Issue # 7: Numerator Data - Trends and Event Studies 2023-2024 (weighted)

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This Write-up contains tables and plots for trend and event study analyses of the Numerator data. The original user-trip-item level data is transformed to user- month level data, with variables summarized at the monthly level for each user. SNAP and Non-SNAP treatment is determined by SNAP participation rate of each user over the periods of the data (>0.5 on SNAP; <=0.5 Non-SNAP). We use the demographic weight in the data for analysis. The weight is relative to static panel cohort (each cohort constituted of households with the same 12-month static window). The sum of weights in each cohort equals to the count of total household. There are two cohorts for these analyses, one stars at Jan 2023 and one at Jan 2024.

1. Figures: Monthly average of ...

   - level/log total spending winsorized
   - level/log Food spending winsorized
   - level/log Food on EBT winsorized
   - level/log Soda spending winsorized
   - level/log Soda on EBT winsorized
   - prop. food spending
   - prop. food on EBT
   - prop. soda
   - prop. soda on EBT
   - level/log soda spending by SNAP/Non-SNAP
   - level/log soda spending by state $\times$ SNAP

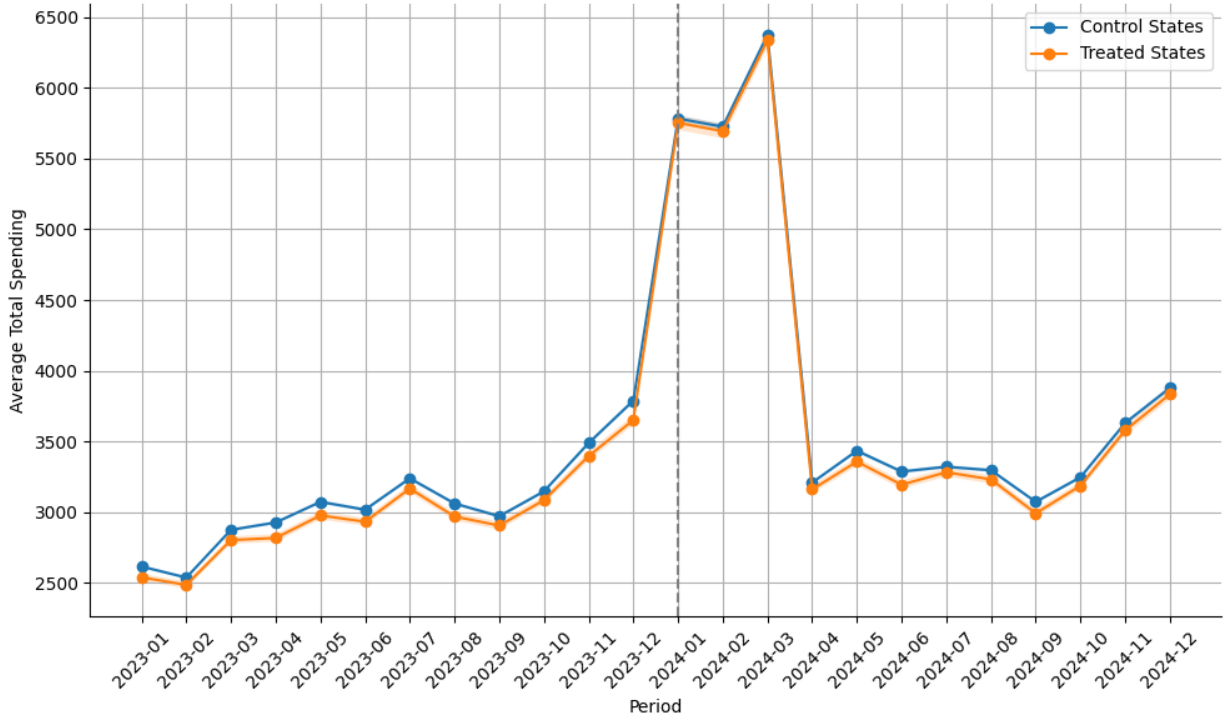2. Figures: Event Studies

   - level/log soda spending winsorized
   - level/log soda spending by SNAP $\times$ post (conditional on treated states)
   - level/log soda spending DDD

3. Tables

- TWFE/DDD Model Estimates

Figure 1: Monthly Average of Total Spending
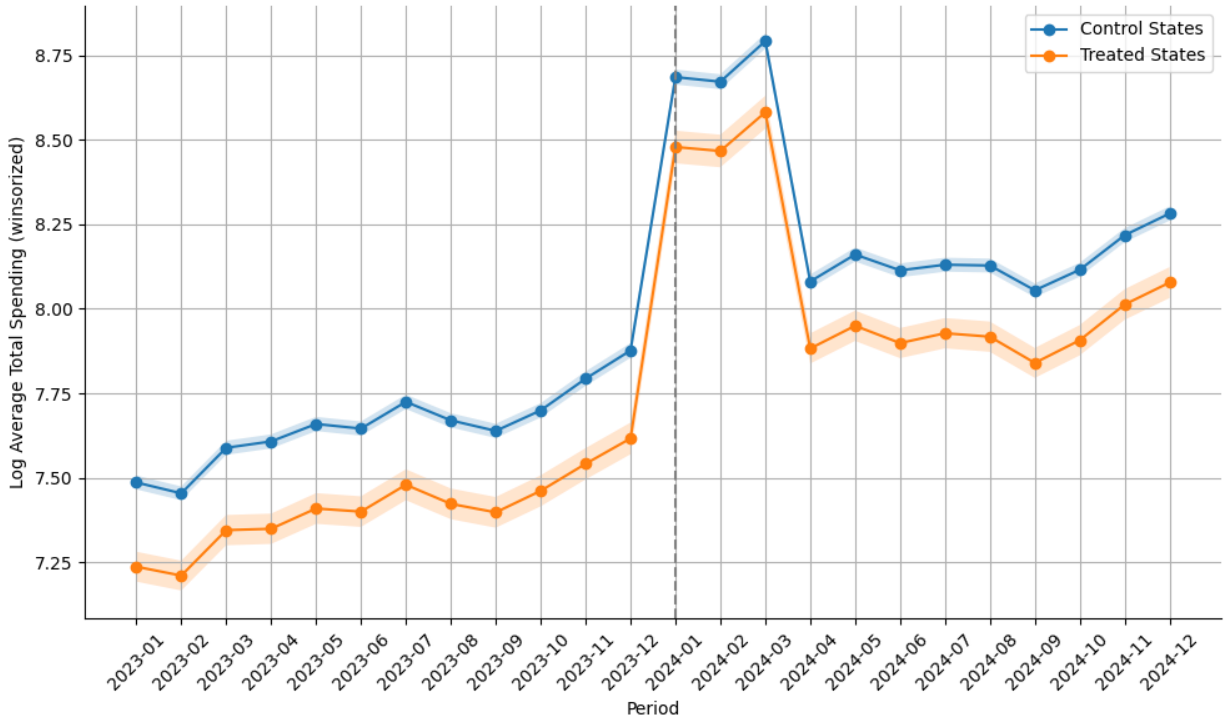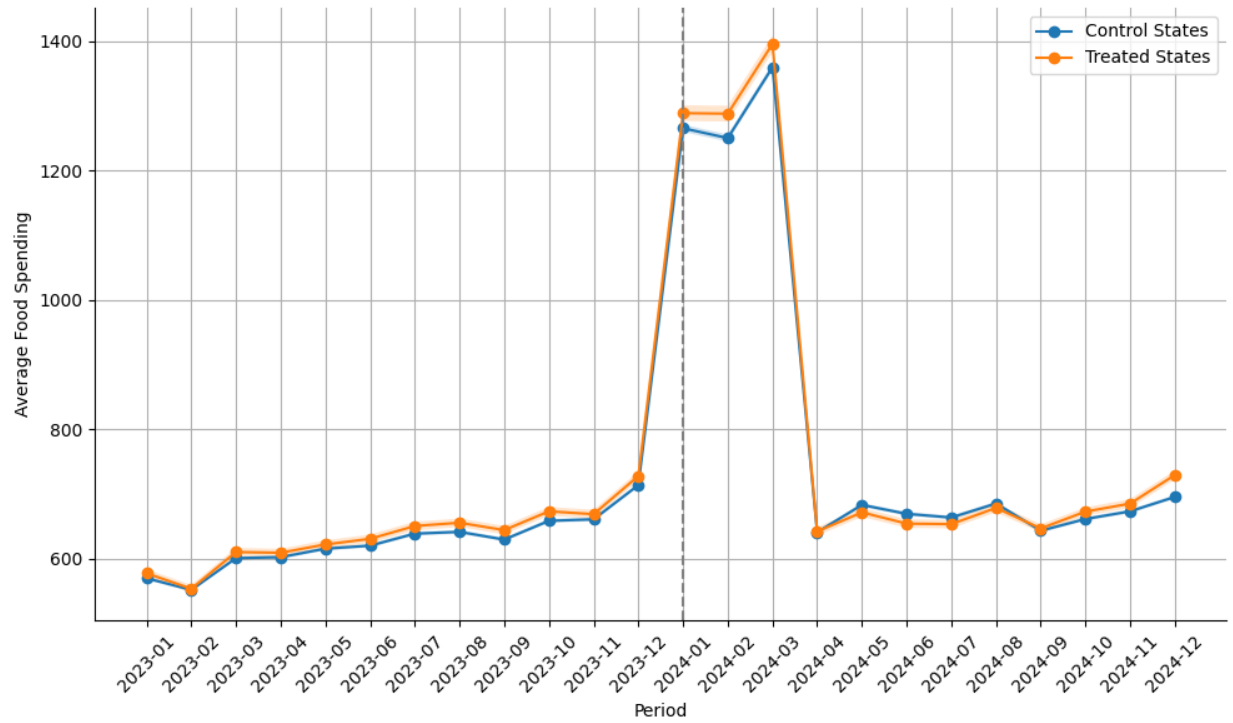
(a) level

(b) log

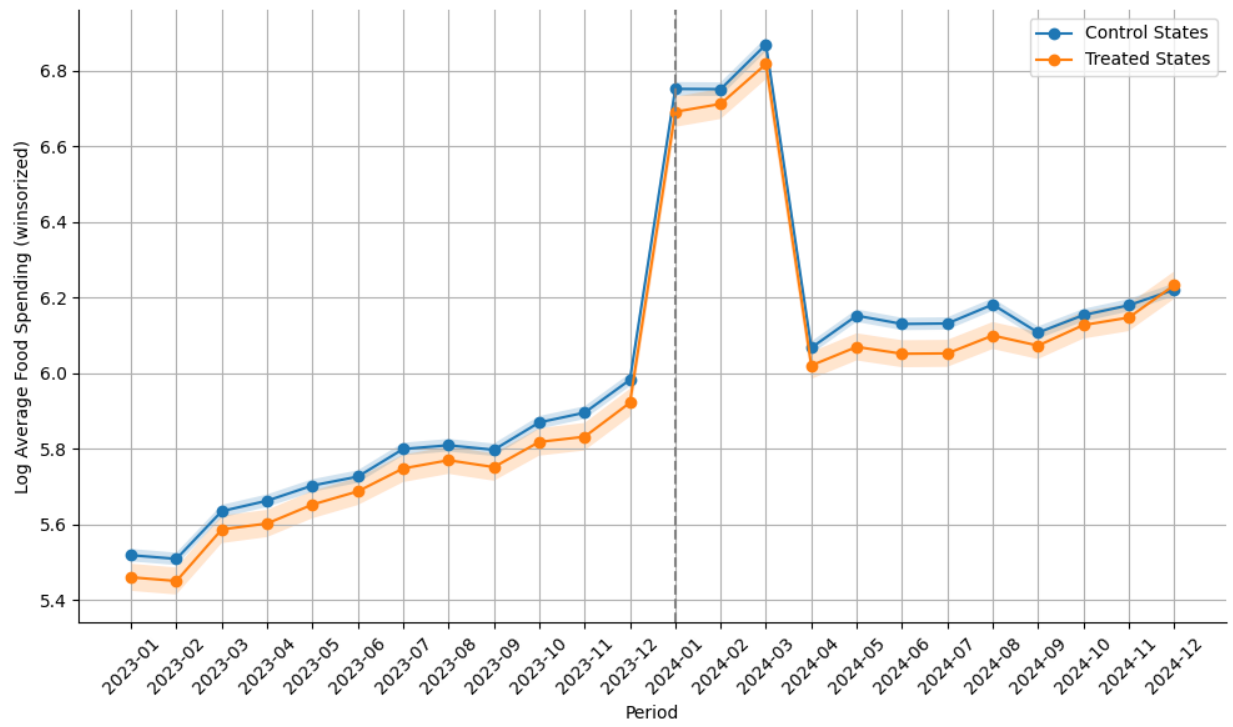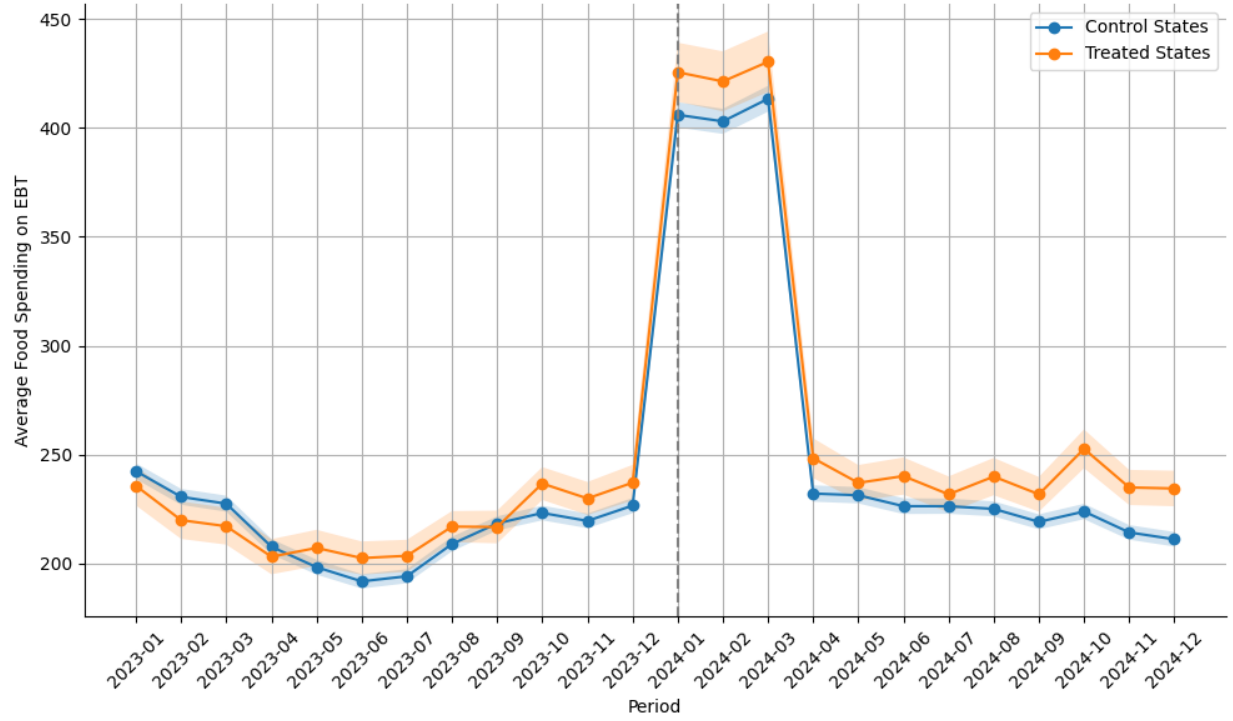Figure 2: Monthly Average of Food Spending

(a) level

(b) log

Figure 3: Monthly Average of Food Spending on EBT
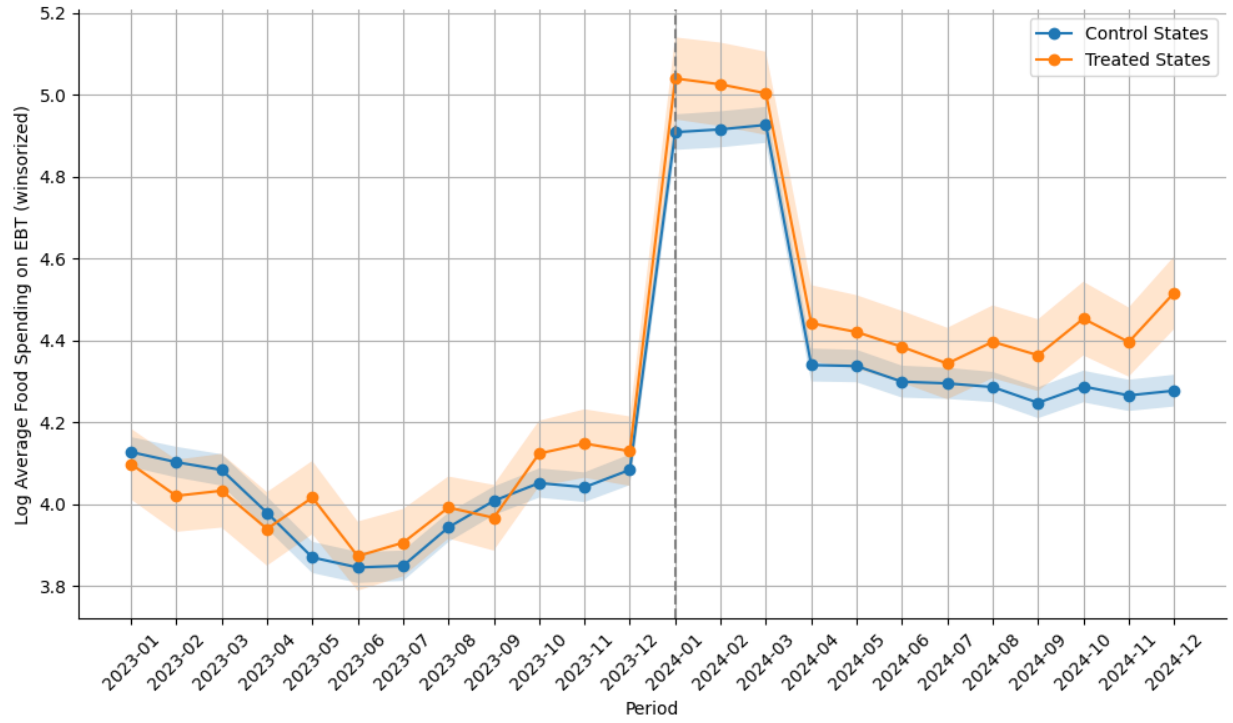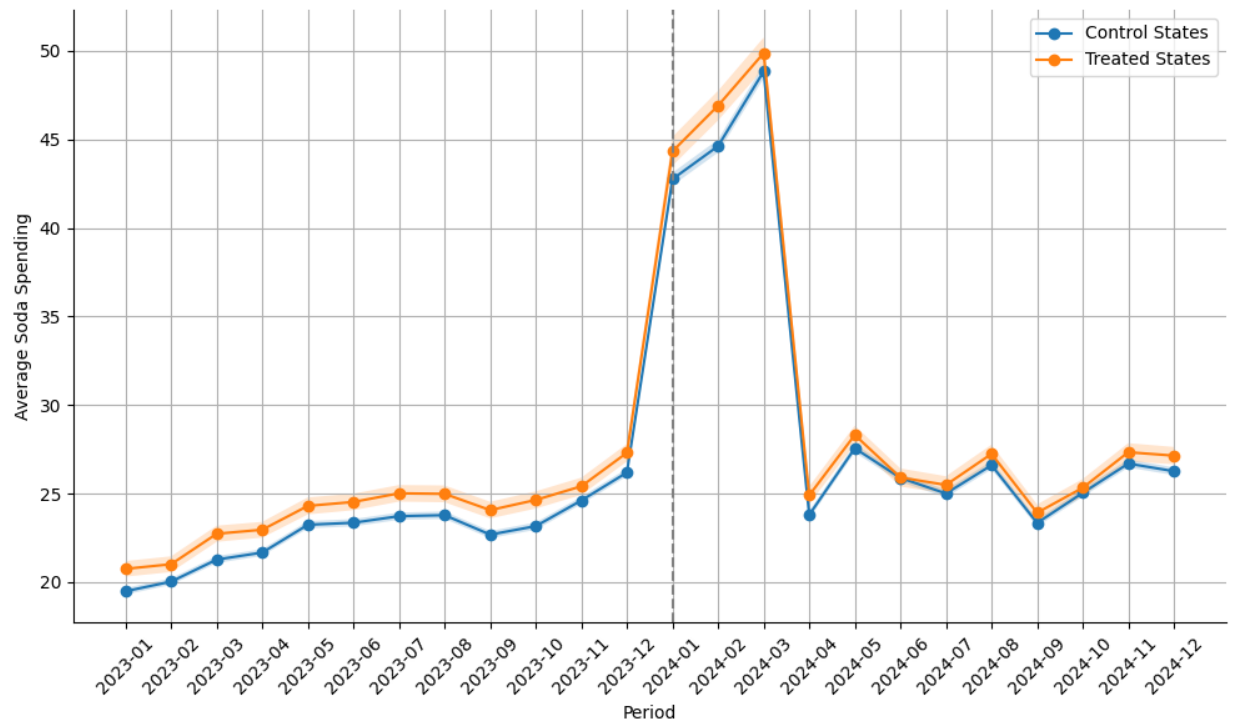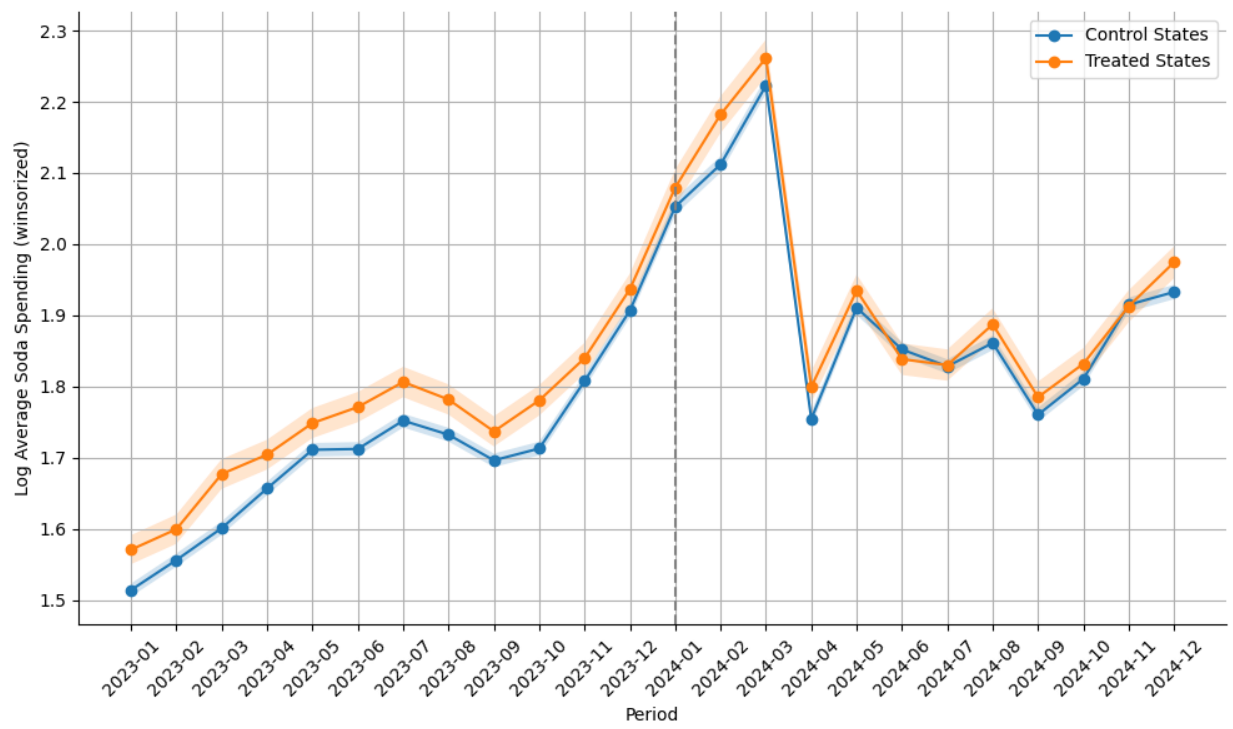
(a) level

(b) log

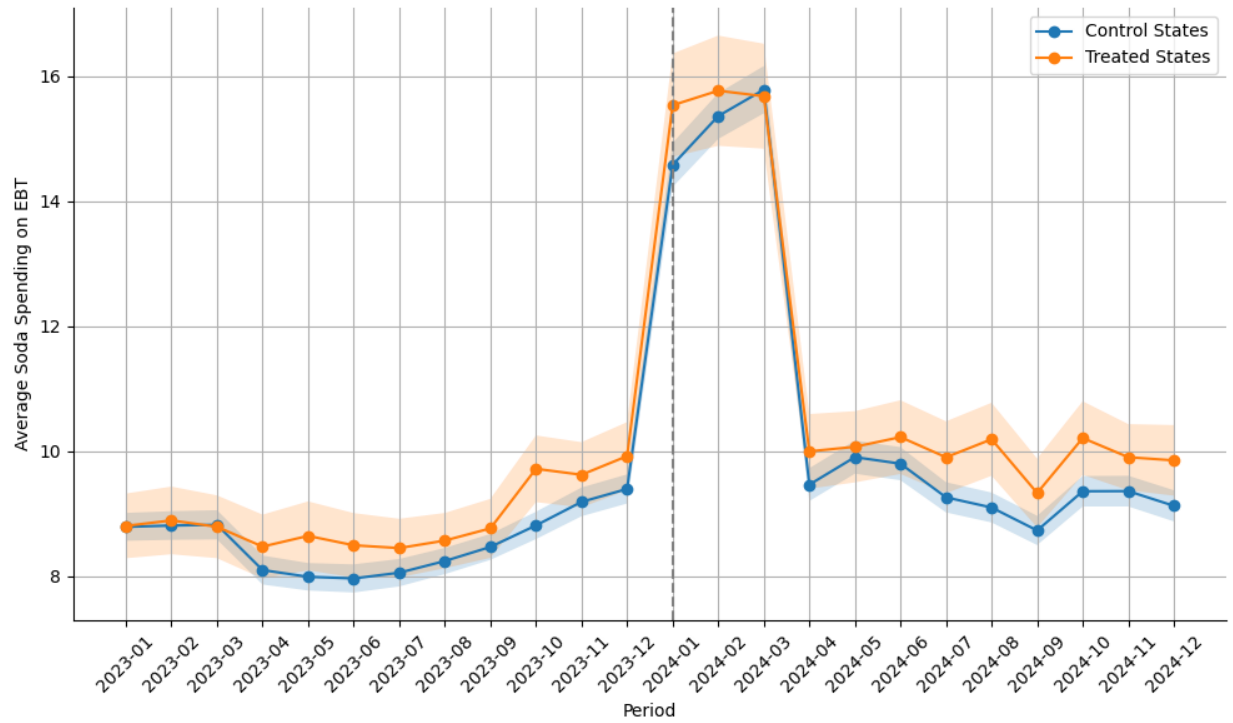Figure 4: Monthly Average of Soda Spending

(a) level

(b) log

Figure 5: Monthly Average of Soda Spending on EBT
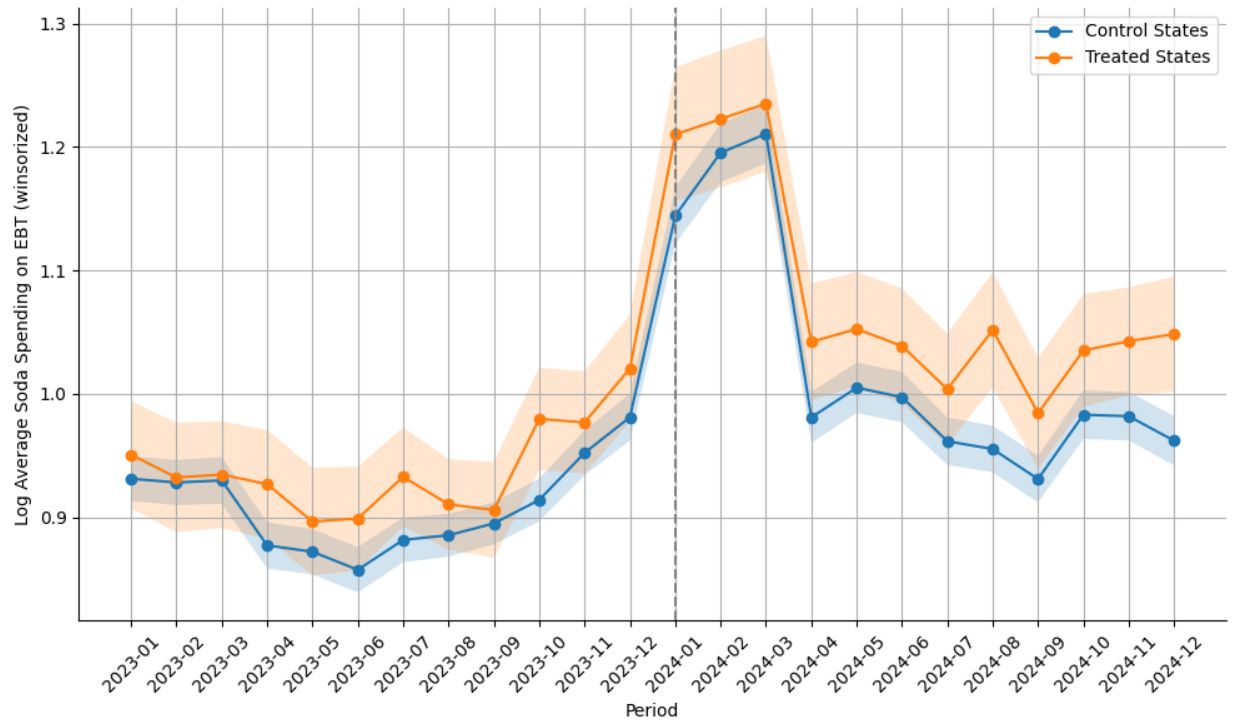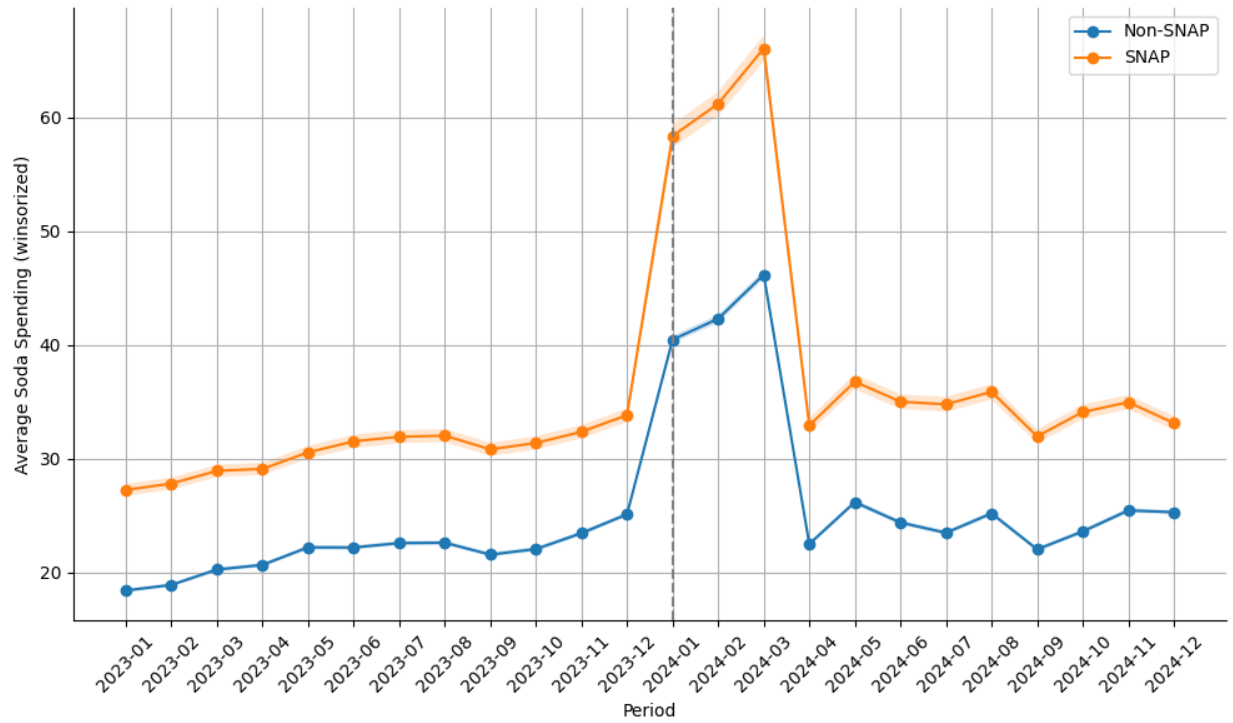
(a) level

(b) log

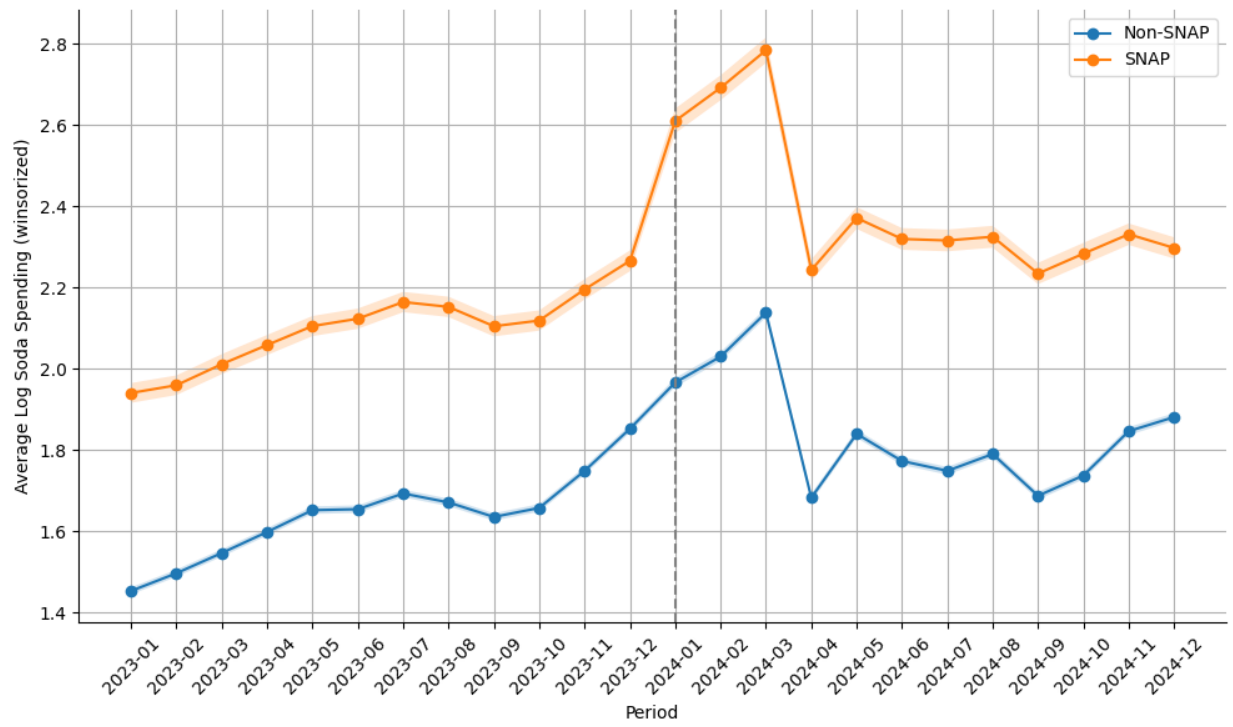Figure 6: Monthly Average of Soda Spending by SNAP/Non-SNAP
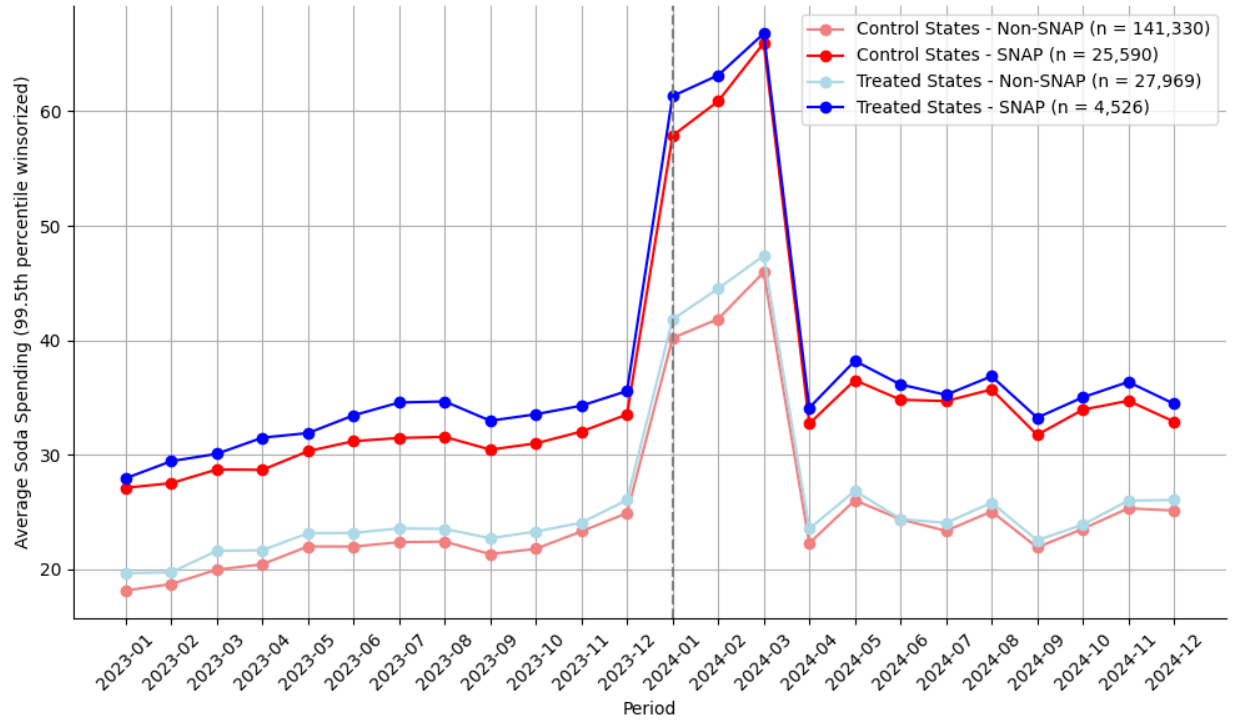
(a) level

(b) log

Figure 7: Monthly Average of Soda Spending by SNAP × state
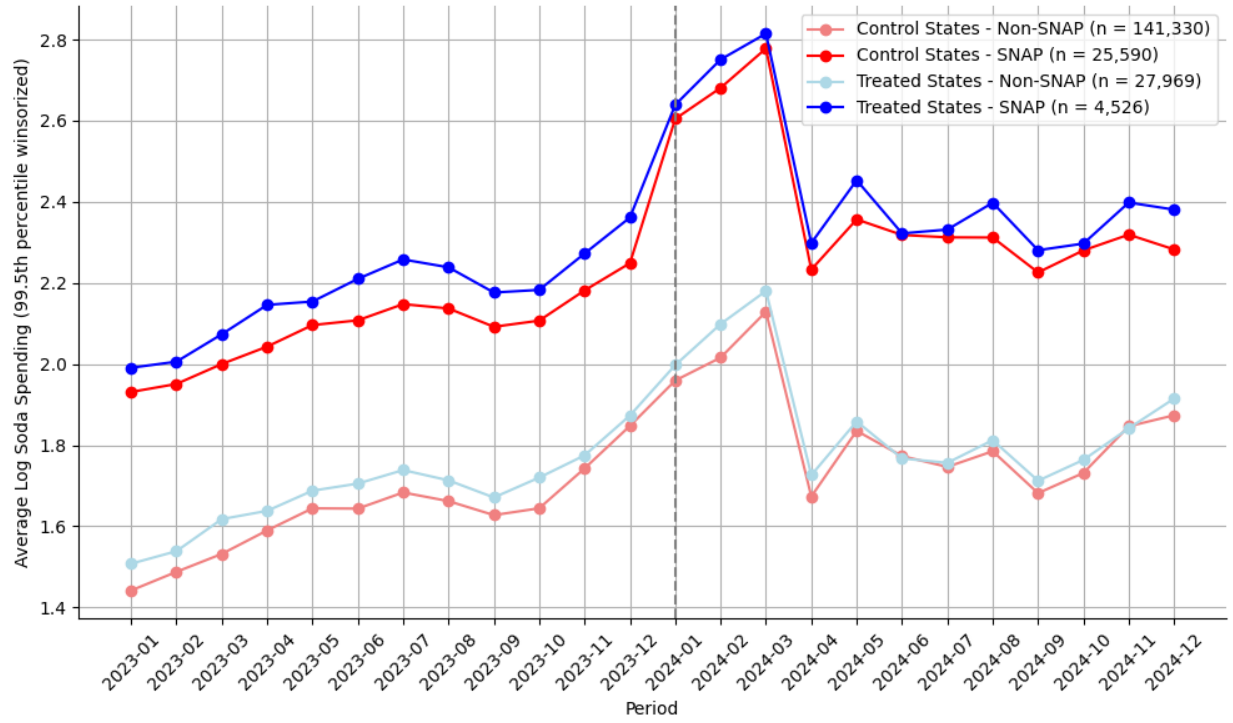
(a) level

(b) log

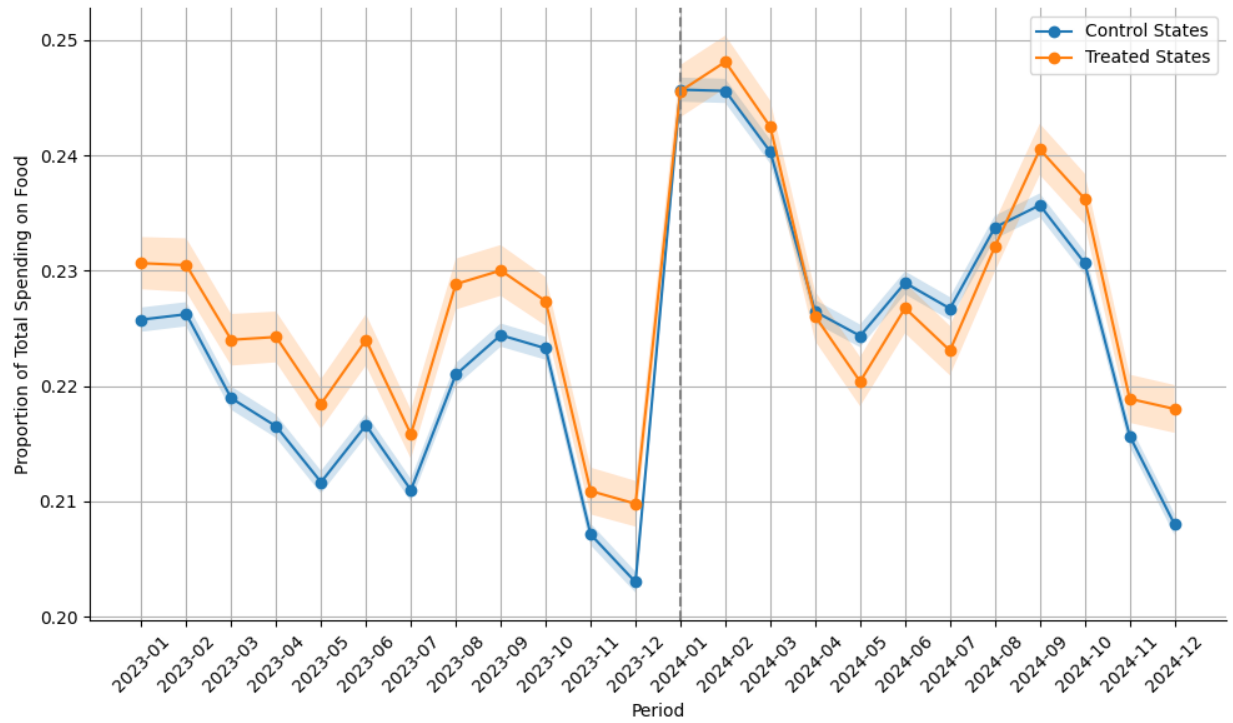Figure 8: Proportion of Total Spending on Food
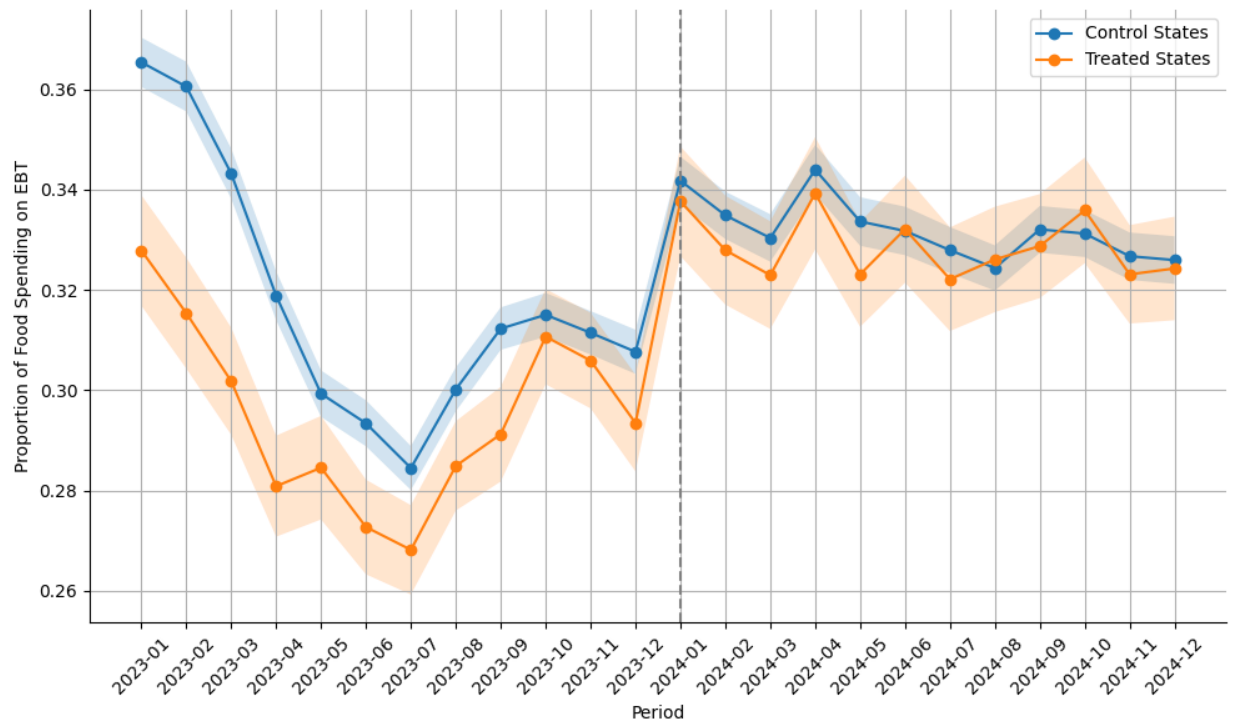
Figure 9: Proportion of Food Spending on EBT

Figure 10: Proportion of Food Spending on Soda

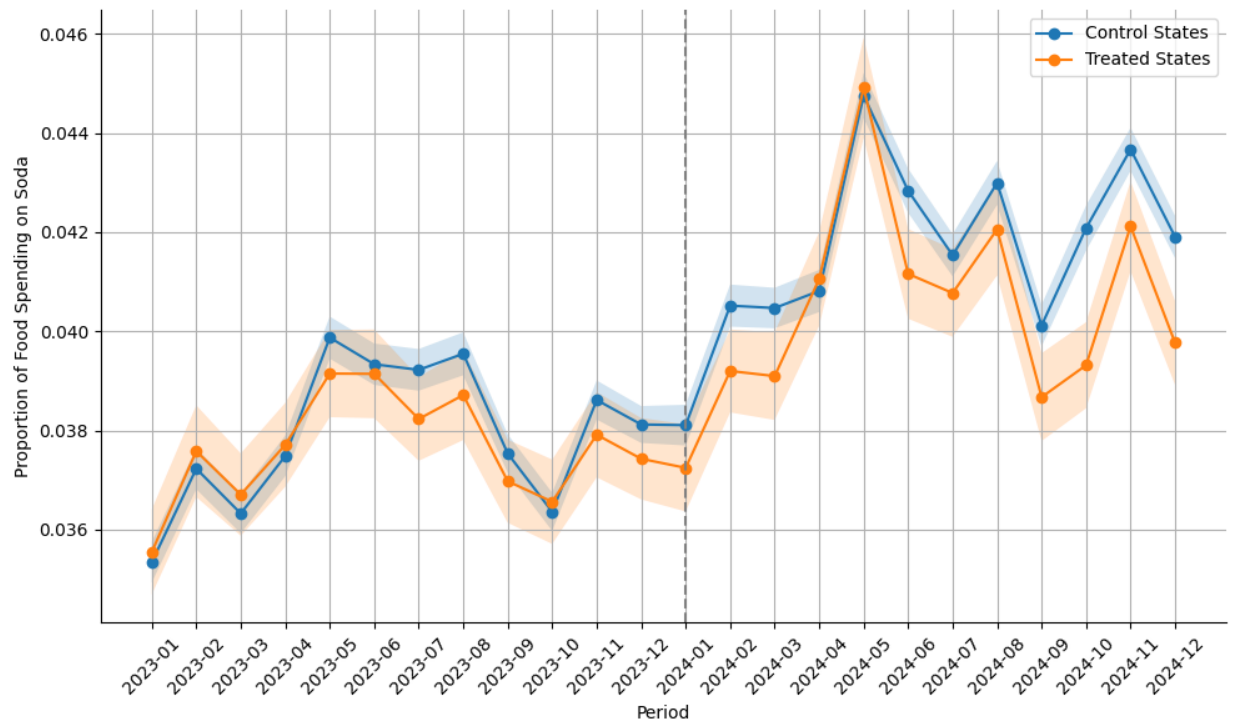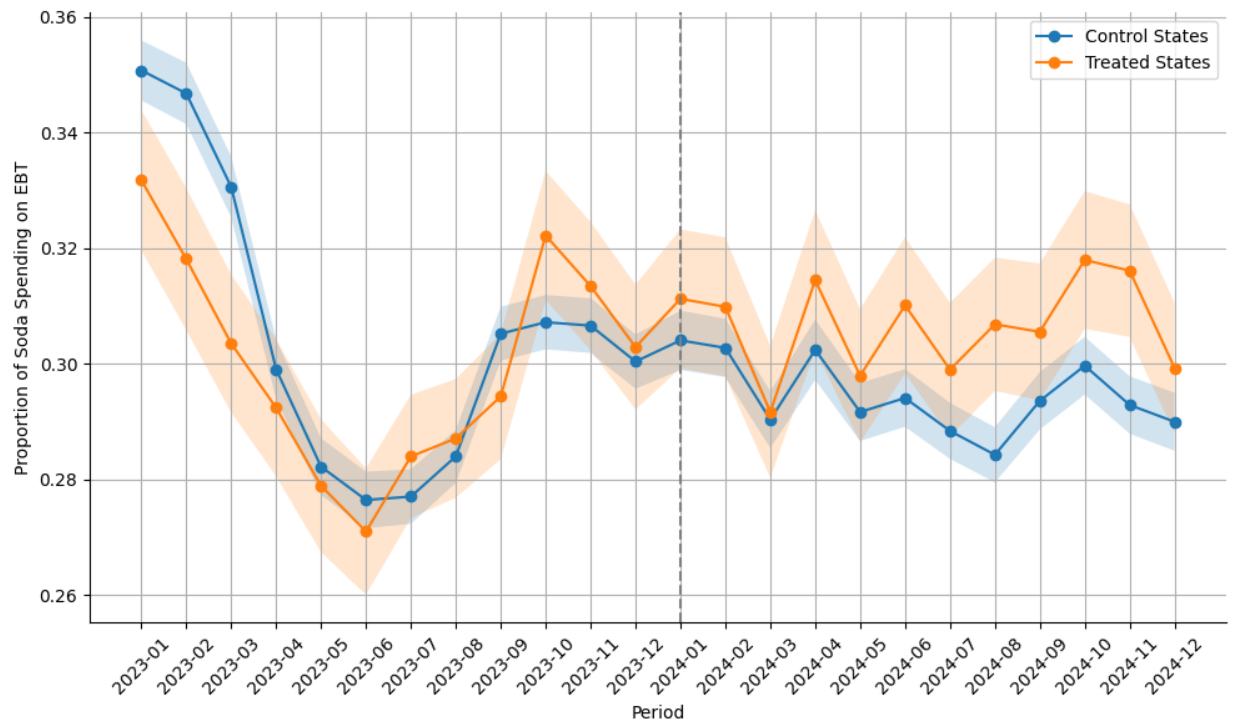Figure 11: Proportion of Soda Spending on EBT
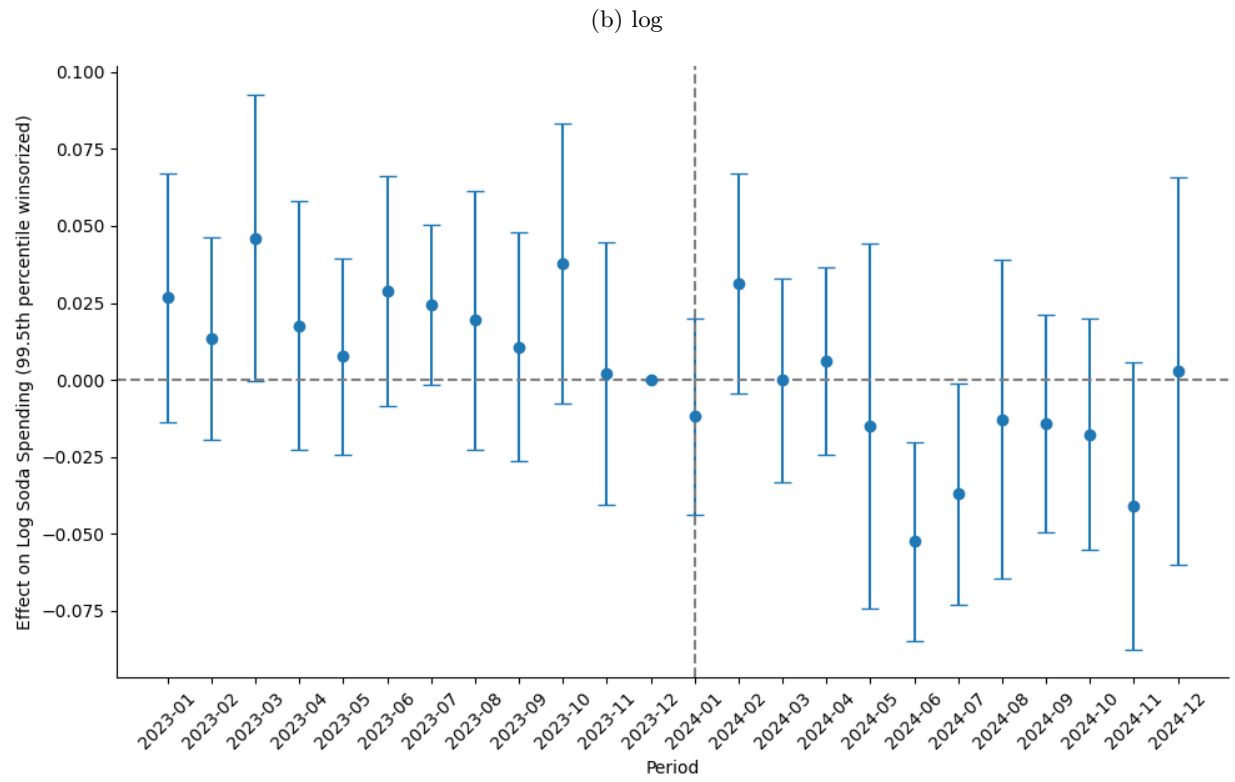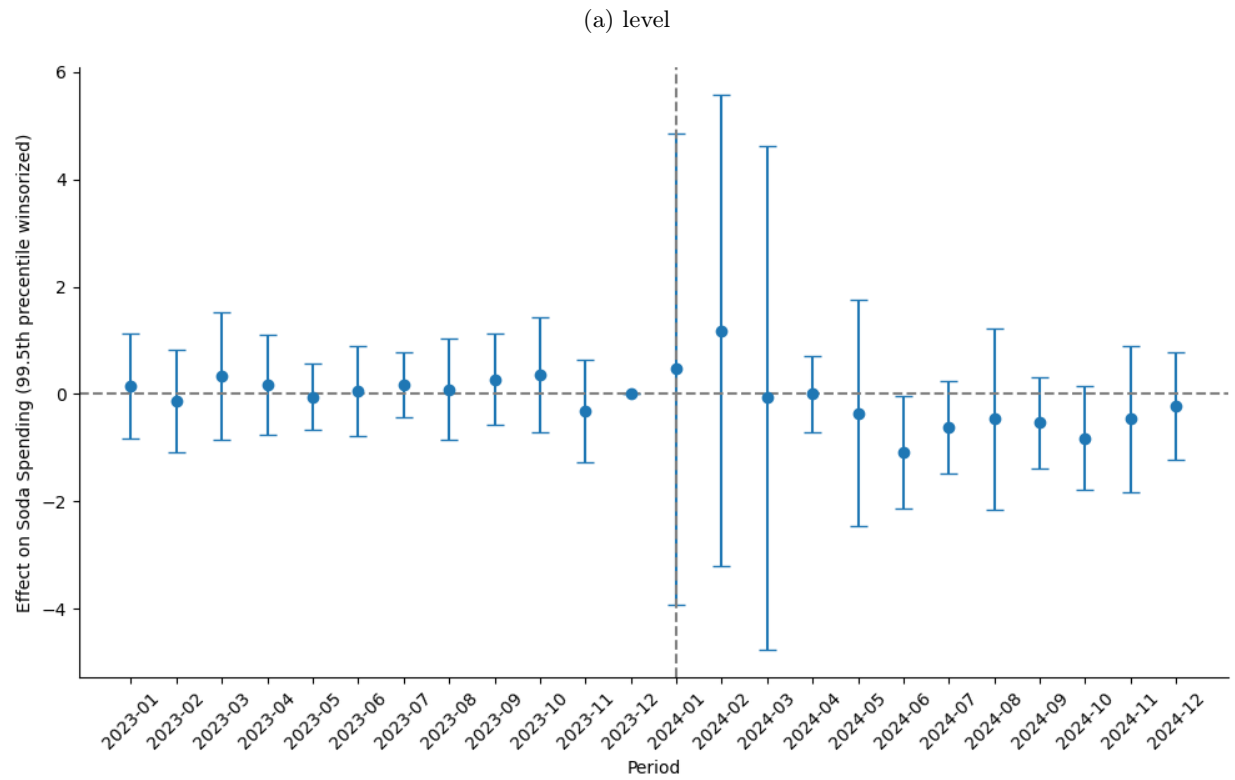
Figure 12: Event Study - TWFE

(a) level

(b) log

Figure 13: Event Study - TWFE (Treatment Assignment = SNAP/Non-SNAP) within treated states

(a) level

(b) log
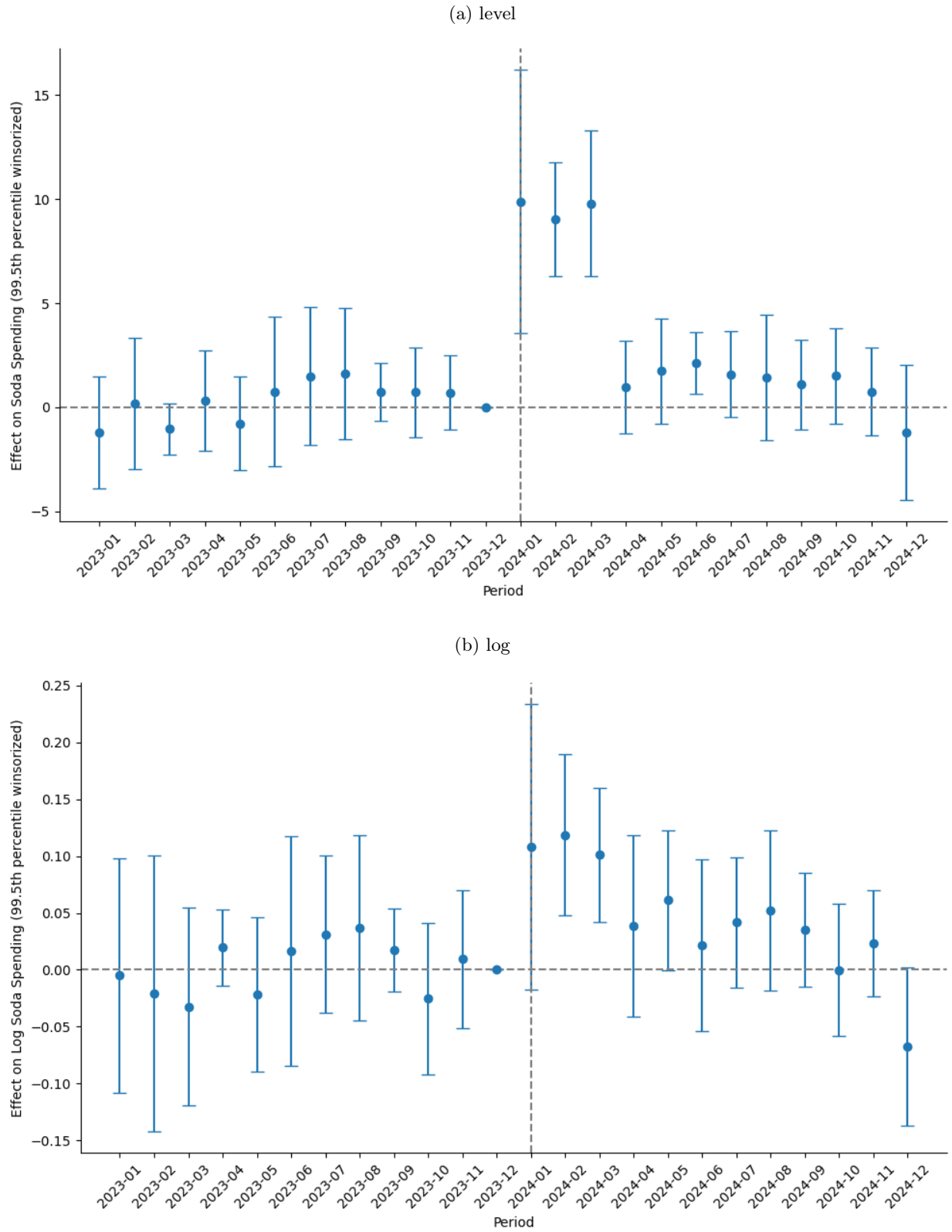
Figure 14: Event Study - DDD

(a) level

(b) log
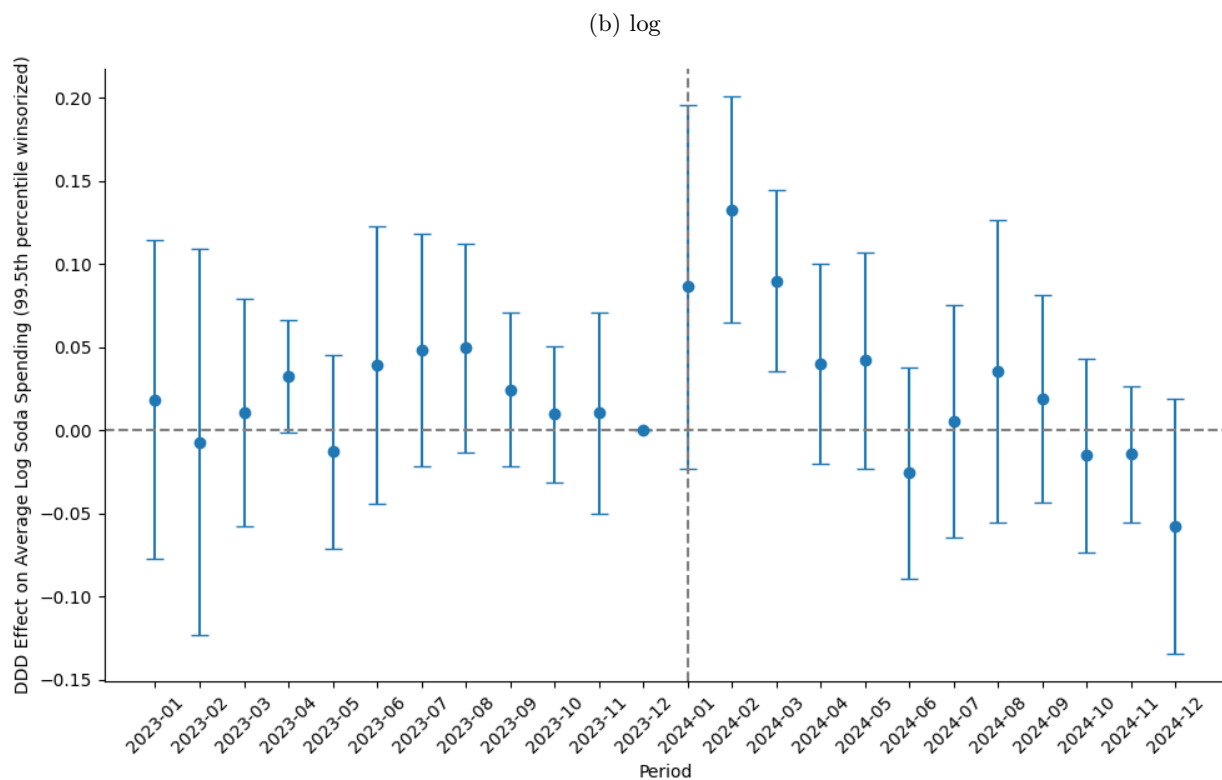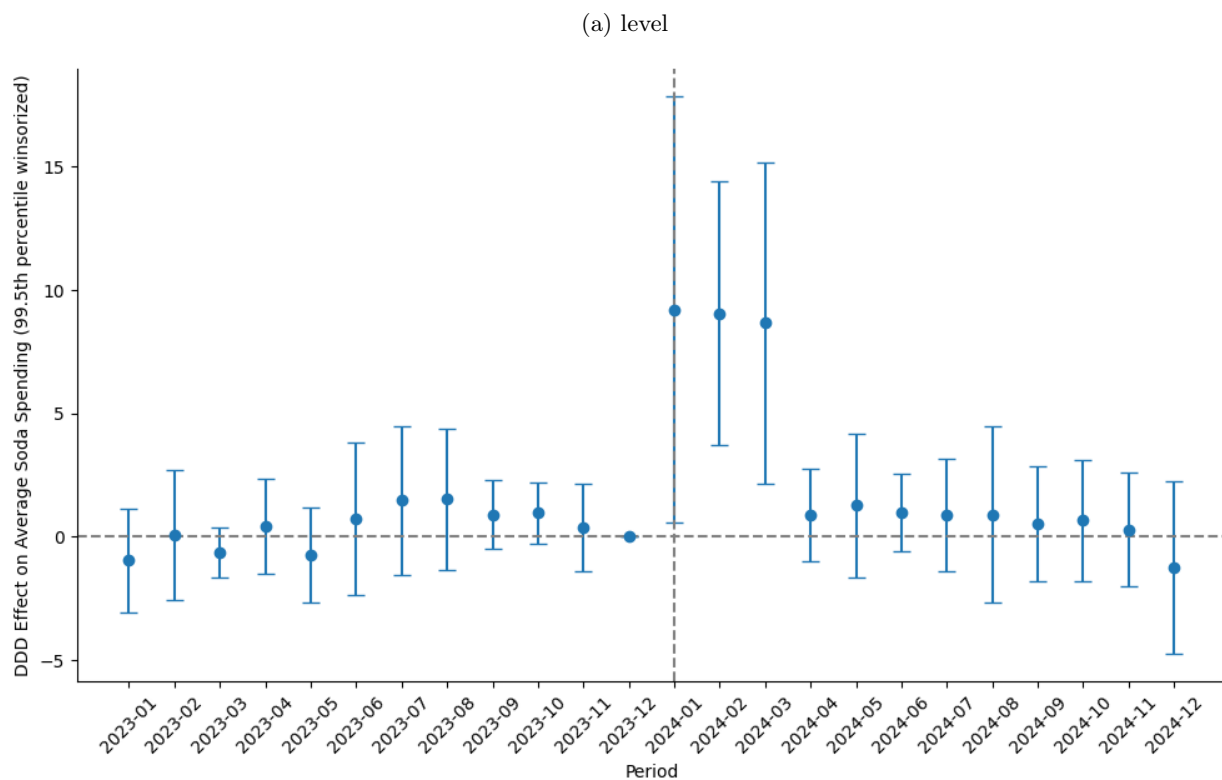
Table 1: Model Estimates

Term	TWFE	TWFE Log	TWFE	TWFE Log	DDD	DDD Log
Post	7.3686***	0.1500***	6.6678***	0.1118***	7.2690***	0.1446***
	(0.2856)	(0.0110)	(0.9665)	(0.0163)	(0.2971)	(0.0104)
State × Post	-0.3419	-0.0330*				
	(0.9446)	(0.0185)				
SNAP × Post			2.9344***	0.0423*		
			(0.6868)	(0.0241)		
State × SNAP × Post					2.3332***	0.0095
					(0.7590)	(0.0233)
N	6,001,260	6,001,260	963,006	963,006	6,001,260	6,001,260
R^2	0.0070	0.0016	0.0067	0.0011	0.0071	0.0016
User FE	Yes	Yes	Yes	Yes	Yes	Yes
Period FE	No	No	No	No	No	No
SE Cluster	state	state	state	state	state	state