,900	28,945	15,665	20,947
2000	26,175	27,480	37,777	28,968	15,153	20,831
1999	26,278	27,188	38,643	29,798	14,652	20,825
1998	25,636	26,542	38,528	29,330	13,786	20,012
1997	25,777	25,453	37,447	29,332	13,407	19,725
1996	25,510	24,814	37,296	29,212	12,702	19,091
1995	24,909	23,365	36,069	28,785	12,046	18,596
1994	24,704	22,387	35,392	29,110	11,390	18,007
1993	24,682	21,782	35,154	29,171	11,089	17,897
1992	25,143	21,645	35,797	29,596	10,901	18,028
1991	25,297	21,546	36,537	30,149	10,818	18,345

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.12
Educational Attainment (Some College: No Degree) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	15,963	37,865	37,865	16,851	23,504	23,504
2013	16,248	37,741	38,359	16,776	22,301	22,666
2012	15,752	37,062	38,216	16,625	22,469	23,168
2011	15,301	36,552	38,477	16,427	22,499	23,684
2010	15,395	36,226	39,336	16,661	22,808	24,766
2009	15,184	36,693	40,488	16,208	23,107	25,497
2008	15,523	37,297	41,011	16,329	23,252	25,568
2007	15,321	37,447	42,758	16,600	23,532	26,869
2006	14,526	37,271	43,764	16,099	22,709	26,665
2005	14,505	36,930	44,769	16,402	21,545	26,118
2004	14,405	36,162	45,323	15,791	21,159	26,519
2003	14,586	35,073	45,146	15,691	21,007	27,040
2002	14,747	35,023	46,088	15,616	20,602	27,111
2001	14,340	33,777	45,166	15,420	20,101	26,879
2000	14,433	33,319	45,804	15,825	20,166	27,722
1999	14,440	32,575	46,300	15,693	19,599	27,857
1998	13,935	31,627	45,909	15,173	18,445	26,775
1997	13,892	30,536	44,926	14,677	17,153	25,236
1996	13,756	29,160	43,828	14,528	16,255	24,432
1995	13,715	28,004	43,230	14,619	15,552	24,008
1994	13,573	26,768	42,318	14,911	14,585	23,058
1993	13,247	26,323	42,483	14,390	14,489	23,384
1992	12,728	26,318	43,525	13,615	14,401	23,817
1991	12,366	26,591	45,092	13,013	13,963	23,678

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved Novembe 22, 2015 from: http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.13
Educational Attainment (Associates Degree) - People 25 Years Old and Over
by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	8,728	43,871	43,871	11,069	27,122	27,122
2013	8,509	42,717	43,416	11,265	27,340	27,787
2012	8,499	41,731	43,030	10,757	27,159	28,004
2011	8,286	41,916	44,123	10,353	27,180	28,611
2010	7,924	40,974	44,492	10,197	28,147	30,564
2009	7,399	42,163	46,524	9,936	27,027	29,822
2008	7,375	42,608	46,851	9,662	27,715	30,475
2007	7,244	43,006	49,105	9,166	27,668	31,592
2006	6,973	41,807	49,090	9,043	26,295	30,876
2005	7,000	41,903	50,798	9,070	26,074	31,609
2004	6,782	39,765	49,839	8,861	25,199	31,583
2003	6,618	39,015	50,220	8,523	24,808	31,933
2002	6,274	37,970	49,966	8,323	23,766	31,274
2001	6,352	38,870	51,976	8,177	22,638	30,271
2000	6,272	38,026	52,274	8,108	23,124	31,789
1999	5,939	36,558	51,961	7,482	21,916	31,150
1998	5,766	35,962	52,202	6,931	21,290	30,904
1997	5,591	32,930	48,448	6,914	21,073	31,003
1996	5,210	33,065	49,698	6,839	20,460	30,752
1995	5,230	31,027	47,897	6,642	19,450	30,025
1994	5,046	30,643	48,444	6,573	17,954	28,384
1993	4,901	29,736	47,992	6,282	18,346	29,609
1992	4,540	28,791	47,615	5,539	17,331	28,662
1991	4,083	29,358	49,784	5,236	17,364	29,445

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.14
Educational Attainment (Bachelor's Degree) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	20,147	60,933	60,933	21,336	40,033	40,033
2013	19,388	60,808	61,803	21,508	37,424	38,036
2012	19,320	56,656	58,420	20,125	37,285	38,446
2011	18,859	56,404	59,374	19,629	36,812	38,751
2010	18,378	55,225	59,966	18,909	36,359	39,481
2009	18,205	54,091	59,685	18,844	35,972	39,692
2008	17,726	57,278	62,982	18,381	36,294	39,908
2007	17,654	56,826	64,885	18,347	36,167	41,296
2006	17,129	54,403	63,880	17,931	35,094	41,208
2005	16,764	51,700	62,674	17,090	32,668	39,602
2004	16,302	51,081	64,022	16,668	31,585	39,587
2003	16,295	50,916	65,539	16,198	31,309	40,301
2002	16,057	50,600	66,586	16,003	30,788	40,515
2001	15,723	49,985	66,839	15,660	30,973	41,416
2000	15,452	49,080	67,470	15,102	30,418	41,816
1999	14,922	47,289	67,213	14,690	28,520	40,536
1998	14,614	45,749	66,409	14,218	27,415	39,795
1997	13,900	41,949	61,717	13,787	26,401	38,842
1996	13,510	39,624	59,556	13,247	25,192	37,864
1995	13,065	39,040	60,267	12,875	24,065	37,150
1994	12,997	38,701	61,183	11,773	23,405	37,001
1993	12,360	37,474	60,480	11,447	22,452	36,236
1992	11,938	36,745	60,770	11,133	22,383	37,018
1991	11,657	36,067	61,161	10,721	20,967	35,555

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.15
Educational Attainment (Master's Degree) - People 25 Years Old and Over
by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	7,992	76,386	76,386	9,876	50,255	50,255
2013	7,867	75,525	76,761	9,661	49,731	50,545
2012	7,652	71,364	73,586	9,124	49,703	51,250
2011	7,238	71,537	75,304	8,650	48,738	51,305
2010	7,100	69,576	75,550	8,507	48,488	52,651
2009	6,728	69,825	77,047	7,945	50,576	55,807
2008	6,896	70,973	78,041	7,801	48,000	52,780
2007	6,759	71,097	81,180	7,590	48,077	54,896
2006	6,350	67,425	79,171	6,876	46,250	54,307
2005	6,137	64,468	78,153	6,560	44,385	53,807
2004	6,059	63,260	79,286	6,464	42,243	52,945
2003	6,076	61,698	79,417	6,268	41,334	53,205
2002	5,768	60,830	80,048	6,073	40,939	53,873
2001	5,522	61,960	82,852	5,749	40,744	54,482
2000	5,346	59,732	82,114	5,421	40,619	55,839
1999	5,178	59,189	84,127	5,220	39,712	56,444
1998	4,772	55,784	80,975	4,837	36,888	53,546
1997	4,583	52,530	77,284	4,488	35,882	52,791
1996	4,709	50,003	75,156	4,285	33,302	50,054
1995	4,774	49,076	75,760	4,205	33,509	51,728
1994	4,558	46,635	73,726	4,166	32,069	50,698
1993	4,320	45,597	73,590	4,003	31,389	50,659
1992	4,308	44,293	73,253	3,873	30,169	49,894
1991	4,356	43,125	73,130	3,745	29,747	50,444

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.16
Educational Attainment (Professional Degree) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	1,940	107,050	107,050	1,319	63,353	63,353
2013	1,762	102,353	104,028	1,224	61,224	62,226
2012	1,847	100,064	103,179	1,126	67,428	69,527
2011	1,903	98,883	104,091	1,098	61,206	64,429
2010	1,856	96,212	104,472	1,053	60,477	65,669
2009	1,844	102,398	112,989	1,142	60,259	66,491
2008	1,930	100,000	(X)	1,197	58,364	64,176
2007	1,843	100,000	(X)	1,060	61,875	70,650
2006	1,969	96,926	113,811	1,037	60,463	70,996
2005	1,912	90,878	110,169	1,090	59,934	72,656
2004	1,876	90,210	113,063	991	50,311	63,056
2003	1,901	88,530	113,955	990	48,536	62,475
2002	1,816	88,216	116,086	946	44,748	58,885
2001	1,779	81,602	109,116	899	46,635	62,359
2000	1,711	83,701	115,064	852	46,084	63,352
1999	1,774	81,545	115,903	824	45,432	64,574
1998	1,695	76,362	110,846	788	43,490	63,129
1997	1,741	72,274	106,332	807	45,199	66,498
1996	1,702	71,869	108,021	715	42,059	63,216
1995	1,657	66,257	102,282	732	38,588	59,569
1994	1,691	61,739	97,604	709	35,806	56,606
1993	1,650	69,678	112,455	583	32,742	52,843
1992	1,639	68,429	113,170	569	36,640	60,596
1991	1,547	63,741	108,089	556	34,064	57,764

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

Table 2.17
Educational Attainment (Doctoral Degree) - People 25 Years Old and Over by Median Income and Sex: 2004 to 2014

Educational attainment and year	Male			Female		
	Number with income (thous.)	Median income		Number with income (thous.)	Median income	
		Current dollars	2014 dollars		Current dollars	2014 dollars
2014	2,082	91,770	91,770	1,475	62,388	62,388
2013	2,309	101,336	102,994	1,241	65,673	66,748
2012	2,150	91,742	94,598	1,210	67,057	69,144
2011	1,976	82,376	86,714	1,121	63,913	67,279
2010	1,900	86,200	93,601	1,136	70,417	76,463
2009	1,755	89,845	99,137	987	65,587	72,370
2008	1,622	90,575	99,595	942	60,619	66,656
2007	1,601	86,171	98,392	823	61,554	70,284
2006	1,649	90,511	106,279	782	61,091	71,733
2005	1,656	76,937	93,268	749	56,820	68,881
2004	1,573	80,033	100,308	734	55,996	70,182
2003	1,606	73,853	95,063	773	53,003	68,225
2002	1,514	76,147	100,204	663	52,336	68,870
2001	1,488	72,642	97,135	653	52,181	69,775
2000	1,520	71,271	97,976	584	51,460	70,742
1999	1,451	70,461	100,148	600	46,511	66,108
1998	1,443	65,319	94,816	567	46,275	67,172
1997	1,338	68,643	100,990	508	46,545	68,479
1996	1,215	62,255	93,571	527	42,431	63,775
1995	1,149	57,356	88,542	457	39,821	61,472
1994	1,183	57,478	90,867	462	40,793	64,490
1993	1,149	55,751	89,978	447	42,737	68,974
1992	1,053	51,681	85,471	358	39,322	65,032
1991	929	51,845	87,917	337	37,242	63,153

Source: US Census Bureau. Historical Income Table: People, Table P-16. Retrieved November 22, 2015 from:
http://www.census.gov/hhes/www/income/data/historical/people/

CHAPTER THREE

METHODOLOGY

The purpose of this study was to determine if there is a relationship between education and the state economy. This was done so in two manners. The first examines the relationship between educational attainment and the economy at the state level. The second examines the relationship between educational expenditures and the economy at the state level.

Weber (1979) describes the Gross State Product as "a comprehensive measure of economic activity in a state (which) can provide important information about regional economic health" (p 217). Therefore the intent of this study is to see if a more educated population and investment in education at the state level is correlated with a healthier state economy.

Utilizing data already collected the National Center for Education Statistics (NCES), the US Census Bureau, the Office of Natural Resources Revenue, and two agencies within the US Department of Commerce, the US Bureau of Economic Analysis, and the Office of Travel and Tourism Industries.

Data from these agencies were scaled appropriately to allow for states to be compared, regardless of size or population or physical size of the state. Correlations were examined using a Spearman rank correlation. This allowed for data to be ranked and compared if educational attainment and educational expenditures is correlated with a higher ranking economy, when compared to other states.

These findings were then shared with education finance policymakers to gain further insight and understanding of the results of the analysis. With their experiences and

expertise, implications of the analysis were derived. It is hoped that the results of the study will develop a deeper dialog on the importance of educational expenditures between educators, taxpayers, and policymakers.

Research Design

This quantitative study was designed to determine if there is a significant relationship between education and the state economy.

Research Question 1 was based upon a study conducted by NEA, which examined natural resources, education, and the gross domestic product (National Education Association of the United States, 1968). In this study the per capita gross state product replaced the gross domestic product. The Gross State Product data was provided by the US Bureau of Economic Analysis from the US Department of Commerce.

Natural resources were included and measured by the revenues reported to the Office of Natural Resources Revenue. This use of this agency's statistics insured that the revenues for each state were collected in a consistent manner. These revenues where then scaled using the states square mile area so that revenue was not dependent upon state size.

Education was examined using the educational attainment percentage for each state. For this study educational attainment is defined as graduating high school, since this study also focuses on policy for K-12 education. Therefore, the percentage of high school graduates from each state was used, as provided by the US Census Bureau.

As discussed in Chapter One, some policymakers where opting to invest state funds into tourism rather than education. Thus, tourism was added to the analysis for Question #1. Tourism information was provided by the Office of Travel and Tourism

Industries from the US Department of Commerce. The Office of Travel and Tourism collects its data by surveying international travels. The data used in this study comes from the question "What US destinations did you visit?" Respondents were allowed to name multiple states as part of the survey. The percentage of respondents that named each state was to estimate the market share of tourism a state has. This data was chosen to provide consistency of collection and because inter-state data is difficult to track.

Research Questions #2-4 compares the percentage of educational expenditures funded by the state to educational attainment in the state, the real per capita real income dollar within the state, and the gross state product.

The percentage of educational expenditures funded by the state was provided by the National Center for Education Statistics and compares how much the state funds education, compared to local and federal funding. For this study, only the funding for the K-12 system was examined.

Educational attainment was identical to the data used in Question #1, i.e. the percentage of high school graduates from each state, as provided by the US Census Bureau.

Real Per Capita Personal Income Dollars was provided by the Bureau of Economic Analysis within the US Department of Commerce. Real Per Capita Personal Income Dollars measures the purchasing power of wages and allows inflation-adjusted incomes to be compared across states (Aversa & Figuroa, 2015). Using Real Per Capita Personal Income Dollars allows this fiscal data to be comparable regardless of the purchasing power based upon location.

Gross state product was also identical to the data used in Question #1 and was also provided by the US Bureau of Economic Analysis within the US Department of Commerce.

Research Questions and Data Analysis

The research questions utilized within this study were:

Research Question #1: Is there a correlation between per capita Gross State Product and educational attainment, natural resource revenue per square mile, and market share of tourism?

Research sub-question #1.1: Is there a correlation between per capita Gross State Product and educational attainment?

Data was analyzed to determine if there was a significant correlation between per capita Gross State Product and educational attainment. States were ranked according to the reported per capita Gross State Product for 2012. States were also ranked according to the educational attainment within the state for the same year. The significance of the relationship between per capita Gross State Product and educational attainment was then analyzed using a Spearman r_s Correlation with an alpha level of .05.

Research sub-Question #1.2: Is there a correlation between per capita Gross State Product and natural resource revenue per square mile?

Data was analyzed to determine if there was a significant correlation between per capita Gross State Product and natural resource revenue per square mile. States were ranked according to the reported per capita Gross State Product for 2012. States were also ranked according to the natural resource revenue per square mile within the state for the same year. The significance of the relationship between per capita Gross State Product

and natural resource revenue per square mile was then analyzed using a Spearman r_s Correlation with an alpha level of .05.

Research sub-Question #1.3: Is there a correlation between per capita Gross State Product and market share of tourism?

Data was analyzed to determine if there was a significant correlation between per capita Gross State Product and market share of tourism. States were ranked according to the reported per capita Gross State Product for 2012. States were also ranked according to the market share of tourism for the state for the same year. The significance of the relationship between per capita Gross State Product and market share of tourism was then analyzed using a Spearman r_s Correlation with an alpha level of .05.

Research Question #2: Is there a correlation between percentage of educational expenditures funded by the state and the educational attainment within that state?

Data was analyzed to determine if there was a significant correlation between percentage of educational expenditures funded by the state and the educational attainment within that state. States were ranked according to the reported percentage of educational expenditures funded by the state for 2012. States were also ranked according to the educational attainment within that state for the same year. The significance of the relationship between percentage of educational expenditures funded by the state and the educational attainment within that state was then analyzed using a Spearman r_s Correlation with an alpha level of .05.

Research Question #3: Is there a correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state?

Data was analyzed to determine if there was a significant correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state. States were ranked according to the reported percentage of educational expenditures funded by the state for 2012. States were also ranked according to the Real Per Capita Personal Income Dollars within that state for the same year. The significance of the relationship between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state was then analyzed using a Spearman r_s Correlation with an alpha level of .05.

Research Question #4: Is there a correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product?

Data was analyzed to determine if there was a significant correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product within that state. States were ranked according to the reported percentage of educational expenditures funded by the state for 2012. States were also ranked according to the per capita Gross State Product within that state for the same year. The significance of the relationship between percentage of educational expenditures funded by the state and the per capita Gross State Product within that state was then analyzed using a Spearman r_s Correlation with an alpha level of .05.

The findings from questions 1-4 were then shared with education finance policymakers within the state of Nebraska to gain further insight and understanding of the results of the analysis. They were engaged in conversation based upon the data analysis to learn from their experiences and expertise in the area of school finance policy within the state of Nebraska.

Subjects

Because the data utilized within this study was collected by outside sources, the publishers of this data dictated the subjects selected.

The National Center for Education Statistics is the primary federal entity for collecting and analyzing data related to education in the U.S. and other nations. NCES is located within the U.S. Department of Education and the Institute of Education Sciences. NCES fulfills a Congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education; conduct and publish reports; and review and report on education activities internationally (National Center for Education Statistics - About Us).

Economic data was collected from the US Bureau of Economic Analysis and the Office of Travel and Tourism Industries, both within the US Department of Commerce, as well as the Office of Natural Resources Revenue. All three federal government agencies continually track and provide data based upon their area of expertise.

Some data from the agencies listed above was scaled appropriately in order to allow state statistics to be comparable. The US Census Bureau collected the data used to scale other statistics. The Census Bureau strives to be “the leading source of quality data about the nation's people and economy” (What We Do).

Data Collection Strategies

Annual data from The National Center for Education Statistics (NCES), the US Census Bureau, the Office of Natural Resources Revenue, US Department of Commerce US Bureau of Economic Analysis, and the US Department of Commerce Office of Travel and Tourism Industries are public domain and are available online.

All of these agencies are Federal agencies that continually collect the data used within this study. Data from these agencies was selected in order to utilize data that was collected in a consistent manner nationwide. This meant that the data collection process was the same for every state and that differences in the data collection process did not skew the overall data set.

The 2012 fiscal year and 2011-2012 school year was selected in order to have the most complete data set available for the necessary statistics and also to correlate with the timeline of the policies discussed in Chapter One.

CHAPTER FOUR

RESULTS

Research Question #1: Is there a correlation between per capita Gross State Product and educational attainment, natural resource revenue per square mile, and market share of tourism?

Research sub-question #1.1: Is there a correlation between per capita Gross State Product and educational attainment?

Data was analyzed to determine if there was a significant correlation between per capita Gross State Product and educational attainment. States were ranked according to the reported per capita Gross State Product for 2012. States were also ranked according to the educational attainment within the state for the same year, as seen in Table 4.1 and 4.2.

The significance of the relationship between per capita Gross State Product and educational attainment was then analyzed using a Spearman r_s Correlation with an alpha level of .05. Table 4.3 shows there was a positive correlation between Per Capita Gross State Product and State Educational Attainment which was statistically significant ($r_s(50) = .395$, $p = .005$).

Table 4.1
Value and Rank of Per Capita Gross State Product and
Value and Rank of State Educational Attainment
Ordered alphabetically by state

State	Per Capita Gross State Product	Rank of Per Capita Gross State Product	State Educational Attainment	Rank of State Educational Attainment
Alabama	$36,750.00	45	82.42%	46
Alaska	$70,804.00	1	90.28%	9
Arizona	$38,895.00	40	84.75%	36
Arkansas	$35,924.00	46	83.27%	43
California	$52,724.00	11	81.32%	48
Colorado	$50,254.00	18	89.15%	16
Connecticut	$63,363.00	3	88.75%	19
Delaware	$61,271.00	7	87.04%	27
Florida	$37,790.00	42	85.38%	33
Georgia	$41,904.00	33	83.76%	40
Hawaii	$49,333.00	19	90.37%	7
Idaho	$34,102.00	49	88.14%	23
Illinois	$52,018.00	12	86.72%	30
Indiana	$42,903.00	32	86.20%	31
Iowa	$48,319.00	20	90.37%	8
Kansas	$45,101.00	27	89.17%	15
Kentucky	$38,125.00	41	82.59%	45
Louisiana	$46,850.00	23	81.81%	47
Maine	$37,784.00	43	90.27%	10
Maryland	$53,704.00	10	88.22%	21
Massachusetts	$61,863.00	5	89.03%	18
Michigan	$40,226.00	38	88.22%	22
Minnesota	$51,615.00	14	91.27%	2
Mississippi	$31,862.00	50	80.99%	49
Missouri	$41,807.00	35	86.81%	29
Montana	$37,767.00	44	91.01%	4
Nebraska	$50,974.00	16	89.93%	12
Nevada	$43,307.00	29	83.57%	41
New Hampshire	$48,293.00	21	90.98%	5
New Jersey	$55,978.00	8	87.74%	25
New Mexico	$39,114.00	39	82.72%	44
New York	$62,742.00	4	84.95%	35

North Carolina	$43,159.00	31	84.24%	37
North Dakota	$64,618.00	2	90.59%	6
Ohio	$44,425.00	28	87.73%	26
Oklahoma	$40,664.00	37	85.64%	32
Oregon	$51,121.00	15	88.61%	20
Pennsylvania	$46,293.00	25	88.10%	24
Rhode Island	$46,604.00	24	85.32%	34
South Carolina	$35,563.00	47	83.76%	39
South Dakota	$47,190.00	22	89.26%	14
Tennessee	$41,283.00	36	83.99%	38
Texas	$50,670.00	17	80.77%	50
Utah	$41,890.00	34	89.94%	11
Vermont	$43,273.00	30	91.21%	3
Virginia	$51,933.00	13	86.95%	28
Washington	$53,718.00	9	89.12%	17
West Virginia	$34,347.00	48	83.46%	42
Wisconsin	$45,429.00	26	89.79%	13
Wyoming	$61,477.00	6	91.33%	1

Table 4.2
Per Capita Gross State Product Rank and State Educational Attainment Rank
Ordered by Per Capita Gross State Product Rank

State	Rank of Per Capita Gross State Product	Rank of State Educational Attainment
Alaska	1	9
North Dakota	2	6
Connecticut	3	19
New York	4	35
Massachusetts	5	18
Wyoming	6	1
Delaware	7	27
New Jersey	8	25
Washington	9	17
Maryland	10	21
California	11	48
Illinois	12	30
Virginia	13	28
Minnesota	14	2
Oregon	15	20
Nebraska	16	12
Texas	17	50
Colorado	18	16
Hawaii	19	7
Iowa	20	8
New Hampshire	21	5
South Dakota	22	14
Louisiana	23	47
Rhode Island	24	34
Pennsylvania	25	24
Wisconsin	26	13
Kansas	27	15
Ohio	28	26
Nevada	29	41
Vermont	30	3
North Carolina	31	37
Indiana	32	31
Georgia	33	40
Utah	34	11
Missouri	35	29

Tennessee	36	38
Oklahoma	37	32
Michigan	38	22
New Mexico	39	44
Arizona	40	36
Kentucky	41	45
Florida	42	33
Maine	43	10
Montana	44	4
Alabama	45	46
Arkansas	46	43
South Carolina	47	39
West Virginia	48	42
Idaho	49	23
Mississippi	50	49

Table 4.3
Correlation between Per Capita Gross State Product
and State Educational Attainment

	Per Capita Gross State Product		
	N	r_s	*p*
State Educational Attainment	50	.395	.005

Research sub-Question #1.2: Is there a correlation between per capita Gross State Product and natural resource revenue per square mile?

Data was analyzed to determine if there was a significant correlation between per capita Gross State Product and natural resource revenue per square mile. States were ranked according to the reported per capita Gross State Product for 2012. States were also ranked according to the natural resource revenue per square mile within the state for the same year, as seen in Table 4.4 and 4.5.

The significance of the relationship between per capita Gross State Product and natural resource revenue per square mile was then analyzed using a Spearman r_s Correlation with an alpha level of .05. Table 4.6 shows there was not a positive correlation between Per Capita Gross State Product and Natural Resource Revenue Per Square Mile, which was statistically significant. In fact, Per Capita Gross State Product and Natural Resource Revenue Per Square Mile actually had a negative correlation, albeit a negative correlation that was not statistically significant ($r_s(50) = -.213$, $p = .138$).

Table 4.4
Value and Rank of Per Capita Gross State Product and
Value and Rank of Natural Resource Revenue Per Square Mile
Ordered alphabetically by state

State	Per Capita Gross State Product	Rank of Per Capita Gross State Product	Natural Resources Revenue Per Square Mile	Rank of Natural Resources Revenue Per Square Mile
Alabama	$36,750.00	45	$441.1476	9
Alaska	$70,804.00	1	$48.5134	19
Arizona	$38,895.00	40	$408.9841	10
Arkansas	$35,924.00	46	$97.6659	16
California	$52,724.00	11	$1,684.0202	6
Colorado	$50,254.00	18	$2.8068	29
Connecticut	$63,363.00	3	$0.0000	44.5
Delaware	$61,271.00	7	$0.0000	44.5
Florida	$37,790.00	42	$22.0358	22
Georgia	$41,904.00	33	$0.0000	44.5
Hawaii	$49,333.00	19	$0.0000	44.5
Idaho	$34,102.00	49	$120.4359	15
Illinois	$52,018.00	12	$5.5559	27
Indiana	$42,903.00	32	$1.2121	33
Iowa	$48,319.00	20	$0.0000	44.5
Kansas	$45,101.00	27	$70.1120	17
Kentucky	$38,125.00	41	$45.4750	20
Louisiana	$46,850.00	23	$3,204.7204	5
Maine	$37,784.00	43	$0.0000	44.5
Maryland	$53,704.00	10	$0.4992	35
Massachusetts	$61,863.00	5	$8.3641	25
Michigan	$40,226.00	38	$14.6044	23
Minnesota	$51,615.00	14	$0.5524	34
Mississippi	$31,862.00	50	$308.1267	11
Missouri	$41,807.00	35	$170.5256	13
Montana	$37,767.00	44	$766.8232	8
Nebraska	$50,974.00	16	$3.8736	28
Nevada	$43,307.00	29	$190.6900	12
New Hampshire	$48,293.00	21	$0.0000	44.5
New Jersey	$55,978.00	8	$0.0000	44.5
New Mexico	$39,114.00	39	$8,467.0052	2

New York	$62,742.00	4	$0.2581	36
North Carolina	$43,159.00	31	$0.0029	44.5
North Dakota	$64,618.00	2	$6,306.3709	3
Ohio	$44,425.00	28	$13.8888	24
Oklahoma	$40,664.00	37	$1,178.5841	7
Oregon	$51,121.00	15	$7.0198	26
Pennsylvania	$46,293.00	25	$2.7574	30
Rhode Island	$46,604.00	24	$0.0000	44.5
South Carolina	$35,563.00	47	$0.1737	37
South Dakota	$47,190.00	22	$49.6674	18
Tennessee	$41,283.00	36	$0.0000	44.5
Texas	$50,670.00	17	$124.7899	14
Utah	$41,890.00	34	$5,485.4328	4
Vermont	$43,273.00	30	$0.0000	44.5
Virginia	$51,933.00	13	$2.1550	31
Washington	$53,718.00	9	$1.7102	32
West Virginia	$34,347.00	48	$33.6275	21
Wisconsin	$45,429.00	26	$0.0000	44.5
Wyoming	$61,477.00	6	$22,297.2762	1

Table 4.5
Per Capita Gross State Product Rank and
Natural Resource Revenue Per Square Mile Rank
Ordered by Per Capita Gross State Product Rank

State	Rank of Per Capita Gross State Product	Rank of Natural Resource Revenue Per Square Mile
Alaska	1	19
North Dakota	2	3
Connecticut	3	44.5
New York	4	36
Massachusetts	5	25
Wyoming	6	1
Delaware	7	44.5
New Jersey	8	44.5
Washington	9	32
Maryland	10	35
California	11	6
Illinois	12	27
Virginia	13	31
Minnesota	14	34
Oregon	15	26
Nebraska	16	28
Texas	17	14
Colorado	18	29
Hawaii	19	44.5
Iowa	20	44.5
New Hampshire	21	44.5
South Dakota	22	18
Louisiana	23	5
Rhode Island	24	44.5
Pennsylvania	25	30
Wisconsin	26	44.5
Kansas	27	17
Ohio	28	24
Nevada	29	12
Vermont	30	44.5
North Carolina	31	44.5
Indiana	32	33

Georgia	33	44.5
Utah	34	4
Missouri	35	13
Tennessee	36	44.5
Oklahoma	37	7
Michigan	38	23
New Mexico	39	2
Arizona	40	10
Kentucky	41	20
Florida	42	22
Maine	43	44.5
Montana	44	8
Alabama	45	9
Arkansas	46	16
South Carolina	47	37
West Virginia	48	21
Idaho	49	15
Mississippi	50	11

Table 4.6
Correlation between Per Capita Gross State Product
and Natural Resource Revenue Per Square Mile

	Per Capita Gross State Product		
	N	r_s	*p*
Natural Resource Revenue Per Square Mile	50	-.213	.138

Research sub-Question #1.3: Is there a correlation between per capita Gross State Product and market share of tourism?

Data was analyzed to determine if there was a significant correlation between per capita Gross State Product and market share of tourism. States were ranked according to the reported per capita Gross State Product for 2012. States were also ranked according to the market share of tourism for the state for the same year, as seen in Table 4.7 and 4.8.

The significance of the relationship between per capita Gross State Product and market share of tourism was then analyzed using a Spearman r_s Correlation with an alpha level of .05. Table 4.9 shows there was a negative correlation between Per Capita Gross State Product and Market Share of Tourism, but it was not statistically significant ($r_s(50) = -.035$, $p = .812$).

Table 4.7
Value and Rank of Per Capita Gross State Product and
Value and Rank of Market Share of Tourism
Ordered alphabetically by state

State	Per Capita Gross State Product	Rank of Per Capita Gross State Product	Market Share of Tourism	Rank of Market Share of Tourism
Alabama	$36,750.00	45	0.30%	33
Alaska	$70,804.00	1	0.10%	42
Arizona	$38,895.00	40	1.80%	13
Arkansas	$35,924.00	46	0.10%	42
California	$52,724.00	11	18.60%	3
Colorado	$50,254.00	18	2.00%	12
Connecticut	$63,363.00	3	0.70%	21
Delaware	$61,271.00	7	0.10%	42
Florida	$37,790.00	42	23.20%	2
Georgia	$41,904.00	33	2.50%	10
Hawaii	$49,333.00	19	10.50%	4
Idaho	$34,102.00	49	0.07%	47.5
Illinois	$52,018.00	12	4.10%	7
Indiana	$42,903.00	32	0.40%	30
Iowa	$48,319.00	20	0.20%	35.5
Kansas	$45,101.00	27	0.50%	25.5
Kentucky	$38,125.00	41	0.40%	30
Louisiana	$46,850.00	23	0.70%	21
Maine	$37,784.00	43	0.10%	42
Maryland	$53,704.00	10	0.60%	23
Massachusetts	$61,863.00	5	3.30%	8
Michigan	$40,226.00	38	1.00%	17
Minnesota	$51,615.00	14	0.50%	25.5
Mississippi	$31,862.00	50	0.10%	42
Missouri	$41,807.00	35	0.40%	30
Montana	$37,767.00	44	0.10%	42
Nebraska	$50,974.00	16	0.20%	35.5
Nevada	$43,307.00	29	7.90%	5
New Hampshire	$48,293.00	21	0.10%	42
New Jersey	$55,978.00	8	2.20%	11
New Mexico	$39,114.00	39	0.10%	42
New York	$62,742.00	4	28.70%	1

North Carolina	$43,159.00	31	1.20%	15
North Dakota	$64,618.00	2	0.07%	47.5
Ohio	$44,425.00	28	0.90%	18
Oklahoma	$40,664.00	37	0.40%	30
Oregon	$51,121.00	15	0.50%	25.5
Pennsylvania	$46,293.00	25	2.70%	9
Rhode Island	$46,604.00	24	0.20%	35.5
South Carolina	$35,563.00	47	0.40%	30
South Dakota	$47,190.00	22	0.02%	49.5
Tennessee	$41,283.00	36	1.10%	16
Texas	$50,670.00	17	4.80%	6
Utah	$41,890.00	34	0.70%	21
Vermont	$43,273.00	30	0.20%	35.5
Virginia	$51,933.00	13	0.90%	18
Washington	$53,718.00	9	1.40%	14
West Virginia	$34,347.00	48	0.02%	49.5
Wisconsin	$45,429.00	26	0.50%	25.5
Wyoming	$61,477.00	6	0.10%	42

Table 4.8
Per Capita Gross State Product Rank and Market Share of Tourism Rank
Ordered by Per Capita Gross State Product Rank

State	Rank of Per Capita Gross State Product	Rank of Market Share of Tourism
Alaska	1	42
North Dakota	2	47.5
Connecticut	3	21
New York	4	1
Massachusetts	5	8
Wyoming	6	42
Delaware	7	42
New Jersey	8	11
Washington	9	14
Maryland	10	23
California	11	3
Illinois	12	7
Virginia	13	18
Minnesota	14	25.5
Oregon	15	25.5
Nebraska	16	35.5
Texas	17	6
Colorado	18	12
Hawaii	19	4
Iowa	20	35.5
New Hampshire	21	42
South Dakota	22	49.5
Louisiana	23	21
Rhode Island	24	35.5
Pennsylvania	25	9
Wisconsin	26	25.5
Kansas	27	25.5
Ohio	28	18
Nevada	29	5
Vermont	30	35.5
North Carolina	31	15
Indiana	32	30
Georgia	33	10
Utah	34	21
Missouri	35	30

Tennessee	36	16
Oklahoma	37	30
Michigan	38	17
New Mexico	39	42
Arizona	40	13
Kentucky	41	30
Florida	42	2
Maine	43	42
Montana	44	42
Alabama	45	33
Arkansas	46	42
South Carolina	47	30
West Virginia	48	49.5
Idaho	49	47.5
Mississippi	50	42

Table 4.9
Correlation between Per Capita Gross State Product and Market Share of Tourism

	Per Capita Gross State Product		
	N	r_s	*p*
Market Share of Tourism	50	-.035	.812

Table 4.10 shows the rank of all four categories, Per Capita Gross State Product, State Educational Attainment, Natural Resources Revenue Per Square Mile, and Market Share of Tourism, all combined into one table. The table is ordered by Per Capita Gross State Product Rank. The table is also color coded to provide a visual summary of all four categories.

States that rank with in the top 10 (i.e. the 80th percentile) are colored green. States that rank in the bottom 10 (i.e. the 20th percentile) are coded red. States in between the two other categories are coded in yellow. Two categories, Resources Revenue Per Square Mile and Market Share of Tourism, have more than 10 states coded red due to duplicated data within the lower ranking states. For natural resources in particular, a code of red collates with no revenue reported from natural resources to the Office of Natural Resources Revenue.

Table 4.10
Per Capita Gross State Product Rank, State Educational Attainment Rank, Natural Resources Revenue Per Square Mile Rank, and Market Share of Tourism Rank Ordered by Per Capita Gross State Product Rank

State	Rank of Per Capita Gross State Product	Rank of State Educational Attainment	Rank of Natural Resources Revenue Per Square Mile	Rank of Market Share of Tourism
Alaska	1	9	19	42
North Dakota	2	6	3	47.5
Connecticut	3	19	44.5	21
New York	4	35	36	1
Massachusetts	5	18	25	8
Wyoming	6	1	1	42
Delaware	7	27	44.5	42
New Jersey	8	25	44.5	11
Washington	9	17	32	14
Maryland	10	21	35	23
California	11	48	6	3
Illinois	12	30	27	7
Virginia	13	28	31	18
Minnesota	14	2	34	25.5
Oregon	15	20	26	25.5
Nebraska	16	12	28	35.5
Texas	17	50	14	6
Colorado	18	16	29	12
Hawaii	19	7	44.5	4
Iowa	20	8	44.5	35.5
New Hampshire	21	5	44.5	42
South Dakota	22	14	18	49.5
Louisiana	23	47	5	21
Rhode Island	24	34	44.5	35.5
Pennsylvania	25	24	30	9
Wisconsin	26	13	44.5	25.5
Kansas	27	15	17	25.5
Ohio	28	26	24	18
Nevada	29	41	12	5
Vermont	30	3	44.5	35.5
North Carolina	31	37	44.5	15
Indiana	32	31	33	30
Georgia	33	40	44.5	10

Utah	34	11	4	21
Missouri	35	29	13	30
Tennessee	36	38	44.5	16
Oklahoma	37	32	7	30
Michigan	38	22	23	17
New Mexico	39	44	2	42
Arizona	40	36	10	13
Kentucky	41	45	20	30
Florida	42	33	22	2
Maine	43	10	44.5	42
Montana	44	4	8	42
Alabama	45	46	9	33
Arkansas	46	43	16	42
South Carolina	47	39	37	30
West Virginia	48	42	21	49.5
Idaho	49	23	15	47.5
Mississippi	50	49	11	42

Table 4.11 shows the results of all three r_s Correlations calculated from research sub-questions 1.1 through 1.3. A Spearman r_s Correlation calculates the direction and the magnitude of a rank correlation. The direction is either positive, for a direct relationship, or negative, for an inverse relationship. The magnitude of the relationship is determined by the results, which will be between +1 and -1, with the strength of the correlation determined by values closer to either +1 or -1 based on the correlations direction (Archambault, 2002).

Table 4.11
Spearman rho Correlation for Per Capita Gross State Product and State Educational Attainment, Natural Resources Revenue Per Square Mile, and Market Share of Tourism

	Per Capita Gross State Product		
	N	r_s	*p*
State Educational Attainment	50	.395	.005
Natural Resources Revenue Per Square Mile	50	-.213	.138
Market Share of Tourism	50	-.035	.812

Research Question #2: Is there a correlation between percentage of educational expenditures funded by the state and the educational attainment within that state?

Data was analyzed to determine if there was a significant correlation between percentage of educational expenditures funded by the state and educational attainment within that state. States were ranked according to the reported percentage of educational expenditures funded by the state for 2012. States were also ranked according to the educational attainment within that state for the same year, as seen in Table 4.12 and 4.13.

The significance of the relationship between percentage of educational expenditures funded by the state and educational attainment within that state was then analyzed using a Spearman r_s Correlation with an alpha level of .05. Table 4.14 shows there was not statistically significant correlation between the percentage of educational expenditures funded by the state and educational attainment within that state ($r_s(50) = .016, p = .911$).

Table 4.12
Value and Rank of Percentage of Educational Expenditures funded by the State
and Value and Rank of State Educational Attainment
Ordered alphabetically by state

State	Percentage of Educational Expenditures funded by the State	Rank of Percentage of Educational Expenditures funded by the State	State Educational Attainment	Rank of State Educational Attainment
Alabama	55.3%	15	82.42%	46
Alaska	63.3%	5	90.28%	9
Arizona	36.2%	43	84.75%	36
Arkansas	74.2%	3	83.27%	43
California	54.7%	16	81.32%	48
Colorado	43.2%	31	89.15%	16
Connecticut	37.9%	41.5	88.75%	19
Delaware	60.1%	9	87.04%	27
Florida	36.1%	45.5	85.38%	33
Georgia	42.5%	32.5	83.76%	40
Hawaii	85.3%	2	90.37%	7
Idaho	62.5%	7	88.14%	23
Illinois	34.8%	48	86.72%	30
Indiana	61.5%	8	86.20%	31
Iowa	44.4%	28	90.37%	8
Kansas	56.5%	13	89.17%	15
Kentucky	54.5%	17	82.59%	45
Louisiana	42.5%	32.5	81.81%	47
Maine	39.6%	39	90.27%	10
Maryland	43.5%	30	88.22%	21
Massachusetts	39.7%	37.5	89.03%	18
Michigan	55.4%	14	88.22%	22
Minnesota	63.1%	6	91.27%	2
Mississippi	49.2%	24	80.99%	49
Missouri	41.4%	35	86.81%	29
Montana	47.2%	25	91.01%	4
Nebraska	31.6%	49	89.93%	12
Nevada	59.2%	11	83.57%	41
New Hampshire	36%	46	90.98%	5
New Jersey	39.1%	40	87.74%	25

New Mexico	68.4%	4	82.72%	44
New York	39.7%	37.5	84.95%	35
North Carolina	59.8%	10	84.24%	37
North Dakota	50.5%	21	90.59%	6
Ohio	42.4%	34	87.73%	26
Oklahoma	49.3%	23	85.64%	32
Oregon	50%	22	88.61%	20
Pennsylvania	36.1%	45.5	88.10%	24
Rhode Island	35.5%	47	85.32%	34
South Carolina	45.5%	26	83.76%	39
South Dakota	30.5%	50	89.26%	14
Tennessee	44.9%	27	83.99%	38
Texas	39.8%	36	80.77%	50
Utah	51.2%	19	89.94%	11
Vermont	87.3%	1	91.21%	3
Virginia	37.9%	41.5	86.95%	28
Washington	59%	12	89.12%	17
West Virginia	50.9%	20	83.46%	42
Wisconsin	44.1%	29	89.79%	13
Wyoming	51.3%	18	91.33%	1

Table 4.13
Percentage of Educational Expenditures funded by the State Rank
and State Educational Attainment Rank
Ordered by Percentage of Educational Expenditures funded by the State Rank

State	Rank of Percentage of Educational Expenditures funded by the State	Rank of State Educational Attainment
Vermont	1	3
Hawaii	2	7
Arkansas	3	43
New Mexico	4	44
Alaska	5	9
Minnesota	6	2
Idaho	7	23
Indiana	8	31
Delaware	9	27
North Carolina	10	37
Nevada	11	41
Washington	12	17
Kansas	13	15
Michigan	14	22
Alabama	15	46
California	16	48
Kentucky	17	45
Wyoming	18	1
Utah	19	11
West Virginia	20	42
North Dakota	21	6
Oregon	22	20
Oklahoma	23	32
Mississippi	24	49
Montana	25	4
South Carolina	26	39
Tennessee	27	38
Iowa	28	8
Wisconsin	29	13
Maryland	30	21
Colorado	31	16

Georgia	32.5	40
Louisiana	32.5	47
Ohio	34	26
Missouri	35	29
Texas	36	50
Massachusetts	37.5	18
New York	37.5	35
Maine	39	10
New Jersey	40	25
Connecticut	41.5	19
Virginia	41.5	28
Arizona	43	36
Florida	45.5	33
Pennsylvania	45.5	24
New Hampshire	46	5
Rhode Island	47	34
Illinois	48	30
Nebraska	49	12
South Dakota	50	14

Table 4.14
Correlation between Percentage of Educational Expenditures Funded by the State and Educational Attainment within that State

	Percentage of Educational Expenditures Funded by the State		
	N	r_s	*p*
Educational Attainment within that State	50	.016	.911

Research Question #3: Is there a correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state?

Data was analyzed to determine if there was a significant correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state. States were ranked according to the reported percentage of educational expenditures funded by the state for 2012. States were also ranked according to the Real Per Capita Personal Income Dollars within that state for the same year, as seen in Table 4.15 and 4.16.

The significance of the relationship between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state was then analyzed using a Spearman r_s Correlation with an alpha level of .05. Table 4.17 shows there was a statistically significant-negative correlation between the percentage of educational expenditures funded by the state and Real Per Capita Personal Income Dollars within that state (r_s (50) = -.328, p = .020).

Table 4.15
Value and Rank of Percentage of Educational Expenditures funded by the State
and Value and Rank of Real Per Capita Personal Income Dollars
Ordered alphabetically by state

State	Percentage of Educational Expenditures funded by the State	Rank of Percentage of Educational Expenditures funded by the State	Real Per Capita Personal Income Dollars	Rank of Real Per Capita Personal Income Dollars
Alabama	55.3%	15	$35,942	43
Alaska	63.3%	5	$49,906	9
Arizona	36.2%	43	$36,624	41
Arkansas	74.2%	3	$36,423	42
California	54.7%	16	$47,505	11
Colorado	43.2%	31	$46,315	14
Connecticut	37.9%	41.5	$60,223	1
Delaware	60.1%	9	$44,031	22
Florida	36.1%	45.5	$41,041	28
Georgia	42.5%	32.5	$37,229	40
Hawaii	85.3%	2	$44,578	20
Idaho	62.5%	7	$35,142	48
Illinois	34.8%	48	$46,009	16
Indiana	61.5%	8	$38,136	39
Iowa	44.4%	28	$44,014	23
Kansas	56.5%	13	$43,380	24
Kentucky	54.5%	17	$35,857	45
Louisiana	42.5%	32.5	$40,617	29
Maine	39.6%	39	$39,863	32
Maryland	43.5%	30	$53,659	6
Massachusetts	39.7%	37.5	$56,713	2
Michigan	55.4%	14	$38,585	37
Minnesota	63.1%	6	$47,377	12
Mississippi	49.2%	24	$33,446	50
Missouri	41.4%	35	$39,933	31
Montana	47.2%	25	$39,142	35
Nebraska	31.6%	49	$45,914	17
Nevada	59.2%	11	$39,229	34
New Hampshire	36%	46	$50,056	8
New Jersey	39.1%	40	$54,932	4

New Mexico	68.4%	4	$35,805	46
New York	39.7%	37.5	$54,099	5
North Carolina	59.8%	10	$38,538	38
North Dakota	50.5%	21	$56,310	3
Ohio	42.4%	34	$40,230	30
Oklahoma	49.3%	23	$41,399	27
Oregon	50%	22	$39,258	33
Pennsylvania	36.1%	45.5	$45,577	19
Rhode Island	35.5%	47	$46,257	15
South Carolina	45.5%	26	$35,347	47
South Dakota	30.5%	50	$45,676	18
Tennessee	44.9%	27	$39,002	36
Texas	39.8%	36	$43,271	25
Utah	51.2%	19	$35,891	44
Vermont	87.3%	1	$44,443	21
Virginia	37.9%	41.5	$48,715	10
Washington	59%	12	$47,055	13
West Virginia	50.9%	20	$35,140	49
Wisconsin	44.1%	29	$42,475	26
Wyoming	51.3%	18	$52,469	7

Table 4.16
Percentage of Educational Expenditures funded by the State Rank
and Real Per Capita Personal Income Dollars Rank
Ordered by Percentage of Educational Expenditures funded by the State Rank

State	Rank of Percentage of Educational Expenditures funded by the State	Rank of Real Per Capita Personal Income Dollars
Vermont	1	21
Hawaii	2	20
Arkansas	3	42
New Mexico	4	46
Alaska	5	9
Minnesota	6	12
Idaho	7	48
Indiana	8	39
Delaware	9	22
North Carolina	10	38
Nevada	11	34
Washington	12	13
Kansas	13	24
Michigan	14	37
Alabama	15	43
California	16	11
Kentucky	17	45
Wyoming	18	7
Utah	19	44
West Virginia	20	49
North Dakota	21	3
Oregon	22	33
Oklahoma	23	27
Mississippi	24	50
Montana	25	35
South Carolina	26	47
Tennessee	27	36
Iowa	28	23
Wisconsin	29	26
Maryland	30	6
Colorado	31	14

Georgia	32.5	40
Louisiana	32.5	29
Ohio	34	30
Missouri	35	31
Texas	36	25
Massachusetts	37.5	2
New York	37.5	5
Maine	39	32
New Jersey	40	4
Connecticut	41.5	1
Virginia	41.5	10
Arizona	43	41
Florida	45.5	28
Pennsylvania	45.5	19
New Hampshire	46	8
Rhode Island	47	15
Illinois	48	16
Nebraska	49	17
South Dakota	50	18

Table 4.17
Correlation between Percentage of Educational Expenditures Funded by the State and Real Per Capita Personal Income Dollars

	Percentage of Educational Expenditures Funded by the State		
	N	r_s	*p*
Real Per Capita Personal Income Dollars	50	-.328	.020

Research Question #4: Is there a correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product?

Data was analyzed to determine if there was a significant correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product. States were ranked according to the reported percentage of educational expenditures funded by the state for 2012. States were also ranked according to the per capita Gross State Product for the same year, as seen in Table 4.18 and 4.19.

The significance of the relationship between percentage of educational expenditures funded by the state and per capita Gross State Product was then analyzed using a Spearman r_s Correlation with an alpha level of .05. Table 4.20 shows there was a negative correlation between the percentage of educational expenditures funded by the state and per capita Gross State Product, but it was not statistically significant (r_s (50) = -.170, p = .239).

Table 4.18
Value and Rank of Percentage of Educational Expenditures funded by the State
and Value and Rank of Per Capita Gross State Product
Ordered alphabetically by state

State	Percentage of Educational Expenditures funded by the State	Rank of Percentage of Educational Expenditures funded by the State	Per Capita Gross State Product	Rank of Per Capita Gross State Product
Alabama	55.3%	15	$36,750	45
Alaska	63.3%	5	$70,804	1
Arizona	36.2%	43	$38,895	40
Arkansas	74.2%	3	$35,924	46
California	54.7%	16	$52,724	11
Colorado	43.2%	31	$50,254	18
Connecticut	37.9%	41.5	$63,363	3
Delaware	60.1%	9	$61,271	7
Florida	36.1%	45.5	$37,790	42
Georgia	42.5%	32.5	$41,904	33
Hawaii	85.3%	2	$49,333	19
Idaho	62.5%	7	$34,102	49
Illinois	34.8%	48	$52,018	12
Indiana	61.5%	8	$42,903	32
Iowa	44.4%	28	$48,319	20
Kansas	56.5%	13	$45,101	27
Kentucky	54.5%	17	$38,125	41
Louisiana	42.5%	32.5	$46,850	23
Maine	39.6%	39	$37,784	43
Maryland	43.5%	30	$53,704	10
Massachusetts	39.7%	37.5	$61,863	5
Michigan	55.4%	14	$40,226	38
Minnesota	63.1%	6	$51,615	14
Mississippi	49.2%	24	$31,862	50
Missouri	41.4%	35	$41,807	35
Montana	47.2%	25	$37,767	44
Nebraska	31.6%	49	$50,974	16
Nevada	59.2%	11	$43,307	29
New Hampshire	36%	46	$48,293	21
New Jersey	39.1%	40	$55,978	8

New Mexico	68.4%	4	$39,114	39
New York	39.7%	37.5	$62,742	4
North Carolina	59.8%	10	$43,159	31
North Dakota	50.5%	21	$64,618	2
Ohio	42.4%	34	$44,425	28
Oklahoma	49.3%	23	$40,664	37
Oregon	50%	22	$51,121	15
Pennsylvania	36.1%	45.5	$46,293	25
Rhode Island	35.5%	47	$46,604	24
South Carolina	45.5%	26	$35,563	47
South Dakota	30.5%	50	$47,190	22
Tennessee	44.9%	27	$41,283	36
Texas	39.8%	36	$50,670	17
Utah	51.2%	19	$41,890	34
Vermont	87.3%	1	$43,273	30
Virginia	37.9%	41.5	$51,933	13
Washington	59%	12	$53,718	9
West Virginia	50.9%	20	$34,347	48
Wisconsin	44.1%	29	$45,429	26
Wyoming	51.3%	18	$61,477	6

Table 4.19
Percentage of Educational Expenditures funded by the State Rank
and Per Capita Gross State Product Rank
Ordered by Percentage of Educational Expenditures funded by the State Rank

State	Rank of Percentage of Educational Expenditures funded by the State	Rank of Per Capita Gross State Product
Vermont	1	30
Hawaii	2	19
Arkansas	3	46
New Mexico	4	39
Alaska	5	1
Minnesota	6	14
Idaho	7	49
Indiana	8	32
Delaware	9	7
North Carolina	10	31
Nevada	11	29
Washington	12	9
Kansas	13	27
Michigan	14	38
Alabama	15	45
California	16	11
Kentucky	17	41
Wyoming	18	6
Utah	19	34
West Virginia	20	48
North Dakota	21	2
Oregon	22	15
Oklahoma	23	37
Mississippi	24	50
Montana	25	44
South Carolina	26	47
Tennessee	27	36
Iowa	28	20
Wisconsin	29	26
Maryland	30	10
Colorado	31	18

Georgia	32.5	33
Louisiana	32.5	23
Ohio	34	28
Missouri	35	35
Texas	36	17
Massachusetts	37.5	5
New York	37.5	4
Maine	39	43
New Jersey	40	8
Connecticut	41.5	3
Virginia	41.5	13
Arizona	43	40
Florida	45.5	42
Pennsylvania	45.5	25
New Hampshire	46	21
Rhode Island	47	24
Illinois	48	12
Nebraska	49	16
South Dakota	50	22

Table 4.20
Correlation between Percentage of Educational Expenditures Funded by the State and Per Capita Gross State Product

	Percentage of Educational Expenditures Funded by the State		
	N	r_s	*p*
Per Capita Gross State Product	50	-.170	.239

CHAPTER FIVE

CONCLUSIONS AND DISCUSSION

While the agreement on the idea of a public education system in the United States predates the establishment of the country itself (Pulliam & Patten, 2003), theories on how to pay for it have been continually contended (Brimley, Garfield, & Verstegen, 2012). This debate persists today, as state policymakers cut funding to balance budgets, forcing schools to make up for this loss in funding by either generating more tax revenue at the local level or making cuts themselves (Leachman, Albares, Masterson, & Wallace, 2016). Other policymakers have decided to under-fund education because they see other industries as being more economically solvent and wish to increase financial aid in these areas (Oliff, 2012).

President Obama attempted to shift this paradigm during his tenure as president, insisting that education was the key to future economic prosperity (The White House, 2014). He also continually increased educational funding during his term (President's 2015 Budget Proposal for Education; President's 2014 Budget Request for the U.S. Department of Education; Perez, 2012) and promoted the economic impact education can make (The White House, 2014).

Purpose of the Study

The purpose of this study was to explore if there is a relationship between educational attainment and the economy at the state level. It also examined the relationship between educational expenditures and the economy at the state level. It was hoped that showing strong correlations between education and the economy could have some influence on policymakers to make more educated decisions on school finance

policy as well as to develop a deeper dialog among educators, taxpayers, and policymakers on the economic importance of education.

The research was conducted via a quantitative study using data previous collected by other institutions that were scaled in order to allow statistics to be comparable. Four research questions were examined:

Research Question #1: Is there a correlation between per capita Gross State Product and educational attainment, natural resource revenue per square mile, and market share of tourism?

Research Question #2: Is there a correlation between percentage of educational expenditures funded by the state and the educational attainment within that state?

Research Question #3: Is there a correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state?

Research Question #4: Is there a correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product?

Factors for analysis were ranked by state and then analyzed using a Spearman r_s Correlation with an alpha level of .05 for all four questions.

Conclusions

Question #1 determined the strength of the correlation between per capita Gross State Product and educational attainment, natural resource revenue per square mile, and market share of tourism. Gross state product measures the economic health of a state (Weber, 1979), therefore this question determined if development in education, natural resource extraction, or tourism were correlated with a healthier state economy.

A Spearman r_s Correlation was used, thus allowing the correlations to also be compared to determine which area of development (i.e. education, natural resources, or tourism) was most correlated with a healthy state economy, with the implication being that the area of development with the strongest Spearman r_s Correlation being the one that states should also optimize out of the three for greater economic prosperity.

Of the three areas for development only educational attainment had a statistically significant correlation to Gross State Product ($r_s(50) = .395$, $p = .005$), as seen in Table 4.11. This means that states with greater educational attainment also have larger per capita Gross State products.

Natural resources and tourism did not have statistically significant correlations to Gross State Product. In fact, both actually had inverse relationships with Gross State Product, with Natural Resource Revenue Per Square Mile $r_s(50) = -.213$ ($p = .138$) and Market Share of Tourism $r_s(50) = -.035$ ($p = .812$). Even though both relationships were not statistically significant, an inverse relationship suggests states with higher Natural Resource revenue or tourism are correlated with lower Gross State Products. Or stated differently, states that have more natural resources or more tourism have less healthy economies than those with lower natural resources or less tourism.

Visually this can be seen in Table 4.10. The table is also color coded to provide a visual summary of all four categories. States that rank with in the top 10 (i.e. the 80th percentile) are colored green. States that rank in the bottom 10 (i.e. the 20th percentile) are coded red. States in between the two other categories (i.e higher than the 20th percentile but below the 80th percentile) are coded in yellow.

Two categories, Resources Revenue Per Square Mile and Market Share of Tourism, have more than 10 states coded red due to duplicate data within the lower ranking states. For natural resources in particular, a code of red collates with no revenue reported from natural resources to the Office of Natural Resources Revenue.

The states listed at the top of the table are those that have the greatest Gross State Product and are color-coded green in the "Rank of Per Capita Gross State Product" column. It shows how these states all rank above the 20th percentile in educational attainment.

Conversely many of the top ten states according to Gross State Product rank below the 20th percentile in Natural Resources revenue and/or tourism. These are color-coded red in the "Rank of Natural Resources Revenue Per Square Mile" and the "Rank of Market Share of Tourism" column.

Delaware in particular has one of the highest Per Capita Gross State Products but ranks below the 20th percentile in both Natural Resources Revenue Per Square Mile and Market Share of Tourism.

Similar trends can also be seen when analyzing the states with the lowest Per Capita Gross State Product. These states can be found at the bottom of Table 4.10 and are color-coded red in the "Rank of Per Capita GSP" column. Half of these states also rank below the 20th percentile in educational attainment. However, almost all of these states rank above the 20th percentile in Natural Resource revenue. Many of these states also rank low in tourism, which is not surprising given the relatively low-non statistically significant relationship between Per Capita Gross State Product and Market Share of Tourism ($r_s(50) = -.035$, $p = .812$).

Question #2 determined the strength of the correlation between percentage of educational expenditures funded by the state and the educational attainment within that state. Percentage of education expenditures funded by the state measures the ratio the state spends towards education compared to federal and local funding within the state.

Educational attainment for this study measured the percentage of residents in the state who successful completed the K-12 educational system, i.e. the percentage of residents with at least a high school diploma. Therefore, question #2 analyzed whether states that provide greater support for education also had higher educational attainment rates.

A Spearman r_s Correlation determined there was not a statistically significant correlation between how states ranked for educational expenditures funded by the state and the rank of its educational attainment within that state ($r_s(50) = .016$, $p = .911$), as seen in Table 4.14. Therefore, it was found that states that provide greater support for education were not significantly correlated with higher educational attainment rates.

Question #3 determined the strength of the correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state. Percentage of education expenditures funded by the state measures the ratio the state spends towards education compared to federal and local funding within the state.

Real Per Capita Personal Income Dollars measures the purchasing power of wages and allows inflation-adjusted incomes to be compared across states (Aversa & Figuroa, 2015). Therefore, question #3 analyzed whether states that provide greater support for education also have greater comparative incomes.

A Spearman r_s Correlation determined there was a statistically significant correlation between how states ranked for educational expenditures funded by the state and the rank Real Per Capita Personal Income Dollars within that state. ($r_s(50) = -.328$, $p = .020$), as seen in Table 4.17. However, the Spearman rank correlation coefficient was negative, suggesting there is an inverse relationship between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars within that state. This means that states that provide greater support towards education actually have lower comparative incomes and vice versa.

As Baker, Green, & Richards (2008) argue that it is the states' responsibility to subsidize education when local entities cannot afford to fund it on their own. Most states have funding formulas that provide more funding to areas with lower incomes (Leachman, & Mai, 2014). Therefore, this inverse relationship may be caused by the responsibility that Baker, Green, & Richards (2008) argue for, namely that states that have lower income are forced to provide more money towards education, because their residents would have a more difficult time in generating the funds via local tax revenue to properly fund their educational system.

Local tax revenues are most often generated by property taxes, and areas with low incomes will also generally have lower property values, which in turn will also limit property taxes. States, however, have more means of taxation that are not as directly tired to residents' income.

The opposite may also be true, meaning states with higher incomes can have schools rely more heavily on local tax revenues because their residents have a greater

ability to pay these taxes, and thus the state does not have to take as much of an active role in providing equalization aid.

Question #4 determined the strength of the correlation between percentage of educational expenditures funded by the state and the per capita Gross State Product. Percentage of education expenditures funded by the state measures the ratio the state spends towards education compared to federal and local funding within the state. Gross State Product measures the economic health of a state (Weber, 1979). Therefore, question #4 analyzed whether states that provide greater support for education also have healthier economies.

A Spearman r_s Correlation determined there was not a statistically significant correlation between how states ranked for educational expenditures funded by the state and the rank of the per capita Gross State Product ($r_s(50) = -.170$, $p = .239$), as seen in Table 4.20. Therefore, it was found that states that provide greater support for education were not correlated with a healthier economy.

Discussion

The results of the research as well as the conclusions previously provided were shared with current school finance policymakers. Their responses were gathered via personal interviews and implications were derived from these discussions. Policies and the opinions of other policymakers that support theses implications are also incorporated to provide clarification of the implications and even examples of these implications already in place in the United States.

Education is correlated to a healthier state economy

Question #1 found that educational attainment had a statistically significant correlation to per capita Gross State Product. This means that a more educated state also has a healthier state economy. Furthermore, of the three areas of development examined, educational attainment, natural resource revenue per square mile, and market share of tourism, only educational attainment had a significant correlation to the per capita Gross State Product.

These results also mirror those found by National Education Association of the United States (1968), which was the inspiration behind the development of Research Question #1. In its study, the National Education Association of the United States found that countries with high natural resources, but low educational development had relatively low Gross National Products. While countries with high educational development and low natural resources experience a high Gross National Product.

Table 4.10 shows that states with the highest Gross State Product also ranked high in educational attainment. Many of these same states, however ranked low in natural resources revenue and/or tourism. Table 4.10 also shows that states ranked low in Gross State Product also generally ranked low in educational attainment, even though many of these same states ranked high in natural resource revenues.

Therefore, if states were making economical decisions which area of development to support, this study shows that education would be the better choice than natural resources or tourism. Timothy J. Bartik (2016) Senior Economist at the W.E. Upjohn Institute for Employment Research, argues that economic development policy must consider what jobs pay and not focus solely on the number of jobs created.

Higher educational attainment is associated with greater earning potential (Psacharopoulos & Patrinos, 2004). Conversely, it has been found that while the tourism industry does provide a large number of jobs, these jobs are prominently associated with low wages (Lacher, 2012). The same is true within natural resources, with the workforce that extracts resources generally earning low wages (Boucher, 2007).

Berger & Fisher (2013) claim that states can develop future economic success and shared prosperity by investing in education. They believe providing high quality education will do more to strengthen the overall state economy than anything else a state government can do. They contend by having a well-educated work force, the state attracts higher wage employers, which in turn benefits the states because a well-educated work force will also contribute more taxes over their lifetime.

Therefore development in education can lead towards the creation of a workforce that can fill the jobs that Bartik (2016) argues states should pursue. Bartik (2016) goes on to claim that state economic development policy is really state labor market policy and that states can increase earnings per capita by increasing the quality of its labor supply, just as Berger & Fisher (2013) did. This is process often phrased as increasing human capital, which is also directly tied to increasing educational attainment (Kaplow, 2011).

Implication for policy: the economic impact of education should be promoted more at the state level

The economic returns of education are often publicized at a national level, particularly when federal policy is being promoted. Hanushek (2015), for example, has been referenced to promote national educational policy, as he found that a 25 point increase on the PISA would result in a net value of $62 trillion dollars for the United

States, which is 3 times the national debt. The White House (2014) also touted the economic returns of education as key reasons to establish universal preschool in the US and to promote the President's other educational initiatives.

Sean Kelley, a lobbyist from Omaha, NE, that represents school districts within the state, says the topic of education in Nebraska, however, is not treated as an economical one. He states that the economical impact of education is rarely used within legislative committees, and instead the discussion in the state legislature surrounding state funding for education are more about property tax rates.

He questioned if a consensus to raise educational funding could ever be reached in Nebraska because the priorities of rural versus urban are too divergent to come to a compromise (Sean Kelley, personal communication, October 14, 2016). By better promoting the economic impact of education, states could help bridge the gap between such conflicting groups by showing the financial benefit education has for everyone.

Recently, Raise Your Hands for Kids, the fundraising and advocacy agency for the Alliance for Childhood Education, which is a non-profit, non-partisan coalition of business leaders committed to improving the education systems in Kansas and Missouri, promoted the economic returns of early childhood education (Curtis, 2016). They hope to pass an amendment that would increase funding by increasing taxes on tobacco products (Curtis, 2016). On their website they advocate on both the social and the economical benefits that early childhood education has on everyone, just as the President did in 2014 (Research, n.d).

Other states should follow Missouri's example of promoting the economic importance of education, and research such as this study can help to extend this argument

beyond early childhood learning. Both policymakers and educators need to be more vocal in heralding the economic impact of education so that the public, i.e. ultimately those who control how education is funded, understands the impact education can make on the economy and therefore the impact the education of others can have on them.

State funding should extend beyond its historical purpose as equalization aid

Cubberley (1905) argued that it is the states social responsibility to ensure equalized funding for education. Currently, one of the primary goals of state funding for education is to provide the equalization aid that Cubberley requested a century ago (Brimley, Garfield, & Verstegen, 2012). However, funding education at this minimal level, however, creates issues when there are fluctuations in the economy, as experience recently in the recent recession (Leachman, Albares, Masterson, & Wallace, 2016).

When state aid is decreased, schools are forced to either raise additional revenue, via local taxes, or decrease costs by cut educational services. As a result, "many states and school districts have identified as a priority reforms that would prepare children better for the future, such as improving teacher quality, reducing class sizes, and increasing student learning time. Deep funding cuts hamper their ability to implement many of these reforms" (Leachman, Albares, Masterson, & Wallace, 2016, para. 10).

Senator Kate Sullivan, State Senator for the 41st legislative district of Nebraska and current Chairperson of the Education Committee, observes that in Nebraska, the vast majority of school districts are financing their schools with predominately locally generated tax revenue. Therefore, she questions if the state is living up to its constitutional responsibility if state support is overshadowed by local support (K. Sullivan, personal communication, October 24, 2016).

Dr. Andrew Rikli, Superintendent for Papillion-La Vista Schools in Papillion, NE, suggests the fundamental questions of school finance are "is your system adequate and is it equitable" (A. Rikli, personal communication, October 18, 2016). He believe, that with Nebraska's ranking 49th in the country for state support of education, that there is an adequacy issue and that the state needs to increase spending on education. However, he acknowledges that increasing state aid overall will not address these issue. Dr. Rikil believes that an increase in funding that is "strategically allocated" is a vital element to improving Nebraska's school funding adequacy issue (A. Rikli, personal communication, October 18, 2016).

Implication for policy: state funding should be increased to support the economic impact of education

This study shows there is a statistically significant correlation between the health of a state's economy and its educational attainment. Therefore, the state should use its funding to go beyond equalization aid, and begin to treat education as an economic development more.

Hy (2000) contends that states can utilize education as an economic factor by either increasing state tax revenues, by taxing the additional income generated from greater educational attainment or this larger income pool can be used to actually lower the overall tax rate, if overall tax revenues can be kept stagnant.

However, research shows that simply increasing overall educational funding does not directly lead to overall higher student achievement (De Pena, 2012). Furthermore, Senator Sullivan also believes that just asking for more money is not the path towards approval for increases in state funding (K. Sullivan, personal communication, October

24, 2016). She cautions that this is a mindset is not well received by policymakers nor by taxpayers. She says that both value education and that they want to continue to fund it, but they need to know specifically what is not being done that would better serve students. She believes discussing school finance in this manner shifts the conversation from simply increasing funding towards being more strategic about improving the system (K. Sullivan, personal communication, October 24, 2016).

Thus, areas and practices that actually support educational attainment need to be identified and financially supported in order to maximize the economic returns of any additional investment.

This type of focused funding can be found in the US Department of Educations i3 grants (U.S. Department of Education Press Office, 2014). The purpose of the i3 grants is to "expand the implementation of, and investment in, innovative practices that are demonstrated to have an impact on improving student achievement or student growth, closing achievement gaps, decreasing dropout rates, increasing high school graduation rates, or increasing college enrollment and completion rate" (Investing in Innovation Fund (i3), n.d., para. 2). Secretary Arne Duncan believed, "these programs are changing the landscape of education in this country by supporting innovative ideas and scaling up what works" (U.S. Department of Education Press Office, 2014, para. 3).

States could create similar programs in order to provide additional financial support to the programs and practices that maximize the economic return of education. For this to be true, it would be essential that this funding be seen as a economic investment made by the states, which also incorporates the previous implication that the

economic impact of education should be promoted more at the state level, so states are willing to allocate this type of funding beyond what they already spend.

The Nebraska Department of Education is currently requesting such funds by submitting an Information Technology project proposal to the Nebraska Information Technology Commission. The proposal requests additional funding for investments in systems to improve data collections, data use, educational technology, and the efficiencies it would create to support schools (Blomstedt, 2016). Dr Blomstedt (2016), the Nebraska Commissioner of Education, explains that this funding would not be funded by TEEOSA dollars, the state's equalization aid, and that additional revenue has been requested to fund this proposal, outside of the equalization aid provided by TEEOSA. The state could use a similar funding model to fund other identified best practices that increase the economic impact of education as well.

Senator Sullivan shares that students are always in the forefront of school finance legislation, but that policymakers have to keep taxpayers in mind as well (K. Sullivan, personal communication, October 24, 2016). She notes that increases in state aid would also require increases in state revenue. She states, "if we as a state are not funding education to the level we think we should and if our budget is already stretched, how do we decide to put more dollars into it?" She believes the answer will be finding additional state revenue from resources besides income and property taxes. However, she also believes that additional funding should come with additional accountability measures to ensure that this increased funding is being properly spent.

Robert Zagozda, the Chief Financial Officer for Westside Community Schools of Omaha, NE, believes a rigorous evaluation system to properly identify best practices is a

key the future of educational funding. He argues that if states do not have the proper funding for education, then they must look for the "biggest bang" for their buck, and the only way to do that is through evaluation. He states, "we need to and want to spend money on what works and cut money on what does not work" (R. Zagozda, personal communication, October 12, 2016).

He went on to share how this evaluation system is even more important in a state like Nebraska where the majority of taxes collected comes "out of someone's wallet". Other states, where there are more industries than there are in Nebraska, additional tax revenues can be generated with minimal impact on the people.

Nebraska, he explains, does not have this luxury and therefore its taxpayers must get the "biggest bang" for its buck. With the use of more focused funding, similar to the i3 grants, Nebraska could amplify the "bang" made by its educational bucks.

Educational and economical research should be incorporated more into the decision making process for school finance policy

Politics and litigation has been the historical driving force behind educational funding. The politics surrounding school funding are generally based on tax issues and where this tax revenue is generated, either locally or by the state. In Nebraska, rural versus urban priorities, and the tax policies that support, them have made the state school funding model in constant flux (A. Rikli, personal communication, April 12, 2013).

The litigation that helped to fuel the creation and refinement of state funding policy continues to plague many states, as they continue the diatribe of inequalities created by current funding policies and the interpretation of state mandates as it pertains to educational funding. Kansas, for instance has had the future of its school funding

recently locked in courts, with court ordered threats of shutting its educational system down, due to inequalities, looming as the litigation proceeds (Bosman, 2016).

Toby Baker (2016), a member of the House of Representatives from Mississippi, believes that future educational funding should be guided more by research, than political pressure and litigation. He proposes that state funding needs to have research or evidence based results, and that these results need to be clearly communicated to policymakers before any decisions are made and dollars are spent.

Senator Sullivan agrees, stating "it's not good legislation if there isn't research to support the issues that you're trying to solve" (K. Sullivan, personal communication, October 24, 2016). She notes that aside from legal counsel providing reviews of research, expert testimony, which generally includes researchers, are included as a part of the legislative process.

Baker (2016) believes this research should extend beyond the introduction of bills and argues that implementation, fidelity, and outcomes should all be measured to guide any future decisions, which he believes would allow agencies to alter their decisions based upon the results of this research. He believe this will lead to better decisions being made, better outcomes being achieved, and a paradigm shift in policymaking would occur.

Implication for Research

Proper research will be needed in order to properly facilitate the culture shift that Baker (2016) proposes. This study found a statistically significant correlation between the health of a state's economy, as measured by the Gross State Product, and the educational attainment within that state. However, additional research could include conducting a

longitudinal study that analyzes if changes in state funding for education is correlated with economic growth. This would give policymakers a clearer understanding on the level to which increases in educational funding can have on the state's economy.

Furthermore, research should be conducted to investigate the exact details that contribute towards the correlation found in this study. These are also the same details needed to support the implication for policy noted above, namely increasing state funding to support the economic impact of education.

Exemplar state tax policies, educational funding policies, and educational practices should be dissected in an attempt to tease out best practices for the economic impact of education in all areas.

States such as Alaska, North Dakota, and Wyoming could be analyzed for having high Gross State Products as well as high educational attainment and Natural Resource Revenues, as seen in Table 4.10. Additional research may be able to uncover how these states combine these two assets to fuel their economy.

States such as Connecticut and Delaware could be analyzed to determine what they do to support educational attainment, and thus support their economy, even though they lack in natural resources and tourism, as seen in Table 4.10.

Vermont and Minnesota should be researched further on how state funding is spent since they rank the within in the top ten for percentage of educational expenditures funded by the state and:

- State Educational Attainment (Table 4.13)
- Real Per Capita Personal Income Dollars (Table 4.16)
- Per Capita Gross State Product (Table 4.19)

Further research in the particular tax policies, educational funding policies, and educational practices of these states would not only provide other state policymakers with the information Baker (2016) believes they require, but also begin to lay the ground work for the creation of education funding best practices for future policymakers to follow.

This may allow for states finally stop creating funding models in isolation and begin to move towards a productive and economically sound norm in educational funding nation wide.

Summary

The purpose of this study was to determine if there is a relationship between educational attainment and the economy at the state level. It also analyzed if there was a relationship between educational expenditures and the economy at the state level.

It was found that there is a significant correlation between the Gross State Product and educational attainment ($r_s(50) = .395$, $p = .005$). It also found that there is a statistically significant correlation between percentage of educational expenditures funded by the state and the Real Per Capita Personal Income Dollars ($r_s(50) = -.328$, $p = .020$) and that this correlation has an inverse relationship.

Chapter Two provided a historical context on these relationships by showing how state funding policy is guided more by political pressure and litigation than research and that state funding is still primarily used for equalization aid and not promoted as an economic initiative. It also outlined how increases in educational attainment have direct impact on earning potential, which in return can be used to fuel economic development within states.

Chapter Three outlined the research conducted in this study and Chapter Four provided analysis of the results of the research conducted.

This chapter provided conclusions drawn from the research analysis. This analysis was then shared with current school finance policymakers and implications were derived from their reactions to the research. These implications were: the economic impact of education should be promoted more at the state level, state funding should extend beyond its historical purpose as equalization aid, and educational and economical research should be incorporated more into the decision making process for school finance policy.

Studies such as this one can help to support these ideas, however, in many ways it is the responsibility of educators to not only be more informed on the ideas outlined in this study, but to also publically promote them. They cannot rely on policymakers alone to make changes to improve educational funding, for ultimately it is the opinion of the public that guides their policy and practice. Therefore, educators must be more informed in the topics of educational finance and proclaim the benefits, both social and economical, that education provides to society.

Senator Sullivan says that educational funding can feel like a "never ending saga" and that it is easy to be negative when discussing it, particularly in today's political environment (K. Sullivan, personal communication, October 24, 2016). She suggests that educators start at the local level when defending the importance of educational funding.

Dr. Rikli shared that business leaders in his community often ask him what the return on investment will be when he approaches them for additional funding (A. Rikli, personal communication, October 18, 2016). He believes this is a very valuable question,

and one that we don't answer enough in education. Educators need to start to answer this question

Warren Buffett (2014) remarks "Price is what you pay. Value is what you get" (para. 35). It is up to educators to sell the value of education. All of its values; social and economical. In order for it to get the price it deserves from the public.

References

Adams, J. (1855). The works of John Adams, second President of the United States: With a life of the author, notes and illustrations, Vol. 9. Boston: Little, Brown.

Adams, R., & Mccormick, K. (1993). The Traditional Distinction between Public and Private Goods Needs to Be Expanded, Not Abandoned. Journal of Theoretical Politics, 109-116.

Archambault, S. (2002). Spearman rho. Retrieved August 31, 2016 from http://www.wellesley.edu/Psychology/Psych205/spearman.html

Associated Press (2011). Breaking News Headlines: Business, Entertainment & World News - CBS News. Wis. Gov. signs budget cutting education $1.85B - CBS News. Retrieved December 2, 2012, from http://www.cbsnews.com/2100-250_162-20074509.html

Aversa, J., & Figuroa, E. (2015). Real Personal Income for States and Metropolitan Areas, 2013. U.S. Department of Commerce. Bureau of Economic Analysis. Retrieved August 31, 2016, from http://www.bea.gov/newsreleases/regional/rpp/2015/pdf/rpp0615.pdf

Baker, B., & Elmer, D. (2009). The politics of off-the-shelf school finance reform. Educational Policy, 23(1), 66-105.

Baker, B., Green, P., & Richards, C. (2008). Financing education systems. Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall.

Baker, T. (2016, September 1). Changing the Culture: The Move Towards Evidence-Based Budgeting and Policymaking. Lecture presented at OpekSky Fall Policy Symposium, Lincoln, NE.

Bartik, T. J. (2016, September 1). What Works in Economic Development. Lecture presented at OpekSky Fall Policy Symposium, Lincoln, NE.

Becker, G. (1993). Human capital: A theoretical and empirical analysis, with special reference to education (3d ed.). Chicago: The University of Chicago Press.

Benson, C. S., & O'Halloran, K.. (1987). The Economic History of School Finance in the United States. Journal of Education Finance, 12(Spring), 495–515.

Berger, N. & Fisher, P. (2013). A Well-Educated Workforce is key to State Prosperity. Economic Analysis and Research Network.

Berry, C., & Wysong, C. (2010). School-finance reform in red and blue. Education Next, 10(3), 62-68.

Bergquist, K.S, Fry, R., O'Hanlon, K, & Grundman, D. (2014). Investing in Our Future: An Overview of Nebraska's Education Funding System, OpenSky Policy Institute.

Blomstedt, M., Dr. (2016, October 14). A message from Nebraska Commissioner of Education, Dr. Matt Blomstedt. Nebraska Council of School Administrators News.

Bosman, J. (2016, May 27). Kansas Supreme Court Rejects School Funding Plan, Citing 'Intolerable' Inequities. The New York Times. Retrieved October 10, 2016, from http://www.nytimes.com/2016/05/28/us/kansas-supreme-court-rejects-school-funding-plan-citing-intolerable-inequities.html?_r=0

Boucher, D. H. (2007). The Exploitation of Natural Resources, and of the People Who Extract Them. Bulletin of the Ecological Society of America, 88(2), 176-180.

Boylan, A., & Mcclellan, B. (1992.). Schools and the Shaping of Character: Moral Education in America, 1607-Present. The Journal of American History, 1049-1049.

Brimley, V., Garfield, R., & Verstegen, D. (2012). Financing education in a climate of change (11th ed.). Boston, MA: Pearson.

Brown, C. (2013, October 2). OpenSky statement on Gov. Heineman's tax ideas. Retrieved February 24, 2016, from http://www.openskypolicy.org/opensky-statement-on-gov-heinemans-tax-ideas

Business Dictionary (n.d.) What is solvent? Definition and meaning. Business Dictionary online. Retrieved on February 18, 2015. from http://www.businessdictionary.com/definition/sunk-cost.html

Business Dictionary (n.d.) What is sunk cost? Definition and meaning. Business Dictionary online. Retrieved on February 18, 2015. from http://www.businessdictionary.com/definition/sunk-cost.html

Buffett, W. (2014, February 23). Buffett's annual letter: What you can learn from my real estate investments. Retrieved May 04, 2016, from http://fortune.com/2014/02/24/buffetts-annual-letter-what-you-can-learn-from-my-real-estate-investments/

Christiansen, C.R. (2014). A Question of Value. The Voice. May 2014.

Chuck. (2013). OpenSky statement on Gov. Heineman's tax ideas. Open Sky Policy Institution. Retrieved March 29, 2013, from http://www.openskypolicy.org/opensky-statement-on-gov-heinemans-tax-ideas

Cohn, E. (1997). The rate of return to schooling in canada. Journal of Education Finance, 23(2), 193-206.

The Commission Report. (n.d.). The Complete History of the Nebraska Tax Equity and Educational Opportunities Support Act (TEEOSA). Retrieved January 29, 2015, from http://schoolfinance.ncsa.org/commission-report#anchor59

Coombs, P., & Hallak, J. (1987). Cost analysis in education: A tool for policy and planning. Baltimore: Published for the World Bank by the Johns Hopkins University Press.

Coons, J., Clune, W., & Stephen, S. (1970). Private wealth and public education. Cambridge, Mass.: Belknap Press of Harvard University Press. Retrieved October 11, 2015 from http://scholarship.law.berkeley.edu/facpubs/1118

Cordes, H.J. (1990, April 4). Fight Likely After Orr Veto Of School Bill. Omaha World-Herald

Creation of a Commission. (n.d.). The Complete History of the Nebraska Tax Equity and Educational Opportunities Support Act (TEEOSA). Retrieved January 29, 2015, from http://schoolfinance.ncsa.org/creation-commission#anchor9

Cubberley, E (1905). School Funds and Their Appointment. Dissertation. Teachers College, Columbia University.

Cubberley, E. (1920). The history of education: Educational practice and progress considered as a phase of the development and spread of Western civilization. Boston: Houghton Mifflin.

Curtis, T. (2016). Preschools getting more attention in Missouri. Retrieved October 10, 2016, from http://themissouritimes.com/32632/preschools-getting-attention-missouri/

De Pena, K. (2016). Throwing Money at Education Isn't Working State Budge Solutions. Retrieved October 10, 2016, from http://sbs2.eresources.ws/doclib/201209111_SBSEducationReport911.pdf

Digest of Educational Statistics. Table 2. Current expenditures for public elementary and secondary education, by function, subfunction, and state or jurisdiction: Fiscal year 2011. (n.d.). Statistics. National Center for Education Statistics. Retrieved January 6, 2015, from http://nces.ed.gov/pubs2013/expenditures2/tables/table_02.asp

Digest of Educational Statistics. Table 28.Expenditures of educational institutions related to the gross domestic product, by level of institution: Selected years, 1929-30 through 2010-11. (n.d.). Statistics. National Center for Education Statistics. Retrieved December 2, 2012, from http://nces.ed.gov/programs/digest/d11/tables/dt11_028.asp

Digest of Educational Statistics. Table 31.Direct general expenditures of state and local governments for all functions and for education, by level of education and state: 2007-08 and 2008-09 . Retrieved December 2, 2012, from http://nces.ed.gov/programs/digest/d11/tables/dt11_031.asp

Digest of Educational Statistics. Table 39.Enrollment in public elementary and secondary schools, by level and grade: Selected years, fall 1980 through fall 2010. (n.d.). Statistics. National Center for Education Statistics. Retrieved December 2, 2012, from http://nces.ed.gov/programs/digest/d12/tables/dt12_039.asp

Digest of Educational Statistics. Table 201.10 Historical summary of public elementary and secondary school statistics: Selected years, 1869–70 through 2010–11. (n.d.). Statistics. National Center for Education Statistics. Retrieved March 18, 2015, from http://nces.ed.gov/programs/digest/d13/tables/dt13_201.10.asp?current=yes

Digest of Educational Statistics. Table 235.10. Revenues for public elementary and secondary schools, by source of funds: Selected years, 1919-20 through 2011-12. (n.d.). Statistics. National Center for Education Statistics. Retrieved March 18, 2015, from http://nces.ed.gov/programs/digest/d14/tables/dt14_235.10.asp?current=Yes

Digest of Educational Statistics. Table 235.20. Revenues for public elementary and secondary schools, by source of funds and state or jurisdiction: 2011-12 (n.d.). Statistics. National Center for Education Statistics. Retrieved January 6, 2016, from https://nces.ed.gov/programs/digest/d14/tables/dt14_235.20.asp?current=yes

Dixon, M. (2012) Public Education Finance: 2010. Governments Division Reports. Retrieved December 2, 2012, from http://www2.census.gov/govs/school/10f33pub.pdf

Dulaney, M. S. (2007). The History of The Nebraska Tax Equity and Educational Opportunities Support Act. The University of Nebraska – Lincoln.

Dylan. (2013). Governor's Budget Proposal Does Little to Restore Cuts to K-12 Schools. Open Sky Policy Institution. Retrieved March 29, 2013, from http://www.openskypolicy.org/governors-budget-proposal-does-little-to-restore-cuts-to-k-12-schools

Education and Revenue Committees, Hearing transcripts, LB 1059 (1990), Nebraska Legislature, 91st Leg., 2nd Sess., January, 23 1990. Retrieved January 20, 2016 from http://schoolfinance.ncsa.org/sites/default/files/media/SF/Files/1990/LB1059_Hearing.html

Education: What's It Worth. (2013, March 1). The Voice, The Nebraska State Education Association. p. 6-7.

Epstein, D. (2012). Investing in education powers U.S. competitiveness: Education funding must be preserved. Center for American Progress. 1333 H Street NW 10th Floor, Washington, DC 20005. Retrieved March 29, 2013 from http://www.americanprogress.org/wp-content/uploads/issues/2011/09/pdf/education_competitiveness.pdf

Fernandez, R., & Rogerson, R. (1998). Public education and income distribution: A dynamic quantitative evaluation of education--finance.. American Economic Review, 88(4), 813.

Fey, R. (2015) Tax Policy Symposium. Lincoln, NE. OpenSky Policy Institute.

Floor Transcripts, LB 1059 (1990). Nebraska Legislature, 91st Leg., 2nd Sess., March 6, 1990. Retrieved February 7, 2016 from http://uniweb.legislature.ne.gov/transcripts/view_page.php?page=10477-10567&leg=91

Floor Transcripts, LB 1059 (1990). Nebraska Legislature, 91st Leg., 2nd Sess., April 9, 1990. Retrieved February 7, 2016 from http://uniweb.legislature.ne.gov/transcripts/view_page.php?page=13340-13345&leg=91

Frohlich, T. (2014, June 3). States Spending the Most (and Least) on Education. Retrieved February 24, 2016, from http://247wallst.com/special-report/2014/06/03/states-spending-the-most-and-least-on-education/

Greenwald, R. (1996). The school funding controversy: Reality bites. Educational Leadership. Vol 53. No. 5 (February 1996). Pp 78-79.

Gould, H. M. (1998). The history of nebraska public school finance law: 1854-1997

Gould v. Orr (1993). 244 Neb. 163, 506 N.W.2d 349

Gould Case (n.d.). The Complete History of the Nebraska Tax Equity and Educational Opportunities Support Act (TEEOSA). Retrieved February 18, 2015, from http://schoolfinance.ncsa.org/gould-case#anchor3

Grundman, D. (2013, January 15). Governor's Budget Proposal Does Little to Restore Cuts to K-12 Schools. Retrieved February 24, 2016, from http://www.openskypolicy.org/governors-budget-proposal-does-little-to-restore-cuts-to-k-12-schools

Guthrie, J., Springer, M., Rolle, R.A., & Houck, E. (2007). Modern education finance and policy. Boston: Pearson/Allyn and Bacon.

Hanushek. E. (1981) Throwing Money at Schools. Journal of Policy Analysis and Management, Vol. 1, No. 1. (Autumn, 1981), pp. 19-41.

Hanushek, E. (1991). When school-finance reform may not be good policy. Harvard Journal on Legislation, 28(2), 423-456.

Hanushek, E. (1995). Moving beyond spending fetishes. Educational Leadership, 1995, 60-64

Hanushek, E., & Woessmann, L. (2015) Universal basic skills: What countries stand to gain.

Haveman, R., & Wolfe, B. (1984). Schooling and Economic Well-Being: The Role of Nonmarket Effects. The Journal of Human Resources, 19(3), 377-407.

Heineman, D. (2013). Nebraskans Need Lower Taxes. Nebraska Governor Dave Heineman's Weekly Column. September 27, 2013. Retrieved March 29, 2013 from http://www.governor.nebraska.gov/columns/2013/09/27_taxes.html

Huffington Post (2011). Budget Cuts Hit Hard In Schools, Hurts Students, Report Says. Retrieved December 2, 2012, from http://www.huffingtonpost.com/2011/10/13/budget-cuts-hit-hard-in-s_n_1009472.html

Huffington Post (2012). School Budget Cuts: How Students Say Slashes Are Affecting Them. Retrieved December 2, 2012, from http://www.huffingtonpost.com/2012/02/14/la-youth_n_1277182.html

Hy, R. J. (2000). Education is an investment: A case study. Journal of Education Finance, 26(2), 209-218.

Jackson, G. L. (1909). The Development of School Support in Colonial Massachusetts. Issue 25. Columbia University.

Jefferson, T. (1781). Note on the State of Virginia. Retrieved September 30, 2015, from http://avalon.law.yale.edu/18th_century/jeffvir.asp

Jefferson, T. (1786). To George Wythe Paris, August 13, 1786. The Letters of Thomas Jefferson 1743-1826. Retrieved September 30, 2015, from http://www.let.rug.nl/usa/presidents/thomas-jefferson/letters-of-thomas-jefferson/jefl47.php

Jenks, H. (1886). Catalogue of the Boston Public Latin School, established in 1635: With an historical sketch. Boston: Boston Latin School Association.

Jernegan, M. (1918). Compulsory Education in the American Colonies: I. New England. The School Review, 26(10), 731-731.

Johnston, H. J. (2011). Return on investment (ROI) for education philanthropy: Focus on the bottom line. research into practice.Education Partnerships.

Julian, T. (2012). Work-Life Earnings by Field of Degree and Occupation for People With a Bachelor's Degree: 2011. Retrieved November 22, 2015, from https://www.census.gov/prod/2012pubs/acsbr11-04.pdf

Kaplow, L. (2011). The theory of taxation and public economics. Princeton, N.J.: Princeton University Press.

Kara, O. (2010). Comparing two approaches to the rate of return to investment in education. Education Economics, 18(2), 153-165.

Kendrick, J., & Jaycox, C. (1965). The Concept and Estimation of Gross State Product. Southern Economic Journal, 32(2), 153-168.

Knapp, A. (2012). Forbes.com. Kentucky Cuts Education; Preserves Tax Breaks For Creationist Theme Park - Forbes. Retrieved December 2, 2012, from http://www.forbes.com/sites/alexknapp/2012/01/23/kentucky-cuts-education-preserves-tax-breaks-for-creationist-theme-park/

Kozol, J. (1991). Savage inequalities: Children in America's schools. New York: Crown Pub.

Labaree, D. (1997). Public Goods, Private Goods: The American Struggle Over Educational Goals. American Educational Research Journal, 39-81.

Lacher, G. R. (2012). "Is Tourism a Low-Income Industry? Evidence from Three Coastal Regions," Journal of Travel Research.

Laud, L. (1997). Moral Education in America: 1600s-1800s. The Journal of Education Vol. 179, No. 2, Fulfilling the Promise of Character Education in the Classroom, Part I. pp. 1-10

LB 662, Nebraska Legislature, 89th Leg., (1986).

Leachman, M., & Mai, C. (2014). Most States Still Funding Schools Less Than Before the Recession. Center on Budget and Policy Priorities. Retrieved October 04, 2016, from http://www.cbpp.org/research/most-states-still-funding-schools-less-than-before-the-recession?fa=view

Leachman, M., Albares, N., Masterson, K., & Wallace, M. (2016) Most States Have Cut School Funding, and Some Continue Cutting. Center on Budget and Policy Priorities. Retrieved October 04, 2016, from http://www.cbpp.org/research/state-budget-and-tax/most-states-have-cut-school-funding-and-some-continue-cutting

Lemieux, T. (2006). The 'Mincer equation' Thirty Years after Schooling, Experience, and Earnings. In Jacob Mincer: A Pioneer of Modern Labor Economics (pp. 127-145). New York: Springer.

Levin, H. (1972). The Costs to the Nation of Inadequate Education. US Government Printing Office, Washington D.C.

Levin, H. (1987). Education as a public and private good. Stanford, Calif.: CERAS, School of Education, Stanford University.

Liu, G. (2006). Interstate inequality in educational opportunity. New York University Law Review, 81(6), 2044-2128.

Malkin, J., & Wildavsky, A. (1991). Why the Traditional Distinction between Public and Private Goods Should be Abandoned. Journal of Theoretical Politics, 355-378.

McCluskey, N. (2011). CATO Institute. For the Nation's Sake, Cut Education Spending. Retrieved December 2, 2012, from http://www.cato.org/publications/commentary/nations-sake-cut-education-spending

Mincer, J. (1974). Schooling, experience, and earnings. New York: National Bureau of Economic Research; distributed by Columbia University Press.

Musgrave, B. (2011). Kentucky.com. $43 million tax break approved for Ark Encounter theme park | Politics and Government | Kentucky.com. Retrieved December 2, 2012, from http://www.kentucky.com/2011/05/20/1745988/43-million-tax-break-approved.html

Myers, S.L. (1990). Fiscal Impact Statement, LB 1059 (1990), Nebraska Legislative Fiscal Office, 91st Leg., 2nd Sess.1990.

National Center for Education Statistics - About Us (National Center for Education Statistics - About Us). Retrieved January 7, 2015 from https://nces.ed.gov/about/

National Education Association of the United States. (1968). What everyone should know about financing our schools (Rev.). Washington.

National Education Association (2014). Rankings and Estimates: Ranking of the States 2012 and Estimates of School Statistics 2013. Retrieved March 16, 2016, from http://www.nea.org/home/54597.htm

Nebraska School Financing Review Commission (1990). Funding Nebraska's Schools: Toward a More Rational and Equitable School Finance System for the 1990s: Final report of the Nebraska school financing review commission to the state legislature. (1990). (No. LRD-90-1).

Nebraska's Tax Modernization Committee (2013). Balancing the Scales: A Comprehensive Review of Nebraska's State-Local Revenue System. Retrieved February 21, 2016 from http://www.nebraskalegislature.gov/pdf/reports/committee/select_special/taxmod/lr155_taxmod2013.pdf

O'Donnell, P.J. (1990). Legislative Journal of the State of Nebraska, Ninety-First Legislature, Second Session, 1990, Session Laws.Legislative Bill 1059.

O'Donnell, P.J. (1990). Laws of Nebraska, Ninety-First Legislature, Second Session, 1990, Session Laws.Legislative Bill 1059.

Odden, A., & Picus, L. (2008). School finance: A policy perspective (4th ed.). Boston, Mass.: McGraw-Hill.

Oliff, P., Mai, C., & Leachman, M. (2012). State Budget and Tax. New School Year Brings More Cuts in State Funding for Schools. Retrieved December 2, 2012, from http://www.cbpp.org/cms/index.cfm?fa=view&id=3825

Opensky Policy Institute. (2015). Budget Briefing.

Owings, W., & Kaplan, L. (2006). American public school finance. Belmont, CA: Thomson Learning/Wadsworth.

Oxford Dictionaries (2015). Retrieved December 2, 2015, from http://www.oxforddictionaries.com/

Per Pupil Spending Varies Heavily Across the United States. (2015, June 2). Retrieved February 24, 2016, from https://www.census.gov/newsroom/press-releases/2015/cb15-98.html

Perez, F. (2012). NEAToday.org. President Obama's Budget Calls for Big Investment in Education. Retrieved December 2, 2012, from http://neatoday.org/2012/02/13/president-obama's-budget-calls-for-big-investment-in-education

Phillips, P., & Phillips, J. (2005). Return on investment (ROI) basics. Alexandria, Va.: ASTD Press. Retrieved November 16, 2015 from https://books.google.com/books?hl=en&lr=&id=h0xy_AI33-gC&oi=fnd&pg=PT3&dq=basics+of+invesment&ots=bD_nINzfgE&sig=GkhNNeYEwwbjjL7qcgrTU4cHxzM#v=onepage&q&f=false

President's 2015 Budget Proposal for Education. (n.d.). Retrieved January 7, 2015, from http://www.ed.gov/budget15

President's 2014 Budget Request for the U.S. Department of Education. (n.d.). Retrieved January 7, 2015, from http://www2.ed.gov/about/overview/budget/budget14/index.html

Psacharopoulos, G., & Patrinos, H. (2004). Returns to investment in education: A further update. Education Economics, 111-134.

Public Education Income Tax Act, LB 611, Nebraska Legislature, 91st Leg., (1989).

Pulliam, J., & Patten, J. (2003). History of education in America (8th ed.). Upper Saddle River, N.J.: Merrill.

Ray, M., & Anderson, D. (2015). Krugman's economics for AP. New York: Worth.

Research. (n.d.). Raise Your Hands for Kids. Retrieved October 10, 2016, from http://raiseyourhandmo.nationbuilder.com/research

Resmovits, J. (2012). Huffington Post . School Funding Inequity Forces Poor Cities Like Reading, Pa., To Take Huge Cuts. Retrieved December 2, 2012, from http://www.huffingtonpost.com/2012/10/02/school-funding-reading-pennsylvania_n_1922577.html

Roosevelt, F (1938). A Message on Education for American Education Week, September 27 1938. The public papers and addresses of Franklin D. Roosevelt: with a special introduction and explanatory notes by President Roosevelt (1941). Retrieved September 30, 2015, from http://quod.lib.umich.edu/p/ppotpus/4926315.1938.001?rgn=main;view=fulltext

Roscigno, V., Tomaskovic-Devey, D., & Crowley, M. (2006). Education and the Inequalities of Place. Social Forces, 2121-2145.

Russo, C. (2008). Encyclopedia of education law. Thousand Oaks, Calif.: Sage Publications.

Samuelson, P. (1954). The Pure Theory of Public Expenditure. The Review of Economics and Statistics. Vol. 36, No. 4 (Nov.), p. 387-389

Sandler, L. (2013, August 12). Having it all without having children. Time Magazine.

School Foundation and Equalization Act, LB 448, Nebraska Legislature, 77th Leg (1967).

Shurtleff, N. (1853). Records of the Governor and Company of the Massachusetts Bay in New England. Boston: From the Press of W. White, printer to the Commonwealth.

Sianesi, B., and J. van Reenen. 2003. "The Returns to Education: Macroeconomics?' Journal of Economic Surveys 17(2): 157-200.

Steverman, B. (2015, April 10). How Much Americans Really Pay in Taxes. Retrieved March 02, 2016, from http://www.bloomberg.com/news/articles/2015-04-10/how-much-americans-really-pay-in-taxes

Stillwaggon, J. (2012). The Old Deluder, Educational Salvation, and the Limits of Distributive Justice. Policy Futures in Education Volume 10 Number 3, p. 352-352.

Stoddard, M. (2012, December 10). Nebraska schools outline need for $87 million funding bump. Omaha World Herald. Retrieved February 21, 2016 from http://www.kearneyhub.com/news/state/nebraska-schools-outline-need-for-million-funding-bump/article_57c8a184-42cf-11e2-a300-001a4bcf887a.html

Stoddard, M. (2013, April 11). Slice of state aid pie may leave state's largest school districts wanting more. Omaha World Herald. Retrieved March 3, 2016 from http://news.legislature.ne.gov/dist31/2013/04/11/slice-of-state-aid-pie-may-leave-states-largest-school-districts-wanting-more/

Stoddard, M. (2013, June 9). School aid formula bound 'to have winners and losers'. Omaha World Herald. Retrieved April 7, 2014, from http://www.omaha.com/apps/pbcs.dll/article?AID=/20130609/NEWS/706099891

Tax Equity and Educational Opportunities Support Act, LB 1059, Nebraska Legislature, 91st Leg., (1990).

TEEOSA (n.d). The Complete History of the Nebraska Tax Equity and Educational Opportunities Support Act (TEEOSA). Retrieved January 13, 2016 from http://schoolfinance.ncsa.org/teeosa#anchor1

U.S. Census Bureau (2013). American Community Survey Information Guide. Retrieved March 16, 2016 from http://www.census.gov/content/dam/Census/programs-surveys/acs/about/ACS_Information_Guide.pdf

U.S. Census Bureau (n.d.) Table 728. Cost of Living Index-Selected Urban Areas: Annual Average 2010 . Retrieved December 2, 2012, from http://www.census.gov/compendia/statab/2012/tables/12s0728.pdf

U.S. Department of Education (n.d.). 10 Fact About K-12 Education Funding. Retrieved February 24, 2016, from http://www2.ed.gov/about/overview/fed/10facts/index.html#chart2

U.S. Department of Education (n.d.). The Federal Role in Education. Retrieved December 2, 2012, from http://www2.ed.gov/about/overview/fed/role.html

Investing in Innovation Fund (i3). (n.d.). Retrieved October 10, 2016, from http://www2.ed.gov/programs/innovation/index.html?exp=0#program

U.S. Department of Education Press Office (2011, August 30). U.S. Department of Education Announces 'Education and the Economy' Back-to-School Bus Tour with Stops Around the Great Lakes. Retrieved February 24, 2016, from http://www.ed.gov/news/press-releases/us-department-education-announces-education-and-economy-back-school-bus-tour-stops-around-great-lakes

U.S. Department of Education Press Office (2014, November 6). U.S. Secretary of Education Arne Duncan Announces Highest-Rated Applications for Investing in Innovation (i3) 2014 Competition During Visit with High School Students in North Carolina. Retrieved October 10, 2016, from http://www.ed.gov/news/press-releases/us-secretary-education-arne-duncan-announces-highest-rated-applications-investin

Wagoner, J. L. (2004). Jefferson and education. Charlottesville, Va.: Thomas Jefferson Foundation.

Ward, J.G. (1987). An inquiry into the normative foundations of American public school finance. Journal of Education Finance, 12(4), 463-477.

Weber, R. E. (1979). A Synthesis Of Methods Proposed For Estimating Gross State Product*. Journal of Regional Science J Regional Sci, 19(2), 217-229.

What We Do. (n.d.). United States Census Bureau. Retrieved March 16, 2016, from http://www.census.gov/about/what.html

The White House. (2014) Educational Blueprint: A Economy Built to Last. Retrieved December 2, 2014, from http://www.whitehouse.gov/sites/default/files/cantwait/final_-_education_blueprint_-_an_economy_built_to_last.pdf

The White House. (2014). The Economics of Early Childhood Investment. Retrieved October 4, 2016 from https://www.whitehouse.gov/sites/default/files/docs/early_childhood_report1.pdf

Wise, A (1968). Rich schools-poor schools: A study of educational opportunity. Chicago: University of Chicago Press.

Wise, A. E., & Weinstein, S. (1976). The politics of inequality: A case study. Phi Delta Kappan , Volume:58 , Issue:2 , Page(s):169

Withem, Moore, Baack, Barrett, Beck, Beyer,…Weihing (1990). Legislature of the Nebraska Ninety-First Legislature Second Session. Legislative Bill 1059. Retrieved January 13, 2016 from http://schoolfinance.ncsa.org/sites/default/files/media/SF/Files/1990/LB1059_INTRO.pdf

Zhao, E. (2011, October 13). Budget Cuts Hit Hard In Schools, Hurts Students, Report Says. Retrieved February 24, 2016, from http://www.huffingtonpost.com/2011/10/13/budget-cuts-hit-hard-in-s_n_1009472.html

Zhao, E. (2012, February 14). School Budget Cuts: How Students Say Slashes Are Affecting Them. Retrieved February 24, 2016, from http://www.huffingtonpost.com/2012/02/14/la-youth_n_1277182.html