MAXIMIZING THE VALUE OF EDUCATION FOR UNIVERSITY UNDERGRADUATE RESEARCH FELLOWS

A Senior Honors Thesis

By

AARON BENJAMIN TILLEY

Submitted to the Office of Honors Programs
& Academic Scholarships
Texas A&M University
In partial fulfillment of the requirements
For the Designation of

UNIVERSITY UNDERGRADUATE
RESEARCH FELLOW

April 2000

Group: Political Science

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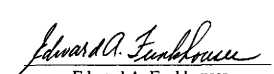

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Group: Political Science

ABSTRACT

Maximizing the Value of Education.

(April 2000)

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Educating and preparing the leaders of tomorrow for the challenges they will face is the most important job of teachers today. It is up to those who pass laws and make decisions regarding how this task will be carried out to ensure that the inputs provided are structured so as to get the best value and the most equal treatment for all students. The findings of this study indicate that higher levels of per-capita funding are beneficial for test scores, high levels of state funding improve graduation rates and that the level of teacher education is irrelevant to improving student performance. Schools must have the resources and skills to cater to each and every one of its students and provide them with the best quality instruction by equalizing resources. Only then can we say that we live in a free society, on in which individuals can achieve their dreams if they work hard and play by the rules.

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MAXIMIZING THE VALUE OF EDUCATION

Introduction

Equality and reform, these are two words that are often thrown out in election years but quickly forgotten when the ballots have been cast. Maybe the pressing demands of office or a lack of a true commitment cause these two emotionally charged words to be disregarded. Or perhaps there is a lack of understanding on how to bring them about. Whatever the reason, changes in the economy and technologies have made the need for equality all the more pressing. As those without skills and education are relegated to the lower social classes with no hope of mobility, the American Dream is withering on the vine. Studies have shown that "consequences such as these are deemed socially unacceptable because they erode, rather than build levels of human capital (i.e. productive capacity) in society." (p.4, Meier) In order to preserve the values that we as a nation hold so dear, it is important to ensure that everyone, regardless of accidents of birth, should have the opportunity to reach their potential. The only way to guarantee mobility and equal opportunity in the economy is to provide quality education for each student. Education, coupled with other equalizing institutions, will "blunt the most extreme market outcomes and try to insure that most people benefit from economic growth," according to MIT economist Frank Levy. (p.2, Wilson) What this research will attempt to provide is insight into how to use the educational resources available in the most efficient manner, whether they are money, teachers, or authority structures.

Problem

The importance of providing quality education is beyond question, however, in order to solve such a deep-seated problem, the importance is to get to the root of its causes and recognize the underlying issues that brought it about. This section will briefly summarize the changes in the economy that brought about calls for reform and then go on to offer the results of this study.

Lost Generations

Consider the fact that when a young student named Jeremiah who attends class in the South Bronx, one of the poorest districts in the nation, was asked, "Do you think America is beautiful?", his reply was "It was beautiful when they wrote that song." (p.34, Kozol) Statements such as that reflect the growing cynicism and disillusionment that many of today's children are developing as they grow up. In a country so rich with resources and so deep a commitment to equality, no one should ever have to attend class in an abandoned steel plant. But that is exactly what happened to approximately 500 children in New York. (p.244, Kozol) Under such conditions, many of today's youth lose hope. Take for example Morris High School, where only 70 of the 1700 students qualified for graduation in the spring of 1993. Is it a mere coincidence that such performance is seen alongside facilities in which water leaks collect in barrels, or where guidance counselors meet students in moldy and fungus filled rooms? (p.151, Kozol) By no means are state of the art facilities the sole reason for a student's success or failure. However such impoverished conditions are indicators of failing systems. These systems were put into place to educate, and when they cannot meet minimum requirements for

physical needs, how can they hope to focus on the real business at hand, learning? Something must be done.

Global Economies

Decline such as this does not happen overnight, nor is it the result of a plot to weaken inner-city schools. Problems such as this are the result of change that was unlooked and unplanned for. Changes in the economy as a result of increasing free trade and computerization have caused low-skilled, highly paid jobs to be automated or exported. As a result, a greater priority has been placed on obtaining higher and higher levels of education. When one takes away the tax base for already impoverished states and cities, the under-funded institutions will begin to crumble. When pure market forces are not balanced by governmental action, such inequalities occur. In this case, expansion of worldwide trade changed the structure of the domestic economy. With computerization, and more and more companies being linked to the Internet, information has never been easier to access. Communications costs have been lowered resulting in increased competition and lowered transport costs. With firms all trying to set costs at the lowest possible they naturally progress towards either exporting low-skilled jobs to cheaper markets or automating them as the costs of doing so decline. Free trade has had similar effects. While both phenomena have been good for business and will continue to be of great benefit in the long run, many who were not expecting such changes to occur so rapidly have been caught flatfooted.

Export of low-skilled jobs to cheaper markets

The trend of low-skilled jobs being exported becomes apparent when one examines the supporting data. In 1996 a person with below a high school education was

nearly three times more likely to be unemployed than an individual with a bachelors degree or above. (p462, Digest of Education Statistics) For those caught in the transition, the reality of the situation is disheartening. A good example is that in "1952 fully 88% of Americans agreed that 'there is plenty of opportunity and anyone who works hard can go as far as he wants.' In 1980 70% concurred." (p.21, Hochschild) This disparity is made abundantly clear by the fact that from 1975 to 1997 the income of the top 5% exceeded the entire income of the bottom 20% of families. (p.2, Wilson) Median wages, after adjustment for inflation, have dropped 10%. Those hardest hit were workers without college degrees. This statistic gains added meaning when one realizes that workers without college degrees represent ¾ of the workforce.(p.25,Wilson)

The widening gap in incomes is a result of increasing skill gaps in our society. Those with highly technical knowledge and/or more education enjoy a distinct advantage. Individuals with a masters degree have median incomes more than twice that of those without a high school diploma.(p.459, Digest of Education Statistics) High skill groups not only enjoy higher salaries, but they also receive greater pay increases. For example, professional men in the last several decades have realized a real increase of 6% in wages while laborers income fell by 21% and machine operators by 16%.(p.27,Wilson) Manual labor has increased in productivity by about all that it can. The real expansion in the economy will be in the segment of knowledge workers. This is in most part due to the productivity improvements in the areas of technology and human capital, which has reduced the importance of physical capital and natural resources. (p.46,Wilson) According to the economist Alan Krueger, "The expansion of the computer use can account for 1/3 to 2/3 of the increase in the payoff to education between 1984 and 1993

[in the US]." (p.51, Wilson). Not only do workers have to possess the basic skills of reading, writing and arithmetic, but they must also know how to operate a computer. (p.60, Wilson) In order to maintain a competitive advantage in the global economy, it is important to utilize all of our human resources along the entire range of skill levels. Continuing one's education after high school is rapidly becoming accepted as a must for even moderate success. This places even greater emphasis upon receiving the best preparation for continuing education from public schools.

Decline of public schools and general call for reform

The requirement of a college education for more jobs has caused the value of a quality education to rise drastically. As low-skilled jobs disappear, the tax bases in poorer neighborhoods experience decline and many city governments cannot generate enough revenue for basic services. To stay afloat the levels of funding are reduced, frozen or simply cut off. Many schools were unable to hire new teachers, improve existing facilities, or even purchase textbooks throughout the 1980's. (p.37, Wilson) These decreases in the supply of education dollars coupled with the increased demand placed upon the systems due to economic trends makes maximizing the value of educational dollars all the more salient as an issue. Charter schools and voucher programs have all been discussed, but until the underlying inputs for success are accounted for, no programs will be able to help children succeed.

Research Design

When beginning this research, it was an important goal to be as accurate and representative of each state's actual condition. Each of the variables were chosen based on their hypothesized importance on the quality of education. The four main areas to be

studied were the effect of funding on state systems, the effect of teacher education levels, and the benefits or disadvantages of state control. Each of these variables were to be tested against differing measures of student performance, the first being test scores, then percentile rankings and finally graduation rates. Data on the variables were collected for each of the 50 states. The variables being tested are the average reading and math proficiencies of 4th graders, the percentile spreads of those scores, and graduation rates of high school seniors. The research design tested the effect of funds available, teacher education, and state control on those dependent variables rates using five multivariate linear regressions.

Education Funding

The primary goal of this research was to examine school funding. Funding for schools is one of the most politically charged subjects when brought up for debate. It is understood that funding is necessary, however the debate rages over how much and from whom. In order to test the magnitude of funding's effects, it is integral to not examine a state's total funds. This would be ineffective since a larger state would naturally have higher total funds available. Meier states that "discussing money in a generic sense is an imprecise way of thinking about expenditures." (p.7, Meier) It is therefore important to look at the amount of resources allocated for the student's benefit. A much better measure of a state's investment in education is to look for the amount of money spent on each student, or the per-capita expenditures. By examining the resources expended on each student, small states are given equal comparison with larger states. They might still face problems with their funding levels due to economies of scale and smaller tax bases, however this effect cannot be avoided and is a real constraint of state governments.

Staff Quality

After securing adequate funding, it is important to hire and retain quality staff. Finding the best and brightest teachers to educate children is every administrator's top priority, however it is a difficult variable to measure. Is talent indicated by new and innovative approaches possessed by recent graduates or is it a learnable skill gained through years of experience? To test these questions variables on teacher education and years of experience were included. As a teacher advances in his or her education, they often become more specialized, with more in-depth knowledge, which could benefit classes. They could also, however, possess the knowledge but lack the skills to communicate to those not as advanced, going over their heads. Another worry is that all of the high-quality candidates with doctorates or masters will opt for university positions leaving only the least qualified seeking public school employment. The number of years of experience a teacher has is a double-edged sword. While experience leads to insights not possible to new teachers, it can also lead to stubbornness and reliance on tradition. The variable testing teacher experience will attempt to determine if there is a discernable trend caused by the number of years teachers spend in a school system.

Control

Decisions regarding education are made at many levels of government, each believing they know what is best for schools. Many opinions exist regarding centralization or local control, therefore it is important to test who is correct. In Texas, local control is held closely as a right in school districts. Other systems are not as tightly held, and it is important to examine the effect of control upon performance. This is a difficult variable to examine because power relationships in politics are rarely simple,

instead opting for subtle interaction. There is in politics, however, one golden rule—he who has the gold makes the rules. From federal to local governments, it is a relative certainty that any funds to be transferred from one source to another will be received along with some type of restrictions or mandates on how they will be spent. In this case, the level of control by different governing institutions will be measured by their percentage of the total available funds for each state. The higher the percentage of funds, the more implied control by that level of government.

Dependent Variables

Each one of the above, independent variables, have been tested using a multivariate linear regression against the following dependant variables. It was important to use more than one variable for student performance. Children who are products of the public education system typically spend twelve to thirteen years in its control. Therefore there are multiple stages in the child's development. In addition to these concerns is the fact that learning is difficult to quantify. To correct for these concerns, each of the variables was selected to represent one aspect of achievement and learning. Through their combined results, it should be possible to gain insight into what inputs are the most important in replicating systems that provide quality education. These variables represent a level of achievement at an early point in the child's education and the quality of the foundation each state is providing.

Average Proficiencies

The two basic skills that are the foundation for future success are reading and math. They provide the common body of knowledge or jumping off point for every major discipline. Such importance necessitates their examination in this study. The

average reading and math proficiencies for 4th graders will serve as one of the dependant variables. They were chosen not only based on their importance, but they are a good indicator of the overall level of performance at an early age of the student and the quality of their education.

Equality Variables

Simply looking at overall levels of performance is, in a way, an oversimplification of the level of performance. Especially when examining scores at the state level, issues of equality must be tested for given the diverse backgrounds of each community. It is possible for a state to have acceptable averages and still be unequal in its treatment of children. Half of the students could score highly while the rest fail, yet the state is viewed as successful. This scenario plays out in the discrepancies between suburban districts and those in the central cities. Due primarily to this concern the percentile ranges of each state have also been compared in order to detect any major discrepancies in district quality within a state's school systems. These would appear as a larger spread or skewed distribution.

Graduation Rates

Equality and the foundations are important to look at, but one cannot just examine the progress being made in the initial stages of education but to look at whether or not a state's school system is reaching its mission: to produce graduates. Assuming that certain minimum requirements are upheld regarding scholastic achievement, graduation rates are important indicators in determining how well each state is following through with efforts made at earlier stages.

Results

The results of the regressions are very interesting in the effects of some of the variables. On several points the findings point in unexpected directions. In the following section they will each be described by their significant variables and the implications they have.

Reading Proficiency

The Average Reading Proficiencies of 4th graders in all 50 states was the first dependent variable to be tested using regression analysis in this study. The R-square, at .533, along with three significant variables combine to make the Average Reading Proficiencies regression a good descriptor. The three variables that were statistically significant in their impact are the percent of teachers with a doctorate, and the percentage of both state and federal funds compared to the whole of available funds.

The beta, or slope, that resulted from the comparison of teachers with doctorates as a percentage of the state's teachers were –6.878. The negative beta of the doctorate variable is perplexing. Originally it was thought to be the result of co-linearity with other measures of teacher education; however, upon their removal the result was not significantly altered. It was anticipated that as the level of teacher education rose so would the results of students on standardized tests, however, this was not the case. The only solid finding this variable provides is that higher teacher education does not imply higher results by the students. One explanation for this fact could be that teaching skills are not a significant portion of their knowledge. While this seems counter-intuitive, everyone has experienced the brilliant professor who could not communicate his or her ideas effectively.

Federal spending was also found to have a negative effect on student scores. As stated earlier, federal funds often go to problem areas. High percentages coupled with low scores can also be the result of scores being initially low and the funds being applied to aid the state. One possible explanation for the beta of –2.106 could be that explained because as the percentage of funds that the federal government increases it indicates not only problems but also low contribution by both the state and local governments.

State funds experienced similar results and can also be explained by this reasoning. The more money that localities within a state generate in relation to the whole, the wealthier that state will tend to be. This does not affect the total amount of contribution by the state or the federal government in an adverse way, it merely decreases their percentages. Therefore the total available funds will have increased. This also gives localities more control in how they spend their money preventing micromanaging. While the argument that this added control is benefiting states by placing the decision making authority with those closest to the problems, it cannot be inferred conclusively from this study.

Math Proficiency

The results after examining the independent variable effects on average math proficiency closely resemble those for reading, however they are not identical. The amount of money spent per-capita on students, the percent of teachers with a doctorate, and federal and state spending as a percentage of total spending were the four significant variables for this regression with a R Square of .609.

The correlation between the amount spent per-capita on students is by far the strongest in significance. For every $100 increase in spending on each student, they

experience a 1.89% increase in their scores. This means that the difference in scores between states with a per-capita spending rate at $4,000 and $5,000 is an average of 19 points. This huge score gap illustrates the importance of the correlation between adequate funding and math comprehension.

Once again doctorate level education is negative in its effect. The effect in this case, however, is slightly more than that of reading. This could indicate any number of things. One that comes immediately to mind is math requires more intense communication of abstract concepts and that independent study is more difficult. The simple fact is that this finding was unexpected and no clear conclusions can be drawn from it.

Federal and state spending, the third and fourth variables of significance, is as before negatively affecting the outcomes. This effect can be explained by the same reasoning as that offered for the reading proficiency regression. The funds tend to be allocated for areas already experiencing problems and the higher the percentage of funds from the federal government the lower the levels from other sources indicating poorer states and poorer districts. The higher percentages by both federal and state dollars indicate poorer states. This rationale fits with the trend of federal dollars having twice the impact on math scores. The more federal dollars, the more problems, and the higher the state percentage, the lower the level of input from localities.

Graduation Rates

Graduation rates, unlike the early stage test scores, inquires into the quality of the final product of educational systems. The regression for Graduation Rates, while not as strong of a predictor as those for reading and math scores, still is statistically significant

and contains two correlated variables. The regression with an R-square of .437, has two variables that are highly descriptive in their effect upon graduation rates are the percentage of state and local funds compared to the total.

Increases in both state and local spending percentages lead to higher graduation rates among high school seniors. There is, however, a wide gap in their effectiveness. State percentages are nine times as effective as local expenditures on graduation rates. While at first glance this seems to cast doubt on the explanation of local funds being more effective for educational outputs, further thought refutes this claim. Local funding ceases to have any effect once the student moves, but as long as the migration remains within the state, the state funds are still effective assuming they are distributed equitably across districts.

In addition to the regressions run on reading scores, math scores and graduation rates, two were conducted on reading and math percentile ranges. Neither the Math nor the Reading percentile ranges were significantly affected as a result of the independent variables. This finding is as relevant as the insights gained by the significant variables of the other regressions. The lack of any relationship communicates that while the normal distribution of scores can be raised or lowered in total due to the factors of funding, teacher education, etc., the spread of student scores cannot be altered. For example, when more funds are applied to a state's districts, the math scores may improve but the percentage representing the lower percentiles will stay around the same. Individual effort can facilitate improvement but the real issue facing government is ensuring equality among systems. The system as a whole should be the concern of politicians and the student's individual progress should be the responsibility of the teachers.

General Findings

With all the information presented it can be difficult to assimilate into a coherent and unified picture. Some results seem upon first glance to be incongruent, yet upon further examination yield common insights. There are three areas in which the outcomes of this study make clear statements. These are funding issues, equality of systems and teacher education.

The strongest and most salient findings of this study were in the area of educational funding. In all areas where the regression was a good predictor of outcomes, at least one of the funding variables always affected the quality of education. To begin with, the higher the percentage of local funds the better off the state. This indicates higher per-capita per district and a greater degree of local control. Higher local percentages can also be interpreted to mean that the state is wealthier. The negative effect of federal dollars is a result of the long-term effects of such funds and their application to existing problems. Other studies have also recognized this trend in education and that "state aid is key for equitable districts." (p.13, Meier, Wrinkle and Polinard) The most likely scenario is that unequal districts use it to make up the difference in funds. In the same study Meier, stresses that expenditures are long term. To determine the real value of a change in funding levels, achievement variables need to reflect long-term trends and account for time lags in performance. It is not just how much is spent, but also what uses are being funded. Money spent on reducing class size is one of the most important uses supported by findings that "a reduction in class size has twice the impact in equity districts. (p.13, Meier, Wrinkle and Polinard) This means that as schools are forced to cram more and more students in one room learning is being

negatively affected at a geometric rate. Even with only an increase of one student, performance drops by .93 percentage points. (p.11, Meier, Wrinkle and Polinard) When you consider that a classroom that goes from having 20 students to 35 the student's performance will fall by about 14 points. Such drastic affects clearly tie student achievement to funding levels.

Issues of equality are especially important in regards to funding. While it is naive to assume that school districts within a state are completely or even moderately equitable in their funding sources, examining the averages between states allows us to gain insight. For each test, score distribution or graduation rate there will be a normal distribution in the results. The real challenge is to develop a funding plan that equalizes the per-student levels of funding across systems, whether that system is a state or a local district. What form this system would take and any adjustments for regional costs are left for further studies.

Areas for Further Study

While there have been many inquiries in the past on educational funding, the purpose and scope of educational goals are constantly changing to adapt to the realities of the modern economy. This research has made some valuable findings, however they do not answer all the current questions regarding education, and raise new questions. The following are areas in which further research would be of benefit to scholars, politicians and anyone interested in education.

To begin, a long-term study of federal dollars would be beneficial because of their long-term nature. A study of test scores and federal dollars over the course of several decades would provide more insight into their affect on problem states and districts. By

using other statistical tools, such as a two-stage least squares regression, which accounts for problem areas receiving the lion share of governmental monies, errors could be eliminated.

While it has been shown that in certain areas funding is of benefit to states, the issue of equality is still pressing. This inquiry has shown that equality among systems is the primary goal for successful education, however it is far from proving that states are homogenous across their districts. Reaching equality among districts, from the inner city to the suburbs, should be a goal of states in order to utilize all of their human capital. Researching trends among individual states based on ethnicity, income and test scores would highlight problem areas in which solutions can be reached.

Finally, educating children is essentially an industry based on people. Some claim that it is "really a service business, where each child is highly individualized—more like consulting" and that it should shed its manufacturing mind-set. (p.312, Terry) By researching curriculums that are successful and can be replicated across districts would satisfy the human element that cannot be measured by simple monetary means. Some areas of notice are charter schools. In these schools funded by the state governments they take innovative approaches to education, focusing on a single theme and all its aspects, increasing accountability and authority of its teachers, with more concern for learning than test scores. (p.312-6, Terry) These schools have consistently outscored their state averages on standardized tests and improved transfer student scores. (p.310-8, Terry) Other areas, such as Texas and Washington D.C. have not experienced such success with charter schools doing worse. Finding the reason why some charter schools work and others do not begs further examination.

Summary

Educating and preparing the leaders of tomorrow for the challenges they will face is the most important job of teachers today. It is up to those who pass laws and make decisions regarding how this task will be carried out to ensure that the inputs provided are structured so as to get the best value and the most equal treatment for all students. The findings of this study indicate that higher levels of per-capita funding are beneficial for test scores, high levels of state funding improve graduation rates and that the level of teacher education is irrelevant to improving student performance. Schools must have the resources and skills to cater to each and every one of its students and provide them with the best quality instruction by equalizing resources. Only then can we say that we live in a free society, on in which individuals can achieve their dreams if they work hard and play by the rules.

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Appendix A: Average Reading Proficiency Results

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.73	0.533	0.445	5.97

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1301.442	6.000	216.907	6.076	0.000
Residual	1142.302	32.000	35.697		
Total	2443.744	38			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
(constant)	316.183	58.906		5.368	0
Amt Spent Per-Capita	1.08E-02	0.007	0.226	1.443	0.159
Percent with a Doctorate	-6.878	2.803	-0.31	-2.454	0.02
Percent with 20 years exp	0.182	0.193	0.146	0.945	0.352
Federal spending as a percentage of whole	-2.106	0.826	-0.656	-2.551	0.016
State spending as a percentage of whole	-1.174	0.635	-2.045	-1.847	0.074
Local spending as a percentage of whole	-1.024	0.639	-1.967	-1.602	0.119

Appendix B: Average Math Proficiency Results

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.781	0.609	0.538	6.1498

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	1947.053	6.000	324.509	8.580	0.000
Residual	1248.047	33.000	37.820		
Total	3195.1	39			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
(constant)	404.163	71.561		5.648	0
Amt Spent Per-Capita	1.89E-02	0.005	0.441	3.668	0.001
Percent with a Doctorate	-8.328	3.018	-0.328	-2.759	0.009
Percent with 20 years exp	-0.391	0.307	-0.186	-1.274	0.211
Federal spending as a percentage of whole	-2.783	0.842	-0.747	-3.304	0.002
State spending as a percentage of whole	-1.309	0.704	-1.839	-1.857	0.072
Local spending as a percentage of whole	-1.186	0.699	-1.819	-1.696	0.099

Appendix C: Graduation Percentage of High School Seniors

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.661	0.437	0.211	4.06E-02

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	0.032	10.000	0.003	1.938	0.087
Residual	0.041	25.000	0.002		
Total	7.31E-02	35			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
(constant)	-0.317	0.588		-0.538	0.595
Amt Spent Per-Capita	-7.59E-05	0	-0.267	-1.216	0.235
Percent with a Doctorate	-6.59E-03	0.022	-0.053	-2.95	0.771
Percent with 20 years exp	-4.86E-04	0.002	-0.064	-0.267	0.792
Federal spending as a percentage of whole	1.09E-02	0.007	0.579	1.622	0.117
State spending as a percentage of whole	9.50E-03	0.005	2.557	2.045	0.051
Local spending as a percentage of whole	1.09E-02	0.05	3.186	2.314	0.029
Total Education Expenditures (in Thousands)	6.11E-06	0	5.825	1.648	0.112
Total Capital Expenditures (in Thousands)	-6.50E-05	0	-5.814	-1.646	0.112
Average Math Proficiency	-1.40E-05	0.002	-0.003	-0.008	0.994
Average Reading Proficiency	1.55E-03	0.002	-0.276	0.781	0.442

Appendix D: Reading Percentile Range

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.256	0.066	-0.065	280.21

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	237506.280	6.000	39584.380	0.504	0.802
Residual	3376199.900	43.000	78516.277		
Total	3613706.2	49			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
(constant)	1364.511	2628.879		0.518	0.607
Amt Spent Per-Capita	-2.15E-01	0.216	-0.157	-0.997	0.324
Percent with a Doctorate	77.193	121.593	0.098	0.635	0.529
Percent with 20 years exp	7.846	7.411	0.19	1.059	0.296
Federal spending as a percentage of whole	-9.534	36.036	-0.084	-0.265	0.793
State spending as a percentage of whole	-9.159	27.99	-0.485	-0.327	0.745
Local spending as a percentage of whole	-9.677	28.08	-0.558	-0.345	0.732

Appendix E: Math Percentile Range

Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.359	0.129	0.007	329.5

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	688602.500	6.000	114767.083	1.057	0.403
Residual	4668635.500	43.000	108572.919		
Total	5357238	49			

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Standard Error	Beta		
(constant)	2239.21	3097.374		0.724	0.473
Amt Spent Per-Capita	2.14E-01	0.253	0.129	0.846	0.402
Percent with a Doctorate	66.111	142.985	0.069	0.462	0.646
Percent with 20 years exp	5.3	8.715	0.105	0.608	0.546
Federal spending as a percentage of whole	-11.358	42.376	-0.083	-0.268	0.79
State spending as a percentage of whole	-18.245	32.915	-0.793	-0.554	0.582
Local spending as a percentage of whole	-24.948	33.02	-1.182	-0.756	0.454

VITA

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Accomplishments:

- 1999-2000 University Undergraduate Research Fellow
  Graduate level research conducted on an original topic in a close working relationship with a faculty advisor culminating in a senior thesis.
- Fish Camp '99 Staff
  Responsible for guiding the 150 freshmen assigned to each camp in their transition to college. This yearlong commitment involved the selection of 26 counselors from 1,200 applicants, planning activities for team-building, coordination of weekly events, account budgeting, and planning the agenda for the four days at camp.
- Fish Camp Counselor 97-98
  Working closely with 12 incoming freshmen for their first year of college. Was responsible for planning events and socials to ease their transition from high school to college.
- Conference on Freshman Leadership Organizations (COFLO) 99-00
  A student organization responsible for planning and administering a conference hosting delegates from other universities instructing them on how to start freshman leadership organizations and how to improve existing programs at their schools.

Education:

Texas A&M University
Bachelors of Arts in Political Science (expected May 2000)
GPR: 3.696 and Dean's List
Expected graduate with University Honors and Foundation Honors, College of Liberal Arts Honors P.L.A.N.
University Undergraduate Research Fellow
Political Science Society
Phi Eta Sigma National Honors Society, Golden Key National Honors Society, Phi Kappa Phi National Honor Society
Placed 2nd in the oral competition for TAMU Student Research Week

Extra Curricular Activities:
Fish Camp '99 Staff
Fish Camp Counselor '97-98
Conference on Freshmen Leadership Organizations
FHK Complex Hall Council
FHK Bonfire Crew

Trinity High School
Advanced with Honors Diploma
GPA: 3.86
Top 10% in a class of 634
National Merit Scholar, Presidential Achievement Award, Texas Scholar

*After graduation I will attend law school in the fall.