Update November 12

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1 Summary of Update

It turns out I was doing lags and leads incorrectly in the previous updates. In particular, I was turning off any lag that had a non-zero value at the same time as the treatment, which was incorrect. I have since fixed those issues and had Dick take a look at my data to make sure the model was doing what I wanted it to do. Unfortunately, using *correct* leads and lags lead to really noisy estimates in the semester-level data. My understanding is that this is the case due to the reference group in these regressions - since there are quite a few schools that don't have 2 semesters before or 2 semesters after the moratorium, the reference groups are the groups with a higher levels of crime which is why most of the coefficients on things like alcohol offenses are negative all over the place. I will leave final judgement to the triple threat trio committee, but the semester-level analysis looks a lot less convincing than the daily-level analysis after modifying my code.

I am splitting this update into two main sections: the semester level analysis and the daily level analysis. The semester level analysis will show the baseline specifications and the heterogeneous effects by fraction of semester treated. The daily level analysis will show the baseline specifications and heterogeneous effects by length of moratorium, triggering event, IFC/university enacted (e.g. student vs. administrators), and some additional analysis on the first lag.

Since the model has changed to include 2 semesters/weeks before/after the moratorium (and the data has changed), I updated the TWFE weights in Table 1. Unfortunately, I am not so lucky this time and every specification has negative weights. I reached out to Clement about using his estimator, and it looks like I'll have to tweak the data a little to match my model. In particular, Clement's estimator treats the period inbetween moratorium 1 and 2 as if the moratorium is still occuring.

2 Semester-level

The baseline specifications for the semester-level data are shown in Tables 2, 3, and 4. Note that I could not do one specification (university-by-semester-year) due to collinearity issues. The story here does not look too clear to me. While there is evidence of non-statistical zeros for alcohol offenses in the second specification, the coefficients for the semesters before and after are all negative. This is strange, and I think it has to do with the unbalanced panel issue, so the reference group happens to be schools more "in the middle" of the sample that happen to be rather large. Drug offenses looks noisy to me, and sexual assaults have the same issue that alcohol offenses have, except I'd need to explain the weird drops in sexual assault cases in the semester after.

Heterogeneous effects at the semester-level for differences in the fraction of days within a semester treated (split by quartiles) are shown in Table 5 (full sample) and Table 6 (weekends). The biggest decreases for alcohol seem to come in the first quartile, which doesn't align with the daily-level data, and seems like a hard story to sell given that I'm aggregated up to such a high level and have lost so much precision.

3 Daily-level

As reference, I have put in a table of summary statistics in Table 7. This should help give reference to the means of the dependent variables since these are quite painful to add to the

regression tables, and I was trying to put this document together rather quickly.

The baseline specifications for the daily-level data are shown in Tables 8, 9, and 10. In my opinion, the story looks more clear in these specifications, especially alcohol offenses. For alcohol offenses, the weeks before and weeks after have no statistical non-zeros, and their signs fluctuate around zero *somewhat* tightly. Drug offenses also tell a rather interesting story since the offenses are driven by weekday offenses rather than weekend offenses. However, the effects are at least showing up where they should be. For sexual assaults, the results don't seem perfect. While there is evidence of large decreases, these aren't significant and there are some strange effects going on in the weeks following. Could just be that these are super noisy estimates since sexual assaults are so rare.

Heterogeneous effects by length of moratoriums are shown in Table 11. Moreover, to get at the idea of whether lasting effects differ by length of moratorium, I regressed each outcome on the first lag (i.e. week after) interacted with the different quartiles of lengths. These coefficient estimates are shown in figure-form in Figure **??**. Heterogeneous effects by triggering event are shown in Table 12. Heterogeneous effects by whether the moratorium was enacted by the IFC or university are shown in Table 13.

4 Tables

Table 1: DeChaismartin decomposition of TWFE with primary models.

Model	Sum of Positive Weights	Sum of Negative Weights	Number of Negative ATT	Number of Positive ATT
Daily-level Data				
University and Day-by-Month-by-Year	1.046	-0.04	760	2843
University and Semester-by-Year	14.55	-13.55	28	36
University-by-Semester Number and Semester-by-Year	1.056	-0.056	982	1861
Semester-level				
University and Semester-by-Year	1.01	-0.01	12	52
University-by-Semester-Number and Semester-by-Year	1.019	-0.019	14	50

Table 2: Effect of Moratoriums on Alcohol Offenses (Semesters)

	(1)	(2)
Full Sample		
2 Semesters Before	-10.197	-10.979
	(7.069)	(8.889)
Semester Before	-15.192	-14.180
	(12.005)	(10.865)
Moratorium	-13.032	-14.271+
	(10.563)	(7.094)
Semester After	-0.605	0.330
	(10.156)	(10.330)
2 Semesters After	-4.433	-8.190
	(13.400)	(10.961)
Num.Obs	456	456
Weekends		
2 Semesters Before	-4.622	-7.619
	(6.425)	(9.907)
Semester Before	-16.456+	-13.252
	(8.603)	(9.037)
Moratorium	-14.302	-17.846*
	(8.662)	(7.469)
Semester After	-7.803	-4.575
	(6.170)	(7.818)
2 Semesters After	-9.393	-15.184+
	(7.498)	(8.645)
Num.Obs	456	456
Weekdays		
2 Semesters Before	-5.542	-3.627
	(3.685)	(4.573)
Semester Before	0.919	-0.926
	(4.494)	(5.324)
Moratorium	1.775	3.753
	(3.072)	(4.149)
Semester After	7.041	4.990
	(5.614)	(6.304)
2 Semesters After	5.090	6.892
	(7.179)	(6.283)
Num.Obs	456	456
Fixed Effects		
FE: Semester-by-Year	X	X
FE: University	X	
FE: University-by-Semester-Number		X

Table 3: Effect of Moratoriums on Drug Offenses (Semesters)

	(1)	(2)
Full Sample		
2 Semesters Before	-6.754	-7.293
	(8.296)	(7.018)
Semester Before	-25.434+	-24.282
	(13.958)	(15.493)
Moratorium	-4.634	-5.540
	(6.783)	(6.602)
Semester After	-13.702*	-14.583*
	(5.910)	(6.857)
2 Semesters After	-2.220	-0.979
	(9.463)	(8.935)
Num.Obs	456	456
Weekends		
2 Semesters Before	-1.632	-0.720
	(4.596)	(3.951)
Semester Before	-11.485	-12.150
	(6.846)	(8.067)
Moratorium	-4.189	-3.363
	(3.224)	(3.446)
Semester After	-4.593	-6.093
	(3.025)	(3.708)
2 Semesters After	-1.407	0.134
	(5.000)	(4.706)
Num.Obs	456	456
Weekdays		
2 Semesters Before	-5.192	-6.632+
	(4.180)	(3.864)
Semester Before	-14.042+	-12.234
	(7.250)	(7.480)
Moratorium	-0.345	-2.079
	(3.879)	(3.717)
Semester After	-9.112*	-8.471*
	(3.544)	(3.969)
2 Semesters After	-0.652	-0.956
	(5.345)	(5.150)
Num.Obs	456	456
Fixed Effects		
FE: Semester-by-Year	X	X
FE: University	X	
FE: University-by-Semester-Number		X

Table 4: Effect of Moratoriums on Sexual Assaults (Semesters)

	(1)	(2)
Full Sample		
2 Semesters Before	1.902	1.243
	(1.809)	(1.638)
Semester Before	2.431	3.228
	(1.963)	(2.068)
Moratorium	-1.252	-2.084
	(1.392)	(1.622)
Semester After	-4.049**	-3.343*
	(1.227)	(1.267)
2 Semesters After	0.418	-0.039
	(2.011)	(2.374)
Num.Obs	456	456
Weekends		
2 Semesters Before	-1.632	-0.720
	(4.596)	(3.951)
Semester Before	-11.485	-12.150
	(6.846)	(8.067)
Moratorium	-4.189	-3.363
	(3.224)	(3.446)
Semester After	-4.593	-6.093
	(3.025)	(3.708)
2 Semesters After	-1.407	0.134
	(5.000)	(4.706)
Num.Obs	456	456
Weekdays		
2 Semesters Before	-5.192	-6.632+
	(4.180)	(3.864)
Semester Before	-14.042+	-12.234
	(7.250)	(7.480)
Moratorium	-0.345	-2.079
	(3.879)	(3.717)
Semester After	-9.112*	-8.471*
	(3.544)	(3.969)
2 Semesters After	-0.652	-0.956
	(5.345)	(5.150)
Num.Obs	456	456
Fixed Effects		
FE: Semester-by-Year	X	X
FE: University	X	
FE: University-by-Semester-Number		X

Table 5: Effects of moratorium by fraction of days in a semester treated. Split by quartiles. (Full Sample)

	Alcohol	Drug	Sexual Assault
2 Semesters Before	−8.015	−1.444	0.519
	(9.987)	(4.114)	(0.783)
1 Semester Before	−12.796	−12.309	0.972
	(8.969)	(8.041)	(1.080)
1 Semester After	−3.747	−6.927+	−2.867**
	(7.848)	(4.089)	(0.886)
2 Semesters After	−15.602+	−0.875	0.311
	(8.414)	(4.721)	(0.778)
treatment:quartile_1	−40.935	7.186	8.709
	(83.780)	(41.412)	(6.232)
treatment:quartile_2	−24.317	−37.679	−2.820
	(24.172)	(24.804)	(2.562)
treatment:quartile_3	−11.591	−8.817	0.949
	(16.125)	(9.028)	(1.670)
treatment:quartile_4	−19.400*	0.757	0.553
	(7.667)	(3.888)	(0.719)
Num.Obs.	456	456	456
FE: Semester-by-Year	X	X	X
FE: University-by-Semester-Number	X	X	X

Quartile 4 = 75th - 100th

Quartile 3 = 50th - 75th

Quartile 2 = 25th - 50th.

Quartile 1 = 0-25th percentile of all fraction of treated semester days.

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 6: Effects of moratorium by fraction of days in a semester treated. Split by quartiles. (Weekends)

	Alcohol	Drug	Sexual Assault
2 Semesters Before	−8.015	−1.444	0.519
	(9.987)	(4.114)	(0.783)
1 Semester Before	−12.796	−12.309	0.972
	(8.969)	(8.041)	(1.080)
1 Semester After	−3.747	−6.927+	−2.867**
	(7.848)	(4.089)	(0.886)
2 Semesters After	−15.602+	−0.875	0.311
	(8.414)	(4.721)	(0.778)
treatment:quartile_1	−40.935	7.186	8.709
	(83.780)	(41.412)	(6.232)
treatment:quartile_2	−24.317	−37.679	−2.820
	(24.172)	(24.804)	(2.562)
treatment:quartile_3	−11.591	−8.817	0.949
	(16.125)	(9.028)	(1.670)
treatment:quartile_4	−19.400*	0.757	0.553
	(7.667)	(3.888)	(0.719)
Num.Obs.	456	456	456
FE: Semester-by-Year	X	X	X
FE: University-by-Semester-Number	X	X	X

Quartile 4 = 75th - 100th

Quartile 3 = 50th - 75th

Quartile 2 = 25th - 50th.

Quartile 1 = 0-25th percentile of all fraction of treated semester days.

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 7: Summary statistics of the 38 universities in the sample and outcomes used in analysis.

	Mean	SD	Median	Min	Max
University Characteristics					
Total Enrollment	28 683.99	14 455.98	28 664.00	3127.00	69 402.00
Total Undergrad Enrollment	22 142.26	11 859.01	21 921.00	2571.00	59 371.00
Fraction Asian	0.07	0.07	0.04	0.01	0.36
Fraction Black	0.07	0.04	0.06	0.01	0.20
Fraction Hispanic	0.13	0.14	0.07	0.02	0.68
Fraction White	0.62	0.18	0.67	0.08	0.83
Graduation Rate	70.46	13.64	71.00	39.00	95.00
SAT Math 75	655.94	68.26	650.00	480.00	790.00
SAT Reading 75	641.83	53.72	640.00	490.00	760.00
Fraction Admitted	0.60	0.21	0.62	0.14	0.94
Fraction Private	0.13	0.33	0.00	0.00	1.00
Daily Crime Log Offenses					
Alcohol Offense	0.50	1.36	0.00	0.00	40.84
Sexual Assault	0.05	0.32	0.00	0.00	15.99
Drug Offense	0.43	0.95	0.00	0.00	25.28
Robbery/Burglary	0.13	0.50	0.00	0.00	24.69
Moratorium Characteristics					
Length of Moratoriums	64.84	80.65	48.00	6.00	541.00
Total Number of Universities	*38*				

Length of moratorium statistics are in academic calendar days.

Offenses are per-25000 students enrolled.

Table 8: Effect of Moratoriums on Alcohol Offenses (Daily-level)

	(1)	(2)	(3)
Full Sample			
2 Weeks Before	0.046	0.065	0.060
	(0.093)	(0.097)	(0.097)
Week Before	-0.019	-0.055	-0.053
	(0.097)	(0.100)	(0.101)
Moratorium	-0.181*	-0.192*	-0.189*
	(0.083)	(0.090)	(0.090)
Week After	0.085	0.080	0.077
	(0.082)	(0.085)	(0.085)
2 Weeks After	-0.020	-0.014	-0.009
	(0.051)	(0.044)	(0.044)
Num.Obs	56514	56514	56514
Weekends			
2 Weeks Before	-0.079	-0.008	-0.006
	(0.118)	(0.119)	(0.119)
Week Before	0.089	-0.004	-0.005
	(0.144)	(0.145)	(0.145)
Moratorium	-0.330*	-0.330**	-0.330**
	(0.136)	(0.118)	(0.118)
Week After	0.158	0.129	0.129
	(0.136)	(0.110)	(0.110)
2 Weeks After	-0.113	-0.070	-0.068
	(0.105)	(0.088)	(0.088)
Num.Obs	24244	24244	24244
Weekdays			
2 Weeks Before	0.133	0.114	0.114
	(0.091)	(0.094)	(0.094)
Week Before	-0.086	-0.083	-0.084
	(0.095)	(0.100)	(0.100)
Moratorium	-0.077	-0.091	-0.091
	(0.102)	(0.117)	(0.118)
Week After	0.032	0.040	0.040
	(0.095)	(0.110)	(0.110)
2 Weeks After	0.046	0.035	0.036
	(0.039)	(0.029)	(0.029)
Num.Obs	32270	32270	32270
Fixed Effects			
FE: Day-of-Week			X
FE: Semester-by-Year		X	
FE: University	X		
FE: University-by-Semester-Number		X	
FE: Day-by-Month-by-Year	X		
FE: University-by-Year-by-Semester-Number			X

Table 9: Effect of Moratoriums on Drug Offenses (Daily-level)

	(1)	(2)	(3)
Full Sample			
2 Weeks Before	-0.075	-0.016	-0.016
	(0.049)	(0.040)	(0.040)
Week Before	0.068	0.055	0.055
	(0.040)	(0.041)	(0.041)
Moratorium	-0.104+	-0.131*	-0.131*
	(0.055)	(0.061)	(0.061)
Week After	0.088+	0.083*	0.083*
	(0.045)	(0.037)	(0.038)
2 Weeks After	-0.055+	-0.027	-0.026
	(0.029)	(0.025)	(0.025)
Num.Obs	56514	56514	56514
Weekends			
2 Weeks Before	-0.104	-0.038	-0.038
	(0.068)	(0.061)	(0.061)
Week Before	0.054	0.014	0.014
	(0.074)	(0.074)	(0.074)
Moratorium	-0.120	-0.125	-0.125
	(0.086)	(0.087)	(0.087)
Week After	0.136	0.112	0.112
	(0.083)	(0.070)	(0.070)
2 Weeks After	-0.080	-0.038	-0.038
	(0.056)	(0.051)	(0.051)
Num.Obs	24244	24244	24244
Weekdays			
2 Weeks Before	-0.057	-0.001	-0.001
	(0.055)	(0.054)	(0.054)
Week Before	0.081	0.088	0.088
	(0.069)	(0.069)	(0.068)
Moratorium	-0.092	-0.136+	-0.136+
	(0.065)	(0.067)	(0.067)
Week After	0.052	0.062	0.062
	(0.046)	(0.044)	(0.044)
2 Weeks After	-0.037	-0.018	-0.018
	(0.042)	(0.045)	(0.045)
Num.Obs	32270	32270	32270
Fixed Effects			
FE: Day-of-Week			X
FE: Semester-by-Year		X	
FE: University	X		
FE: University-by-Semester-Number		X	
FE: Day-by-Month-by-Year	X		
FE: University-by-Year-by-Semester-Number			X

Table 10: Effect of Moratoriums on Sexual Assault Offenses (Daily-level)

	(1)	(2)	(3)
Full Sample			
2 Weeks Before	0.005	0.010	0.010
	(0.010)	(0.011)	(0.011)
Week Before	0.015	0.017	0.017
	(0.019)	(0.018)	(0.018)
Moratorium	-0.032	-0.032	-0.032
	(0.024)	(0.023)	(0.023)
Week After	0.024	0.026+	0.026+
	(0.015)	(0.015)	(0.015)
2 Weeks After	-0.015	-0.016	-0.016
	(0.011)	(0.012)	(0.012)
Num.Obs	56514	56514	56514
Weekends			
2 Weeks Before	0.012	0.013	0.013
	(0.017)	(0.016)	(0.016)
Week Before	0.022	0.026	0.026
	(0.023)	(0.023)	(0.023)
Moratorium	-0.040	-0.044	-0.044
	(0.031)	(0.033)	(0.033)
Week After	-0.006	-0.003	-0.003
	(0.017)	(0.016)	(0.016)
2 Weeks After	0.011	0.010	0.010
	(0.011)	(0.012)	(0.012)
Num.Obs	24244	24244	24244
Weekdays			
2 Weeks Before	-0.001	0.009	0.008
	(0.012)	(0.013)	(0.013)
Week Before	0.010	0.010	0.010
	(0.023)	(0.021)	(0.021)
Moratorium	-0.026	-0.023	-0.023
	(0.024)	(0.021)	(0.021)
Week After	0.046*	0.048*	0.048*
	(0.020)	(0.020)	(0.020)
2 Weeks After	-0.035*	-0.035+	-0.035+
	(0.017)	(0.019)	(0.019)
Num.Obs	32270	32270	32270
Fixed Effects			
FE: Day-of-Week			X
FE: Semester-by-Year		X	
FE: University	X		
FE: University-by-Semester-Number		X	
FE: Day-by-Month-by-Year	X		
FE: University-by-Year-by-Semester-Number			X

Table 11: Heterogeneous Effects: Difference in Lengths

	Full Sample			Weekends		
	Alcohol	Drug	Sexual Assault	Alcohol	Drug	Sexual Assault
treatment × below_q25	0.046	-0.091	-0.040+	-0.020	-0.070	-0.020
	(0.095)	(0.155)	(0.020)	(0.196)	(0.211)	(0.023)
treatment × between_q25_q50	-0.034	0.095	-0.012	0.073	0.044	-0.026
	(0.096)	(0.118)	(0.019)	(0.222)	(0.121)	(0.027)
treatment × between_q50_q75	-0.083	0.023	-0.018	-0.103	0.006	-0.023
	(0.116)	(0.113)	(0.018)	(0.213)	(0.108)	(0.024)
treatment × above_q75	-0.108	0.052	-0.017	-0.149	0.004	-0.028
	(0.123)	(0.133)	(0.024)	(0.229)	(0.151)	(0.030)
Num.Obs	56514	56514	56514	24244	24244	24244
FE: University	X	X	X	X	X	X
FE: Day-by-Month-by-Year	X	X	X	X	X	X

Note:

Standard errors clustered by university.

2 leads and 2 lags for week before are included in the specification.

Each estimate represents a different percentile.

Percentiles are 25th, 50th, 75th

Table 12: Effect of Moratoriums on Offenses by Triggering Event

	Dependent Variable		
	Alcohol	Drug	Sexual Assault
2 Weeks Before	0.065	−0.060	0.003
	(0.094)	(0.047)	(0.010)
1 Week Before	−0.020	0.067	0.015
	(0.096)	(0.040)	(0.019)
1 Week After	0.087	0.089+	0.024
	(0.082)	(0.045)	(0.015)
2 Weeks After	−0.002	−0.040	−0.017
	(0.052)	(0.029)	(0.011)
Moratorium x Triggering Sexual Assault	0.011	0.078	−0.048*
	(0.085)	(0.102)	(0.021)
Moratorium x Triggering Death of Student	−0.321**	−0.193*	−0.020
	(0.099)	(0.081)	(0.023)
Motatorium x Triggering Behavior Violation	−0.194+	−0.130+	−0.035
	(0.114)	(0.069)	(0.028)
Moratorium x Triggering Event Unknown	−0.180+	−0.129	−0.022
	(0.094)	(0.119)	(0.026)
Num.Obs	56 514	56 514	56 514
FE: University	X	X	X
FE: Day-by-Month-by-Year	X	X	X

Weekends look similar except sexual assault - effects driven by weekdays.
Columns represent the dependent variable.
Offenses are per-25000 enrolled students.
Standard errors clustered by university.
+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Table 13: Heterogeneous Effects for University-enacted Moratoriums and IFC-enacted Moratoriums.

	Dependent Variable					
	Full Sample			Weekends		
	Alcohol	Drug	Sexual Assault	Alcohol	Drug	Sexual Assault
Moratorium x University Enacted	−0.235*	−0.148*	−0.033	−0.416*	−0.145	−0.045
	(0.097)	(0.056)	(0.025)	(0.158)	(0.093)	(0.032)
Moratorium x IFC Enacted	−0.063	−0.007	−0.030	−0.144	−0.066	−0.031
	(0.081)	(0.097)	(0.023)	(0.164)	(0.103)	(0.031)
2 Weeks Before	0.053	−0.069	0.005	−0.068	−0.101	0.013
	(0.095)	(0.048)	(0.010)	(0.119)	(0.067)	(0.017)
1 Week Before	−0.016	0.071+	0.015	0.097	0.057	0.022
	(0.096)	(0.040)	(0.019)	(0.141)	(0.074)	(0.023)
1 Week After	0.088	0.090+	0.024	0.164	0.138	−0.006
	(0.083)	(0.045)	(0.016)	(0.137)	(0.083)	(0.017)
2 Weeks After	−0.012	−0.049+	−0.015	−0.100	−0.076	0.012
	(0.051)	(0.027)	(0.011)	(0.104)	(0.055)	(0.011)
Num.Obs.	56 514	56 514	56 514	24 244	24 244	24 244
Mean of Dependent Variable	0.498	0.432	0.054	0.886	0.496	0.049
FE: University	X	X	X	X	X	X
FE: Day-by-Month-by-Year	X	X	X	X	X	X

IFC enacted is a moratorium enacted by the student-IFC representatives.

Universitiy enacted is a moratorium enacted by university officials.

Standard errors clustered by university

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

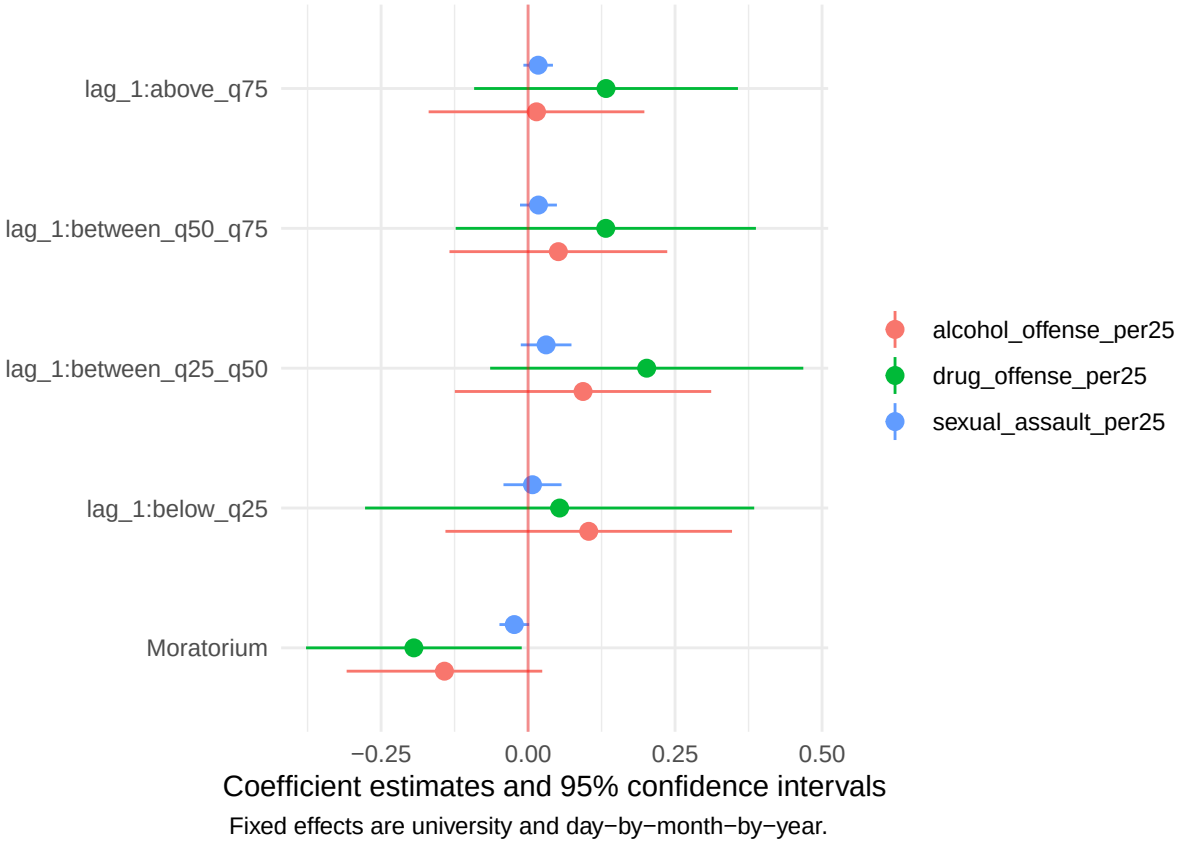

Figure 1: Outcomes regressed on the week after moratorium interacted with an indicator for quartile length.