**Issue # 7: Numerator Data - Trends and Event Studies 2021-2022**
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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)

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
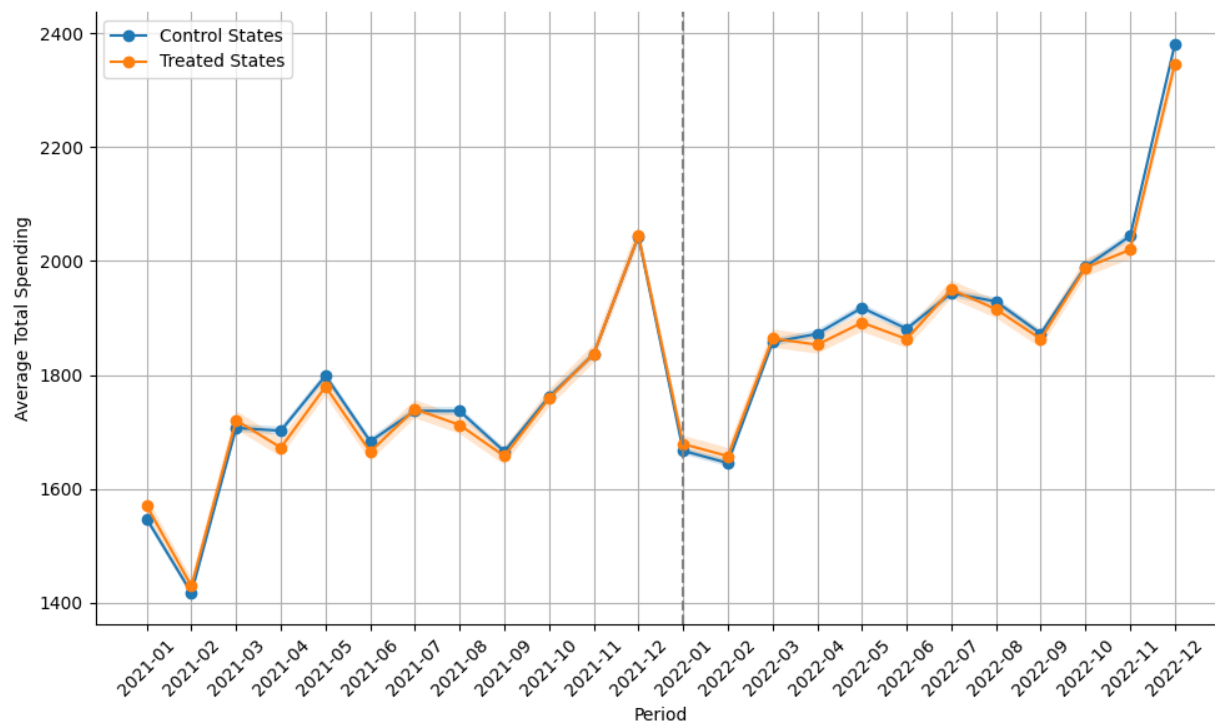
2. Figures: Event Studies

   - 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
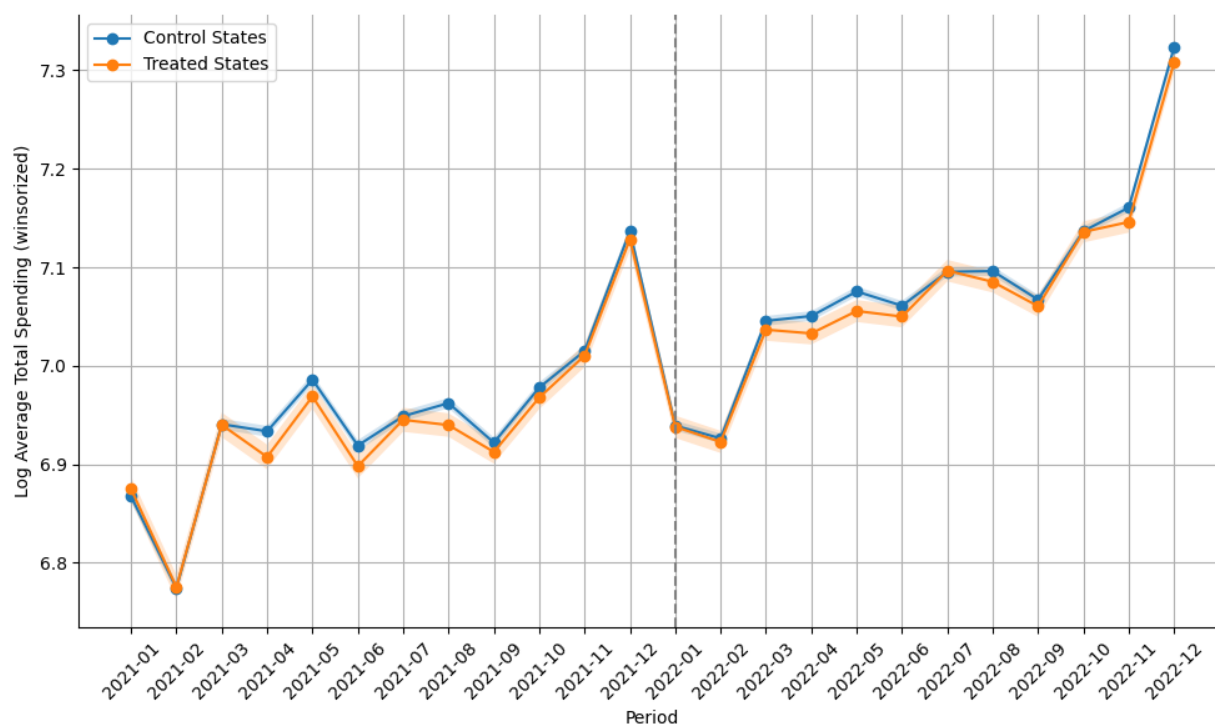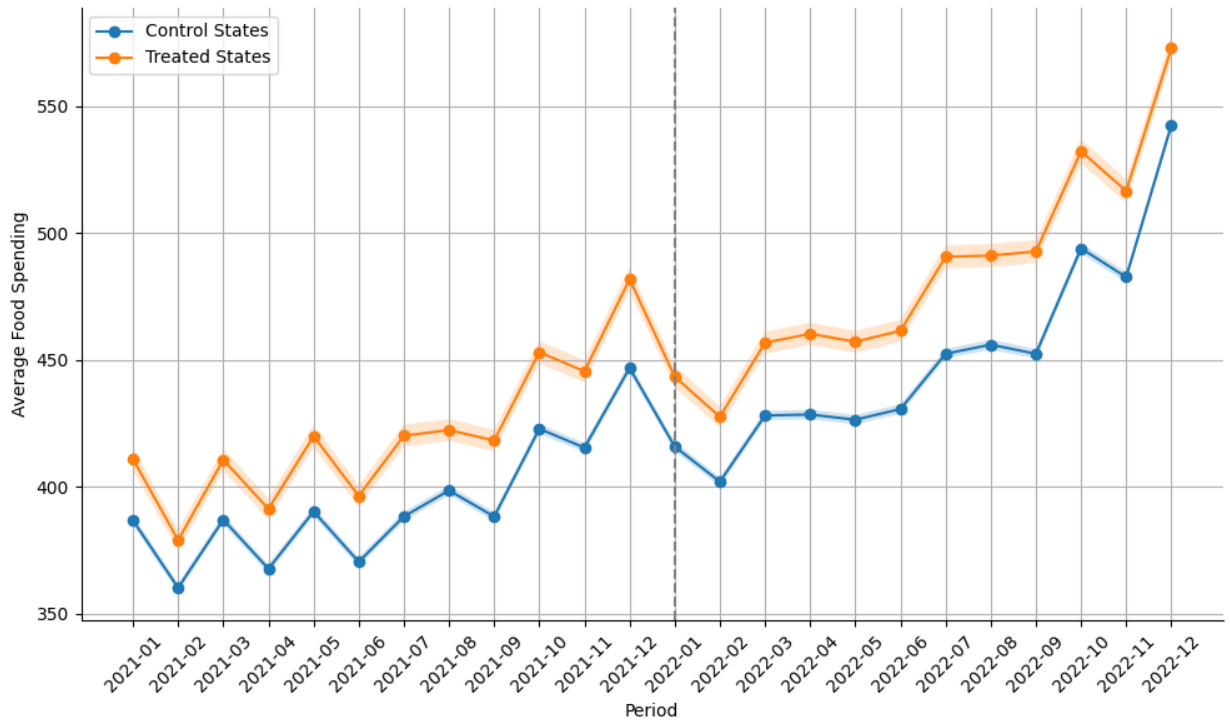
## (a) level



## (b) log

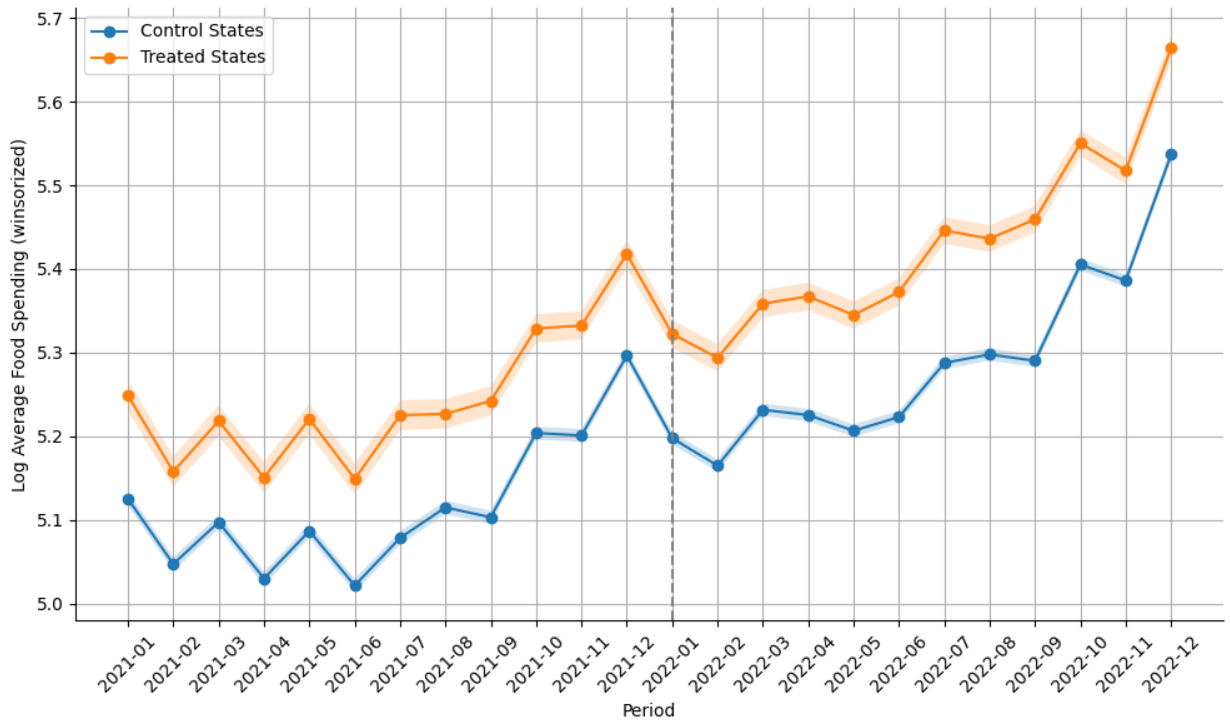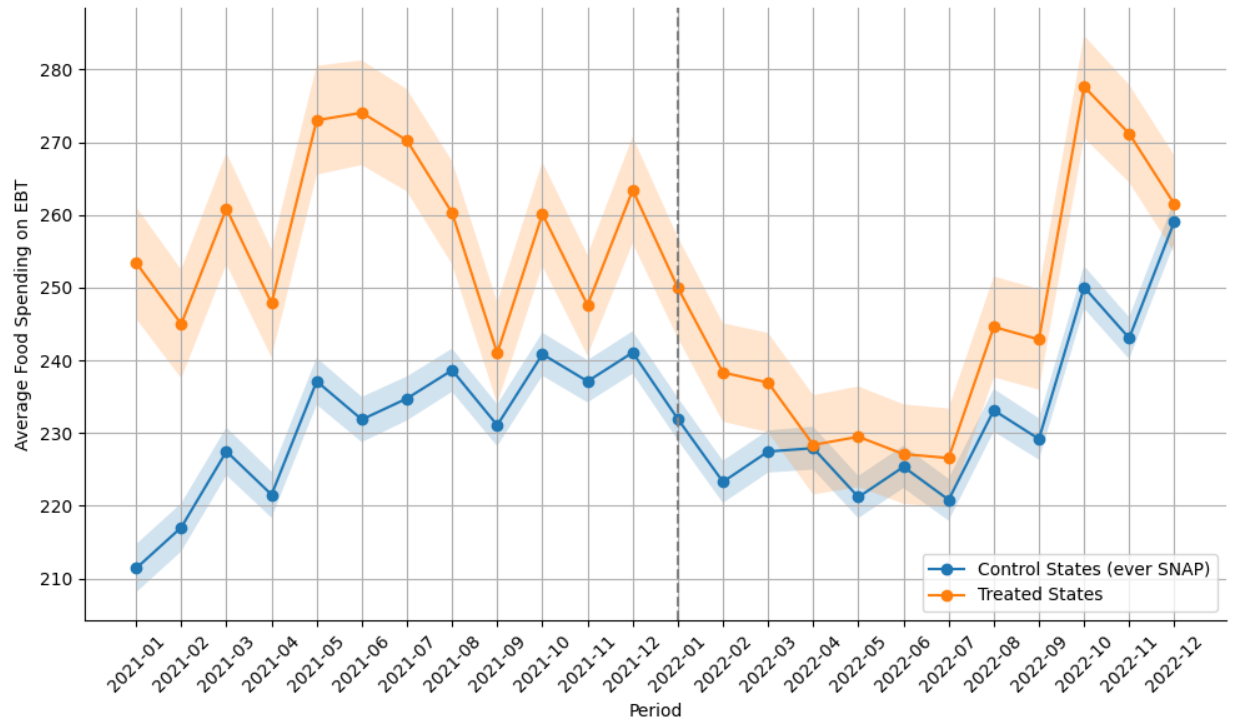Figure 2: Monthly Average of Food Spending

(a) level



(b) log

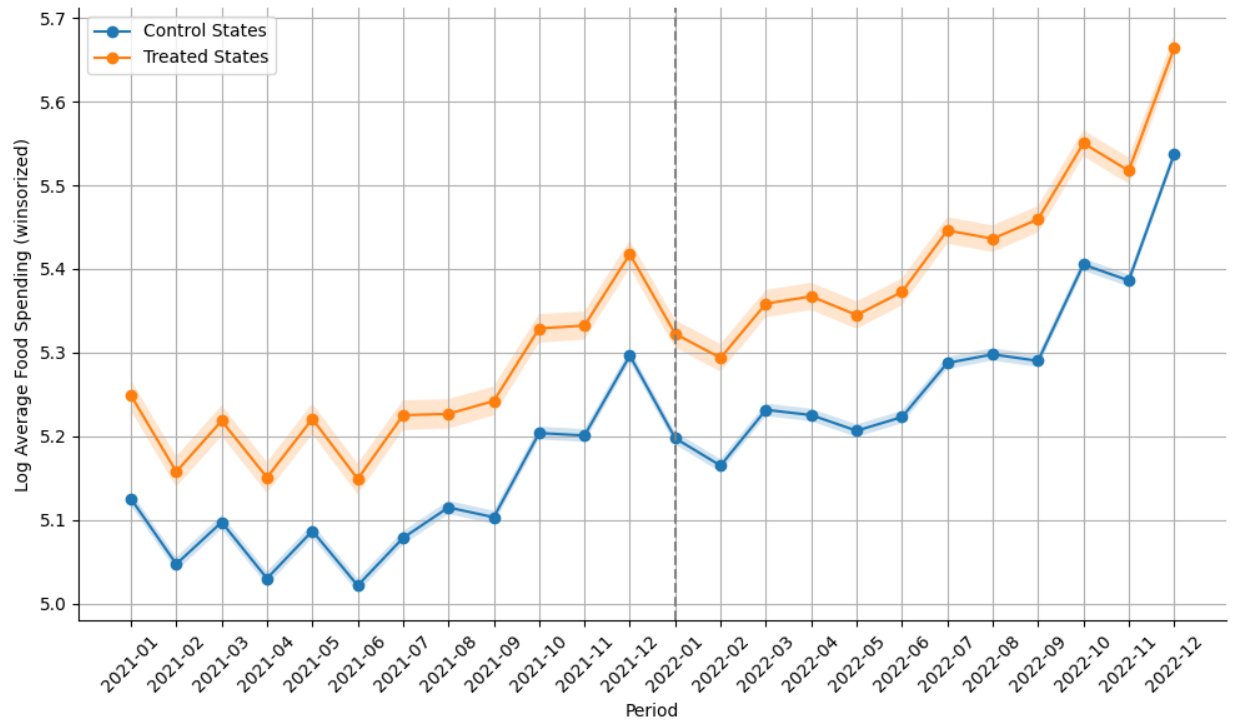Figure 3: Monthly Average of Food Spending on EBT
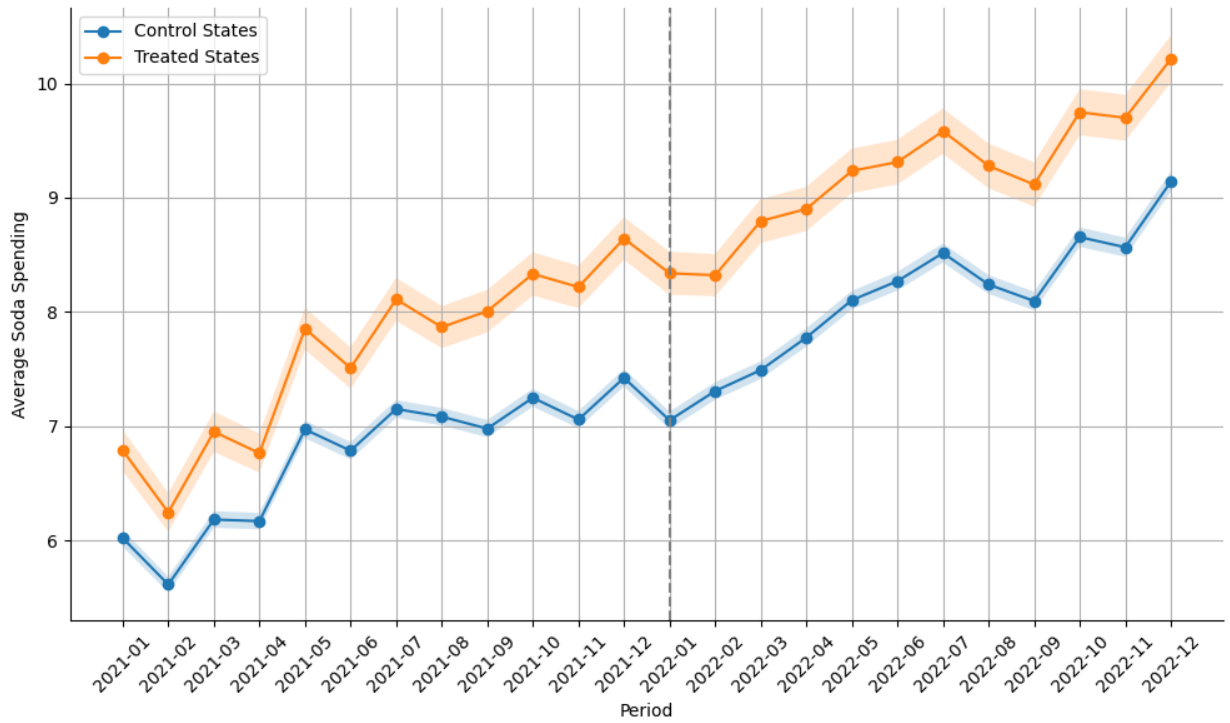
(a) level



(b) log

Figure 4: Monthly Average of Soda Spending
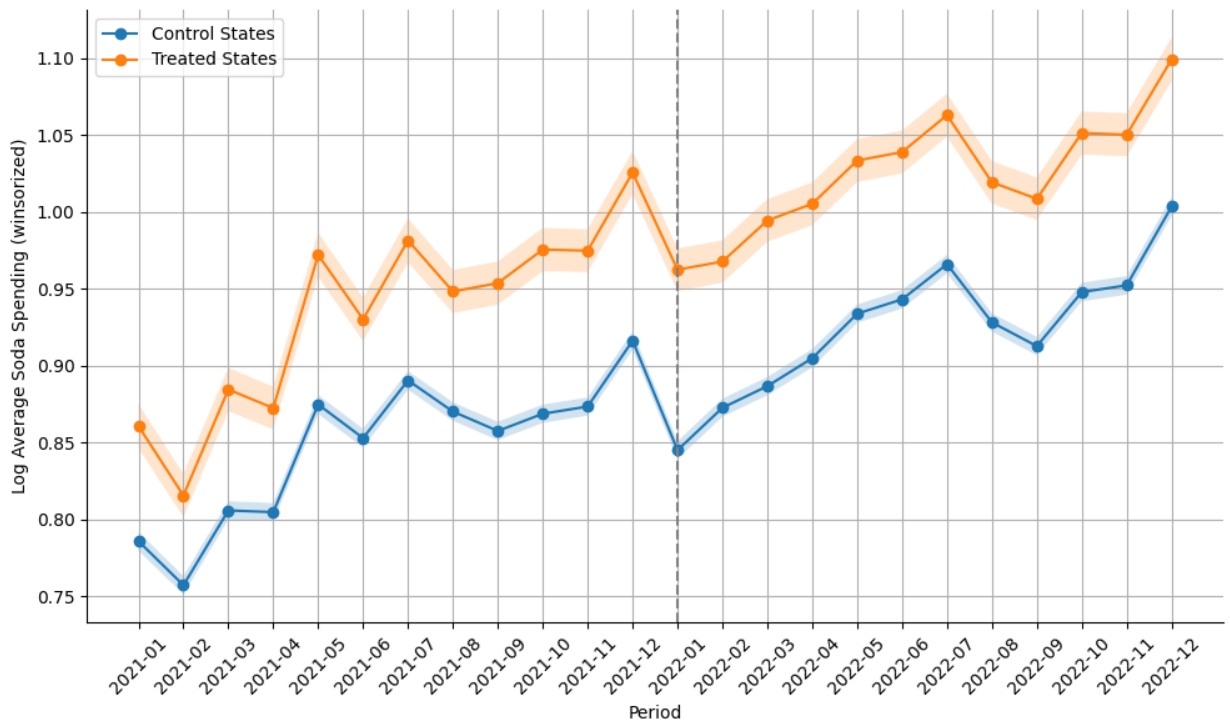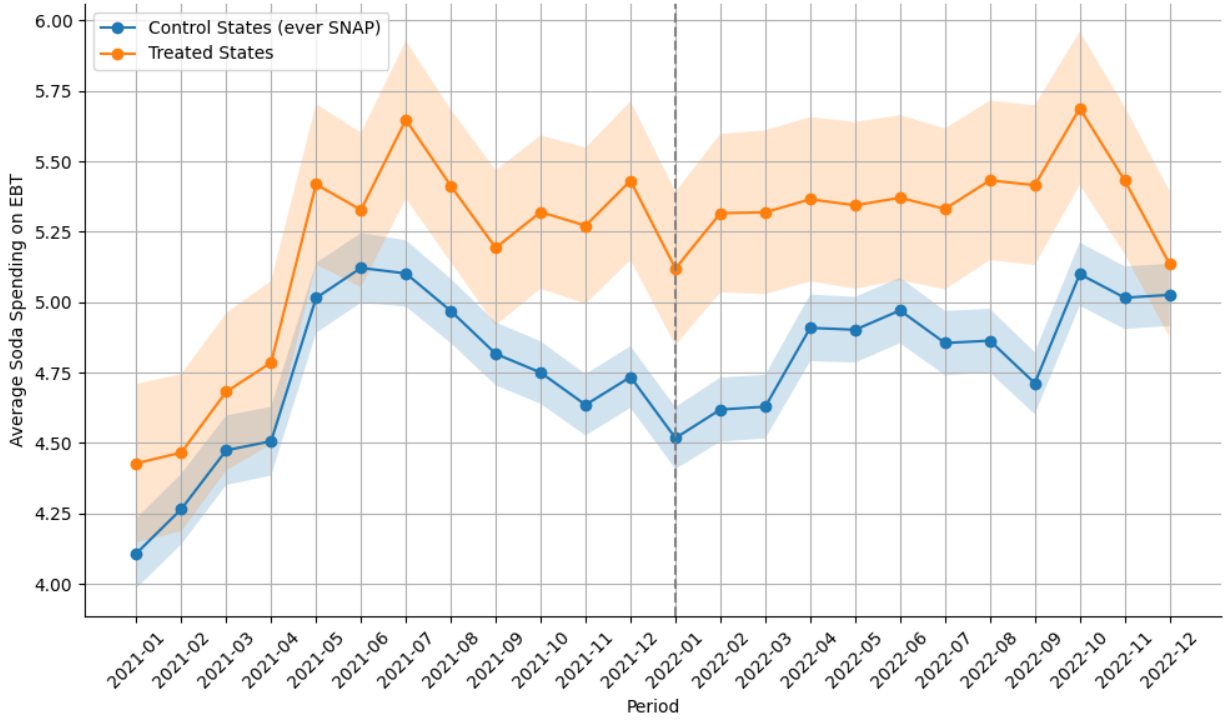
(a) level

(b) log

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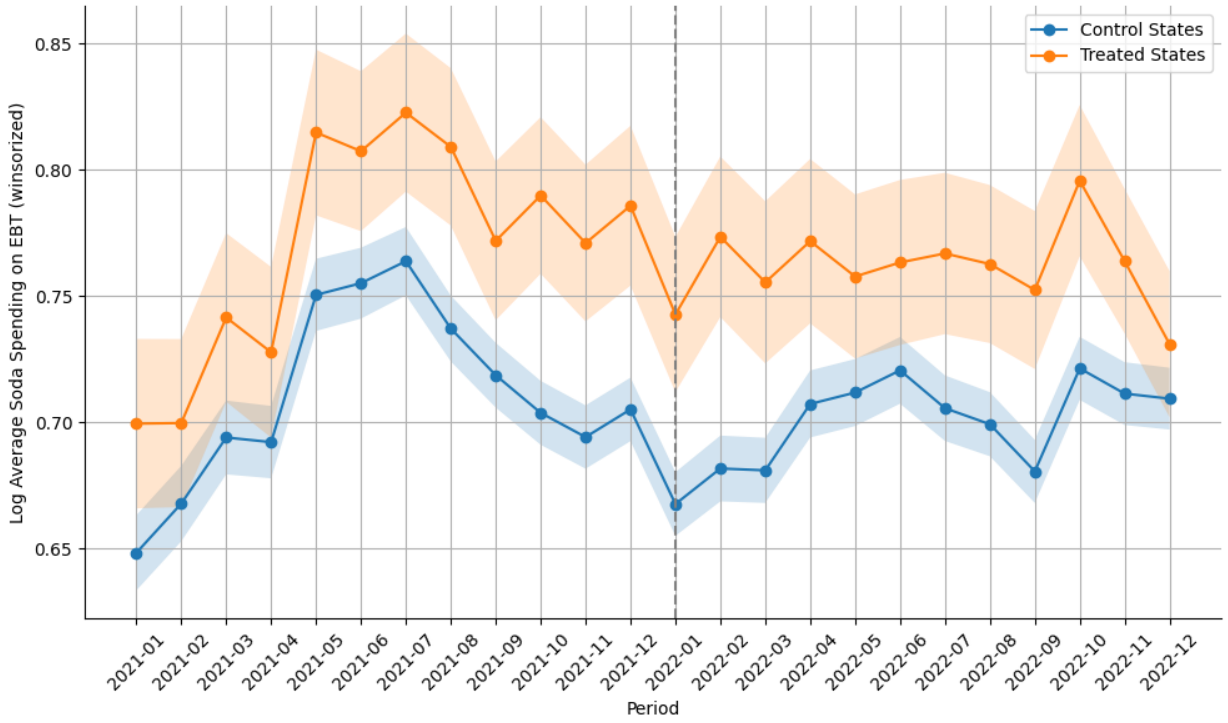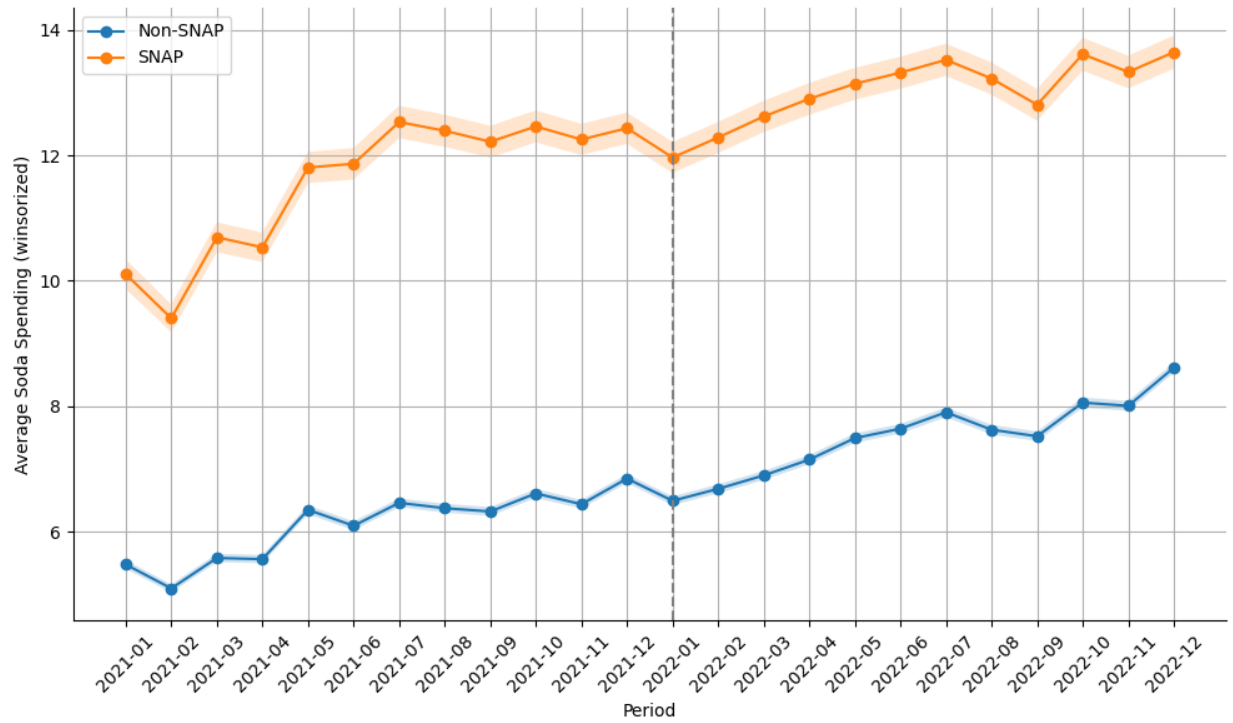
(a) level



(b) log

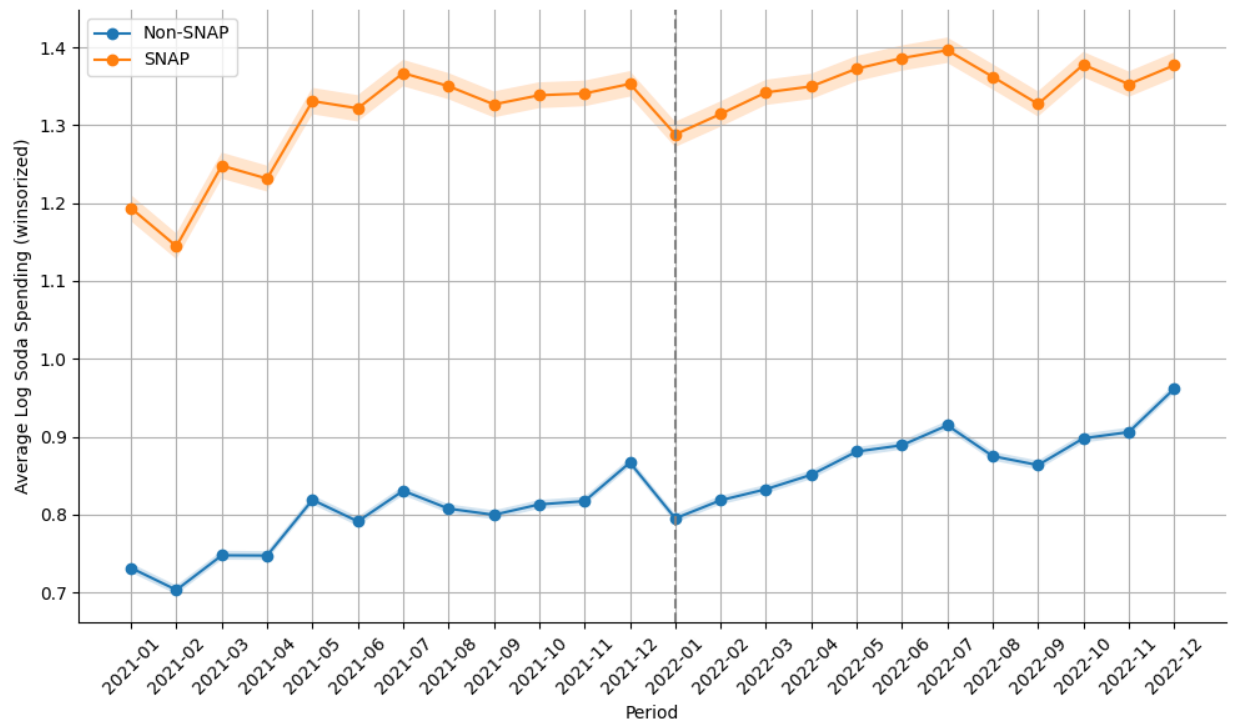Figure 6: Monthly Average of Soda Spending by SNAP/Non-SNAP
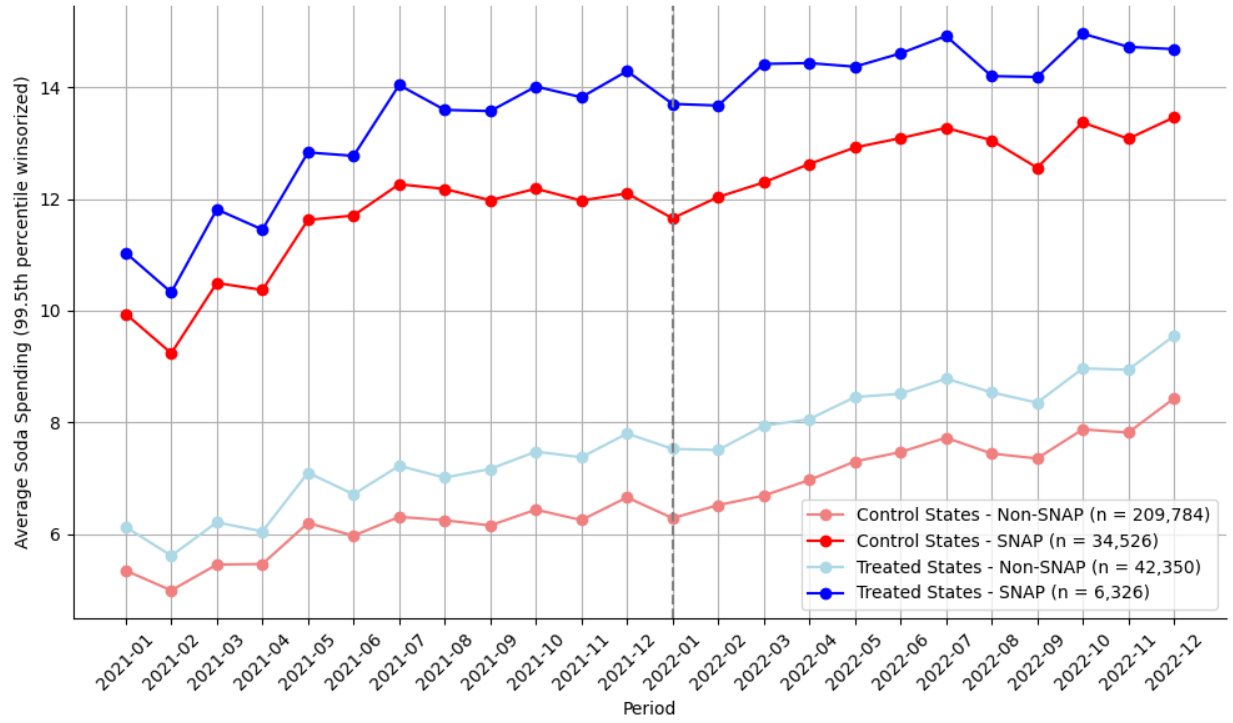
(a) level



(b) log

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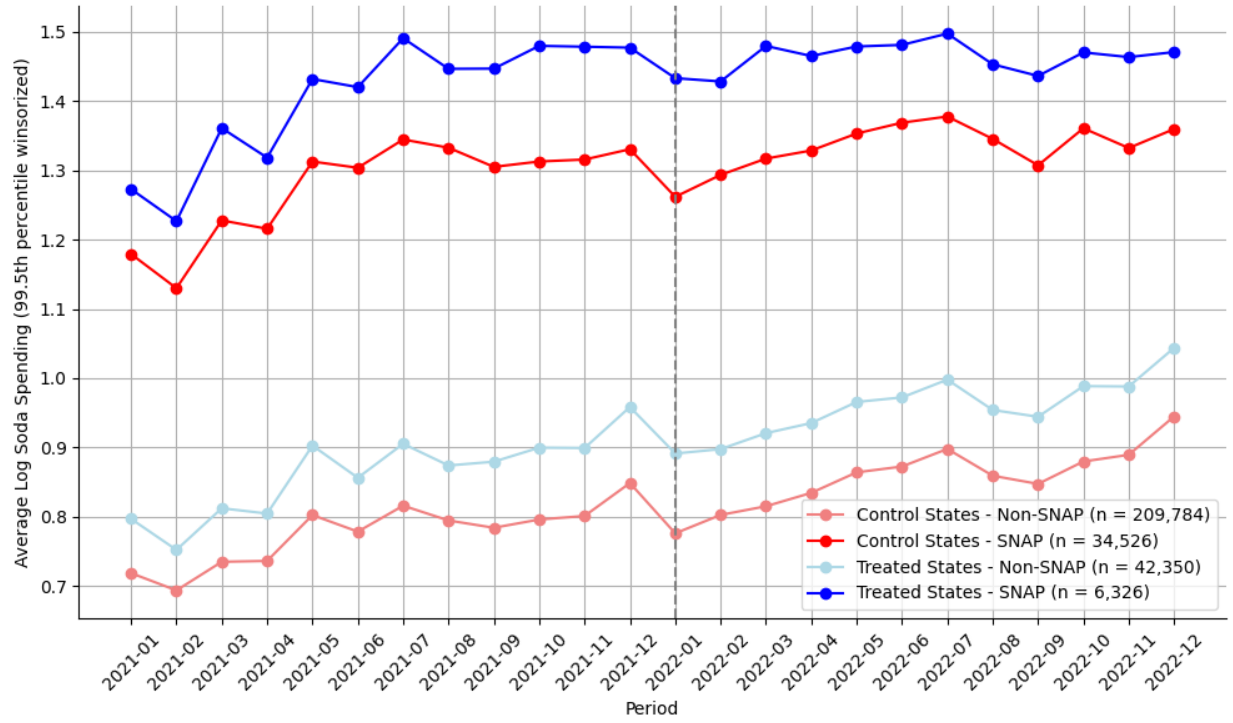
(a) level

(b) log

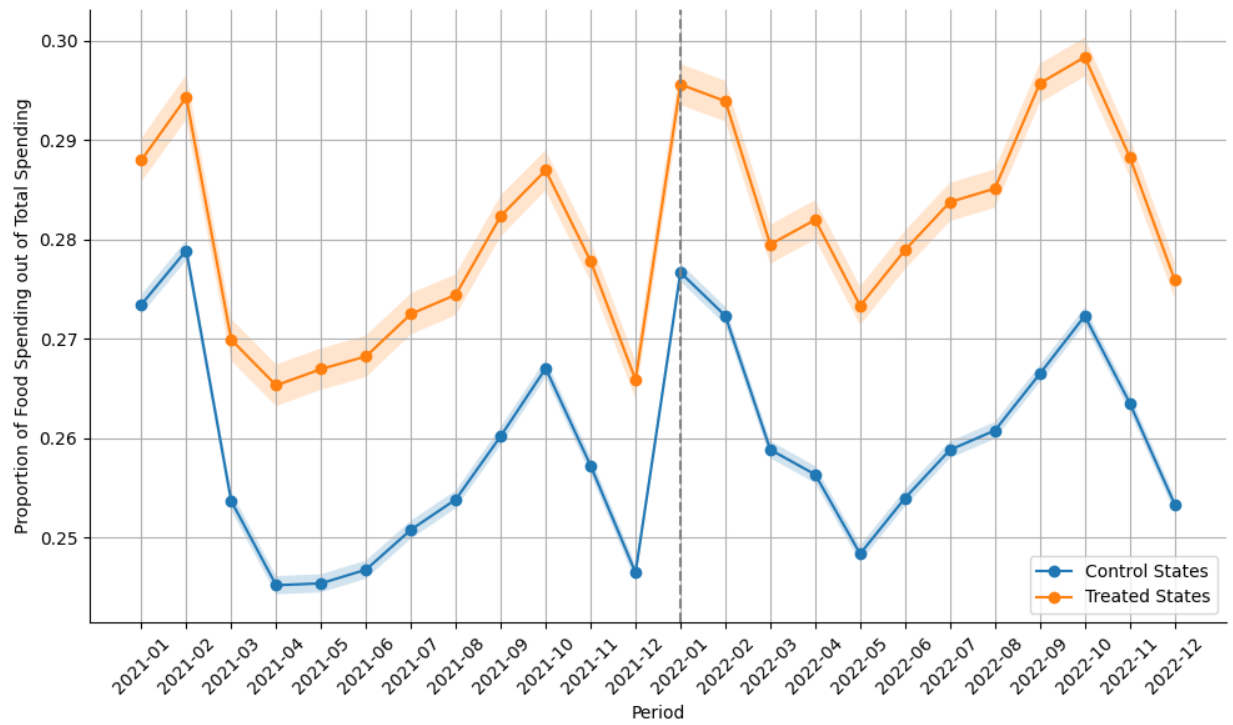Figure 8: Proportion of Food Spending out of Total Spending

Figure 9: Proportion of Food Spending on EBT out of Total Food Spending
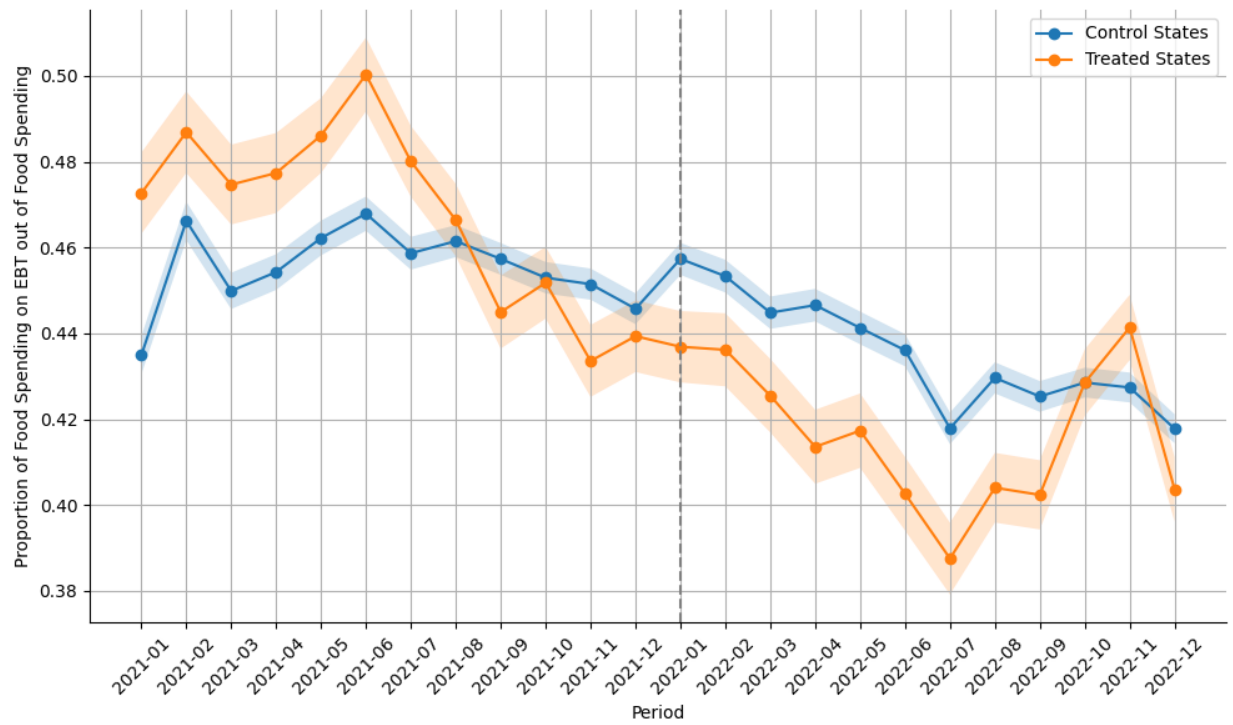
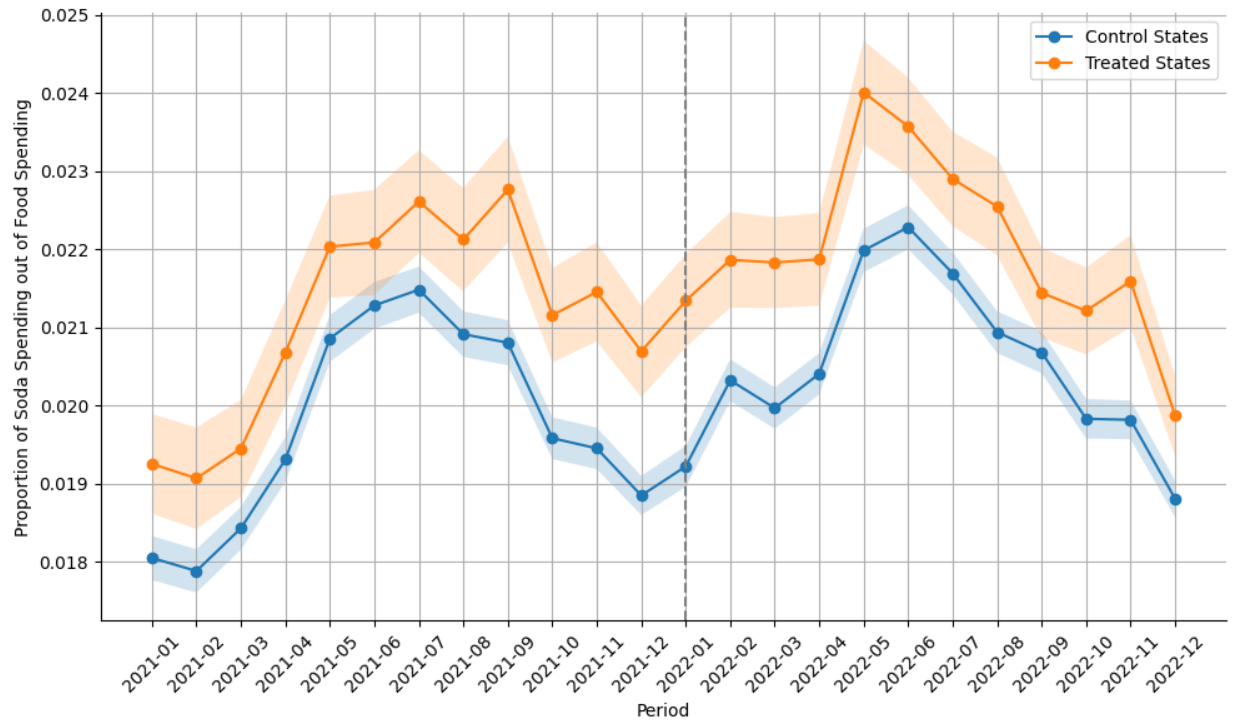Figure 10: Proportion of Soda Spending out of Total Food Spending

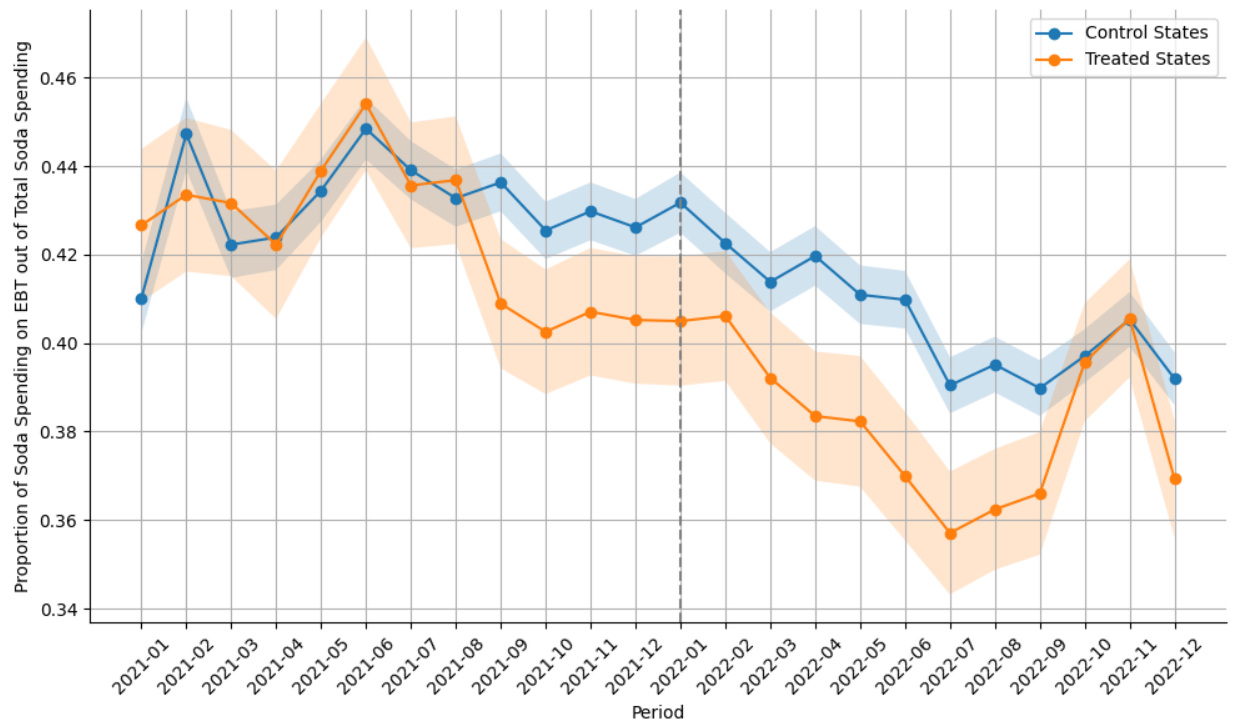Figure 11: Proportion of Soda Spending on EBT out of Total Soda Spending

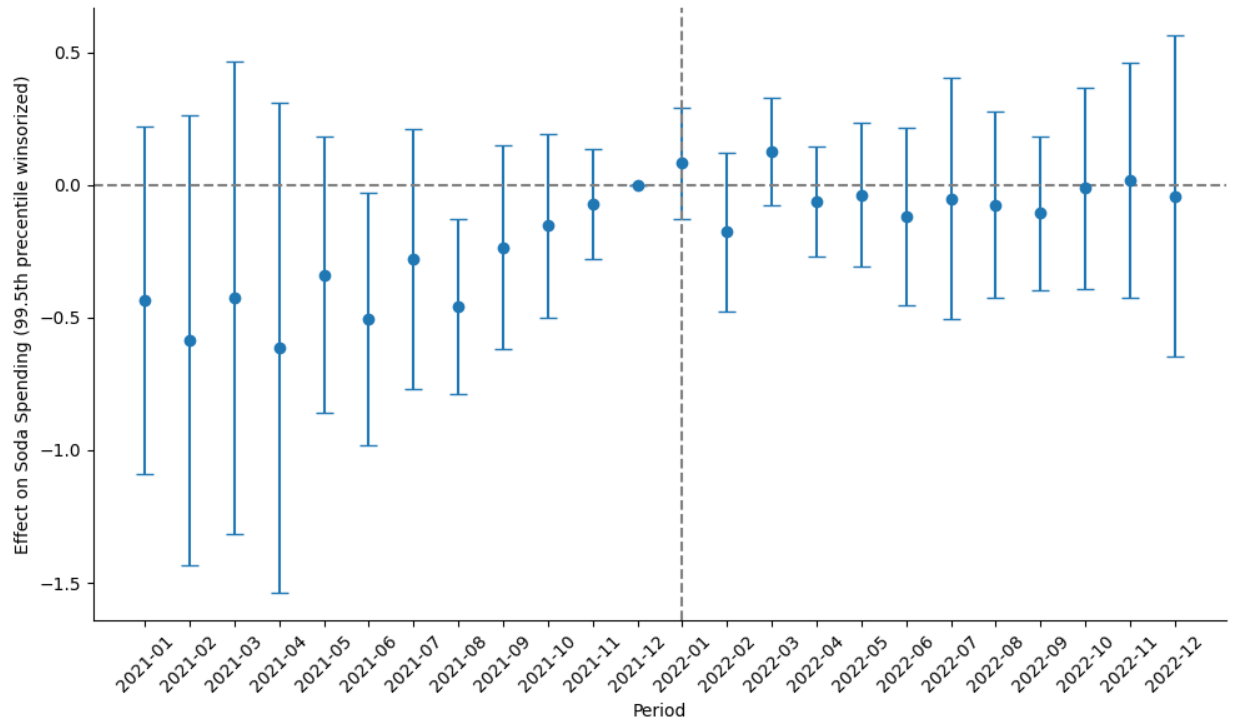# Figure 12: Event Study - TWFE

## (a) level



## (b) log

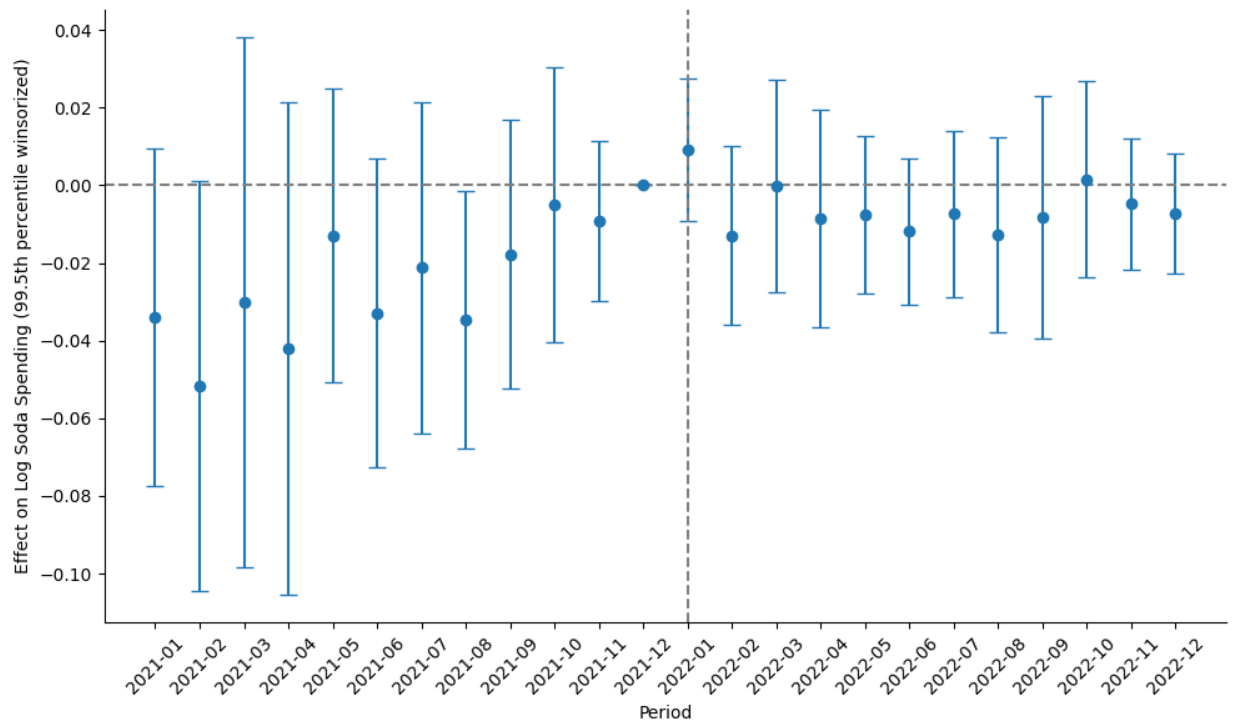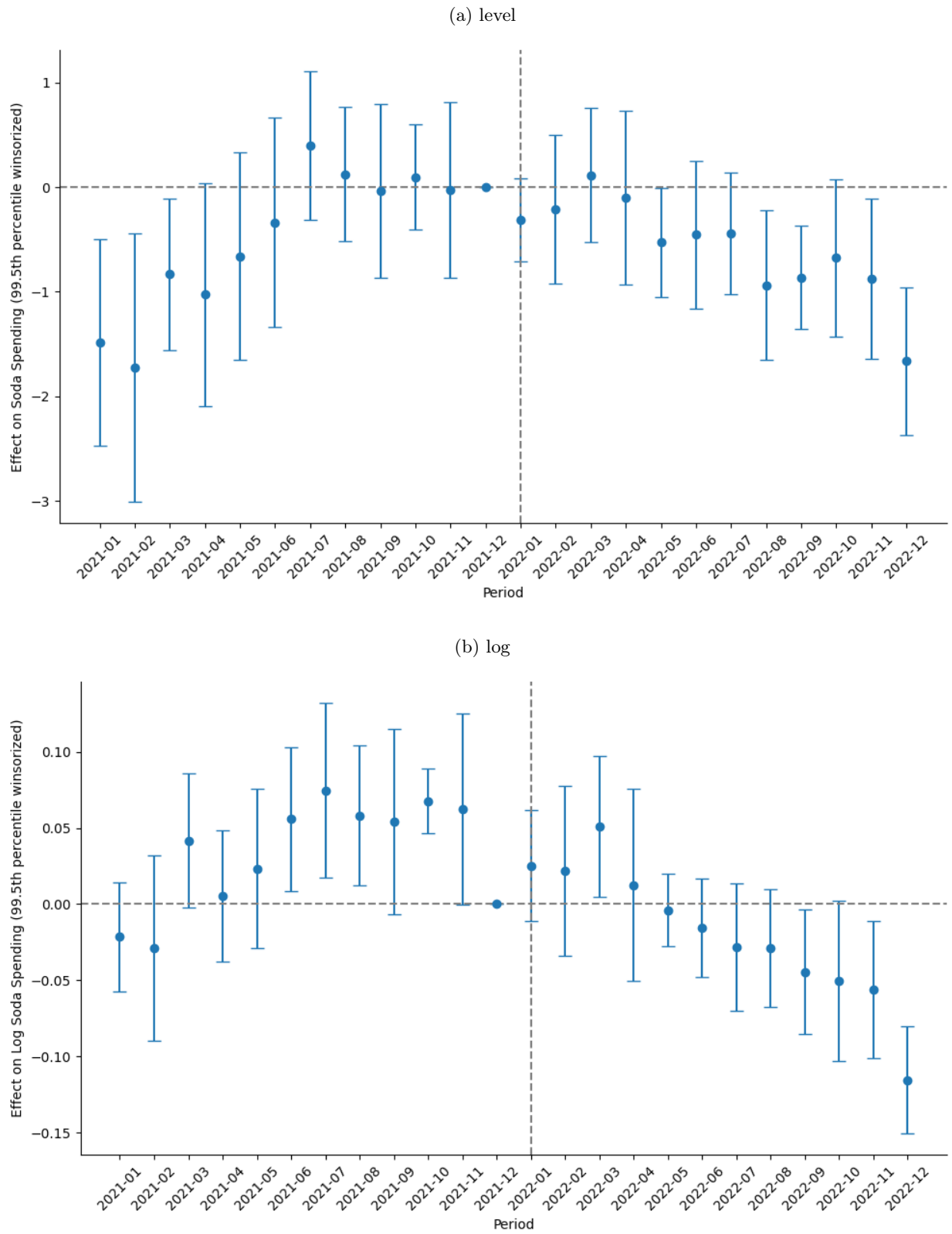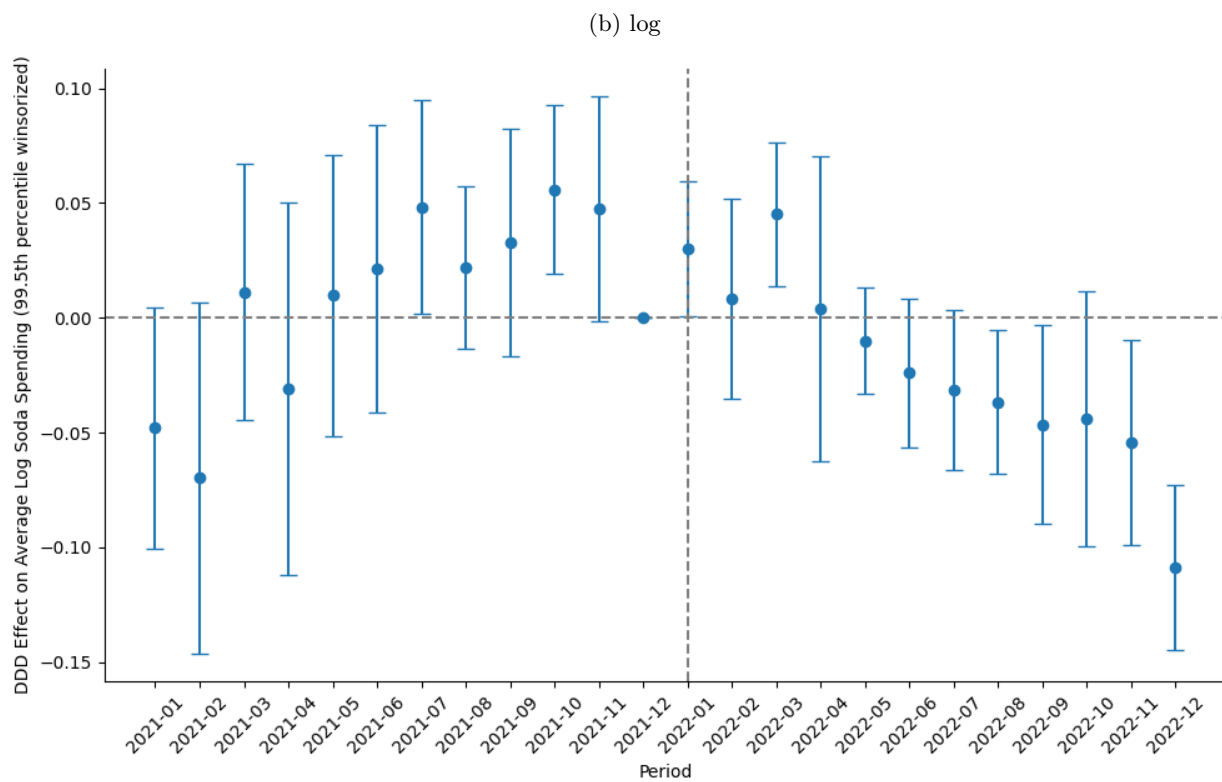Figure 13: Event Study - TWFE (Treatment Assignment = SNAP/Non-SNAP) within treated states

(a) level



(b) log

# Figure 14: Event Study - DDD

## (a) level



## (b) log
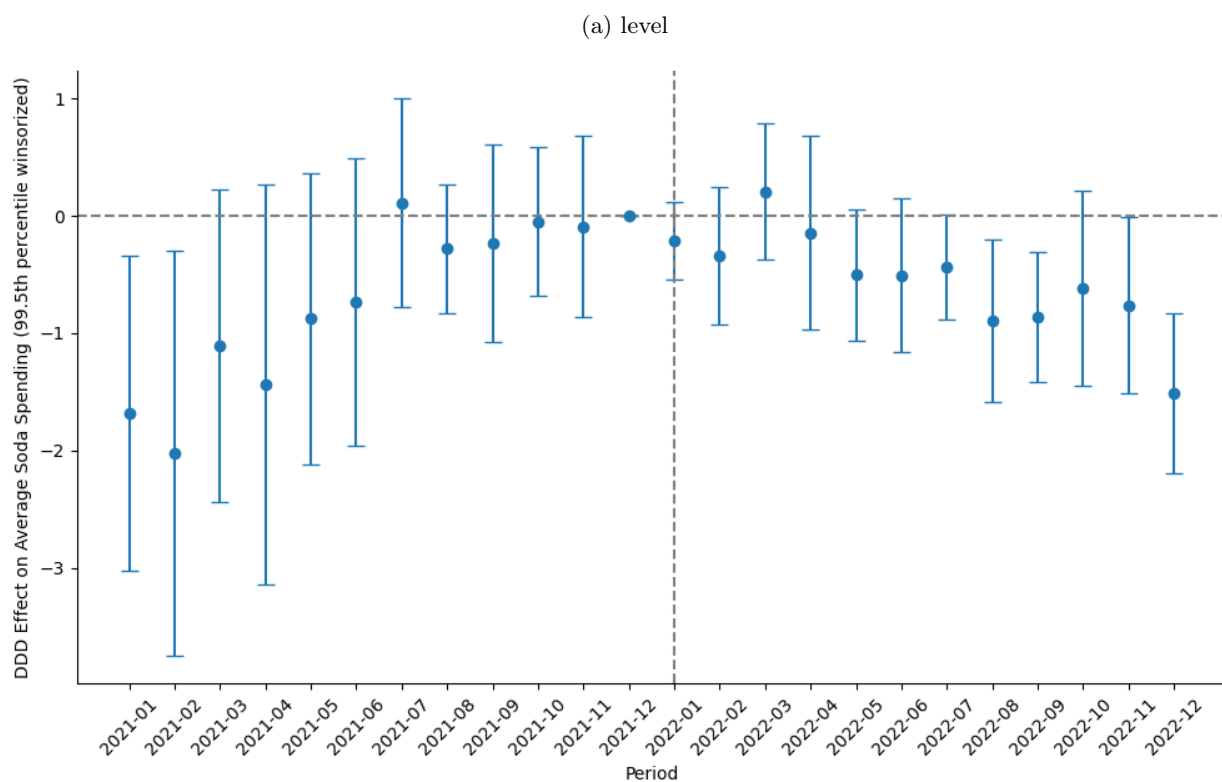
Table 1: Model Estimates

| Term | TWFE | TWFE Log | TWFE | TWFE Log | DDD | DDD Log |
|---|---|---|---|---|---|---|
| Post | 1.4469*** (0.1295) | 0.0871*** (0.0062) | 1.7569*** (0.2563) | 0.1114*** (0.0120) | 1.4920*** (0.1183) | 0.0907*** (0.0058) |
| State × Post | 0.2907 (0.3034) | 0.0174 (0.0139) | | | | |
| SNAP × Post | | | -0.1483 (0.2494) | -0.0523*** (0.0098) | | |
| State × SNAP × Post | | | | | 0.1166 (0.4286) | -0.0316** (0.0153) |
| N | 5,879,887 | 5,879,887 | 966,630 | 966,630 | 5,879,887 | 5,879,887 |
| $R^2$ | 0.0034 | 0.0019 | 0.0040 | 0.0025 | 0.0034 | 0.0019 |
| User FE | Yes | Yes | Yes | Yes | Yes | Yes |
| Period FE | No | No | No | No | No | No |
| SE Cluster | state | state | state | state | state | state |