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An Analysis of the Economic and Social Impact of
a Lottery with Considerations for Policymakers

I have reviewed this completed senior honors thesis with this student and certify that it is a project commensurate with honors level undergraduate research in this field.

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The Creation of a Tennessee Lottery:

An Analysis

Of the Economic and Social Impact of a Lottery

With Considerations for Policymakers



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state and our policymakers to protect the general welfare of its citizens. As these policymakers look to Georgia and other states for advice, it is necessary to recognize the failures of those states and ensure that the same mistakes are not made in Tennessee.

History of the Lottery

The lottery can be traced back to the earliest days of Colonial America when they were used to raise funds for the Colonial Army. Later a lottery would be used to erect the pillars of American academia such as Harvard, Yale, Princeton, and Columbia. Many libraries and other civic buildings were constructed throughout the early-mid 1800s in many states with funds from a lottery.¹ Soon public opinion shifted due to corruption, bribery, and questionable political behavior and the lottery was effectively banned by the end of the century as a result of federal legislation.²

New Hampshire created the modern lottery in 1963 through legislation and began operation on March 12, 1964.³ New York followed suit in 1967 and soon New Jersey entered the arena and introduced the currently popular “scratch cards.” In 1975, Federal legislation exempted lotteries from the earlier ban and this would allow for other states to follow. By 2001, 38 states and the District of Columbia had passed lottery legislation.

The lotteries proved to be enormous revenue generators, raising over \$163 billion for state governments⁴ and sales exceeded \$42 billion in fiscal year 2002 for all state operated lotteries with profits reaching almost \$14 billion.⁵

¹ North American Association of State and Provincial Lotteries (NASPL), *Lottery History*. (NASPL, 2000) Accessed March 21, 2003. <http://www.naspl.org/history.html>)

² South Carolina Policy Council Education Foundation, *The Economic Facts of State-Run Lotteries: Windfall or Hoax?* (Columbia: South Carolina Policy Council, 1999) p.1.

³ Ibid

⁴ La Fleur's, La Fleur's 2002 World Lottery Almanac, Section 1: Lottery Fast Facts, pp. 4-6

⁵ NASPL. FY01 & FY02 Sales and Profits, (Accessed March 21, 2003. <http://www.naspl.org/sales&profits.html>.)

scholarships, capital projects for K-12 educational facilities, and early learning and after school programs, in that particular order.⁶ The following is the wording of the referendum as it was placed on the gubernatorial ballot:

“Shall the Tennessee Constitution be amended so that the period (.) at the end of Article XI, Section 5, of the Constitution of Tennessee be changed to a comma (,) and the following new language be added: except that the legislature may authorize a state lottery if the net proceeds of the lottery's revenues are allocated to provide financial assistance to citizens of this state to enable such citizens to attend post-secondary educational institutions located within this state. The excess after such allocations from such net proceeds from the lottery would be appropriated to:

- (1) Capital outlay projects for K-12 educational facilities; and
- (2) Early learning programs and after school programs.”

It is important to note that the amendment authorizes only “a lottery of the type such as is in operation in Georgia, Kentucky, and Virginia in 1999.” This limits the type of games and structure of the proposed lottery.⁷

Economic Windfall?

The initial impact of a lottery can be substantial in many states, but this can be a beacon of hope that quickly dies out. All state operated lotteries with the exception of three states saw revenues decline after the first year novelty.⁸ Even after the rapid growth of the first few years, all states see sales growth flatten out and often will see it decline after the novelty fades and players realize that the odds are the worst of any gambling game, the chances of being struck by lightning is greater that of hitting the jackpot of the multi-state games.⁹

⁶ Associated Press, “Lottery Referendum Completed,” *Daily Beacon* 91,39 (17 October 2002): p.1.

⁷ Gurley, Richard, *Building Tennessee's Lottery: Considerations for Policymakers*, (Nashville: Tennessee Comptroller of the Treasury, Office of Research, 2003), p. 5

⁸ SCPC, *The Economic Facts of State-Run Lotteries: Windfall or Hoax?*,

⁹ Ellen Perlman, “Losing Numbers,” *Governing* (September 2001): p.47.

taxes and a wide variation exists between states when looking at these costs as a percentage of revenue. This amounts to as high as 76.8% in some states such as Maine.¹⁴

Reduction of State Tax Revenues

According to the *Public Finance Quarterly*, “on implementation...Virtually all taxes have implications for the remainder of the tax structure and lottery taxes are no exception.”¹⁵ A study implemented by Mary O. Borg, PhD, Paul Mason, PhD, and Stephen L. Shapiro, PhD of the University of North Florida concludes that “those states without state income taxes but high sales and excise taxes, as is the case in Tennessee, lose considerably more non-lottery revenue as a result of instituting a lottery.”¹⁶ It continues to point out that these losses can be anywhere from 15 cents on the dollar to as high as 23 cents on the dollar. These losses appear to increase as the revenue of a lottery grows. Further supporting the correlation is the fact that these losses increase on an “absolute basis as state sales and excise tax revenue grow relative to the size of lottery revenues.”¹⁷ This can be explained by the substitution effect, i.e. the money spent on playing the lottery would otherwise have been spent on consumer goods that are taxed by the state sales tax.

Considering that Tennessee has the nation’s highest sales tax rate of 9% and this source of revenue makes up the majority of the state general budget, the likely loss of sales tax revenue is even more considerable than 23 cents on the dollar. According to the Tennessee Comptroller of the Treasury, lottery profits are estimated at \$282 million and

¹⁴ Ibid

¹⁵ Borg, Mary O., et. Mason, Shapiro. “The Cross Effects of Lottery Taxes on Alternative State Tax Revenue”. *Public Finance Quarterly*, 21,2 (April 1993) 123-140.

¹⁶ Ibid, p. 139. See tables 3 and 5.

¹⁷ Ibid

Borg, Mason, and Shapiro state that, "To the extent that lottery ticket purchases supplant purchases from the private business sector, investment expenditures motivated by sales growth will be stifled. Because business investment is at the heart of economic growth, this too is likely to suffer."²¹ This is a reciprocal effect that can hurt a state such as Tennessee that is trying to stimulate business investment in the retail and sales sector. Lotteries produce very few jobs and would not substitute for the potential loss of jobs as a result of stifled economic growth in various sectors of commerce.

A Regressive Tax

A lottery has become a regressive tax as we see that those in society with the least disposable income are the ones who spend the highest percentage of their income playing the state lottery. The inordinate number of lottery outlets in poor neighborhoods and the reliance upon a small number of less-educated and poor individuals for the bulk of the proceeds causes serious concern. In fact, Charles T. Clotfelter and Philip J. Cook found that, "lottery players with incomes below \$10,000 spend more than any other income group, an estimated \$597 per year. Further, high school dropouts spend four times as much as college graduates. Blacks spend five times as much as whites. In addition, the lotteries rely on a small group of heavy players who are disproportionately poor, black, and have failed to complete a high school education. The top 5 percent of lottery players (who spend \$3,870 or more) account for 51 percent of total lottery sales."²²

David Nibert illustrates the reality of the poorest people spending their meager resources on lottery dreams:

²¹ Borg, "The Cross Effects of Lottery Taxes on Alternative State Tax Revenue," p. 139

²² National Gambling Impact Study Commission, *Final Report*, (August 1999) Chapter. 2 p.10 Accessed on 23 March 2003 (<http://govinfo.library.unt.edu/ngisc/reports/7.pdf>)

poorest persons in society is not only troubling it is dangerous. These people are struggling to survive and provide for themselves and possibly their families. They have no true disposable income, yet they take non-disposable income and give it to “Peter in order to pay Paul.” This could likely be government benefits that were not intended for such careless waste.²⁷

Sometimes state lotteries knowingly target those people on government benefits, as was the case in the state of Ohio. The South Carolina Policy Council reports that an Ohio Lottery advertising plan for the Ohio SuperLotto Games states, “We recommend that promotional pushes be targeted as early as possible in the month. Government benefits, payroll, and Social Security payments are released on the first Tuesday of each calendar month. This in effect, creates millions of additional, non-taxable dollars in the local economics of which the majority is disposable.”²⁸ Although this is standard practice of many US corporations, this is not a practice that a government who oversees the welfare of the public should be involved in. The state is in effect encouraging its most vulnerable citizens to pay its most regressive tax in which the majority of the benefits are allocated to the upper-middle class in the form of education scholarships, tax breaks, and various forms of “wealth-fare”. ?

The Education Lottery

It is necessary to look at the education lottery in order to determine whether it has really had a positive impact on funding and the performance of students. Many of the most recent state lotteries, including Tennessee’s, has been passed and created by riding

²⁷ SCPC, *Economic Facts of State Run Lotteries*, p.6

²⁸ Ibid

lotteries.³¹ To further substantiate these findings, a 1993 compilation of studies by the Educational Research Service found that lottery funds do replace other funding sources for education such as income and sales taxes. One study reported “funding from other sources immediately began to decline following the lottery’s inception.” Another stated, “Where lottery proceeds do increase sharply, legislators tend to reduce the share of earmarked for education. The irony, then, is that other functions are often bigger net beneficiaries of a lottery in the long run.”³² This may not be the case in Tennessee given the earmark for scholarships, K-12 capital projects, and early learning with the bulk if not all of the funds going toward the scholarship program. It is still a possibility, as the public may believe that education is being funded at a higher level while policymakers divert general funds from higher education and K-12 to a lesser extent.

The concept of fungibility is a noteworthy problem with lottery funding for education and needs to be considered when building a Tennessee lottery. As stated above, the lottery revenues can often substitute for general fund expenditures for education. A 1995 *Public Budgeting and Finance* article by Charles J. Spindler, analyses a study that he conducted on the fungibility of lottery revenues in the states of New York, New Hampshire, Ohio, Michigan, California, Montana, and Florida. He used a time-series analysis, but unlike previous studies, Spindler uses a Box-Jenkins (ARIMA) model of the time series to determine the correlation pattern for the error series, then the model was developed to control for the autocorrelation of the error terms.³³ In each of these seven states, lottery revenue was earmarked for various expenditures with the focus on

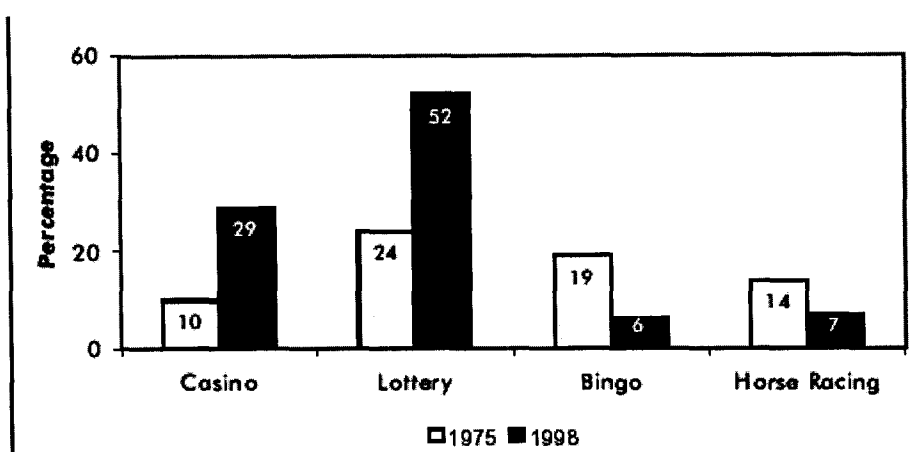
³¹ Ibid., p.38

³² Bracey, “States Are Gambling and Losing on Schools,” p.322

³³ Spindler, Charles J. “The Lottery and Education: Robbing Peter to Pay Paul?” *Public Budgeting & Finance*, 15,3 (Fall 1995), pp.54-61.

the citizens of the state in terms of social impact. The reality is that state lotteries are the cause of higher rates of gambling addiction, youth gambling, reduction in standard of living, and higher crime rates to name a few. Although there is very little in the form of a direct test of the influence of gambling on social problems, many statistics can be correlated to lottery play.

Figure 1: Past Year Gambling by Selected Dates, 1975 and 1998



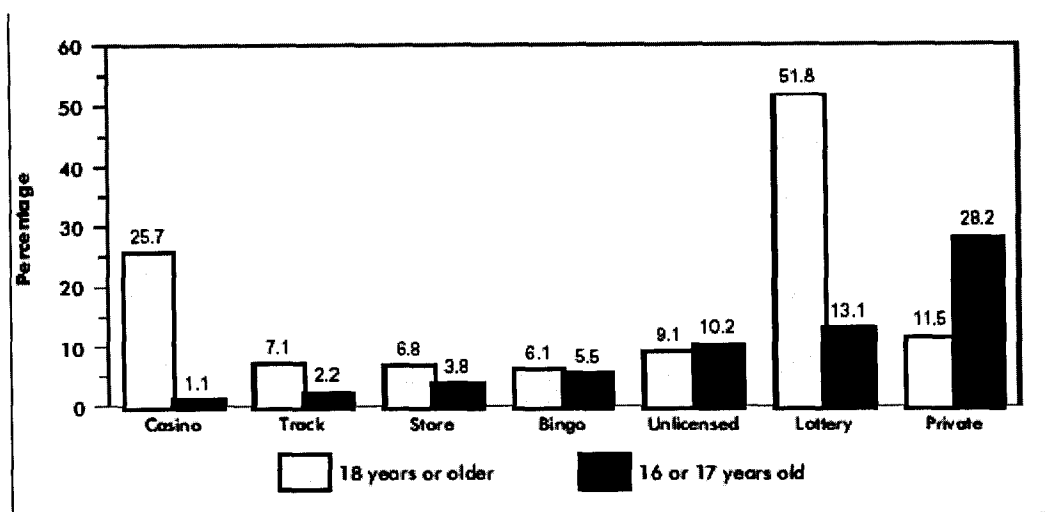
Source: NORC report to the National Impact Study Commission³⁷

The table shows that the lottery is the most popular form of gambling among surveyed respondents and its popularity continues to increase as the lottery expands into new states and new games. According to Robert Goodman, "As legalized gambling and state-run lotteries increase, so have the number of pathological gamblers."³⁸ The National Council on Compulsive Gambling, reports that 10 percent of lottery players are gambling addicts.³⁹ These gambling addicts are much more likely to abuse their children, abuse their spouses, file for bankruptcy, and commit a crime than are the general public.

³⁷ National Organization of Research at the University of Chicago. *Report to the National Gambling Impact Study Commission*. (Chicago: NORC): Chapter 1, p.5.
(<http://www.norc.uchicago.edu/new/pdf/1.pdf>)

³⁸ SCPC. *The Economic Facts of State-Run Lotteries: Windfall or Hoax*, p.3

³⁹ Ibid.

Figure 2: Past Year Gambling by Game Type (1998)

Source: NORC report to the National Impact Study Commission⁴³

According to the University of Chicago's NORC research group, the highest participation outside of unregulated private gambling was the state lottery. The survey also found that the youths favored the instant lotteries such as "scratch-off tickets". Only about 15 percent bought either multi-state, daily, or big-jackpot tickets.⁴⁴ This is most likely due to the fact that the instant tickets are normally sold from machines in many convenience stores throughout lottery states. Very little observation is given to these machines, allowing minors to play the lottery with little trouble or fear of reprimand. This would also be easily collected as I have seen with personal experience. The clerk may think the youth is simply cashing in the ticket for a person of age.

The National Gambling Impact Commission received numerous testimonies of teens devastated by gambling, including the 16-year-old New Jersey boy who slashed his wrists after losing \$6,000-his entire savings from a newspaper delivery route-on lottery

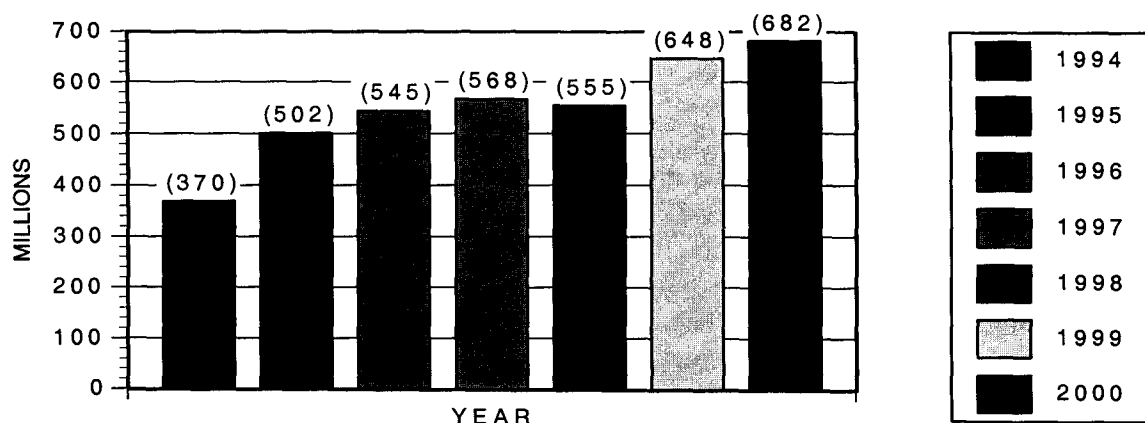
⁴³ NORC. *Report to the National Gambling Impact Study Commission*. Chapter 4, p.2

⁴⁴ Ibid.

The act is lauded for its creation of a model scholarship program known as HOPE (Helping Outstanding Pupils Educationally). According to the Georgia Student Finance Commission, “(HOPE) is Georgia's unique scholarship program that rewards students with financial assistance in degree, diploma, and certificate programs at eligible Georgia public and private colleges and universities, and public technical colleges.”⁴⁸ The HOPE scholarship program only requires a B average and Georgia residency to be eligible and must maintain a 3.0 GPA in college in order to continue to receive the scholarship. It is based solely on academic achievement and has no family income gap.⁴⁹

The enormous amount of revenue generated for the treasury of the state of Georgia as a result of the lottery can be seen in the table below. With the exception of 1998, net profits have grown since the inception of the lottery. Tennessee hopes to achieve similar success. See following graph:

Figure 3: Net Proceeds Transferred to Georgia State Treasury



Source: Georgia Department of Audits and Accounts⁵⁰

⁴⁸ Georgia Student Finance Commission. *Georgia's HOPE Scholarship Program*, Accessed on 3/23/2003 (<http://www.gsfc.org/HOPE/index.cfm>)

⁴⁹ Ibid

⁵⁰ Georgia Department of Audits and Accounts, *The Georgia Lottery: Selected Summary Financial Information From Inception Through FY2000*. (Atlanta: State of Georgia): Accessed on 10 April 2003 (<http://www2.state.ga.us/Departments/AUDIT/fao/galottery2000.pdf>)

supplement, not supplant, existing resources for educational purposes and programs.”⁵²

And the third is that the policy architecture prevented fungibility because the proceeds were dedicated to three new programs. The revenue would go to these new programs and not existing initiatives and programs. Fourth is the strength of the Georgia economy and the resulting general state revenues.⁵³

Inherent Problems of the Georgia Lottery as a Model

Even given all of the success of the Georgia lottery, it still remains far from perfect and leaves many areas in which Tennessee policymakers can improve and correct. Tennessee policymakers must first look at the reason for the success of the Georgia lottery.

The inception of the Georgia lottery in 1992 was at the end of a slight downturn in the economy and the beginning of an upswing that would roar into the nineties and toward the turn of the century before slowing and gradually reversing in 2001. This vigorous economic growth saw rises in incomes and as a result the disposable income that accompanies such growth. This allowed for increasing lottery sales for the first seven years aiding in the unprecedented growth of the Georgia Lottery. This was coupled with the fact that Georgia was surrounded by the non-lottery states of Tennessee, Alabama, North Carolina, and South Carolina (implemented lottery in 2001). Residents of these states unquestionably accounted for hundreds of millions of dollars of sales since 1992, if not more.

⁵² Lauth, “The Georgia Lottery and State Appropriations for Education: Substitution or Additional Funding?” p.99

⁵³ Ibid.

encouragement given by the potential to receive a HOPE scholarship, Georgia's SAT scores rank 49th nationally.⁵⁶

Many educators blamed grade inflation for the lack of preparedness of these individuals. According to Marietta High School Principal Gordon Pritz, "There's an immense amount of pressure on teachers to hand kids grades they may not have earned."⁵⁷ This is clearly understandable, as teachers want everyone to have a chance at a free college education. A possible solution would be to require a minimum ACT and/or SAT score for eligibility. Something Tennessee policymakers will have to consider.

A misconception with many people is that the HOPE scholarship program will help minority and low-income students attend college. According to McMullen, "The truth is, in Georgia most scholarships are being awarded to students from middle and upper middle-class families."⁵⁸ This is due to the fact that students are required to apply for various federal grants and scholarships. If they are granted federal monies or other financial assistance, they are denied the HOPE scholarship money. HOPE grants these qualifying students \$150 dollars for books whereas students from wealthier families receive HOPE money.⁵⁹ This creates a system whereby the poor are paying a highly disproportionate amount of a voluntary tax in order to pay for scholarship for middle and upper middle class families. This is a highly regressive structure that should not be duplicated in the state of Tennessee.

⁵⁶ Hill, John R. and Gary Palmer. *Going for Broke*. (Columbia: South Carolina Policy Council Education Foundation, 2000): p.6.

⁵⁷ McMullen, Edward T. *HOPEless: Georgia's Disappointing Education Lottery*, (Columbia: South Carolina Policy Council, 2000): 1-3

⁵⁸ Ibid, p.3

⁵⁹ Thorton, Mark, "Gambling on a state lottery," *Birmingham Business Journal*, (May 1, 1995): p.4

ACT (American College Test) college entrance exam. The student can choose to attend a public or private school.⁶¹ The bill includes a “forgiveness” amendment that was proposed by Sen. Jo Ann Graves, D-Gallatin. The amendment would allow students who drop to a minimum of a 2.75 GPA during their freshman year to maintain their scholarship. A second amendment by Graves would give an additional \$1,000 in scholarship funds to eligible students whose families have adjusted gross incomes of less than \$36,000. The Senate also adopted an amendment that would grant scholarships to the children of soldiers who died or became severely disabled in Operation Iraqi Freedom.⁶²

Following the passage of the Senate bill, Sen. Steve Cohen of Memphis (the driving force behind a lottery) was quoted as saying, “I believe what we have now is better than Georgia’s (HOPE scholarship program).”⁶³ He appears to be right, as this bill will not allow the amounts to fluctuate with tuition increases and requires a minimum standardized test score that will suppress possible temptations to inflate grades. The fixed scholarship amount may result in exhausted funds if the lottery does not generate enough revenue to fulfill the demand. In response to this fear, Governor Bredesen has urged lawmakers to establish scholarship amounts annually in order to account for fluctuation and the volatility of lottery revenues.⁶⁴

Now the Senate waits for the House to vote on the scholarship and implementation bills.

⁶¹ Cruz, Bonna de la, “Senate passes scholarship lottery bill,” *Tennessean* 04/22/03

⁶² Ibid

⁶³ Ibid

⁶⁴ Yeldell, Cynthia, “Lottery bill’s OK seen near,” *Knoxville News-Sentinel* (4/15/2003)

second amendment proposed by Rep. Joe Armstrong of Knoxville was approved and will impose a 6 percent tax on all lottery winnings greater than \$600. A third amendment that was approved will create a cash reserve account from lottery profits by phasing the scholarships in over four years. It would require the first year's profits to be used to fund the first two years of the program, allowing a reserve to build during that time.⁶⁸

Conclusion

Al though I have presented evidence that proves that a state lottery has economic and social costs that outweigh the economic benefit in terms of additional revenue to a state, it now appears that the adoption of a state lottery in Tennessee is inevitable. Given this reality, the inherent problems with a state operated lottery must still be addressed. There seems to be an effort by many lawmakers to do just that, but they still fall short of addressing all of the issues, most notably the social costs.

The state now holds the responsibility to address the potential for increased rates of gambling addiction and youth gambling. They must commit to educating the population on the dire consequences and the real odds of winning the lottery. Tennessee must protect its most vulnerable citizens, the youth. Strict penalties and guidelines must be put into place to prevent retailers from selling lottery tickets to minors and allowing them to collect winnings less than \$600. Further advertising regulations must be put into place to protect those who are the poorest in our society. They must not be targeted by an entity of a state whose mission is to protect the general welfare of its people. Without addressing these issues and others, Tennessee will fall victim to its own creation and will suffer the consequences of inaction by exacting a toll upon its own citizens.

⁶⁸ Ibid.

Screening Questions

1. Are you 18 years of age or older?

- 1. YES
- 2. NO

2. Are you a citizen of the State of Tennessee?

- 1. YES
- 2. NO

IF YES TO BOTH QUESTIONS, THEN PROCEED TO THE NEXT QUESTIONS

3. Do you believe that proceeds from a lottery will improve the financial state of our public schools in Tennessee?

- 1. YES
- 2. NO
- 3. UNSURE

4. Will this lottery fund scholarships for students from the lower class to allow them an equal opportunity to attend a state college or university?

- 1. YES
- 2. NO
- 3. UNSURE

5. Do you think that the best use of proceeds from the lottery is for college scholarships for qualified students?

- 1. YES
- 2. NO
- 3. UNSURE

12. Do you think that Tennessee public school teachers will feel pressed to inflate grades in order for students to qualify for scholarships?

1. YES
2. NO
3. UNSURE

13. Do you think that the proposed scholarships from lottery revenue will allow more lower income students to attend college?

1. YES
2. NO
3. UNSURE

SOCIAL IMPACT

INTERVIEWER PLEASE READ THE FOLLOWING TO THE INTERVIEWEE BEFORE PROCEEDING.

In order to get a full understanding of how the public feels about the impact of a state operated lottery, we also want to look at the social impact. This will allow us to separate general thoughts and beliefs about the economic and educational impacts and those directly related to people's lives.

14. Do you believe that a state operated lottery will have a negative social impact, such as increased gambling by minors?

1. YES
2. NO
3. POSITIVE
4. UNSURE

15. Do you think that a lottery will cause higher rates of gambling addiction among the population of Tennessee?

1. YES
2. NO
3. UNSURE

20. What was your approximate total annual household income in 2002?

1. LESS THAN \$20,000
2. \$20,000 - \$35,000
3. \$35,001 - \$50,000
4. \$50,001- \$75,000
5. \$75,001- \$100,000
6. MORE THAN \$100,000

21. Do you regularly attend a religious service? (Regular attendance is more than once a month)?

1. YES
2. NO
3. UNSURE

Thank them for their time and effort in assisting with this survey. Reiterate that all responses will remain confidential in order to protect their privacy.