

Lottery Take Home Points

Social Perspectives:

The lottery is the most popular vice or potentially hazardous activity which governments actively encourage through advertising to its citizens.

1. As a Tax:

The Lottery, when perceived as a tax, is a form of consumption tax and is considered regressive with varying levels of regressivity and caveats explored below.

a. Highly Regressive:

NGISC (1999). "Given that a lottery ticket is the same price to all, regardless of income, it is by definition regressive" (albeit implicit in its optional appropriation and not compulsory). The majority of persons playing the lottery do so not expecting to make a profit and instead view the activity as entertainment and inherently no more wasteful than video games, sweets, or sporting tickets (Herring & Bledsoe, 1994; Clotfelter, 2000). The level to which it is perceived as "highly regressive" is partially due to the nature of gaming itself in that the diversion accounts for roughly 35% of total lottery spending after payout (58%) and administrative costs (7%) are included (Farrell & Breen, 2017). Though most players actually underestimate payouts by as much as 30% (Clotfelter et al., 1999). This would mean that the "activity" with no expected return is taxed at a 35% rate on average. *The reasons for alarm though reside in the populations playing the games, game types, and frequency.*

b. Who Pays/Plays:

Gallup (2016). 40% of lower-income vs. 53% of higher-income individuals reported purchasing a state lottery ticket. This statistic and report are highlighted on the North American Association of State and Provincial Lotteries. What this statistic fails to mention is rate of play, games played and impact on lower-income households as a percentage of total wealth.



c. Income Inequality:

Freund and Morris (2005). Income inequality (as measured through Gini coefficient) is heightened in the presence of a lottery with the percentage of African American population having an increased effect. The addition of other forms of regressive taxation (sales tax) also compound the overall effect of income inequality, though in per-dollar terms the lottery is significantly more impactful to income inequality (Price and Novak, 1999).

TABLE 2
SUIITS INDEX OF TAX PROGRESSIVITY
FOR VARIOUS TAXES

Type of Tax	Observed Suits Index Range
Individual income tax	0.06 to 0.28
Corporate income tax	0.32 to 0.36
General sales and excise	-0.07 to -0.16
Payroll taxes	-0.13 to -0.17
Personal property taxes	-0.09 to -0.12
Real property tax	-0.12 to 0.23
Lotto games	-0.18 to -0.36
Texas lotto games	-0.20 to -0.21
Daily lottery games	-0.42 to -0.48
Texas three-digit numbers game	-0.32 to -0.34
Instant lottery games	-0.32 to -0.42
Texas instant lottery games	-0.36 to -0.38

(Price and Novak, 1999) Suits Index is a measure of tax regressivity which at -1 illustrates the most regressive and +1 the least regressive with 0 being proportional.

d. Vertical Equity:

Clotfelter and Cook (1989). People, on average, play the same amount of money regardless of income. The “expenditures are remarkably uniform over a broad range of incomes.” This, however, is regressive due to the state taking a higher percentage of income from lower income individuals (Mobilia, 1992). As seen below, the percentage of annual spending as reported by Herring and Bledsoe (1994) illustrates the vast scale of spending as a percentage of income: (The U.S. Per Capita Average for 2012- 2014 is \$211, Farrell & Breen, 2017).

Exhibit 3: Estimated Lottery Spending at Various Income Levels

Income Level	Annual Lottery Spending	Spending as Percent of Income
Less than \$10,000	\$139	1.51%
\$10,000 to \$19,999	\$168	0.84%
\$20,000 to \$49,999	\$144	0.42%
\$50,000 to \$69,999	\$127	0.24%
Over \$70,000	\$139	0.18%

Source: Mary Herring and Timothy Bledsoe, “A Model of Lottery Participation: Demographics, Context, and Attitudes,” *Policy Studies Journal*, Summer 1994, Table 1.



e. Horizontal Equity:

Stranahan and O'Malley Borg (1998). All things being equal in a horizontal analysis (i.e. held for equal economic positions) African Americans still spend more on the lottery than other racial groups with Caucasians spending the least. African American's tended to be more influenced by advertisements as well. 17 states as of 2002 had advertising content restrictions and 10 states had advertising expenditure caps to attempt to combat the negative perceptions/effects of advertisement (La Fleur, 2002). Additionally, older and less educated individuals spend more proportionally than younger and educated.

TABLE 3
PREDICTED ANNUAL LOTTERY TAXES PAID (38 PERCENT OF ANNUAL LOTTERY EXPENDITURES)
BY ETHNICITY, SCHOOLING LEVEL, AND AGE

Demographic Characteristic	Predictions Based on the Results from Table 2
Caucasian	\$47.12
African American	\$96.10*
Hispanic	\$77.42
Other ethnicity	\$110.30
Less than high school	\$68.56
High school graduate	\$47.12
Attended college	\$45.60
45 years old	\$47.12
65 years old	\$51.98
	Predictions Using Ethnicity Advertising Interactions
Caucasian	\$46.41
African American	\$124.40**

The single and double asterisks represent predicted tax burdens that are significantly different than predicted tax burdens of Caucasians at ten and five percent levels of significance, respectively.

Source: Stranahan and O'Malley Borg, "Horizontal Equity Implications of the Lottery Tax," *National Tax Journal*, Vol. 51 (1) 1988.

f. Impacted At-risk Population:

There is growing literature that illustrates a stronger connection between compulsive gambling and new styles of lottery play, including scratch-offs and keno (Golden and Halbfinger, 1997; Carr et. al, 1996). Additionally, these higher-chance-of-winning games tend to attract lower-income individuals who also will play more frequently and trade-off lower payoffs with the greater opportunity to win (Novak and Schmid, 1997). These instant games, on a national average, account for well over 50% of sales. In 2016, scratch-offs alone accounted for 56.2% of total national sales (NASPL, 2016).

States choose to allocate revenue differently towards the treatment of compulsive gambling, with several allocating money directly from lottery winnings (NGISC, 1999). Additionally, with self-serve lottery machines there is a great risk that minors, 18 or 21 depending on the state, will play the lottery without consequence (Gearey, 1997; Gyan Jr., 1997; Willisch, 1995; Bixby, 1997; Harshbarger, 1994/1996). Some states are starting to allow credit cards to be used at self-serve machines as well and, while no studies have been done on credit and lottery play, the history of credit and gambling or fiscal illiteracy should give one pause. There is additional evidence that lotteries may lead to property crime rate increases as much as 3% (Mikesell and Pirog-Good, 1990).



2. Policy Perspectives:

a. Tax Burden Shift

Many non-participants, including those who are morally against a lottery, will choose to be in favor of allowing a lottery due to the perception that as a non-participant they will reap the benefits of increased tax revenue which they perceive will likely reduce their tax burden (Hersch and Mcdougall, 1989). However, due to the reelection incentive of funding services without raising taxes, on average, 77% of lottery revenue tends to go to above-normal spending (Whitaker, 2007). This illustrates that the perception of a decrease in taxes may not materialize and lottery support from those with moral apprehensions may wane unless the lottery's above-normal spending is strongly supported by the citizens (McCray and Condrey, 2001).

b. Effects on Local Economies, other State Revenues and/or Casino Communities

A number of studies have looked at the effects on casinos, adjacent state gambling, and game type impacts (Walker and Jackson, 2008; Economopoulos and Stolle, 2012; Elliot and Navin, 2002; Fink and Rork, 2003; Siegel and Anders, 2001; Tosun and Skidmore; 2004). These studies are somewhat mixed on the level of influence but all note that there is an effect especially with game types and proximity. The proximity of casinos to lotteries (county-level) illustrate that they are substitutes and will draw from each other. Additionally, the proximity of lottery/casino states have an effect as well thus illustrating that there is a cross-state impact of lottery implementation.

The impact on other state revenue sources is hard to analyze for predictive measures, but an impact is sure to be felt. Borg, Mason and Shapiro (1993) measured the impact of a lottery on state income tax and sales/excise taxes. They discovered (when removing states without income taxes) that states could expect a \$0.01-\$0.21 (\$0.08-\$0.10 average) reduction in sales and excise taxes for every lottery dollar gained. Given the fungibility of game spending, additionally it is worth noting that lottery spending may “supplant purchases from the private business sector...[b]ecause business investment is at the heart of economic growth, this too is likely to suffer” (Borg, Mason, and Shapiro, 1993). Thus the resulting loss of business investment and/or sales could have additional impacts on municipal sales tax diversions. Additionally, if one conceives of a conventional tax, like a 7% sales tax, this money is fully transferred to the state; therefor, the impact of the tax is 100% revenue with no net loss between the citizen and the state. The impact of the lottery due to prize and admin is a 35% turnaround to the state (Farrell and Breen, 2017).



c. Long-term vs. Short-term Planning

As is well known, lottery revenue is highly volatile as compared to other conventional forms of revenue generation. This makes any planning for long-term allocation difficult. Some states have successfully used funds in the short-term to stave off fiscal crises (Kaplan, 1984), but others may be causing more fiscal difficulties through utilizing funds to pay for programs that gain in popularity. This program's funding may at some point fall below the necessary revenue and require general fund dollars (GA HOPE and pre-k program) (McCray and Condrey, 2001). In many cases the utilization of lottery funds may muddle the discussion of tax or budget reform and prolong uncertainty (Kaplan, 1984).

d. Funding Opportunity

There is no doubt that a lottery will in fact bring in additional revenue to the state. The exact amount depends on a host of variables and revenue from the lottery may be needed to offset losses elsewhere or utilized to combat negative externalities of gaming. Budgeting options such as utilizing the past year's receipts to plan this year's budgets may take the hazard out of projections, but establishing above normal spending could inevitably exacerbate programmatic funding woes by requiring general fund allocation in the event of lottery receipt shortfalls down the line.

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ABOUT THE AUTHOR

Bryan Farrell, MPPA, is a research associate with the John C. Stennis Institute of Government and Community Development at Mississippi State University. Bryan is a graduate of the Public Policy and Administration Master program at MSU. Bryan's research interests focus on alternative energy, health and education policy, and utilization of data in policy decisions. You can contact Bryan via email at bfarrell@sig.msstate.edu, or call him at 662-325-1619.

