An Economic Analysis of a Lottery in Mississippi
Summary of findings reported
to the House Lottery Working Group
November 16, 2017
State Economist Darrin Webb, dwebb@mississippi.edu
University Research Center, Mississippi Institutions of Higher Learning
Full report available on URC Web Site www.mississippi.edu/urc/downloads/lotteryanalysis.pdf

Q1: How much revenue would a lottery generate for the state of Mississippi?
1. Estimating the lottery sales in a state is extremely difficult.
   The experience across states varies widely, not only because of the different games offered, the payout percentages, the timing of new games, etc., but also their economies and socio-economic conditions. Substantial uncertainty remains as to what games will be offered in Mississippi, how those games will be managed and how the state population will respond to a lottery. Our analysis is then an educated guess amidst this substantial uncertainty.

2. URC used two approaches to estimate lottery revenue
   a. Sales Per Capita Approach: We used the experience of Kansas and Arkansas, and the legal age population in MS, to independently estimate multi-state jackpot sales and instant ticket sales for the state.
   b. Econometric Analysis Approach: Following the methodology used by other researchers, we examined the lottery experience in ten states with populations similar to MS. We applied the results of this model to Mississippi data.

3. The sales per capita approach yielded an estimate for gross annual sales of $338 million ($72 million for multi-state jackpot games plus $266 million in instant ticket games). A general rule of thumb, based on the experience across states, is that sales receipts are divided as follows: 50% to payouts, 30% to the government and 20% to costs. If 30% of sales go to the government, a MS lottery would generate $101.4 million in gross returns from lottery sales.
   a. It should be noted that neither Arkansas nor Kansas received 30% of sales. Arkansas received 18.7% of sales and Kansas 28.8% for an average of 23.7% of sales. If Mississippi received 23.7% of sales, the gross receipts would yield $80.1 million.
   b. Limited personal income in Mississippi means that any lottery will be accompanied by a decrease in retail sales and therefore retail sales tax. The net impact to the state revenue will be positive however since the sales tax rate is 7% while the effective tax rate for lottery sales is as much as 30%. (If a person spends $100 at Walmart the state gets $7; if a person spends $100 on lottery tickets the state gets as much as $30).
   c. If the state experiences $338 million in lottery sales then the loss of retail sales would be as much as $18.8 million, yielding a net gain to state revenue of $82.6 million ($101.4 million minus $18.8 million). This estimate again assumes the state receives 30% of sales. If the state receives 23.7% of sales, the net returns to state revenue could be as low as $61.2 million.
   d. In our analysis we took into account that Mississippians are currently purchasing lottery tickets in Arkansas, Louisiana and Tennessee. We also assumed that all new lottery purchases are made from money currently spent on taxable retail sales. Realistically, some will come from non-taxable purchases and savings. However, this amount will likely be a relatively small portion.
   e. It should be noted that while the shift from retail sales to lottery sales results in a net gain to the state's revenue, the decline in retail sales tax would reduce the diversion to municipalities, as well as other funds which rely on sales tax diversions.

4. The econometric approach yielded an estimate of $116 million in gross lottery revenue to the state. Following similar assumptions as with the per capita approach, the state would lose $22.2 million in retail sales tax revenue, leaving a net gain in revenue of $93.8 million.

**BOTTOM LINE:** Using the per capita approach yields a net gain in state revenue from a lottery of $82.6 million; using the econometric modeling approach yields an estimate of $93.8 million. There is the potential that net revenue would not reach this level, particularly in the early years. Although less likely, the possibility exists that revenue would exceed these estimates. We believe our estimate is reasonable.
Q2: Is a lottery good economic policy?

1. While money is currently leaving the state in the form of lottery purchases by Mississippians in surrounding states, a Mississippi lottery creates its own leakages.
   a. As stated earlier, a general rule of thumb is that lottery sales breakdown to 50% to payouts, 30% to the government and 20% to costs.
   b. A small but significant share of payouts from instant ticket sales will likely go to winners in other states. Louisiana estimates that 10% of its instant ticket payouts go to out-of-state winners.
   c. A much higher share of the State’s contribution to the multi-state jackpot games will go to winners outside of the state. It is not clear how much this leakage would be. State contributions to these games represent 50% of sales (Louisiana contributes roughly 33.3% to the large jackpot games and the remaining 16.7% to lower tier prizes). In the 21 years that Louisiana has participated in these games, there have been nine years without a Louisiana winner of the jackpot. We do not know how many lower tier games had Louisiana winners. Mississippi’s smaller population suggests the probability of a multi-state jackpot winner coming from Mississippi is less than that of Louisiana.

   Additionally, a portion of the winnings going to Mississippi winners will leave the state through out-of-state spending and investments. Because of these issues, it is reasonable to assume that the leakage associated with the multi-state games would be significantly higher than that of the instant ticket games.
   d. The portion of lottery sales going to costs is expected to be divided between in-state (retailers and administrative costs) and out-of-state (vendors and miscellaneous expenses). Mississippi does not have vendors located within the state. The leakage from costs would then be higher than in states where the vendors reside.

2. If lottery sales reach $338 million, we believe the leakages created by a Mississippi lottery will be approximately $74 million. This amount is based on what we believe are reasonable assumptions after speaking with lottery officials in other states. The leakage increases with lottery sales – the more lottery tickets sold the higher the leakage out of the state.

3. Lottery administrators in Arkansas believe Mississippi sales represent between $5 and $10 million of its total annual sales. Louisiana officials believe sales to Mississippians are roughly $30 million. We were unable to get an estimate from Tennessee, but assuming sales are similar to Louisiana, total existing lottery sales to Mississippians by neighboring states are roughly $70 million annually. The leakages from a Mississippi lottery is then slightly higher than the leakage from lottery purchases currently made by Mississippians.

4. We used the REMI model to simulate a hypothetical lottery on the Mississippi economy.
   a. We modeled the impact of the lottery separately from any impact that results from the state spending of lottery revenue, (that impact would be the same regardless of the source of revenue).
   b. We examined two scenarios (1) lottery sales equal $338 million (2) lottery sales equal $500 million.
   c. The result was a slight decrease in GDP, employment and income in Mississippi in both scenarios.

5. The lost revenue will be partially offset by state spending of lottery proceeds. If we assume the lottery revenue is spent entirely on roads and bridges, the loss of activity is reduced but not eliminated.

6. The economic literature almost unanimously finds lotteries are regressive for those who play; that is, lower income individuals spend a larger percentage of their total income on lotteries than higher income individuals. Moreover, surveys have found lottery participants in lower income brackets spend more total dollars per year on lottery purchases than participants in higher income brackets. One lottery official stated that their focus groups show that participants often pin hopes on winning sufficient money to pay their bills.

**BOTTOM LINE** Based on URC projections, a lottery will likely have a relatively small negative impact on the state’s economy. The higher lottery ticket sales are (particularly the multi-state jackpot games), the greater the leakage of dollars leaving the state will be and the greater the negative impact. A lottery will increase General Fund revenue. It represents a means of raising revenue without raising taxes and therefore is attractive to many. However, a disproportionate share of this revenue will come from lower income groups. Mississippi is already plagued by people making poor choices, including decisions regarding their health, family planning, and education/training. A Mississippi lottery means the state will be investing in and encouraging individuals who have limited incomes to make poor financial decisions.