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Educational Investment Makes Financial Sense: A Longitudinal Study Investigating the Effect of Fiscal Effort on Personal Income

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EDUCATIONAL INVESTMENT MAKES FINANCIAL SENSE: A LONGITUDINAL STUDY INVESTIGATING THE EFFECT OF FISCAL EFFORT ON PERSONAL INCOME

by

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ABSTRACT

EDUCATIONAL INVESTMENT MAKES FINANCIAL SENSE: A LONGITUDINAL STUDY INVESTIGATING OF THE EFFECT OF FISCAL EFFORT ON PER CAPITA INCOME

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Old Dominion University, 2013
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As the United States seeks to compete in the increasingly connected global economy, efforts have been made to improve both internal educational outcomes such as test scores and graduation rates, as well as relative educational outcomes such as the ranking of the United States' test scores on international assessments. Finding the correct strategies to improve education nationally is difficult, since education takes place in a very personal context that differs from state to state, district to district, school to school, classroom to classroom, and student to student. However, because of the importance of increasing educational outcomes, the nation has looked to find ways to improve the entire system nationally through creating standards based legislation like No Child Left Behind or competitive incentives like in Race to the Top. If there are proven educational policies that can be applied nationally that can improve the entire nation's educational performance, then those policies would be important to include as a supplement to current plans or as a part of future ones.

A highly analyzed input variable is funding. The debate over the relationship between funding and improved outcomes has lasted for fifty years, eventually leading to the answer that funding matters, sometimes. However, using fiscal effort rather than dollars spent may lead to finding a correlation between dollars and educational

improvements. It may be that having a good deal of money may lead a district to spend less carefully and increase waste. It may also be that spending a higher percentage of a community's taxes on education may indicate a greater interest in education.

While the goal of education is not simply to create new economic pawns within a greater system, it is understood that within the United States, capitalistic achievement is considered to be a gateway to greater life opportunities. Creating students that are more employable, more skilled, and therefore increase the economic base of the nation is certainly a goal that is achievable through better education. This dissertation seeks to ascertain if there is a correlation between fiscal effort and increased personal income. The dissertation analyzed data from several sample states over an extended period of time to determine if increasing fiscal effort has led to greater personal income.

This thesis is dedicated to my wife Ariella. Thank you for encouraging me to take on this challenge, pushing me through it, and helping me recover afterward.

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CHAPTER 1: INTRODUCTION

Overview

The goal of this study is to examine the long-term effect of state fiscal effort for education on per capita income. This chapter introduces the political debate about whether increases in school funding can lead to improved student achievement, and how that achievement affects the productivity of the workforce. At the conclusion of this chapter the problem statement and the purpose of the study will be presented, concluding with the research question, expectations, delimitations of the study, and definitions of key terms. The literature review follows in Chapter 2, followed by the methodology of empirical investigation in Chapter 3, the results thereof in Chapter 4, and a discussion in Chapter 5.

Background

While education competes with various other social spending projects for our public dollars, successful education can have a great impact. From a philosophical perspective, it can be argued that many programs are safety nets designed to help citizens in need, but education is a program which impacts a person's quality of life, thus maximizing the individual's ability to lead a successful life. By extension, education maximizes our country's human capital. From a practical perspective, improving educational performance can be quantified through various educational outcomes, and can reduce the need for further spending on other social programs. If a correlation exists between educational spending and increasing these outcomes, then increasing educational spending would result in decreased spending in other areas which could balance out or even net a decrease in overall spending requirements. Producing educated citizens strengthens our communities and our entire country by increasing earning potential, employability, voting rates, percent of individuals with health insurance, charitable contributions, and participation in leisure and cultural activity. Better education also reduces childbirth and prenatal issues, incarceration rates, and crime rates (Owings & Kaplan, 2013). Since education has the ability to reduce the costs of other social programs later, from a purely economic standpoint, it would be an area to make priority in terms of spending. Nevertheless, educational spending is subject to a tremendous amount of political posturing. As a program that receives its funding from three major governmental sources, federal, state, and local, it is subject to the political whims of all three. See Table 1.

Table 1

Revenues for public elementary and secondary schools, by source of funds: Selected years, 2000-2001 through 2008-09

School year	Total (in thousands)	Federal in thousands	State in thousands	Local in thousands	Percentage distribution		
					Federal	State	Local
2000-2001	401,356,120	29,100,183	199,583,097	172,672,840	7.3	49.7	43.0
2001-2002	419,501,976	33,144,633	206,541,793	179,815,551	7.9	49.2	42.9
2002-2003	440,111,653	37,515,909	214,277,407	188,318,337	8.5	48.7	42.8
2003-2004	462,026,099	41,923,435	217,384,191	202,718,474	9.1	47.1	43.9
2004-2005	487,753,525	44,809,532	228,553,579	214,390,414	9.2	46.9	44.0

2005-2006	520,621,788	47,553,778	242,151,076	230,916,934	9.1	46.5	44.4
2006-2007	555,710,762	47,150,608	263,608,741	244,951,413	8.5	47.4	44.1
2007-2008	584,683,686	47,788,467	282,622,523	254,272,697	8.2	48.3	43.5
2008-2009	593,061,181	56,730,664	277,079,518	259,250,999	9.6	46.7	43.7

Note: Snyder, T.D., and Dillow, S.A. (2012). *Digest of Education Statistics 2011* (NCES 2012-001). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Local funds are volatile in that they predominantly rely on property taxes. When housing prices decrease, as they have been since 2005, schools receive automatic budget cuts unless other arrangements are made with the governing body and the school board. At the same time in many states, the state education agency takes an oversight roll, deciding to enhance education through new ideas and initiatives. These increased requirements are not always funded by additional state resources, and therefore the simultaneous hit of budget cuts and rising costs continuously squeeze our educational system with these unfunded mandates.

Given this political context, educators have to present some clear expression of successful production to keep their funding at necessary levels. Schools have several outcomes that can be used to measure their success, such as increased test scores, increased participation in schooling, or increased graduation rates. Researchers have examined outcomes like these for decades to determine if schools are successful overall, and if success can be predicted by an increase or decrease in spending (Hanushek, 1986; Verstegan & King, 1998).

The literature is divided on the subject of the impact of increasing spending on education on educational outcomes. Former Secretary of Education in the Reagan administration, William Bennet, recently told the Associated Press (2013), "If there's a bottom line, it's that we're spending twice as much money on education as we did in '83 and the results haven't changed all that much." Other research has clearly shown that spending in the correct areas increases educational performance (Verstegan & King, 1998). A cursory analysis would lead us to assume that the greater the amount of resources allocated to a problem, the greater the likelihood that the problem will be adequately addressed. Those resources could come in terms of human capital or in terms of financial resources. If this were true, then the school district that spent the most money would be the best. The size of the district would have to be taken into account, and therefore the proposition would more accurately be stated as the school district that spends the most per pupil would be the best. Table 2 and Table 3 indicate that this is far from the case. None of the districts in the top ten in terms of per pupil spending is listed as a district with the top graduation rates.

Table 2

Ten Districts with the Highest Per Pupil Amounts for Current Spending of Public Elementary-Secondary School Systems with Enrollments of 10,000 or More: 2008–2009 and Corresponding Graduation Rates

Rank	District	Per Pupil Expenditure	Graduation Rate
1	Camden, N.J.	$23,356	38.6%
2	Newark, N.J.	$21,896	73.6%
3	Trenton, N.J.	$20,663	41.3%
4	Jersey City, N.J.	$20,336	58.5%
5	Yonkers, N.Y.	$19,952	58.6%
6	New Rochelle, N.Y.	$19,709	66.0%
7	New York City, N.Y.	$19,146	54.8%
8	Boston, MA	$18,858	63.2%
9	Arlington County, VA	$18,452	73.4%
10	Brentwood, N.Y.	$18,230	62.5%

Note: U.S. Census Bureau, (2012). *Current Population Survey*, unpublished data, Retrieved from http://www.census.gov/govs/school/

Table 3

Ten Districts with the Lowest Per Pupil Amounts for Current Spending of Public Elementary-Secondary School Systems with Enrollments of 10,000 or More: 2008–2009 and Corresponding Graduation Rates

Rank	District	Per Pupil Expenditure	Graduation Rate
1	Alpine, UT	$5,658	77.7%
2	Nebo, UT	$5,861	80.4%
3	Tooele County, UT	$5,917	70.70%
4	Litchfield Elementary, AZ	$5,936	K-8 only
5	Jordan, UT	$6,043	79.3%
6	Weber County, UT	$6,062	Unavailable
7	Davis County, UT	$6,130	79.0%
8	Granite County, UT	$6,143	Unavailable
9	Meridian, ID	$6,154	76.1%
10	Nampa, ID	$6,189	60.8%

U.S. Census Bureau, (2012). *Current Population Survey*, unpublished data, Retrieved from http://www.census.gov/govs/school/.

However, as we will see in Chapter 2, there are potential flaws in the assumption that spending and educational outcomes have direct correlation. The difficulty with drawing a conclusion from these data that seem to show that districts that spend more do not have better results is the data are out of context and do not take into consideration the varying needs of specific populations. For example, Camden, New Jersey, listed in Table 2 is a district with an unemployment rate of 17 percent and 35 percent of its 80,000 inhabitants live below the poverty line. Fifty percent of residents are Black, 15.5 percent White, 2.6 percent Asian; 10,000 people reside in each square mile. In 2008, the Federal Bureau of Investigation ranked it as the most dangerous city in America (Briody, 2011). In a district like this, there are clearly needs for additional social workers, security, special education programs, etc. Furthermore, the American Institute of Physics (AIP) developed a Science and Engineering Readiness Index (SERI) with physicist Paul Cottle of Florida State University which ranks a state's science and mathematics education based on performance data related to physics and calculus, subjects that researchers say are most important to future scientists and engineers. These data include Advanced Placement results, National Assessment of Educational Progress reports, teacher certification requirements by state, and data on high school class enrollment in physics and calculus,. The final SERI score indicates, on a scale of 1 to 5, how each state measures up to others in physics and math education and teacher qualifications. Means and standard deviations are then calculated to determine if a state is considered average, above, or below. The AIP found that New York, New Jersey, and Massachusetts, which account for nine out of the ten highest spending districts, are all ranked as "well above average." Despite the fact that high spending is counteracted by other factors and potential inefficiencies in these particular districts, the states' overall spending on education seems to be paying dividends in the science, technology, engineering, and mathematics (STEM) fields, areas considered to be a national educational priority. Utah, by contrast, is merely rated average, Idaho is below average, and Arizona is well below average (American Institute of Physics, 2011).

When comparing state spending, it is necessary to take into account other factors such as cost of living. Utah and Idaho are ranked in the top ten in terms of lowest cost of living, enabling districts in those states to spend less because many expenses are lower, from purchasing property to hiring staff. New York, New Jersey, and Massachusetts are ranked 40^{th} or below, making their cost of living higher than average. Comparing districts in these two states based on spending alone does not account for these factors. In order to accurately compare input, a better equation should be used that indicates how much money a state spends in relation to how much money it has available.

Owings and Kaplan (2013) suggest that a relevant factor in school budgets is fiscal effort. Fiscal effort is defined by the following formula, where *E* is fiscal effort, *R* is the revenue allocated for education measured as the state's per pupil expenditure for K-12 education, and *TB* is a measure of wealth, in the case of this study, the Gross State Product (GSP) on a per capita basis. The equation for effort takes the following form:

$$E = \frac{R}{TB}$$

Effort then is a ratio of the total state spending per pupil in the numerator divided by the GSP per capita. By using GSP, researchers control for variances in the economy as they are included in GSP figures. As a ratio, this formula controls for wealth and size of the state.

For example, in Table 4 which displays fiscal effort calculations for Delaware and Maine in 2010, the two states have different levels of wealth, or capacity. Delaware has a per capita GSP of $61,804.10, the highest per capita income in the United States aside from Washington, D.C., while Vermont has a per capita GSP of $34,300.92, ranking 47th. The two states spend nearly the same on education per pupil, with Delaware spending the 13th most in the nation at $12,383 per student, and Maine is 14th spending $12,259. While the two states spend nearly the same amount per pupil, since the two states have drastically different per capita GSP, the fiscal effort is also very different for these two states. Delaware's effort is .2004, ranking 47th and Maine ranks 3rd with .3574. The rationale for why fiscal effort should have an impact on student success is that we spend our money on that which is most important to us. While Delaware has more money available, the proportion of wealth to educational spending is much lower than Maine, which implies an emphasis on the importance of education in that state.

Table 4

2010 Effort Data for Delaware and Maine

State	Gross State Product (in millions of $)	Population (in thousands)	Gross State Product Per Capita	Rank Per Capita	Education Spending Per Pupil	Per Pupil Rank	Relative Effort E = R/TB	Effort Rank
Delaware	55,496	898	$61,804.10	2	12,383	13	0.2004	47
Maine	45,564	1328	$34,300.92	42	12,259	14	0.3574	3

Note: U.S. Census Bureau (2012). *Current Population Survey*, unpublished data, Retrieved from http://www.census.gov/govs/school/ historical_data_2010.html

Bureau of Economic Analysis (2013). Widespread Economic Growth In 2012:

Advance 2012 and Revised 2009–2011 GDP-by-State Statistics, Retrieved from http://www.bea.gov/newsreleases/regional/gdp_state/2013/pdf/gsp0613.pdf

US Census Bureau (2012). *Current Population Survey*, unpublished data, Retrieved from http://www.census.gov/compendia/statab/2012/tables/12s0014.pdf

This study looked beyond traditional education outcomes such as test scores or graduation rates. It has been established that successful education enables people to lead more successful lives in terms of increasing earning potential, employability, voting rates, percent of individuals with health insurance, charitable contributions, and participation in leisure and cultural activity (Owings & Kaplan, 2013). These outcomes are important in guiding the establishment of public policy in terms of setting public education spending levels. If it can be correlated through a production model that spending higher percentages of tax dollars on education reduces the amount that needs to be spent in other areas, the increased spending becomes automatically justified. As fiscal effort increases, reliance on other social programs would decrease. In the case of this particular study, state per-capita income is being investigated. If state fiscal effort increases are associated with increases in per capita income, the tax base increases causing states to have more to spend in total. Education spending then becomes more than a metaphorical investment in the future; it becomes a direct economic investment.

Conceptual Framework

The research expectation of the conceptual framework for this study is that longitudinal patterns of fiscal effort at the state level are associated with longitudinal patterns of growth in per-capita income levels. This expectation is based on a series of cause and effect relationships that have been established in the literature. Fiscal effort is a measure of how much a nation, state, or locality spends of its resources on education. The struggle that a community has in funding its educational system tells a bigger story about the value of education to that community. This struggle is what brings about success (Owings & Kaplan, 2013).

Education is a major determining factor of a strong economic system. According to a report from the U.S. Department of Commerce, Bureau of the Census, Current Population Reports (2010), the greater a person's level of education, the greater her/his earning potential (Figure 1). It is expected that since greater fiscal effort will result in better elementary and secondary education, if a continuous trend of strong fiscal effort can be sustained so that organizational change can occur, and then long enough to graduate students, they should be better prepared and likely to continue their education. The additional degrees should improve employment potential and thus the overall per capita income of the population. Since data have been collected over a thirty year span for all 50 states, it is expected that states that show the greatest sustained fiscal effort should in turn have greater per capita income.

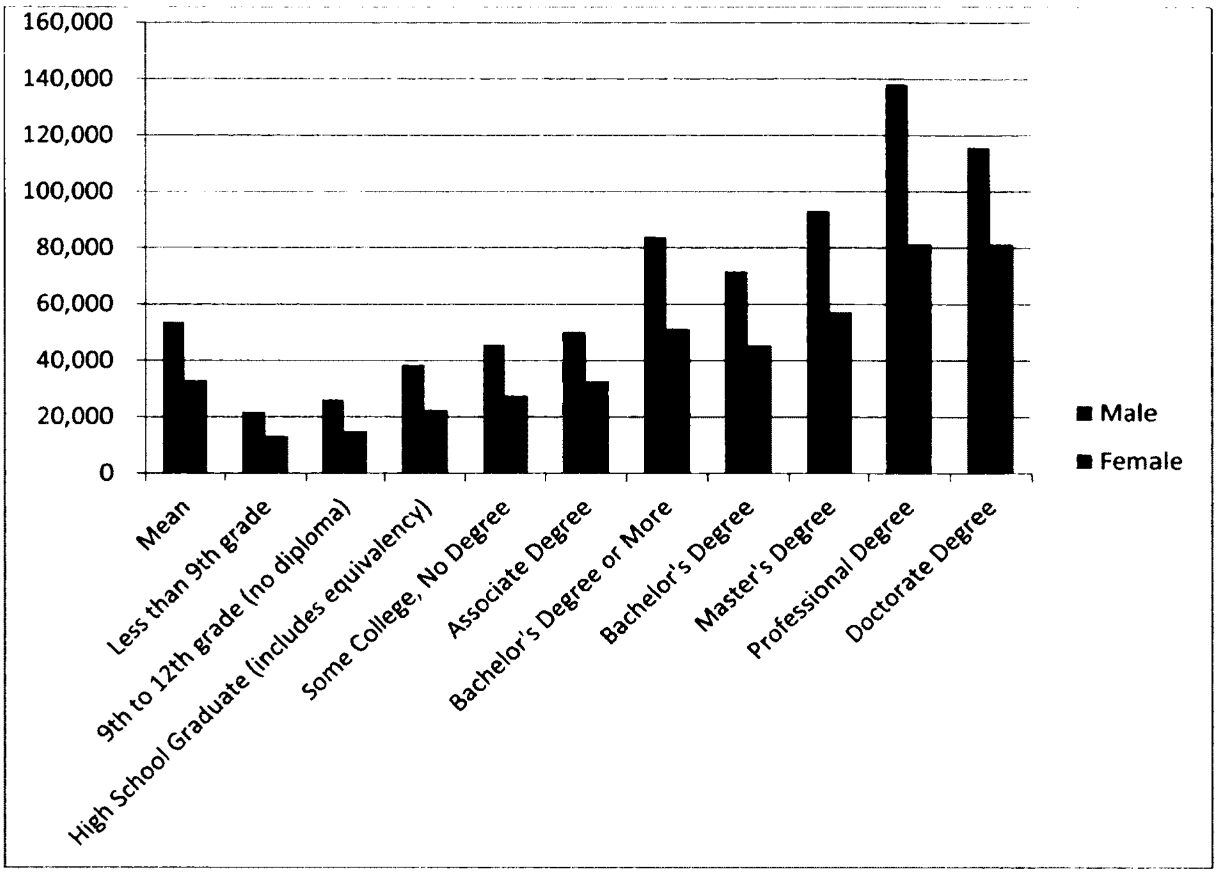

Figure 1. Average Mean Earnings per Person in the United States by Educational Acheivement and Sex Age 25 and Over in Full-Time Employment, 2011

US Census Bureau (2012). *Current Population Survey*, unpublished data, Retrieved from. http://www.census.gov/hhes/www/income/data/historical/people/index.html.

The U.S. Department of Labor's unemployment statistics also shows that the greater a person's level of education the greater their participation in the workforce. If a greater number of people are employed, then there will also be a rise in the average earnings of the population. Finally, having a workforce in an area that has higher skill and is more trained should potentially attract new businesses, which would increase employment and jobs even further.

Statement of the Problem

When studying correlations between spending and outcomes through investigating individual schools or districts, it is difficult to account for factors that alter student outcomes which are unique to specific districts. Other studies have attempted to look at the broader picture over time and throughout the country. This research has found that while there has been a rise in federal and state financial support for schools, there has been a lack of measurable progress in United States public schools, particularly during the period since No Child Left Behind ushered in the High Stakes Testing era in which the cost of testing has increased (Baines & Stanley, 2004; Greene & Trivitt, 2008; Heilig, 2011). However, this does not take into consideration that schools have been asked to do more for students with disabilities since 1975's Public Law 94-172, the Education of all Handicapped Children Act. Special education enrollment has increased and with it the costs. Bracey (1991) wrote that in 1988 it was about seven times more expensive to educate a special education student than to educate an general education student. Additional expenditures for schools due to technology also have to be considered, as well as new funding that has not been allocated to schools in order to meet federal requirements established by No Child Left Behind in 2001 (Ladd, Chalk & Hansen, 1999). It therefore is not reasonable to make a conclusion about the relationship between school expenditures and student achievement by comparing how public schools were to the way they are.

A report by the Center for American Progress (Boser, 2011) suggests that a large number of schools and districts are inefficient. While this is certainly the case in some districts, it should not be inferred that there is no reason to allocate resources to education since these will be wasted anyway. Studies such as The Coleman Report (1966), in which it was found that schools could have little impact on their students because prior socio-economic factors were far too strong for students to overcome, would indicate that no matter how much is spent, our nation's educational system would never get beyond the boundaries that wealth imposes on children. Hanushek (1986) also wrote that there was no relationship between spending and performance. Others have disagreed with these conclusions and have found there is strong evidence to suggest a connection between increasing per-pupil expenditure and achieving results (Hedges, Laine, & McLoughlin, 1994). It appears that research does show that spending more on specific educational efforts such as reducing class size and hiring experienced teachers does improve achievement (Chambers, et al. 2010; Ferguson & Ladd, 1996).

Research is showing contradictory evidence to policy makers about how to approach public school funding. If it is true that better educated individuals make more productive citizens, then education rises to the top in terms of spending priorities. However, it is not clearly established that greater funding addresses improves educational outcomes.

Purpose of the Study

As stated, investigating a relationship between spending and student outcomes in a particular district does not allow for a full exploration. There are too many specific needs in any particular district to look solely at per pupil expenditures in one area. This study seeks to analyze spending patterns across all fifty states over a thirty year period to determine if states that invest a greater percentage of their wealth into education experience a corresponding increase to per capita income over time. Since research has suggested that there is a positive correlation between good academic training and the quality of the workforce, in order to determine if the investment is working, this study will investigate the relationship between academic spending and state per-capita income. It is anticipated that there will be a lag in the impact between spending and eventual rises in income, since educational spending impacts students that are still in school, several years before they eventually enter the workforce.

Research Question

The purpose of this research is to examine the association between state fiscal effort and state per-capita income over time. The study will examine the long-term effects of sustained increased slope and decreased slope of fiscal effort per-capita income for the 25 – 34 year old demographic. The following question will be addressed:

- Are increases in longitudinal patterns of fiscal effort associated with increases in longitudinal patterns of per capita personal income?

Hypothesis

The expectation is that longitudinal patterns of per-pupil expenditures at the state level are associated with longitudinal patterns of growth in per capita income.

Limitations and Assumptions

This study assumes that a primary driving force behind economic growth is the expenditure of funds towards education. There may be additional policies and world events that may explain economic fluctuations. By comparing how the individual states have responded economically to these changes, even though all have been exposed to similar global situations, indicate that it is the disparity between the states that has made an impact.

This study assumes that previous research has proven the connection between increased income and educational achievement. It also assumes that strong elementary and privates schools will graduate a higher percentage of students, who in turn will continue on in higher education.

Definition of Key Terms

The following is a list of some key terms that are used in this paper, together with their definitions:

Fiscal Effort: Fiscal effort is defined in the following formula, where E is fiscal effort, R is the revenue allocated for education measured as the state's per pupil expenditure for K-12 education, and TB is a measure of wealth, in the case of this study, the Gross State Product (GSP) on a per capita basis. The equation for effort takes the following form:

$$E = \frac{R}{TB}$$

GSP: The Gross State Product is an aggregate of all income sources within a state. Income sources are the sum of all value added across all industries within a state. Value added is the difference between revenue and outside expenses.

State Per Capita Personal Income: A state's mean income level, calculated by taking the total GSP and dividing it by the state's population.

State Per-pupil Expenditures: A state's total educational spending divided by the number of children enrolled in the school's from kindergarten through 12th grade in that state. Except where specifically noted, this figure is expressed in thousands of dollars (Condron & Roscigno, 2003). This can be expressed in the following formula where TE is total expenditures P is the total number of students in the state:

$$PPE=\frac{TE}{P}$$

Tax Base: The assets available on which a government can levy taxes. These can include but are not limited to per capita residential property value, per capita commercial property value, per capita industrial property value, per capita income, and per capita sales tax.

CHAPTER 2: LITERATURE REVIEW

Chapter Overview

This chapter will provide an overview of literature concerning the relationship between the input of financial resources into educational systems and educational outcomes. Fiscal effort, as a useful measure of financial input will be explored, as will the viability of using the variable of state and national median annual earnings of persons aged 25 to 34 as an educational output.

This chapter will begin with an introduction that outlines the data which indicate the current trends in American education, both in terms of the outcomes and the level of expenditures. A conceptual framework will be presented which will be used in this study. The chapter will continue to present the debate on the presence of or lack of association between spending practices and educational outcomes. The concept of fiscal effort is then introduced as a possible new fiscal measure that potentially is a predictor of student achievement. The relationship between student achievement and personal economic success is then explored through the literature. At the conclusion, the research question and hypothesis are stated.

Introduction

Educational funding comes from three primary sources, federal, state, and local. As of 2008-2009, the most recent data published in the *Digest of Educational Statistics* (Snyder & Dillow, 2012), the federal government contributes $56,730,664,000 which accounts for 9.6% of total school revenue, $277,079,518,000 comes from state governments which accounts for 46.7% of total school revenue, the local governments contribute $259,250,999,000 which represents 43.7% of total school revenue. This spending has represented a continued upward trend for educational spending (Figure 2).

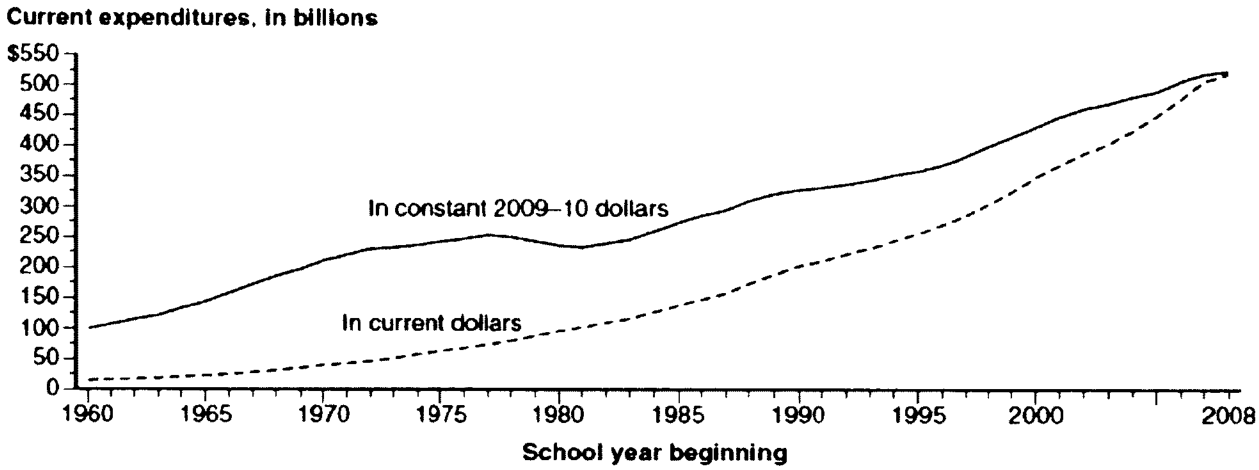

Figure 2. The rising cost of education represented in constant 2009-2010 dollars and current dollars

Snyder, T.D., and Dillow, S.A. (2012). *Digest of Education Statistics 2011* (NCES 2012-001). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC.

Because of the significant increasing financial resources that are being placed into education, there is an expectation that there should be a corresponding increase in academic achievement. However, academic achievement is difficult to quantify. Educational achievement has been evaluated in terms of percentages of students performing satisfactorily on criterion-based test scores, such as state level tests, by comparing scores on norm referenced tests like the SATs, graduation rates, and many other ways.

Conflicting Data on the State of Schools

Often data reports have presented conflicting or misleading conclusions so as to depict public schools as failing endeavors. Bracey (2004) suggests that there is a simultaneous assault from all directions on public education that contribute to the overall perception that public education is not living up to expectations. Liberals would like to portray the school system as doing poorly in order to spur legislators to increase funding to schools. Conservatives would like to see the populace become so disenfranchised with public education that a movement would be created to siphon off some of the money being spent on public education and redirect it towards vouchers for private education. Also, the right stands to benefit from decreasing the influence of the teachers' unions, which traditionally are strong supporters of the left and are supportive of liberal candidates.

Data indicate more students are achieving passing scores on state tests now than in the past, and the achievement gap data are mixed, but closing slowly in many states (Mishel & Roy, 2006; Blank, 2011; National Center for Educational Statistics, 2011; Reardon, Greenberg, Kalogrides, Shores, & Valentino, 2012). Table 5 and Figure 3 indicate that on the Scholastic Aptitude Test (SAT), the College Board (2011) reports that scores have been steady as participation rates have increased.

Table 5

SAT Participation by Race/Ethnicity Over Ten Years

Racial/Ethnic Groups	2001	2010	2011	1-year change	10-year change
American Indian	7,622	8,915	9,244	4%	21%
Asian	102,312	174,182	183,853	6%	80%
Black	120,506	205,387	215,816	5%	79%
Hispanic/Latino	101,172	229,835	252,703	10%	150%
White	703,724	865,971	865,669	0%	23%
Other	38,680	54,530	58,699	8%	52%

College Board. (2011)

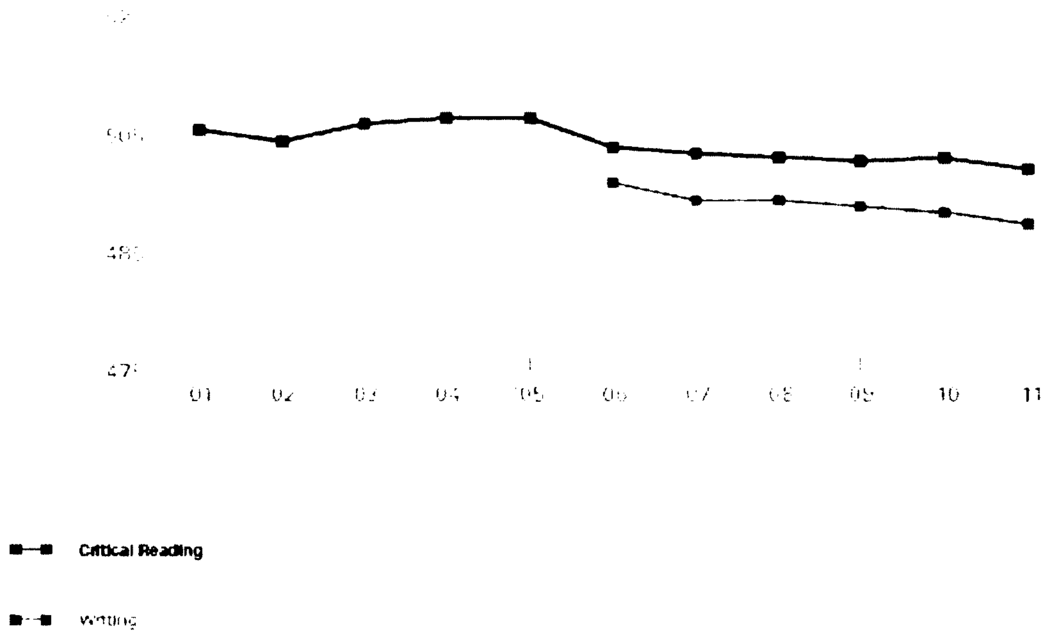

Figure 3. Ten year trend in mean SAT scores

College Board (2011). *SAT Trends: Background on the SAT Takers in the Class of 2011.* Retreived from http://professionals.collegeboard.com/profdownload/ SAT_Trends_Report_9_12_2011.pdf.

Evaluating school performance based on graduation rates is difficult since the data on high school completion rates are unclear (Mishel & Roy, 2006). In 2005, the National Governors' Association published the report called *Graduation Counts: A Report of the National Governors Association Task Force on State High School Graduation Data* (2005). The report declared, based on research by Greene and Winters (2005), that one third of the student population does not graduate from high school. Additionally, the graduation rate for minorities may be as low as 50%. These statistics come from enrollment and diploma data reported by school districts, collected by the states, and forwarded to the federal government's Common Core of Data, which is managed by the National Center for Education Statistics (Snyder & Dillow, 2012). Mishel and Roy (2006) have disputed these statistics and the graduation crisis that it implies. Using information from the U.S. Census and several high-quality longitudinal surveys, they found improving graduation rates among all students. They also found that the achievement gap between whites and minorities, while still present, has been shrinking over the past forty years. Their conclusion is that three-fourths of black students obtain regular diplomas and, of the 25% who do not graduate, half go on to obtain a GED (Mishel & Roy, 2006). Mishel and Roy do not publish annual graduation rates, so it is difficult to determine the actual difference in rates between the National Center for Education Statistics 2012 data and their current estimate, but they have published subsequent criticisms of graduation rate calculations. In a statement released by Heckman, LaFontaine, Mishel, and Roy (Mishel & Roy, 2008), they criticized *Education Week*'s Diploma Counts project (2008) and note that their graduation rates estimates are likely to be 14% lower based on the assumption that ninth grade enrollment is the same thing as students entering high school. This does not take 9th grade retention into consideration, which particularly impacts calculations of minority graduation rates (Mishel & Roy, 2008). Tracking graduation rates over time will be further complicated by new federal guidelines that will no longer allow states to count students who finish special education and adult education programs in their state graduation rates (U.S. Department of Education, 2011). The graduation rates reported will now appear lower, and since they are being calculated differently than they have been in the past, these data cannot be used to show long term trends.

Another source for public disappointment and frustration with the public education system seems to come from the perception that the United States is unable to compete globally. Miller and Warren (2011) analyzed the United States test results for the Program for International Student Assessment (PISA), the Progress in International Reading Literacy Study (PIRLS), and the Trends in International Mathematics and Science Study (TIMSS), and they published their findings in the National Center for Educational Statistics Report called *Comparative Indicators of Education in the United States and Other G-8 Countries: 2011* (2011). The PISA is an assessment taken by 15 years old students that are in selected OECD countries and tested in reading, mathematics, and science literacy. The PIRLS assesses reading among students in their fourth year of school aside from kindergarten, which corresponds to fourth-graders in the United States. The TIMSS assesses mathematics and science among fourth- and eighth-graders. Compared with the other G-8 countries, Canada, Japan, Germany, France, the United Kingdom, Italy, and Russia, the United States did not achieve top scores in any area. The United States was third best on the PISA behind Canada and Japan in reading, sixth best in math behind Japan, Canada, Germany, France, and the United Kingdom, and fifth in science behind Japan, Canada, Germany, and the United Kingdom (Figure 4).

Reading		Mathematics		Science	
Country	Score	Country	Score	Country	Score
Canada	524	Japan	529	Japan	539
Japan	520	Canada	527	Canada	529
United States	500	Germany	513	Germany	520
Germany	497	France	497	United Kingdom	514
France	496	United Kingdom	492	United States	502
United Kingdom	494	United States	487	France	498
Italy	**486**	Italy	483	**Italy**	**489**
Russian Federation	**459**	**Russian Federation**	**468**	**Russian Federation**	**478**

■ Average is higher than the U.S. average □ Average is not measurably different from the U.S. average □ Average is lower than the U.S. average

SOURCE: Organization for Economic Cooperation and Development (OECD). (2010). *PISA 2009 Results: What Students Know and Can Do—Student Performance in Reading, Mathematics and Science (Volume I)*, tables I.2.3, I.3.3, and I.3.6. Paris: Author.

Figure 4. Average scale scores of 15-year old students in reading mathematics, and science literacy by country in 2009

Miller, D.C., and Warren, L.K. (2011). *Comparative Indicators of Education in the United States and Other G-8 Countries: 2011* (NCES 2012-007). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

This assault on the school system's performance only creates half of the public consternation. The public could understand that the public school system is unable to meet its objectives if it had a dearth of resources. However, while some politicians and some media report the school systems underperform, school systems are spending more money on education than they ever did. The United States spends over $593 billion on education (Syder & Dillow, 2012). The United States is a world leader in educational spending compared to other G-8 countries as measured in terms of dollars per student, as well as being second to the United Kingdom when measuring spending as a percentage of Gross Domestic Product (GDP) (Miller & Warren, 2011). Measuring educational spending as a percentage of wealth, in this case GDP, is a good way to determine how much education is valued and how much of a priority education is to a country (Owings & Kaplan, 2013, p.152). Compared to countries that are members of the Organization for Economic Co-operation and Development (OECD), the United States ranked fifth in education per student spending at the elementary and secondary levels in 2008, behind Luxembourg, Norway, Iceland, and Denmark. As a percentage of per capita GDP, the United States (4.1%) ranked eleventh compared to other OECD countries (OECD, 2011) (Figure 5).

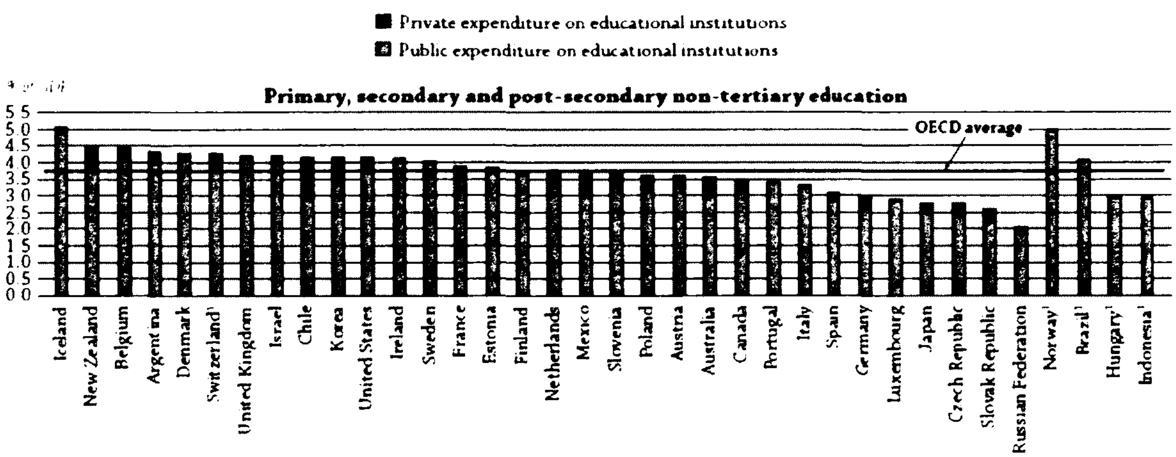

Figure 5. Expenditure on Educational Institutions as a Percentage of GDP for OECD countries.

OECD (2011). Education at a Glance 2011: OECD Indicators. OECD Publishing. Retrieved from http://dx.doi.org/10.1787/eag-2011-en)

The comparison between the United States and other countries, which is less than favorable, is not necessarily an appropriate comparison. Since the responsibility of public education is primarily a state function, the United States has 50 separate state educational systems, plus Washington DC. Ladner and Lips (2012), in the Report Card on Education Report, indicate that there is significant disparity across the United States in student scores on national tests. In short, there is a great disparity between the haves and the have-nots. The districts with the wealthiest students, as defined by having fewer than 10% of the school population on free or reduced price lunch, perform equivalent or better than Korea, the highest performing OECD country on the PISA test, while the districts with 75% of their students on free and reduced price lunches perform barely higher than Mexico, the worst performing country. Additionally, the report indicates that spending more on resources for education does not mean that test scores will rise. Other research that will be explored later in this chapter indicates that while it is true that spending more on educational resources does not correlate with improved educational outcomes, spending on specific types of resources does (Hanushek, 2011; Verstegan & King, 1998).

It is difficult to evaluate the United States' educational system based on comparative rankings with other countries using international tests. The United States uses the National Assessment of Educational Progress (NAEP) to monitor for trends in student knowledge. According to the National Center for Educational Statistic's website, the NAEP is tailored specifically to practices and standards operating in the United States, which distinguishes it from the international assessments, the content of which is determined internationally in collaboration with other countries and reflecting consensus views of key content (Stephens & Coleman, 2007).

Whether the growing concern about the deficiencies in American education is real or perceived, it would be expected that there would be a public clamor to increase funds to solve the problem. In the past, when the United States was concerned that they were losing the space race with the Soviet Union's launch of Sputnik, Congress placed significant financial resources into science and math education with the National Defense Education Act (NDEA) (1958).

With the country currently mired in an economic downturn and the prospect of increasing taxes to increase spending on education being extremely unpopular, the response to the present concern is we are losing the global competition for science development. While Congress passed the America Competes Act (2007), it is a much smaller increase than was made at the time of Sputnik (Brainard, 2007). The America Competes report (2012) finds that the science, technology, engineering, and mathematics (STEM) workforce is expanding, but American students are not gaining STEM skills at the same rate as other developing or industrialized nations. As this trend continues, the economic advantage between the United States and other countries diminishes. Solutions that have been proposed to improve school performance that are alternatives to additional spending include additional sanctions on underperforming schools (Heinrich & Sunderman, 2009), additional school choice created by vouchers (Cowen, Fleming, Witte, & Wolf, 2012), charter schools (Whitehouse.gov, 2011), finding incentives for parents, students and teachers to reduce inefficiency (Sum, Kirsch, & Taggart, 2002), and efficiency crackdowns which can be led by business or military models (Eisinger, & Hula, 2004). All of these suggested solutions have been shown to either have no effect or a negative effect on student learning (Eisinger & Hula, 2004; Heinrich & Sunderman, 2009; Howell, Wolf, Campbell, & Peterson, 2002; Nelson, Rosenberg & Meter, 2004).

Conceptual Framework

Originally used to study economic processes, production function models have been adapted for use in the field of school finance (Coleman, 1966, Hanushek, 1986). The goal of these models is to present the precise relationship between an input and output, so a prediction about the resulting output can be made for a given input. Using a production function model, one could determine exactly how much impact increasing spending by particular amounts would have, as well as find the most cost efficient methods for school improvement (Hedges, Laine, & Greenwald, 1994). Previous production function studies in the field of education have resulted in conflicting results. Picus and Robillard (2000, p. 26), for example, concluded that "production function analyses that attempt to relate the student outcomes to resources have not clearly identified a link between spending and student achievement." Meanwhile, Hedges, Laine, and Greenwald (1994) also used a production function analysis and concluded it is clear money is positively related to student achievement even if the results do not provide detailed information on the most educationally efficient means to allocate existing and new dollars.

Costrell, Hanushek, and Loeb (2008) argue against the use of production functions in the field of education because of what they term, "The Cloud." To explain this phenomenon, they use an example of the average district scores on eighth grade mathematics scores on the MAP (Missouri Assessment Program) test. They graph the results of all of the districts (Figure 6), and the resulting graph shows that the majority of school districts are spending between $5000 and $8000 per pupil, but all of the scores form a large mass around the average in which there is no connection between the scores and resulting scores. District sizes are indicated by the size of the bubbles on the graph. By observing the data, one can tell that the line drawn to approximate a least squares regression shows that the simple relationship between spending and achievement is essentially flat (Costrell, Hanushek, & Loeb, 2008). The existence of The Cloud, however, depends on what variables are being used as an input, what variables are used as an output, and which statistical method will be applied.

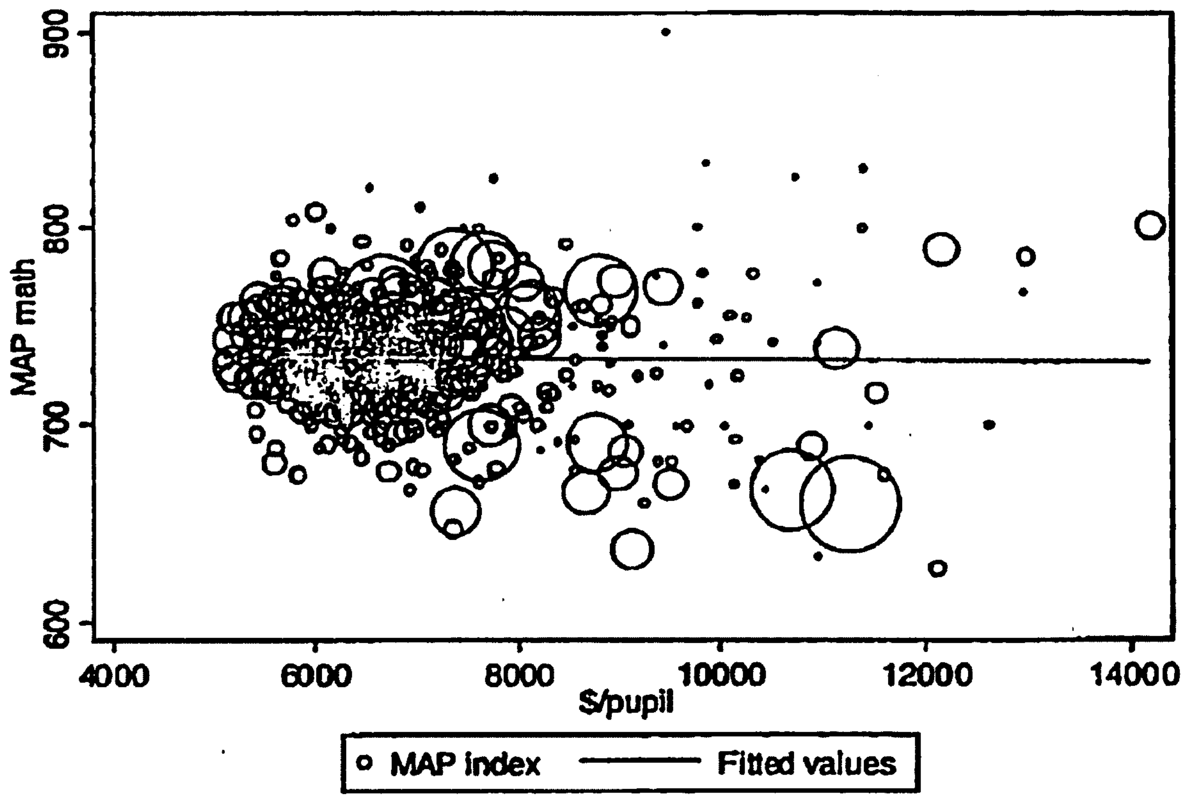

Figure 6. Missouri district average eighth-grade mathematics scores and district spending: 2006, an illustration of "The Cloud"

Costrell, R., Hanushek, E., & Loeb, S. (2008). What do cost functions tell us about the cost of an adequate education? *Peabody Journal of Education,* 83(2), 198-223.

This study will use state fiscal effort as the input to the function with the expectation that per capita personal income will increase over time. The research expectation of the conceptual framework for this study is that longitudinal patterns of fiscal effort at the state level are associated with longitudinal patterns of growth in per capita income levels. This expectation is based on a series of cause and effect relationships that have been established in the literature, as well as previous studies that have indicated a relationship between school spending and success in the labor market (Chetty, Friedman, Hanushek 2011; Hilger, Saez, Schanzenbach, & Yagan, 2010; Lazear, 2003; Mulligan, 1999; Murnane, Willett, Duhaldeborde, & Tyler, 2000; Owings & Kaplan, 2012).

As will be explained later in this chapter, the use of per pupil expenditures may not be the best input to use in a production function model. When analyzing spending, it is important to take into consideration the general fiscal resources available. In locations where a great amount of money is available but a smaller portion is being allocated for education, it may be that the general costs of services in the area are higher, and greater spending would be necessary to maintain equal status with another location that has a lower amount of fiscal resources available. Fiscal effort is a measure of how much a nation, state, or locality spends of its resources on education in relation to the total amount of financial resources that are available. The struggle a community has in funding its educational system tells a bigger story about the value of education to that community. That struggle is what contributes to the success of students (Owings & Kaplan, 2013, p. 152).

High quality education is a major determining factor of a strong economic system. According to the Bureau of Labor Statistic's Current Population Survey (2011), the greater a person's level of education, the greater her/his earning potential (Figure 7). It is expected that since greater fiscal effort will result in better elementary and secondary education, if a continuous trend of strong fiscal effort can be sustained so organizational change can occur, then long enough to graduate students, students should be more prepared and likely to continue their education. The additional degrees should improve the overall per capita income of the population. The U.S. Department of Labor's unemployment statistics also show (Figure 7) the greater a person's level of education, the greater the likelihood of their participation in the workforce. If a greater number of people are employed, then there will be a rise in the average earnings of the population.

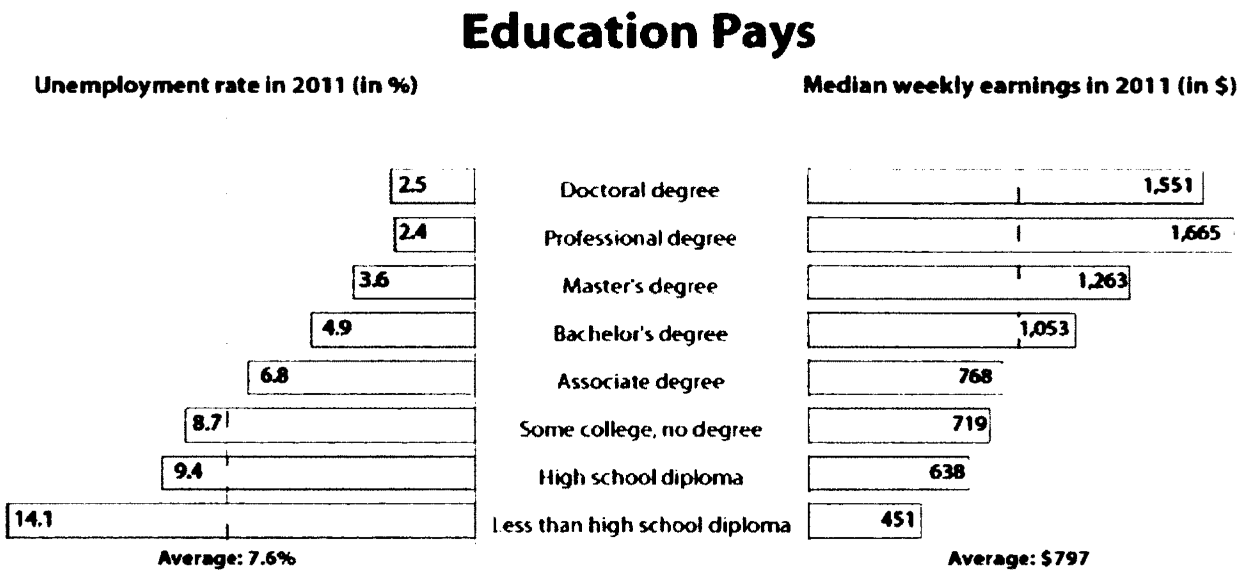

Figure 7. Unemployment rate for workers 25 and older by level of education and median weekly earnings for workers 25 and older by level of education

US Census Bureau (2012). *Current Population Survey*, unpublished data, Retrieved from http://www.census.gov/population/www/socdemo/educ-attn.html.

It is not expected that greater levels of fiscal effort will create an immediate impact upon the outcome of increased earnings. If a state increases its fiscal effort, it will begin the process of creating school change. Organizational change is a process that typically takes two years (Berman & McLaughlin, 1978). Fullan (2000) found that while it takes two years to incorporate a change, the effect could disappear instantly if the support for the change is withdrawn prematurely. He states that organizational change actually takes seven years to become more established. Additionally, it should be recognized that compulsory education in the United States is at least a twelve year process. Ideally, to have the complete impact, a state would have to increase its fiscal effort for several years to complete the organizational change and continue that effort for thirteen years for a student to receive the full impact of the change. It is anticipated, however, that some improvement will occur for students even if they receive the benefits of the change only at the tail end of the process. Therefore, this study will explore the data's relationships longitudinally over time. Using census data that have been collected over a thirty year span for all 50 states, this investigation will determine if the states which have greatest sustained fiscal effort have greater per capita income.

In order to analyze the relationship described above, a statistical model that takes into consideration both the relationship of the input and output variables as well as the effect of time on those variables must be used. For this study, hierarchal linear modeling will be used. In hierarchal linear modeling, equations at two levels are used so analysis of nested data can be performed. In the case of this study, the first level equations will analyze the interaction between fiscal effort and per capita income for 25 to 34 year olds. Then the data for each of the states will be analyzed over a thirty year period, so the relationship of these variables to be analyzed over a period of time (Hofman, Griffin, & Gavin, 2000).

Literature Showing That Increased Funding Does Not Improve Education

Even as the problem with public education is difficult to perceive, all can agree that greater student success is desired, whether that means more students passing tests, increased graduation rates, increasing the country's international ranking, or any other educational outcome. Therefore, educational researchers have been seeking to define the inputs for the educational process that lead to increased outputs. The general economic assumption would be that if one wanted to increase the quantity or quality of a product, spending more would be an important first step. However, the literature is split about whether or not increased funding results in increased achievement.

The first major study investigating the relationship between school spending and student outcomes took place in the 1960s when the United States Department of Education commissioned Coleman and a group of researchers to investigate data and create a report on educational equality in the United States in the wake of the Civil Rights Act of 1964. The report was meant to be comprehensive and used a large sample size of 150,000 students and 3000 schools. The report was called Equality of Educational Opportunity (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld, & York, 1966). The commission concluded that the most significant factors determining student success were socio-economic concerns and student background. The money spent on education was not important compared to these overarching concerns. From the outset, the methodology of the report was questioned (Cain & Watts, 1968). However, this report dubbed "The Coleman Report", sparked further research and established the sense that spending is not as significantly related to student performance as socio-economic and family background.

Over the next twenty years, various studies investigated school spending and its impact on a range of educational outcomes. Hanushek (1986) compiled the results of 147 previous studies and used a vote-counting method in which the results of the studies were compiled and analyzed. Hanushek found average class size, teacher training, and number of books in the school library all positively correlated with student achievement. However, when controlled for family background, per-pupil spending did not have an impact. Instead, corroborating the finding of the Coleman Report (1966), he found that the main areas that correlated with greater student achievement were related to socio-demographic status, such as parent education, income, and family size.

Betts, Reuben, and Danenberg (2000) explored the inequalities that exist between California school districts. They found schools with larger populations of economically disadvantaged students have fewer teaching resources as measured by teacher education, experience, and credentials, as well as the availability of advanced placement courses. Their results also showed that socio-economic differences explain most of the variation in academic achievement, despite differences in spending between the districts.

Clark (1998) investigated the Texas school system to determine first, if money that was being allocated to support students with additional academic needs was arriving at the desired destination, and second if the money was making a difference in the performance of students as measured on the TAAS (Texas Assessment of Academic Skills) test. The study found that in the eight districts analyzed, only three had a significant difference in at least two of the four expenditure categories investigated, and two of those districts had negative coefficients indicating a negative relationship. This indicated that there was very rarely a correlation between the amount of money spent in total and an increase in money that reaches students with economic difficulty. Even when there was a correlation, the money often was flowing away from the schools which needed it instead of towards them. Only one district appeared to be allocating the money according to the special economic needs of their population, and when that district's TAAS results were compared to other districts, family income level remained a strong determinant of academic performance regardless. Clark noted that it can only be deduced that the money is not working, but not why it is not working. He suggests that it could be that the additional resources which are being targeted at these students are inadequate to overcome the educational handicap of a poverty background. Alternatively, schools and districts may not be spending resources on programs and personnel that can make the greatest academic difference for students.

In 2001, the Report Card on American Education: A State by State Comparison (Lefevre & Hederman, 2001) was released to inform policy makers about which educational resources achieve the greatest results in terms of educational outcomes. Using an ordinary least squares regression, almost 100 measures of educational resources and achievement were analyzed. LeFevre and Hederman found that states that scored well on standardized tests did not have high numbers of teachers per pupil. There also did not appear to be a connection between these scores and per pupil expenditure or federal government spending. States with low teacher salaries also seemed to be able to achieve high test scores. Missouri, Illinois, and Alabama had experienced significant increases in average SAT scores since 1980, but they had not increased per pupil expenditures, average instructional staff salaries, schools per district, or pupils per teacher enough to raise themselves into the top ten nationwide in any of these areas.

Literature Supporting Money Makes a Difference Towards Improving Educational Outcomes

Many researchers draw different conclusions about the relationship between spending and educational outcomes. To start with, the results of the main studies leading to the conclusion that money is not important have questionable methodologies. Hedges, Laine, and Greenwald (1994) examined Hanushek's 1986 meta-analysis in which he uses vote counting as a means to determine if there is significant evidence behind the connection between financial inputs and educational outputs. The vote counting method has limitations in that it presents a greater likelihood of type II false negative errors because of its low power to detect effects (Hedges, Laine, & Greenwald, 1994). Instead of using the vote counting method, they used combined significance tests, chi-square, and combined estimation methods to reanalyze the same data Hanushek presented and arrived at the conclusion that increasing spending by $500 would be associated with a 0.7 standard deviation increase in student outcomes.

The same authors then performed what they considered to be a more scientific selection of studies for a further meta-analysis (Greenwald, Hedges, & Laine, 1996; Laine, Greenwald, & Hedges, 1995). These researchers reanalyzed the studies included by Hanushek and discarded several that did not meet their selection criteria. They then searched online databases and selected over 2000 abstracts to consider for inclusion in their new study. Their study selected and analyzed over 175 books and articles that met the six criteria they established for inclusion in their study. The general conclusion of their meta-analysis was that "school resources are systematically related to student achievement and that these relations are large enough to be educationally important. Global resource variables such as PPE (per pupil expenditures) show strong and consistent relations with achievement." They also found positive correlations between smaller schools and smaller classes and student achievement. In addition, resource variables that attempt to describe the quality of teachers such as teacher ability, teacher education, and teacher experience, show very strong relationships with student achievement (Greenwald, Hedges, & Laine, 1996).

Baker (1991) also reanalyzed the set of studies that comprised Hanushek's (1986) database noting: "the more money schools spend, the higher their achievement...." In direct reference to Hanushek's assertion that providing more money to support schooling would be "throwing money at schools (Hanushek, 1986)," Baker concluded: "The data show that simply throwing money at the schools is an effective strategy for improving education." (Baker, 1991, p. 630)

An additional limitation to Hanushek's study (1986) is that many studies included in his analysis were done over short periods of time. Hanushek himself notes that student outcomes are a product of years of continuous development. This means that his own meta-analysis, as well as Hedges et al. (1994) which uses the same data, are subject to an important limitation by the lack of longitudinal data. Studies that lack longitudinal data may return incorrect conclusions since the short time period does not allow for the time necessary for increased spending to truly have an impact. Berman and McLaughlin (1978) show that programs take time to put into action, additional time to become fully executed, and then even longer to produce output. In the educational world, the time until a measurable impact may even be longer because, aside from the organizational change that needs to take place, students as a product of an educational institution are formed over thirteen years. If the school is changed, the students in that school are still both a product of the years prior to the change as well as the years after the change. Performing an analysis of educational outcomes based on data from a single year does not take into consideration the length of time that the changes in expenditures have been in place. The Lefevre and Hederman (2001) study used data that were collected over a single year, which also has the same important limitation of a lack of longitudinal data, it does not take into consideration the need for a longer time period before programmatic changes can occur. MacPherson (1993) notes, "any pupil can have a bad day, any school a bad year. Sensible judgements [sic] will therefore be based, not on snapshots, but on repeated measures of pupils and schools.... Outcome scores must be open to adjustment for other non-school factors that boost or retard progress."

When data have been tracked over time, there are greater indications that connections between expenditures and educational outcomes exist. The meta-analyses done by Greenwald, Hedges, and Laine (1996) looked at longitudinal and quasi-longitudinal studies as a distinct category and found that the correlations between economic inputs and educational outputs were almost universal in these studies. Flanigan, Marion, and Richardson (1997) analyzed school spending and reading scores in South Carolina public schools over a seven year period. During the study, they tracked an increase in expenditures for the first four years and then the funding began to decline. As is consistent with Berman and McLaughlin (1978), who indicate that two years of consistent input is necessary to achieve a change within an organization, reading scores began to improve two years after the funding began to increase. However, once the funding was withdrawn, the decline in student performance was immediate. This rapid decline supported Fullan's (2000) research on organizations. Fullan finds that the effects of changes in organizations will disappear immediately when the support for those changes disappears if the change has not lasted long enough within the organization for it to become embedded in the culture of that organization. According to Fullan, seven years may be required to establish a change firmly into the culture of an organization.

Literature Finding a Potential Middle Ground

After the criticism from Hedges, Laine, and Greenwald (1994) to Hanushek's original vote counting meta-analysis (1986), even Hanushek (1996) shifted from the position that there is no relationship between funding and student success to the position that student achievement depends on how the money is spent (Greenwald, Hedges, & Laine, 1996b). Therefore, even those who do not find that educational spending generally correlates to increased educational outputs do agree that spending has some relationship on achievement if the spending is targeted towards programs that work. There is a plethora of research that indicates certain educational strategies have a strong impact of student performance, and these strategies cost money.

Following this approach, any research that finds a correlation between specific school initiatives and improved student outcomes is presenting evidence that increased resources can have a positive effect on educational outcomes. Verstegan and King (1998) analyzed a wide range of studies over several decades and arrived at the conclusion that there is a linkage between spending and student outcomes. Using this middle ground perspective, they quote many studies, outlined below, in which specific programs which require increases in expenditures have an impact on student outcomes. For example, MacPhail-Wilcox and King (1986) reviewed research studies over three decades that examined the associations between school resources and student achievement. They concluded that teacher characteristics relate positively to student performance. In their analysis, the positive teacher characteristics included salary levels and professional preparation, which are dependent on financial resources. Ferguson (1991) noted positive linkages between school resources and student outcomes. Using a large data set from Texas, he found that greater investments in teacher quality relate to higher student achievement test results. Teacher quality was measured by teacher experience, education level, and performance on a statewide recertification exam. These factors were found to account for between one quarter and one-third of the variation among students' test scores. Cooper and Sarrel (1994) examined per pupil expenditures and student outcomes. Cooper deleted special education spending, since, as will described below, there is significant spending that is needed to meet the educational needs of that population while only average results would be expected for that investment. The authors found significant relationships between PPE (per pupil expenditures) and student outcomes. Monk (1994) found linkages between a teacher's education level and student outcomes. Teachers that were better prepared in science and mathematics produced higher student outcomes in those areas. Fortune and O'Neil (1994) present the production function model as being inappropriate for educational settings because the production function specifically looks at inputs and outputs, while in education, the states' duty is to provide equal access, which is not outcomes driven. Additionally, they describe a range of problems with how production functions are set up, including truncation of variable data, a lack of definition as to what constitutes a difference in expenditures, the order of variable entry in multiple regression models, and inadequate specification of input and output variables. Instead, Fortune and O'Neil suggest that studies should compare the outcomes of districts, rather than try to find associations in variables. Also, rather than asking if there is a consistent relationship across the whole population, they suggest that it is better to ask in what kinds of districts do such effects exist within a state. A third suggestion is to create a discrepancy in expenditures large enough to expect differences in the purchasing power of educational services.

Testing their approach on data from Ohio and Missouri, they found positive relationships between educational achievement and instructional expenditures. Verstegen (1994) examined the relationship between higher order cognitive outcomes and school inputs using data from the National Assessment of Educational Progress (NAEP). The study showed that "school revenue was found to account for one-third of the variation in proficiency test scores." Furthermore, in achieving proficiency outcomes, rather than minimum competency, money mattered most for children in poverty. Hartman (1994) found that the high spending districts studied contrasted with their middle and less affluent counterparts in that they employed their resources to finance lower class sizes, more teachers with greater experience and higher educational levels, higher teacher salaries and more administrative and support personnel. These districts also had higher student achievement. In another study, Ferguson and Ladd (1996) provided new evidence that a school's resource inputs affect a student's educational outcomes. Moreover, they advised that the effects are large enough to be relevant for policy deliberations. Using both student-level and district-level analyses of Alabama data, they concluded that teacher quality as measured by ACT test scores and the proportion of teachers with master's degrees and class sizes affect student learning. Because these variables cost money, they stated, "our findings ... mean that money matters as well"

(Ferguson & Ladd, 1996, p. 280). Hanushek (2011) advocates for increasing spending that improves teacher quality since research indicates teacher quality is a strong indicator for improved student performance. Replacing the worst teachers with average teachers could move U.S. math and science scores to the top of the international rankings.

Weglinsky (1997) created the foundation for this new middle ground. His research found fourth and eighth graders' math achievement was positively associated with lower student-teacher ratios and with expenditures on instruction and school-district administration. Expenditures on facilities, recruitment of highly educated teachers, or school-level administration, were not significantly related. That does not mean that spending on facilities is not important. Other studies have shown a relationship between the condition of school facilities and student achievement (Earthman, 2002; United States Department of Education, 2000). However many funds spent in this category do not have the direct educational impact that spending in other categories do.

Weglinsky's (1997) analysis creates the need to make the important distinction between two classes of expenditures that do not have an effect on student performance. Some expenditures may be wasteful and inefficient, but others may be important despite the fact that they do not translate into increased traditional educational outcomes. They may help close achievement gaps, help specific populations present in a particular district, or may simply be related to a change in the country legally or demographically that has required schools to respond. These changes in cost may be issues for a particular district to deal with, or they may be national.

Increased Costs Without Increased Outcomes

A difficulty in finding a correlation between educational outcomes and spending is that there are many ways schools may increase their expenditures that do not have an effect on increased achievement. While there may be inefficiencies, there are also many valid reasons why costs increase.

Enrollment

One area in which circumstances have created overall educational spending increases is that the United States has been experiencing rising school enrollments (Table 6). Research indicates current enrollment rates are at all-time highs, and projections indicate that enrollment will continue to increase (Condition of Education, 2011). With fixed per pupil spending, each additional student represents a financial increase to schools.

Table 6

Actual and projected public school enrollment in grades prekindergarten through 12, by grade level and region, selected school years, 1970-71 through 2020-2021

	Total enrollment*			Total and percent enrollment for grades k-12 by region*							
				Northeast		Midwest		South		West	
School Year	Grades PreK-12	Grades Prek-8	Grades 9-12	Total	Percent	Total	Percent	Total	Percent	Total	Percent
1970-71	45,894	32,558	13,336	9,860	21.5	12,936	28.2	14,759	32.2	8,339	18.2
1975-76	44,819	30,514	14,304	9,679	21.6	12,295	27.4	14,654	32.7	8,191	18.3

1980-81	40,877	27,647	13,231	8,215	20.1	10,698	26.2	14,134	34.6	7,831	19.2
1985-86	39,422	27,034	12,388	7,318	18.6	9,862	25.0	14,117	35.8	8,124	20.6
1990-91	41,217	29,878	11,338	7,282	17.7	9,944	24.1	14,807	35.9	9,184	22.3
1991-92	42,047	30,506	11,541	7,407	17.6	10,080	24.0	15,081	35.9	9,479	22.5
1992-93	42,823	31,088	11,735	7,526	17.6	10,198	23.8	15,357	35.9	9,742	22.7
1993-94	43,465	31,504	11,961	7,654	17.6	10,289	23.7	15,591	35.9	9,931	22.8
1994-95	44,111	31,896	12,215	7,760	17.6	10,386	23.5	15,851	35.9	10,114	22.9
1995-96	44,840	32,338	12,502	7,894	17.6	10,512	23.4	16,118	35.9	10,316	23.0
1996-97	45,611	32,762	12,849	8,006	17.6	10,638	23.3	16,373	35.9	10,594	23.2
1997-98	46,127	33,071	13,056	8,085	17.5	10,704	23.2	16,563	35.9	10,775	23.4
1998-99	46,539	33,344	13,195	8,145	17.5	10,722	23.0	16,713	35.9	10,959	23.5
1999-2000	46,857	33,486	13,371	8,196	17.5	10,726	22.9	16,842	35.9	11,093	23.7
2000-01	47,204	33,686	13,517	8,222	17.4	10,730	22.7	17,007	36.0	11,244	23.8
2001-02	47,672	33,936	13,736	8,250	17.3	10,745	22.5	17,237	36.2	11,440	24.0
2002-03	48,183	34,114	14,069	8,297	17.2	10,819	22.5	17,471	36.3	11,596	24.1
2003-04	48,540	34,201	14,339	8,292	17.1	10,809	22.3	17,673	36.4	11,766	24.2
2004-05	48,795	34,178	14,618	8,271	17.0	10,775	22.1	17,892	36.7	11,857	24.3
2005-06	49,113	34,204	14,909	8,240	16.8	10,819	22.0	18,103	36.9	11,951	24.3
2006-07	49,316	34,235	15,081	8,258	16.7	10,819	21.9	18,294	37.1	11,945	24.2
2007-08	49,293	34,205	15,087	8,122	16.5	10,770	21.8	18,425	37.4	11,976	24.3
2008-09	49,266	34,285	14,980	8,053	16.3	10,743	21.8	18,491	37.5	11,979	24.3

Projected:

2009–10	49,282	34,440	14,842	7,9601	6.2	10,700	21.7	18,600	37.7	12,022	24.4
2010–11	49,306	34,637	14,668	7,887	16.0	10,654	21.6	18,691	37.9	12,073	24.5
2011–12	49,422	34,892	14,530	7,831	15.8	10,622	21.5	18,814	38.1	12,155	24.6
2012–13	49,642	35,129	14,512	7,790	15.7	10,619	21.4	18,977	38.2	12,256	24.7
2013–14	49,914	35,368	14,545	7,762	15.6	10,631	21.3	19,146	38.4	12,374	24.8
2014–15	50,268	35,579	14,689	7,752	15.4	10,662	21.2	19,339	38.5	12,515	24.9
2015–16	50,659	35,829	14,830	7,753	15.3	10,699	21.1	19,531	38.6	12,676	25.0
2016–17	51,038	36,161	14,877	7,758	15.2	10,730	21.0	19,709	38.6	12,842	25.2
2017–18	51,430	36,491	14,939	7,770	15.1	10,760	20.9	19,883	38.7	13,017	25.3
2018–19	51,803	36,803	15,000	7,784	15.0	10,783	20.8	20,043	38.7	13,194	25.5
2019–20	52,204	37,121	15,083	7,805	15.0	10,805	20.7	20,211	38.7	13,383	25.6
2020–21	52,666	37,444	15,222	7,836	14.9	10,846	20.6	20,399	38.7	13,585	25.8

Equality, Equity, and Adequacy

Even using per pupil expenditures as a measure for spending instead of total dollars still does not address the issues of equality and equity. Equality is defined as providing the same services for all students regardless of the needs of the individual students. Equity is providing different funds to provide the students the services that each one needs (Owings & Kaplan, 2013, p. 128). A third important financial term is adequacy. Adequacy is making sure that appropriate resources are available to accomplish the job of educating students (Owings & Kaplan, 2013, pp. 186-190). The needs of the specific population need to be taken into consideration when determining what is appropriate to spend in a district. Socio-economic factors such as prevalence of crime, percentage of low-income students, and family background have long been understood to have impact on educational outcomes (Coleman, Campbell, Hobson, & McPartland, 1966). Unemployment rates, adult education, and parental income have been shown to account for over 50% of the variation in average standardized test scores in a study of all public high schools in New Hampshire (Toutkoushian & Curtis, 2005), and the programs necessary to counteract those powerful factors will have an additional cost. Jefferson (2005) explains that recent studies have shown that most new dollars provided to schools over the past 30 years were not spent on staff for the core instructional program, but on specialist teachers and other resources to provide services to students with special needs, usually outside the regular classroom. Poor districts get more money and use it for outside of the classroom needs, such as facilities, social services, and compensatory education. These districts need to spend more outside of the classroom to make sure the money they are spending inside the classroom will have an effect. The result is a system in which expenditures rise, services expand outside the regular classroom, but results in terms of student achievement stay flat or improve by only small amounts.

Special Education

Special education is another area that causes per pupil expenditure rate to rise. The number of children diagnosed with special education needs continues to grow. As of 2001-2002, approximately 12% of all children in the nation enrolled in public schools were in special education. The estimated total cost of providing special education services to these students is $50 billion. Additionally, the cost of other services received by students in special education is $27.3 billion for general education services and another $1 billion for other special services (e.g., Title I, English language), bringing the total estimated spending for all educational services for special education students to $78.3 billion annually. Thus, special education services alone represent about 13.9% of the $360.6 billion spent on elementary and secondary education in the United States in 1999-2000, while the total cost of all the educational services that special education students receive represents about 21.7% (Chambers, Parrish, & Harr, 2002; Parrish & Wolman, 2004). More recently, the percentage of the total number of students in public schools with a disability was 13.1% in 2009 – 2010 (Snyder & Dillow, 2012), and therefore the corresponding costs would also be higher. With special education enrollments steadily increasing as a percentage of total enrollments, special education spending has increased in absolute terms and as a percentage of total education spending (Parrish & Wolman, 2004). Since special education students are more costly, the greater their percentage in a school population, the higher the cost of education. Additionally, the special education population would not be expected to perform better than their non-disabled peers on standardized testing scores simply because more is being spent on them. Rather, the spending is a matter of providing equitable services to provide learning disabled students with the equivalent opportunities provides to their non-disabled counterparts. While the federal government mandates including these students in schools, it does not provide the additional funding necessary to support that mandate, which means that the additional cost is passed on to be budgeted by the school district (Parrish & Wolman 2004).

Costly Legislation

The goals of the NCLB (No Child Left Behind) legislation of 2001 are to raise student achievement levels overall and to close the achievement gap that exists between race, class, and gender distinctions, as well as the discrepancy between those with special learning needs and those without. The law requires states to set standards and create state tests to evaluate students' progress. However, just as is the case with working with students with disabilities, the federal government does not provide adequate resources to offset the requirements of the law, nor does it require that the states support it (Darling-Hammond, 2007). Ten of the eleven benefits of the law impose significant financial burdens on school districts (Roberts, 2011). In order to comply with the law's requirements, the cost of education has risen, and the educational benefits of the legislation have been argued.

With additional expectations on schools to serve every student, including those with learning challenges, the dollars spent are not translating directly into higher test scores, and sometimes higher numbers of students taking the tests is an indication of success. Added legislation such as NCLB and smaller class sizes are often unfunded. Schools are therefore desperate for more funds just to maintain their status quo.

Inefficiency, A Cost Without A Gain

If the increasing costs of education do not improve student learning outcomes are a result of schools having to respond to their changing environment and requirements, then spending more money on schools will help schools manage under these new circumstances, and some funds will be able to be spent on programs that help children improve in learning, provided the money is properly spent. However, there are critics that are arguing that more money is not the answer, since schools tend to be inefficient and wasteful, and they do not spend money on beneficial programs.

Some areas in which money is commonly spent either have little impact or have less impact than cheaper programs. As of 2011, twenty-four states had enacted class size restrictions (Whitehurst & Chingos, 2011). While there is research that indicates smaller class sizes can have a positive influence on student achievement, mainly in the lower grades, the cost to schools is tremendous. Collectively increasing the pupil/teacher ratio in the U.S. by one student would save at least $12 billion per year in teacher salary costs alone. In addition, the additional facilities and associated costs with having more classrooms need to be considered (Whitehurst & Chingos, 2011). Whitehurst and Chingos (2011) suggest when considering the costs and effect of class size reduction legislation, the costs and effect of alternatives should be considered as well. It is not enough to determine if reducing class sizes will help students, but once the full cost of reducing a class by enough students to have an impact is compared with the alternatives, it may be more costly than it is worth. Whitehurst and Chingos (2011) recommend looking at computer-aided instruction, cross-age tutoring, early childhood programs, investing in higher quality teachers, enrolling students from urban areas in charter schools, and increasing in instructional time all can improve student performance more than class size reduction would for the same cost.

The question of whether reducing class size improves measures of educational achievement has been extensively studied since it was determined based on data from the

Tennessee STAR study of the 1980s where smaller class sizes had a positive impact on student performance (Achilles 1996; Finn & Achilles, 1990; Krueger, 1999). Replications of the study in other settings have produced mixed results. Jespin and Rivkin (2009) analyzed kindergarten through third grade students in California and found students benefitted from smaller class sizes, but the gains were offset by the negative impacts of having new and less capable teachers in some classrooms. Wosmann and West (2006) examined the difference in class sizes internationally and found that different countries are taking different approaches to the class size issue. Some countries are paying high salaries and recruiting high quality teachers and giving them larger classes, while others are attracting a lesser quality pool but recruiting more of them to reduce the class size. They found many countries perform the best on international tests subscribe to the first approach and have larger class sizes.

It can be deduced from the literature that large changes in class size of about 7-10 students, particularly in younger grades, can have a positive impact on student learning. In this case, spending more money through building additional classrooms, hiring additional teachers and administrators, and paying increased utilities has a positive impact on student learning. However, the cost of lowering class sizes to this degree may be put to better use in other areas such as hiring more qualified teachers (Whitehurst & Chingos, 2011).

Grubb (2006) looks to move the debate on the existence of a valid production function model forward by investigating if there are areas of spending that have positive impact and areas that have weak impact. Grubb analyzes the data from the National Educational Longitudinal Survey of the Class of 1988 (NELS88), and he found that certain very expensive programs do not lead to higher scores. One example is vocational education programs, in which having such a program at a school uniformly negatively affects outcomes. It is more expensive to have, and schools with vocational education are spending more likely to get worse results. Grubb (2006) states, "As long as more money is sometimes necessary for ineffective practices, the relationship between funding and outcomes can never be strong." He also mentions remedial education, continuation, alternative schools, some forms of special education, and spending funds on staff development for non-instructional based staff as expenditures in areas that have little impact (Grubb, 2006). While there may be validity to questioning the need for some programs, there appears to be an inappropriate causality assumption in Grubb's work. It may not be that remedial programs or vocational programs cost a lot and are not effective since scores are low in schools that have them. It may be that schools that struggle with test scores may need to have these costly programs in place to improve students that are in that district. Weglinsky (1997) makes the distinction between two types of expenditures that do not have an effect on student performance. Some expenditures may not be necessary and perhaps represent inappropriate spending on programs that do not have any impact on student learning. Other programs, like vocational programs, may be critical to certain populations, even if their import is not recorded in terms of test performance.

The disagreement, therefore, is between those who find that schools are inefficiently spending and those who find that schools are spending in reasonable ways even if not everything schools spend money on directly help test scores. Some researchers maintain data regarding school funding do not have a corresponding growth in student performance measures because increased money does not necessarily go to programs that improve student learning. The main difficulty then is not how much money schools receive, but how efficiently schools are in spending it (Hanushek, 1996; Odden & Archibald, 2006). This leads some to conclude that while giving schools more money seems to have an impact in some cases, most of the time it is squandered and no positive results are shown (Clowes, 2002; Hanushek, 1996; Odden & Archibald, 2006; Odden & Picus, 2000). Therefore, advocating for spending increases as policy might be a mistake. Instead, fundamental changes need to be made to maximize the return on the dollars being spent (Clowes, 2002). Skandera and Sousa (2002) comment that areas in which spending has significantly increased over the past thirty years are lowering the student to teacher ratio, increasing teacher salaries, and other non-educational expenses. While research does show reducing class size and increasing teacher experience does improve student performance (Whitehurst & Chingos, 2011), Skandera and Sousa's overall point is that allocating the money does not necessarily lead to achievement. Odden and Picus (2000) speculate, "if additional education revenues are spent in the same way as current education revenues, student performance increases are unlikely to emerge."

Legal Decisions and School Funding

Since the 1970s, court cases have been filed in almost every state challenging the fairness of policies regarding allocation of education money. The litigation efforts have both struggled to achieve adequacy and equity within the state and local funding systems. According to a fact sheet prepared by the National Education Access Network (2010), lawsuits challenging state methods of funding public schools have been brought in 45 states and 13 states are currently involved in active litigation (schoolfunding.info, 2010). The initial cases brought were related to the constitutional right to equal protection under the law in the 14th Amendment. In these cases, funding structures were challenged that did not provide equal dollars to different school districts within a state. This often occurs because localities are required to shoulder a large portion of educational funding, and localities do not have equal capital from which to draw. However, after the U.S. Supreme Court determined education is not a fundamental right under the federal constitution in *San Antonio Independent School District v. Rodriguez* (1973), the percentage of cases that were won by plaintiffs began to drastically diminish, with the defendant states winning about two-thirds of those cases (Rebell, 2002), see Table 7. Among the decisions that were made in favor of the plaintiffs was Robinson v. Cahill (1975), which declared the New Jersey system of educational funding in which property tax was relied upon heavily to be unconstitutional since it discriminates against poorer districts (Rebell, 2002). The ruling would pave the way for the Abbot v. Burke case (1985) which required that the poorer students must be given an education whose quality equals what students in the state's wealthiest districts receive (Abbot v. Burke, 1985).

Table 7

Plaintiff and Defendant (states) Victories in Legal Decisions Related to School Funding as of 1988.

States in which the plaintiffs won	States in which the defendant (state) won
Arkansas	Arizona

California	Colorado
Connecticut	Georgia
New Jersey	Idaho
Washington	Illinois
West Virginia	Maryland
Wyoming	Michigan
	Montana
	New York
	North Carolina
	Ohio
	Oklahoma
	Oregon
	Pennsylvania
	South Carolina

Note: Rebell, M. A. (2002).. Educational adequacy, democracy, and the courts In Ready, T., Edley, C. F., & Snow, C. E (Eds.), *Achieving high educational standards for all conference summary* (pp. 218-267). Washington, D.C.: National Academy Press.

In the late 1980s, advocates began emphasizing the right to adequate schools, arguing that states have the responsibility to ensure all children, including those from low-income and minority backgrounds, have the opportunity to receive a quality education. Adequacy focuses on ensuring that equivalent outcomes be considered, regardless of the differences required to fund those opportunities for different students

(Rebell, 2002). Since 1989, plaintiffs have won 67% of these adequacy cases (schoolfunding.info 2010), see Table 8. Courts have found since the states have instituted standards-based reform through No Child Left Behind under which they hold students and schools accountable for meeting specified state academic standards. Most states have not provided the resources and funding necessary to do the critical capacity building that enables schools to help all students reach these standards. Courts often rule in favor of plaintiffs after being presented with evidence of missing resources such as quality teaching, preschool, reasonable class sizes, decent facilities, textbooks, libraries, and laboratories, and poor outputs, such as low test scores and low graduation rates (Rebell, 2002). While the researchers have debated if money matters, the courts have indicated in 29 out of 30 states that it does (Hunter, 2006).

Table 8

Plaintiff and Defendant (states) Victories in Legal Decisions Related to School Adequacy After 1989.

States in which the plaintiffs won	States in which the defendant (state) won
Alaska	Alabama
Arizona*	Arizona*
Akansas	Florida
Colorado	Illinois
Connecticut	Indiana

Idaho

Kansas

Kentucky

Maryland

Massachusetts

Missouri*

Montana

New Hampshire

New Jersey

New Mexico

New York

North Carolina

Ohio

South Carolina

Texas

Vermont

Wyoming

Missouri*

Nebraska

Oklahoma

Oregon

Pennsylvania

Rhode Island

*Arizona plaintiffs won a capital funding case in 1994, but lost an at-risk funding case in 2006, Missouri plaintiffs won a new funding system in 1993, and in 2009 the state Supreme Court denied a claim that changes in the system had rendered it unconstitutional.

Note: National Access Network (2010). *Education adequacy liability decisions since 1989.* Retrieved from http://www.schoolfunding.info/litigation/New_Charts/ 06_2010ed_ad_equacyliability.pdf

In arriving at decisions, courts have reviewed the question of school funding from novel perspectives. Approaches include the Quality Education Model approach, the educational standards approach, the successful schools approach used in several states, and the cost function approach. All of these methods have attempted to determine what it should cost to provide an adequate education and then compare that amount to what is actually being spent.

One method used to determine the baseline costs for education is the Quality Education Model approach, which was the method used in Oregon between 1999 and 2000 in which a body of legislators, educators, business leaders, advocates, and other community representatives, appointed an expert staff and formed separate subject-area work groups that devised prototype elementary, middle, and high schools (Quality Education Commission, 2000). They created a list of program elements, such as core staff, program staff, additional instructional time for students to achieve standards, and district administrative overhead. Tangible assumptions having a direct relation to cost, such as class size, age of building, and numbers of computers per pupil, were then determined and specific cost assumptions for each prototype school calculated (Legislative Council on the Oregon Quality Education Model, The Oregon Quality Education Model: Relating Funding and Performance, 1999, Quality Education Commission, 2000).

A second approach used in Arkansas and Kentucky had experts analyze how much they considered an ideal school would cost. In the Kentucky study, the researchers constructed a school model that included publicly funded pre-school programs for children aged 3 and 4 from poverty backgrounds, full day kindergarten, school sizes of 300-600 at the elementary level and 600-900 at the secondary level, school-based instructional facilitators, class sizes of 15 in grades K-3 and of 25 in other grades, collaborative professional development, and extra help strategies for struggling students, family outreach, and technology (Picus & Fermanich, 2003). Based on this model of what the experts felt would be needed to meet the educational standards established, they claimed the districts were not adequately being funded (Picus & Fermanich, 2003).

A third approach used in Mississippi, Illinois, Maryland, Kansas, Louisiana, Colorado, Missouri, and New York is the successful schools approach, which is essentially a statistical modeling approach that calculates the cost of an adequate education based on specific data regarding resource inputs, student test scores, and other precisely defined outcome measures (Augenblick, & Myers 1998).

A final approach is the cost function studies which also attempted to determine, through analyses of performance measures and cost indices, how much a given school district would need to spend, relative to the average district, to obtain a specific performance target. However, unlike the successful schools approach, the characteristics of the school district and its student body is considered, and therefore the potential change in funding that may be needed for a district with different characteristics serving different student populations (Reschovsky & Imazeki, 2000).

These approaches assume a baseline calculation for the cost for effective schools can be determined. Once the baseline is established, funding deficits can be calculated by comparing the baseline to the actual spending. This deficit can be expected to cause schools not to be able to meet the performance standards that are established. Follow-up research has been conducted to determine if court ordered reforms had led to improved outcomes as intended. Card and Payne (2002) investigated the effect of state reforms brought about by litigation. As a result of the litigation, states were required to implement more equitable funding formulas. The spending disparity between the low income and high income districts was diminished as a result. Card and Payne's (2002) study found that court ordered reforms resulted in reduced SAT score discrepancies between the wealthier and lower income districts.

However, not all follow-up studies indicated that the changes as a result of having funding formulas declared unconstitutional have indicated a positive shift. Funds that were allocated because of lawsuits which aimed to level the playing field and fix unfair spending policies had little effect. Murnane and Levy (1996) studied 15 Austin, Texas, schools. In 1989 and 1993 each school was given substantial extra resources as a result of a desegregation court case. Despite this influx of funds, by 1993 students in only two schools showed significant improvement in achievement and attendance. Students in the remaining 13 schools continued to have low student achievement and attendance. Cohen-Vogel and Cohen-Vogel (2001) found school finance reforms undertaken in Tennessee in order to provide more adequate funding had very little impact on dropout rates.

A potential reason behind this is that as a result of formula reforms, spending levels are slightly increased, and the variation from district to district is also reduced. This has a very limited impact on redistributing effective resources because increased expenditures do not necessarily correlate with the increase of effective resources (Grubb, 2006). Yinger (2004) found that Kansas, Kentucky, Michigan, Texas, and Vermont confirmed equalization in spending per student in response to legislative responses to lawsuits but had no equalization whatsoever in outcomes. This finding is not in contradiction to studies like Springer Liu, and Guthrie (2009), which used a fixed effects model and a two-stage regression model and found that when states' had their education formulas declared unconstitutional, the states changed their practices to create a more equitable resource distribution. In their study they acknowledge that their analysis only analyzes at equity and not adequacy, which suggests that leveling the playing field in terms of spending practices does not necessarily lead to increased educational outcomes.

Fiscal Effort Instead

Owings and Kaplan (2013) suggest that the best measure to use when analyzing and comparing the spending of two districts is not actual dollars, but fiscal effort. Fiscal effort is defined in the following formula, where E is fiscal effort, R is the revenue allocated for education measured as the state's per pupil expenditure for K-12 education, and TB is the total tax base, or some measure of wealth. The equation for effort takes the following form:

$$E = \frac{R}{TB}$$

Effort is a ratio of the total state spending per pupil in the numerator divided by the total amount of public dollars available to spend. This number, Owings and Kaplan (2013) suggest, can have a greater relationship with student performance since this number shows what level of importance education has to a given community relative to other potential public expenditures.

When calculating the financial inputs in the production function, studies typically use an unadjusted dollar total as the input. However, there may be a significant limitation in using an unadjusted amount. When considering amounts spent on education, it is reasonable to consider that states in which there is a higher cost of living would have to pay more to purchase the same staff or equipment another school district might purchase. This would be a significant concern in studies like this one that compare educational expenditures across states in which there can be a large difference in costs (Weglinsky, 1997). It has been suggested that since having a higher cost of living will significantly impact the ability for a school to compete for quality teachers, it would be as important to consider as student socio-economic background (Fortune & O'Neil, 1994). Using fiscal effort also addresses this difficulty. In the fiscal effort formula, the cost of living is accounted for since a greater cost of living will increase the total tax base in the denominator of the formula. The ratio would therefore even out since increased spending would be offset by increased income available.

Per Capita Income is an Educational Outcome

Typically, traditional educational outcomes have been directly related to test scores, graduation rates, and international rankings. However, a linkage has been established between school spending and per capita income over a long period of time (Butless, 1996; Pirim, 2011). As explained earlier in this chapter, it can be deduced that better education leads to better economic outcomes. If graduation rates increase, more students will attend university. The more who attend university, the more will graduate. Since those with university degrees usually obtain higher incomes, more graduates would indicate a greater per capita income overall. However, skipping the cause and effect chain, Card and Krueger (1998) used earnings as an educational outcome measure and found significant relationships between spending on education and labor market outcomes. In a longitudinal study, Card and Krueger (1998) tracked individuals across states over three decades through the schools and into the workforce. They found that higher spending on schools translated into higher earnings after school. Their research circumvents the discussion about whether or not greater funding improves schools and goes directly to the issue of the relationship between fiscal inputs and economic outputs. They conclude that there is a significant correlation between quality education and economic outcomes.

In the 2012 State of the Union Address, President Obama stated, "We know a good teacher can increase the lifetime income of a classroom by over $250,000. A great teacher can offer an escape from poverty to the child who dreams beyond his circumstance." This conservative estimate is likely based on an estimate by Hanushek (2011) that a teacher who is better than the average teacher by a half a standard deviation will increase a student's lifetime earnings by $10,600. Given a class of 20 students, he/she will raise their aggregate earnings by $212,000. The actual impact may be much greater. Each teacher who is one standard deviation above the mean in effectiveness generates a $426,225 return to the economy based on the increase in those students' lifetime earnings increases, assuming the teacher teaches a class with 20 students (see Figure 8).

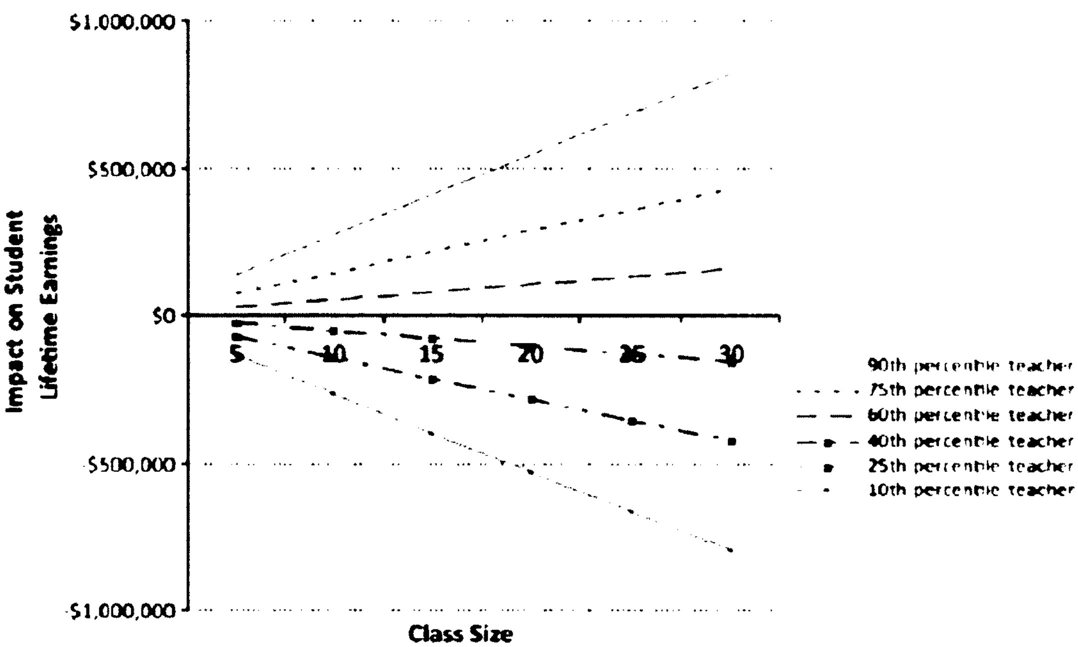

Figure 8. Impact on student lifetime incomes by class size and teacher effectiveness. (Hanushek, 2011).

Owings and Kaplan (2013, p. 83) calculate that a college graduate will make $1.2 million more over a lifetime than a high school dropout. This calculation is based on statistics that show that a twenty-five year old dropout will earn, on average, $20,000 per year. A college graduate will earn $50,000 per year. The college graduate will earn $30,000 more each year for forty years of work. This figure is a per student amount, not a classroom amount. The U.S. Census Bureau (2011) now indicates that the gap between dropouts who make approximately $21,000 per capita and college graduates who earn $58,000 per capita has increased. Multiplying the $17,000 difference by 40 years now shows that there is now a $1.48 million difference per student.

Other research investigates student performance within high school and finds that for each standard deviation increase in mathematics achievement, there is a 10%-15% growth in lifetime income (Lazear, 2003; Mulligan, 1999; Murnane, Willett, Duhaldeborde, & Tyler, 2000). This 10% - 15% growth translates into $150,000 per student (Hanushek, 2011). The effect of good schooling on future financial success extends as far back to kindergarten. A one standard deviation increase in kindergarten achievement scores can affect future income by 18% (Chetty, Friedman, Hilger, Saez, Schanzenbach, & Yagan, 2010.)

CHAPTER 3: METHODOLOGY

Methodology

The methodology of this study is explained in this chapter. The chapter begins with a description of the sample and variables. Following this information, the chapter provides a rationale for the proposed study design. An explanation of the data collection methods and data analysis procedures are provided before discussing the strengths and limitations of this study.

The purpose of this correlational study is to analyze spending patterns across all fifty states to determine if states that invest a greater percentage of their wealth into education experience a corresponding increase to per capita income over time. The demographic of ages 25-34 represents the working population just after they complete their education, and their employability and work skills are most dependent on their education. As the workforce ages, other factors may influence pay rates, and these factors can be reduced by analyzing a younger population. Additionally, the older the worker is, the more transience becomes an interference, so a state's workforce would be comprised of a lower percentage of workers that went through that state's educational system. The dependent variable data were available through the U.S. Census. The independent variable of fiscal effort is calculated by the revenue allocated for education measured as the state's per pupil expenditure for K-12 education, which is released annually by the United States Census Bureau, by the wealth of a state, which in the case of this study is the GSP on a per capita basis which is released annually by the Bureau of Economic Analysis. For this study, GSP was chosen as a measure of each state's wealth for the denominator of the fiscal effort equation rather than using per-capita income because the dependent variable in this study is per-capita income. If income were used in the denominator of the fiscal effort equation, the per capita income would cancel out, leaving a meaningless equation. The data collection ends in 2011 because it was the final year all necessary data were available for all variables, which were the data required to calculate fiscal effort and personal income for ages 25 - 34. The independent variable is the state fiscal effort calculated for each year in each state for the time period examined. The specific quantitative method used for this study is hierarchical multivariate linear model (*HMLM*) developed by Raudenbush and Bryk (2002).

Sample

The sample for this study is the 50 states and the District of Columbia. The dependent variable used in this study is the state per-capita income. The data are collected from published reports from the U.S. Census Bureau from 2001 through 2011.

Variables

The following are descriptions of each variable used in this study.

Fiscal Effort

Utilizing fiscal effort adds a unique perspective to the research examining the relationship between funding and student achievement. A common independent variable used in most studies is per pupil expenditures. The use of per pupil expenditures does not provide a clear picture of a state's contribution toward education. The capacity of states varies across the nation. Fiscal effort takes into consideration a state's capacity by using a ratio of total per pupil expenditure and a measure of state wealth comprised of the

Gross State Product (GSP) on a per capita basis (Owings & Kaplan, 2013, pp. 160-161). While GSP at times may be a lagging indicator, it does reflect economic conditions and tends to be reflective of the state's economy over time. This calculation is represented by the following formula: E=R/TB where E is fiscal effort, R is the amount of money spent for elementary and secondary education per pupil for the state and TB is the measure of wealth determined by the GSP on a per capita basis (Owings & Kaplan, 2013). In other words, fiscal effort shows how much of a state's capacity is being put toward education. Consequently, a state with a greater per pupil expenditure may actually be exerting less fiscal effort than a state with a lower per pupil expenditure (Goldschmidt & Eyermann, 1999). While a state's fiscal status has an impact on all state services, including public education, each state determines how much of its money it invests in education or, in other words, how much the state values education (Adams, 1983).

While fiscal effort provides a unique perspective for this examination, it is important to have a clear understanding of this variable. State fiscal effort shows an average of the state's contribution towards education in relation to GSP on a per capita basis. As noted earlier, funding for education is provided primarily by state and local funding. When localities experience higher levels of wealth determined by the tax base, the state reduces the amount of funding while the locality increases the amount of funding. Fiscal effort does not take this into consideration.

Personal Income

This research study will specifically analyze income levels for the states' population 25 years old through 34 years old. There is justification to use income as a determinate of educational success. Citizens with higher levels of education earn more money, and therefore give more tax dollars back to the government. They spend more money due to their having an increased level of disposable income, which fuels the economic cycle. They also cost less to the government since they generally use fewer state resources from social safety net services and court services (Owings & Kaplan, 2013).

The correlation between better schools and higher earnings from graduates can be arrived at by looking at census data that indicates that the higher the education degree a person has, the greater their income level, and combining this with the understanding that collegiate success comes from a strong academic foundation in K through 12. However, other research has been done that specifically looks into the economic impact of better education. Hanushek (2011a) estimated that a teacher that is better than average by a half a standard deviation will increase a student's lifetime earnings by $10,600. Given a class of 20 students, their aggregate earnings will be increased by $212,000. Owings and Kaplan (2013) show that the lifetime earnings of a college graduate will exceed the earnings of a person with a high school diploma alone by about $1.2 million. This figure is a per student amount, not a classroom amount. Student performance also correlates to increased earnings (Chetty, R., Friedman, J. N., Hilger, N., Saez, E., Schanzenbach, D. W.,& Yagan, D. 2010; Lazear, 2003; Mulligan, 1999; Murnane, Willett, Duhaldeborde, & Tyler, 2000).

Card and Krueger (1998) used earnings as the outcome measure rather than test scores and found significant relationships between spending on education and labor market outcomes. Abstaining from the debate about whether applying additional resources to schools improves them, they conclude that there is a correlation between quality education and economic outcomes.

Study Design

This study is a correlational study. It also analyzes data over time in a longitudinal fashion. The examination of the variables of fiscal effort and student achievement, as they vary with respect to each other over time, makes this a correlational study. Because state data, fiscal effort, and per capita income, are examined over time within each state, the data are hierarchical, or nested within the states. When this situation of nested data occurs, specific methodological approaches are necessary. Several methods are capable of handling this type of study, however the assumptions associated with them are laborious (Osborne, 2008). Using hierarchical linear modeling (*HLM*) requires a smaller number of assumptions and considers the fact that the data are nested. *HLM* operates in levels of analysis. The lowest level of the analysis is referred to as level 1. In level 1, "an outcome variable is predicted as a function of a linear combination of one or more level 1 variables, plus an intercept" (Osborne, 2008, p. 447). The slope and intercept estimates derived from the level 1 analysis are used as dependent variables in the level 2 analysis (Hoffman, Griffin, & Gavin, 2000).

In this study, state fiscal effort is observed over time in relation to the outcome variable of per capita income. Because *HLM* produces smaller standard error when models are created correctly, it is the most appropriate method for analysis of longitudinal data (Osborne, 2008). The specific *HLM* used in this study is the hierarchical multivariate linear model (*HMLM*). This method is most appropriate because the data are nested within each state level, and the data are repeated over time.

Data Collection

All data for this study are pre-existing and available to the public. Fiscal effort was calculated for all 50 states and the District of Columbia using publicly available data collected in a 35 year data base by William Owings and Leslie Kaplan. Fiscal effort is defined as E=R/TB, where E is fiscal effort, R is the amount of money spent for elementary and secondary education per pupil for the state and TB is the measure of wealth which will be defined in this study as Gross State Product (GSP) on a per capita basis (Owings & Kaplan, 2013). Per pupil expenditure for elementary and secondary education is available from the United States Education Finance Statistics Center's website: http://nces.ed.gov/edfin/. The GSP is available from the United States Bureau of Economic Analysis website: http://www.bea.gov/.

Data Analysis

The data collected were inputted and examined using *HLM* for Windows software (Raudenbush & Byrk, 2002). The level 1 model used is represented below:

$Y_{ij} = \beta_{0j} + \beta_{1j}(Year_{1i}) + r_{ij}$

In this analysis, Y_{ij} is the per capita income for ages 25-30 in year i for state j; β_{0j} is the per capita income for ages 25-30 in year i for state j; β_{1j} is per capita income times the Year slope for state j, and r is level 1 error. Level 1 provides the average per capita income for ages 25-30 for each state and the slope over time to determine whether per capita income for ages 25-30 is declining or improving. These data are the dependent variables in the level 2 model. The level 2 model used is represented below:

$\beta_{0j} = \gamma_{00} + \gamma_{01}*(\mathrm{F}E_j) + u_{0j}$

$\beta_{1j} = \gamma_{10} + \gamma_{01}*(\mathrm{F}E_j) + u_{0j}$

In level 2, the per capita income for ages 25-30 was modeled as a function of effort during the years of this study.

Strengths and Limitations

In order to realize the contributions of this study to the current literature, it is important to discuss the strengths and limitations of this study. Correlational studies, while informational and legitimate, cannot determine causation. Correlational studies examine a relationship among variables. Determining relationships is valuable information, however it is important to realize that these studies do not allow causal inferences.

The strengths of this study are generalizability and the use of a *HLM*. External validity is a strength in this study. Data from the entire nation were used. While students are sampled within states, the study is examining the national population, so generalizability is less of a concern. Using *HLM* is a strength of this study because it requires fewer statistical assumptions than other methodologies, and it considers the fact that the data are nested. *HLM* is also an effective model to use because it can deal with missing data and unequal time intervals which are present in this study. The information gleaned from this study adds to the current literature.

Chapter 4

Results

This study examines the relationship between increases and decreases in fiscal effort and the change in personal income over time. Data were collected to calculate fiscal effort for the fifty states for the years 1986 through 2012. The data for per pupil expenditures were collected from the National Education Association's website, NEA.org. Data for Gross State Product, and state populations were taken from reports circulated by the U.S. Census Bureau. Applying these data to the Fiscal Effort formula of FE = R/TB in which FE is Fiscal effort, R is the revenue allocated for education measured as the state's per pupil expenditure for K-12 education, TB is a measure of wealth, in the case of this study, the Gross State Product (GSP) on a per capita basis, Fiscal Effort was calculated for all fifty states over a 26 year period. Previous studies investigating the relationship of spending and educational outcomes have not looked at data over such a long period. Additionally, the use of an economic indicator such as personal income as an educational outcome provides a unique angle on determining the effectiveness of educational spending on a state's economic growth. Personal income data were collected from the ACS (American Community Survey) which has been administered from 2000 through 2012.

Descriptive Statistics

Each annual measure for each state is considered one case. With 50 states and the District of Columbia, the 26 years of data yield 1326 individual cases. The cases are listed in Appendix A. Personal Income was only available from 2000 – 2011, so the number of complete data sets is 612. However, as will be described below in the methodology, the relationship between fiscal effort was compared to personal income in the same year, to personal income five years later, personal income ten years later, and personal income fifteen years later. Therefore, while the number of complete data sets remained 612, the associated fiscal effort information shifted from analysis to analysis. The mean fiscal effort across all cases is .235, with a minimum of .125 and a maximum of .422. The standard deviation in fiscal effort is .044. Per capita personal income for ages 25-34 varied from $19,563.30 to $53,422.77 with a mean of $29,229.78. The standard deviation for per capita personal income for ages 25-34 is $4,946.46.

The Relationship between Fiscal Effort and Personal Income in Ages 25 – 34

A test of simple linear bivariate regression was performed to determine if a statistically significant relationship between fiscal effort and personal income is evident. There were 612 cases (N=612) in which fiscal effort and personal income were both entered into each case. Those years prior to 2000, in which no data were collected on personal income, were not included in this regression. The results are listed below. The mean personal income for the 612 cases was $29,229.78 with a standard deviation of $4,946.46. The mean fiscal effort for the 612 included cases is .248 with a standard deviation of .047. The correlation was not significant ($p = .082$).

Next, the personal income data were adjusted so that each case would match up the fiscal effort data with personal income data from five years later. In this way, this linear bivariate regression sought to determine if a correlation exists between a particular year's fiscal effort and changes in personal income within the same state for ages 25-34 five years later. There were 612 cases (N=612) in which fiscal effort and personal income were both entered into each case. Those years prior to 1995, which corresponded to personal income data from 2000 in which no data were collected, and years after 2006, which does not have reported personal income data, were not included in this regression. The mean personal income for the 612 cases was $29,229.78 with a standard deviation of $4,946.46. The mean fiscal effort for the 612 included cases is .229 with a standard deviation of .041. The correlation is significant ($p = .009$, $F[1,610] = 5.65$). The correlation between the two variables is very small at .096, and the $R^2 = .009$, showing that this fiscal effort accounts for only .9% if the change in personal income for individuals aged 25-34 in that state. This means that while there is a statistical relationship between greater amounts of fiscal effort and greater amounts of personal income for individuals aged 25-34, a great change in fiscal effort is needed to account for a meaningful dollar change in income. In this case, one standard deviation change in fiscal effort (.041) will lead to an average change in personal income of $474.86.

The personal income data were then adjusted so that each case would match up the fiscal effort data with personal income data from ten years later. In this way, this linear bivariate regression sought to determine if a correlation exists between a particular year's fiscal effort and changes in personal income within the same state for ages 25-34 ten years later. There were 612 cases (N=612) in which fiscal effort and personal income were both entered into each case. Those years prior to 1990, which corresponded to personal income data from 2000 in which no data were collected, and years after 2001, which does not have reported personal income data, were not included in this regression. The mean personal income for the 612 cases was $29,229.78 with a standard deviation of

$4,946.46. The mean fiscal effort for the 612 included cases is .227 with a standard deviation of .041. The correlation was significant ($p < .001$, $F[1,610] = 15.727$). The correlation between the two variables is small at .159, and the $R^2 = .025$, shows that this fiscal effort accounts for only 2.5% of the change in personal income for individuals aged 25-34 in that state. This means that while there is a statistical relationship between greater amounts of fiscal effort and greater amounts of personal income for individuals aged 25-34, a great change in fiscal effort is still needed to account for a meaningful dollar change in income. In this case, one standard deviation change in fiscal effort (.041) will lead to an average change in personal income of $786.49.

An additional regression was done to determine after adjusting the data so that each case would match up the fiscal effort data with personal income data from fifteen years later. In this way, this linear bivariate regression sought to determine if a correlation exists between a particular year's fiscal effort and changes in personal income within the same state for ages 25-34 fifteen years later. There were 612 cases (N=612) in which fiscal effort and personal income were both entered into each case. Those years prior to 1990, which corresponded to personal income data from 2000 in which no data were collected, and years after 2001, which does not have reported personal income data, were not included in this regression. The mean personal income for the 612 cases was $29,229.78 with a standard deviation of $4,946.46. The mean fiscal effort for the 612 included cases is .227 with a standard deviation of .041. The correlation was significant ($p < .001$, $F[1,610] = 15.727$). The correlation between the two variables is moderate at .291, and the $R^2 = .085$, shows that fiscal effort accounts for 8.5% of the change in personal income for individuals aged 25-34 in that state. This means that there is a statistical relationship between higher levels of fiscal effort and greater amounts of personal income for individuals aged 25-34, and changes to fiscal effort have strong economic consequences. The data show that with a variance of one standard deviation of fiscal effort (.041), the average personal income for individuals aged 25-34 will rise by $1,439.42 fifteen years later.

Transience

Since the relationship being investigated is a relationship between education and an outcome being measured following education, population migration becomes an important consideration. It is possible that a state's per capita income increases could be due to well-educated students from other states moving into a state and finding good jobs. That would mean that per capita income increases would be more related to the effectiveness of education in another state, and the ability of this state to attract such individuals from other states. States can have incentives established that can attract workers from other states including reduced taxes, better housing costs, or other measures. It is therefore possible that when evaluating the relationship between fiscal effort and personal income, the amount of error could be reduced if the factor of migration would be controlled. Since the subjects of the study's personal income should be a product of the educational effort within that state, states which have large population migrations from other states could have personal income effects not related to the fiscal effort invested. This would need to be considered in a more complete model studying this correlation.

It is also important to consider emigration rates, since the causes for leaving a state may also create a skewed result in the personal income levels of the workforce. For example, if a state did not have quality universities, but a neighboring state had an excellent university system, the best students from public education may be leaving due to that factor. This would reduce the quality of the remaining workforce, and perhaps therefore, the personal income levels in a state. Even though the fiscal effort invested might be successful in creating a higher quality student, which may not translate to a more qualified workforce within a state when other factors increase emigration. The reverse is also true, if a state had a poor educational system but no low income housing available, for example, graduates would leave to other states to live more cheaply on their lower salaries. The remaining workforce might be smaller and better trained, creating a market for employees that drives up personal income.

Therefore, a measure of transience was created that considered immigration and emigration as just as likely to cause interference between fiscal effort and per capita personal income. Transience rates are reported by the U.S. Census Bureau on their website. In order to calculate transience, total changes in the population for each state over a decade were reported, and the percentage change in the population due to migration into and out of the state was calculated for the decade from 1990 to 1999 and 2000 to 2009. The transience rates for 1990 through 1999 were assumed to be similar to those from 1986 to 1989 for which transience data are not available. Prior to 1990, state population changes were categorized as births, deaths, and residual. The "residual" includes several components of population change: net international migration, Federal citizen movement, net domestic migration, and a statistical residual. Therefore the migration could not be isolated. For post-1990 estimates, the estimates methodology was refined to allow separate identification of these components. Also, the transience rates from 2010 to 2012 were assumed to be similar to the transience rates for 2000 through 2009, since data for the decade beginning in 2010 is not yet complete. Since it is theorized that both positive and negative transience rates will impact the relationship between fiscal effort and personal income, the absolute value of the percentage change due to transience was used as the transience coefficient.

There are limitations to the transience data used which will be discussed in the analysis section in Chapter 5, such as the concern that the transience rates include those who move in and out of the state at all age levels, whereas this study looks at people from kindergarten through age 34. The only method of truly incorporating more accurate transience information would be to analyze each subject individually, however that would require the fiscal effort numbers to also be analyzed on a subject level, and given the amount of students and years being studied, this is not practical. Using this estimate of transience allows for a reasonable controlling for migration in the results.

Table 9

Ranking of Absolute Value of Percentage of State Population Change Due to Migration for the Decade 2000-2009.

State	Population in 2009	Number Change in population due to net migration from 2000-2009	Percentage change in population due to net Migration 2000-2009	Absolute Value Change	Rank 2000-2009
Kansas	2832704	-270	-0.01%	0.01%	1
Nebraska	1812683	1789	0.10%	0.10%	2
Iowa	3032870	8701	0.29%	0.29%	3
Alaska	698895	-2072	-0.30%	0.30%	4
Mississippi	2958774	-13567	-0.46%	0.46%	5
Illinois	12796778	-70308	-0.55%	0.55%	6
New Jersey	8755602	58692	0.67%	0.67%	7
Massachusetts	6517613	-44713	-0.69%	0.69%	8
Rhode Island	1053646	-9389	-0.89%	0.89%	9
Vermont	624817	5750	0.92%	0.92%	10
Connecticut	3561807	33500	0.94%	0.94%	11
Pennsylvania	12666858	134903	1.07%	1.07%	12
Indiana	6459325	75419	1.17%	1.17%	13
Wisconsin	5669264	68318	1.21%	1.21%	14

Minnesota	5281203	66071	1.25%	1.25%	15
West Virginia	1847775	29534	1.60%	1.60%	16
South Dakota	807067	13387	1.66%	1.66%	17
Maryland	5730388	97126	1.69%	1.69%	18
Hawaii	1346717	23570	1.75%	1.75%	19
Missouri	5961088	117132	1.96%	1.96%	20
Ohio	11528896	-227080	-1.97%	1.97%	21
North Dakota	664968	-14269	-2.15%	2.15%	22
California	36961229	890743	2.41%	2.41%	23
New York	19307066	-517237	-2.68%	2.68%	24
Maine	1329590	36119	2.72%	2.72%	25
Oklahoma	3717572	102500	2.76%	2.76%	26
Alabama	4757938	134154	2.82%	2.82%	27
Kentucky	4317074	121974	2.83%	2.83%	28
Michigan	9901591	-317751	-3.21%	3.21%	29
District of Columbia	592228	-20428	-3.45%	3.45%	30
New Hampshire	1316102	48375	3.68%	3.68%	31
Arkansas	2896843	108870	3.76%	3.76%	32
New Mexico	2036802	79556	3.91%	3.91%	33
Utah	2723421	115721	4.25%	4.25%	34
Montana	983982	42547	4.32%	4.32%	35
Virginia	7925937	365627	4.61%	4.61%	36
Wyoming	559851	27504	4.91%	4.91%	37

Louisiana	4491648	-231079	-5.14%	5.14%	38
Tennessee	6306019	343567	5.45%	5.45%	39
Washington	6667426	449591	6.74%	6.74%	40
Delaware	891730	63468	7.12%	7.12%	41
Colorado	4972195	360317	7.25%	7.25%	42
South Carolina	4589872	347965	7.58%	7.58%	43
Oregon	3808600	288738	7.58%	7.58%	44
Texas	24801761	1931109	7.79%	7.79%	45
Georgia	9620846	829015	8.62%	8.62%	46
Idaho	1554439	136710	8.79%	8.79%	47
North Carolina	9449566	838678	8.88%	8.88%	48
Florida	18652644	2072534	11.11%	11.11%	49
Arizona	6343154	971740	15.32%	15.32%	50
Nevada	2684665	474890	17.69%	17.69%	51

Table 10

Ranking of Absolute Value of Percentage of State Population Change Due to Migration for the Decade 1990-1999.

State	Population in 2009	Number Change in population due to net migration from 2000-2009	Percentage change in population due to net Migration 2000-2009	Absolute Value Change	Rank 2000-2009
New Jersey	8143412	-665	-0.01%	0.01%	1
Iowa	2869413	5609	0.20%	0.20%	2
South Dakota	733133	2009	0.27%	0.27%	3
Maine	1253040	-3452	-0.28%	0.28%	4
West Virginia	1806928	5547	0.31%	0.31%	5
California	33145121	109564	0.33%	0.33%	6
Wyoming	479602	-1662	-0.35%	0.35%	7
Kansas	2654052	12009	0.45%	0.45%	8
Nebraska	1666028	11445	0.69%	0.69%	9
Ohio	11256654	-113278	-1.01%	1.01%	10
Michigan	9863775	-99730	-1.01%	1.01%	11
Pennsylvania	11994016	-136205	-1.14%	1.14%	12
Indiana	5942901	82674	1.39%	1.39%	13

Illinois	12128370	-175977	-1.45%	1.45%	14
Maryland	5171634	76811	1.49%	1.49%	15
Massachusetts	6175169	-96660	-1.57%	1.57%	16
Vermont	593740	10574	1.78%	1.78%	17
Mississippi	2768619	51526	1.86%	1.86%	18
Oklahoma	3358044	71324	2.12%	2.12%	19
Wisconsin	5250446	115193	2.19%	2.19%	20
Alaska	619500	-15046	-2.43%	2.43%	21
Missouri	5468338	139371	2.55%	2.55%	22
Louisiana	4372035	-113794	-2.60%	2.60%	23
Kentucky	3960825	113050	2.85%	2.85%	24
Alabama	4369862	126336	2.89%	2.89%	25
Minnesota	4775508	142020	2.97%	2.97%	26
New Hampshire	1201134	36602	3.05%	3.05%	27
Virginia	6872912	242295	3.53%	3.53%	28
Hawaii	1185497	-45144	-3.81%	3.81%	29
South Carolina	3885736	161777	4.16%	4.16%	30
New York	18196601	-781122	-4.29%	4.29%	31
New Mexico	1739844	80606	4.63%	4.63%	32
Connecticut	3282031	-152981	-4.66%	4.66%	33
Rhode Island	990819	-46911	-4.73%	4.73%	34
Arkansas	2551373	121082	4.75%	4.75%	35
Utah	2129836	103356	4.85%	4.85%	36

North Dakota	633666	-32082	-5.06%	5.06%	37
Montana	882779	50625	5.73%	5.73%	38
Delaware	753538	44318	5.88%	5.88%	39
Texas	20044141	1285377	6.41%	6.41%	40
Tennessee	5483535	387196	7.06%	7.06%	41
North Carolina	7650789	612390	8.00%	8.00%	42
Washington	5756361	528382	9.18%	9.18%	43
Georgia	7788240	771257	9.90%	9.90%	44
Oregon	3316154	337146	10.17%	10.17%	45
Colorado	4056133	468212	11.54%	11.54%	46
Florida	15111244	1748623	11.57%	11.57%	47
Idaho	1251700	154383	12.33%	12.33%	48
Arizona	4778332	683188	14.30%	14.30%	49
District of Columbia	519000	-116932	-22.53%	22.53%	50
Nevada	1809253	488789	27.02%	27.02%	51

Controlling for Transience

The same data were used again to regress personal income for individuals aged 25-34 by fiscal effort, but this time using multiple regression to control for state transience by factoring in the additional variable of the absolute value of the rate of transience. The original data were run first for each case that had fiscal effort and personal income measured from the same year. The overall multiple regression was statistically significant ($p = .019$, $R^2 = .013$, $F[2,609] = 3.977$) and the two variables (fiscal effort and transience) accounted for 1.3% of the variance in personal income for individuals aged 25-34. Of the two independent variables, fiscal effort did not have a statistically significant impact on personal income for individuals aged 25-34 ($p = .752$), while the transience coefficient is significant ($p = .015$, $t[609] = -2.447$, $\beta = -.107$) This negative correlation shows that the greater the transience coefficient value, the lower the personal income.

Table 11
SSPS Outcomes for Original Data

Correlations

		PINC	FiscalEffortE	AbsoluteValueChange
Pearson Correlation	PINC	1.000	.056	-.113
	FiscalEffortE	.056	1.000	-.397
	AbsoluteValueChange	-.113	-.397	1.000
Sig. (1-tailed)	PINC	.	.082	.003
	FiscalEffortE	.082	.	.000
	AbsoluteValueChange	.003	.000	.
N	PINC	612	612	612
	FiscalEffortE	612	612	612
	AbsoluteValueChange	612	612	612

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	29420.761	1279.372		22.996	.000	26908.244	31933.277
	FiscalEffortE	1474.439	4661.851	.014	.316	.752	-7680.817	10629.694
	AbsoluteValueChange	-141.499	57.814	-.107	-2.447	.015	-255.039	-27.960

Note: a. Dependent Variable: PINC

The same data were then adjusted so that a regression could be run to correlate a particular year's fiscal effort with personal income for individuals aged 25-34 five years in the future. Using multiple regression, the transience coefficient was included in the equation to control for state transience. The overall multiple regression was statistically significant ($p = .049$, $R^2 = .007$, $F[2,609] = 3.034$) and the two variables, fiscal effort and transience, accounted for 1% of the variance in personal income for individuals aged 25-34. Of the two independent variables, fiscal effort showed a statistically significant effect on personal income while transience did not ($p = 0.515$). Fiscal effort had a standardized beta score of .105 ($t[609] = 2.454$, $p = .014$).

Table 12

SPSS Outcomes, Data Adjusted for Correlating Fiscal Effort with Personal Income for 25 – 34 Year Old Five Years in the Future.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	26146.394	1302.124		20.080	.000
1	FiscalEffortE	12874.424	5245.747	.105	2.454	.014
	AbsoluteValueChange	30.615	47.020	.028	.651	.515

Note: a. Dependent Variable: PINC

Another multiple regression was run correlating a particular year's fiscal effort with personal income for individuals aged 25-34 ten years in the future. Using multiple regression, the transience coefficient was included in the equation to control for state transience. The overall multiple regression was statistically significant ($p = .000$, $R^2 = .060$, $F[2,609] = 19.366$) and the two variables, fiscal effort and transience, accounted for 6% of the variance in personal income for individuals aged 25-34. The R value of .245 shows that this model indicates a small, but approaching moderate relationship between the independent variables and the dependent variable. Both of the independent variables showed a statistically significant impact on personal income. Fiscal effort showed a positive correlation with a standardized beta score of .195 (p = .000, t[609] = 4.868), and the transience coefficient had a standardized beta score of .190 (p = 000, t[609] = 4.738). The transience coefficient has a negative correlation so that the greater the increase in the transience coefficient, the lower the correlating value for personal income will be.

Table 13

SPSS Outcomes, Data Adjusted for Correlating Fiscal Effort with Personal Income for 25 – 34 Year Old Ten Years in the Future.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	22993.728	1170.506		19.644	.000
1	FiscalEffortE	23774.979	4883.480	.195	4.868	.000
	AbsoluteValueChange	182.116	38.435	.190	4.738	.000

Note: a. Dependent Variable: PINC

A multiple regression was run correlating a particular year's fiscal effort with personal income for individuals aged 25-34, this time adjusting the fiscal effort to match with personal income fifteen years in the future. Using multiple regression, the transience coefficient was included in the equation to control for state transience. The overall multiple regression was statistically significant (p = .000, R^2 = .146, F[2,609] = 52.070) and the two variables, fiscal effort and transience, accounted for 14.6% of the variance in personal income for individuals aged 25-34. The R value of .382 shows that this model indicates a moderate to strong relationship between the independent variables and the dependent variable. Both of the independent variables showed a statistically significant impact on personal income. Fiscal effort showed a positive correlation with a standardized beta score of .323 (p = .000, t[609] = 8.554), and the transience coefficient had a negative correlation with a standardized beta score of .249 (p = 000, t[609] = 6.602). The transience coefficient has a negative correlation so that the greater the increase in the transience coefficient, the lower the correlating value for personal income will be.

Table 14

SPSS Outcomes, Data Adjusted for Correlating Fiscal Effort with Personal Income for 25 – 34 Year Old Fifteen Years in the Future.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	19245.822	1087.697		17.694	.000
1	FiscalEffortE	39774.387	4649.726	.323	8.554	.000
	AbsoluteValueChange	229.729	34.797	.249	6.602	.000

a. Dependent Variable: PINC

Hierarchal Linear Modeling

HLM (Hierarchal Linear Modeling) was used to analyze the potential correlations between changes in personal income over time and fiscal effort. Since personal income data were only available from 2001 and beyond, only the data from 2001 through 2012 were used, and the remaining cases were eliminated. The personal income data for each year were the level one equation outcome variable in all iterations attempted. Fiscal effort for each state was the level two variable. Since fiscal effort was measured on an annual basis and level two variables have to be descriptive of the level two groups, which in this case are the states, state fiscal effort over the entire period had to be computed. This was computed in two distinct ways. First, an average fiscal effort for the given time frame was calculated. The second was so find the slope of the least squares line once all of the fiscal effort points were plotted over time. These two methods of calculating fiscal effort for a state represent two very different philosophies of how fiscal effort may impact personal income. The average fiscal effort would show that states with higher sustained fiscal effort have higher personal incomes, regardless of whether that effort is growing or diminishing. The slope of the least squares line would investigate if there are any correlations between the increasing or decreasing of fiscal effort amounts, regardless of the overall amount of the effort.

The first model run used personal income for ages 25 – 34 (PINC) as the outcome variable. The level one independent variable was the year number (YEAR_C). The level one equation was $PINC_{ij} = \beta_{0j} + \beta_{1j}*(YEAR\_C_{ij}) + r_{ij}$. For the level two model, the annual data were nested within each state. Fiscal effort for each state was measured as the average fiscal effort over the time period measured (AVGFISCE). The two level 2 equations were $\beta_{0j} = \gamma_{00} + \gamma_{01}*(AVGFISCE_j) + u_{0j}$ and $\beta_{1j} = \gamma_{10} + \gamma_{11}*(AVGFISCE_j)$. The mixed model equation therefore was $PINC_{ij} = \gamma_{00} + \gamma_{01}*AVGFISCE_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*AVGFISCE_j*YEAR\_C_{ij} + u_{0j} + r_{ij}$. There was no statistically significant correlation found between higher and lower fiscal effort rates in states and personal income.

Table 15

Final estimation of fixed effects for HLM model

$PINC_{ij} = \gamma_{00} + \gamma_{01}*AVGFISCE_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*AVGFISCE_j*YEAR\_C_{ij} + u_{0j} + r_{ij.}$

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	22353.174554	4792.419425	4.664	49	<0.001
AVGFISCE, γ_{01}	710.948349	20184.199959	0.035	49	0.972
For YEAR_C slope, β_1					
INTRCPT2, γ_{10}	148.110261	120.167527	1.233	559	0.218
AVGFISCE, γ_{11}	838.333967	505.169519	1.660	559	0.098

The same measure of fiscal effort was used again, however this time the transience coefficient (ABSVALTR) was added to the state level two equations to determince if there would be a correlation between average fiscal effort in a given state and personal income over time if state transience would be controlled. For this second calculation, the level one equation remained the same as $PINC_{ij} = \beta_{0j} + \beta_{1j}*(YEAR\_C_{ij}) + r_{ij}$, and the level two equations became $\beta_{0j} = \gamma_{00} + \gamma_{01}*(AVGFISCE_j) + \gamma_{02}*(ABSVALTR_j) + u_{0j}$ and $\beta_{1j} = \gamma_{10} + \gamma_{11}*(AVGFISCE_j) + \gamma_{12}*(ABSVALTR_j)$. The mixed model therefore became

$PINC_{ij} = \gamma_{00} + \gamma_{01}*AVGFISCE_j + \gamma_{02}*ABSVALTR_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*AVGFISCE_j*YEAR\_C_{ij} + \gamma_{12}*ABSVALTR_j*YEAR\_C_{ij} + u_{0j}+ r_{ij}$. The equations did not show any correlation between fiscal effort and personal income ($p = 0.492$) nor did the transience coefficient ($p = 0.059$). The only statistical significance shown was that personal income tended to rise over time regardless ($p = .039$) when transience was controlled.

Table 16

Final estimation of fixed effects for model

$PINC_{ij} = \gamma_{00} + \gamma_{01}*AVGFISCE_j + \gamma_{02}*ABSVALTR_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*AVGFISCE_j*YEAR\_C_{ij} + \gamma_{12}*ABSVALTR_j*YEAR\_C_{ij} + u_{0j}+ r_{ij}$.

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	20665.730302	5788.028062	3.570	48	<0.001
AVGFISCE, γ_{01}	5858.175061	22609.124686	0.259	48	0.797
ABSVALTR, γ_{02}	12417.936814	22167.961534	0.560	48	0.578
For YEAR_C slope, β_1					

INTRCPT2, γ_{10}	296.179199	143.118882	2.069	558	0.039
AVGFISCE, γ_{11}	383.465900	558.302715	0.687	558	0.492
ABSVALTR, γ_{12}	-1064.010422	561.276608	-1.896	558	0.059

Using the slope of the least squares line (SLOPE) as the measure of state fiscal effort led to indications of statistical significance. Once again, the level one model was $PINC_{ij} = \beta_{0j} + \beta_{1j}*(YEAR\_C_{ij}) + r_{ij}$, however the level two models were $\beta_{0j} = \gamma_{00} + \gamma_{01}*(SLOPE_j) + u_{0j}$ and $\beta_{1j} = \gamma_{10} + \gamma_{11}*(SLOPE_j)$. The mixed model was $PINC_{ij} = \gamma_{00} + \gamma_{01}*SLOPE_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*SLOPE_j*YEAR\_C_{ij} + u_{0j} + r_{ij}$. In this instance, the rate of change in fiscal effort had a statistically significant result ($p < .001$)

Table 17

Final estimation of fixed effects for model

$PINC_{ij} = \gamma_{00} + \gamma_{01}*SLOPE_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*SLOPE_j*YEAR\_C_{ij} + u_{0j} + r_{ij}$.

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	22883.822453	1235.849855	18.517	49	<0.001
SLOPE, γ_{01}	-1.968543	5.338116	-0.369	49	0.714
For YEAR_C slope, β_1					
INTRCPT2, γ_{10}	413.259302	31.475521	13.130	559	<0.001

SLOPE, γ_{11}	-0.362779	0.136107	-2.665	559	0.008

In the final calculation, the transience coefficient was again inserted into the level two equation. The level one equation was $PINC_{ij} = \beta_{0j} + \beta_{1j}*(YEAR\_C_{ij}) + r_{ij}$, and the level two equations became $\beta_{0j} = \gamma_{00} + \gamma_{01}*(SLOPE_j) + \gamma_{02}*(ABSVALTR_j) + u_{0j}$ and $\beta_{1j} = \gamma_{10} + \gamma_{11}*(SLOPE_j) + \gamma_{12}*(ABSVALTR_j)$. The mixed model was

$PINC_{ij} = \gamma_{00} + \gamma_{01}*SLOPE_j + \gamma_{02}*ABSVALTR_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*SLOPE_j*YEAR\_C_{ij} + \gamma_{12}*ABSVALTR_j*YEAR\_C_{ij} + u_{0j} + r_{ij}$. All interactions in this model were significant ($p < .001$).

Table 18

Final estimation of fixed effects for model

$PINC_{ij} = \gamma_{00} + \gamma_{01}*SLOPE_j + \gamma_{02}*ABSVALTR_j + \gamma_{10}*YEAR\_C_{ij} + \gamma_{11}*SLOPE_j*YEAR\_C_{ij} + \gamma_{12}*ABSVALTR_j*YEAR\_C_{ij} + u_{0j} + r_{ij}$.

Fixed Effect	Coefficient	Standard error	*t*-ratio	Approx. *d.f.*	*p*-value
For INTRCPT1, β_0					
INTRCPT2, γ_{00}	22347.704811	1655.480892	13.499	48	<0.001
SLOPE, γ_{01}	-1.039488	5.551338	-0.187	48	0.852
ABSVALTR, γ_{02}	9758.890557	20139.949671	0.485	48	0.630
For YEAR_C slope, β_1					
INTRCPT2, γ_{10}	518.010530	42.862650	12.085	558	<0.001

SLOPE, γ_{11}	-0.531811	0.142825	-3.724	558	<0.001
ABSVALTR, γ_{12}	-1889.124401	530.881395	-3.558	558	<0.001

Summary

The data analyzed show a correlation between fiscal effort and per capita personal income for individuals aged 25 - 34. The correlation is not evident when analyzing fiscal effort and per capita personal income data taken in the same year, however when the personal income is compared to fiscal effort over a gap of increasing time, the correlation increases. Additionally, transience has a negative impact on per capita personal income. When used as a control variable, the correlation between fiscal effort and per capita personal income increases in both significance and strength.

In using HLM to analyze the data, calculating state fiscal effort as a slope representing the change in fiscal effort in the state over time had a statistically significant impact on personal income for individuals aged 25 – 34. However, taking the state average fiscal effort over time did not have a correlation with personal income.

Chapter 5

Discussion

Research has revealed mixed results when analyzing funding as an input variable and using an education variable as a result. Fiscal effort however is a unique type of funding variable. As a pure financial number, it would seem to be less valuable than other dollar input numbers. Fiscal effort does not seek to specifically analyze how and where money is being spent, and it does not consider efficiency. Fiscal effort weighs all funds being spent on education equally. In the fiscal effort formula, a dollar spent on transportation, building maintenance, or the retired teachers' pension fund is not less important than a dollar spent on teachers, administrators, or textbooks. Still, fiscal effort approaches the economics of education much as the CCI (Consumer Confidence Index) approaches predictions in the overall economy. It shows how people feel about the importance of education in their area. Fiscal effort is potentially more powerful than analyzing dollars alone. This study examined the premise that educational spending which demonstrates the value that communities place on education will have the greatest impact.

Fiscal effort is an equation that attempts to quantify the value that each educational dollar has to that community. This is accomplished by creating a ratio between educational spending and the total wealth available to a community. In economics, the value of a particular good or service is determined by what the market place is willing to pay. The market place is assumed to have a limited amount of resources and therefore the greater the amount of resources that will be traded for an item indicates its value relative to other items. The value of two items can generally be compared as long as the markets they are being offered in are equivalent.

When the government sets out to purchase an item that the public also purchases, such as real estate, the amount that is paid for that particular good or service reflects the market value of that item, since the government as a consumer will have to pay the price set by the market for that item. When it comes to education, the economics are different. Considering public education as a product, there is no rising and falling demand within a free market to help determine the value of education compared to other services since the only consumer is the government. The price for education is set as whatever amount the elected officials determine should be spent in order to provide the service. However, in determining how much is actually needed, opportunity cost decisions are made. Opportunity cost is the economic term used to describe how consumers with limited money to spend make choices to have one product but not to have another. In this case, elected officials in a particular region, either a state or locality, have a limited amount of income that the government collects from the total wealth available, which must then be divided among the long list of services that the government values. Decisions about which services are most important and which are least important have to be made to determine how the dollars are to be spent.

Given that the public schools are the main provider of education and the government is the only real consumer, the price for education is fixed according to whatever value the consumer is willing to pick. The value of teachers, administrators, textbooks, and all educational resources is determined by what will be paid by the government. A government then makes educational spending choices according to the principle of opportunity cost. Those decisions indicate what is more or less valuable to that government. Values are not determined by plain dollar spending. Values are found in the choices that individuals or governments make in choosing what goods or services to purchase in exchange for other goods and services not purchased. In an absence of a free market to determine the cost, educational experts have been analyzing the fiscal definition of educational adequacy. It is therefore the ratio of how much is spent on education in relation to total wealth that indicates how much a state values education.

The true theory of the importance of fiscal effort is that if an area pays more relative dollars to education, then their own communal investment is reflected. Personal involvement has a clear impact on educational outcomes. Research has shown that educational attainment of a parent can predict how well a student will do. Parents that are involved with their children's education and convey the importance of education to them help contribute to their child's success in school. The question is, do these axioms apply as well on a community basis? Are communities or states that value education more likely to have schools that are successful? This study investigates how fiscal effort for education impacts personal income in 25 to 34 year olds. Personal income is a valid indicator of academic success, since higher levels of educational attainment can be directly related to a person's value to the workforce.

The fiscal effort formula uses gross state product as a measure of wealth. On the production side, this study analyzes personal income. These two measures of wealth are not dependent on one another, and therefore do not create problems for the equation. Gross State Product (GSP) is a calculation of total value added with a given state. Value added is a calculation of the difference between revenue and purchases of materials and labor. While the calculation of labor in GSP does include wages, along with benefits and other compensation, wages are considered as a cost of production in GSP, not a measure of positive wealth. In GSP, wealth is measured by production, and higher production costs such as wages reduce GSP. Also, since this research focuses the personal income levels of 24 – 35 year olds, on a specific population, a total increase in a state's wealth based on GSP would not be completely dependent on income levels of a specific segment of the workforce. This is particularly true since the segment being analyzed represents a lower wage earner than the state average.

The purpose of this research was to examine the association between state fiscal effort and state per-capita income over time. The study examined the long-term effects of sustained increased slope and decreased slope of fiscal effort per-capita income for the 25 – 34 year old demographic. Are increases in longitudinal patterns of fiscal effort associated with increases in longitudinal patterns of per capita personal income? The expectation was that longitudinal patterns of per-pupil expenditures at the state level would be associated with longitudinal patterns of growth in per capita income.

When the first regression was run, the independent variable was fiscal effort and the dependent variable was personal income for the population between the ages of 25 and 34. The data did not show a correlation ($p = .082$). This provides us with a baseline to begin from. This study's research question was to determine if rising levels of fiscal effort correlated with rising levels of personal income. While causation cannot be determined in a linear regression, the existence of a change in one and a simultaneous change in the other would mean that the two are related. If there existed a correlation for data within the same year, meaning that as soon as fiscal effort would be increased, personal income would also rise, then the rationale behind the increase could not be explained as this study has hypothesized, that higher levels of fiscal effort lead to higher levels of personal income, because the subjects receiving the potentially better education would not yet be in the range of the measured increase in personal income. The students who would be experiencing educational changes as a result of increased fiscal effort would be in their late teens, while the workers whose personal income is being measure would be 24 – 35, two separate populations. If such a correlation had existed, it would have meant the potential existence of some other factor that was affecting both fiscal effort and personal income. It is possible, for example, that rising levels of personal income would create greater production costs, thereby reducing GSP. If GSP is used as the denominator of the fiscal effort formula, then a dropping GSP would make a higher level of fiscal effort for the same per pupil expenditure. It could also be postulated that since fiscal effort means that the community, or in this case the state, placed a higher value on education, such a valuation of education would be evident in other areas and policies as well, such as in increased attention to job qualifications, or increased push for attendance at universities that would eventually improve their educational skills and lead to the increased wages even for those not in school during the increase in fiscal effort. The data however did not indicate any correlation of this type. States with higher personal incomes for workers aged 25 to 34 do not tend to have higher fiscal effort rates in those same years, establishing a baseline for further calculations. Any correlations shown in further calculations are more likely to be a result of the effort expended on the education of those particular students which produces higher paid workers.

The data were then adjusted so that each record would have an annual fiscal effort that corresponds to a personal income value five years later. As stated, a correlation between fiscal effort and personal income of that same year would have indicated some sort of systemic cause. However, with this shift, the population receiving the benefits of higher fiscal effort begins to move into the window of the personal income population being measured. The increasing correlation potentially indicates that the effect of fiscal effort is on the student so that a current increase in fiscal effort will lead to higher levels of personal income five years later when those students later join the workforce.

When fiscal effort for a particular year was used as an independent variable, and the personal income for ages 25 to 34 for the same state five years later was used as the dependent variable, the data showed a statistical correlation ($p = .009$). The effect of this correlation was very small however ($R^2 = .009$). Calculated out, a good amount of change in fiscal effort would be needed to make a change in personal income. A whole standard deviation's worth of change in fiscal effort would lead to a small pay increase of only $474.86. A reasonable explanation for this is that five years after a state would have invested in increasing its fiscal effort, very few of the students that were in school for that increase actually made it to the workforce at age 25 and above. Most of those in the 25 to 34 age range would have already been out of school by the time fiscal effort would have made any change. Therefore, while a correlation may be present, it would be slight if it is true that the increase in wages is due to the fiscal effort imparted directly to the students when they were in school.

As the span of time between the independent variable of fiscal effort and the dependent variable of personal income for ages 25-34 was increased, a clearer picture began to emerge. Greater fiscal effort was correlated significantly with greater personal income to a greater extent the greater the time differential became. When the data were set up to determine if higher levels of fiscal effort correlated with higher levels of personal income ten years later, the statistical significance became greater ($p < .001$). Additionally, the level of significance began to increase as well. Instead of one shift in standard deviation making an impact on personal income of $474.86, the data indicate that after a ten-year delay, one standard deviation increase now impacted personal income by $786.49. As the numbers were further evaluated, it was shown that when the span of time between the independent variable of fiscal effort and the dependent variable of personal income for ages 25-34 was increased even more to a fifteen-year spread, the significance increased even more ($p = .000$). Each standard deviation in fiscal effort represented an increase of $1439.42 to personal income. A possible conclusion is that one year's fiscal effort has an impact on the children that are at school at that time. As more and more students who received an education with higher fiscal effort move into the workforce, those students have higher salaries. Those higher salaries could be related to three potential scenarios. First, students who experienced higher fiscal effort may be more prepared to enter the workforce at higher paying positions. Second, more students that received an education during a year in which fiscal effort was higher may be more employable, thereby reducing the number of non-income earning individuals in that age group raising the average income. Third, the better educated students produced from a greater input of fiscal effort were may have been more employable, and therefore may have lowered unemployment rates for that entry age bracket, which in turn may have increased demand for workers raised starting salaries. It could also be investigated if higher fiscal effort resulted in increasing the percentage of the population that would attend university. If fiscal effort does have an impact on the quality of education, it would follow that more students would be capable, and more students would have the desire to, pursue higher education. Studies have shown that increases in level of education obtained would have in impact on salary levels.

What is more interesting is that the correlation was not connected with sustained higher rates or the increasing or decreasing of rates, as was be shown through the HLM, which will be discussed shortly. The straight linear regression does not take into account any fiscal effort changes that may have occurred during the span of time between the fiscal effort input and the personal income output that was measured. Regardless of the fact that personal income may or may not have remained high, or may or may not have been increasing, fiscal effort at high levels correlates to increased personal income at a future point.

The data were analyzed using HLM. Is this type of analyses, the data are considered to be grouped as two levels. In this case, each record for which fiscal effort and personal income data were collected were considered as level one data (N = 612), so that each year within each state is an individual record. In hierarchal modeling, the second level equations allow for an analysis of the impacts of specific factors in a group. In this case, each state was considered a level two grouping, and the specific factors that might impact the level one records was what levels of fiscal effort each state had. In other words, did the data show any changes in personal income, either higher or lower overall levels or higher or lower levels of personal income change, that could be attributed to the fact that the data were collected in a state with specific fiscal effort characteristics. Two ways of looking at fiscal effort were considered. First, each state was assigned a fiscal effort number based on the average fiscal effort in that state for the time period considered. That average represents the amount of fiscal effort put in by a state over a period of time. The impact of this average would show that long-term higher levels of fiscal effort would cause changes to personal income, regardless of the increase or decrease in fiscal effort. In this calculation, it would be assumed that each state represents an educational organization, and that as Fullan (2002) explains, organizational change takes time. Showing that a state has a commitment to keeping their fiscal effort higher than other states would be a way of showing that one organization's commitment to education over time is greater than another's. The resulting calculations did not support such a correlation, even when accounting for the potential of transience as a confounding factor.

It was anticipated that only sustained fiscal effort would have an impact since Fullan (2002) suggested that change to organizations takes at least two years to complete, and seven years to make it into an established part of the organization. The lack of a correlation, even when there is a correlation in the straight regression connecting higher fiscal effort with higher personal income, indicates that perhaps either fiscal effort does not affect a state or district as an organization, but rather each student individually and therefore does not correlate when analyzing using a state as a second level variable in an HLM analysis. In the case of this study, it appears that organizations are not affected by the fiscal effort, the students individually may be.

In the second set of HLM calculations, the measure of state fiscal effort was created by finding the slope of the line of least squares for each state's fiscal effort over time. This slope represents the rate at which a state increased or decreased their fiscal effort over time. Since fiscal effort is a measure of community value, this calculation investigated whether the amount of effort is less important than whether or not a state is increasing or decreasing its commitment. In this instance, the correlation was not significant.

Increasing fiscal effort may have an impact on students' future personal incomes regardless of if it is sustained and regardless if it subsequently decreases. In fact, the increasing correlation between fiscal effort and personal income as the data are further offset to create the time gap between the treatment and the measure of the effect indicates that a one-time increase in fiscal effort increased personal income regardless of what happens later to fiscal effort. This finding could be explained by pointing out an important distinction between general organizational theory that Fullan (2002) advanced and the potential school scenario which is being analyzed. Fullan describes an organizational culture change. In order for an organization to implement a change and see a change in its product, a two year infusion of effort needs to take place. Fiscal effort may not be the same kind of cultural change. Schools themselves may already have a culture of high quality education in place. However, that culture may be countermanded In the case of fiscal effort since the additional financial effort represents a change in the surrounding community's attitude towards education. The community negative attitude may be hindering the efforts of school success, rather than the community positive attitude creating the new success.

Fiscal effort is more than a financial contribution, it is a representation of the values of the community. It is possible that there are multiple existing conflicting cultures and organizations at work. The school culture and its organization is one. The community culture and its attitude towards education is different and distinct. The success of education may depend on the interplay between these potentially complimentary and potentially conflicting cultures. I could be theorized that when fiscal effort increases, it is not similar to classical organizational change, rather it represents the merging of long standing beliefs about the importance of education held in the public education community and the prioritizing of education on the part of the political community. If this is the case, then when the two become aligned, then educational institutions have an immediate impact and can increase educational outputs. What seems to be evident from this study is that the a single year of fiscal effort correlates to increased levels of personal income, regardless of what changes to fiscal effort occur in the future.

The difficulty in delaying the time between the input variable and the output variable is that a good amount of confounding occurrences will happen in between to reduce the strength and significance of the correlation. In the case of this study, a significant concern would be that the subjects that were affected by the fiscal effort would not be the same subjects being studied in the outcome variable. This study measures the fiscal effort put in, and then measures an outcome at various intervals of time thereafter. It can be assumed that if a state has a high amount of transience, then the subject groups would potentially be different enough that a conclusion that linked fiscal effort to higher personal income could not be established.

For that reason, transience was considered an important variable for which a control should be established. At the most basic level, states that had small amounts of transience would ensure that the correlation was more likely to be connected with the input variable. Large amounts of transience would have an unpredictable impact on personal income. If a state invested in increasing fiscal effort and therefore theoretically created a large amount of qualified students, the impact of having those qualified workers leave the state could lower personal income because the higher quality workers would be absent from the workforce later. Their absence would then mean that fewer workers between the ages of 25 and 34 would be hired and better paying jobs. With the higher-level employees gone, only lesser qualified ones would remain. This emigration would therefore potentially reduce the personal income correlation with fiscal effort. The reverse could also be true as well. The increased emigration could represent the exodus of lower level workers that would have trouble competing in a workforce that is much more competent. With the lower group leaving, it is possible that the remaining higher qualified workers would, on average, receive higher salaries. Also, an exodus from any group would reduce the labor pool, potentially increasing competition for workers and driving up salaries. This potential increase or decrease in personal income related to emigration would be independent of fiscal effort, and therefore, if not taken into account as a control variable, would impact the relationship between fiscal effort and transience.

Immigration likewise would have an unpredictable impact on personal income. Personal income in a state could be higher for many economic reasons, either positive or negative. If a state has very low overall unemployment, it could drive up wages due to competition for qualified workers. Those greater job opportunities and higher wages might attract workers from other states. Those workers moving in might have higher wages, but not due to the fiscal effort that the state is investing. Immigration would be an indicator that foreign factors are at play since the group that would move in to take those jobs would not be workers that were educated in the state. There would be no way to tell which of the workers were receiving the higher paying jobs. It would even be possible that higher immigration levels in a state in which there were higher paying jobs is an indication of a failure of the education system. If higher paying positions for more qualified workers were to become available, but the state was not producing the quality of worker needed for those jobs, companies would have to recruit from outside the state.

Determining if immigration or emigration would have an impact on personal income was not an objective of this study. For this reason, it was assumed that the less transience interfered, the more clear the connection between effective education and higher wages would become. Transience was defined as an absolute value percent of the increase or decrease in the population due to interstate immigration and emigration. In the numbers used for the study, transience of the overall population was used. Even though this study specifically looked at education for kindergarten through twelfth grade and personal income from 25 to 34, immigration and emigration numbers are not reported by age. Therefore, it was assumed that there was even distribution of transience across age groups so that higher transience in a state would affect 25 – 34 year olds in a relative way. This is understood not to be entirely true. Some warmer climate states are attractive to retirees, some states are attractive to young people because of their state university system. This study did not take all of that into consideration, which is a limitation on the results of this study.

The study did indeed show both an increasing correlational value for fiscal effort and personal income as transience was reduced. The first time that the data were run, with the fiscal effort data corresponding to personal income data for the same year, the overall regression showed significance (p = .019), however that significance was related to transience alone (p = .015). As was shown when the data were analyzed without a control variable for transience, fiscal effort does not have an impact on personal income in the same year, as we would expect. The correlation was negative, so that the greater the transience coefficient was, the lower personal incomes were. Transience could itself be a cause for lower salaries, or an indication that people are moving because of lower salaries.

The effect of transience alone increases over time, and that is most likely related to the type of transience data being used compared to the personal income data. Transience is a count of everyone that moved, regardless of age. The personal income being looked at is personal income for ages 25 – 34. Therefore, if an individual moves when he or she is 35, the transience is counted, but it would not impact the personal income as significantly. It could be that transience for older workers would have an effect on personal income for younger workers since older earners might be the leaders of companies. Their move may create job loss, and in turn lower incomes. On the other hand, if regular workers leave, it would open up greater job opportunities for younger workers to move into. It would seem that this impact may exist, although the assumption when controlling for transience as a potential confounding variable relating to fiscal effort is that transience will lessen the impact of the correlation between fiscal effort and personal income because the subjects that were impacted by the increased fiscal effort would not be the same workers that would be receiving jobs.

As the delay between the input variable of fiscal effort and the output variable of personal income increased, the significance of the relationship between fiscal effort and personal income increased. Since transience has a negative impact on personal income, it appears to cancel somewhat the effect of fiscal effort. In a state that has higher fiscal effort, the greater transience has a cancelling effect. Therefore, controlling for transience is critical in truly understanding the extent of the correlation between fiscal effort and personal income. The greater the time difference, the more important the need for control for transience because fiscal effort has a greater impact positively on personal income, while transience has a greater negative impact. With the increase in delay, the number of subjects affected by that single year's fiscal effort increases. For example, with a five-year delay, only the very youngest in the group of 24 – 35 year old workers would have been in high school to be impacted by that fiscal effort change. Since the effect that transience has on the correlation between fiscal effort and transience is likely due to removing the subjects of the increased fiscal change, from the workforce, only those that graduated high school and are in the workforce already would be affected by transience. Given most graduates would be 18 or 19, only those that moved that would be 24 would be impacted, a small percentage of the total transience.

Once the time between the fiscal effort and personal income is delayed, fiscal effort will have a greater impact. This could be because of two potential factors, or their combination. With a 10-year or 15-year delay, all students that were 18 or below would be affected. That means and a greater percentage of the workforce aged 25 – 34 has been impacted, causing the average personal income to increase. With a 10-year delay, any worker 29 or under would be affected by improved high school education. With a 15-

year delay, the entire group of workers 25 – 34 would be impacted. The second potential reason for the delayed change is that it is also possible that a change in fiscal effort to a state may impact younger students more than older students.

In the HLM equations, the importance of transience as a level two variable may be greater than when it was used as a control variable in the regression equations. As a level two variable, it is descriptive of the quality of each state, i.e. that a particular is a state is one that has less transience. As such, all of the causes of transience may be playing a role in the results of the change in personal income. When the HLM equations took transience into account, there was still no correlation when average fiscal effort was used to describe a state's fiscal effort, and there was a correlation between transience and personal income when the slope of the change in fiscal effort was considered. Since there are many economic factors involved in affecting transience, it is difficult to interpret what exactly is causing the personal income change.

The impact that fiscal effort has on younger students may be more profound because even a one-year change seems to create a lasting impact that continues even beyond the time when the input ceases. Therefore, once a student's education is improved through fiscal effort one year, their attitude towards all years of study in the future may be impacted and therefore more beneficial. This is consistent with the finding that higher fiscal effort has an impact on personal income, regardless of whether the fiscal effort level is sustained. As previously theorized, fiscal effort creates a change in earning potential regardless of whether or not that fiscal effort is sustained. This likely points to a change which is not likely rooted in organizational change as much as that effort changes the attitude of students, the community, parents, and other stakeholders.

With that attitude shift, the external factors that can sometimes distract from education align with the goals of the school. If a student is positively impacted in the early grades with this attitude shift, that shift may stay with the student for all the years of his or her studies creating a compound effect that makes this student better prepared for the workforce.

A potential limitation on this study is that there are many known factors that can affect personal income. A state's cost of living, determined by the Consumer Price Index (CPI) can affect how much is paid in salaries. In a state with high cost of living, the state itself may not have a higher Gross State Product, or it may even have a lower one, since any increase in value to the goods in that state would be offset by the increase in salaries for workers. Yet, the higher cost of living would require higher salaries. This increased cost of living could be another factor working against a positive relationship between fiscal effort and personal income.

Areas for Further Investigation

This study shows that increasing fiscal effort correlates to increased personal income. Increasing personal income has been shown to reduce dependence on government programs by reducing crime rates, poverty, and reducing dependence on taxpayer funded programs. Additionally, once income increases beyond a certain level, the state governments are able to collect higher taxes, aside from those states that do not have income taxes. Even in those states, consumption tax revenue will increase as additional disposable income is created. Since this study indicates that increasing fiscal effort while controlling transience increases personal income, choices made about how to fund education should be reconsidered. Instead of education competing for a piece of the government spending pie, funding education should be viewed as the investment that increases the pie in general, and decreases the need for spending on other programs.

A question that should be addressed is the potential existence of plateaus in the efficacy of fiscal effort. The assumption that fiscal effort represents the value that a community places on education presupposes that there is no specific market value for education due to the fact that the price is not fixed by the competition for the market. As previously stated, some government services spending can be determined by the market since the private sector also purchases those same supplies. However, educational spending falls into the category of government services that are only provided by the government, and determining appropriate spending is difficult. It may be that while fiscal effort needs to increase to demonstrate the importance of education, there may be a real point at which the government spending matches the level that adequately finds the school's needs. At that point, fiscal effort may lose its meaning since education is no longer part of the Since fiscal effort indicates a community's opportunity cost decisions, when schools are fully funded, they drop out of that equation, despite the high value that it might have. This is another area that can be explored in follow up studies.

Conclusion

The real importance about the value of fiscal effort may be that changing and improving education is most about changing attitudes. Fiscal effort is a potential measure of community values, and since it can make an immediate and lasting change, it is a great place for policy makers to consider making adjustments. The type of adjustments to be made are truly win-win scenarios, since this study indicates that increasing fiscal effort will lead to greater economic success and therefore more money to spend on all types of other programs. This finding has dramatic policy consequences. While it may be complicated to create educational systems that maximize the amount being spent, creating an atmosphere in the community that supports education by increasing fiscal effort has an effect. This study also emphasizes the economic investment that fiscal effort is, and has proven that states that have higher fiscal effort tend to have higher personal income levels. A state like Nevada that spent the 8th most per pupil in 1996 had a personal income level for ages 25-34 that was 33rd fifteen years later in 2011. Their fiscal effort was second worst that year. Another state, Rhode Island, ranked 32nd in their per pupil expenditures in 1996, however their personal income level for ages 25 – 34 ranked 12th. They had the second highest fiscal effort that year. It is clear that there is some connection with spending and school success as well, although to what degree spending works in coordination with fiscal effort to raise personal income levels was not investigated in this study. With further investigation into the connection between spending adequacy and fiscal effort, better predictions will be able to be made connecting actual amounts to spend to achieve maximum gains in a particular state.

The surprising fact that change in fiscal effort did not need to be sustained in order to have lasting effect indicates that the problem in education may not be in schools. We have known this for a long time, understanding that socio-economic factors play a big role in determining student success, but we have always looked for techniques and strategies that could improve student performance in spite of the external distractions. It is possible that we need to work harder on stressing the value of education throughout our society. Our society sends the messages to some that they can be successful, while others hear that they are not likely to succeed. When times become difficult, it is harder to persevere knowing that the odds of your own success are not great. Communities that really believe that schools can make a difference really empower the schools, but they more importantly empower the students.

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Appendix A

Study Full Data Set

State	Year	Fiscal Effort: E	Educational Spending Per Pupil, K-12	Gross State Product	Personal Income, 25-34 Year Olds
Alabama	1986	0.182698	2,565.00	14,039.58	
Alabama	1987	0.170511	2,573.00	15,089.91	
Alabama	1988	0.167125	2,717.66	16,261.18	
Alabama	1989	0.189818	3,197.00	16,842.43	
Alabama	1990	0.189565	3,327.18	17,551.61	
Alabama	1991	0.19744	3,626.56	18,367.93	
Alabama	1992	0.18671	3,615.98	19,366.81	
Alabama	1993	0.189929	3,761.13	19,802.80	
Alabama	1994	0.194134	4,036.53	20,792.54	
Alabama	1995	0.2013	4,404.77	21,881.63	
Alabama	1996	0.208556	4,716.17	22,613.41	
Alabama	1997	0.208881	4,903.29	23,474.02	
Alabama	1998	0.213328	5,165.56	24,214.13	
Alabama	1999	0.218161	5,511.62	25,263.98	
Alabama	2000	0.22377	5,758.43	25,733.68	23574.91
Alabama	2001	0.227768	6,052.01	26,570.89	24142.82

Alabama	2002	0.228833	6,327.23	27,650.04	24300.11
Alabama	2003	0.229296	6,642.06	28,967.17	24767.34
Alabama	2004	0.217173	6,812.24	31,367.75	25938.37
Alabama	2005	0.219658	7,308.93	33,274.21	25238.77
Alabama	2006	0.228555	7,979.70	34,913.67	25238.77
Alabama	2007	0.258938	8,390.62	32,404.00	26712.18
Alabama	2008	0.270587	9,103.36	33,643.00	26604.34
Alabama	2009	0.268008	8,870.00	33,096.00	26610.61
Alabama	2010	0.265164	9,001.00	33,945.00	25676.33
Alabama	2011	0.272384	8,813	32,354.00	24708.62
Alaska	1986	0.239661	8,304.00	34,648.90	
Alaska	1987	0.19397	8,010.00	41,294.99	
Alaska	1988	0.202762	7,970.93	39,311.81	
Alaska	1989	0.180702	7,716.00	42,700.18	
Alaska	1990	0.186692	8,431.17	45,160.77	
Alaska	1991	0.21429	8,329.67	38,871.05	
Alaska	1992	0.220219	8,450.26	38,372.04	
Alaska	1993	0.22799	8,734.58	38,311.27	
Alaska	1994	0.231876	8,882.11	38,305.48	
Alaska	1995	0.218402	8,963.20	41,039.89	
Alaska	1996	0.21027	9,012.07	42,859.56	
Alaska	1997	0.207423	9,097.31	43,858.73	
Alaska	1998	0.242848	9,074.49	37,367.00	

Alaska	1999	0.236554	9,208.80	38,928.97	
Alaska	2000	0.224424	9,668.16	43,079.81	27173.93
Alaska	2001	0.237549	9,997.69	42,086.80	28544.95
Alaska	2002	0.22867	10,419.20	45,564.40	30125.21
Alaska	2003	0.223454	10,769.63	48,196.29	29760.10
Alaska	2004	0.20945	11,074.34	52,873.33	31078.37
Alaska	2005	0.19953	11,851.11	59,395.13	27183.71
Alaska	2006	0.204366	12,537.04	61,345.89	27183.71
Alaska	2007	0.304823	12,300.20	40,352.00	30556.01
Alaska	2008	0.337705	14,629.71	43,321.00	33020.78
Alaska	2009	0.365041	15,551.82	42,603.00	32643.66
Alaska	2010	0.249015	11,000.00	44,174.00	31937.28
Alaska	2011	0.272441	16,674	61,202.00	31933.50
Arizona	1986	0.199951	3,336.00	16,684.10	
Arizona	1987	0.205856	3,544.00	17,215.89	
Arizona	1988	0.207977	3,744.11	18,002.55	
Arizona	1989	0.212879	3,902.00	18,329.65	
Arizona	1990	0.215407	4,053.21	18,816.55	
Arizona	1991	0.2259	4,308.80	19,073.92	
Arizona	1992	0.215243	4,380.74	20,352.47	
Arizona	1993	0.215301	4,509.82	20,946.56	
Arizona	1994	0.20539	4,610.51	22,447.59	
Arizona	1995	0.203583	4,778.33	23,471.18	

Arizona	1996	0.197046	4,860.19	24,665.25	
Arizona	1997	0.190433	4,940.29	25,942.42	
Arizona	1998	0.181818	5,122.46	28,173.53	
Arizona	1999	0.177071	5,234.70	29,562.75	
Arizona	2000	0.178543	5,478.36	30,683.65	26662.69
Arizona	2001	0.193336	6,031.60	31,197.47	26663.69
Arizona	2002	0.204887	6,469.52	31,576.03	26754.20
Arizona	2003	0.208064	6,784.00	32,605.30	27644.60
Arizona	2004	0.20417	6,898.48	33,787.86	28236.03
Arizona	2005	0.202377	7,217.71	35,664.66	30191.95
Arizona	2006	0.202578	7,636.95	37,698.83	30191.95
Arizona	2007	0.217878	7,196.30	33,029.00	30062.29
Arizona	2008	0.230867	7,607.74	32,953.00	30939.35
Arizona	2009	0.237233	7,813.27	32,935.00	29425.97
Arizona	2010	0.176291	6,170.00	34,999.00	26994.69
Arizona	2011	0.221071	7,666	34,676.00	25219.82
Arkansas	1986	0.203796	2,658.00	13,042.45	
Arkansas	1987	0.198841	2,733.00	13,744.66	
Arkansas	1988	0.202949	2,989.06	14,728.13	
Arkansas	1989	0.209525	3,273.00	15,621.06	
Arkansas	1990	0.215506	3,485.01	16,171.27	
Arkansas	1991	0.21532	3,699.89	17,183.18	
Arkansas	1992	0.219759	4,030.65	18,341.18	

Arkansas	1993	0.217394	4,124.23	18,971.19	
Arkansas	1994	0.21274	4,280.28	20,119.73	
Arkansas	1995	0.212073	4,458.51	21,023.52	
Arkansas	1996	0.214586	4,709.93	21,948.91	
Arkansas	1997	0.214306	4,840.12	22,585.15	
Arkansas	1998	0.212218	4,998.69	23,554.53	
Arkansas	1999	0.209868	5,192.76	24,743.01	
Arkansas	2000	0.225666	5,627.82	24,938.68	21418.44
Arkansas	2001	0.23203	5,941.72	25,607.57	23468.52
Arkansas	2002	0.250233	6,676.36	26,680.61	23548.91
Arkansas	2003	0.251217	6,980.84	27,788.13	23228.88
Arkansas	2004	0.245511	7,306.99	29,762.38	24512.42
Arkansas	2005	0.262987	8,243.27	31,344.80	24137.08
Arkansas	2006	0.267766	8,748.46	32,672.07	24137.08
Arkansas	2007	0.275568	8,283.57	30,060.00	24937.67
Arkansas	2008	0.27318	8,541.25	31,266.00	24859.04
Arkansas	2009	0.272708	8,711.92	31,946.00	25478.45
Arkansas	2010	0.336983	11,171.00	33,150.00	25075.71
Arkansas	2011	0.29649	9,353	31,547.00	23210.45
California	1986	0.168945	3,543.00	20,971.33	
California	1987	0.166973	3,728.00	22,327.00	
California	1988	0.16104	3,840.28	23,846.75	
California	1989	0.164509	4,135.00	25,135.40	

California	1990	0.166869	4,390.82	26,312.91	
California	1991	0.170788	4,490.68	26,293.85	
California	1992	0.179409	4,746.01	26,453.53	
California	1993	0.17933	4,780.18	26,655.73	
California	1994	0.179637	4,920.94	27,393.89	
California	1995	0.174071	4,991.82	28,677.00	
California	1996	0.170633	5,107.87	29,934.76	
California	1997	0.170991	5,414.30	31,664.25	
California	1998	0.176055	5,795.36	32,917.87	
California	1999	0.171533	6,045.22	35,242.33	
California	2000	0.169113	6,400.55	37,847.75	28572.60
California	2001	0.187568	7,063.17	37,656.51	31758.77
California	2002	0.194379	7,439.20	38,271.65	31542.58
California	2003	0.191678	7,601.50	39,657.60	30856.16
California	2004	0.182303	7,708.19	42,282.37	32081.58
California	2005	0.178686	7,988.54	44,707.21	32428.82
California	2006	0.17763	8,416.10	47,379.90	32428.82
California	2007	0.220163	9,152.39	41,571.00	33550.12
California	2008	0.231014	9,863.39	42,696.00	34680.89
California	2009	0.228175	9,657.49	42,325.00	33340.82
California	2010	0.205225	8,846.00	43,104.00	31877.70
California	2011	0.20355	9,139.00	44,898.00	29869.36
Colorado	1986	0.214255	3,975.00	18,552.67	

Colorado	1987	0.215024	4,147.00	19,286.20	
Colorado	1988	0.207731	4,219.90	20,314.22	
Colorado	1989	0.212744	4,521.00	21,250.92	
Colorado	1990	0.210402	4,720.34	22,434.88	
Colorado	1991	0.218153	5,063.91	23,212.65	
Colorado	1992	0.212432	5,171.75	24,345.39	
Colorado	1993	0.200691	5,139.27	25,607.86	
Colorado	1994	0.18901	5,097.27	26,968.17	
Colorado	1995	0.192763	5,442.55	28,234.33	
Colorado	1996	0.186513	5,521.44	29,603.53	
Colorado	1997	0.179885	5,727.70	31,840.88	
Colorado	1998	0.175385	6,099.18	34,775.94	
Colorado	1999	0.172688	6,386.24	36,981.39	
Colorado	2000	0.168746	6,701.71	39,714.76	29174.72
Colorado	2001	0.176109	7,081.57	40,211.25	31561.48
Colorado	2002	0.179943	7,283.64	40,477.57	31076.11
Colorado	2003	0.189851	7,826.20	41,222.78	32402.89
Colorado	2004	0.195053	8,415.74	43,145.96	32293.06
Colorado	2005	0.186185	8,557.56	45,962.57	32687.83
Colorado	2006	0.184342	8,938.25	48,487.21	32687.83
Colorado	2007	0.198986	8,166.77	41,042.00	33519.99
Colorado	2008	0.214234	9,078.58	42,377.00	34627.38
Colorado	2009	0.210876	8,718.48	41,344.00	33203.84

Colorado	2010	0.225013	9,631.00	42,802.00	32134.94
Colorado	2011	0.190006	8,724	45,913.00	30426.87
Connecticut	1986	0.208075	4,743.00	22,794.67	
Connecticut	1987	0.217197	5,435.00	25,023.41	
Connecticut	1988	0.228216	6,230.46	27,300.73	
Connecticut	1989	0.238021	6,857.00	28,808.41	
Connecticut	1990	0.260658	7,836.93	30,065.91	
Connecticut	1991	0.258799	7,853.48	30,345.80	
Connecticut	1992	0.253879	8,012.45	31,560.16	
Connecticut	1993	0.248174	7,973.48	32,128.55	
Connecticut	1994	0.25273	8,472.61	33,524.41	
Connecticut	1995	0.242613	8,816.60	36,340.18	
Connecticut	1996	0.232121	8,817.10	37,985.01	
Connecticut	1997	0.216895	8,901.03	41,038.43	
Connecticut	1998	0.213406	9,218.49	43,196.97	
Connecticut	1999	0.216737	9,619.71	44,384.29	
Connecticut	2000	0.215296	10,121.86	47,013.68	31262.79
Connecticut	2001	0.218954	10,524.54	48,067.39	35135.14
Connecticut	2002	0.229493	11,021.80	48,026.75	36058.14
Connecticut	2003	0.231664	11,301.73	48,784.92	37767.10
Connecticut	2004	0.223364	11,754.97	52,626.97	36863.26
Connecticut	2005	0.228959	12,655.36	55,273.50	37829.99
Connecticut	2006	0.231117	13,461.17	58,243.97	37829.99

Connecticut	2007	0.239838	12,979.33	54,117.00	39794.38
Connecticut	2008	0.246195	13,848.00	56,248.00	39395.04
Connecticut	2009	0.267131	14,531.12	54,397.00	38243.82
Connecticut	2010	0.258424	14,472.00	56,001.00	37300.10
Connecticut	2011	0.282904	15,600	55,143.00	36647.26
Delaware	1986	0.203635	4,610.00	22,638.54	
Delaware	1987	0.197616	4,825.00	24,416.01	
Delaware	1988	0.191374	5,017.38	26,217.59	
Delaware	1989	0.187693	5,422.00	28,887.54	
Delaware	1990	0.192996	5,798.81	30,046.28	
Delaware	1991	0.186118	5,973.87	32,097.27	
Delaware	1992	0.183836	6,092.63	33,141.71	
Delaware	1993	0.187865	6,273.89	33,395.72	
Delaware	1994	0.189079	6,621.44	35,019.41	
Delaware	1995	0.186488	7,029.57	37,694.56	
Delaware	1996	0.18641	7,266.69	38,982.32	
Delaware	1997	0.187551	7,803.88	41,609.50	
Delaware	1998	0.165029	7,962.69	48,250.11	
Delaware	1999	0.163808	8,336.14	50,889.69	
Delaware	2000	0.167054	8,808.67	52,729.48	31241.60
Delaware	2001	0.174904	9,720.05	55,573.57	33347.30
Delaware	2002	0.17701	9,958.93	56,261.80	32019.95
Delaware	2003	0.17245	10,257.36	59,480.13	31657.21

Delaware	2004	0.174578	11,049.38	63,291.99	31724.53
Delaware	2005	0.174639	11,770.21	67,397.22	33270.19
Delaware	2006	0.174343	12,330.16	70,723.72	33270.19
Delaware	2007	0.291296	11,828.96	40,608.00	33530.23
Delaware	2008	0.299941	12,253.17	40,852.00	35076.97
Delaware	2009	0.307839	12,257.22	39,817.00	32980.28
Delaware	2010	0.337721	13,496.00	39,962.00	32296.34
Delaware	2011	0.205468	12,685	61,737.00	31071.06
District of					
Columbia	1986	0.281904	5,337.00	18,932.00	
District of					
Columbia	1987	0.286441	5,742.00	20,046.00	
District of					
Columbia	1988	0.276762	6,132.22	22,157.00	
District of					
Columbia	1989	0.329237	7,850.00	23,843.00	
District of					
Columbia	1990	0.344217	8,954.81	26,015.00	
District of					
Columbia	1991	0.343079	9,377.37	27,333.00	
District of					
Columbia	1992	0.3328	9,549.37	28,694.00	
District of	1993	0.315212	9,419.49	29,883.00	

Columbia					
District of Columbia	1994	0.330487	10,180.33	30,804.00	
District of Columbia	1995	0.298324	9,334.86	31,291.00	
District of Columbia	1996	0.290008	9,564.74	32,981.00	
District of Columbia	1997	0.25911	9,018.85	34,807.00	
District of Columbia	1998	0.252709	9,224.65	36,503.00	
District of Columbia	1999	0.286059	10,610.79	37,093.00	
District of Columbia	2000	0.294964	11,934.84	40,462.00	37960.45
District of Columbia	2001	0.290709	13,204.29	45,421.00	41049.40
District of Columbia	2002	0.314082	14,556.75	46,347.00	42001.47
District of Columbia	2003	0.304124	14,735.09	48,451.00	41882.92
District of Columbia	2004	0.294371	15,413.88	52,362.00	45428.74

District of Columbia	2005	0.267451	15,074.06	56,362.00	45910.74
District of Columbia	2006	0.293265	17,876.55	60,957.00	45910.74
District of Columbia	2007	0.234473	14,324.41	61,092.00	50238.34
District of Columbia	2008	0.224559	14,594.34	64,991.00	53422.77
District of Columbia	2009	0.248601	16,407.68	66,000.00	53257.20
District of Columbia	2010	0.190291	13,519.00	71,044.00	52143.19
District of Columbia	2011	0.124861	18,475	147,965.00	53243.91
Florida	1986	0.218867	3,529.00	16,123.93	
Florida	1987	0.22	3,794.00	17,245.48	
Florida	1988	0.222258	4,092.08	18,411.43	
Florida	1989	0.237001	4,563.00	19,253.05	
Florida	1990	0.253193	4,997.34	19,737.28	
Florida	1991	0.263368	5,276.33	20,034.03	
Florida	1992	0.252176	5,242.82	20,790.37	
Florida	1993	0.245015	5,314.06	21,688.73	
Florida	1994	0.243857	5,515.64	22,618.37	

Florida	1995	0.244137	5,718.09	23,421.65	
Florida	1996	0.241209	5,894.08	24,435.55	
Florida	1997	0.236735	5,985.77	25,284.62	
Florida	1998	0.229546	6,183.40	26,937.49	
Florida	1999	0.229419	6,442.93	28,083.65	
Florida	2000	0.217367	6,383.03	29,365.18	25335.57
Florida	2001	0.217662	6,620.12	30,414.63	26320.74
Florida	2002	0.21315	6,678.81	31,333.84	27067.18
Florida	2003	0.210269	6,921.80	32,918.83	27566.95
Florida	2004	0.207902	7,269.02	34,963.74	28389.02
Florida	2005	0.206046	7,730.56	37,518.68	29255.73
Florida	2006	0.212372	8,376.43	39,442.20	29255.73
Florida	2007	0.221459	8,513.77	38,444.00	30420.80
Florida	2008	0.231247	9,034.82	39,070.00	30587.61
Florida	2009	0.231879	8,760.38	37,780.00	28684.31
Florida	2010	0.228229	8,963.00	39,272.00	26781.93
Florida	2011	0.258029	8,887	34,440.00	25569.16
Georgia	1986	0.168161	2,996.00	17,816.27	
Georgia	1987	0.16904	3,181.00	18,817.98	
Georgia	1988	0.17194	3,434.14	19,972.93	
Georgia	1989	0.18558	3,852.00	20,756.51	
Georgia	1990	0.199529	4,274.71	21,424.00	
Georgia	1991	0.203046	4,466.02	21,995.17	

Georgia	1992	0.190357	4,419.23	23,215.53	
Georgia	1993	0.193523	4,685.63	24,212.27	
Georgia	1994	0.190911	4,914.87	25,744.27	
Georgia	1995	0.191106	5,193.00	27,173.41	
Georgia	1996	0.187502	5,377.49	28,679.65	
Georgia	1997	0.190404	5,707.59	29,976.19	
Georgia	1998	0.186388	6,058.73	32,505.99	
Georgia	1999	0.189738	6,534.07	34,437.39	
Georgia	2000	0.195325	6,903.24	35,342.35	29931.48
Georgia	2001	0.209056	7,431.12	35,546.16	29528.76
Georgia	2002	0.220627	7,869.55	35,669.06	29366.95
Georgia	2003	0.22865	8,307.51	36,332.87	29673.03
Georgia	2004	0.21909	8,278.50	37,785.82	30566.16
Georgia	2005	0.218573	8,576.90	39,240.40	29425.10
Georgia	2006	0.226079	9,163.68	40,533.15	29425.10
Georgia	2007	0.272808	9,127.35	33,457.00	29988.20
Georgia	2008	0.288089	9,787.82	33,975.00	30916.73
Georgia	2009	0.28563	9,650.28	33,786.00	30197.26
Georgia	2010	0.298507	10,594.00	35,490.00	27331.25
Georgia	2011	0.26867	9,253.00	34,440.00	25735.00
Hawaii	1986	0.185871	3,807.00	20,481.94	
Hawaii	1987	0.173428	3,787.00	21,836.14	
Hawaii	1988	0.164467	3,918.72	23,826.85	

Hawaii	1989	0.158762	4,121.00	25,957.08	
Hawaii	1990	0.155287	4,448.48	28,646.84	
Hawaii	1991	0.17489	5,166.14	29,539.37	
Hawaii	1992	0.178376	5,419.89	30,384.61	
Hawaii	1993	0.186209	5,704.36	30,634.24	
Hawaii	1994	0.192564	5,879.07	30,530.44	
Hawaii	1995	0.198909	6,078.02	30,556.78	
Hawaii	1996	0.19709	6,051.28	30,703.09	
Hawaii	1997	0.196287	6,143.57	31,298.90	
Hawaii	1998	0.207414	6,408.81	30,898.60	
Hawaii	1999	0.208313	6,648.02	31,913.58	
Hawaii	2000	0.213773	7,090.17	33,166.87	23522.78
Hawaii	2001	0.207534	7,106.06	34,240.50	24796.88
Hawaii	2002	0.224637	7,919.17	35,253.22	26232.25
Hawaii	2003	0.235218	8,769.83	37,283.86	25381.17
Hawaii	2004	0.231635	9,340.65	40,324.82	28129.70
Hawaii	2005	0.225598	9,704.61	43,017.31	29350.14
Hawaii	2006	0.23693	10,746.57	45,357.52	29350.14
Hawaii	2007	0.281871	11,060.34	39,239.00	30765.79
Hawaii	2008	0.291429	11,799.97	40,490.00	30911.28
Hawaii	2009	0.295163	12,399.50	42,009.00	31436.53
Hawaii	2010	0.280856	11,521.00	41,021.00	30962.54
Hawaii	2011	0.270995	12,004.00	44,296.00	30309.97

Idaho	1986	0.187665	2,484.00	13,236.36	
Idaho	1987	0.184162	2,585.00	14,036.55	
Idaho	1988	0.173852	2,667.20	15,341.78	
Idaho	1989	0.168089	2,833.00	16,854.12	
Idaho	1990	0.175346	3,077.62	17,551.64	
Idaho	1991	0.189576	3,386.40	17,862.97	
Idaho	1992	0.187438	3,556.07	18,971.99	
Idaho	1993	0.180281	3,690.27	20,469.57	
Idaho	1994	0.177374	3,843.98	21,671.59	
Idaho	1995	0.182895	4,209.78	23,017.49	
Idaho	1996	0.190797	4,464.64	23,399.88	
Idaho	1997	0.197808	4,731.85	23,921.47	
Idaho	1998	0.210621	5,011.87	23,795.64	
Idaho	1999	0.210144	5,378.99	25,596.66	
Idaho	2000	0.209673	5,644.10	26,918.53	22562.77
Idaho	2001	0.225389	6,077.31	26,963.64	22888.44
Idaho	2002	0.234403	6,390.91	27,264.69	21261.07
Idaho	2003	0.231354	6,454.22	27,897.63	21923.88
Idaho	2004	0.214209	6,558.58	30,617.62	23092.05
Idaho	2005	0.208628	6,698.19	32,105.82	25234.09
Idaho	2006	0.201615	6,861.40	34,032.18	25234.09
Idaho	2007	0.212367	6,625.22	31,197.00	26574.38
Idaho	2008	0.215698	6,931.04	32,133.00	26277.09

Idaho	2009	0.224191	7,091.62	31,632.00	25451.54
Idaho	2010	0.244133	7,875.00	32,257.00	24053.13
Idaho	2011	0.213084	6,824.00	32,025.00	22819.25
Illinois	1986	0.197052	3,781.00	19,187.85	
Illinois	1987	0.20283	4,106.00	20,243.53	
Illinois	1988	0.198178	4,368.71	22,044.42	
Illinois	1989	0.211115	4,906.00	23,238.56	
Illinois	1990	0.21142	5,117.67	24,206.18	
Illinois	1991	0.222851	5,520.38	24,771.62	
Illinois	1992	0.218109	5,669.71	25,994.89	
Illinois	1993	0.219589	5,898.36	26,860.91	
Illinois	1994	0.204458	5,893.21	28,823.55	
Illinois	1995	0.204823	6,135.64	29,955.86	
Illinois	1996	0.196582	6,128.31	31,174.28	
Illinois	1997	0.199237	6,557.49	32,912.96	
Illinois	1998	0.205896	7,111.40	34,538.81	
Illinois	1999	0.213775	7,675.59	35,905.03	
Illinois	2000	0.216658	8,083.88	37,311.72	30498.01
Illinois	2001	0.227617	8,658.98	38,041.82	31745.33
Illinois	2002	0.231856	8,967.36	38,676.37	32061.49
Illinois	2003	0.230751	9,308.58	40,340.31	31894.88
Illinois	2004	0.231009	9,709.54	42,031.07	33320.97
Illinois	2005	0.230228	10,020.39	43,523.73	32172.44

Illinois	2006	0.223787	10,282.49	45,947.58	32172.44
Illinois	2007	0.236969	9,555.08	40,322.00	33709.04
Illinois	2008	0.241678	10,246.44	42,397.00	35100.56
Illinois	2009	0.261635	10,834.55	41,411.00	34625.76
Illinois	2010	0.26546	11,457.00	43,159.00	32586.49
Illinois	2011	0.237805	10,774.00	45,306.00	31607.34
Indiana	1986	0.207339	3,275.00	15,795.38	
Indiana	1987	0.213469	3,556.00	16,658.14	
Indiana	1988	0.211001	3,793.56	17,978.88	
Indiana	1989	0.222209	4,284.00	19,279.15	
Indiana	1990	0.232557	4,606.29	19,807.13	
Indiana	1991	0.243269	4,930.48	20,267.65	
Indiana	1992	0.232985	5,073.52	21,776.19	
Indiana	1993	0.234909	5,344.12	22,749.71	
Indiana	1994	0.231074	5,630.02	24,364.61	
Indiana	1995	0.230378	5,826.29	25,290.10	
Indiana	1996	0.229384	6,039.95	26,331.13	
Indiana	1997	0.239548	6,605.15	27,573.41	
Indiana	1998	0.227531	6,785.82	29,823.73	
Indiana	1999	0.235918	7,248.77	30,725.88	
Indiana	2000	0.239788	7,652.08	31,911.86	25870.55
Indiana	2001	0.255104	8,127.99	31,861.48	26546.31
Indiana	2002	0.248202	8,267.69	33,310.33	26829.76

Indiana	2003	0.246655	8,582.10	34,793.89	26655.05
Indiana	2004	0.244827	9,033.23	36,896.33	28131.68
Indiana	2005	0.255555	9,639.65	37,720.44	28198.94
Indiana	2006	0.242423	9,557.71	39,425.71	28198.94
Indiana	2007	0.265895	8,938.33	33,616.00	28856.79
Indiana	2008	0.264966	9,036.14	34,103.00	29347.55
Indiana	2009	0.277816	9,369.36	33,725.00	27511.10
Indiana	2010	0.289615	10,120.00	34,943.00	27283.61
Indiana	2011	0.247001	9,370.00	37,935.00	24946.32
Iowa	1986	0.234377	3,619.00	15,440.90	
Iowa	1987	0.23153	3,770.00	16,282.98	
Iowa	1988	0.233463	4,123.63	17,662.93	
Iowa	1989	0.225005	4,285.00	19,044.03	
Iowa	1990	0.22162	4,452.77	20,091.92	
Iowa	1991	0.226961	4,679.14	20,616.50	
Iowa	1992	0.234251	5,096.02	21,754.53	
Iowa	1993	0.237826	5,256.96	22,104.20	
Iowa	1994	0.218019	5,288.45	24,256.81	
Iowa	1995	0.218653	5,483.15	25,076.96	
Iowa	1996	0.215196	5,771.74	26,820.83	
Iowa	1997	0.213526	6,047.39	28,321.56	
Iowa	1998	0.21842	6,295.17	28,821.46	
Iowa	1999	0.22186	6,548.13	29,514.67	

Iowa	2000	0.224883	6,925.00	30,793.84	23157.33
Iowa	2001	0.234148	7,340.30	31,349.00	25553.83
Iowa	2002	0.232565	7,713.57	33,167.36	25496.33
Iowa	2003	0.228645	7,943.31	34,740.85	25769.26
Iowa	2004	0.212125	8,016.67	37,792.19	27020.02
Iowa	2005	0.210275	8,341.09	39,667.53	28472.86
Iowa	2006	0.203495	8,459.61	41,571.58	28472.86
Iowa	2007	0.250372	8,768.79	35,023.00	28917.48
Iowa	2008	0.252652	9,267.27	36,680.00	30326.57
Iowa	2009	0.264124	9,706.84	36,751.00	30701.74
Iowa	2010	0.246989	9,455.00	38,281.00	29495.91
Iowa	2011	0.236861	9,807.00	41,404.00	29635.16
Kansas	1986	0.223319	3,829.00	17,145.91	
Kansas	1987	0.219132	3,933.00	17,948.06	
Kansas	1988	0.216914	4,076.43	18,792.85	
Kansas	1989	0.227321	4,443.00	19,545.09	
Kansas	1990	0.229948	4,751.59	20,663.76	
Kansas	1991	0.22831	4,874.16	21,348.91	
Kansas	1992	0.226077	5,007.47	22,149.40	
Kansas	1993	0.240185	5,441.99	22,657.51	
Kansas	1994	0.236296	5,659.44	23,950.66	
Kansas	1995	0.237533	5,817.22	24,490.13	
Kansas	1996	0.22971	5,971.28	25,994.87	

Kansas	1997	0.223822	6,158.37	27,514.60	
Kansas	1998	0.224248	6,406.08	28,566.89	
Kansas	1999	0.228381	6,707.65	29,370.45	
Kansas	2000	0.226401	6,962.15	30,751.44	24388.48
Kansas	2001	0.240165	7,680.99	31,982.14	25770.63
Kansas	2002	0.252837	8,342.21	32,994.42	26102.97
Kansas	2003	0.244052	8,373.00	34,308.24	25933.47
Kansas	2004	0.24322	8,804.25	36,198.73	27257.26
Kansas	2005	0.236003	9,036.60	38,290.18	27967.04
Kansas	2006	0.245109	9,905.10	40,410.99	27967.04
Kansas	2007	0.244442	8,987.65	36,768.00	28616.59
Kansas	2008	0.254531	9,666.56	37,978.00	31561.22
Kansas	2009	0.262449	9,951.00	37,916.00	29742.40
Kansas	2010	0.233133	9,264.00	39,737.00	28418.42
Kansas	2011	0.233274	9,498.00	40,716.00	28546.63
Kentucky	1986	0.17186	2,486.00	14,465.29	
Kentucky	1987	0.177948	2,733.00	15,358.40	
Kentucky	1988	0.182441	3,010.63	16,501.90	
Kentucky	1989	0.190162	3,347.00	17,600.76	
Kentucky	1990	0.204939	3,745.23	18,274.80	
Kentucky	1991	0.229754	4,353.71	18,949.43	
Kentucky	1992	0.232047	4,718.74	20,335.32	
Kentucky	1993	0.231126	4,872.13	21,079.92	

Kentucky	1994	0.227837	5,107.30	22,416.48	
Kentucky	1995	0.224183	5,216.65	23,269.63	
Kentucky	1996	0.228817	5,545.21	24,234.25	
Kentucky	1997	0.230111	5,928.96	25,765.63	
Kentucky	1998	0.224324	6,124.70	27,302.97	
Kentucky	1999	0.230175	6,500.72	28,242.53	
Kentucky	2000	0.245497	6,784.23	27,634.68	22558.77
Kentucky	2001	0.253491	7,173.71	28,299.68	22883.49
Kentucky	2002	0.255234	7,535.70	29,524.74	23688.20
Kentucky	2003	0.254608	7,728.42	30,354.19	23049.55
Kentucky	2004	0.250381	7,972.60	31,841.88	23235.04
Kentucky	2005	0.252217	8,378.76	33,220.47	26542.58
Kentucky	2006	0.258617	8,974.50	34,701.96	26542.58
Kentucky	2007	0.267069	8,308.78	31,111.00	26362.67
Kentucky	2008	0.272917	8,685.84	31,826.00	27180.04
Kentucky	2009	0.274618	8,755.63	31,883.00	26884.78
Kentucky	2010	0.287963	9,603.00	33,348.00	25878.03
Kentucky	2011	0.280942	9,309.00	33,135.00	24595.27
Louisiana	1986	0.18515	3,187.00	17,213.07	
Louisiana	1987	0.174269	3,069.00	17,610.73	
Louisiana	1988	0.163501	3,138.13	19,193.29	
Louisiana	1989	0.163664	3,317.00	20,267.11	
Louisiana	1990	0.176069	3,903.43	22,169.91	

Louisiana	1991	0.189275	4,196.36	22,170.66	
Louisiana	1992	0.210147	4,352.34	20,710.91	
Louisiana	1993	0.20499	4,428.18	21,601.89	
Louisiana	1994	0.19273	4,519.27	23,448.75	
Louisiana	1995	0.190975	4,760.58	24,927.73	
Louisiana	1996	0.190837	4,987.63	26,135.53	
Louisiana	1997	0.188862	5,200.68	27,536.99	
Louisiana	1998	0.212216	5,643.60	26,593.66	
Louisiana	1999	0.21645	6,019.09	27,808.17	
Louisiana	2000	0.212589	6,255.64	29,425.92	23434.23
Louisiana	2001	0.218778	6,552.88	29,952.14	22610.55
Louisiana	2002	0.235042	7,061.33	30,042.88	23634.78
Louisiana	2003	0.228795	7,491.80	32,744.58	23627.89
Louisiana	2004	0.216878	7,846.22	36,178.08	24516.30
Louisiana	2005	0.207145	8,287.75	40,009.49	25444.65
Louisiana	2006	0.190219	8,568.20	45,043.95	25444.65
Louisiana	2007	0.256881	8,928.14	34,756.00	26668.05
Louisiana	2008	0.274437	9,954.12	36,271.00	27924.33
Louisiana	2009	0.296638	10,532.73	35,507.00	29268.14
Louisiana	2010	0.279613	10,750.00	38,446.00	27812.16
Louisiana	2011	0.250748	10,723.00	42,764.00	27136.13
Maine	1986	0.232115	3,472.00	14,958.12	
Maine	1987	0.23619	3,850.00	16,300.42	

Maine	1988	0.237894	4,258.38	17,900.33	
Maine	1989	0.253445	4,744.00	18,718.03	
Maine	1990	0.283507	5,372.90	18,951.56	
Maine	1991	0.288557	5,457.73	18,913.88	
Maine	1992	0.288775	5,651.65	19,571.13	
Maine	1993	0.301626	6,073.06	20,134.40	
Maine	1994	0.287789	6,068.61	21,086.99	
Maine	1995	0.289112	6,428.23	22,234.37	
Maine	1996	0.285522	6,545.88	22,926.04	
Maine	1997	0.288271	6,879.54	23,864.86	
Maine	1998	0.287213	7,238.00	25,200.79	
Maine	1999	0.291949	7,688.39	26,334.69	
Maine	2000	0.296412	8,246.75	27,821.90	23906.58
Maine	2001	0.30763	8,878.91	28,862.29	23702.73
Maine	2002	0.319534	9,517.15	29,784.46	25100.22
Maine	2003	0.32926	10,113.93	30,717.19	26835.55
Maine	2004	0.320002	10,504.43	32,826.17	26100.64
Maine	2005	0.327388	11,152.69	34,065.63	25377.18
Maine	2006	0.330863	11,759.92	35,543.22	25377.18
Maine	2007	0.337678	11,387.19	33,722.00	26532.08
Maine	2008	0.327059	11,571.69	35,381.00	26594.27
Maine	2009	0.334846	12,303.91	36,745.00	26333.24
Maine	2010	0.381957	14,247.00	37,300.00	26115.49

Maine	2011	0.331969	11,438.00	34,455.00	26525.67
Maryland	1986	0.236413	4,447.00	18,810.34	
Maryland	1987	0.236822	4,777.00	20,171.27	
Maryland	1988	0.237467	5,201.34	21,903.39	
Maryland	1989	0.250927	5,758.00	22,946.90	
Maryland	1990	0.26486	6,275.44	23,693.43	
Maryland	1991	0.278662	6,653.69	23,877.27	
Maryland	1992	0.275275	6,678.90	24,262.66	
Maryland	1993	0.271535	6,812.82	25,090.06	
Maryland	1994	0.264656	6,957.58	26,289.15	
Maryland	1995	0.267374	7,245.47	27,098.64	
Maryland	1996	0.264077	7,382.49	27,955.87	
Maryland	1997	0.2555	7,543.10	29,522.85	
Maryland	1998	0.251048	7,812.19	31,118.29	
Maryland	1999	0.241159	7,865.27	32,614.47	
Maryland	2000	0.243638	8,273.12	33,956.58	30298.18
Maryland	2001	0.246665	8,833.46	35,811.59	32738.98
Maryland	2002	0.247009	9,265.99	37,512.76	33258.26
Maryland	2003	0.253026	9,801.18	38,735.83	34087.02
Maryland	2004	0.245716	10,139.61	41,265.57	33710.94
Maryland	2005	0.246725	10,789.90	43,732.48	36481.50
Maryland	2006	0.255261	11,718.92	45,909.46	36481.50
Maryland	2007	0.254749	11,723.78	46,021.00	38388.74

Maryland	2008	0.269616	12,966.11	48,091.00	39738.04
Maryland	2009	0.278538	13,449.20	48,285.00	38902.58
Maryland	2010	0.290546	14,244.00	49,025.00	36435.59
Maryland	2011	0.30119	13,871.00	46,054.00	35460.30
Massachusetts	1986	0.213028	4,562.00	21,415.04	
Massachusetts	1987	0.220416	5,145.00	23,342.21	
Massachusetts	1988	0.216367	5,471.16	25,286.45	
Massachusetts	1989	0.227783	5,972.00	26,217.96	
Massachusetts	1990	0.236397	6,237.16	26,384.28	
Massachusetts	1991	0.239167	6,365.87	26,616.90	
Massachusetts	1992	0.23192	6,408.39	27,631.95	
Massachusetts	1993	0.231846	6,627.04	28,583.78	
Massachusetts	1994	0.22888	6,959.43	30,406.51	
Massachusetts	1995	0.22918	7,287.14	31,796.59	
Massachusetts	1996	0.225887	7,613.49	33,704.89	
Massachusetts	1997	0.218258	7,818.26	35,821.22	
Massachusetts	1998	0.220488	8,299.43	37,641.12	
Massachusetts	1999	0.218828	8,750.45	39,987.84	
Massachusetts	2000	0.216946	9,374.95	43,213.28	34124.87
Massachusetts	2001	0.230063	10,072.97	43,783.51	37007.20
Massachusetts	2002	0.244424	10,808.27	44,219.42	37918.93
Massachusetts	2003	0.244604	11,161.32	45,630.22	35425.62
Massachusetts	2004	0.24087	11,582.55	48,086.27	38164.84

Massachusetts	2005	0.245401	12,208.31	49,748.44	37652.13
Massachusetts	2006	0.250332	13,127.53	52,440.56	37652.13
Massachusetts	2007	0.259523	12,737.89	49,082.00	38942.25
Massachusetts	2008	0.265191	13,454.47	50,735.00	40248.07
Massachusetts	2009	0.283076	14,118.43	49,875.00	39808.26
Massachusetts	2010	0.286429	14,766.00	51,552.00	38921.03
Massachusetts	2011	0.265457	13,941.00	52,517.00	38025.30
Michigan	1986	0.236029	4,176.00	17,692.70	
Michigan	1987	0.239675	4,353.00	18,162.08	
Michigan	1988	0.243848	4,691.59	19,239.86	
Michigan	1989	0.255248	5,150.00	20,176.48	
Michigan	1990	0.272173	5,546.40	20,378.21	
Michigan	1991	0.284681	5,882.70	20,664.23	
Michigan	1992	0.286511	6,268.16	21,877.58	
Michigan	1993	0.280015	6,494.31	23,192.70	
Michigan	1994	0.259701	6,658.13	25,637.71	
Michigan	1995	0.26962	6,994.40	25,941.66	
Michigan	1996	0.265002	7,165.58	27,039.72	
Michigan	1997	0.266242	7,567.73	28,424.26	
Michigan	1998	0.245608	7,717.22	31,420.88	
Michigan	1999	0.247074	8,142.15	32,954.35	
Michigan	2000	0.262351	8,885.86	33,870.20	28706.96
Michigan	2001	0.270126	9,030.60	33,431.06	28806.70

Michigan	2002	0.270537	9,428.41	34,850.69	28796.59
Michigan	2003	0.276127	9,846.53	35,659.41	28944.57
Michigan	2004	0.279118	10,048.72	36,001.75	29654.81
Michigan	2005	0.280315	10,327.73	36,843.30	28358.35
Michigan	2006	0.280829	10,598.31	37,739.35	28358.35
Michigan	2007	0.282508	9,912.08	35,086.00	28596.00
Michigan	2008	0.28524	10,068.67	35,299.00	28642.28
Michigan	2009	0.308093	10,482.86	34,025.00	27292.58
Michigan	2010	0.32573	11,595.00	35,597.00	26126.21
Michigan	2011	0.313283	10,823.00	34,547.00	25382.38
Minnesota	1986	0.211933	3,941.00	18,595.48	
Minnesota	1987	0.210875	4,180.00	19,822.20	
Minnesota	1988	0.209374	4,385.88	20,947.63	
Minnesota	1989	0.214498	4,755.00	22,168.05	
Minnesota	1990	0.217488	4,970.52	22,854.28	
Minnesota	1991	0.224147	5,238.72	23,371.83	
Minnesota	1992	0.217259	5,408.75	24,895.39	
Minnesota	1993	0.220134	5,553.94	25,229.84	
Minnesota	1994	0.211403	5,719.51	27,054.97	
Minnesota	1995	0.212847	5,999.53	28,187.11	
Minnesota	1996	0.204998	6,162.08	30,059.24	
Minnesota	1997	0.199353	6,371.20	31,959.38	
Minnesota	1998	0.198345	6,794.86	34,257.82	

Minnesota	1999	0.2025	7,183.16	35,472.39	
Minnesota	2000	0.199915	7,499.14	37,511.69	30521.38
Minnesota	2001	0.208639	7,960.44	38,154.17	31621.46
Minnesota	2002	0.203719	8,050.45	39,517.41	32100.29
Minnesota	2003	0.205106	8,440.14	41,150.04	33165.26
Minnesota	2004	0.204441	8,934.34	43,701.36	33626.64
Minnesota	2005	0.20541	9,272.84	45,143.12	33103.41
Minnesota	2006	0.206234	9,760.55	47,327.51	33103.41
Minnesota	2007	0.232476	9,539.40	41,034.00	33487.60
Minnesota	2008	0.237077	10,140.24	42,772.00	35095.78
Minnesota	2009	0.267079	11,097.67	41,552.00	33937.95
Minnesota	2010	0.267185	11,447.00	42,843.00	32982.13
Minnesota	2011	0.234357	10,712.00	45,708.00	32459.52
Mississippi	1986	0.195777	2,362.00	12,064.76	
Mississippi	1987	0.180936	2,350.00	12,988.03	
Mississippi	1988	0.184153	2,548.09	13,836.82	
Mississippi	1989	0.197384	2,861.00	14,494.56	
Mississippi	1990	0.205791	3,093.62	15,032.78	
Mississippi	1991	0.202776	3,186.62	15,714.97	
Mississippi	1992	0.194951	3,245.25	16,646.50	
Mississippi	1993	0.192233	3,382.38	17,595.19	
Mississippi	1994	0.19436	3,660.39	18,833.08	
Mississippi	1995	0.206405	4,079.80	19,765.97	

Mississippi	1996	0.208574	4,250.06	20,376.74	
Mississippi	1997	0.205484	4,312.27	20,985.93	
Mississippi	1998	0.212051	4,574.91	21,574.54	
Mississippi	1999	0.218569	4,871.19	22,286.74	
Mississippi	2000	0.237387	5,355.51	22,560.29	20738.77
Mississippi	2001	0.239655	5,534.76	23,094.71	21801.72
Mississippi	2002	0.240305	5,719.47	23,800.85	22975.21
Mississippi	2003	0.246064	6,186.26	25,140.81	22200.95
Mississippi	2004	0.249507	6,601.44	26,457.93	23676.65
Mississippi	2005	0.254954	6,993.91	27,432.05	23355.45
Mississippi	2006	0.266064	7,699.35	28,937.93	23355.45
Mississippi	2007	0.259089	7,473.42	28,845.00	25233.60
Mississippi	2008	0.267205	7,901.00	29,569.00	25212.94
Mississippi	2009	0.268238	8,074.76	30,103.00	25138.69
Mississippi	2010	0.248573	7,752.00	31,186.00	23045.41
Mississippi	2011	0.279776	7,928.00	28,337.00	21849.38
Missouri	1986	0.18902	3,189.00	16,871.19	
Missouri	1987	0.195444	3,472.00	17,764.68	
Missouri	1988	0.199397	3,785.84	18,986.42	
Missouri	1989	0.212974	4,263.00	20,016.48	
Missouri	1990	0.222062	4,507.02	20,296.24	
Missouri	1991	0.224386	4,753.82	21,185.89	
Missouri	1992	0.218717	4,829.91	22,082.95	

Missouri	1993	0.217629	4,885 17	22,447.18	
Missouri	1994	0.211938	5,113.78	24,128.66	
Missouri	1995	0.210519	5,383.20	25,571.16	
Missouri	1996	0.21068	5,625.99	26,703.96	
Missouri	1997	0.206637	5,822.99	28,179.81	
Missouri	1998	0.204917	6,096.09	29,749.00	
Missouri	1999	0.210435	6,393.32	30,381.44	
Missouri	2000	0.21461	6,764.14	31,518.24	25317.90
Missouri	2001	0.224804	7,264.57	32,315.17	26895.35
Missouri	2002	0.232203	7,699.58	33,158.88	27278.28
Missouri	2003	0.233754	8,001.93	34,232.29	27527.68
Missouri	2004	0.225404	8,021.67	35,588.03	27784.67
Missouri	2005	0.225356	8,359.88	37,096.24	28013.66
Missouri	2006	0.228514	8,834.21	38,659.44	28013.66
Missouri	2007	0.248027	8,529.39	34,389.00	28642.33
Missouri	2008	0.261616	9,216.20	35,228.00	29668.72
Missouri	2009	0.26711	9,529.40	35,676.00	29061.84
Missouri	2010	0.245437	9,076.00	36,979.00	27822.19
Missouri	2011	0.260168	9,410.00	36,169.00	26942.68
Montana	1986	0.296244	4,091.00	13,809.58	
Montana	1987	0.289725	4,194.00	14,475.78	
Montana	1988	0.286025	4,245.68	14,843.75	
Montana	1989	0.267289	4,293.00	16,061.25	

Montana	1990	0.282487	4,736.46	16,766.97	
Montana	1991	0.299764	5,204.26	17,361.18	
Montana	1992	0.292001	5,319.36	18,216.94	
Montana	1993	0.284459	5,425.44	19,072.85	
Montana	1994	0.284259	5,597.69	19,692.19	
Montana	1995	0.286856	5,691.94	19,842.50	
Montana	1996	0.287895	5,846.55	20,307.95	
Montana	1997	0.289766	6,111.74	21,091.96	
Montana	1998	0.289397	6,447.97	22,280.71	
Montana	1999	0.297709	6,768.47	22,735.20	
Montana	2000	0.295596	6,990.02	23,647.22	22246.16
Montana	2001	0.301795	7,484.02	24,798.38	19563.30
Montana	2002	0.303747	7,860.96	25,879.96	21919.98
Montana	2003	0.301502	8,390.98	27,830.57	20859.02
Montana	2004	0.292356	8,770.57	29,999.62	22276.96
Montana	2005	0.284605	9,108.40	32,003.65	24960.95
Montana	2006	0.282109	9,652.78	34,216.50	24960.95
Montana	2007	0.279673	9,077.61	32,458.00	24964.94
Montana	2008	0.282175	9,666.18	34,256.00	27760.01
Montana	2009	0.295825	10,059.25	34,004.00	25658.71
Montana	2010	0.272192	9,613.00	35,317.00	27062.50
Montana	2011	0.324934	10,639.00	32,742.00	25438.72
Nebraska	1986	0.219112	3,634.00	16,585.13	

Nebraska	1987	0.219606	3,756.00	17,103.38	
Nebraska	1988	0.211637	3,943.10	18,631.44	
Nebraska	1989	0.218632	4,360.00	19,942.22	
Nebraska	1990	0.226725	4,841.66	21,354.78	
Nebraska	1991	0.225715	5,037.69	22,318.80	
Nebraska	1992	0.223533	5,263.48	23,546.76	
Nebraska	1993	0.221876	5,336.47	24,051.58	
Nebraska	1994	0.2162	5,650.60	26,136.01	
Nebraska	1995	0.22097	5,935.01	26,858.91	
Nebraska	1996	0.210719	6,082.96	28,867.69	
Nebraska	1997	0.219074	6,471.85	29,541.90	
Nebraska	1998	0.214408	6,584.16	30,708.52	
Nebraska	1999	0.218857	6,855.97	31,326.33	
Nebraska	2000	0.2273	7,359.60	32,378.40	24255.25
Nebraska	2001	0.230129	7,688.03	33,407.49	25292.28
Nebraska	2002	0.237374	8,237.67	34,703.31	26297.76
Nebraska	2003	0.2298	8,550.02	37,206.31	27858.67
Nebraska	2004	0.238233	9,269.77	38,910.58	26961.61
Nebraska	2005	0.234566	9,638.18	41,089.48	27948.33
Nebraska	2006	0.23756	10,169.63	42,808.73	27948.33
Nebraska	2007	0.250648	9,141.40	36,471.00	29908.38
Nebraska	2008	0.253829	9,576.96	37,730.00	31036.33
Nebraska	2009	0.263785	10,045.19	38,081.00	30143.23

Nebraska	2010	0.246733	9,760.00	39,557.00	29572.51
Nebraska	2011	0.242746	10,825.00	44,594.00	30036.31
Nevada	1986	0.166682	3,440.00	20,638.12	
Nevada	1987	0.157335	3,440.00	21,864.13	
Nevada	1988	0.152937	3,623.26	23,691.16	
Nevada	1989	0.153963	3,871.00	25,142.48	
Nevada	1990	0.157948	4,117.25	26,067.12	
Nevada	1991	0.179514	4,653.33	25,921.73	
Nevada	1992	0.182354	4,925.74	27,011.91	
Nevada	1993	0.178549	5,065.66	28,371.30	
Nevada	1994	0.168859	5,051.82	29,917.33	
Nevada	1995	0.166644	5,160.19	30,965.28	
Nevada	1996	0.163912	5,320.20	32,457.75	
Nevada	1997	0.165808	5,540.60	33,415.83	
Nevada	1998	0.167672	5,757.54	34,338.07	
Nevada	1999	0.166773	5,934.10	35,581.93	
Nevada	2000	0.168327	6,147.72	36,522.47	24158.91
Nevada	2001	0.166776	6,150.48	36,878.64	26567.81
Nevada	2002	0.172884	6,477.47	37,467.23	28037.92
Nevada	2003	0.165767	6,496.30	39,189.21	27358.92
Nevada	2004	0.159183	6,779.69	42,590.65	28672.19
Nevada	2005	0.157631	7,198.21	45,665.11	32834.23
Nevada	2006	0.162709	7,719.63	47,444.45	32834.23

Nevada	2007	0.197451	7,992.81	40,480.00	33826.65
Nevada	2008	0.205308	8,284.80	40,353.00	32919.20
Nevada	2009	0.218311	8,422.02	38,578.00	31955.29
Nevada	2010	0.211179	7,813.00	36,997.00	29635.33
Nevada	2011	0.208128	8,527.00	40,970.00	26422.29
New Hampshire	1986	0.193392	3,542.00	18,315.12	
New Hampshire	1987	0.193141	3,933.00	20,363.38	
New Hampshire	1988	0.208331	4,457.28	21,395.20	
New Hampshire	1989	0.222388	4,807.00	21,615.38	
New Hampshire	1990	0.24807	5,304.01	21,381.11	
New Hampshire	1991	0.254649	5,684.77	22,323.95	
New Hampshire	1992	0.243732	5,790.31	23,756.83	
New Hampshire	1993	0.230883	5,644.43	24,447.12	
New Hampshire	1994	0.222002	5,723.37	25,780.70	
New Hampshire	1995	0.210956	5,858.88	27,773.05	
New Hampshire	1996	0.200986	5,957.97	29,643.69	
New Hampshire	1997	0.199731	6,235.97	31,221.81	
New Hampshire	1998	0.200077	6,487.41	32,424.50	
New Hampshire	1999	0.206029	6,779.64	32,906.33	
New Hampshire	2000	0.201916	7,082.49	35,076.38	30753.65
New Hampshire	2001	0.217573	7,655.62	35,186.52	32115.82
New Hampshire	2002	0.227013	8,230.39	36,255.17	32889.33
New Hampshire	2003	0.237445	8,899.78	37,481.39	32192.97

New Hampshire	2004	0.235962	9,390.76	39,797.81	34205.67
New Hampshire	2005	0.242518	10,043.35	41,412.77	33748.96
New Hampshire	2006	0.249963	10,698.13	42,798.85	33748.96
New Hampshire	2007	0.258303	10,722.67	41,512.00	34505.95
New Hampshire	2008	0.271273	11,618.62	42,830.00	34660.77
New Hampshire	2009	0.278591	11,932.33	42,831.00	33491.19
New Hampshire	2010	0.294415	12,979.00	44,084.00	34540.46
New Hampshire	2011	0.308842	13,224.00	42,818.00	34328.78
New Jersey	1986	0.264584	5,570.00	21,051.95	
New Jersey	1987	0.259978	5,953.00	22,898.06	
New Jersey	1988	0.257826	6,564.43	25,460.71	
New Jersey	1989	0.282518	7,549.00	26,720.42	
New Jersey	1990	0.294092	8,139.19	27,675.64	
New Jersey	1991	0.308674	8,756.12	28,366.88	
New Jersey	1992	0.31492	9,317.23	29,586.04	
New Jersey	1993	0.307485	9,415.21	30,620.03	
New Jersey	1994	0.304686	9,677.27	31,761.45	
New Jersey	1995	0.296221	9,774.46	32,997.16	
New Jersey	1996	0.287902	9,955.40	34,579.14	
New Jersey	1997	0.283389	10,211.12	36,032.11	
New Jersey	1998	0.269975	10,232.83	37,902.88	
New Jersey	1999	0.274553	10,748.27	39,148.20	
New Jersey	2000	0.26667	10,902.51	40,883.94	34847.13

New Jersey	2001	0.275404	11,751.94	42,671.64	36953.61
New Jersey	2002	0.280676	12,197.35	43,457.11	38366.22
New Jersey	2003	0.290497	13,092.97	45,070.91	37426.15
New Jersey	2004	0.292111	13,775.99	47,160.18	38881.92
New Jersey	2005	0.298469	14,666.14	49,137.84	39002.38
New Jersey	2006	0.295746	15,361.83	51,942.68	39002.38
New Jersey	2007	0.318956	15,690.70	49,194.00	40558.19
New Jersey	2008	0.323865	16,490.89	50,919.00	40708.61
New Jersey	2009	0.323397	16,271.06	50,313.00	40076.78
New Jersey	2010	0.334121	16,967.00	50,781.00	39090.50
New Jersey	2011	0.325745	15,968.00	49,020.00	35972.69
New Mexico	1986	0.208311	3,195.00	15,337.66	
New Mexico	1987	0.228984	3,558.00	15,538.20	
New Mexico	1988	0.231291	3,691.34	15,959.73	
New Mexico	1989	0.206434	3,473.00	16,823.80	
New Mexico	1990	0.199025	3,514.78	17,660.00	
New Mexico	1991	0.198898	3,894.57	19,580.73	
New Mexico	1992	0.184371	3,765.09	20,421.30	
New Mexico	1993	0.182301	4,071.11	22,331.84	
New Mexico	1994	0.174232	4,260.84	24,454.97	
New Mexico	1995	0.190304	4,586.05	24,098.55	
New Mexico	1996	0.184099	4,586.71	24,914.31	
New Mexico	1997	0.174412	4,673.58	26,796.23	

New Mexico	1998	0.194649	4,983.54	25,602.68	
New Mexico	1999	0.197913	5,363.44	27,099.99	
New Mexico	2000	0.209543	5,834.85	27,845.54	21678.98
New Mexico	2001	0.225543	6,320.25	28,022.41	20018.73
New Mexico	2002	0.243314	6,886.25	28,301.89	22455.89
New Mexico	2003	0.232811	7,125.82	30,607.72	22287.02
New Mexico	2004	0.227761	7,652.79	33,600.09	23713.99
New Mexico	2005	0.219221	7,932.53	36,185.12	24220.70
New Mexico	2006	0.216959	8,425.96	38,836.61	24220.70
New Mexico	2007	0.274355	8,635.06	31,474.00	25169.98
New Mexico	2008	0.282578	9,068.21	32,091.00	26587.16
New Mexico	2009	0.286108	9,439.27	32,992.00	25187.75
New Mexico	2010	0.319532	10,812.00	33,837.00	24009.30
New Mexico	2011	0.267773	9,070.00	33,872.00	22380.70
New York	1986	0.271975	6,011.00	22,101.33	
New York	1987	0.273964	6,497.00	23,714.81	
New York	1988	0.277253	7,151.40	25,793.71	
New York	1989	0.286289	7,663.00	26,766.61	
New York	1990	0.288469	8,061.54	27,945.95	
New York	1991	0.305	8,564.55	28,080.49	
New York	1992	0.292137	8,527.42	29,189.79	
New York	1993	0.29784	8,902.47	29,890.09	
New York	1994	0.297438	9,174.73	30,845.85	

New York	1995	0.29988	9,623.23	32,090.30	
New York	1996	0.281746	9,548.98	33,892.16	
New York	1997	0.269694	9,657.75	35,810.06	
New York	1998	0.272216	9,969.51	36,623.45	
New York	1999	0.271862	10,514.32	38,675.19	
New York	2000	0.267871	10,956.64	40,902.71	31650.74
New York	2001	0.280739	11,886.91	42,341.53	34640.48
New York	2002	0.287963	12,342.92	42,862.80	34509.46
New York	2003	0.298927	13,211.19	44,195.44	33310.96
New York	2004	0.295765	13,925.57	47,083.26	35796.12
New York	2005	0.302465	15,054.33	49,772.15	34818.96
New York	2006	0.304055	16,094.72	52,933.51	34818.96
New York	2007	0.337262	15,981.17	47,385.00	37119.13
New York	2008	0.357214	17,173.43	48,076.00	39264.99
New York	2009	0.386013	18,126.02	46,957.00	37446.35
New York	2010	0.346613	16,922.00	48,821.00	36679.83
New York	2011	0.362269	19,076.00	52,657.00	34267.37
North Carolina	1986	0.175477	2,948.00	16,799.91	
North Carolina	1987	0.175579	3,129.00	17,821.05	
North Carolina	1988	0.174328	3,367.81	19,318.78	
North Carolina	1989	0.188889	3,874.00	20,509.37	
North Carolina	1990	0.203817	4,290.17	21,049.17	
North Carolina	1991	0.210612	4,548.02	21,594.33	

North Carolina	1992	0.197261	4,554.43	23,088.31	
North Carolina	1993	0.200623	4,762.89	23,740.50	
North Carolina	1994	0.195895	4,894.36	24,984.56	
North Carolina	1995	0.194629	5,076.73	26,084.07	
North Carolina	1996	0.189639	5,090.20	26,841.47	
North Carolina	1997	0.186381	5,315.21	28,517.96	
North Carolina	1998	0.182198	5,667.28	31,105.17	
North Carolina	1999	0.18424	6,087.98	33,043.66	
North Carolina	2000	0.192014	6,505.06	33,878.09	26044.57
North Carolina	2001	0.195682	6,817.06	34,837.44	26656.54
North Carolina	2002	0.19548	6,970.24	35,657.09	26584.60
North Carolina	2003	0.194084	7,057.42	36,362.71	26914.67
North Carolina	2004	0.186968	7,114.50	38,051.87	27381.56
North Carolina	2005	0.188626	7,627.74	40,438.36	27860.08
North Carolina	2006	0.187769	7,940.41	42,288.13	27860.08
North Carolina	2007	0.234373	7,883.36	33,636.00	29162.47
North Carolina	2008	0.232168	7,995.65	34,439.00	29983.88
North Carolina	2009	0.249242	8,587.14	34,453.00	28870.64
North Carolina	2010	0.239323	8,529.00	35,638.00	27866.33
North Carolina	2011	0.209756	8,312.00	39,627.00	25913.57
North Dakota	1986	0.237695	3,483.00	14,653.21	
North Dakota	1987	0.220397	3,437.00	15,594.55	
North Dakota	1988	0.236608	3,519.50	14,874.81	

North Dakota	1989	0.238553	3,952.00	16,566.56	
North Dakota	1990	0.232703	4,189.27	18,002.62	
North Dakota	1991	0.228863	4,198.90	18,346.75	
North Dakota	1992	0.221624	4,440.66	20,036.88	
North Dakota	1993	0.22839	4,597.25	20,128.94	
North Dakota	1994	0.214705	4,673.68	21,767.86	
North Dakota	1995	0.213108	4,774.79	22,405.50	
North Dakota	1996	0.201462	4,979.38	24,716.24	
North Dakota	1997	0.210193	5,197.91	24,729.27	
North Dakota	1998	0.204675	5,353.22	26,154.69	
North Dakota	1999	0.222496	5,820.21	26,158.73	
North Dakota	2000	0.219537	6,078.08	27,685.89	23158.13
North Dakota	2001	0.222122	6,466.97	29,114.53	24571.79
North Dakota	2002	0.226698	7,112.38	31,373.84	24723.00
North Dakota	2003	0.213536	7,315.22	34,257.53	25595.89
North Dakota	2004	0.21701	7,752.44	35,723.95	26431.32
North Dakota	2005	0.22335	8,775.90	39,292.16	28314.96
North Dakota	2006	0.222655	9,238.98	41,494.53	28314.96
North Dakota	2007	0.258897	9,021.54	34,846.00	29532.12
North Dakota	2008	0.246055	9,675.11	39,321.00	31796.23
North Dakota	2009	0.256785	10,150.70	39,530.00	32747.00
North Dakota	2010	0.21039	8,541.00	40,596.00	33184.48
North Dakota	2011	0.229101	11,420.00	49,847.00	32306.56

Ohio	1986	0.20514	3,527.00	17,193.10	
Ohio	1987	0.204977	3,673.00	17,919.05	
Ohio	1988	0.209322	3,997.85	19,099.08	
Ohio	1989	0.232259	4,686.00	20,175.73	
Ohio	1990	0.240014	5,044.62	21,018.00	
Ohio	1991	0.244562	5,244.73	21,445.38	
Ohio	1992	0.251057	5,694.35	22,681.50	
Ohio	1993	0.247316	5,754.26	23,266.80	
Ohio	1994	0.239106	5,971.15	24,972.80	
Ohio	1995	0.235377	6,161.58	26,177.50	
Ohio	1996	0.230666	6,266.07	27,165.14	
Ohio	1997	0.225872	6,516.54	28,850.64	
Ohio	1998	0.220816	6,807.53	30,828.97	
Ohio	1999	0.228035	7,254.45	31,812.93	
Ohio	2000	0.238785	7,816.47	32,734.33	26895.49
Ohio	2001	0.255477	8,403.41	32,893.05	27648.51
Ohio	2002	0.261455	8,927.92	34,147.07	28225.28
Ohio	2003	0.26795	9,426.81	35,181.17	27745.95
Ohio	2004	0.264522	9,798.68	37,042.94	28324.96
Ohio	2005	0.258956	9,983.84	38,554.19	27765.71
Ohio	2006	0.256423	10,305.65	40,190.08	27765.71
Ohio	2007	0.28098	9,798.88	34,874.00	29339.58
Ohio	2008	0.286475	10,173.02	35,511.00	29975.91

Ohio	2009	0.298468	10,560.10	35,381.00	28444.63
Ohio	2010	0.261794	9,528.00	36,395.00	27948.92
Ohio	2011	0.304212	11,223.00	36,892.00	27318.88
Oklahoma	1986	0.208011	3,146.00	15,124.19	
Oklahoma	1987	0.203415	3,099.00	15,234.89	
Oklahoma	1988	0.185829	3,092.91	16,643.83	
Oklahoma	1989	0.194075	3,379.00	17,410.79	
Oklahoma	1990	0.191399	3,507.80	18,327.15	
Oklahoma	1991	0.205212	3,843.11	18,727.48	
Oklahoma	1992	0.211904	4,076.39	19,236.97	
Oklahoma	1993	0.217928	4,355.50	19,985.95	
Oklahoma	1994	0.231342	4,733.89	20,462.73	
Oklahoma	1995	0.230376	4,845.39	21,032.53	
Oklahoma	1996	0.217543	4,880.60	22,435.06	
Oklahoma	1997	0.218625	5,150.17	23,557.06	
Oklahoma	1998	0.231274	5,388.69	23,299.99	
Oklahoma	1999	0.234768	5,684.19	24,211.94	
Oklahoma	2000	0.222061	5,769.70	25,982.57	19976.77
Oklahoma	2001	0.23734	6,458.06	27,210.13	23251.48
Oklahoma	2002	0.239517	6,671.69	27,854.80	23068.24
Oklahoma	2003	0.221526	6,539.68	29,521.05	23874.62
Oklahoma	2004	0.208678	6,598.90	31,622.33	23248.94
Oklahoma	2005	0.206569	7,086.36	34,305.06	24207.72

Oklahoma	2006	0.198006	7,449.04	37,620.29	24207.72
Oklahoma	2007	0.217248	7,419.66	34,153.00	26214.20
Oklahoma	2008	0.208275	7,685.12	36,899.00	25991.66
Oklahoma	2009	0.22357	7,884.87	35,268.00	26591.32
Oklahoma	2010	0.218775	7,968.00	36,421.00	25465.09
Oklahoma	2011	0.212366	7,587.00	35,726.00	25348.74
Oregon	1986	0.263026	4,141.00	15,743.67	
Oregon	1987	0.260531	4,337.00	16,646.80	
Oregon	1988	0.26444	4,789.16	18,110.54	
Oregon	1989	0.271559	5,182.00	19,082.41	
Oregon	1990	0.273391	5,474.28	20,023.60	
Oregon	1991	0.277016	5,682.95	20,514.89	
Oregon	1992	0.277641	5,912.60	21,295.86	
Oregon	1993	0.278603	6,296.03	22,598.60	
Oregon	1994	0.262623	6,262.95	23,847.71	
Oregon	1995	0.25588	6,436.35	25,153.81	
Oregon	1996	0.235607	6,614.91	28,076.03	
Oregon	1997	0.230199	6,792.38	29,506.61	
Oregon	1998	0.244002	7,347.55	30,112.61	
Oregon	1999	0.253479	7,787.48	30,722.40	
Oregon	2000	0.248084	8,128.76	32,766.14	26545.99
Oregon	2001	0.267653	8,545.04	31,925.78	25854.41
Oregon	2002	0.262465	8,725.01	33,242.52	25208.53

Oregon	2003	0.249249	8,513.58	34,156.90	26032.18
Oregon	2004	0.229673	8,639.62	37,617.07	26415.04
Oregon	2005	0.225757	8,799.24	38,976.65	26887.88
Oregon	2006	0.227322	9,293.78	40,883.79	26887.88
Oregon	2007	0.258752	9,000.43	34,784.00	28549.06
Oregon	2008	0.265825	9,558.00	35,956.00	29848.00
Oregon	2009	0.274908	9,805.14	35,667.00	28521.01
Oregon	2010	0.28241	10,476.00	37,095.00	26755.48
Oregon	2011	0.207889	9,682.00	46,573.00	25706.60
Pennsylvania	1986	0.265906	4,325.00	16,265.13	
Pennsylvania	1987	0.264008	4,616.00	17,484.29	
Pennsylvania	1988	0.264117	4,989.24	18,890.26	
Pennsylvania	1989	0.280601	5,597.00	19,946.49	
Pennsylvania	1990	0.29856	6,228.06	20,860.35	
Pennsylvania	1991	0.303649	6,541.39	21,542.60	
Pennsylvania	1992	0.291353	6,613.49	22,699.21	
Pennsylvania	1993	0.29298	6,889.70	23,515.96	
Pennsylvania	1994	0.284769	6,982.94	24,521.43	
Pennsylvania	1995	0.275736	7,109.14	25,782.39	
Pennsylvania	1996	0.281247	7,491.53	26,636.88	
Pennsylvania	1997	0.274801	7,685.52	27,967.55	
Pennsylvania	1998	0.263208	7,776.50	29,545.13	
Pennsylvania	1999	0.261695	8,025.76	30,668.38	

Pennsylvania	2000	0.264279	8,380.32	31,710.10	27165.37
Pennsylvania	2001	0.26747	8,847.11	33,077.05	28403.49
Pennsylvania	2002	0.267792	9,195.65	34,338.76	28865.95
Pennsylvania	2003	0.270388	9,647.59	35,680.54	28603.66
Pennsylvania	2004	0.276972	10,393.49	37,525.47	29967.96
Pennsylvania	2005	0.281065	11,014.34	39,187.86	29198.53
Pennsylvania	2006	0.2811	11,530.25	41,018.29	29198.53
Pennsylvania	2007	0.286116	11,097.86	38,788.00	30520.32
Pennsylvania	2008	0.298896	12,035.05	40,265.00	31815.43
Pennsylvania	2009	0.316125	12,511.61	39,578.00	31298.73
Pennsylvania	2010	0.309292	12,728.00	41,152.00	30498.62
Pennsylvania	2011	0.341326	13,467.00	39,455.00	30199.74
Rhode Island	1986	0.273476	4,667.00	17,065.51	
Rhode Island	1987	0.276417	4,985.00	18,034.34	
Rhode Island	1988	0.270039	5,329.21	19,734.94	
Rhode Island	1989	0.290142	6,064.00	20,900.10	
Rhode Island	1990	0.297435	6,367.68	21,408.66	
Rhode Island	1991	0.296681	6,342.84	21,379.33	
Rhode Island	1992	0.293149	6,546.04	22,330.07	
Rhode Island	1993	0.298545	6,938.12	23,239.80	
Rhode Island	1994	0.305649	7,333.16	23,992.09	
Rhode Island	1995	0.295972	7,469.43	25,236.92	
Rhode Island	1996	0.30385	7,936.35	26,119.29	

Rhode Island	1997	0.294205	8,306.62	28,234.18	
Rhode Island	1998	0.301174	8,626.99	28,644.58	
Rhode Island	1999	0.305237	9,048.84	29,645.27	
Rhode Island	2000	0.301607	9,646.33	31,983.11	27202.19
Rhode Island	2001	0.304631	10,115.62	33,206.11	28901.46
Rhode Island	2002	0.305482	10,551.54	34,540.62	30341.59
Rhode Island	2003	0.310699	11,377.34	36,618.55	30089.03
Rhode Island	2004	0.313835	12,278.75	39,124.87	30626.68
Rhode Island	2005	0.312189	12,685.24	40,633.25	32712.05
Rhode Island	2006	0.325396	13,916.66	42,768.43	32712.05
Rhode Island	2007	0.319583	12,611.70	39,463.00	32886.23
Rhode Island	2008	0.330149	13,538.77	41,008.00	34294.16
Rhode Island	2009	0.334295	13,707.11	41,003.00	33549.85
Rhode Island	2010	0.361305	15,384.00	42,579.00	32664.55
Rhode Island	2011	0.336451	13,815.00	41,061.00	31936.97
South Carolina	1986	0.210686	3,058.00	14,514.51	
South Carolina	1987	0.204112	3,214.00	15,746.23	
South Carolina	1988	0.200597	3,407.75	16,987.98	
South Carolina	1989	0.208309	3,736.00	17,934.91	
South Carolina	1990	0.217482	4,081.72	18,768.09	
South Carolina	1991	0.227232	4,351.93	19,151.89	
South Carolina	1992	0.224348	4,435.82	19,772.05	
South Carolina	1993	0.224267	4,623.80	20,617.40	

South Carolina	1994	0.217713	4,761.14	21,868.91	
South Carolina	1995	0.208985	4,797.49	22,956.15	
South Carolina	1996	0.216713	5,095.56	23,512.99	
South Carolina	1997	0.21846	5,371.25	24,586.91	
South Carolina	1998	0.214826	5,642.75	26,266.61	
South Carolina	1999	0.219576	6,002.95	27,338.79	
South Carolina	2000	0.23407	6,545.47	27,963.76	24210.40
South Carolina	2001	0.249622	7,210.44	28,885.46	25899.00
South Carolina	2002	0.254648	7,549.30	29,646.03	25825.36
South Carolina	2003	0.251329	7,759.16	30,872.53	26888.99
South Carolina	2004	0.250157	7,892.78	31,551.29	27476.24
South Carolina	2005	0.251679	8,301.80	32,985.69	26496.55
South Carolina	2006	0.254708	8,795.13	34,530.29	26496.55
South Carolina	2007	0.275134	8,532.72	31,013.00	28384.40
South Carolina	2008	0.287597	9,169.75	31,884.00	27573.80
South Carolina	2009	0.291749	9,277.33	31,799.00	26812.30
South Carolina	2010	0.287399	9,531.00	33,163.00	25903.37
South Carolina	2011	0.28668	8,986.00	31,345.00	24459.41
South Dakota	1986	0.209211	3,051.00	14,583.33	
South Dakota	1987	0.200868	3,097.00	15,418.10	
South Dakota	1988	0.2017	3,248.87	16,107.45	
South Dakota	1989	0.210669	3,585.00	17,017.22	
South Dakota	1990	0.202804	3,731.12	18,397.62	

South Dakota	1991	0.201685	3,964.52	19,656.97	
South Dakota	1992	0.199709	4,172.92	20,895.03	
South Dakota	1993	0.196419	4,357.25	22,183.48	
South Dakota	1994	0.196962	4,585.60	23,281.65	
South Dakota	1995	0.197885	4,775.19	24,131.18	
South Dakota	1996	0.186003	4,779.81	25,697.47	
South Dakota	1997	0.188394	4,935.77	26,199.14	
South Dakota	1998	0.189684	5,280.99	27,841.00	
South Dakota	1999	0.195242	5,613.39	28,750.87	
South Dakota	2000	0.197519	6,036.69	30,562.60	24563.31
South Dakota	2001	0.208676	6,581.46	31,539.13	24557.55
South Dakota	2002	0.198291	6,889.53	34,744.59	25710.96
South Dakota	2003	0.200386	7,192.16	35,891.52	25883.18
South Dakota	2004	0.198468	7,606.69	38,327.01	27155.89
South Dakota	2005	0.201957	7,959.87	39,413.69	27296.17
South Dakota	2006	0.200083	8,272.84	41,346.99	27296.17
South Dakota	2007	0.234301	7,943.97	33,905.00	27313.12
South Dakota	2008	0.223858	8,366.69	37,375.00	29114.66
South Dakota	2009	0.230313	8,506.61	36,935.00	28803.75
South Dakota	2010	0.232111	9,021.00	38,865.00	28925.12
South Dakota	2011	0.20213	8,805.00	43,561.00	29294.49
Tennessee	1986	0.167041	2,612.00	15,636.84	
Tennessee	1987	0.16645	2,827.00	16,984.11	

Tennessee	1988	0.169016	3,068.13	18,152.84	
Tennessee	1989	0.184346	3,491.00	18,937.17	
Tennessee	1990	0.189645	3,663.60	19,318.25	
Tennessee	1991	0.185259	3,781.51	20,412.01	
Tennessee	1992	0.167443	3,691.93	22,048.85	
Tennessee	1993	0.172586	3,993.18	23,137.33	
Tennessee	1994	0.168376	4,148.86	24,640.45	
Tennessee	1995	0.17231	4,388.03	25,465.86	
Tennessee	1996	0.174297	4,547.87	26,092.73	
Tennessee	1997	0.182484	5,010.69	27,458.19	
Tennessee	1998	0.182593	5,273.57	28,881.63	
Tennessee	1999	0.183515	5,521.29	30,086.34	24384.84
Tennessee	2000	0.190399	5,837.21	30,657.87	25042.65
Tennessee	2001	0.194355	6,107.58	31,424.82	25405.07
Tennessee	2002	0.195728	6,476.27	33,088.11	25609.65
Tennessee	2003	0.194412	6,673.68	34,327.51	25995.53
Tennessee	2004	0.193438	7,046.54	36,427.91	26642.76
Tennessee	2005	0.196569	7,425.96	37,777.81	26642.76
Tennessee	2006	0.192315	7,580.38	39,416.59	27189.58
Tennessee	2007	0.213722	7,112.67	33,280.00	27646.14
Tennessee	2008	0.22544	7,739.37	34,330.00	27080.70
Tennessee	2009	0.231666	7,897.26	34,089.00	25681.52
Tennessee	2010	0.23222	8,199.00	35,307.00	24960.31

Tennessee	2011	0.226615	8,242.00	36,370.00	
Texas	1986	0.182803	3,298.00	18,041.24	
Texas	1987	0.187408	3,409.00	18,190.29	
Texas	1988	0.18134	3,607.82	19,895.30	
Texas	1989	0.183722	3,877.00	21,102.58	
Texas	1990	0.184291	4,150.43	22,521.05	
Texas	1991	0.193563	4,438.40	22,929.93	
Texas	1992	0.194907	4,632.37	23,767.07	
Texas	1993	0.188824	4,670.12	24,732.66	
Texas	1994	0.19016	4,897.84	25,756.38	
Texas	1995	0.195114	5,222.33	26,765.53	
Texas	1996	0.192466	5,473.48	28,438.69	
Texas	1997	0.18705	5,735.56	30,663.24	
Texas	1998	0.189327	5,909.77	31,214.59	
Texas	1999	0.189334	6,161.22	32,541.53	
Texas	2000	0.195088	6,771.45	34,709.73	25888.89
Texas	2001	0.197219	7,038.60	35,689.19	26410.76
Texas	2002	0.202832	7,302.24	36,001.49	27506.91
Texas	2003	0.206015	7,714.12	37,444.44	27374.53
Texas	2004	0.191996	7,711.35	40,164.13	27687.15
Texas	2005	0.181098	7,814.13	43,148.60	27733.28
Texas	2006	0.178319	8,085.33	45,342.05	27733.28
Texas	2007	0.210237	7,818.08	37,187.00	29571.02

Texas	2008	0.215687	8,320.13	38,575.00	30743.67
Texas	2009	0.234069	8,539.76	36,484.00	30409.94
Texas	2010	0.233636	9,227.00	39,493.00	28649.86
Texas	2011	0.192582	8,671.00	45,025.00	27805.21
Utah	1986	0.161673	2,390.00	14,782.92	
Utah	1987	0.160242	2,415.00	15,070.92	
Utah	1988	0.15125	2,453.76	16,223.21	
Utah	1989	0.152921	2,588.00	16,923.80	
Utah	1990	0.152163	2,763.73	18,162.88	
Utah	1991	0.15634	2,959.50	18,929.87	
Utah	1992	0.156555	3,040.33	19,420.20	
Utah	1993	0.157232	3,180.17	20,225.94	
Utah	1994	0.159675	3,438.59	21,534.90	
Utah	1995	0.15902	3,655.64	22,988.55	
Utah	1996	0.155473	3,867.47	24,875.53	
Utah	1997	0.157096	4,045.18	25,749.79	
Utah	1998	0.153199	4,255.70	27,778.91	
Utah	1999	0.154573	4,477.91	28,969.60	
Utah	2000	0.155804	4,692.42	30,117.36	23426.33
Utah	2001	0.164156	5,029.25	30,637.04	25208.86
Utah	2002	0.169458	5,294.09	31,241.39	23873.12
Utah	2003	0.163887	5,247.37	32,018.20	24314.90
Utah	2004	0.162112	5,426.66	33,474.71	24873.83

Utah	2005	0.15934	5,653.83	35,482.79	26607.22
Utah	2006	0.151554	5,809.38	38,331.99	26607.22
Utah	2007	0.182225	5,683.41	31,189.00	28971.88
Utah	2008	0.190325	5,765.13	30,291.00	29277.44
Utah	2009	0.205871	6,356.26	30,875.00	28084.04
Utah	2010	0.210431	6,859.00	32,595.00	27481.55
Utah	2011	0.161885	6,212.00	38,373.00	26790.90
Vermont	1986	0.258596	4,031.00	15,588.01	
Vermont	1987	0.255811	4,399.00	17,196.30	
Vermont	1988	0.27462	5,207.29	18,961.82	
Vermont	1989	0.27164	5,481.00	20,177.42	
Vermont	1990	0.29989	6,226.68	20,763.18	
Vermont	1991	0.326846	6,738.03	20,615.33	
Vermont	1992	0.303462	6,670.59	21,981.63	
Vermont	1993	0.283384	6,410.80	22,622.32	
Vermont	1994	0.280914	6,599.98	23,494.61	
Vermont	1995	0.286171	6,749.54	23,585.66	
Vermont	1996	0.277427	6,837.29	24,645.40	
Vermont	1997	0.277049	7,171.17	25,884.11	
Vermont	1998	0.282606	7,500.33	26,539.93	
Vermont	1999	0.287572	7,983.96	27,763.31	
Vermont	2000	0.301847	8,799.30	29,151.49	22445.79
Vermont	2001	0.311146	9,558.54	30,720.43	24993.50

Vermont	2002	0.322372	10,228.76	31,729.73	25724.60
Vermont	2003	0.327803	10,902.63	33,259.73	26866.27
Vermont	2004	0.329425	11,675.38	35,441.65	27569.92
Vermont	2005	0.33956	12,578.82	37,044.48	26580.20
Vermont	2006	0.344681	13,376.60	38,808.61	26580.20
Vermont	2007	0.367364	13,471.23	36,670.00	27682.74
Vermont	2008	0.367806	14,300.28	38,880.00	29219.92
Vermont	2009	0.394133	15,175.29	38,503.00	29118.21
Vermont	2010	0.404836	16,308.00	40,283.00	27593.56
Vermont	2011	0.422011	15,925.00	37,736.00	29289.44
Virginia	1986	0.18603	3,520.00	18,921.71	
Virginia	1987	0.186701	3,780.00	20,246.29	
Virginia	1988	0.19201	4,148.80	21,607.26	
Virginia	1989	0.198174	4,539.00	22,904.08	
Virginia	1990	0.197532	4,671.54	23,649.47	
Virginia	1991	0.202309	4,901.78	24,229.13	
Virginia	1992	0.194904	4,877.96	25,027.49	
Virginia	1993	0.19229	4,979.83	25,897.48	
Virginia	1994	0.190296	5,108.94	26,847.30	
Virginia	1995	0.191567	5,326.85	27,806.71	
Virginia	1996	0.186507	5,432.54	29,127.74	
Virginia	1997	0.185865	5,677.25	30,544.94	
Virginia	1998	0.180807	5,936.21	32,831.72	

Virginia	1999	0.176784	6,128.67	34,667.57	
Virginia	2000	0.176865	6,491.05	36,700.66	30613.41
Virginia	2001	0.19919	7,664.47	38,478.17	30705.25
Virginia	2002	0.202139	7,928.29	39,221.86	31840.86
Virginia	2003	0.202348	8,299.84	41,017.57	33386.10
Virginia	2004	0.201136	8,760.58	43,555.61	33257.76
Virginia	2005	0.203643	9,441.16	46,361.30	34536.65
Virginia	2006	0.207936	10,046.27	48,314.22	34536.65
Virginia	2007	0.246932	10,209.91	41,347.00	36515.73
Virginia	2008	0.248603	10,659.11	42,876.00	36822.19
Virginia	2009	0.249119	10,929.83	43,874.00	38011.76
Virginia	2010	0.252223	11,290.00	44,762.00	35361.20
Virginia	2011	0.219958	10,364.00	47,118.00	34499.08
Washington	1986	0.210932	3,881.00	18,399.28	
Washington	1987	0.204816	3,964.00	19,353.93	
Washington	1988	0.200743	4,163.68	20,741.38	
Washington	1989	0.19692	4,359.00	22,135.90	
Washington	1990	0.199352	4,702.19	23,587.39	
Washington	1991	0.204845	4,999.51	24,406.32	
Washington	1992	0.207398	5,270.51	25,412.55	
Washington	1993	0.213443	5,613.56	26,300.09	
Washington	1994	0.210668	5,750.61	27,297.04	
Washington	1995	0.213888	5,905.71	27,611.25	

Washington	1996	0.209139	6,073.92	29,042.58	
Washington	1997	0.201143	6,182.09	30,734.76	
Washington	1998	0.192557	6,534.56	33,935.68	
Washington	1999	0.179741	6,595.04	36,691.94	
Washington	2000	0.184147	6,913.59	37,543.92	28111.57
Washington	2001	0.194178	7,312.04	37,656.39	29262.30
Washington	2002	0.199992	7,625.94	38,131.18	29789.28
Washington	2003	0.200654	7,882.14	39,282.27	29313.31
Washington	2004	0.19796	8,051.18	40,670.79	30731.67
Washington	2005	0.193879	8,362.37	43,131.81	31183.05
Washington	2006	0.18962	8,702.48	45,894.35	31183.05
Washington	2007	0.207278	8,376.95	40,414.00	33452.58
Washington	2008	0.214819	9,098.86	42,356.00	33871.35
Washington	2009	0.228733	9,549.81	41,751.00	33021.47
Washington	2010	0.227252	9,900.00	43,564.00	32291.09
Washington	2011	0.206412	9,483.00	45,942.00	31092.47
West Virginia	1986	0.276504	3,528.00	12,759.30	
West Virginia	1987	0.284493	3,784.00	13,300.86	
West Virginia	1988	0.26985	3,857.97	14,296.72	
West Virginia	1989	0.257206	3,883.00	15,096.85	
West Virginia	1990	0.275847	4,360.49	15,807.67	
West Virginia	1991	0.300956	4,911.04	16,318.13	
West Virginia	1992	0.296113	5,077.74	17,147.99	

West Virginia	1993	0.31	5,526.83	17,828.50	
West Virginia	1994	0.298385	5,713.09	19,146.67	
West Virginia	1995	0.306312	6,107.44	19,938.59	
West Virginia	1996	0.3087	6,324.70	20,488.17	
West Virginia	1997	0.307907	6,519.47	21,173.51	
West Virginia	1998	0.311615	6,779.42	21,755.79	
West Virginia	1999	0.316851	7,188.52	22,687.40	
West Virginia	2000	0.332809	7,636.71	22,946.26	20756.10
West Virginia	2001	0.338472	8,147.98	24,072.80	19728.67
West Virginia	2002	0.338569	8,450.78	24,960.29	20729.60
West Virginia	2003	0.351404	9,025.15	25,683.10	20813.46
West Virginia	2004	0.329371	9,076.45	27,556.92	21709.71
West Virginia	2005	0.318485	9,320.78	29,266.03	23118.65
West Virginia	2006	0.318751	9,756.02	30,607.05	23118.65
West Virginia	2007	0.32538	9,610.74	29,537.00	22897.65
West Virginia	2008	0.319551	9,852.08	30,831.00	23634.56
West Virginia	2009	0.321767	10,367.00	32,219.00	23620.76
West Virginia	2010	0.338317	11,043.00	32,641.00	24892.66
West Virginia	2011	0.402555	11,846.00	29,427.00	24483.21
Wisconsin	1986	0.252407	4,168.00	16,513.04	
Wisconsin	1987	0.26238	4,523.00	17,238.38	
Wisconsin	1988	0.254535	4,747.39	18,651.18	
Wisconsin	1989	0.268069	5,266.00	19,644.22	

Wisconsin	1990	0.270068	5,523.69	20,453.00	
Wisconsin	1991	0.277965	5,871.30	21,122.43	
Wisconsin	1992	0.273509	6,138.92	22,444.99	
Wisconsin	1993	0.275327	6,475.44	23,519.10	
Wisconsin	1994	0.268579	6,717.20	25,010.14	
Wisconsin	1995	0.267962	6,930.34	25,863.11	
Wisconsin	1996	0.261727	7,093.93	27,104.28	
Wisconsin	1997	0.261769	7,397.99	28,261.49	
Wisconsin	1998	0.253212	7,680.04	30,330.49	
Wisconsin	1999	0.254385	8,062.40	31,693.72	
Wisconsin	2000	0.253806	8,298.64	32,696.79	26677.21
Wisconsin	2001	0.261343	8,797.41	33,662.35	28761.59
Wisconsin	2002	0.26636	9,236.97	34,678.51	28789.81
Wisconsin	2003	0.26616	9,537.66	35,834.38	28423.69
Wisconsin	2004	0.259638	9,833.87	37,875.31	28853.78
Wisconsin	2005	0.258339	10,140.98	39,254.52	30789.55
Wisconsin	2006	0.256358	10,483.62	40,894.40	30789.55
Wisconsin	2007	0.284826	10,267.13	36,047.00	30969.93
Wisconsin	2008	0.286224	10,680.18	37,314.00	31282.43
Wisconsin	2009	0.300865	11,078.46	36,822.00	30638.33
Wisconsin	2010	0.297382	11,429.00	38,432.00	29903.99
Wisconsin	2011	0.303102	11,774.00	38,845.00	28298.79
Wyoming	1986	0.228724	5,114.00	22,358.87	

Wyoming	1987	0.226295	5,201.00	22,983.23	
Wyoming	1988	0.207427	5,051.40	24,352.69	
Wyoming	1989	0.207183	5,375.00	25,943.23	
Wyoming	1990	0.192425	5,577.35	28,984.55	
Wyoming	1991	0.19511	5,638.00	28,896.49	
Wyoming	1992	0.203173	5,811.71	28,604.76	
Wyoming	1993	0.198205	5,822.38	29,375.52	
Wyoming	1994	0.201125	5,899.13	29,330.62	
Wyoming	1995	0.205164	6,160.08	30,025.15	
Wyoming	1996	0.193732	6,243.34	32,226.68	
Wyoming	1997	0.196751	6,448.21	32,773.45	
Wyoming	1998	0.221888	6,717.85	30,275.86	
Wyoming	1999	0.228221	7,393.11	32,394.57	
Wyoming	2000	0.226512	7,944.03	35,071.21	23802.06
Wyoming	2001	0.220819	8,465.51	38,336.91	23651.60
Wyoming	2002	0.237058	9,320.84	39,318.76	25697.20
Wyoming	2003	0.229097	9,906.43	43,241.14	24798.01
Wyoming	2004	0.219156	10,350.56	47,229.27	27828.65
Wyoming	2005	0.207039	11,086.86	53,549.74	29412.07
Wyoming	2006	0.21629	12,414.96	57,399.55	29412.07
Wyoming	2007	0.305766	13,217.05	43,226.00	31390.18
Wyoming	2008	0.278369	13,840.24	49,719.00	30497.65
Wyoming	2009	0.318842	14,572.67	45,705.00	32654.23

Wyoming	2010	0.320683	15,345.00	47,851.00	31992.41
Wyoming	2011	0.288326	15849	54,969.00	33911.07