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Lottery tax windfalls, state-level fiscal policy, and consumption☆

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HIGHLIGHTS

- We study lottery tax windfalls received by state governments.
- Windfalls finance higher expenditures on low income households in recessions.
- Insignificant impact of lottery tax windfalls in good economic conditions.
- Wealth transfers from high to low income households through lottery tax channel.

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ABSTRACT

We find that lottery tax windfalls finance higher state-government expenditures on supplemental security income that increase consumption, but only during bust periods. Wealth transfers from lottery winners to low income households enable fiscal policy to stabilize consumption during bust periods.

Measuring the impact of government fiscal policy on consumption is a challenge since fiscal policy is endogenous with respect to economic conditions. We utilize 147 multi-state PowerBall and MegaMillions lottery prices between 1998 to 2009 to circumvent this endogeneity.[1]

Our study of lottery tax windfalls examines the possibility that the relation between fiscal policy and consumption depends on the state of the economy (Parker, 2011) by exploiting heterogeneity in consumption, economic conditions, and fiscal policy across states. We find evidence of a supplemental security income (SSI) channel in which lottery tax windfalls enable state governments to increase SSI payments during bust periods that increase consumption. SSI payments are discretionary expenditures that target low income households. Although minimum payments are required by the federal government, the amount of these supplemental payments and their eligibility requirements are decided by individual states.

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[1] Approximately 25% of lottery revenue is collected by state governments as a sales tax. In contrast to this stable source of revenue, 60% of lottery revenue becomes prize money that is the basis of a lottery tax windfall. Operating expenses account for the remaining 15% of lottery revenue.

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Table 1
State characteristics. This table reports each state's effective tax rate on lottery winnings and average consumption growth based on retail sales. Supplemental security income (SSI) expenditures as a percentage of total expenditures are also reported. ACIR is a variable between zero and ten that increases with the stringency of a state's balanced budget amendment, while the deposit (DEP.) and withdrawal (WITH.) rules of state-level budget stabilization funds are ranked between one and five. A state is fiscally constrained unless its ACIR index is strictly below two and the sum of these rule rankings is strictly below three.

State	Lottery	Lottery tax	Effective tax rate	Consumption growth	SSI spending	ACIR index	DEP. rules	WITH. rules	Fiscally constrained
					All expenditures				
AK	No	No	0.00%	0.658%	0.611%	6	1	1	No
AL	No	No	5.00%	1.235%	3.856%	10	4	1	Yes
AR	Yes	Yes	7.00%	1.219%	3.199%	9	5	5	Yes
AZ	Yes	Yes	4.94%	0.437%	2.038%	10	4	4	Yes
CA	Yes	No	0.00%	1.125%	3.823%	6	2	2	Yes
CO	Yes	Yes	1.65%	0.106%	1.435%	10	3	2	Yes
CT	Yes	Yes	4.75%	0.998%	1.270%	5	2	3	Yes
DE	Yes	No	0.00%	0.309%	1.155%	10	2	3	Yes
FL	Yes	No	0.00%	0.415%	3.235%	10	2	2	Yes
GA	Yes	Yes	6.00%	−0.241%	2.793%	10	2	1	Yes
HI	No	No	8.69%	0.473%	1.445%	10	1	3	Yes
IA	Yes	Yes	8.98%	1.748%	1.380%	10	1	1	No
ID	Yes	Yes	7.93%	1.105%	1.706%	10	1	1	No
IL	Yes	Yes	1.54%	0.848%	2.498%	4	2	1	Yes
IN	Yes	Yes	1.74%	0.486%	1.919%	10	4	4	Yes
KS	Yes	Yes	6.45%	0.804%	1.576%	10	3	1	Yes
KY	Yes	Yes	6.00%	0.629%	4.217%	10	2	1	Yes
LA	Yes	Yes	6.00%	2.444%	3.609%	4	2	1	Yes
MA	Yes	Yes	5.56%	0.847%	2.471%	3	2	1	Yes
MD	Yes	Yes	5.00%	0.469%	1.814%	6	3	1	Yes
ME	Yes	Yes	8.50%	1.677%	2.060%	9	2	1	Yes
MI	Yes	Yes	2.42%	0.605%	2.265%	6	4	4	Yes
MN	Yes	Yes	7.89%	0.819%	1.212%	8	1	1	No
MO	Yes	Yes	6.00%	0.793%	2.524%	10	1	1	No
MS	No	No	5.00%	1.294%	3.910%	9	1	1	No
MT	Yes	Yes	9.63%	1.687%	1.447%	10	5	5	Yes
NC	Yes	Yes	8.02%	0.328%	2.372%	10	2	1	Yes
ND	Yes	Yes	7.10%	2.293%	0.993%	8	2	4	Yes
NE	Yes	Yes	6.76%	1.029%	1.445%	10	2	2	Yes
NH	Yes	Yes	5.00%	1.693%	1.190%	2	2	2	Yes
NJ	Yes	Yes	7.82%	1.717%	1.616%	10	2	2	Yes
NM	Yes	Yes	7.08%	0.720%	2.036%	10	2	1	Yes
NV	No	No	0.00%	0.545%	1.779%	4	4	2	Yes
NY	Yes	Yes	7.24%	2.147%	2.756%	3	4	2	Yes
OH	Yes	Yes	7.10%	0.612%	2.237%	10	2	1	Yes
OK	Yes	Yes	6.51%	1.690%	2.414%	10	2	3	Yes
OR	Yes	Yes	9.17%	−0.433%	1.542%	8	1	1	No
PA	Yes	No	0.00%	0.998%	2.759%	6	2	3	Yes
RI	Yes	Yes	10.01%	1.039%	2.522%	10	1	2	Yes
SC	Yes	Yes	7.00%	0.486%	2.231%	10	3	2	Yes
SD	Yes	No	0.00%	1.119%	1.776%	10	2	2	Yes
TN	Yes	Yes	6.00%	0.444%	3.451%	10	3	2	Yes
TX	Yes	No	0.00%	0.791%	2.683%	8	2	2	Yes
UT	No	No	6.67%	0.466%	0.977%	10	2	2	Yes
VA	Yes	Yes	5.75%	0.930%	1.975%	8	4	4	Yes
VT	Yes	Yes	9.49%	2.528%	1.505%	0	2	2	No
WA	Yes	No	0.00%	1.382%	1.842%	8	2	3	Yes
WI	Yes	Yes	6.84%	0.936%	1.535%	6	3	2	Yes
WV	Yes	Yes	6.50%	2.050%	3.930%	10	2	2	Yes
WY	No	No	0.00%	3.268%	0.734%	8	1	1	No
Average			5.13%	1.035%	2.155%	8.08	2.32	2.04	

Consequently, the SSI channel links exogenous shocks to government fiscal policy in different economic conditions with consumption. In the absence of a lottery tax windfall, expenditures on supplemental security income and consumption both decline during bust periods. Furthermore, the negligible impact of lottery tax windfalls on consumption during boom periods is consistent with weaker household borrowing constraints during these periods.

1. Data

Lottery data are from the website www.portalseven.com that contains the location of Power Ball and Mega Million lottery winners starting in 1998. As reported in Table 1, 43 states participate in these multi-state lotteries. A state's highest marginal income tax rate represents its effective tax rate on lottery winnings, while dollar-denominated lottery tax windfalls are computed as the product of this effective tax rate times the prize money received by their resident lottery winner. These windfalls ignore sales taxes and state income taxes collected on future income generated by the lottery prize.

Our proxy for state-level consumption is retail sales defined by the total annual sales of the retail industry (NAICS 44–45) in each state (Ostergaard et al., 2002; Korniotis, 2008). Gross State Product (GSP) is an annual measure of each state's economic output. State-level revenue and expenditure data as well as GSP are obtained from the US Census Bureau's Compendia database.

The Advisory Commission on Intergovernmental Relations (1987) summarizes the stringency of each state's balanced budget amendment by assigning states an ACIR score between zero and ten. A higher ACIR score corresponds to a more stringent balanced