The Effects of County Characteristics on Per-Pupil Lottery Expenditure: Georgia Case Study

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ABSTRACT

In 1993, the State of Georgia passed the Lottery for Education Act. This allowed Georgia to legalize gambling in the form of a lottery program and increase education expenditure with the profit earned from this program. In order to gain a better understanding of the effectiveness of the lottery program, our research focuses on pre-kindergarten education funding at the county level. Georgia's pre-kindergarten program is solely funded by the Georgia State Lottery. Therefore, this paper examines the effect of county characteristics on the average amount of lottery revenue spent per pre-k pupil. We use pooled cross-sectional data on county characteristics from all 159 counties. These county characteristics include average enrollment, income, unemployment rate, crime rate, percentage of non-white residents, as well as state and local government funding.

METHODS and VARIABLES

$$Y1Per = \beta0 + \beta1lInc + \beta2lEnroll + \beta3PctHispanic + \beta4PctAsian + \beta5Pct\ AA + \beta6Pct\ White + \beta7Unemploy + \beta8Crimerte + U$$

$$Y2Per = \beta0 + \beta1lInc + \beta2lEnroll + \beta3lState + \beta4PctHispanic + \beta5PctAsian + \beta6Pct\ AA + \beta7Pct\ White + \beta8Unemploy + \beta9Crimerte + U$$

$$Y3Per = \beta0 + \beta1lInc + \beta2lEnroll + \beta3lState + \beta4lLocal + \beta5PctHispanic + \beta6PctAsian + \beta7Pct\ AA + \beta8Pct\ White + \beta9Unemploy + \beta10Crimerte + U$$

Per: Average lottery revenue spent per pre-k pupil at the county level

lInc: Log average of county income per capita

lEnroll: Log average of pre-k enrolled students at the county level

lState: Log average state sourced revenue spent towards education by county

lLocal: Log average local sourced revenue spent towards education by county

PctHispanic: Percentage of Hispanic population per county

PctAsian: Percentage of Asian population per county

PctAA: Percentage of African American population per county

PctWhite: Percentage of White population per county

Unemploy: Average unemployment rate at the county level

Crimerte: Average crime rate at the county level

RESULTS

Table 1

Per	Coef.	Std. Error (***)
Cons.	-23044.01	17458.65
log(Inc)	-502.8213	203.7547 (**)
log(Enroll)	-121.8689	45.72788 (***)
PctHispanic	11.76181	7.670281
PctAsian	327.5276	175.7661 (*)
PctAA	331.5359	174.4287 (*)
PctWhite	327.8719	174.6711 (*)
Unemploy	-14.41662	34.36982
Crimerte	-.0084916	.2246944

Table 2

Per	Coef.	Std. Error(***)
Cons.	-20931.18	17537.4
log(Inc)	-590.9192	196.8855 (***)
log(Enroll)	209.3603	104.1503 (**)
log(State)	-361.1185	99.75025 (***)
PctHispanic	9.663949	7.198205
PctAsian	370.9019	174.6892 (**)
PctAA	362.5559	175.272 (**)
PctWhite	360.1589	175.4659 (**)
Unemploy	-26.50075	34.91769
Crimerte	-.040077	.2130176

Table 3

Per	Coef.	Std. Error(***)
Cons.	-21433.2	18225.76
log(Inc)	-335.9365	225.0792
log(Enroll)	226.9345	104.5475 (**)
log(State)	-250.8585	97.42276 (**)
log(Local)	-150.2177	62.61928 (**)
PctHispanic	7.458964	7.041161
PctAsian	364.6483	175.9968 (**)
PctAA	346.5285	180.0054 (*)
PctWhite	343.9601	179.9962 (*)
Unemploy	-29.62804	35.6748
Crimerte	.0055377	.2129105

MOTIVATION

In order to gain a better understanding of the effectiveness of the lottery program, our research focuses on pre-kindergarten education funding at the county level. Georgia's pre-kindergarten program is solely funded by the Georgia State Lottery. This affords us the opportunity to see how deviations in certain county characteristics interact with lottery revenue spending towards education. We outline a simple model that allows us to investigate county characteristics on *(per)* the average amount of lottery revenue spent per pre-k pupil.

DATA

We use pooled cross-sectional data for all 159 counties in the state of Georgia and average annual data from 1994-2018.

Sources:

- Georgia Lottery Corp financial records
- The U.S Department of Commerce
- Bureau of Economic Analysis
- The Georgia Department of Education Funding History
- The United States Department of Justice
- The Bureau of Labor Statistics
- Georgia Bureau of Investigation

CONCLUSION

We find that county specific characteristics do impact the amount of lottery revenue allocated per pre-k pupil. We find evidence that poorer and smaller counties receive slightly more lottery money per pre-k pupil. Log(State) in both regressions is negative and statistically significant suggesting that smaller counties are receiving more money per pre-k pupil. Log(Local) and log(Inc) are both found to be negative and statistically significant, suggesting that less wealthy counties are receiving more per pupil funding. We find no evidence of discrimination based on race. The effects of enrollment seem to be ambiguous. We observe no relationship between per pupil pre-k spending and crime rates or unemployment.