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FORM C
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The Impact of Lottery Revenues on State Educational Expenditures
Project Title

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DATE COMPLETED 4/13/05

The Impact of Lottery Revenues on State Educational Expenditures

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The Impact of Lottery Revenues on the State Educational Expenditures

Jeremy Smith

Abstract

Over the past four decades, there has been a rapid growth in both the number and size of state lotteries in the United States. In 1964, New Hampshire was the first since the late 1800s to ever run a lottery system. Since then 37 other states have jumped on the lottery band wagon. Gross sales of lottery tickets have exceeded billions of dollars adding more revenue funding to state budgets. Many state lotteries have deposited lottery profits to their general funds, but 16 states have earmarked lottery profits for higher education. Given the history of lotteries and the fungibility of money, economists have questioned the effectiveness of the earmarking policies. In this paper, a regression analysis is used to answer the key essential question, "Do Lottery Revenues adequately substitute net increases in higher education spending for the states that have a lottery geared towards higher education?"(i.e. Tennessee) With the idea of substitution, the lottery's role is to generate non-taxable revenue for struggling parents that are trying to finance their kids' post-secondary education. Secondarily, the regression will answer a supporting question, "Can the minority enrollment benefit from lottery revenues?"

I. INTRODUCTION

Lotteries are not new to America. They have been used to fund a diverse set of public projects such as education. Most of the earlier lotteries in the United States were run by state and local governments, but during the 19th century, a number of private companies were hired by the government to operate and market public lotteries. [1] After a number of celebrated cases of fraud in these private lotteries, most states moved to ban them.

"By 1894, no state permitted lotteries and 35 states had constitutional prohibitions against them."[2] Lotteries made their 20th century debut in New Hampshire in 1964. In contrast to the 19th century model of privatized lotteries, the state government ran the New Hampshire program. Over the next six years, only one state adopted a lottery, but state budget problems in the early 1970s generated a rapid coast-to- coast expansion in state-run lotteries.

Initially, modern state lotteries were passive drawings where the winning ticket was selected from all tickets sold. These lotteries were similar in many respects to the lotteries run during colonial times. More recently, lotteries have been spurred on by the introduction of active games because these games maintained the interest level of those who participated in lottery sales. The four major types of active lottery games were the instant scratch off, daily numbers, keno and lotto. For example, the instant scratch- offs were introduced primarily in the 1970s.

[1] The first quarter of this section draws heavily from Clotfelter and Cook's excellent book, *Selling Hope: State Lotteries in America (1989).* For a shorter discussion of the history and economic issues associated with state lotteries, see Clotfelter and Cook (1999).

Many states now "earmark"[3] lotteries as a source of revenue, particularly as a source to fund education. Studies of lotteries as sources of revenue have reported that even under the best circumstances, "they generate only about 2.3% in net revenue for the state"[4] (i.e. Colorado). The lottery revenues also have been generating at a slower pace to where the states cannot depend on them. As they have in the past, lotteries tend to have had high administrative costs, which reduces the amount a state can spend on education or other services.

Concerns about "earmarking" lottery proceeds for higher education were illustrated in the history of the Montana lottery. Beginning in 1987, lottery profits were earmarked for public and higher education. In 1995, the state legislature decoupled lottery revenue from school financing. "As the President of the Montana Education Association noted, it was an 'illusion' that lotteries were presumably a big economic help to public schools and universities. In actuality, they accounted for about 1 percent of the state educational budget during their fiscal periods."[5]

The specific question addressed in this paper is: Do state lottery revenues act as adequate substitutes for state funding in higher education spending? In other words, does a lottery that is tied to education actually increase state spending on education or does it displace state funds? If substitution is involved, the lottery revenue becomes the so-called "invisible" tax revenue and are reincorporated into the state's spending budget. Then, it becomes the substitute for the annual increase in higher education tuition and the annual decreases in a state's spending towards higher education.

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[3] Earmark- To reserve or set aside for a particular purpose.
[4] *Gaming and Wagering Business* 11, 30; 47; U.S. Bureau of the Census, *Current Population Reports*, Series P-25, No. 1058, State Population and Household Estimates: July 1, 1989, March 1990. Table 1.
[5] Garrett, T. A., (2001): "Earmarked Lottery Revenues for Education: A New Test of Fungibility," *Journal of Education Finance*, 26 pp.219-238.

The main purpose of the paper is to determine whether or not lottery expenditures substitute for state funding for higher educational purposes. If substitution takes place, other related issues are better understood. If politicians impose a lottery, will tax burdens funding education differ from those that are imposed on faithful buyers of lottery tickets? This paper uses a regression analysis to try and answer this question.

In the remainder of the paper, I will first address the concerns of financing higher education focusing on pressures that give rise to a lottery. Next, I will discuss what roles exactly lotteries have in funding higher education spending. In addition, there will be a well thought out focus that critiques the lottery's role: the issue of substitution when it relates to state funding for higher education. The focus then turns to the essential research questions: *Do state lotteries lead to a net increase in funding for higher education?* and *is minority enrollment benefiting from lottery revenues?* Most importantly, these questions will be answered through an analysis of descriptive data and regression.

II. FINANCING EDUCATION: PRESSURES THAT GIVE RISE TO A LOTTERY

Government spending is influenced by many factors that vary greatly across states and often are difficult to measure, including voter attitudes toward government and the need for lotteries.[6] Per capita income is not only an association of one's ability to pay, but also the difference in price and attitude towards the government.

In 1994, state government provided more than 46% of the revenue for financing secondary and higher education with local governments generating an almost equal share from their own sources, about 47% went to public schools and universities spending.[7]

[6] Boyd, et al. (2005)
[7] U.S. Department of Education, Digest of Education States, 1994

The federal government has had a smaller role in financing educational spending, primarily under ten percent.

Consequently, the role of state and local governments in financing education has changed dramatically from the 1970s. The two levels of government switched positions where the state government provided the majority of school revenue. Prior to the 1970s, "state governments provided about 40% of school revenue, on average, and local governments more than half."[8] Many state governments made efforts to provide some "equalization" of educational spending across districts in their state. By "equalizing," local governments do not have the same "capacity" to raise revenue in some counties that are poor versus counties that are rich. Using the same property and sales tax rates, the poorer county could never generate as much money as the richer county. So states have intervened and raised the amount of money they send to poorer counties through grants. In other words, the effort to equalize state spending was by establishing many different types of educational grants. As a result, there was an increase in state financial commitments through state educational grants, especially for elementary and secondary education. This increased commitment places pressure on other state spending programs, in particular higher education.

The financial support for higher education can be described as huge by any measure. Overall, higher education's share of the Gross Domestic Product (GDP) was nearly .3% in 1995.[9] Total revenue from all sources supporting public and private higher education has increased markedly. In 1990, total revenue from all sources supporting colleges and universities was approximately $150 billion. By 1994, total revenue had

[8] U.S. Department of Education, Digest of Education States, 1994
[9] U.S. Department of Education, Digest of Education States, 1996

reached approximately $179 billion, with the same percentage distribution between public and private institutions.[10]

As measured by state and local government real per capita growth in expenditures, higher education expenditures has exceeded growth in total general expenditures in 1992-2002. Higher education expenditures grew 27.7% and total general expenditures were only up about 21.1%.[11] In addition, the overall growth in spending was widespread. Every state but Alaska has increased real per capita state-local spending substantially over the last two decades. It has been increasingly difficult to sustain such rapid growth in spending. As a result, politicians have looked elsewhere for funding ideas, including the lottery.

As far as financing higher education, it also has become the third largest spending category for most state governments, behind elementary and secondary education and Medicaid. State and local governments have equated $61.9 billion in direct appropriations to their education instruction, plus $ 8.1 billion in grants and contracts, and $ 2.9 billion in scholarships and fellowships. [12] It is evident that these figures are the largest source of revenue funding that relates to public education spending.

As total revenue was increasing, a shift occurred in revenue sources: for the first time since the mass expansion of public colleges and universities, tuition overtook state government appropriations to institutions in providing the largest share of revenues for higher education. In relation to public institutions only, the shift from state funding to revenues from tuition is also dramatic. The portion of revenues funded by the states is still lower than the portion funded by tuition and fees. There may be parental pressures

[10] U.S. Department of Education, Digest of Education States, 1996
[11] Steven Gold (1996), pp. 23-30.
[12] Boyd, et al. (2005)

forming against future tuition increases. As a result, the lottery is now a "free" and logical option to pursue because someone else can buy the lotto ticket or play the lotto game while other families receive the scholarship money that reduces their children's tuition costs.

The political gains to lottery enactments also reflect the additional revenues that lotteries can generate. In addition, politicians are giving voters the games they want. In return, the politicians are benefiting from additional revenues because they are not generated from traditional taxes. Consequently, parents and students gain relief that they are not paying this "hidden" lottery tax. As far as higher education is concerned, the parents are internally escaping the social and political "relief" that lottery creates because their participation in the lotteries has been voluntary. As a result, lottery players are participating in lottery games. Politicians are appearing to provide a political "relief" to voters and parents for negative connotations associated with the lottery. (Mckee1993).

III. LOTTERIES' ROLE IN FUNDING HIGHER EDUCATION SPENDING

Lotteries are involved with higher education because they help alleviate fiscal stress and offer financial support to parents. But, with the lottery, other spending is replaced by lottery sales. This displaced spending means states are giving up the associated sales tax revenue. For example, this is seen in sales tax. It is calculated that the lost sales tax revenue cost of lotteries are $11 billion (Bowden and Elrod, 2004). As a result, there is less generated tax revenue to support higher education, as well as other services that are provided by state governments.

Lotteries also are implemented for higher education because they can supposedly achieve a dual task. The first task has been to reduce fraud in other gambling schemes.

Also by generating additional revenue without raising state taxes, the other purpose has been to raise and collect money(lottery revenues) to better educate tomorrow's youth so that higher education is financially attainable for the average, lower classed American.

In some cases, the lottery has been seen as an alternative revenue source creating scholarships and higher educational operating budgets for states that earmark revenue for educational purposes. Florida and Georgia, in particular, have created the lottery for higher educational purposes such as scholarships. In Florida, the lottery's role in funding higher education has been the establishment of the Florida Bright Futures Scholarship program.[13] In 1997, the Florida Legislature created this program to reward students for their academic achievements during high school by providing funding for them to pursue postsecondary educational and career goals in Florida. During the 2003-04-award year, this scholarship created revenues of more than $269 million that were distributed among 120,000 recipients.

In Georgia, the lottery's role in funding higher education was through the HOPE and HOPE PROMISE scholarships. The HOPE (Helping Outstanding Pupils Educationally) Scholarship Program has provided Georgia students with funding for tuition, mandatory fees, and a book allowance for attendance at any of Georgia's public colleges, universities, or technical colleges with the stipulation of a "B" average in core-curriculum classes. The HOPE PROMISE Teacher Scholarship Program has provided tuition assistance to aspiring undergraduate students and teachers to be in Georgia's public schools that are seeking graduate degrees in critical areas of need. Since inception,

[13] http://www.flalottery.com/lottery/edu/brightfutures.shtml

more than $3 billion has been appropriated and distributed to more than 830,000 HOPE Scholarship recipients.[14]

IV. A CRITIQUE OF THE LOTTERIES' ROLE IN FUNDING HIGHER EDUCATION

There exist no significant number of minority students who are benefiting from the lottery with regards to access higher education [15](Clotfelter, 1999). With this disparity, those who are contributing a larger percentage of lottery revenues also are receiving the least amount of service (i.e. scholarship). This trend is evident in minority college enrollment (Black and Hispanic) because there is an expectation to increase their enrollment percentage of their ethnic group.

As the numbers of low income groups increase, for which the lottery represents a regressive tax, the receiving of lottery revenues through scholarships by middle and high income people also increases which makes this tax a "painless" tax for higher income households. Yet, the lottery is also "painful" because most low-income groups are not receiving lottery revenues to fund their higher education aspirations.

Ultimately, who is the beneficiary? The immediate answer is that higher income groups, primarily Caucasian Americans are receiving lottery benefits (Clotfelter et al.1999).[16] According to a national survey, Hispanic males, who are divorced and have had some collegiate education that make between 50,000-99,999, have the highest participation rate. In addition, Black males, who are divorced over the age of 65 that do not have high school diploma and only earn less than $10,000, have the greatest annual

[14] http://www.georgialottery.com/gen/education/hopeScholarship.jsp?focus=education

[15] National survey on gambling behavior, National Opinion Research Center, University of Chicago, 1999, Reported in Clotfelter et al., 1999.

[16] National survey on gambling behavior, National Opinion Research Center, University of Chicago, 1999, Reported in Clotfelter et al., 1999.

per capita expenditure for any lottery player. Black males also have the highest annual per capita expenditure for any player or non-player when it comes to lottery expenditures (Clotfelter et al.1999).

In other words, the lottery is used to help fund higher education, by becoming this so-called "regressive"[17] tax. A "regressive" tax is a tax burden where incomes falls as incomes rises. In a disproportionate way, this tax is not applied to minority groups who aspire to achiever higher education; rather it is the Caucasian population who benefits from this tax because as their income rises they spend relatively less on lotteries.

One also feels opposed to the lottery having a role in funding higher education, because of moral reasons. With morality, the lottery's role has been to victimize the poor by promoting state gambling and only generating small and unstable forms of revenue to benefit them. In a sense, the lottery may not been seen as a "painless" tax if in fact, this tax is producing incumbent politicians platforms to run on in future elections.

V. DO STATE LOTTERIES LEAD TO A NET INCREASE IN FUNDING FOR HIGHER EDUCATION?

The primary purpose of this paper is to determine whether lottery revenues substitute for state funding in higher educational purposes. The secondary objective is to determine whether or not minority enrollment is benefiting from lottery revenues. The substitution process requires some explanation. First, most state governments are gaining tax revenues from various sources like sales and income taxes to fund areas like education in their state budget. This same government is also trying to compile a fiscal budget that encompasses all spending areas. It is a just matter of how to allocate funds. Like most state budgets, the focus to spend towards higher education is a secondary

[17] Regressive tax: tax burden/income falls as income rises. *Fisher, Ronald C. State and Local Public Finance* Chicago.1996. pg. 303

objective. As tuition starts to increase annually at most state universities, the problem becomes how does one adequately make up for net increases in tuition without providing additional funding from the state spending (i.e. create a lottery system).

Using a lottery system, a scholarship fund may be created to where funding is earmarked for higher education. To some degree, the lottery system tries to supplement the pre-determined funding in tuition for most state universities and colleges. Yet, there are more effects that the lottery creates. Lotteries might make it easier to raise tuition, which will in return cause even less pressure on state funding. But as noted above with the lottery, other forms of revenue (sales tax) will decline and a main source of funding higher education also declines. The lottery inadvertently creates the notion of more and adequate funding that is being generated. As a result, the legislature and taxpayers are inclined to oppose any discretionary increases in any type of higher education spending.

With the descriptive data, it seems that most factors influencing higher education spending (e.g. income per capita) are corresponding to states that are earmarked for education purposes. In fact, higher education expenditures per capita are higher in states that have lotteries that are earmarked for higher education than those that do not. The minority enrollment also seems to be greater in the same states simply because the majority of these states have large populations. Thus, there are varieties of races that live in the big cities of these states.

There is no simple way to answer the essential question or to completely justify one's observation of the description data. With descriptive data, there is no "control" for all the factors that could possibly influence higher education spending. As a result, I will use and impose a linear regression. A linear regression is where there is some dependent

variable that is assumed to be a linear function of one or more independent variables plus an error term that is introduced to account for all other factors. [18] The goal of a regression analysis is to obtain estimates of the unknown parameters to indicate how a change in one of the independent variables will affect the values taken by the dependent variable. In this specific model, the linear regression consists of a dependent variable: higher educational expenditures. Then, it consists of independent variables: income per capita, population, lottery revenues, Hispanic and black college enrollments, and taxes per capita. With the dependent variable, one will be able to provide an estimate of how the lottery and other variables like population affect higher education spending once other factors are controlled for. [19] For instance, will higher incomes cause a state to spend more on higher education?

Using the regression as a means of answering this previous question, I have compiled data from several states that have lotteries that are created for scholarship purposes like Georgia's HOPE. These states are California, Michigan, New Hampshire, New York, and Ohio.

By referencing the non-earmarked states of Arizona, District of Columbia, Oregon, Maryland, and Maine, I am carefully addressing how a lottery's long-term benefit in higher education funding can differ if education is not the primary focus. Simply, the non-earmarked states are providing me with an alternative notion that the states that have lotteries for higher education are not being productive. Perhaps there is chance that the main regression (1) will answer the primary concern of mine: Are state lotteries really the so-called "substitute" for state funding. In fact, I am also concerned

[18] Hu, Teh-wei. *Econometrics: An introductory analysis the second edition.* University Park Press.1982. pg. 54-55

[19] Hu, Teh-wei. *Econometrics: An introductory analysis the second edition.* University Park Press.1982. pg. 54-55

with minority enrollment, primary black enrollment. Thus, the secondary regression (2) will answer a secondary concern of mine as well: Will the minority enrollment rise as lotteries effect higher education spending.

The following equations are estimated:

1. HIGHEREDP =β + β1PINCOME + β2 TAXP + β3 LOTINCOME + β4HISP + β5BLACK + β6 HISPP% + β7BLACK + **E**

2. HIGHERED= β + β1 POP + β2PINCOME + β3 TAXP + β4 LOTINCOME + β5HISP + β6BLACK + β7 HISPP% + β8BLACK + E

3. BLACK= β + β1 POP + β2 PINCOME + β3 TAXP + β4 LOTINCOME + β5 HIGHERED + E

(β, = alpha or coefficient, ^= the change/ variation in a variable, E- everything else that is not addressed in the regression, PINCOME= income per capita, POP= population, BLACK=number of black enrollment, TAXP= taxes per capita, HISP= number of Hispanic enrollment, LOTINCOME= lottery revenues per capita, HISPP%= Hispanic enrollment per capita, and BLACKP= Black enrollment per capita.)

I am suspecting that β1, β3, β2, and β4 will produce a positive coefficient. Yet, β6 and β8 will be produce a negative coefficient.

VI. MY DATA

TABLE 1

Variable names and descriptions

Variable	Description	Units	Source
POP	Population	dollars	Census bureau-www.census.gov
PINCOME	Income per capita	dollars	Census bureau-www.census.gov
TAXP	Taxes per capita	dollars	Census bureau-www.census.gov
LOTINCOME	Lottery revs per capita	dollars	Census bureau-www.census.gov
HIGHERED	Higher ed spending	dollars	Census bureau-www.census.gov
HISP	# of Hispanics enrolled	dollars	National center for educational sta
BLACK	# Of blacks enrolled	dollars	National center for educational sta
HIGHEREDP	Higher ed spending per capita	$	Census bureau-www.census.gov
HISPP%	# Of Hispanics enrolled per capita	dollars	National center for educational sta
BLACKP	# Blacks enrolled per capita	**dollars**	National center for educational sta

TABLE 2

Descriptive Data by state

Arizona

Variable	Description	Average
POP	Population	4028600
PINCOME	Income per capita	13461
TAXP	Taxes per capita	8019228
LOTINCOME	Lottery revenues per capita	98942.67
HIGHERED	Higher ed spending	484390
HISP	The # of Hispanics enrolled	200623.6
BLACK	# Of blacks enrolled	30643
HIGHEREDP	Higher ed spending per capita	.117275
HISPP%	# Of Hispanics enrolled per capita	.0477715
BLACKP	# Blacks enrolled per capita.	.007363

California

Variable	Description	Average
POP	Population	30380467
PINCOME	Income per capita	16409
TAXP	Taxes per capita	68839077
LOTINCOME	Lottery revenues per capita	847989.7
HIGHERED	Higher ed spending	3205683
HISP	The # of Hispanics enrolled	1952596
BLACK	# Of blacks enrolled	459750.8
HIGHEREDP	Higher ed spending per capita	.103693
HISPP%	# Of Hispanics enrolled per capita	.062697
BLACKP	# Blacks enrolled per capita.	.014849

DC

Variable	Description	Average
POP	Population	600666.7
PINCOME	Income per capita	18881
TAXP	Taxes per capita	2341484
LOTINCOME	Lottery revenues per capita	63747.13
HIGHERED	Higher ed spending	11969.6
HISP	The # of Hispanics enrolled	4608.77
BLACK	# Of blacks enrolled	65032.38
HIGHEREDP	Higher ed spending per capita	
HISPP%	# Of Hispanics enrolled per capita	1.16E-05
BLACKP	# Blacks enrolled per capita.	1.61E-05

Maine

Variable	Description	Average
POP	Population	1226933
PINCOME	Income per capita	12957
TAXP	Taxes per capita	2738591
LOTINCOME	Lottery revenues per capita	42815.33
HIGHERED	Higher ed spending	145414.3
HISP	The # of Hispanics enrolled	444.3846
BLACK	# Of blacks enrolled	1850.667
HIGHEREDP	Higher ed spending per capita	.11782

HISPP%	# Of Hispanics enrolled per capita	0.11782
BLACKP	# Blacks enrolled per capita.	0..001476

Maryland

Variable	Description	Average
POP	Population	4881067
PINCOME	Income per capita	17730
TAXP	Taxes per capita	11912410
LOTINCOME	Lottery revenues per capita	39989.25
HIGHERED	Higher ed spending	586463.1
HISP	The # of Hispanics enrolled	22084.38
BLACK	# Of blacks enrolled	247354.5
HIGHEREDP	Higher ed spending per capita	.118327
HISPP%	# Of Hispanics enrolled per capita	.004391
BLACKP	# Blacks enrolled per capita.	.049541

Michigan

Variable	Description	Average
POP	Population	9477533
PINCOME	Income per capita	14154
TAXP	Taxes per capita	21438511
LOTINCOME	Lottery revenues per capita	53577
HIGHERED	Higher ed spending	1609473
HISP	The # of Hispanics enrolled	41605.77
BLACK	# Of blacks enrolled	294314.5
HIGHEREDP	Higher ed spending per capita	.168288
HISPP%	# Of Hispanics enrolled per capita	.004349
BLACKP	# Blacks enrolled per capita.	.030835

New Hampshire

Variable	Description	Average
POP	Population	1719733
PINCOME	Income per capita	15959
TAXP	Taxes per capita	2182543
LOTINCOME	Lottery revenues per capita	42005.73
HIGHERED	Higher ed spending	196772.7
HISP	The # of Hispanics enrolled	1871.077
BLACK	# Of blacks enrolled	1446.462
HIGHEREDP	Higher ed spending per capita	172.9207
HISPP%	# Of Hispanics enrolled per capita	.0016735
BLACKP	# Blacks enrolled per capita.	.001251

New York

Variable	Description	Average
POP	Population	1826807
PINCOME	Income per capita	16501
TAXP	Taxes per capita	59745811
LOTINCOME	Lottery revenues per capita	105545.8
HIGHERED	Higher ed spending	1055914
HISP	The # of Hispanics enrolled	412003
BLACK	# Of blacks enrolled	508283.5
HIGHEREDP	Higher ed spending per capita	57.4551
HISPP%	# Of Hispanics enrolled per capita	.223782

BLACKP	# Blacks enrolled per capita.	.276258

Ohio

Variable	Description	Average
POP	Population	1101987
PINCOME	Income per capita	13461
TAXP	Taxes per capita	22424152
LOTINCOME	Lottery revenues per capita	69488.42
HIGHERED	Higher ed spending	1636368
HISP	The # of Hispanics enrolled	24523.38
BLACK	# Of blacks enrolled	269753.8
HIGHEREDP	Higher ed spending per capita	1.47777
HISPP%	# Of Hispanics enrolled per capita	.02213
BLACKP	# Blacks enrolled per capita.	.243673

Oregon

Variable	Description	Average
POP	Population	3001000
PINCOME	Income per capita	13418
TAXP	Taxes per capita	6134949
LOTINCOME	Lottery revenues per capita	28467.05
HIGHERED	Higher ed spending	350443
HISP	The # of Hispanics enrolled	31044.54
BLACK	# Of blacks enrolled	12735.23
HIGHEREDP	Higher ed spending per capita	.11374
HISPP%	# of Hispanics enrolled per capita	.11374
BLACKP	# Blacks enrolled per capita.	.009951

MY REGRESSION RESULTS: (see individual tables in the paper for state regressions on HES)

•Model 1: HIGHEREDP

•*Analysis of Variance*
•R- Square- .9442
•Adj R-sq- .9357
•*Parameter Estimates*

•Variable	t-values
•PINCOME	-0.48
•TAXP	.52
•LOTINCOME	-0.70
•HISP	-0.41
•HISPP%	0.55
•BLACK	-0.04
•%PINCOME	-3.59
•BLACKP	-0.16
•ARIZONA	-0.09
•CALIFORNIA	0.88

Model 2: BLACKP

Analysis of Variance
R-square- .9414
Adj- .9342
parameter Estimates

Variable	t-values
PINCOME	3.95
TAXP	-1.75
LOTINCOME	2.52
%PINCOME	0.65
HIGHEREDP	0.42
ARIZONA	1.26
CALIFORNIA	1.13
DC	1.30
MAINE	1.38
MARYLAND	9.75
MICHIGAN	8.31

•DC	18.62	NEW HAMPSHIRE	1.41
•MAINE	-0.06	NEW YORK	6.48
•MARYLAND	-0.23	OHIO	4.44
•MICHIGAN	0.34	OREGON	
•NEW HAMPSHIRE	-1.21		
•NEW YORK	-1.25		
•OHIO	-0.20		
•OREGON			

VII. CONCLUSIONS ABOUT MY DATA AND REGRESSIONS

With the descriptive data, the states that have lotteries that are earmarked for higher education spending have significantly high higher education expenditures than those states that do not have lotteries that are earmarked for higher education spending. In fact, the minority enrollment per capita is slightly higher when it is being evaluated on an average by each state. Overall, the earmarked lotteries are generating higher lottery incomes than those that are not earmarked.

However, the descriptive data does not account for all outside factors like the geography of each state or city in each state; so the regression analysis becomes necessary.

With the both regressions, it is evident that the lottery revenues are not making a significant impact on higher education expenditures. Thus, the lottery revenues are not substituting the state funding as the tuition for higher education increases annually. In fact, the earmarked states have higher significant affect that is negative on higher education spending. Yet, the per capita enrollment for minorities is overwhelmingly positive than what I had expected.

VIII. CONCLUSIONS ABOUT THE STUDY

The lottery revenues that are generated to substitute net increases in tuition are not adequately impacting higher education spending. Thus, I feel that the lotteries' role in higher education spending is not beneficial as far as longevity is concerned. In fact, there

are other areas that are being affected due to the implementing the lottery. Perhaps, departments and faculty members can secure long term employment. These are some of many relevant concerns that still lay dormant due to implications that the lottery causes when it is implemented into higher education spending for the purpose of trying to substitute higher education for tuition purposes.