Web-appendices for "Rules that matters: Political Institutions and the Diversity-Conflict Nexus"

This appendix falls into four parts. We first offer some descriptive statistics on the countries under examination, move on to a presentation of the full results obtained for the tests of the proportional hazard assumption in the duration models. Next, we report results for the interaction terms before calculating the combined marginal effects as presented in the article. Fourth, we present the endogeneity tests that we have conducted to compare our results with similar inquiries that have relied on an instrumental variable approach.

A1: Descriptive statistics

Table A1-1: Variables and Sources

Variable	*Explanation*	*Source*
Civil War Onset	Onset of minor armed internal and internationalized conflict located in the country of reference; 1 if the threshold of 25-battle related deaths has been crossed;	*Armed Conflict Dataset Version 3.0 (Strand et al. 2004)*
Population	Natural logarithm of total population	*Penn World Tables 6.1*
Development	Natural logarithm of GDP per capita	*PWT 6.1*
Ethnic Fractionalization	Ethnic Fractionalization Index	*Fearon (2003)*
Ethnic Dominance	1 if the share of an ethnic group is between 60 and 90%	*Authors' calculation using Fearon (2003)*
Ethnic Polarization	1 for highly polarized societies, 0 otherwise	*Authors' calculation using Fearon (2003)*
Majoritarian System	1 if majoritarian system, 0 if not	*Authors' coding based on Golder (2004)*
Proportional System	1 if proportional system, 0 if not	*Authors' coding based Golder (2004)*
Effective Number of Parties	Effective number of electoral parties based on the formula from Laakso and Taagepera	*Golder (2004)*
Average District Magnitude	Natural logarithm of the total number of seats allocated in the lowest tier divided by the total number of districts in that tier	*Golder (2004)*
Presidential System	1 if presidential system, 0 if not	*Golder (2004)*
Federalism	1 if federal state, 0 if not (Polity III data plus updates for post 1994)	*Polity III (1996) Griffiths et al. (2005) Kuenzi et al. (2005)*
English legal origin	1 if the legal origin of the company law or commercial code is English, 0 if not	*La Porta, et al. (1999)*
French legal origin	1 if the legal origin of the company law or commercial code is French, 0 if not	*La Porta, et al. (1999)*

Table A1-2: Democratic Countries and the Onset of Civil War, 1950-2000 (Basic Sample, 89 Countries, 32 Failures)

Country	Democratic Periods	Onset
Albania	1992-2000	
Argentina	1950-1954, 1958-1965*, 1973-1975, 1983-2000	1963, 1973
Armenia	1993-2000	
Australia	1950-2000	
Austria	1950-2000	
Bangladesh	1991-2000	
Belgium	1950-2000	
Benin	1991-2000	
Bolivia	1979-1980*, 1982-2000	
Brazil	1950-1963, 1979-2000	
Bulgaria	1990-2000	
Canada	1950-2000	
Central African Republic	1994-2000	
Chile	1951-1973*, 1990-2000	1973
Colombia	1958-2000	1965
Congo	1960-1963*, 1992-1996	1993
Costa Rica	1950-2000	
Croatia	1995-2000	1995
Cyprus	1960-2000	
Czech Republic	1993-2000	
Denmark	1950-2000	
Dominican Republic	1967-2000	
Ecuador	1951-1962, 1979-2000	
El Salvador	1984-2000	
Estonia	1992-2000	
Finland	1950-2000	
France	1950-2000	1961
Germany	1950-2000	
Ghana	1979-1980	
Greece	1951-1966, 1974-2000	
Guatemala	1950-1953, 1958-1962, 1966-2000*	
Guyana	1993-2000	
Haiti	1995-2000	
Honduras	1957-1962,1971, 1982-2000	

Hungary	1990-2000	
India	1950-2000	1956, 1961, 1978
Indonesia	2000	
Ireland	1950-2000	
Italy	1950-2000	
Jamaica	1963-2000	
Japan	1950-2000	
Kyrgyz Republic	1994-2000	
Latvia	1993-2000	
Lithuania	1993-2000	
Macedonia	1994-2000	
Madagascar	1994-2000	
Malawi	1995-2000	
Mali	1993-2000	1994
Mauritius	1976-2000	
Mexico	2000	
Moldova	1997-2000	
Mongolia	1996	
Namibia	1994-2000	
Nepal	1992-2000	1996
Netherlands	1950-2000	
New Zealand	1950-2000	
Nicaragua	1985-2000	
Niger	1994-1995	1994
Nigeria	1961-1965, 1979-1983*, 1999-2000	
Norway	1950-2000	
Pakistan	1977*, 1988-1997	1990, 1995
Panama	1952-1968*, 1989-2000	1989
Peru	1956-1967*, 1980-1990*	1965, 1980
Philippines	1950-1965*, 1986-2000	
Poland	1991-2000	
Portugal	1976-2000	
Romania	1991-2000	
Russia	1991-2000	1993, 1999
Sierra Leone	1962-1967*, 1996-2000	
Slovak Republic	1995-2000	

Slovenia	1993-2000	
South Africa	1994-2000	
South Korea	1960, 1988-2000	
Spain	1977-2000	1980, 1987, 1991
Sri Lanka	1952-1977*, 1989-2000	1971
Sweden	1951-2000	
Switzerland	1950-2000	
Taiwan	1997-1998	
Thailand	1976*, 1983-1990, 1992-2000	
Trinidad and Tobago	1966-2000	1990
Turkey	1961-1979, 1983-2000	1984
Uganda	1981-1984	1981
Ukraine	1993-2000	
United Kingdom	1950-2000	1971, 1998
United States	1950-2000	1950
Uruguay	1950-1972, 1985-2000	1972
Venezuela	1963-2000	1992
Zambia	1992-2000	

* The asterisk marks the period where, due to the second definition of democracy introduced by Golder (2004) and used in the printed version of the article, one year is 'added'. The follwing countries experienced a competitive election prior to a transition to autocracy in a given year: Argentina (1962), Bolivia (1980), Chile (1973), Congo (1963), Guatemala (1982), Nigeria (1983), Pakistan (1977), Panama (1968), Peru (1962, 1990), Philippines (1965), Sierra Leone (1967), Sri Lanka (1977), Thailand (1976). Note that the estimations remained stable after the exclusion of these cases from the democracy data set. Our results were also not affected by the reliance on the more restrictive democracy definition that for example Hegre et al. (2001) used. They only classified regimes as full democracies if they received a score of 6 and more on the Polity scale.

A2: Tests of proportional hazard assumption based on Schoenfeld residuals for models in tables 1 and 2

In all tests all chi-square statistics have 1 degree of freedom, except for the global tests. The robust variance-covariance matrix was used. Our decision to include interactions with exp(ln(_t)) was based on the result for the individual variable and not on the global test.

Table A2-1 (Table 1 in the article)

	Rho	chi2	Prob>chi2
Population	-0.15974	3.26	0.0708
Development	-0.23774	6.64	0.0100
Democracy	0.01027	0.01	0.9085
Ethnic Fractionalization	-0.03017	0.12	0.7287
Ethnic Dominance	0.21511	8.04	0.0046
Polarization	-0.21034	8.56	0.0034
PolarizatiDemo	0.17591	7.59	0.0059
efDemo	0.00364	0.00	0.9648
efdomDemo	-0.14093	4.33	0.0375
Regime durability	-0.01426	0.10	0.7541
Global test	-	17.91	0.0565

Table A2-2 (Table 2 in the article)

Model 1

	Rho	chi2	Prob>chi2
Population	-0.01241	0.001	0.9285
Development	-0.18662	0.89	0.3463
Regime durability	0.15026	1.30	0.2551
Ethnic Fractionalization	-0.06116	0.10	0.7513
Ethnic Dominance	0.04208	0.09	0.7609
Polarization	0.12189	0.74	0.3884
global test	-	3.31	0.7689

Model 2

	Rho	chi2	Prob>chi2
Population	0.06457	0.29	0.5889
Development	0.02452	0.01	0.9033
Regime durability	0.14640	0.96	0.3269
Ethnic Fractionalization	-0.17487	1.20	0.2726
Ethnic Dominance	0.20330	4.61	0.0318
Polarization	0.03128	0.07	0.7901
major	0.19047	1.26	0.2616
efmajor	0.00278	0.00	0.9866
efdommajor	-0.21187	2.59	0.1073
polmajor	0.06150	0.28	0.5951
global test	-	13.65	0.1896

Model 3 – this is the explicit model for proportional systems. It only appears in the Webappendix, see A.3.

	Rho	chi2	Prob>chi2
Population	0.15620	1.30	0.2546
Development	-0.17517	1.14	0.2859
Regime durability	0.17600	1.84	0.1752
Ethnic Fractionalization	-0.19086	1.26	0.2624
Ethnic Dominance	-0.09015	0.20	0.6535
Polarization	0.32435	5.88	0.0153
Proportional Systems	-0.09015	0.20	0.6535
efprop	0.11362	0.45	0.5039
Efdomprop	0.21791	2.26	0.1329
polprop	-0.300	4.10	0.0428
global test	-	10.82	0.3714

Model 4 (Model 3 in the article)

	rho	chi2	Prob>chi2
Population	-0.21894	3.53	0.0602
Development	0.25381	2.10	0.1472
Regime durability	0.11981	1.01	0.3142
Ethnic Fractionalization	-0.06249	0.11	0.7420
Ethnic Dominance	0.22969	1.46	0.2268
Polarization	0.19160	1.24	0.2645
Federalism	0.24281	1.71	0.1906
Effed	0.10713	0.17	0.6831
Efdomfed	-0.24967	3.52	0.0606
Polfed	-0.03670	0.09	0.7681
global test	-	12.75	0.2377

Model 5 (Model 4 in the article)

	rho	chi2	Prob>chi2
Population	-0.22999	2.73	0.0983
Development	-0.00020	0.00	0.9992
Regime durability	0.17364	2.59	0.1074
Ethnic Fractionalization	0.00761	0.00	0.9637
Ethnic Dominance	-0.11823	0.49	0.4844
Polarization	0.00780	0.00	0.9679
Presidentialism	-0.16835	0.93	0.3353
efpresi	-0.11905	0.67	0.4146
Efdompresi	0.30038	2.91	0.0880
Polpresi	0.12145	0.64	0.4245
global test	-	24.52	0.0063

Table A2-3 (Table 2 in the article)

Model 6 (Model 5 in the article)

	rho	chi2	Prob>chi2
Population	0.09050	0.38	0.5380
Development	-0.03203	0.05	0.8260
Regime durability	0.23453	2.54	0.1111
Ethnic Fractionalization	-0.24102	2.40	0.1214
Ethnic Dominance	-0.14141	2.34	0.1260
Polarization	0.15216	2.94	0.0866
Effective N° of parties	-0.31431	4.38	0.0363
Effective N° 2	0.32838	5.03	0.0248
Efenep	0.19370	1.47	0.2254
efenep2	-0.13478	0.61	0.4347
Efdomenep	0.13245	2.12	0.1453
efdomenep2	-0.12752	1.89	0.1689
Polenep	-0.13053	2.14	0.1433
polenep2	0.11855	1.67	0.1958
global test	-	12.49	0.5668

Model 7 (Model 6 in the article)

	rho	chi2	Prob>chi2
Population	0.26978	5.66	0.0173
Development	0.07821	0.27	0.6050
Regime durability	0.11467	0.74	0.3893
Ethnic Fractionalization	-0.02821	0.03	0.8596
Ethnic Dominance	0.02115	0.01	0.9060
Polarization	0.44829	7.87	0.0050
Av. Mag. of District	-0.13410	0.69	0.4072
efdomlnave~g	0.45074	13.42	0.0002
Eflnavemag	-0.05361	0.12	0.7333
Pollnavemag	-0.45741	12.75	0.0004
global test	-	24.79	0.0058

A3: Results for tables 2 and 3a before calculating the marginal effects for the interaction terms.

With interaction terms it is necessary to go beyond the typical results table in order to convey quantities of interest such as the marginal effect of X on Y. For the sake of brevity we present in our article for tables 1 and 2 directly the combined marginal effect for our interaction terms. Here we present the results for the interaction terms in our models of table 1 and 2 before computing meaningful quantities of interests. See also Brambor et al. (2006).

Table A3-1 (Table 1, hazard ratios)

	(1) rh	t
Population (ln)	1.613***	0.914
	(0.195)	(0.052)
Development (ln)	1.423**	0.790***
	(0.230)	(0.066)
Democracy	0.012***	
	(0.014)	
Ethnic Fractionalization	1.405	
	(0.617)	
Ethnic Dominance	0.199***	1.986***
	(0.099)	(0.447)
Polarization	3.582***	0.621**
	(1.717)	(0.144)
Polarization x Demo	0.077*	2.915**
	(0.106)	(1.412)
Fractionalization x Demo	162.303***	
	(247.910)	
Dominance x Demo	53.459**	0.538
	(82.768)	(0.245)
Regime durability	0.980**	
	(0.008)	
Observations	4789	4789
Number of subjects	132	
N° of failure	129	
LR chi2	133.8	
Prob > chi2	0.000	

Table A3-2: (Table 2, hazard ratios plus extra model for proportional systems)

	(1) t	(2) rh	(2) T	(3) Rh	(3) t	(4) rh	(4) t	(5) rh	(5) t
Population (ln)	1.670***	1.694***		1.667***		2.195*	1.030	1.981	0.950
	(0.229)	(0.238)		(0.235)		(0.930)	(0.191)	(0.839)	(0.160)
Development (ln)	1.028	1.505**		1.254		1.146		1.125	
	(0.178)	(0.308)		(0.309)		(0.183)		(0.161)	
Durablility	0.977**	0.967***		0.970***		0.979*		0.979*	
	(0.009)	(0.008)		(0.009)		(0.011)		(0.011)	
Fractional.	397.949***	221.346**		1,844.575**		5,272.159***		36,509.333***	
	(554.435)	(470.741)		(6,897.956)		(10,834.898)		(98,510.254)	
Dominance	8.539***	0.482	2.661**	14.584		8.016***		33.986***	
	(5.362)	(0.647)	(1.133)	(25.728)		(5.639)		(37.741)	
Polarization	1.257	1.031		0.042	4.913	1.673		2.309	
	(0.591)	(0.927)		(0.165)	(6.973)	(0.921)		(1.376)	
Majoritarian		0.030							
		(0.070)							
Fract. X Majoritarian		117.360							
		(431.649)							
Dominance x Majoritarian		5.403							
		(7.490)							
Polarization x Majoritarian		3.835							
		(4.029)							
Proportional				6.506					
				(19.463)					
Polarization x Proportional				21.135	0.283				
				(82.817)	(0.385)				
Fractionalization x Proportional				0.020					
				(0.084)					
Dominance x Proportional				0.331					
				(0.682)					
Federalism						6.986			
						(13.046)			
Dominance x Federalism						0.680	2.320		
						(0.964)	(1.724)		
Fractionalization x Federalism						0.010**			
						(0.023)			
Polarization x Federalism						0.183			
						(0.278)			
Presidentialism								626.126***	
								(1,426.731)	
Dominance x Presidentialism								0.051**	1.243
								(0.062)	(0.679)
Fractionalization x Presidentialism								0.001**	
								(0.002)	
Polarization x Presidentialism								0.309	
								(0.277)	
Observations	2085	1999	1999	1999	1999	2033	2033	2085	2085
Nr. of subjects	2085	1999		1999		2033		2085	
N° of failure	32	30		30		29		32	
LR chi2	55.44	85.79		87.18		52.36		61.68	
Prob > chi2	0.000	0.000		0.000		0.000		0.000	

A4: Endogeneity tests

As discussed in the paper, we conducted some endogeneity tests, using the French and the English legal origin variable as instruments. After controlling that these concepts are uncorrelated with the residuals of our survival models, we regressed in a first step our institutional variables on the instrumental variables. In a second step we included the residuals from these regressions in our original survival models. These tests revealed that the statistical tests are not biased in favour of the institutional variables and that no serious problems of endogeneity exist in our evaluation of whether or not sound constitutional choices help to reduce the risk of conflict in ethnically diverse countries. However, due to the problems involved with the instrumental variables approach in institutionalist analyses (as discussed by Acemoglu), we only display this table as an additional test and justification for the inclusion of interactive models presented in the article.

Table A4. Endogeneity Tests for a Stratified Risk Set Model without Interaction Terms

	(1)		(2)	(3)		(4)		(5)	(6)	
	rh	T	_t	Rh	t	rh	t	_t	rh	t
Population	1.593***		1.623***	1.557***		1.653***		2.090***	1.697***	
	(0.203)		(0.231)	(0.235)		(0.259)		(0.364)	(0.200)	
Development (ln)	1.005		1.031	1.278		1.046		1.182	0.958	
	(0.224)		(0.210)	(0.293)		(0.202)		(0.287)	(0.187)	
Fractionalization	286.565***		288.126***	97.638***		209.811***		2081.107***	492.898***	
	(533.923)		(407.784)	(134.291)		(283.625)		(3377.894)	(852.223)	
Ethnic Dominance	7.943***		6.478***	4.275***		6.852***		10.141***	9.987***	
	(5.558)		(3.595)	(2.368)		(4.367)		(7.142)	(6.918)	
Polarization	0.096	3.471**	1.663	0.187	2.415	1.426		1.242	0.475	1.690
	(0.142)	(2.106)	(0.925)	(0.320)	(1.552)	(0.869)		(0.646)	(0.613)	(0.736)
Durability	0.973***		0.977***	0.977***		0.977***		0.982**	0.976***	
	(0.009)		(0.008)	(0.009)		(0.008)		(0.008)	(0.008)	
Majoritarian Systems	0.225	2.969***								
	(0.204)	(1.181)								
Proportional Systems			0.471							
			(0.262)							
Effective Nr. of Parties				3.490						
				(3.691)						
Enep2				0.835						
				(0.101)						
Average Magnitude of District (ln)						1.336	0.831			
						(0.668)	(0.183)			
Federalism								0.410		
								(0.299)		
Presidentialism									9.118**	0.407**
									(10.262)	(0.186)
First stage residual	0.856		1.079	0.898		0.911		0.881	0.773	
	(0.145)		(0.231)	(0.334)		(0.387)		(0.412)	(0.215)	
Observations	1999	1999	1999	1933	1933	1989	1989	2033	2085	2085

Number of subjects	87	87	85	87	85	87
N° of failure	30	30	28	29	29	32
LR chi2	56.18	55.28	89.01	56.59	61.82	53.89
Prob > chi2	0.000	0.000	0.000	0.000	0.000	0.000