

# Sales Tax Holidays

## Evidence on Incidence

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# What is a Sales Tax Holiday?

“a Soviet-style state-directed price reduction on items selected by the state.”

~John Mikesell & Richard Hawkins in *State Tax Notes*



# Popular Form of Fiscal Policy

- Car Allowance Rebate System (CARS, or “Cash for Clunkers”)
- Federal and state hybrid and electric car subsidies
- Federal and state first-time homebuyer credits
- Bonus depreciation schedules on new investments



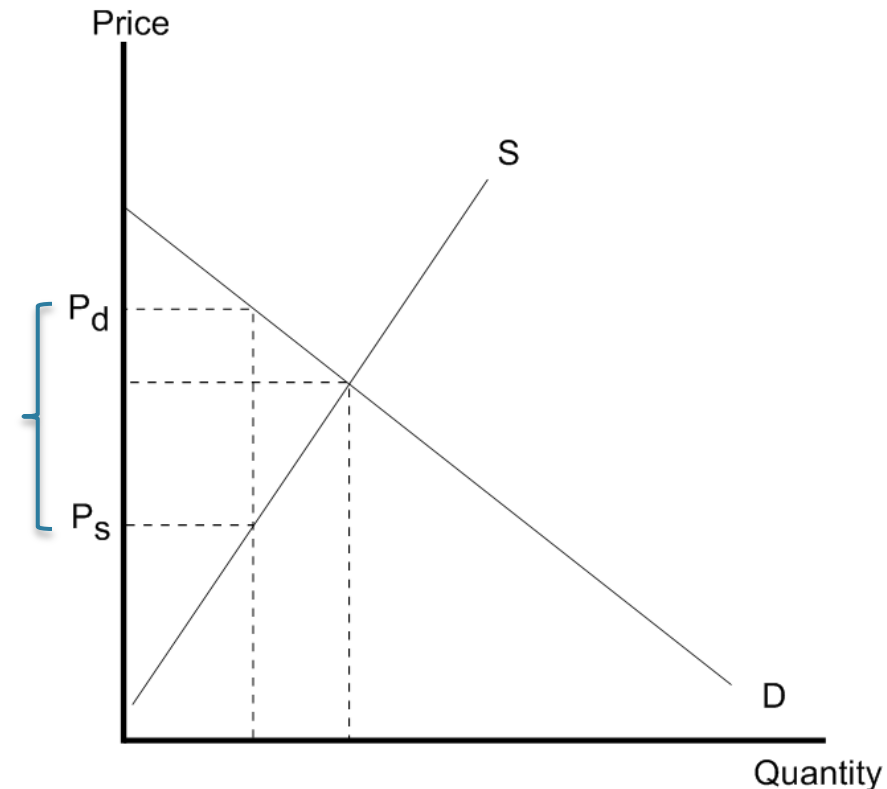


When lawmakers create sales tax holidays, the assumption is that the benefit will be passed on to consumers in the form of lower prices. In reality, retailers often absorb those benefits for themselves.

~Tax Foundation, 2014

Unscrupulous retailers could take advantage of the shift in the timing of consumer purchases by increasing their prices or watering-down their sales promotions during the tax holiday.

~Institute on Taxation & Economic Policy, 2016



# This Paper

- Nielsen Retailer Scanner Data
  - Weekly reports of products sold by stores
  - 2.6 million UPC Codes
  - 35,000 stores
  - 2006-2014
  - Coverage: 52 major markets in continental U.S.



# Semi-log pretax price regression

$$\ln(p_{isw}) = \gamma \tau_{isw} + \mu_i + \mu_s + \mu_{tx} + \mu_m + \mu_Y + \theta_d + \varepsilon_{isw}$$

- $\gamma = -1 \rightarrow 0$  consumer incidence
- $\gamma = 0 \rightarrow 100\%$  consumer surplus
- $\gamma > 0 \rightarrow$  tax savings overshifted to consumer

**Dependent Variable: ln(Pre-Tax Price Per Unit)**

Control Variables	All States		Only States with Tax Holidays		
	(A)	(B)	(C)	(D)	(E)
Sales Tax Rate	0.400*	0.394*	0.529*	0.528*	2.044***
	(0.224)	(0.224)	(0.253)	(0.253)	(0.415)
School Start Detrend		X		X	
School Start Dummy					X
R <sup>2</sup>	0.664	0.664	0.672	0.672	0.673
N (Millions)	175.1	173.8	52.8	52.5	52.8
Number of Clusters	49	49	16	16	16

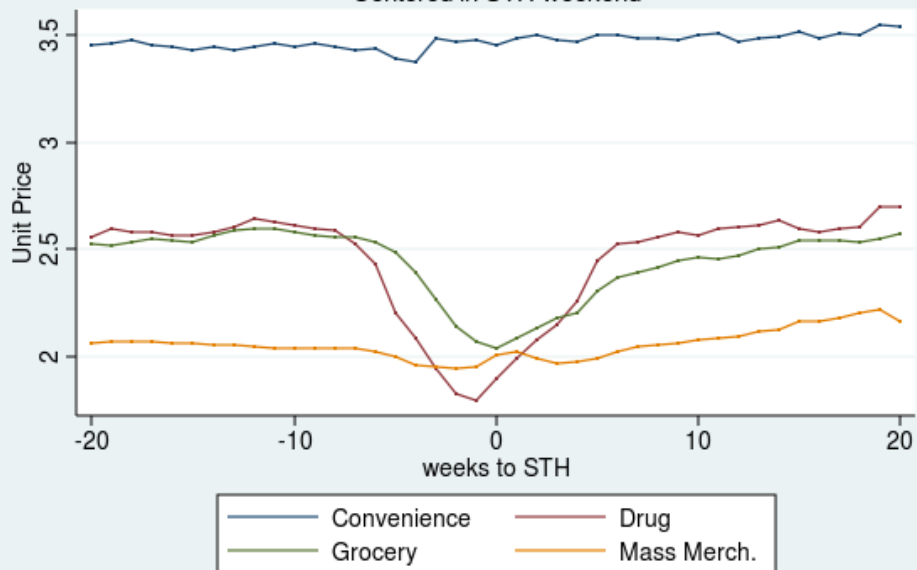
Notes: All specifications include UPC, retailer, state tax regime, month, and year fixed effects. Statistical significance reported at the 1 percent (\*\*\*), 5 percent (\*\*), and 10 percent (\*) level. Heteroskedastic robust standard errors clustered by state reported in parentheses.





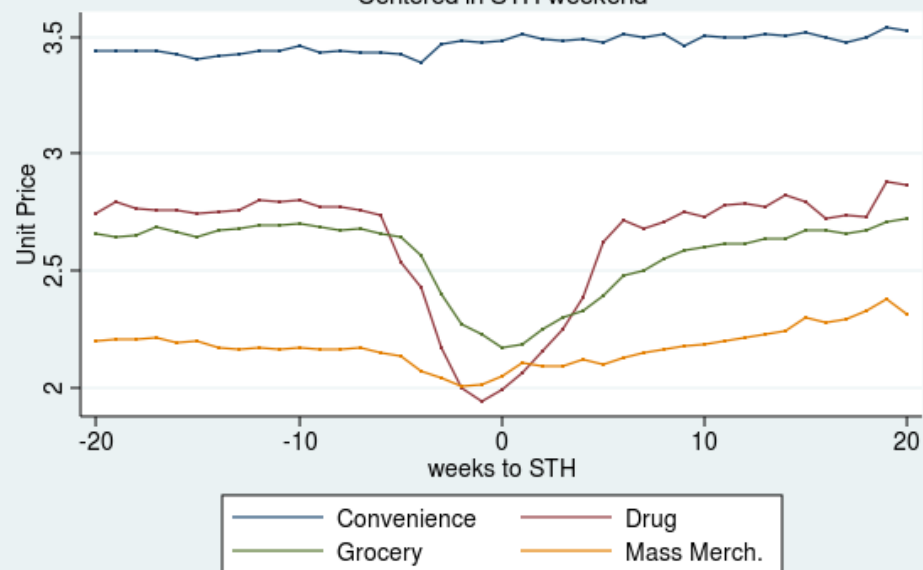
### STH States - Unit Price

Centered in STH weekend



### Non STH States - Unit Price

Centered in STH weekend



**Dependent Variable: ln(Pre-Tax Price Per Unit)**

<b>Control Variables</b>	<b>Convenience Stores</b>	<b>Drug Stores</b>	<b>Grocery Stores</b>	<b>Mass Merchandisers</b>
Sales Tax Rate	-0.161	0.788***	0.998***	-0.283*
	(0.115)	(0.240)	(0.394)	(0.156)
School Start Dummy	X	X	X	X
Detrend				
R <sup>2</sup>	0.35	0.63	0.69	0.826
N (Millions)	0.16	85.6	39.9	49.4
Number of Clusters	45	49	49	49

Notes: All specifications include UPC, retailer, state tax regime, month, and year fixed effects. Statistical significance reported at the 1 percent (\*\*\*), 5 percent (\*\*), and 10 percent (\*) level. Heteroskedastic robust standard errors clustered by state reported in parentheses.

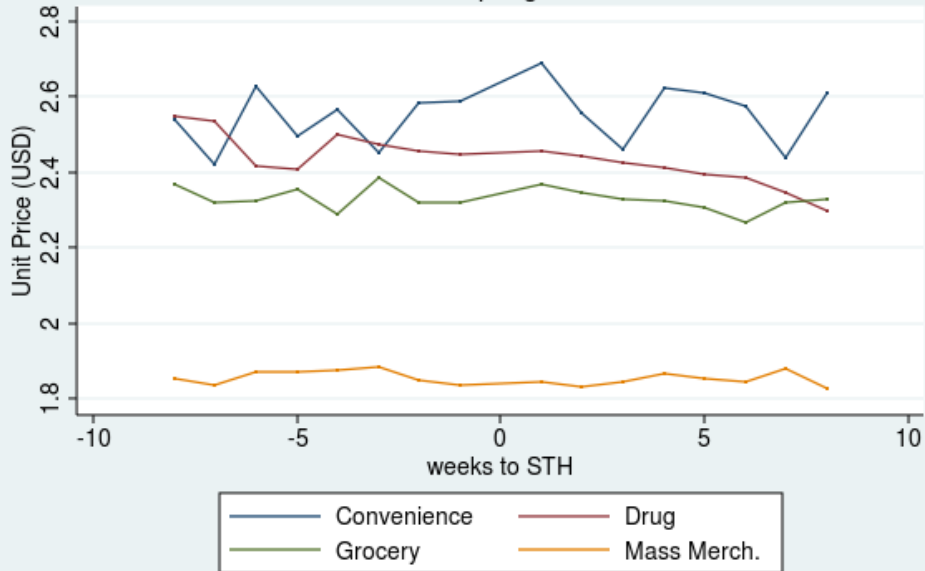


# Tennessee

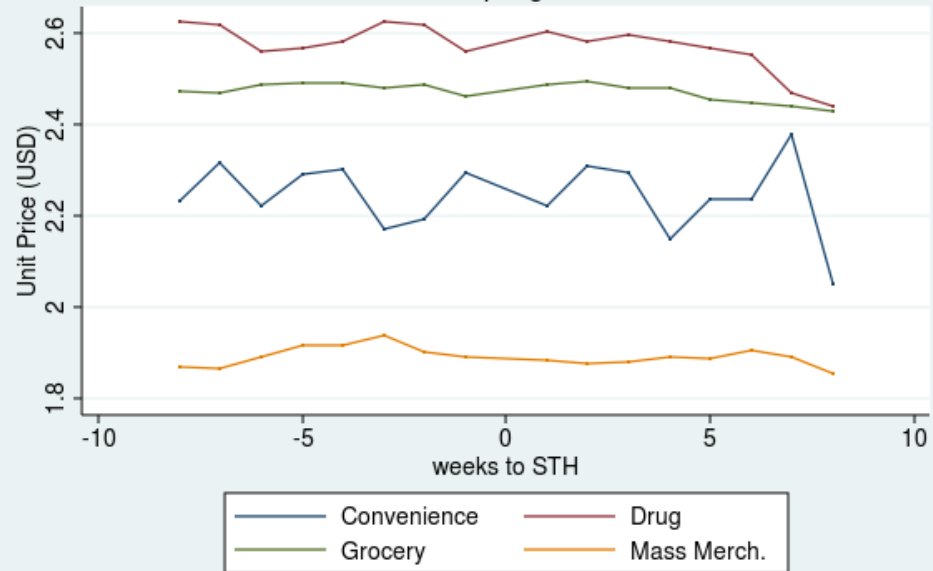
2007 & 2008



Tennessee - Unit Price (USD)  
Centered in TN Spring STH weekends



STH States - Unit Price (USD)  
Centered in TN Spring STH weekends

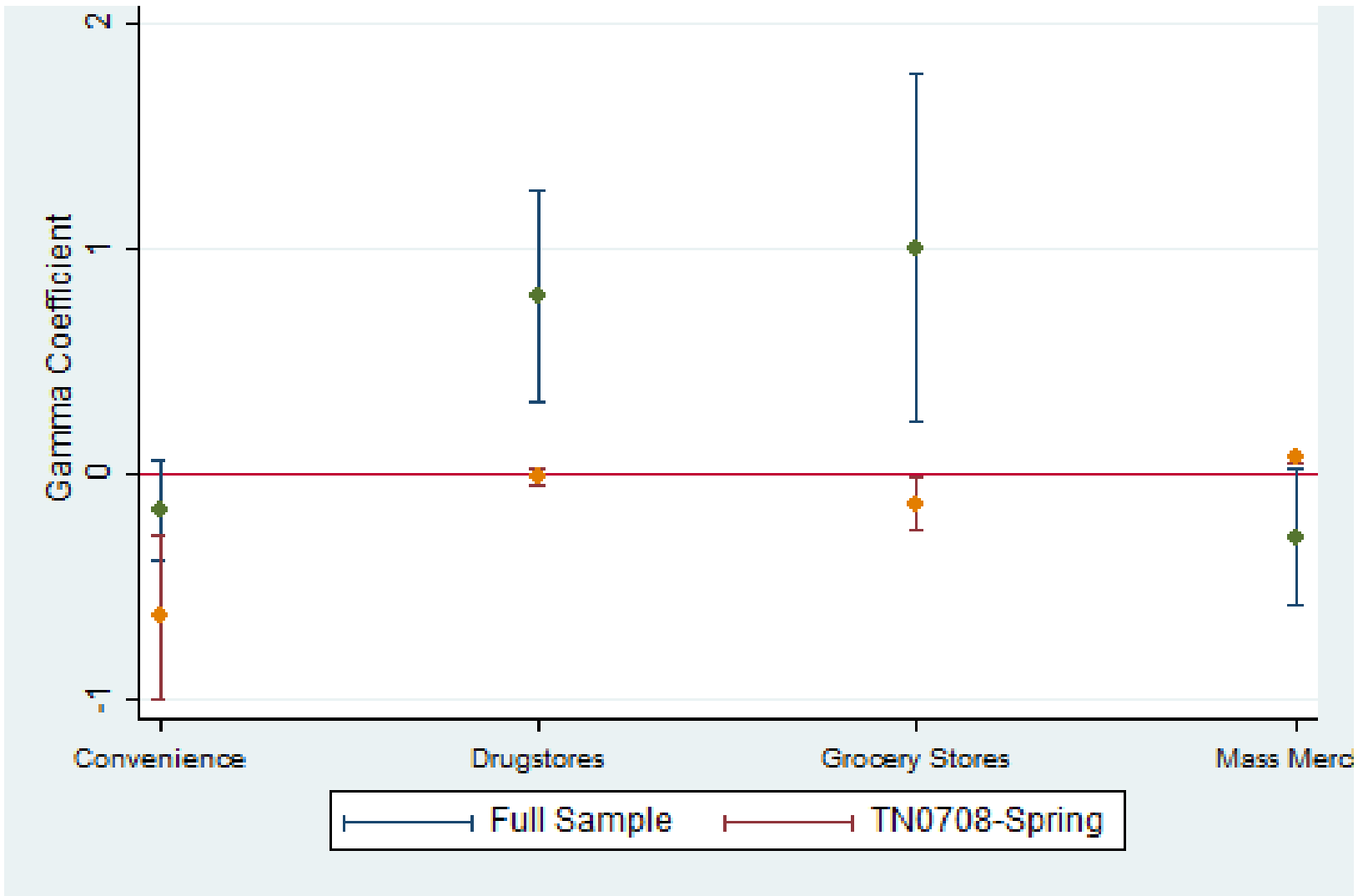


### Dependent Variable: ln(Pre-Tax Price Per Unit)

Control Variables	Convenience Stores	Drug Stores	Grocery Stores	Mass Merchandisers
Sales Tax Rate	-0.6360*** (0.1860)	-0.01490 (0.0212)	-0.1360** (0.0598)	0.0704*** (0.0097)
School Start Dummy	X	X	X	X
Detrend				
R <sup>2</sup>	0.384	0.764	0.762	0.923
N (Thousands)	5.439	8023.4	3931.1	5162.2
Number of Clusters	42	49	49	49

Notes: All specifications include UPC, retailer, state tax regime, month, and year fixed effects. Statistical significance reported at the 1 percent (\*\*\*), 5 percent (\*\*), and 10 percent (\*) level. Heteroskedastic robust standard errors clustered by state reported in parentheses.





# Market Weighted Tax Shifting

	All Tax Holiday States, 2006-2014		Tennessee, 2007 & 2008	
	Market Share	Shift Parameter	Market Share	Shift Parameter
Convenience	0.03%	-0.161	0.13%	-0.636
Drugstores	25.62%	0.788	46.58%	-0.0149
Groceries	8.95%	0.998	19.45%	-0.136
Mass	65.4%	-0.283	33.84%	0.0704
<b>Market Weighted Mean Shifting</b>		<b>0.106%</b>		<b>-0.010%</b>

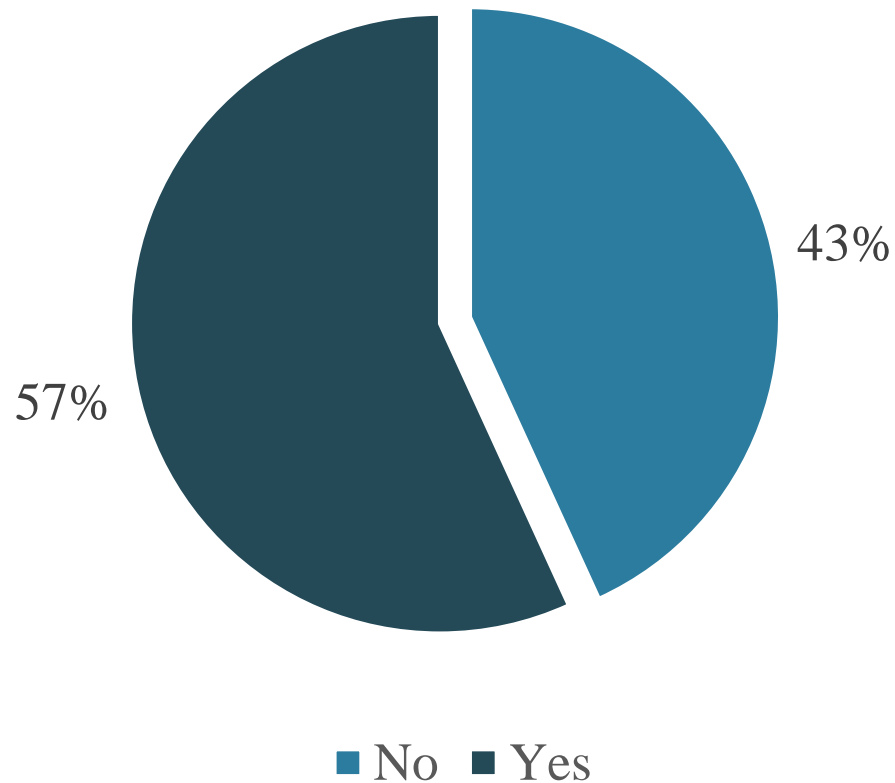


# Household Equity in Tax Holiday Savings

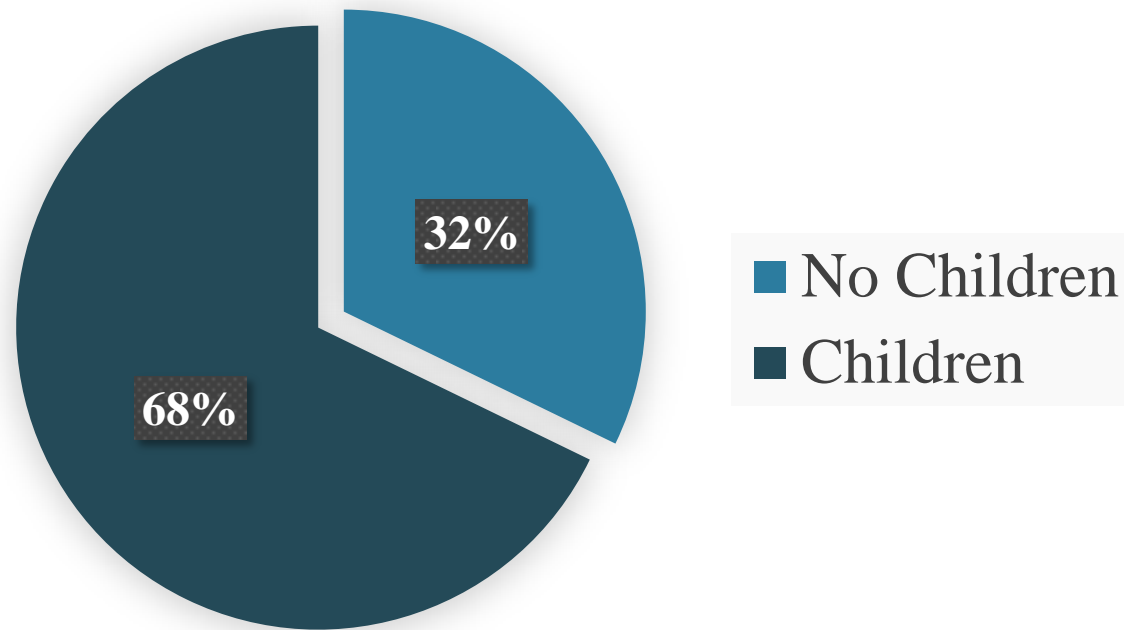




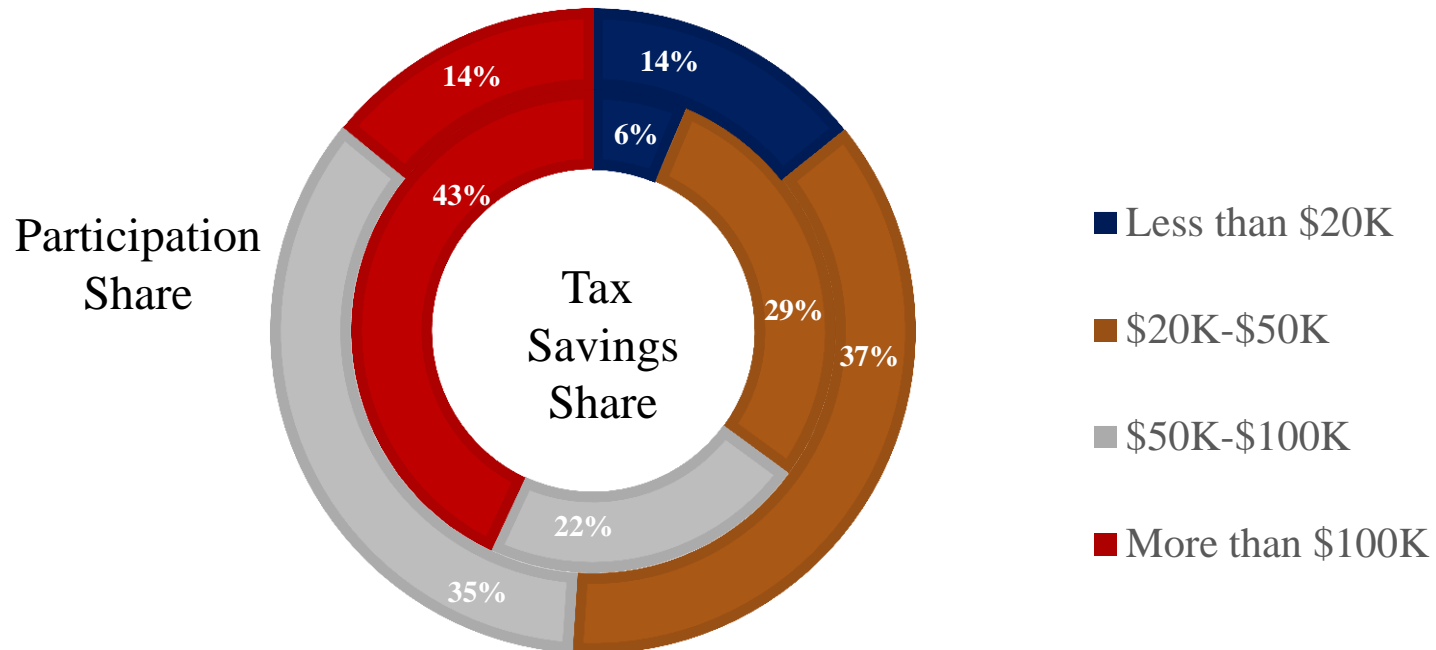
## Household STH Participation Rates and Child Presence, 2004-2012



## STH Total Savings by Children Presence (2004-2014)



# By Household Income Group



# Conclusion

- Summary of Evidence
  - No pretax price adjustments from retailers
  - Poorly targeted if considered as a welfare expenditure program
- Directions for Future Research

