Appendices

The following appendices (A-C) support chapters 1-3 in order.

Appendix A

This appendix contains figures and tables of additional observations within the data and from the models specified in Chapter 1.

Example of variation in the components of GDP across time

The following figures illustrate that the components of GDP, being domestic production (C), domestic investment (I), government spending (G), exports (X) and imports (M) vary across both time and space. That is, they are not constant relative to each other and various economic and social forces can lead to restructuring of the economy.



Figure A1. Cross-Time Variation in the Share of C, I, G, X and M in the UK



Figure A2. Cross-Time Variation in the Share of C, I, G, X and M in Venezuela

Figure A3. Cross-Time Variation in the Share of C, I, G, X and M in Zambia



Summary statistics

Table A1. Summary statistics

Variable	Mean	Std. Dev.	Min	Max
Between				
Civil war onset	0.040	0.195	0.000	1.000
GDP per capita (log)	8.274	1.127	6.059	11.292
Total Private				
Production/pc (log)	7.789	1.030	5.824	9.875
Total Private				
Investment/pc (log)	6.502	1.487	3.114	9.602
Total Government Spending/pc	6 500	1 1 2 5	2.661	0.667
(log)	6.532	1.135	3.661	9.667
Total Exports/pc (log)	6.195	1.746	0.346	10.918
Total Imports/pc (log)	6.410	1.600	2.628	10.261
GDPP	8.467	1.159	6.271	11.602
Consumption Opportunities	8.075	1.020	6.121	10.483
Discrimination	-0.484	1.213	-2.995	2.471
Petroleum production per capita	398.855	2,037.694	0.000	21,680.390
Neighbor at war	0.688	0.278	0.000	1.000
Trade openness	0.414	0.290	0.028	2.023
SIP	0.590	0.275	0.020	0.994
SIP ²	0.464	0.322	0.001	0.987
Within				
GDP per capita (log)	0.000	0.375	-1.674	1.705
Total Private				
Production/pc (log)	0.000	0.359	-2.042	2.068
Total Private				
Investment/pc (log)	0.000	0.569	-3.286	1.997
Total Government Spending/pc	0.000	0.501	0.701	2 222
	0.000	0.501	-2.721	2.223
Total Exports/pc (log)	0.000	0.781	-1.231	3.397
Total Imports/pc (log)	0.000	0.727	-6.750	3.674
GDPP	0.000	0.395	-1.687	1.768
Consumption Opportunities	0.000	0.359	-1.451	1.887
Discrimination	0.000	0.475	-3.104	2.023
Petroleum production per capita	0.000	1,821.858	-15,219.700	56,908.410
Neighbor at war	0.000	0.371	-0.978	0.974
Trade openness	0.000	0.178	-0.741	1.246
SIP	0.000	0.203	-0.824	0.613
SIP^2	0.000	0.208	-0.792	0.630
Peace decay	0.000	0.205	-0.478	0.762



Figure A4. Key Independent Variables Univariate Kernal Density – Between Indicators

Figure A5. Key Independent Variables Univariate Kernal Density – Within Indicators





Figure A6. Control Variables Univariate Kernal Density – Between Indicators

Figure A7. Control Variables Univariate Kernal Density – Within Indicators



	GDP	Consumption	Investment	Government	Exports	Imports
GDP	1					
Consumption	0.9828	1				
Investment	0.9631	0.9365	1			
Government	0.9382	0.8905	0.8969	1		
Exports	0.9064	0.8845	0.8745	0.8606	1	
Imports	0.8873	0.8875	0.863	0.8448	0.9566	1

Table A2. Correlation matrix between key independent variables

Alternative model specifications

The following tables present various model re-specifications as checks of robustness.

	Between Effects						Within Effects					
	A1	A2	A3	A4	A5	A6	A1	A2	A3	A4	A5	A6
	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war
	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset
GDP per capita (log)	-0.61**						-0.25					
	(0.27)						(0.28)					
Total Private		-0.81***						-0.11				
Production/pc (log)		(0.30)						(0.30)				
Total Private			-0.42**						-0.01			
Investment/pc (log)			(0.18)						(0.15)			
Total Government				-0.56**						-0.05		
Spending/pc (log)				(0.22)						(0.18)		
Total Exports/pc (log)					-0.23						-0.26*	
					(0.17)						(0.13)	
Total Imports/pc (log)						-0.63***						-0.04
						(0.21)						(0.16)
Discrimination	0.58***	0.59***	0.56***	0.55***	0.56***	0.58***	-0.25	-0.26	-0.27	-0.26	-0.29	-0.27
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)
Oil Production	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Neighbor at war	0.60	0.45	0.82	0.78	0.62	0.45	0.01	-0.00	-0.01	0.01	0.01	-0.00
	(0.72)	(0.71)	(0.73)	(0.73)	(0.72)	(0.70)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)	(0.28)
Trade openness	-0.37	-0.35	-0.18	-0.35	0.15	1.06	-1.15*	-1.17*	-1.13*	-1.15*	-0.47	-1.05
	(0.72)	(0.71)	(0.74)	(0.73)	(0.88)	(0.85)	(0.64)	(0.64)	(0.65)	(0.65)	(0.72)	(0.73)
Democracy	0.08	-0.10	-0.43	0.51	0.14	0.19	3.05*	3.13**	3.11**	3.06*	3.07**	3.12**
	(3.13)	(3.10)	(3.12)	(3.17)	(3.17)	(3.08)	(1.56)	(1.57)	(1.57)	(1.56)	(1.56)	(1.56)
Democracy ²	1.46	1.92	1.87	0.81	1.00	1.55	-2.41	-2.52	-2.52	-2.47	-2.42	-2.52
	(2.90)	(2.90)	(2.91)	(2.92)	(2.92)	(2.84)	(1.65)	(1.65)	(1.65)	(1.65)	(1.64)	(1.64)
Net ODA	-0.01	-0.00	-0.00	-0.00	-0.01	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Peace decay							-0.99**	-0.98**	-0.97**	-0.96**	-1.10***	-0.96**
-							(0.41)	(0.41)	(0.41)	(0.41)	(0.42)	(0.41)
Constant	0.44	1.57	-2.00*	-1.14	-2.91***	-1.22						
	(1.98)	(2.15)	(1.15)	(1.34)	(1.05)	(1.17)						
No. of observations	3,515	3,515	3,515	3,515	3,515	3,515						
No. of countries	119	119	119	119	119	119						

Table A3. Additional control: Net ODA

 119
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 *** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses. Region fixed effects omitted from table.</td>

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	Between Effects						Within Effects					
	A7	A8	A9	A10	A11	A12	A7	A8	A9	A10	A11	A12
	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war
	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset
GDP per capita (log)	-0.59**						-0.08					
	(0.26)						(0.26)					
Total Private		-0.81***						0.06				
Production/pc (log)		(0.30)						(0.27)				
Total Private			-0.42**						0.08			
Investment/pc (log)			(0.18)						(0.14)			
Total Government				-0.50**						0.01		
Spending/pc (log)				(0.22)						(0.17)		
Total Exports/pc (log)					-0.23						-0.16	
					(0.17)						(0.13)	
Total Imports/pc (log)						-0.61***						-0.05
						(0.21)						(0.15)
Discrimination	0.68***	0.69***	0.67***	0.64***	0.67***	0.66***	-0.30*	-0.30*	-0.30	-0.30*	-0.31*	-0.31*
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Oil Production	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Neighbor at war	0.05	-0.12	0.21	0.20	0.11	0.05	0.16	0.15	0.15	0.15	0.17	0.16
	(0.72)	(0.72)	(0.72)	(0.72)	(0.73)	(0.71)	(0.25)	(0.26)	(0.25)	(0.25)	(0.26)	(0.26)
Trade openness	-1.26*	-1.22*	-1.12	-1.18*	-0.82	0.26	-0.66	-0.68	-0.73	-0.68	-0.22	-0.53
	(0.68)	(0.67)	(0.69)	(0.69)	(0.83)	(0.86)	(0.59)	(0.59)	(0.60)	(0.60)	(0.68)	(0.70)
Democracy	1.44	1.09	1.05	2.20	1.90	1.84	3.40**	3.43**	3.46**	3.42**	3.37**	3.45**
	(3.09)	(3.07)	(3.09)	(3.10)	(3.12)	(3.03)	(1.52)	(1.52)	(1.52)	(1.52)	(1.52)	(1.51)
Democracy ²	0.45	1.13	0.76	-0.52	-0.41	0.25	-2.75*	-2.83*	-2.85*	-2.80*	-2.69*	-2.79*
	(2.82)	(2.83)	(2.84)	(2.77)	(2.81)	(2.73)	(1.57)	(1.57)	(1.58)	(1.58)	(1.57)	(1.57)
Reporting Residual	0.04	0.05*	0.05*	0.04	0.05	0.03	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Peace decay							-0.65*	-0.63*	-0.62*	-0.64*	-0.72*	-0.66*
							(0.38)	(0.37)	(0.38)	(0.37)	(0.38)	(0.38)
Constant	0.37	1.70	-1.86	-1.33	-2.94***	-1.32						
	(2.03)	(2.19)	(1.22)	(1.39)	(1.09)	(1.22)						
No. of observations	5,007	5,007	5,007	5,007	5,007	5,007						
No. of countries	150	150	150	150	150	150						

Table A4. Additional control: Reporting residual

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses. Region fixed effects omitted from table. 8

	A13	A14	A15	A16	A17	A18
	Inequality	Inequality	Inequality	Inequality	Inequality	Inequality
Consumption	0.05***					
Opportunities	(0.00)					
Total Private		0.05***				
Production/pc (log)		(0.00)				
Total Private			0.03***			
Investment/pc (log)			(0.00)			
Total Government				0.04***		
Spending/pc (log)				(0.00)		
Total Exports/pc (log)					0.02***	
					(0.00)	
Total Imports/pc (log)						0.03***
						(0.00)
Constant	0.56***	0.58***	0.75***	0.69***	0.81***	0.79***
	(0.03)	(0.03)	(0.02)	(0.02)	(0.01)	(0.02)
Observations	4,938	4,938	4,938	4,938	4,938	4,938
Number of countries	148	148	148	148	148	148

Table A5. Key independent variables and inequality

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses.

	Between Effects						Within Effects					
	A19	A20	A21	A22	A23	A24	A19	A20	A21	A22	A23	A24
	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war
	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset
GDP per capita (log)	-0.29						0.21					
	(0.38)						(0.43)					
Total Private		-0.16						-0.05				
Production/pc (log)		(0.44)						(0.44)				
Total Private			-0.36						0.32			
Investment/pc (log)			(0.23)						(0.24)			
Total Government				-0.42						0.25		
Spending/pc (log)				(0.29)						(0.30)		
Total Exports/pc (log)					0.01						0.03	
					(0.25)						(0.17)	
Total Imports/pc (log)						-0.75**						-0.05
						(0.31)						(0.18)
Discrimination	0.85***	0.84***	0.84***	0.84***	0.84***	0.86***	-0.20	-0.22	-0.17	-0.16	-0.22	-0.20
	(0.24)	(0.25)	(0.24)	(0.25)	(0.24)	(0.24)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)
Oil Production	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Neighbor at War	1.80*	1.80*	1.94*	1.83*	1.89*	1.37	1.56**	1.58**	1.53**	1.57**	1.57**	1.61**
	(1.07)	(1.09)	(1.05)	(1.07)	(1.08)	(1.05)	(0.65)	(0.65)	(0.65)	(0.65)	(0.65)	(0.65)
Trade openness	-3.11***	-3.26***	-2.83**	-2.90***	-3.46**	-0.53	-0.57	-0.48	-0.80	-0.62	-0.65	-0.20
	(1.13)	(1.16)	(1.12)	(1.11)	(1.56)	(1.42)	(1.19)	(1.19)	(1.23)	(1.19)	(1.41)	(1.32)
Democracy	0.59	0.57	0.28	1.31	0.51	0.77	-5.15**	-5.23**	-5.20**	-5.09**	-5.25**	-4.97**
2	(3.80)	(3.83)	(3.67)	(3.86)	(3.83)	(3.87)	(2.12)	(2.12)	(2.12)	(2.12)	(2.13)	(2.11)
Democracy ²	1.72	1.57	2.38	1.13	1.35	2.55	4.21*	4.32*	4.34*	4.24*	4.31*	4.08*
	(3.40)	(3.44)	(3.32)	(3.39)	(3.38)	(3.44)	(2.30)	(2.30)	(2.28)	(2.29)	(2.30)	(2.28)
Peace Decay							2.70***	2.71***	2.65***	2.65***	2.72***	2.66***
							(0.54)	(0.54)	(0.54)	(0.54)	(0.54)	(0.54)
Constant	-4.52	-5.39*	-4.98***	-4.53**	-6.50***	-3.60**						
	(2.87)	(3.11)	(1.58)	(1.85)	(1.52)	(1.68)						
AIC	612	613	609	610	613	607						
No. of Observations	5,404	5,404	5,404	5,404	5,404	5,404						
No. of Countries	145	145	145	145	145	145						

Table A6. GDP and the onset of civil war (>1,000 battle-related deaths)

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses. Region fixed effects omitted from table.

	Between Effects						Within Effects					
	A25	A26	A27	A28	A29	A30	A25	A26	A27	A28	A29	A30
	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war
	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset
GDP per capita (log)	-0.63**						-0.08					
	(0.25)						(0.25)					
Total Private		-0.79***						-0.00				
Production/pc (log)		(0.28)						(0.27)				
Total Private			-0.44**						0.03			
Investment/pc (log)			(0.17)						(0.14)			
Total Government				-0.43**						0.00		
Spending/pc (log)				(0.21)						(0.16)		
Total Exports/pc (log)					-0.28*						-0.19	
					(0.16)						(0.13)	
Total Imports/pc (log)						-0.57***						-0.06
						(0.20)						(0.15)
Discrimination	0.66***	0.67***	0.65***	0.63***	0.65***	0.65***	-0.18	-0.18	-0.18	-0.18	-0.19	-0.18
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Oil Production	0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Neighbor at war	0.03	-0.10	0.26	0.21	0.11	-0.03	0.09	0.08	0.08	0.08	0.11	0.09
	(0.68)	(0.68)	(0.68)	(0.69)	(0.69)	(0.67)	(0.26)	(0.26)	(0.26)	(0.26)	(0.26)	(0.26)
Trade openness	-0.02	-0.02	0.17	-0.09	0.59	1.18	-0.88	-0.90	-0.92	-0.91	-0.37	-0.75
	(0.68)	(0.67)	(0.70)	(0.70)	(0.82)	(0.82)	(0.59)	(0.59)	(0.60)	(0.59)	(0.68)	(0.68)
Democracy	1.30	1.01	1.03	2.08	1.78	1.66	3.02**	3.04**	3.08**	3.04**	3.02**	3.03**
	(2.89)	(2.88)	(2.88)	(2.93)	(2.92)	(2.87)	(1.53)	(1.53)	(1.53)	(1.53)	(1.53)	(1.53)
Democracy ²	0.05	0.57	0.24	-1.05	-0.83	-0.16	-2.54	-2.59	-2.63*	-2.59	-2.51	-2.54
	(2.63)	(2.64)	(2.63)	(2.60)	(2.62)	(2.58)	(1.58)	(1.58)	(1.58)	(1.58)	(1.57)	(1.57)
Population _(log)	0.50***	0.49***	0.51***	0.46***	0.51***	0.44***	0.58*	0.58*	0.57*	0.58*	0.61*	0.60*
	(0.13)	(0.12)	(0.13)	(0.13)	(0.13)	(0.12)	(0.31)	(0.31)	(0.31)	(0.31)	(0.31)	(0.32)
Peace decay							-0.54	-0.53	-0.52	-0.53	-0.61	-0.54
							(0.37)	(0.37)	(0.37)	(0.37)	(0.38)	(0.37)
Constant	0.37	1.70	-1.86	-1.33	-2.94***	-1.32						
	(2.03)	(2.19)	(1.22)	(1.39)	(1.09)	(1.22)						
No. of observations	5,007	5,007	5,007	5,007	5,007	5,007						
No. of countries	150	150	150	150	150	150						

Table A7. Additional control: Population

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses. Region fixed effects omitted from table. 11

Leverage analysis

The identification of influential cases was completed through DFBETA leverage analyses, the results of which are shown in Figure A8.



Figure A8. DFBETA leverage analysis

Table A8 shows the results of a repeated analysis of the data when omitting 'influential cases' (identified potential influential cases as per Figure A8 are (GWNo): 45, 335, 430, 437, 1296, 1880, 2930, and 3345). As can be seen, there is little substantive change from Table 1.

	Between Effects						Within Effects					
	A31	A32	A33	A34	A35	A36	A31	A32	A33	A34	A35	A36
	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war	Civil war
	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset	onset
GDP per capita (log)	-0.54*						-0.15					
	(0.31)						(0.26)					
Total Private		-0.76**						-0.07				
Production/pc (log)		(0.35)						(0.28)				
Total Private			-0.34*						0.03			
Investment/pc (log)			(0.21)						(0.15)			
Total Government				-0.45*						-0.03		
Spending/pc (log)				(0.25)						(0.17)		
Total Exports/pc (log)					-0.15						-0.22*	
					(0.19)						(0.13)	
Total Imports/pc (log)						-0.61***						-0.06
						(0.23)						(0.15)
Discrimination	0.72***	0.73***	0.71***	0.69***	0.72***	0.72***	-0.29	-0.29	-0.29	-0.29	-0.32*	-0.30
	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.20)	(0.18)	(0.18)	(0.18)	(0.18)	(0.19)	(0.18)
Oil Production	-0.00	-0.00	-0.00	-0.00	-0.00	-0.00	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Neighbor at War	0.20	0.06	0.38	0.35	0.27	0.11	0.11	0.10	0.10	0.10	0.12	0.10
	(0.77)	(0.77)	(0.77)	(0.77)	(0.78)	(0.76)	(0.27)	(0.27)	(0.27)	(0.26)	(0.27)	(0.27)
Trade openness	-1.32*	-1.25*	-1.22	-1.26*	-1.14	0.21	-0.62	-0.65	-0.68	-0.65	-0.01	-0.49
	(0.75)	(0.74)	(0.77)	(0.76)	(0.95)	(0.95)	(0.62)	(0.62)	(0.63)	(0.62)	(0.72)	(0.72)
Democracy	0.41	0.12	0.17	1.12	0.70	0.64	2.93*	2.98*	3.00*	2.95*	2.92*	2.98*
	(3.33)	(3.31)	(3.34)	(3.34)	(3.36)	(3.26)	(1.54)	(1.54)	(1.55)	(1.54)	(1.54)	(1.54)
Democracy ²	1.14	1.74	1.23	0.23	0.38	1.21	-2.05	-2.12	-2.17	-2.10	-2.01	-2.10
	(3.04)	(3.06)	(3.05)	(2.98)	(3.02)	(2.95)	(1.61)	(1.61)	(1.61)	(1.61)	(1.61)	(1.60)
Peace Decay							-0.74*	-0.73*	-0.72*	-0.73*	-0.83**	-0.74*
							(0.39)	(0.39)	(0.39)	(0.38)	(0.39)	(0.39)
Constant	0.16	1.51	-2.06	-1.43	-3.03***	-1.13						
	(2.32)	(2.52)	(1.32)	(1.51)	(1.17)	(1.32)						
AIC	1,336	1,335	1,337	1,337	1,336	1,333						
No. of Observations	4,999	4,999	4,999	4,999	4,999	4,999						
No. of Countries	150	150	150	150	150	150						

Table A8. GDP and the onset of civil war excluding influential observations

*** p<0.01, ** p<0.05, * p<0.1. Standard errors in parentheses. Region fixed effects omitted from table

Appendix B

This appendix contains figures and tables of additional observations within the data and from the models specified in Chapter 2.

Search for influential cases

To assess influential cases dfbetas were calculated for all righthand-side variables. The figure is an added-variable plot for the indicator of agricultural GDP. Municipality 11001 (Bogotá) stands out as a clear influential case.



Figure B1. Added-Variable Plot for Agricultural GDP in Model 2

Unsatisfied Basic Needs

Unsatisfied basic needs are clearly being influenced by agricultural incomes in the table below. The negative relationship between the two variables shows that lives become harder when agricultural incomes fall. Thus, providing a push incentive from productive employment into insurgency.

Table B1. The relative returns from

agricultural employment and								
unsatisfied basic needs								
	Model B1							
	UBN							
Agricultural GDP _{a, b}	-1.72***							
	(0.31)							
Other GDP _{a, b}	-0.57							
	(0.39)							
Population _{a, b}	-9.38***							
-	(1.21)							
Conflict	-0.07							
	(0.16)							
Constant	156.48***							
	(11.37)							
Observations	10,770							
No. of Municipalities	1,096							
Standard errors in pa	arentheses							

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

Checks of Robustness

	Model B2	Model B3	Model B4	Model B5	Model B6
	Number of	Number of	Number of	Number of	Number of
	Guerrilla	Guerrilla	Guerrilla	Guerrilla	Guerrilla
	Attacks _b	Attacks _b	Attacks _b	Attacks _b	Attacks _b
Agricultural	-0.21***	-0.21***	-0.23***	-0.23***	-0.23***
GDP _{a, b}	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
Other GDP _{a, b}	0.02	0.07	0.04	0.03	0.03
	(0.11)	(0.10)	(0.11)	(0.11)	(0.11)
Coca Production _a	-0.00***	-0.00***	-0.00***	-0.00***	
	(0.00)	(0.00)	(0.00)	(0.00)	
Population _{a, b}	0.29*	0.29*	0.32**	0.30*	0.29*
	(0.16)	(0.16)	(0.16)	(0.16)	(0.16)
Number of	0.14***	0.14***	0.14***	0.14***	0.14***
Kidnappings	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Year Spline 1	-4.35***				
	(1.26)				
Year Spline 2	8.11***				
	(2.28)				
Year Spline 3	-13.33***				
	(3.66)				
Year		46.55***			
		(6.35)			
Year ²		-0.01***			
		(0.00)			
Size (ha)				0.00	
				(0.00)	
Alternative Coca					-0.00***
					(0.00)
Constant	8,662.80***	-1.08	-0.73	-0.54	-0.47
	(2,516.06)	(1.91)	(1.89)	(1.92)	(1.90)
Observations	7.671	7.671	7,629	7,664	7,671
No. of	1,096	1,096	1,090	1,095	1,096
Municipalities	<i>,</i>	,	,	<i>,</i>	<i>,</i>

Table B2. Alternative models and checks of robustness 1/2

Standard errors in parentheses. Year fixed effects omitted from table where appropriate. *** p<0.01, ** p<0.05, * p<0.1

As discussed in the paper, Table AII presents some of the results of several robustness checks. Model A2 includes year splines instead of year-fixed effects. Similarly, Model A3 includes the indicator of year and year² instead of year-fixed effects. Model A4 excludes urban municipalities from the analysis. Model A5 includes a control for size of the municipality. Model A6 uses an alternative measure of coca production.

As can be seen, the substantive interpretation of these models does not change from those presented in the main paper of Model 3.

	Model B7	Model B8	Model B9	Model B10	Model B11
	Number of				
	Guerrilla	Guerrilla	Guerrilla	Guerrilla	Guerrilla
	Attacks _b				
Agricultural	-0.32***	-0.19***	-0.15**	-0.22***	
GDP _{a, b}	(0.08)	(0.03)	(0.06)	(0.06)	
Other GDP _{a, b}	-0.06	-0.08	0.03	0.05	-0.14
	(0.13)	(0.05)	(0.10)	(0.11)	(0.11)
Coca Production _a	-0.00***	0.00	-0.00***	-0.00***	-0.00***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Population _{a, b}	0.54**	-0.04	0.35**	0.30*	0.30*
	(0.23)	(0.08)	(0.16)	(0.16)	(0.16)
Number of	0.18***			0.14***	0.14***
Kidnappings	(0.02)			(0.01)	(0.01)
ELN		0.15***			
Kidnappings		(0.01)			
FARC			0.19***		
Kidnappings			(0.01)		
AUC Presence				0.10***	
				(0.02)	
AGDP/GDP					-1.29***
					(0.35)
Constant	-1.17	3.15***	-1.74	-0.87	-0.46
	(2.58)	(0.95)	(1.84)	(1.90)	(1.90)
Observations	3,534	7,671	7,671	7,671	7,671
No. of	505	1,096	1,096	1,096	1,096
Municipalities					

Table B3. Alternative models and checks of robustness 2/2

Standard errors in parentheses. Year fixed effects omitted from table. *** p<0.01, ** p<0.05, * p<0.1

Table AIII above presents the final models computed as checks of robustness. Model A7 omits coffee producing municipalities. Model A8 restricts the analysis to the ELN only. Model A9 restricts the analysis to the FARC only. Model A10 controls additionally for the presence of the AUC. Model A11 uses a measure of agricultural GDP as a fraction of GDP in place of total Agricultural GDP. Results presented in this table show no change in the substantive interpretation with regard to H1.

Appendix C

This appendix contains figures and tables of additional observations within the data and from the models specified in Chapter 3.

Original tables 1 and 2

For printing reasons tables 1 and 2 were split in half. Below are the original tables.

1		Between	n effects		Within effects				
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)	
	Militia								
	Activity _b								
Coal and rebels _a	0.08*	0.08*	0.08*	0.08*	0.03	0.03	0.03	0.03	
	(0.04)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)	
Coal, no rebels _a	-0.29***	-0.28***	-0.29***	-0.28***	0.00	0.00	0.00	0.00	
	(0.10)	(0.10)	(0.10)	(0.10)	(0.02)	(0.02)	(0.02)	(0.02)	
Oil and rebels _a		0.03***	0.03***	0.03***		0.07***	0.07***	0.07***	
		(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.01)	
Oil, no rebelsa		0.03	0.03	0.03		0.07***	0.07***	0.07***	
		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)	
Gold and rebels			0.06**	0.05**					
			(0.02)	(0.02)					
Gold, no rebels			-0.02	-0.02					
			(0.02)	(0.02)					
Emeralds and rebels _a				0.44***				0.14**	
				(0.17)				(0.06)	
Emeralds, no rebels _a				-0.04				-0.13	
				(0.28)				(0.11)	
Where they start	0.29***	0.30***	0.29***	0.28***					
•	(0.04)	(0.04)	(0.04)	(0.04)					
Population _{a, b}	0.07***	0.07***	0.06***	0.06***	0.21***	0.16***	0.18***	0.18***	
•	(0.01)	(0.01)	(0.01)	(0.01)	(0.06)	(0.06)	(0.06)	(0.06)	
Size (ha)	0.00	0.00	0.00	0.00		· · · ·	· · · ·	· · /	
	(0.00)	(0.00)	(0.00)	(0.00)					
Forest Cover _a	0.00***	0.00***	0.00***	0.00***	0.02***	0.02**	0.02**	0.02**	
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	
Mountainous share	-0.14***	-0.13***	-0.14***	-0.14***		· · · ·	· · · ·	· · /	
of land	(0.03)	(0.03)	(0.03)	(0.03)					
Indigenous share of	-0.10**	-0.10**	-0.10**	-0.10**					
population	(0.05)	(0.05)	(0.05)	(0.05)					
Guerrilla activity _a	0.04***	0.04***	0.04***	0.04***	0.01***	0.01***	0.01***	0.01***	
·	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	
Year		. ,			50.03***	50.11***	49.79***	49.80***	
					(2.04)	(2.04)	(2.04)	(2.04)	
Year ²					-0.01***	-0.01***	-0.01***	-0.01***	
					(0.00)	(0.00)	(0.00)	(0.00)	
Constant	-0.38***	-0.37***	-0.37***	-0.37***					
	(0.08)	(0.08)	(0.08)	(0.08)					
AIC	11,490	11,454	11,437	11,431					
# of Observations	10,967	10,967	10,967	10,967					
# of Municipalities	1,108	1,108	1,108	1,108					

Table 1. The prioritization of militia activity

Standard errors in parentheses. Department-fixed effects omitted from table. a denotes variable has been lagged; b denotes variable has been logged. *** p<0.01, ** p<0.05, * p<0.1

	Between effects				Within effects			
	(5)	(6)	(7)	(8)	(5)	(6)	(7)	(8)
	Militia							
	Activity _b							
Coal and rebels _a	0.08*	0.08*	0.08*	0.07*	0.03	0.03	0.03	0.03
	(0.04)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)
Coal, no rebels _a	-0.28***	-0.28***	-0.28***	-0.26***	0.00	0.00	0.00	0.00
	(0.10)	(0.10)	(0.10)	(0.10)	(0.02)	(0.02)	(0.02)	(0.02)
Oil and rebels _a	0.03***	0.03***	0.03***	0.03***	0.07***	0.07***	0.07***	0.07***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Oil, no rebels _a	0.03	0.03	0.03	0.03	0.07***	0.07***	0.07***	0.07***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Gold and rebels	0.05**	0.05**	0.06**	0.06**				
	(0.02)	(0.02)	(0.02)	(0.02)				
Gold, no rebels	-0.02	-0.02	-0.02	-0.02				
	(0.02)	(0.02)	(0.02)	(0.02)				
Emeralds and	0.44***	0.44***	0.43**	0.44***	0.14**	0.14**	0.14**	0.14**
rebels _a	(0.17)	(0.17)	(0.17)	(0.17)	(0.06)	(0.06)	(0.06)	(0.06)
Emeralds, no rebels _a	-0.04	-0.04	-0.04	-0.07	-0.13	-0.13	-0.13	-0.13
	(0.28)	(0.28)	(0.27)	(0.28)	(0.11)	(0.11)	(0.11)	(0.11)
Where they start	0.28***	0.28***	0.28***	0.28***				
	(0.04)	(0.04)	(0.04)	(0.04)				
Population _{a, b}	0.06***	0.06***	0.07***	0.06***	0.18***	0.18***	0.18***	0.18***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.06)	(0.06)	(0.06)	(0.06)
Size (ha)	0.00	0.00	0.00	0.00				
	(0.00)	(0.00)	(0.00)	(0.00)				
Forest Cover _a	0.00***	0.00***	0.00***	0.00***	0.02**	0.02**	0.02**	0.02**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mountainous share	-0.14***	-0.14***	-0.13***	-0.14***				
of land	(0.03)	(0.03)	(0.03)	(0.03)				
Indigenous share of	-0.10**	-0.10**	-0.10**	-0.09*				
population	(0.05)	(0.05)	(0.05)	(0.05)				
Guerrilla activity _a	0.04***	0.04***	0.04***	0.04***	0.01***	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year					49.80***	49.80***	49.81***	49.79***
2					(2.04)	(2.04)	(2.04)	(2.04)
Year ²					-0.01***	-0.01***	-0.01***	-0.01***
					(0.00)	(0.00)	(0.00)	(0.00)
Urban (>50%)	0.00							
	(0.02)							
Urban (>75%)		0.01						
		(0.02)						
Urban (>90%)			-0.11***					
			(0.04)					
Urban				0.04**				
(60%>n<90%)				(0.02)				
Constant	-0.37***	-0.35***	-0.47***	-0.35***				
	(0.09)	(0.09)	(0.09)	(0.08)				
AIC	11,433	11,433	11,424	11,429				
# of Observations	10,967	10,967	10,967	10,967				
# of Municipalities	1.108	1.108	1.108	1.108	1			

Table 2. How they grow

Standard errors in parentheses. Department-fixed effects omitted from table. a denotes variable has been lagged; b denotes variable has been logged. *** p<0.01, ** p<0.05, * p<0.1

Variation in the key independent variables

Concern could be raised that no relationship is found between high-value economic assets and militia activity because there is little or no variation in economic assets when the AUC was not present. The following figures (C1-10) display variation in the presence of economic assets over the sample period. As can be seen, there is less variation in the presence of highvalue economic assets when rebel groups were not present; however, a good amount of variation yet remains.

Figure C1. The level of AUC activity in the presence of rebel groups









Figure C3. Municipalities that produced coal in the presence of rebel groups





Figure C4. Municipalities that produced coal in the absence of rebel groups

Figure C5. Municipalities that produced oil in the presence of rebel groups



Figure C6. Municipalities that produced oil in the absence of rebel groups



Figure C7. Municipalities that produced emeralds in the presence of rebel groups



Figure C8. Municipalities that produced emeralds in the absence of rebel groups



Figure C9. Municipalities with gold that coincide with the presence of rebel groups





Figure C10. Municipalities with gold that do not coincide with the presence of rebel groups



Time-dependence of AUC activity

The below graph clearly shows an inverted-U shape to the total value of the dependent variable over the sample period. A time squared variable was thus used to help correct for temporal dependence.





Alternative model specifications

The following tables are discus	sed in the robustness	checks section of	the main manuscript.
Table C1. Alternative dependent variab	le: AUC Presence		

	Between effects				Within effects			
	Model	Model	Model	Model	Model	Model	Model	Model
	C1	C2	C3	C4	C1	C2	C3	C4
	Militia	Militia	Militia	Militia	Militia	Militia	Militia	Militia
	Presence	Presence	Presence	Presence	Presence	Presence	Presence	Presence
Coal and rebels _a	0.06*	0.06*	0.06**	0.06**	0.01	0.01	0.01	0.01
	(0.03)	(0.03)	(0.03)	(0.03)	(0.02)	(0.02)	(0.02)	(0.02)
Coal, no rebels _a	-0.20**	-0.20**	-0.20***	-0.20***	0.01	0.01	0.01	0.01
	(0.08)	(0.08)	(0.08)	(0.08)	(0.02)	(0.02)	(0.02)	(0.02)
Oil and rebels _a		0.00	0.00	0.00		0.04***	0.04***	0.04***
		(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.01)
Oil, no rebels _a		-0.01	-0.01	-0.01		0.02	0.02	0.02
		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)
Gold and rebels			0.05**	0.04**				
			(0.02)	(0.02)				
Gold, no rebels			-0.04**	-0.04*				
			(0.02)	(0.02)				
Emeralds and				0.33**				0.08
rebelsa				(0.13)				(0.05)
Emeralds, no rebels _a				-0.16				-0.09
				(0.21)				(0.09)
Where they start	0.20***	0.20***	0.19***	0.19***				
	(0.03)	(0.03)	(0.03)	(0.03)				
Population _{a, b}	0.08***	0.08***	0.08***	0.08***	0.21***	0.19***	0.21***	0.21***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.05)	(0.05)	(0.05)	(0.05)
Size (ha)	-0.00	-0.00	-0.00	-0.00				
	(0.00)	(0.00)	(0.00)	(0.00)				
Forest cover _a	0.00***	0.00***	0.00***	0.00***	0.01	0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mountainous share	-0.12***	-0.12***	-0.13***	-0.12***				
of land	(0.03)	(0.03)	(0.03)	(0.03)				
Indigenous share of	-0.10***	-0.10***	-0.11***	-0.10***				
population	(0.04)	(0.04)	(0.04)	(0.04)				
Guerrilla activity _a	0.02***	0.02***	0.02***	0.02***	0.01***	0.01***	0.01***	0.01***
**	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year					38.45***	38.47***	38.13***	38.15***
x z 2					(1.76)	(1.76)	(1.76)	(1./6)
Y ear ²					-0.01***	-0.01***	-0.01***	-0.01***
	0 17444	0 17 10 10 10	O 1 Cakakak	O 1 Cakakak	(0.00)	(0.00)	(0.00)	(0.00)
Constant	$-0.4/^{***}$	$-0.4/^{***}$	-0.46^{***}	-0.46^{***}				
	(0.06)	(0.06)	(0.06)	(0.06)				
AIC # of Observations	ð,009 10.067	ð,005 10.067	1,970	1,974				
# of Municipalities	10,907	10,907	10,907	10,907				
# of Municipalities	1,108	1,108	1,108	1,108				

Standard errors in parentheses. Department-fixed effects omitted from table. a denotes

	Model C5	Model C5
	Militia Activity _b	Militia Activity _b
Coca and rebels _a	-0.00	-0.00
	(0.00)	(0.00)
Coca, no rebels _a	-0.00***	-0.00
	(0.00)	(0.00)
Where they start	0.25***	
	(0.05)	
Population _{a, b}	0.10***	0.03
	(0.01)	(0.13)
Size (ha)	0.00**	
	(0.00)	
Forest cover _a	0.00***	0.02**
	(0.00)	(0.01)
Mountainous share	-0.20***	
of land	(0.05)	
Indigenous share of	-0.15**	
population	(0.07)	
Guerrilla activity _a	0.06***	0.00
	(0.00)	(0.00)
Year		79.68***
		(8.06)
Year ²		-0.02***
		(0.00)
Constant	-0.73***	
	(0.12)	
AIC	8,178	
# of Observations	6,643	
# of Municipalities	1,108	

variable has been lagged; b denotes variable has been logged. *** p<0.01, ** p<0.05, * p<0.1 Table C2. Alternative independent variable: Coca plantation

Standard errors in parentheses. Department-fixed effects omitted from table. a denotes variable has been lagged; b denotes variable has been logged. *** p<0.01, ** p<0.05, * p<0.1

Table C3. Restricted dependent variable: Exclude the number of armed contacts between state forces and the AUC as a result of state offensive actions

	Between effects				Within effects			
	Model							
	C6	C7	C8	C9	C6	C7	C8	C9
	Militia							
	Activity _b							
Coal and rebels _a	0.01	0.01	0.02	0.02	-0.01	-0.01	-0.01	-0.01
	(0.04)	(0.04)	(0.04)	(0.04)	(0.02)	(0.02)	(0.02)	(0.02)
Coal, no rebels _a	-0.14	-0.13	-0.14	-0.14	-0.03	-0.02	-0.02	-0.02
	(0.09)	(0.09)	(0.09)	(0.09)	(0.02)	(0.02)	(0.02)	(0.02)
Oil and rebels _a		0.03***	0.03***	0.03***		0.05***	0.05***	0.05***
		(0.01)	(0.01)	(0.01)		(0.01)	(0.01)	(0.01)
Oil, no rebels _a		0.03	0.03	0.03		0.07***	0.07***	0.07***
		(0.03)	(0.03)	(0.03)		(0.02)	(0.02)	(0.02)
Gold and rebels			0.05**	0.05**				
			(0.02)	(0.02)				
Gold, no rebels			-0.01	-0.01				
			(0.02)	(0.02)				
Emeralds and				0.33**				0.11*
rebels _a				(0.15)				(0.06)
Emeralds, no rebels _a				-0.09				-0.10
				(0.24)				(0.10)
Where they start	0.27***	0.27***	0.26***	0.26***				
	(0.03)	(0.03)	(0.03)	(0.03)				
Population _{a, b}	0.06***	0.05***	0.05***	0.05***	0.17***	0.14**	0.15***	0.15***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.05)	(0.05)	(0.05)	(0.05)
Size (ha)	0.00	0.00	0.00	0.00				
	(0.00)	(0.00)	(0.00)	(0.00)				
Forest cover _a	0.00***	0.00***	0.00***	0.00***	0.02**	0.01**	0.01**	0.01**
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Mountainous share	-0.10***	-0.10***	-0.10***	-0.10***				
of land	(0.03)	(0.03)	(0.03)	(0.03)				
Indigenous share of	-0.08*	-0.08**	-0.09**	-0.09**				
population	(0.04)	(0.04)	(0.04)	(0.04)				
Guerrilla activity _a	0.04***	0.04***	0.04***	0.04***	0.01***	0.01***	0.01***	0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Year					45.66***	45.75***	45.49***	45.50***
2					(1.89)	(1.89)	(1.89)	(1.89)
Year ²					-0.01***	-0.01***	-0.01***	-0.01***
					(0.00)	(0.00)	(0.00)	(0.00)
Constant	-0.32***	-0.31***	-0.31***	-0.31***				
	(0.07)	(0.07)	(0.07)	(0.07)				
AIC	9,701	9,669	9,656	9,654				
# of Observations	10,967	10,967	10,967	10,967				
# of Municipalities	1,108	1,108	1,108	1,108				

Standard errors in parentheses. Department-fixed effects omitted from table. a denotes variable has been lagged; b denotes variable has been logged. *** p<0.01, ** p<0.05, * p<0.1