

### Does Civil War (De)Escalation depend on military capacity? What are the correlates of de-escalation?

#### This paper:

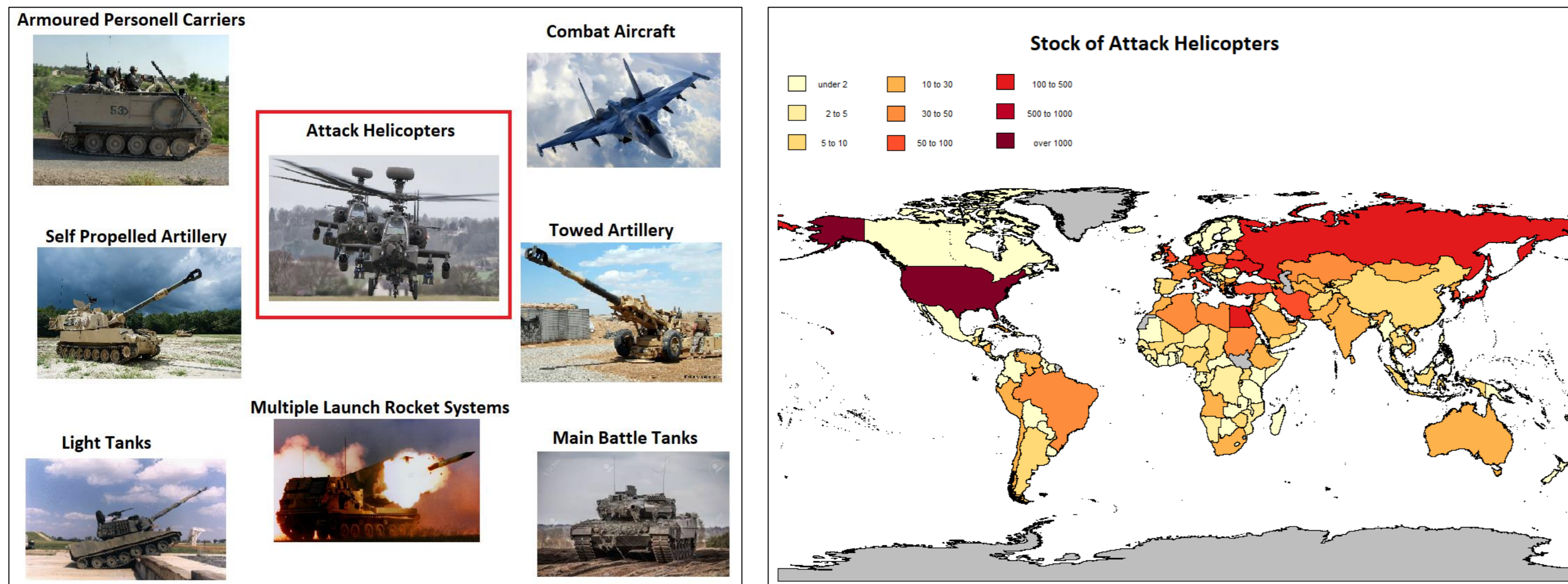
- Investigate (de)escalation patterns in Dynamic Ordered Probit Setting (following Bluhm et al. 2016)
- Use detailed data on military inventory to measure state capacity more closely
- Look at landscape-effects and indiscriminate violence using disaggregated conflict data (Croicu & Sundberg 2017)

#### Research so far:

- Conflict Onset & Offset instead of (de)escalation (Blattman & Miguel 2010)
- State Capacity important in Civil Wars. But existing Proxies are limited (Besley & Persson 2014, Acemoglu et al. 2015)
- State Capacity and Landscape determine Civil War Duration & Indiscriminate Violence (Holtmann 2016, Schutte 2017)

### Empirical Approach and Main Results

#### Weapon Categories and Variation



#### Empirical approach

$$c_{it}^* = x'_{it}\beta + h'_{i,t-1}\rho + (x_{it} \otimes h_{i,t-1})'\gamma + \mu_i + \lambda_t + \varepsilon_{it}$$

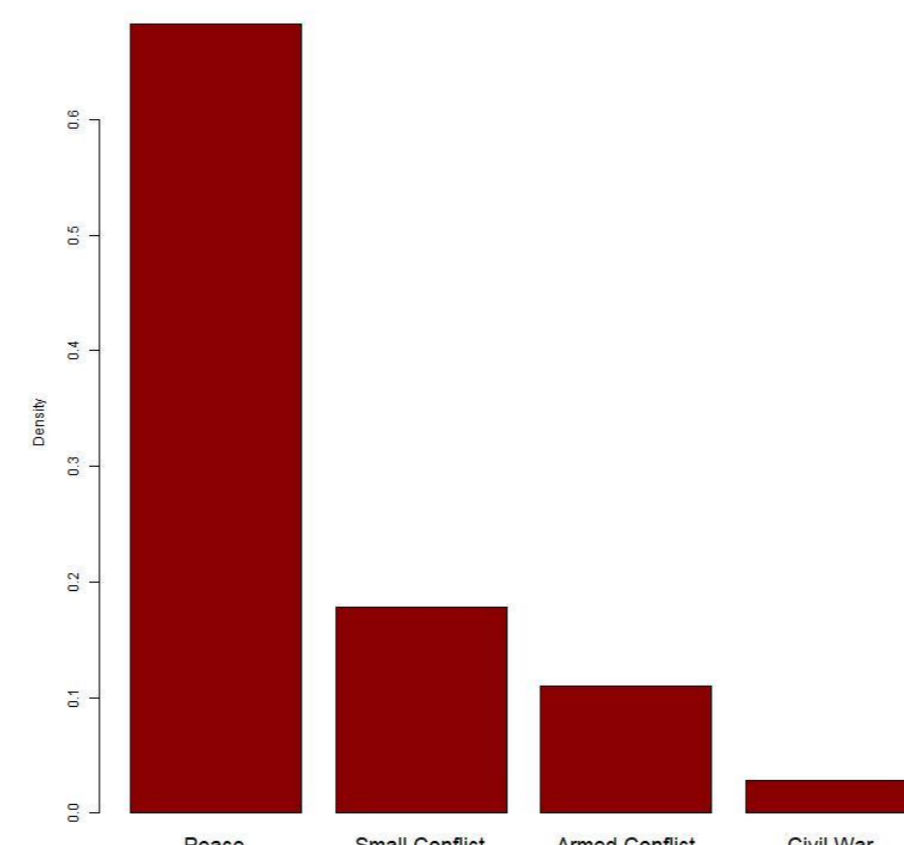
where  $c_{it}^*$  is an ordered conflict measure,  $x'_{it}$  include the model's regressors, and  $h'_{i,t-1}$  incorporates the conflict history.  $\lambda_t$  are year fixed effects and  $\mu_i$  indicate Mundlak FE.

#### Conflict (De)Escalation

Raw Transition Probabilities of Conflict

	Peace	Small Conflict	Armed Conflict	Civil War
Peace	85.99	10.19	2.37	0.15
Small C.	47.36	47.60	8.86	1.60
Armed C.	14.86	15.25	62.36	8.11
Civil War	2.84	5.67	31.21	57.45

Notes: Raw Transition probabilities between four phases of civil war. Columns represent state in year t, rows represent state in year t-1. The Diagonal represents the probabilities of continuation.

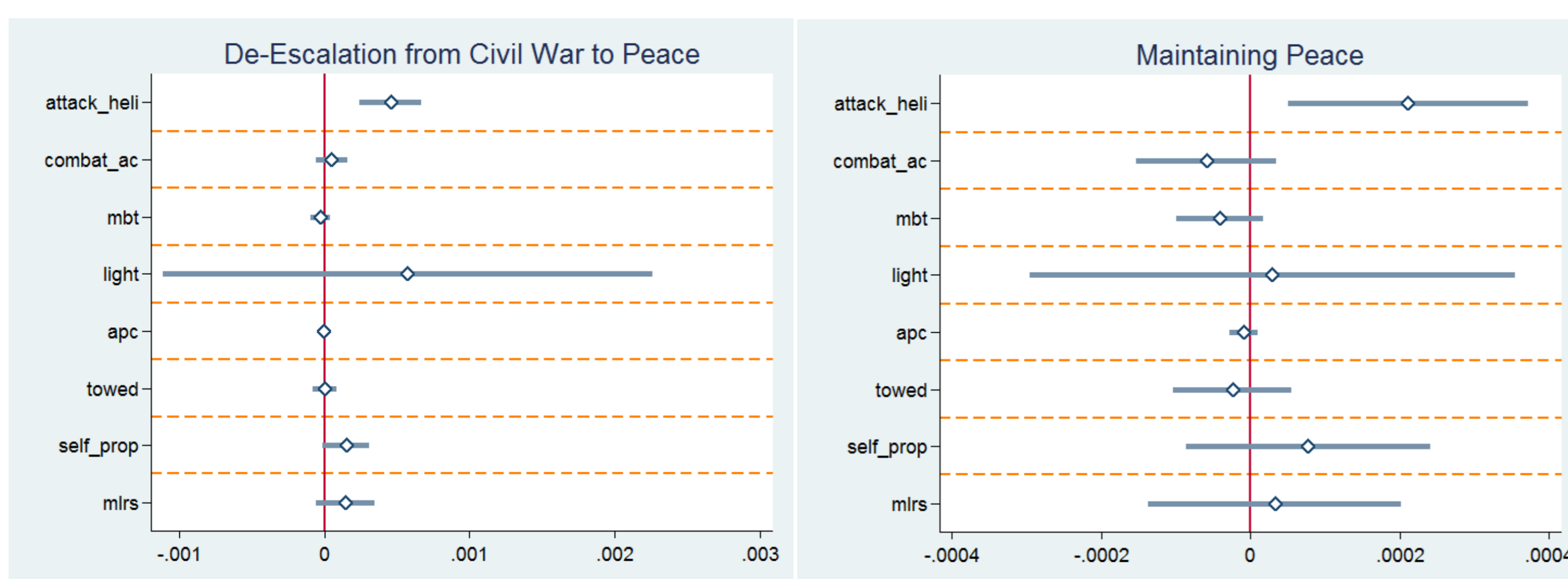


#### Key Result: Only Attack Helicopters are associated with shorter conflicts

Marginal Effects of Attack Helicopters on Civil War (De)Escalation

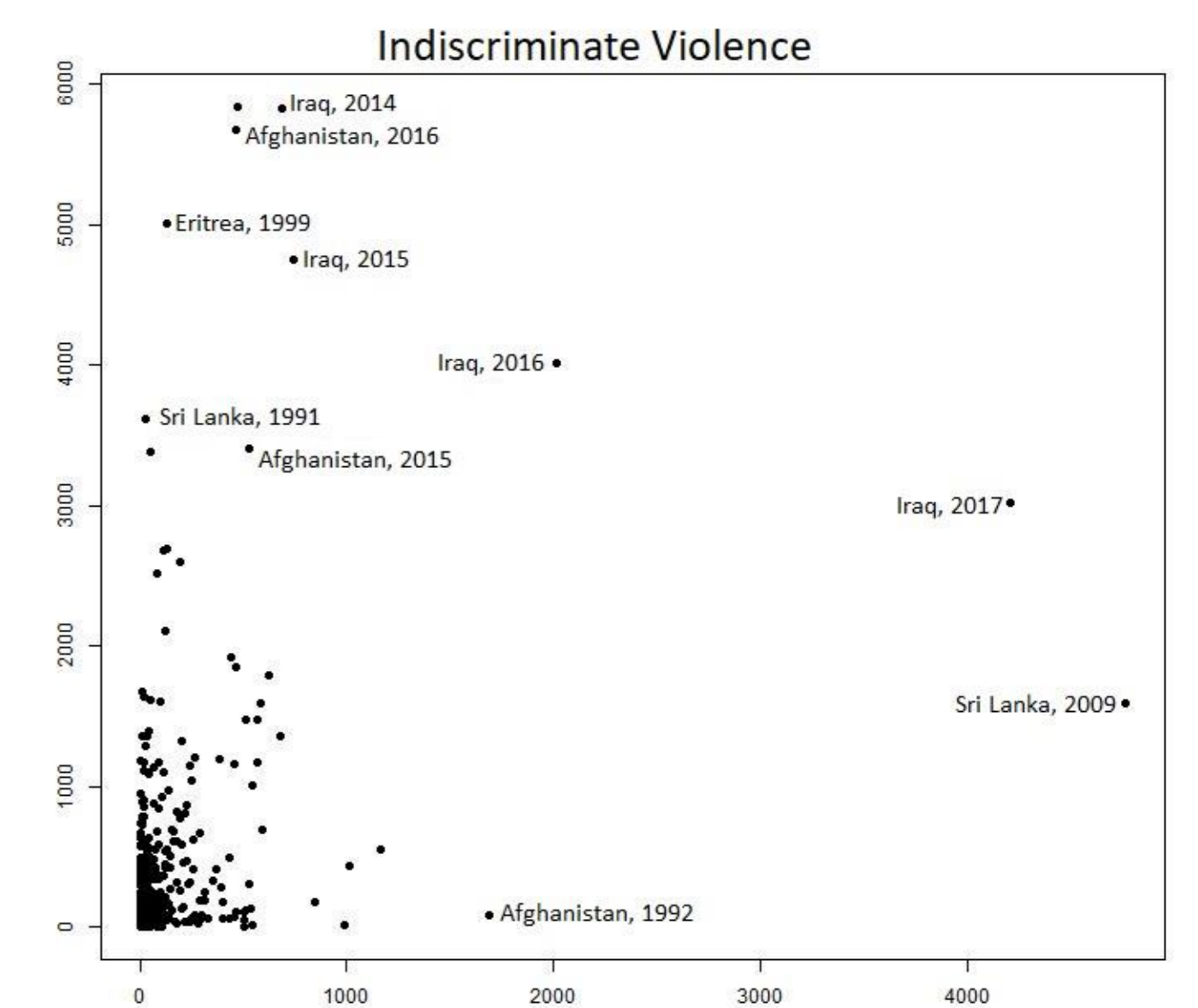
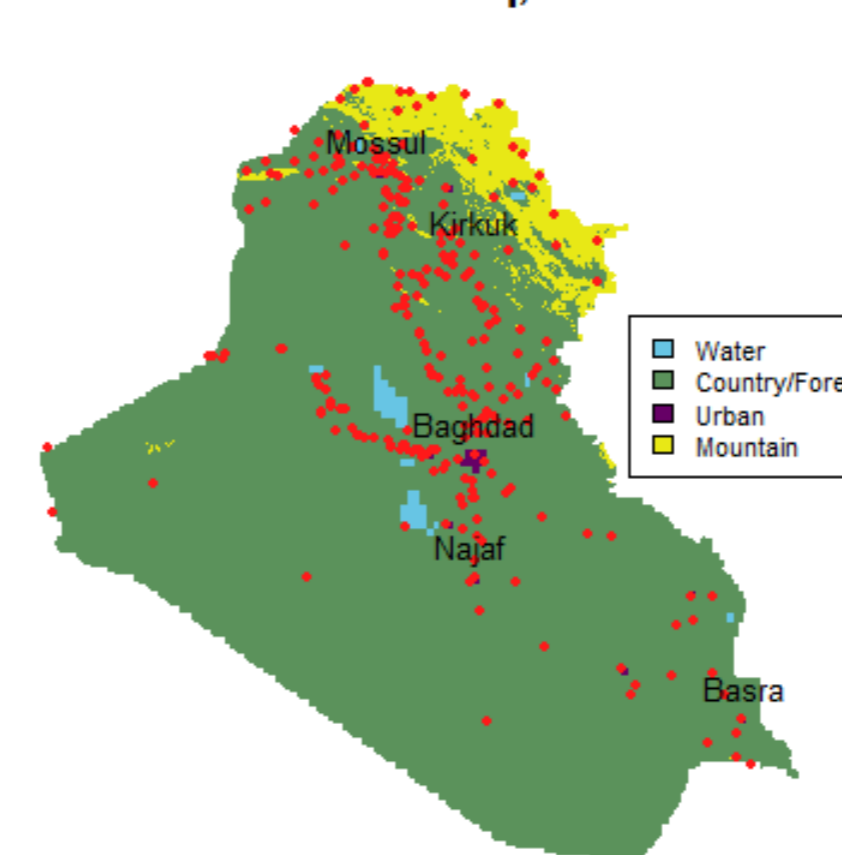
From.To	Peace	Small.C.	Armed.C.	War
Peace	0.000211** (2.572014)	-0.00013*** (-2.5998)	-0.000072** (-2.436801)	-0.000009 (-1.575445)
Small C.	0.00028** (2.176214)	-0.000154** (-2.169251)	-0.000106** (-2.085058)	-0.000021* (-1.795892)
Armed C.	0.000266*** (3.08925)	-0.00009** (-2.365337)	-0.000139** (-2.449635)	-0.000036*** (-2.701665)
War	0.000457*** (4.235745)	0.000161 (0.827695)	-0.000449*** (-4.98835)	-0.000169*** (-3.781665)

Notes: The table reports marginal effects from an ordered probit estimation. We control for Military Expenditures, LogGDP, LogPopulation, Ethnic Tensions, Polity2 Score, International Wars, Internationalized Civil Wars, Civil War Threat, and all other Weapon Categories. We also include year fixed effects and country-means for variables following Mundlak (1978). T-Values in Parentheses. Significant at: \* p < 0.1; \*\* p < 0.05; \*\*\* p < 0.01.



### Landscape and Indiscriminate Violence

Battle Events in Iraq, 1990-2010



#### The Role of Landscape

For 1SD increase in attack helicopter stock, fighting becomes 8 percentage points more likely to take place in urban area

DV = Main Battle Scene is Urban

	(1) urban	(2) urban	(3) urban	(4) urban	(5) urban	(6) urban
attack heli	0.000537*** (0.0000326)					0.000421*** (0.000137)
light tanks		0.0000667 (0.000150)				0.000173 (0.000264)
apc			0.0000129*** (0.00000390)			-0.0000268* (0.0000150)
towed				-0.0000278*** (0.00000897)		-0.0000714* (0.0000414)
self prop					-0.0000408*** (0.00000495)	-0.0000452 (0.000124)
Observations	2286	2286	2286	2286	2286	2286
Countries	127	127	127	127	127	127

Standard errors in parentheses. \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01

Controls: Major Fight Region, Rebel Deaths, Conflict-Dummy, Threat, LogPop, Military Expenditures, LogGDP, Polity2, Ethnic-ICRG, International War, Internationalized Civil War. Year and Country FE

#### Indiscriminate Violence: Attack Helicopters increase civilian casualties

DV = Civil Deaths per Rebel + Government Deaths

	(1)	(2)	(3)	(4)	(5)	(6)
attack heli	0.00272* (0.00151)					0.00366* (0.00205)
light tanks		-0.000890 (0.00134)				-0.00336 (0.00392)
apc			0.0000587* (0.0000299)			0.000400 (0.000254)
towed				-0.0000697** (0.0000286)		0.000495 (0.000485)
self prop					-0.000191*** (0.0000550)	0.000583 (0.00185)
Observations	2286	2286	2286	2286	2286	2286
Countries	127	127	127	127	127	127

[Notes] Standard errors in parentheses

Controls: Major Fight Region, Rebel Deaths, Conflict-Dummy, Threat, Mil.Expenditures, LogPop, LogGDP, Polity2, Ethnic-ICRG, International War, Internationalized Civil War. We also use Year and Country Fixed Effects. \* p < 0.10, \*\* p < 0.05, \*\*\* p < 0.01