COVID Child Maltreatment Study: Practice analysis using Abouk and Adams 2013 data provided by Corinne

Research Question: Are state level strong bans on texting while driving associated with single-vehicle, single occupant accidents. (Note: for this practice analysis, I’m only looking at strong bans [with primary enforcement] and not including time-varying confounders or population weights for simplicity.)

Unit of analysis: state-month

1. Descriptives for context (note: copied from Corinne’s write-up):

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  |  |  | **Treatment States** | | |
|  | **Control States** |  | **All months** | **Pre-ban** | **Post-ban** |
| **N** | 1056 |  | 1296 | 894 | 402 |
| **Number of single-vehicle, single-occupant accidents** | 16.84 |  | 16.13 | 16.12 | 16.16 |
| **Population (annual)** | 5,157,694 |  | 7,064,738 | 6,614,487 | 8,066,044 |
| **Unemployment rate (monthly)** | 6.51 |  | 6.83 | 6.01 | 8.63 |
| **Proportion male (monthly)** | 0.4932 |  | 0.4934 | 0.4937 | 0.4926 |
| **Real gas tax in 1983 cents (monthly)** | 19.94 |  | 20.57 | 20.50 | 20.73 |

1. Practice analysis results:
   1. Difference-in-differences model with standard approach for multiple groups and time points as described in the Abouk and Adams 2013 analysis and materials shared by Corinne (i.e., fixed effect on state, fixed effect on time (month), and indicator variable for policy indexed by state and time [equivalent to the interaction between state and time in the 2-group, 2-time period DiD scenario])

Graphical user interface, text

Description automatically generated

* 1. vs. Conditional FE approach for multiple groups and time points (i.e., conditioned on the state (indicator variables for state seen as nuisance parameters and not directly estimated), fixed effect on time (month), and indicator variable for policy indexed by time)

Graphical user interface, text, application

Description automatically generated

* + 1. Results for coefficients of interest only:

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
| VARIABLES | Standard Model | Conditional FE Model |
|  |  |  |
| Strongban (policy indicator) | -0.0140 | -0.0140 |
|  | (-0.113 - 0.0849) | (-0.112 - 0.0838) |
|  |  |  |
| Constant | 3.046\*\*\* | 2.311\*\*\* |
|  | (2.933 - 3.159) | (2.195 - 2.426) |
|  |  |  |
| Observations | 2,352 | 2,352 |
| R-squared | 0.867 | 0.236 |
| State FE | YES | Conditional |
| Month FE | YES | YES |
| Number of state |  | 49 |

Robust ci in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

1. Full table results:

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
| VARIABLES | Standard Model | Conditional FE Model |
|  |  |  |
| laccsvso (outcome) |  |  |
|  | ( - ) | ( - ) |
| Strongban (policy indicator) | -0.0140 | -0.0140 |
|  | (-0.113 - 0.0849) | (-0.112 - 0.0838) |
| 4.state (state FE) | -0.541\*\*\* |  |
|  | (-0.541 - -0.541) |  |
| 5.state | -0.393\*\*\* |  |
|  | (-0.424 - -0.362) |  |
| 6.state | 0.872\*\*\* |  |
|  | (0.823 - 0.922) |  |
| 8.state | -0.827\*\*\* |  |
|  | (-0.854 - -0.800) |  |
| 9.state | -1.211\*\*\* |  |
|  | (-1.218 - -1.205) |  |
| 10.state | -2.112\*\*\* |  |
|  | (-2.112 - -2.112) |  |
| 12.state | 0.666\*\*\* |  |
|  | (0.666 - 0.666) |  |
| 13.state | 0.266\*\*\* |  |
|  | (0.254 - 0.279) |  |
| 15.state | -2.113\*\*\* |  |
|  | (-2.113 - -2.113) |  |
| 16.state | -1.449\*\*\* |  |
|  | (-1.449 - -1.449) |  |
| 17.state | -0.185\*\*\* |  |
|  | (-0.209 - -0.160) |  |
| 18.state | -0.290\*\*\* |  |
|  | (-0.290 - -0.290) |  |
| 19.state | -0.951\*\*\* |  |
|  | (-0.951 - -0.951) |  |
| 20.state | -0.897\*\*\* |  |
|  | (-0.897 - -0.897) |  |
| 21.state | -0.177\*\*\* |  |
|  | (-0.177 - -0.177) |  |
| 22.state | -0.185\*\*\* |  |
|  | (-0.247 - -0.123) |  |
| 23.state | -1.628\*\*\* |  |
|  | (-1.628 - -1.628) |  |
| 24.state | -0.762\*\*\* |  |
|  | (-0.793 - -0.731) |  |
| 25.state | -0.960\*\*\* |  |
|  | (-0.966 - -0.953) |  |
| 26.state | -0.286\*\*\* |  |
|  | (-0.298 - -0.273) |  |
| 27.state | -0.968\*\*\* |  |
|  | (-1.028 - -0.908) |  |
| 28.state | -0.136\*\*\* |  |
|  | (-0.136 - -0.136) |  |
| 29.state | -0.0586\*\*\* |  |
|  | (-0.0586 - -0.0586) |  |
| 30.state | -1.417\*\*\* |  |
|  | (-1.417 - -1.417) |  |
| 31.state | -1.460\*\*\* |  |
|  | (-1.460 - -1.460) |  |
| 32.state | -1.406\*\*\* |  |
|  | (-1.406 - -1.406) |  |
| 33.state | -1.947\*\*\* |  |
|  | (-1.972 - -1.922) |  |
| 34.state | -0.750\*\*\* |  |
|  | (-0.821 - -0.680) |  |
| 35.state | -1.159\*\*\* |  |
|  | (-1.159 - -1.159) |  |
| 36.state | -0.0745\*\*\* |  |
|  | (-0.0745 - -0.0745) |  |
| 37.state | 0.311\*\*\* |  |
|  | (0.284 - 0.337) |  |
| 38.state | -2.162\*\*\* |  |
|  | (-2.162 - -2.162) |  |
| 39.state | 0.0660\*\*\* |  |
|  | (0.0660 - 0.0660) |  |
| 40.state | -0.343\*\*\* |  |
|  | (-0.343 - -0.343) |  |
| 41.state | -1.049\*\*\* |  |
|  | (-1.074 - -1.024) |  |
| 42.state | 0.293\*\*\* |  |
|  | (0.293 - 0.293) |  |
| 44.state | -2.254\*\*\* |  |
|  | (-2.283 - -2.225) |  |
| 45.state | -0.0136\*\*\* |  |
|  | (-0.0136 - -0.0136) |  |
| 46.state | -1.885\*\*\* |  |
|  | (-1.885 - -1.885) |  |
| 47.state | 0.162\*\*\* |  |
|  | (0.125 - 0.199) |  |
| 48.state | 1.008\*\*\* |  |
|  | (1.008 - 1.008) |  |
| 49.state | -1.597\*\*\* |  |
|  | (-1.638 - -1.555) |  |
| 50.state | -2.320\*\*\* |  |
|  | (-2.335 - -2.306) |  |
| 51.state | -0.0901\*\*\* |  |
|  | (-0.0901 - -0.0901) |  |
| 53.state | -0.714\*\*\* |  |
|  | (-0.714 - -0.714) |  |
| 54.state | -0.793\*\*\* |  |
|  | (-0.793 - -0.793) |  |
| 55.state | -0.488\*\*\* |  |
|  | (-0.490 - -0.486) |  |
| 56.state | -1.617\*\*\* |  |
|  | (-1.629 - -1.604) |  |
| 2.time (time FE) | 0.0551 | 0.0551 |
|  | (-0.0687 - 0.179) | (-0.0674 - 0.178) |
| 3.time | 0.176\*\* | 0.176\*\* |
|  | (0.0298 - 0.323) | (0.0313 - 0.321) |
| 4.time | 0.259\*\*\* | 0.259\*\*\* |
|  | (0.0977 - 0.420) | (0.0994 - 0.418) |
| 5.time | 0.469\*\*\* | 0.469\*\*\* |
|  | (0.343 - 0.595) | (0.344 - 0.594) |
| 6.time | 0.393\*\*\* | 0.393\*\*\* |
|  | (0.252 - 0.535) | (0.253 - 0.533) |
| 7.time | 0.499\*\*\* | 0.499\*\*\* |
|  | (0.372 - 0.627) | (0.373 - 0.626) |
| 8.time | 0.435\*\*\* | 0.435\*\*\* |
|  | (0.257 - 0.614) | (0.258 - 0.612) |
| 9.time | 0.392\*\*\* | 0.392\*\*\* |
|  | (0.243 - 0.540) | (0.245 - 0.539) |
| 10.time | 0.368\*\*\* | 0.368\*\*\* |
|  | (0.235 - 0.501) | (0.237 - 0.500) |
| 11.time | 0.214\*\*\* | 0.214\*\*\* |
|  | (0.0719 - 0.356) | (0.0733 - 0.355) |
| 12.time | 0.100 | 0.100 |
|  | (-0.0493 - 0.250) | (-0.0478 - 0.248) |
| 13.time | 0.00990 | 0.00990 |
|  | (-0.134 - 0.154) | (-0.132 - 0.152) |
| 14.time | -0.0332 | -0.0332 |
|  | (-0.222 - 0.155) | (-0.220 - 0.153) |
| 15.time | 0.0619 | 0.0619 |
|  | (-0.0810 - 0.205) | (-0.0795 - 0.203) |
| 16.time | 0.171\*\* | 0.171\*\* |
|  | (0.0109 - 0.330) | (0.0126 - 0.329) |
| 17.time | 0.247\*\*\* | 0.247\*\*\* |
|  | (0.0983 - 0.395) | (0.0999 - 0.393) |
| 18.time | 0.430\*\*\* | 0.430\*\*\* |
|  | (0.271 - 0.589) | (0.273 - 0.587) |
| 19.time | 0.339\*\*\* | 0.339\*\*\* |
|  | (0.191 - 0.486) | (0.193 - 0.485) |
| 20.time | 0.471\*\*\* | 0.471\*\*\* |
|  | (0.331 - 0.610) | (0.333 - 0.609) |
| 21.time | 0.302\*\*\* | 0.302\*\*\* |
|  | (0.169 - 0.435) | (0.170 - 0.434) |
| 22.time | 0.345\*\*\* | 0.345\*\*\* |
|  | (0.193 - 0.498) | (0.195 - 0.496) |
| 23.time | 0.126\* | 0.126\* |
|  | (-0.00887 - 0.261) | (-0.00746 - 0.260) |
| 24.time | -0.0558 | -0.0558 |
|  | (-0.218 - 0.107) | (-0.217 - 0.105) |
| 25.time | -0.0606 | -0.0606 |
|  | (-0.205 - 0.0843) | (-0.204 - 0.0828) |
| 26.time | -0.0714 | -0.0714 |
|  | (-0.225 - 0.0827) | (-0.224 - 0.0811) |
| 27.time | 0.0508 | 0.0508 |
|  | (-0.111 - 0.213) | (-0.109 - 0.211) |
| 28.time | 0.167\*\* | 0.167\*\* |
|  | (0.00675 - 0.327) | (0.00842 - 0.326) |
| 29.time | 0.250\*\*\* | 0.250\*\*\* |
|  | (0.0860 - 0.415) | (0.0877 - 0.413) |
| 30.time | 0.253\*\*\* | 0.253\*\*\* |
|  | (0.0860 - 0.421) | (0.0877 - 0.419) |
| 31.time | 0.254\*\*\* | 0.254\*\*\* |
|  | (0.123 - 0.385) | (0.124 - 0.384) |
| 32.time | 0.323\*\*\* | 0.323\*\*\* |
|  | (0.178 - 0.468) | (0.180 - 0.467) |
| 33.time | 0.200\*\* | 0.200\*\* |
|  | (0.0367 - 0.363) | (0.0384 - 0.361) |
| 34.time | 0.176\*\* | 0.176\*\* |
|  | (0.0347 - 0.318) | (0.0362 - 0.316) |
| 35.time | 0.0453 | 0.0453 |
|  | (-0.111 - 0.202) | (-0.109 - 0.200) |
| 36.time | -0.0364 | -0.0364 |
|  | (-0.188 - 0.115) | (-0.186 - 0.114) |
| 37.time | -0.170\*\* | -0.170\*\* |
|  | (-0.312 - -0.0274) | (-0.311 - -0.0289) |
| 38.time | -0.451\*\*\* | -0.451\*\*\* |
|  | (-0.630 - -0.272) | (-0.628 - -0.274) |
| 39.time | -0.0313 | -0.0313 |
|  | (-0.215 - 0.153) | (-0.213 - 0.151) |
| 40.time | 0.173\*\* | 0.173\*\* |
|  | (0.0191 - 0.328) | (0.0207 - 0.326) |
| 41.time | 0.209\*\* | 0.209\*\* |
|  | (0.0413 - 0.377) | (0.0431 - 0.375) |
| 42.time | 0.239\*\*\* | 0.239\*\*\* |
|  | (0.0856 - 0.392) | (0.0872 - 0.390) |
| 43.time | 0.302\*\*\* | 0.302\*\*\* |
|  | (0.169 - 0.434) | (0.170 - 0.433) |
| 44.time | 0.231\*\*\* | 0.231\*\*\* |
|  | (0.0977 - 0.365) | (0.0991 - 0.364) |
| 45.time | 0.232\*\*\* | 0.232\*\*\* |
|  | (0.0739 - 0.391) | (0.0756 - 0.389) |
| 46.time | 0.245\*\*\* | 0.245\*\*\* |
|  | (0.0707 - 0.419) | (0.0726 - 0.418) |
| 47.time | 0.0508 | 0.0508 |
|  | (-0.116 - 0.217) | (-0.114 - 0.215) |
| 48.time | -0.0347 | -0.0347 |
|  | (-0.182 - 0.113) | (-0.181 - 0.111) |
| Constant | 3.046\*\*\* | 2.311\*\*\* |
|  | (2.933 - 3.159) | (2.195 - 2.426) |
|  |  |  |
| Observations | 2,352 | 2,352 |
| R-squared | 0.867 | 0.236 |
| Number of state |  | 49 |

Robust ci in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Examining effects over different post-intervention time periods of strong bans (as we’re proposing to do) – I created 6-month windows (monthly effects were too imprecise so aggregated up to 6-month intervals)

* Results for coefficients of interest only:

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
| VARIABLES | Standard Model | Conditional FE Model |
|  |  |  |
| 1.halfyrsafter | 0.0198 | 0.0198 |
|  | (-0.105 - 0.145) | (-0.104 - 0.143) |
| 2.halfyrsafter | -0.00471 | -0.00471 |
|  | (-0.126 - 0.116) | (-0.124 - 0.115) |
| 3.halfyrsafter | -0.0776 | -0.0776 |
|  | (-0.191 - 0.0363) | (-0.190 - 0.0351) |
| 4.halfyrsafter | -0.192\*\*\* | -0.192\*\*\* |
|  | (-0.308 - -0.0753) | (-0.307 - -0.0765) |
| 5.halfyrsafter | -0.275\*\*\* | -0.275\*\*\* |
|  | (-0.377 - -0.173) | (-0.376 - -0.174) |
| 6.halfyrsafter | -0.229\*\*\* | -0.229\*\*\* |
|  | (-0.301 - -0.156) | (-0.301 - -0.157) |
| Constant | 3.043\*\*\* | 2.311\*\*\* |
|  | (2.930 - 3.156) | (2.196 - 2.426) |
|  |  |  |
| Observations | 2,352 | 2,352 |
| R-squared | 0.868 | 0.241 |
| State FE | YES | Conditional |
| Month FE | YES | YES |
| Number of state |  | 49 |

Robust ci in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

* Full table results:

|  |  |  |
| --- | --- | --- |
|  | (1) | (2) |
| VARIABLES | Standard Model | Conditional FE Model |
|  |  |  |
| laccsvso |  |  |
|  | ( - ) | ( - ) |
| 1.halfyrsafter | 0.0198 | 0.0198 |
|  | (-0.105 - 0.145) | (-0.104 - 0.143) |
| 2.halfyrsafter | -0.00471 | -0.00471 |
|  | (-0.126 - 0.116) | (-0.124 - 0.115) |
| 3.halfyrsafter | -0.0776 | -0.0776 |
|  | (-0.191 - 0.0363) | (-0.190 - 0.0351) |
| 4.halfyrsafter | -0.192\*\*\* | -0.192\*\*\* |
|  | (-0.308 - -0.0753) | (-0.307 - -0.0765) |
| 5.halfyrsafter | -0.275\*\*\* | -0.275\*\*\* |
|  | (-0.377 - -0.173) | (-0.376 - -0.174) |
| 6.halfyrsafter | -0.229\*\*\* | -0.229\*\*\* |
|  | (-0.301 - -0.156) | (-0.301 - -0.157) |
| 4.state | -0.541\*\*\* |  |
|  | (-0.541 - -0.541) |  |
| 5.state | -0.395\*\*\* |  |
|  | (-0.423 - -0.366) |  |
| 6.state | 0.897\*\*\* |  |
|  | (0.859 - 0.935) |  |
| 8.state | -0.831\*\*\* |  |
|  | (-0.858 - -0.805) |  |
| 9.state | -1.214\*\*\* |  |
|  | (-1.221 - -1.206) |  |
| 10.state | -2.112\*\*\* |  |
|  | (-2.112 - -2.112) |  |
| 12.state | 0.666\*\*\* |  |
|  | (0.666 - 0.666) |  |
| 13.state | 0.262\*\*\* |  |
|  | (0.246 - 0.278) |  |
| 15.state | -2.113\*\*\* |  |
|  | (-2.113 - -2.113) |  |
| 16.state | -1.449\*\*\* |  |
|  | (-1.449 - -1.449) |  |
| 17.state | -0.190\*\*\* |  |
|  | (-0.216 - -0.164) |  |
| 18.state | -0.290\*\*\* |  |
|  | (-0.290 - -0.290) |  |
| 19.state | -0.951\*\*\* |  |
|  | (-0.951 - -0.951) |  |
| 20.state | -0.897\*\*\* |  |
|  | (-0.897 - -0.897) |  |
| 21.state | -0.177\*\*\* |  |
|  | (-0.177 - -0.177) |  |
| 22.state | -0.127\*\*\* |  |
|  | (-0.174 - -0.0808) |  |
| 23.state | -1.628\*\*\* |  |
|  | (-1.628 - -1.628) |  |
| 24.state | -0.764\*\*\* |  |
|  | (-0.792 - -0.735) |  |
| 25.state | -0.962\*\*\* |  |
|  | (-0.969 - -0.954) |  |
| 26.state | -0.290\*\*\* |  |
|  | (-0.306 - -0.274) |  |
| 27.state | -0.916\*\*\* |  |
|  | (-0.961 - -0.871) |  |
| 28.state | -0.136\*\*\* |  |
|  | (-0.136 - -0.136) |  |
| 29.state | -0.0586\*\*\* |  |
|  | (-0.0586 - -0.0586) |  |
| 30.state | -1.417\*\*\* |  |
|  | (-1.417 - -1.417) |  |
| 31.state | -1.460\*\*\* |  |
|  | (-1.460 - -1.460) |  |
| 32.state | -1.406\*\*\* |  |
|  | (-1.406 - -1.406) |  |
| 33.state | -1.952\*\*\* |  |
|  | (-1.978 - -1.926) |  |
| 34.state | -0.675\*\*\* |  |
|  | (-0.726 - -0.624) |  |
| 35.state | -1.159\*\*\* |  |
|  | (-1.159 - -1.159) |  |
| 36.state | -0.0745\*\*\* |  |
|  | (-0.0745 - -0.0745) |  |
| 37.state | 0.307\*\*\* |  |
|  | (0.280 - 0.333) |  |
| 38.state | -2.162\*\*\* |  |
|  | (-2.162 - -2.162) |  |
| 39.state | 0.0660\*\*\* |  |
|  | (0.0660 - 0.0660) |  |
| 40.state | -0.343\*\*\* |  |
|  | (-0.343 - -0.343) |  |
| 41.state | -1.054\*\*\* |  |
|  | (-1.080 - -1.028) |  |
| 42.state | 0.293\*\*\* |  |
|  | (0.293 - 0.293) |  |
| 44.state | -2.257\*\*\* |  |
|  | (-2.285 - -2.229) |  |
| 45.state | -0.0136\*\*\* |  |
|  | (-0.0136 - -0.0136) |  |
| 46.state | -1.885\*\*\* |  |
|  | (-1.885 - -1.885) |  |
| 47.state | 0.164\*\*\* |  |
|  | (0.132 - 0.197) |  |
| 48.state | 1.008\*\*\* |  |
|  | (1.008 - 1.008) |  |
| 49.state | -1.587\*\*\* |  |
|  | (-1.621 - -1.553) |  |
| 50.state | -2.325\*\*\* |  |
|  | (-2.341 - -2.308) |  |
| 51.state | -0.0901\*\*\* |  |
|  | (-0.0901 - -0.0901) |  |
| 53.state | -0.714\*\*\* |  |
|  | (-0.714 - -0.714) |  |
| 54.state | -0.793\*\*\* |  |
|  | (-0.793 - -0.793) |  |
| 55.state | -0.489\*\*\* |  |
|  | (-0.491 - -0.486) |  |
| 56.state | -1.621\*\*\* |  |
|  | (-1.637 - -1.605) |  |
| 2.time | 0.0551 | 0.0551 |
|  | (-0.0688 - 0.179) | (-0.0675 - 0.178) |
| 3.time | 0.176\*\* | 0.176\*\* |
|  | (0.0296 - 0.323) | (0.0312 - 0.322) |
| 4.time | 0.259\*\*\* | 0.259\*\*\* |
|  | (0.0976 - 0.420) | (0.0993 - 0.418) |
| 5.time | 0.469\*\*\* | 0.469\*\*\* |
|  | (0.343 - 0.595) | (0.344 - 0.594) |
| 6.time | 0.393\*\*\* | 0.393\*\*\* |
|  | (0.251 - 0.535) | (0.253 - 0.534) |
| 7.time | 0.499\*\*\* | 0.499\*\*\* |
|  | (0.372 - 0.627) | (0.373 - 0.626) |
| 8.time | 0.435\*\*\* | 0.435\*\*\* |
|  | (0.256 - 0.614) | (0.258 - 0.612) |
| 9.time | 0.392\*\*\* | 0.392\*\*\* |
|  | (0.243 - 0.541) | (0.245 - 0.539) |
| 10.time | 0.368\*\*\* | 0.368\*\*\* |
|  | (0.235 - 0.502) | (0.237 - 0.500) |
| 11.time | 0.214\*\*\* | 0.214\*\*\* |
|  | (0.0717 - 0.356) | (0.0732 - 0.355) |
| 12.time | 0.100 | 0.100 |
|  | (-0.0495 - 0.250) | (-0.0479 - 0.249) |
| 13.time | 0.00990 | 0.00990 |
|  | (-0.134 - 0.154) | (-0.133 - 0.152) |
| 14.time | -0.0332 | -0.0332 |
|  | (-0.222 - 0.155) | (-0.220 - 0.153) |
| 15.time | 0.0612 | 0.0612 |
|  | (-0.0822 - 0.205) | (-0.0807 - 0.203) |
| 16.time | 0.170\*\* | 0.170\*\* |
|  | (0.00994 - 0.330) | (0.0116 - 0.328) |
| 17.time | 0.246\*\*\* | 0.246\*\*\* |
|  | (0.0973 - 0.394) | (0.0989 - 0.393) |
| 18.time | 0.429\*\*\* | 0.429\*\*\* |
|  | (0.270 - 0.588) | (0.272 - 0.586) |
| 19.time | 0.337\*\*\* | 0.337\*\*\* |
|  | (0.190 - 0.485) | (0.191 - 0.483) |
| 20.time | 0.469\*\*\* | 0.469\*\*\* |
|  | (0.329 - 0.608) | (0.331 - 0.607) |
| 21.time | 0.300\*\*\* | 0.300\*\*\* |
|  | (0.166 - 0.435) | (0.168 - 0.433) |
| 22.time | 0.344\*\*\* | 0.344\*\*\* |
|  | (0.192 - 0.496) | (0.193 - 0.495) |
| 23.time | 0.125\* | 0.125\* |
|  | (-0.0104 - 0.260) | (-0.00898 - 0.258) |
| 24.time | -0.0574 | -0.0574 |
|  | (-0.220 - 0.105) | (-0.218 - 0.103) |
| 25.time | -0.0624 | -0.0624 |
|  | (-0.208 - 0.0828) | (-0.206 - 0.0813) |
| 26.time | -0.0726 | -0.0726 |
|  | (-0.226 - 0.0811) | (-0.225 - 0.0794) |
| 27.time | 0.0510 | 0.0510 |
|  | (-0.111 - 0.213) | (-0.109 - 0.211) |
| 28.time | 0.167\*\* | 0.167\*\* |
|  | (0.00620 - 0.328) | (0.00789 - 0.327) |
| 29.time | 0.250\*\*\* | 0.250\*\*\* |
|  | (0.0854 - 0.414) | (0.0871 - 0.413) |
| 30.time | 0.253\*\*\* | 0.253\*\*\* |
|  | (0.0856 - 0.420) | (0.0874 - 0.418) |
| 31.time | 0.255\*\*\* | 0.255\*\*\* |
|  | (0.122 - 0.387) | (0.124 - 0.386) |
| 32.time | 0.326\*\*\* | 0.326\*\*\* |
|  | (0.181 - 0.470) | (0.182 - 0.469) |
| 33.time | 0.204\*\* | 0.204\*\* |
|  | (0.0409 - 0.368) | (0.0426 - 0.366) |
| 34.time | 0.180\*\* | 0.180\*\* |
|  | (0.0372 - 0.322) | (0.0387 - 0.320) |
| 35.time | 0.0484 | 0.0484 |
|  | (-0.109 - 0.206) | (-0.107 - 0.204) |
| 36.time | -0.0347 | -0.0347 |
|  | (-0.187 - 0.118) | (-0.185 - 0.116) |
| 37.time | -0.166\*\* | -0.166\*\* |
|  | (-0.310 - -0.0221) | (-0.308 - -0.0236) |
| 38.time | -0.444\*\*\* | -0.444\*\*\* |
|  | (-0.623 - -0.266) | (-0.621 - -0.268) |
| 39.time | -0.0233 | -0.0233 |
|  | (-0.207 - 0.160) | (-0.205 - 0.158) |
| 40.time | 0.182\*\* | 0.182\*\* |
|  | (0.0278 - 0.337) | (0.0294 - 0.335) |
| 41.time | 0.220\*\* | 0.220\*\* |
|  | (0.0504 - 0.389) | (0.0522 - 0.388) |
| 42.time | 0.250\*\*\* | 0.250\*\*\* |
|  | (0.0959 - 0.404) | (0.0975 - 0.402) |
| 43.time | 0.318\*\*\* | 0.318\*\*\* |
|  | (0.185 - 0.450) | (0.187 - 0.449) |
| 44.time | 0.249\*\*\* | 0.249\*\*\* |
|  | (0.114 - 0.385) | (0.115 - 0.383) |
| 45.time | 0.249\*\*\* | 0.249\*\*\* |
|  | (0.0933 - 0.405) | (0.0949 - 0.403) |
| 46.time | 0.264\*\*\* | 0.264\*\*\* |
|  | (0.0873 - 0.440) | (0.0891 - 0.438) |
| 47.time | 0.0732 | 0.0732 |
|  | (-0.0963 - 0.243) | (-0.0945 - 0.241) |
| 48.time | -0.00955 | -0.00955 |
|  | (-0.158 - 0.139) | (-0.156 - 0.137) |
| Constant | 3.043\*\*\* | 2.311\*\*\* |
|  | (2.930 - 3.156) | (2.196 - 2.426) |
|  |  |  |
| Observations | 2,352 | 2,352 |
| R-squared | 0.868 | 0.241 |
| Number of state |  | 49 |

Robust ci in parentheses

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1