The Multi100 Project:

Task 01

17 February 2023

Contents

1 Introduction

This Markdown file contains the code used to replicate the findings presented in the paper "The Beheading of Criminal Organizations and the Dynamics of Violence in Mexico" by Calderón et al. (2015). My analyst ID is `9EFM2_2`, and the paper ID is `Caldero_n_JournConflictRes_2015_Nv99`. The claim being assessed is that "captures or killings of drug cartel leaders have exacerbating short-term effects on DTO-related violence." The article files can be accessed at https://osf.io/bsv24/?view_only=84df9267c74b482fa3cf2f4dc611ee48.

The replication results support the authors' main claims, as I was able to replicate Models 01 and 03 in Tables 02 and 03 using the authors' Stata do files, available at https://osf.io/6zkbg?view_only=84df9267c74b482fa3cf2f4dc611ee48, without encountering any errors in their scripts. The analyses were conducted using Stata 15 and the `Statamarkdown` package for `R` (R Core Team 2022).

2 Replication of the Original Analysis

The code below replicates the results presented in Tables 2 and 3 of the paper (pages 18-19 and 20-21, respectively). The focus is solely on the impact of leadership capture on DTO-related violence, thus, only Models 1 and 3 from each table are replicated. The outcome of the replication aligns with the results presented in the paper.

Initially, the data are loaded and the necessary packages for the analysis are installed.

```
# Install necessary packages
r <- getOption("repos")
r["CRAN"] <- "https://cran.rstudio.com/"
options(repos = r)

# List of packages
packages <- c("devtools", "knitr", "rmarkdown", "tidyverse")

installed_packages <- packages %in% rownames(installed.packages())
if (any(installed_packages == FALSE)) {
  install.packages(packages[!installed_packages])
}
invisible(lapply(packages, library, character.only = TRUE))

# Install and load Statamarkdown
devtools::install_github("Hemken/Statamarkdown")
library(Statamarkdown)
```

Subsequently, the regressions are executed using the Stata code provided by the authors. The results match those presented in the paper. The main variables of interest are `lpub_after06` and `lpub_after612`, which represent, respectively, the levels of homicides 1-6 months and 7-12 months after a leader's capture (Calderón et al. 2015, 17).

```
// Load data
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000


// Table 02: Upper Panel


// Model 01
quiet xi: nbreg d_homi_male_15_39 pob_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if treat_leader==1 & date>=563 & date<=611 &  idunico!=8037, ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

```
+--------------------------+
|     Variable |  active   |
|--------------+-----------|
| lpub_after06 |     0.272 |
|              |     0.120 |
|              |     2.271 |
|              |     0.023 |
```

```
| lpub_aft~612 |     0.103 |
|              |     0.163 |
|              |     0.630 |
|              |     0.529 |
| lpub_after12 |    -0.228 |
|              |     0.231 |
|              |    -0.988 |
|              |     0.323 |
| lieupub_a~06 |    -0.128 |
|              |     0.140 |
|              |    -0.917 |
|              |     0.359 |
| lieupub_~612 |     0.268 |
|              |     0.156 |
|              |     1.716 |
|              |     0.086 |
| lieupub_~r12 |    -0.038 |
|              |     0.179 |
|              |    -0.210 |
|              |     0.833 |
+--------------------------+
             legend: b/se/t/p


scalars:
               e(r2_p) =  .2983479147129683
                  e(p) =  .
               e(chi2) =  .
               e(df_m) =  10
              e(rank0) =  2
```

```
            e(ll_0) =  -2030.012690271746
          e(k_eq_model) =  1
              e(ll) =  -1424.362637288308
         e(N_clust) =  13
              e(rc) =  0
       e(converged) =  1
            e(k_dv) =  1
            e(k_eq) =  2
               e(k) =  2604
              e(ic) =  7
               e(N) =  637
            e(rank) =  12
           e(alpha) =  .1499572775661546
           e(k_aux) =  1

macros:
           e(cmdline) : "nbreg d_homi_male_15_39 pob_male_15_39 _Idate_* _Iid.."
               e(cmd) : "nbreg"
           e(predict) : "nbreg_p"
           e(dispers) : "mean"
         e(chi2type) : "Wald"
               e(opt) : "moptimize"
           e(vcetype) : "Robust"
         e(clustvar) : "idunico"
               e(vce) : "cluster"
           e(title) : "Negative binomial regression"
               e(user) : "nbreg_lf"
        e(ml_method) : "e2"
        e(technique) : "nr"
           e(which) : "max"
```

```
            e(depvar) : "d_homi_male_15_39"
         e(properties) : "b V"

matrices:
                  e(b) :  1 x 2604
                  e(V) :  2604 x 2604
                e(Cns) :  2535 x 2605
               e(ilog) :  1 x 20
           e(gradient) :  1 x 2604
       e(V_modelbased) :  2604 x 2604

functions:
             e(sample)
```

```
// Model 03
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000

quiet xi: nbreg d_homi_male_15_39 pob_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if date>=563 & date<=611 & idunico!=8037 [iw = weights_treat_lead_dto], ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

Variable	active
lpub_after06	0.311
	0.126
	2.474
	0.013
lpub_aft~612	0.178
	0.197
	0.899
	0.369
lpub_after12	-0.125
	0.250
	-0.501
	0.617
lieupub_a~06	-0.178
	0.114
	-1.555
	0.120
lieupub_~612	0.329
	0.129
	2.556
	0.011
lieupub_~r12	0.008
	0.183
	0.044
	0.965

```
+--------------------------+

            legend: b/se/t/p



scalars:

               e(r2_p) =  .2789495325367742

                  e(p) =  .

               e(chi2) =  .

               e(df_m) =  55

              e(rank0) =  2

               e(ll_0) =  -3396.915748144732

         e(k_eq_model) =  1

                e(ll) =  -2449.347688132952

           e(N_clust) =  61

                e(rc) =  0

          e(converged) =  1

               e(k_dv) =  1

               e(k_eq) =  2

                  e(k) =  2604

                 e(ic) =  7

                  e(N) =  2989

               e(rank) =  57

              e(alpha) =  .2311829343488489

              e(k_aux) =  1



macros:

            e(cmdline) : "nbreg d_homi_male_15_39 pob_male_15_39 _Idate_* _Iid.."

                e(cmd) : "nbreg"

            e(predict) : "nbreg_p"

            e(dispers) : "mean"
```

```
                e(wexp) : "= weights_treat_lead_dto"
               e(wtype) : "iweight"
            e(chi2type) : "Wald"
                 e(opt) : "moptimize"
             e(vcetype) : "Robust"
            e(clustvar) : "idunico"
                 e(vce) : "cluster"
               e(title) : "Negative binomial regression"
                e(user) : "nbreg_lf"
           e(ml_method) : "e2"
           e(technique) : "nr"
               e(which) : "max"
              e(depvar) : "d_homi_male_15_39"
          e(properties) : "b V"

matrices:
                   e(b) :  1 x 2604
                   e(V) :  2604 x 2604
                 e(Cns) :  2487 x 2605
                e(ilog) :  1 x 20
            e(gradient) :  1 x 2604
       e(V_modelbased) :  2604 x 2604

functions:
             e(sample)
```

```
// Table 02: Lower Panel
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000
```

```
// Model 01
quiet xi: nbreg d_homi_not_male_15_39 pob_not_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if treat_leader==1 & date>=563 & date<=611 & idunico!=8037, ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

```
+--------------------------+
|     Variable |  active   |
|--------------+-----------|
| lpub_after06 |     0.292 |
|              |     0.111 |
|              |     2.629 |
|              |     0.009 |
| lpub_aft~612 |     0.206 |
|              |     0.195 |
|              |     1.059 |
|              |     0.290 |
| lpub_after12 |     0.110 |
|              |     0.285 |
|              |     0.386 |
```

```
|              |     0.699 |
| lieupub_a~06 |     0.020 |
|              |     0.120 |
|              |     0.164 |
|              |     0.870 |
| lieupub_~612 |     0.115 |
|              |     0.116 |
|              |     0.991 |
|              |     0.322 |
| lieupub_~r12 |    -0.111 |
|              |     0.171 |
|              |    -0.649 |
|              |     0.516 |
+--------------------------+
            legend: b/se/t/p


scalars:
               e(r2_p) =  .2999340448736945
                  e(p) =  .
               e(chi2) =  .
               e(df_m) =  10
              e(rank0) =  2
               e(ll_0) =  -1784.209365531907
         e(k_eq_model) =  1
                 e(ll) =  -1249.064233626394
            e(N_clust) =  13
                 e(rc) =  0
          e(converged) =  1
               e(k_dv) =  1
```

```
                e(k_eq) =  2
                   e(k) =  2604
                  e(ic) =  9
                   e(N) =  637
                e(rank) =  12
               e(alpha) =  .1016365066076962
               e(k_aux) =  1

macros:
            e(cmdline) : "nbreg d_homi_not_male_15_39 pob_not_male_15_39 _Idat.."
                e(cmd) : "nbreg"
            e(predict) : "nbreg_p"
            e(dispers) : "mean"
           e(chi2type) : "Wald"
                e(opt) : "moptimize"
            e(vcetype) : "Robust"
           e(clustvar) : "idunico"
                e(vce) : "cluster"
              e(title) : "Negative binomial regression"
                e(user) : "nbreg_lf"
         e(ml_method) : "e2"
         e(technique) : "nr"
              e(which) : "max"
             e(depvar) : "d_homi_not_male_15_39"
        e(properties) : "b V"

matrices:
                   e(b) :  1 x 2604
                   e(V) :  2604 x 2604
                 e(Cns) :  2535 x 2605
```

```
               e(ilog) :  1 x 20
            e(gradient) :  1 x 2604
        e(V_modelbased) :  2604 x 2604

functions:
              e(sample)
```

```
// Model 03
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000

quiet xi: nbreg d_homi_not_male_15_39 pob_not_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if date>=563 & date<=611 & idunico!=8037 [iw = weights_treat_lead_rest], ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
        panel variable:  idunico (strongly balanced)
         time variable:  date, 456 to 611
                 delta:  1 unit
```

```
+--------------------------+
|     Variable |  active   |
|--------------+-----------|
| lpub_after06 |     0.293 |
```

```
|               |     0.121 |
|               |     2.412 |
|               |     0.016 |
| lpub_aft~612 |     0.290 |
|               |     0.185 |
|               |     1.568 |
|               |     0.117 |
| lpub_after12 |     0.145 |
|               |     0.256 |
|               |     0.567 |
|               |     0.571 |
| lieupub_a~06 |    -0.065 |
|               |     0.127 |
|               |    -0.513 |
|               |     0.608 |
| lieupub_~612 |     0.207 |
|               |     0.142 |
|               |     1.450 |
|               |     0.147 |
| lieupub_~r12 |    -0.179 |
|               |     0.138 |
|               |    -1.300 |
|               |     0.194 |
+---------------------------+
             legend: b/se/t/p


scalars:
                e(r2_p) =  .2731813661704064
                   e(p) =  .
```

```
              e(chi2) =  .
              e(df_m) =  54
             e(rank0) =  2
              e(ll_0) =  -2961.803275204442
          e(k_eq_model) =  1
                 e(ll) =  -2152.693810156108
            e(N_clust) =  114
                 e(rc) =  0
           e(converged) =  1
              e(k_dv) =  1
              e(k_eq) =  2
                 e(k) =  2604
                e(ic) =  7
                 e(N) =  5586
              e(rank) =  56
             e(alpha) =  .1661728485759601
             e(k_aux) =  1


macros:
             e(cmdline) : "nbreg d_homi_not_male_15_39 pob_not_male_15_39 _Idat.."
                 e(cmd) : "nbreg"
             e(predict) : "nbreg_p"
             e(dispers) : "mean"
                e(wexp) : "= weights_treat_lead_rest"
               e(wtype) : "iweight"
            e(chi2type) : "Wald"
                 e(opt) : "moptimize"
             e(vcetype) : "Robust"
            e(clustvar) : "idunico"
                 e(vce) : "cluster"
```

```
              e(title) : "Negative binomial regression"
               e(user) : "nbreg_lf"
          e(ml_method) : "e2"
          e(technique) : "nr"
              e(which) : "max"
             e(depvar) : "d_homi_not_male_15_39"
         e(properties) : "b V"

matrices:
                  e(b) :  1 x 2604
                  e(V) :  2604 x 2604
                e(Cns) :  2434 x 2605
               e(ilog) :  1 x 20
           e(gradient) :  1 x 2604
       e(V_modelbased) :  2604 x 2604

functions:
             e(sample)
```

3 Reanalysis

In this section, I present a new analysis of the four models previously discussed, but using a different functional form. I utilize a robust Poisson regression approach which effectively addresses potential arbitrary misspecification issues inherent in the Poisson distribution, as suggested by Jeff Wooldridge. While the authors appropriately utilized a negative binomial specification to address the issue of overdispersion, the test conducted in this section serves as an additional robustness check.

I utilized the same control variables and weights as the original analysis, as I deemed them suitable for the research question and would have made the same choices if I were conducting the analysis with the available data.

```
// Load data
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000

// Table 02: Upper Panel

// Model 01

quiet xi: poisson d_homi_not_male_15_39 pob_not_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if date>=563 & date<=611 & idunico!=8037 [iw = weights_treat_lead_rest], ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

Variable	active
lpub_after06	0.278
	0.081
	3.417
	0.001
lpub_aft~612	0.090
	0.161
	0.562
	0.574
lpub_after12	-0.065
	0.230
	-0.283
	0.777
lieupub_a~06	0.051
	0.125
	0.405
	0.686
lieupub_~612	0.167
	0.107
	1.561
	0.119
lieupub_~r12	-0.228
	0.115
	-1.972

```
|              |     0.049 |
+--------------------------+
            legend: b/se/t/p



scalars:
               e(r2_p) =  .7027511677885312
                  e(p) =  .
               e(chi2) =  .
               e(df_m) =  54
               e(ll_0) =  -7597.158843636062
         e(k_eq_model) =  1
                 e(ll) =  -2258.246594395852
            e(N_clust) =  114
                 e(rc) =  0
          e(converged) =  1
               e(k_dv) =  1
               e(k_eq) =  1
                  e(k) =  2603
                 e(ic) =  7
                  e(N) =  5586
               e(rank) =  55


macros:
            e(cmdline) : "poisson d_homi_not_male_15_39 pob_not_male_15_39 _Id.."
                e(cmd) : "poisson"
            e(predict) : "poisso_p"
           e(estat_cmd) : "poisson_estat"
               e(wexp) : "= weights_treat_lead_rest"
              e(wtype) : "iweight"
```

```
           e(chi2type) : "Wald"
                e(opt) : "moptimize"
            e(vcetype) : "Robust"
           e(clustvar) : "idunico"
                e(vce) : "cluster"
              e(title) : "Poisson regression"
               e(user) : "poiss_lf"
          e(ml_method) : "e2"
          e(technique) : "nr"
              e(which) : "max"
             e(depvar) : "d_homi_not_male_15_39"
         e(properties) : "b V"

matrices:
                  e(b) :  1 x 2603
                  e(V) :  2603 x 2603
                e(Cns) :  2434 x 2604
               e(ilog) :  1 x 20
           e(gradient) :  1 x 2603
       e(V_modelbased) :  2603 x 2603

functions:
             e(sample)
```

```
// Model 03
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000

quiet xi: poisson d_homi_male_15_39 pob_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
```

```
if date>=563 & date<=611 & idunico!=8037 [iw = weights_treat_lead_dto], ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

```
+--------------------------+
|     Variable |  active   |
|--------------+-----------|
| lpub_after06 |     0.370 |
|              |     0.089 |
|              |     4.147 |
|              |     0.000 |
| lpub_aft~612 |     0.117 |
|              |     0.153 |
|              |     0.762 |
|              |     0.446 |
| lpub_after12 |    -0.177 |
|              |     0.233 |
|              |    -0.760 |
|              |     0.447 |
| lieupub_a~06 |    -0.112 |
|              |     0.145 |
```

```
|               |    -0.776 |
|               |     0.438 |
| lieupub_~612 |     0.173 |
|               |     0.079 |
|               |     2.189 |
|               |     0.029 |
| lieupub_~r12 |    -0.179 |
|               |     0.112 |
|               |    -1.588 |
|               |     0.112 |
+---------------------------+
             legend: b/se/t/p


scalars:
               e(r2_p) =  .7809618777317144
                  e(p) =  .
               e(chi2) =  .
               e(df_m) =  56
               e(ll_0) =  -12684.08580169635
         e(k_eq_model) =  1
                 e(ll) =  -2778.29833669339
            e(N_clust) =  61
                 e(rc) =  0
          e(converged) =  1
               e(k_dv) =  1
               e(k_eq) =  1
                  e(k) =  2603
                 e(ic) =  8
                  e(N) =  2989
```

```
                e(rank) =  58


macros:
             e(cmdline) : "poisson d_homi_male_15_39 pob_male_15_39 _Idate_* _I.."
                 e(cmd) : "poisson"
             e(predict) : "poisso_p"
           e(estat_cmd) : "poisson_estat"
                e(wexp) : "= weights_treat_lead_dto"
               e(wtype) : "iweight"
            e(chi2type) : "Wald"
                 e(opt) : "moptimize"
             e(vcetype) : "Robust"
            e(clustvar) : "idunico"
                 e(vce) : "cluster"
               e(title) : "Poisson regression"
                e(user) : "poiss_lf"
           e(ml_method) : "e2"
           e(technique) : "nr"
               e(which) : "max"
              e(depvar) : "d_homi_male_15_39"
          e(properties) : "b V"


matrices:
                   e(b) :  1 x 2603
                   e(V) :  2603 x 2603
                 e(Cns) :  2487 x 2604
                e(ilog) :  1 x 20
            e(gradient) :  1 x 2603
        e(V_modelbased) :  2603 x 2603
```

```
functions:
             e(sample)
```

```
// Table 02: Lower Panel
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000

// Model 01
quiet xi: poisson d_homi_not_male_15_39 pob_not_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if treat_leader==1 & date>=563 & date<=611 & idunico!=8037, ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

```
+--------------------------+
|     Variable |  active   |
|--------------+-----------|
| lpub_after06 |     0.281 |
|              |     0.071 |
|              |     3.962 |
|              |     0.000 |
```

```
| lpub_aft~612 |     0.039 |
|              |     0.161 |
|              |     0.242 |
|              |     0.809 |
| lpub_after12 |    -0.078 |
|              |     0.247 |
|              |    -0.314 |
|              |     0.754 |
| lieupub_a~06 |     0.077 |
|              |     0.132 |
|              |     0.585 |
|              |     0.559 |
| lieupub_~612 |     0.112 |
|              |     0.089 |
|              |     1.260 |
|              |     0.208 |
| lieupub_~r12 |    -0.145 |
|              |     0.161 |
|              |    -0.899 |
|              |     0.369 |
+--------------------------+

            legend: b/se/t/p



scalars:

               e(r2_p) =  .7445119488204558

                  e(p) =  .

               e(chi2) =  .

               e(df_m) =  11

               e(ll_0) =  -5141.112906091579
```

```
          e(k_eq_model) =  1
                 e(ll) =  -1313.492917271341
             e(N_clust) =  13
                  e(rc) =  0
           e(converged) =  1
                e(k_dv) =  1
                e(k_eq) =  1
                   e(k) =  2603
                  e(ic) =  5
                   e(N) =  637
                e(rank) =  12


macros:
              e(cmdline) : "poisson d_homi_not_male_15_39 pob_not_male_15_39 _Id.."
                  e(cmd) : "poisson"
              e(predict) : "poisso_p"
            e(estat_cmd) : "poisson_estat"
             e(chi2type) : "Wald"
                  e(opt) : "moptimize"
              e(vcetype) : "Robust"
             e(clustvar) : "idunico"
                  e(vce) : "cluster"
                e(title) : "Poisson regression"
                 e(user) : "poiss_lf"
            e(ml_method) : "e2"
            e(technique) : "nr"
                e(which) : "max"
               e(depvar) : "d_homi_not_male_15_39"
          e(properties) : "b V"
```

```
matrices:
                  e(b) :  1 x 2603
                  e(V) :  2603 x 2603
                e(Cns) :  2535 x 2604
               e(ilog) :  1 x 20
           e(gradient) :  1 x 2603
       e(V_modelbased) :  2603 x 2603

functions:
             e(sample)
```

```
// Model 03
sysuse ./replication.data.beheadings.march.15.dta, clear
tsset idunico date
set matsize 11000

quiet xi: poisson d_homi_not_male_15_39 pob_not_male_15_39 i.date i.idunico lpub_after06 ///
lpub_after612 lpub_after12 lieupub_after06 lieupub_after612 lieupub_after12 ///
if date>=563 & date<=611 & idunico!=8037 [iw = weights_treat_lead_rest], ///
vce(cluster idunico)

estimates table, keep(lpub_after06 lpub_after612 lpub_after12 lieupub_after06 ///
lieupub_after612 lieupub_after12) b(%9.3fc) se(%9.3fc) t(%9.3fc) p(%9.3fc) style(columns)
ereturn list
```

```
       panel variable:  idunico (strongly balanced)
        time variable:  date, 456 to 611
                delta:  1 unit
```

Variable	active
lpub_after06	0.278
	0.081
	3.417
	0.001
lpub_aft~612	0.090
	0.161
	0.562
	0.574
lpub_after12	-0.065
	0.230
	-0.283
	0.777
lieupub_a~06	0.051
	0.125
	0.405
	0.686
lieupub_~612	0.167
	0.107
	1.561
	0.119
lieupub_~r12	-0.228
	0.115
	-1.972
	0.049

legend: b/se/t/p

```
scalars:
               e(r2_p) =  .7027511677885312
                  e(p) =  .
               e(chi2) =  .
               e(df_m) =  54
               e(ll_0) =  -7597.158843636062
         e(k_eq_model) =  1
                 e(ll) =  -2258.246594395852
            e(N_clust) =  114
                 e(rc) =  0
          e(converged) =  1
               e(k_dv) =  1
               e(k_eq) =  1
                  e(k) =  2603
                 e(ic) =  7
                  e(N) =  5586
               e(rank) =  55

macros:
             e(cmdline) : "poisson d_homi_not_male_15_39 pob_not_male_15_39 _Id.."
                 e(cmd) : "poisson"
             e(predict) : "poisso_p"
          e(estat_cmd) : "poisson_estat"
               e(wexp) : "= weights_treat_lead_rest"
              e(wtype) : "iweight"
           e(chi2type) : "Wald"
                 e(opt) : "moptimize"
           e(vcetype) : "Robust"
           e(clustvar) : "idunico"
```

```
                e(vce) : "cluster"
              e(title) : "Poisson regression"
               e(user) : "poiss_lf"
          e(ml_method) : "e2"
          e(technique) : "nr"
              e(which) : "max"
             e(depvar) : "d_homi_not_male_15_39"
         e(properties) : "b V"

matrices:
                  e(b) :  1 x 2603
                  e(V) :  2603 x 2603
                e(Cns) :  2434 x 2604
               e(ilog) :  1 x 20
           e(gradient) :  1 x 2603
       e(V_modelbased) :  2603 x 2603

functions:
             e(sample)
```

4 Session Information

```
sessionInfo()
```

```
R version 4.2.1 (2022-06-23)
Platform: x86_64-apple-darwin17.0 (64-bit)
Running under: macOS Monterey 12.6.3

Matrix products: default
BLAS:   /Library/Frameworks/R.framework/Versions/4.2/Resources/lib/libRblas.0.dylib
LAPACK: /Library/Frameworks/R.framework/Versions/4.2/Resources/lib/libRlapack.dylib

locale:
[1] en_US.UTF-8/en_US.UTF-8/en_US.UTF-8/C/en_US.UTF-8/en_US.UTF-8

attached base packages:
[1] stats     graphics  grDevices utils
[5] datasets  methods   base

other attached packages:
 [1] Statamarkdown_0.7.2
 [2] forcats_0.5.1
 [3] stringr_1.4.1
 [4] dplyr_1.0.10
 [5] purrr_0.3.5
 [6] readr_2.1.2
 [7] tidyr_1.2.1
 [8] tibble_3.1.8
 [9] ggplot2_3.3.6
[10] tidyverse_1.3.1
[11] knitr_1.42
```

```
[12] devtools_2.4.5

[13] usethis_2.1.6

[14] rmarkdown_2.17

[15] nvimcom_0.9-143


loaded via a namespace (and not attached):
 [1] httr_1.4.4         pkgload_1.3.0
 [3] jsonlite_1.8.3     modelr_0.1.8
 [5] shiny_1.7.2        assertthat_0.2.1
 [7] cellranger_1.1.0   yaml_2.3.7
 [9] remotes_2.4.2      sessioninfo_1.2.2
[11] pillar_1.8.1       backports_1.4.1
[13] glue_1.6.2         digest_0.6.30
[15] promises_1.2.0.1   rvest_1.0.2
[17] colorspace_2.0-3   htmltools_0.5.3
[19] httpuv_1.6.5       pkgconfig_2.0.3
[21] broom_1.0.1        haven_2.5.0
[23] xtable_1.8-4       scales_1.2.1
[25] processx_3.7.0     later_1.3.0
[27] tzdb_0.3.0         generics_0.1.3
[29] ellipsis_0.3.2     cachem_1.0.6
[31] withr_2.5.0        cli_3.4.1
[33] magrittr_2.0.3     crayon_1.5.2
[35] readxl_1.4.1       mime_0.12
[37] memoise_2.0.1      evaluate_0.20
[39] ps_1.7.1           fs_1.5.2
[41] fansi_1.0.3        xml2_1.3.3
[43] pkgbuild_1.3.1     profvis_0.3.7
[45] tools_4.2.1        prettyunits_1.1.1
[47] hms_1.1.2          lifecycle_1.0.3
```

```
[49] munsell_0.5.0     reprex_2.0.1
[51] callr_3.7.2       compiler_4.2.1
[53] rlang_1.0.6       grid_4.2.1
[55] rstudioapi_0.14   htmlwidgets_1.5.4
[57] miniUI_0.1.1.1    gtable_0.3.1
[59] curl_4.3.3        DBI_1.1.3
[61] R6_2.5.1          lubridate_1.8.0
[63] fastmap_1.1.0     utf8_1.2.2
[65] stringi_1.7.8     Rcpp_1.0.9
[67] vctrs_0.5.0       dbplyr_2.2.1
[69] tidyselect_1.2.0  xfun_0.37
[71] urlchecker_1.0.1
```

References

Calderón, G., Robles, G., Díaz-Cayeros, A., and Magaloni, B. (2015). The Beheading of Criminal Organizations and the Dynamics of Violence in Mexico. *Journal of Conflict Resolution*, 59(8):1455–1485.

R Core Team (2022). *R: A Language and Environment for Statistical Computing*. R Foundation for Statistical Computing, Vienna, Austria.