

A Appendix

A.1 Data processing

We use the original data of the Hagopian et al. (2013) study. We correct some minor data errors that we describe below. These were all applied only to our reanalysis but not for the replication of the original results, except for item 1 that was also applied to the replication.

1. Clusters 47 and 73 are omitted

Hagopian et al. omit these clusters for reasons described in their article. This action reduced the number of observations by 204, including 202 individuals and 2 deaths.

2. Missing governorate data

Some observations have no number for the governorate to which they belong. We assign each cluster to its corresponding governorate based on cluster numbers. This means that cluster 34 was assigned to governorate 13, cluster 87 to governorate 6, and cluster 90 to governorate 2.

3. Households assigned to wrong clusters

Due to a coding error two households were accidentally assigned to incorrect governorates, again based on their cluster numbers which placed other households in a different governorate. This coding error concerned household number 7 in cluster 21 and 75, which were originally assigned to governorate 7 but actually, based on the rest of the data, they belong to governorate 8 and 9 respectively.

4. Coding error for a violent death

In the dataset providing information on deaths, one observation was coded as a war death but the cause of deaths was listed as "cardiovascular", which is inconsistent with the other observations that were coded as war deaths. We therefore decided to recode this observation as a normal death (a death in 2004 in household 2, cluster 33, governorate 33).

5. Unknown cause of death

One observation has no information on cause of death and was coded as "D" for the variable indicating war deaths. Since there was little information to go on we did not alter the coding for this observation.

A.1.1 Identifying governorates

The replication data uses numbers to indicate the governorates, but does not name the governorates. This poses a problem since we need to know the governorates so that we can account for stratification in our estimates. Fortunately, table 1 in the original paper provides enough information to deduce the governorate to which each household belongs based on the number of clusters and the number of household members from each governorate in the sample. Table A1 provides the number of for clusters, households, and individuals by governorate.

Table A1: Matching households with governorate names

Gov. ID	Governorate	Clusters	Households	Individuals	Cluster proportion	Population proportion
1	Anbar	7	140	990	0.07	0.05
2	Basra	8	160	884	0.08	0.08
3	Muthanna	1	20	142	0.01	0.02
4	Qadisiyya	4	80	580	0.04	0.03
5	Najaf	2	40	200	0.02	0.04
6	Erbil	9	180	803	0.09	0.05
7	Sulaimaniya	9	141	673	0.09	0.06
8	Babylon	3	60	348	0.03	0.05
9	Baghdad	23	459	2342	0.23	0.21
10	Thi Qar	2	40	210	0.02	0.06
11	Diala	5	100	463	0.05	0.04
12	Duhok	2	40	284	0.02	0.03
13	Kerbela	2	40	221	0.02	0.03
14	Kirkuk	2	40	201	0.02	0.04
15	Maysan	3	60	311	0.03	0.03
16	Ninevah	12	240	1193	0.12	0.10
17	Salah Al Deen	3	60	312	0.03	0.04
18	Wasit	3	60	310	0.03	0.04

A.2 Supplementary Tables

Table A2: Estimates of excess deaths in Iraq 2003-2011

	Replication			Re-analysis						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Panel A: Excess non-violent deaths</i>										
Central estimate	160,000	160,000	184,000	184,000	92,000	115,000	102,000	122,000	35,000	54,000
UI-lower	-213,000	-307,000	-212,000	-345,000	-275,000	-398,000	-177,000	-339,000	-240,000	-401,000
UI-upper	409,000	474,000	489,000	547,000	332,000	467,000	366,000	489,000	264,000	417,000
Crude death rate	0.65	0.65	0.75	0.75	0.38	0.47	0.42	0.50	0.14	0.22
UI-lower	-0.87	-1.26	-0.87	-1.41	-1.12	-1.63	-0.72	-1.39	-0.98	-1.64
UI-upper	1.67	1.94	2.00	2.24	1.36	1.91	1.50	2.00	1.08	1.71
P(excess deaths > 0)	0.834	0.761	0.848	0.774	0.702	0.697	0.823	0.766	0.653	0.658
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<i>Panel B: Excess deaths (Violent and non-violent combined)</i>										
Central estimate	406,000	406,000	398,000	398,000	325,000	290,000	283,000	290,000	202,000	212,000
UI-lower	55,000	-56,000	52,000	-97,000	-29,000	-167,000	37,000	-123,000	-36,000	-197,000
UI-upper	687,000	721,000	724,000	747,000	575,000	654,000	550,000	679,000	441,000	576,000
Crude death rate	1.66	1.66	1.63	1.63	1.33	1.19	1.16	1.19	0.83	0.87
UI-lower	0.23	-0.23	0.21	-0.40	-0.12	-0.68	0.15	-0.50	-0.15	-0.81
UI-upper	2.81	2.95	2.96	3.05	2.35	2.67	2.25	2.78	1.80	2.35
P(excess deaths > 0)	0.987	0.954	0.982	0.949	0.963	0.912	0.99	0.938	0.955	0.889
Reweighted data	-	-	Yes	Yes	-	Yes	-	Yes	-	Yes
Governorate resampling	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
Deaths with no certificate	Yes	Yes	Yes	Yes	-	-	Yes	Yes	-	-
Deaths with certificate not shown	Yes	Yes	Yes	Yes	Yes	Yes	-	-	-	-

N.B.— The uncertainty intervals are estimated with 1000 bootstrap replications. The lower bound is set at percentile 2.5 and the upper bound is set at percentile 97.5. Panel A gives estimates for excess violent plus non-violent deaths. Panel B gives estimates for just non-violent excess deaths. Central estimates and uncertainty intervals account for stratification; Deaths with no certificates, includes reported deaths for which respondents admit to not having death certificates; Deaths with certificate not shown, includes reported deaths for which respondents fail to produce a death certificate they claim to have.

Table A3: Binary Differences-in-Differences regression models for the number of non-violent deaths per household

<i>Specification</i>	Poisson (1)	Poisson (2)	NB (3)	Quasi-Poisson (4)	Poisson (5)	Poisson (6)
Period	1.4*** (0.2)	1.5*** (0.2)	1.4*** (0.2)	1.5*** (0.2)	1.4*** (0.2)	1.4*** (0.2)
ViolenceLevel _{gov}	0.2 (0.2)	0.6 (0.5)	0.2 (0.2)	0.1 (0.2)	0.2 (0.2)	
Period*ViolenceLevel _{gov}	-0.1 (0.4)	-0.1 (0.4)	-0.1 (0.4)	-0.2 (0.4)	-0.1 (0.4)	
ViolenceLevel _{neighbours}					-0.1 (0.2)	
ViolenceLevel _{cluster}						0 (0.2)
Period*ViolenceLevel _{cluster}						-0.2 (0.4)
Intercept	-2.62*** (0.10)	-2.9*** (0.3)	-2.62*** (0.10)	-2.7*** (0.1)	-2.62*** (0.10)	-2.62*** (0.10)
AIC	2022.6	2033.5	2017.5	–	2024.1	2024.4
AUC	0.657	0.681	0.657	0.635	0.661	0.644
Governorate FE	–	Yes	–	–	–	–

Notes. This table presents coefficient estimates for a binary differences-in-differences design which divides Iraq into violent governorates and non-violent governorates using a binary indicator. Anbar, Baghdad and Diala are the governorates classified as violent in these specifications. These governorates all have violent death rates above 1.28 per 100 inhabitants. The most violent governorate classified as not violent is Kirkuk at 1 violent death per 100 inhabitants. The regression results are robust to including Kirkuk as a violent governorate. None of the specifications suggest that non-violent death rates have increased faster, pre-war versus during-war, in violent governorates than they have in non-violent governorates. Robust standard errors, clustered at the cluster level are in parentheses where ***, **, and * indicate statistical significance at the 1%, 5%, and 10% level, respectively. FE, Fixed effects; NB, Negative Binomial; AIC, Akaike information criterion; AUC, Area under curve. $N = 3369$.

A.3 Supplementary Figures

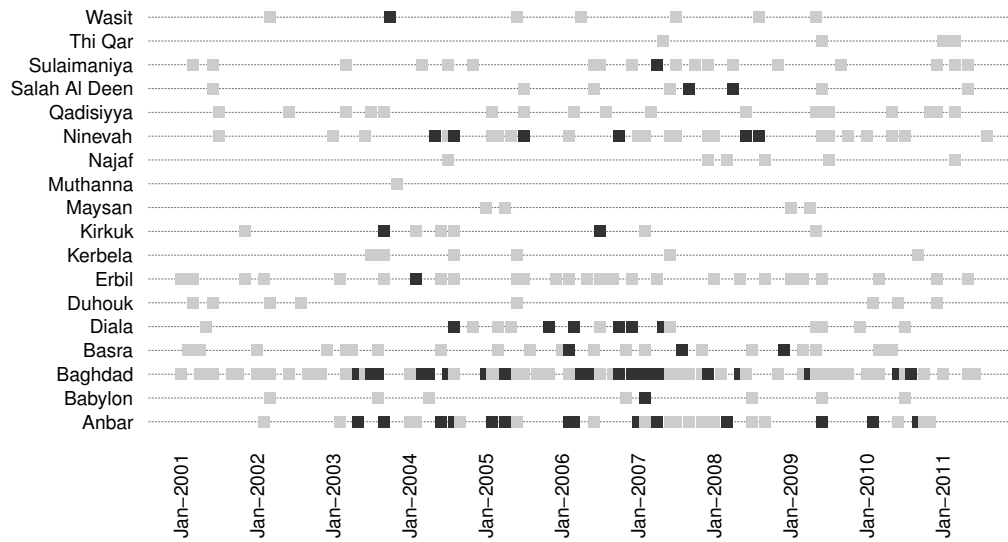


Figure A1: Violent (dark) and non-violent (light) deaths over time for each individual governorate. *Data* : Hagopian et al. (2013).

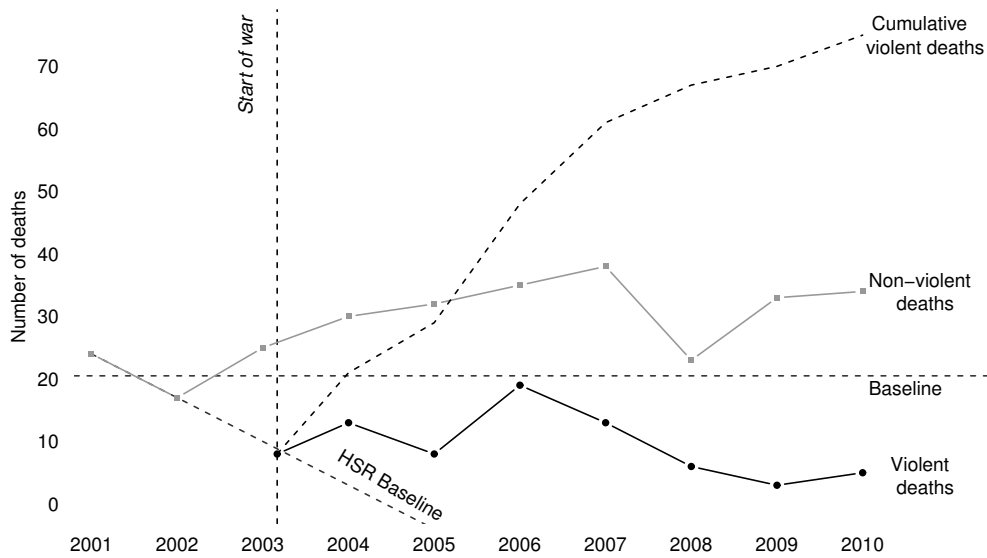


Figure A2: Violent and non-violent deaths over time for 2001-2010. The correlation between the two time series is 0.35 with a 95% interval of $-0.47; 0.85$. *Data* : Hagopian et al. (2013).

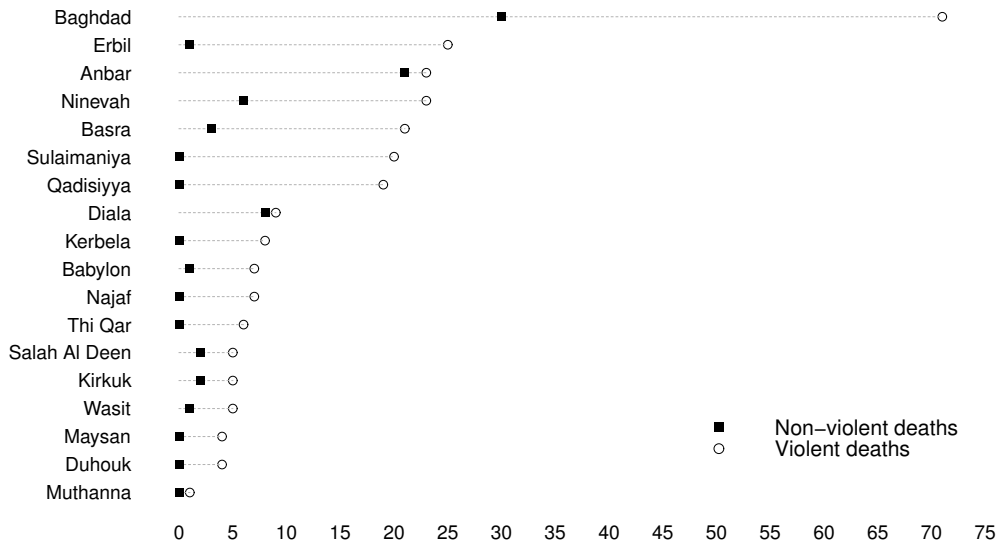


Figure A3: Non-violent and violent deaths by governorate from the start of the war until August 2011. *Data* : Hagopian et al. (2013).



Figure A4: Estimated death rates for each governorate measured in deaths per 1,000 inhabitants per year. *Data :* Hagopian et al. (2013), own calculations.