

Appendices for “Forced To Be Free: Why Foreign-Imposed Regime Change Rarely Leads To Democratization”

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Updated March 8, 2013

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This document contains several appendices associated with the article “Forced to Be Free: Why Foreign-Imposed Regime Change Rarely Leads to Democratization,” *International Security*, Vol. 37, No. 4 (Spring 2013). For information on how to reproduce the statistical results in Appendices C through F, please see the replication file “forced_free_replication.pdf.” It may be downloaded, along with the datasets needed to produce the results, from http://www.mitpressjournals.org/doi/suppl/10.1162/ISEC_a_00117, as well as from the research page of Alexander Downes’s web site at The George Washington University, <http://home.gwu.edu/~downes/publications.htm>.

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Appendix A

Cases of Foreign-Imposed Regime Change (FIRC), 1816-2008

This table lists the cases of foreign-imposed regime change (FIRC) that appear in the dataset used in “Forced to Be Free.” It is important to remember that the dataset is coded on a country-year basis, so if an intervener removes multiple leaders in the same year, this will only appear as a single FIRC in the dataset. FIRCs undertaken by democracies appear in italics; institutional FIRCs (by democracies) are denoted by the dagger symbol (†).

Target	Intervener	Year	Leader Removed
Two Sicilies	Austria	1821	Revolutionaries
Spain	France	1823	Provisional Regency
Modena	Austria	1831	Pellegrino Nobili
Parma	Austria	1831	Conte Filippo Linati
Portugal	Quadruple Alliance	1834	Miguel I
Afghanistan	UK	1839	Dost Mohammed
Tuscany	Austria	1849	Francesco Domenico Guerrazzi
Saxony	Prussia	1849	Gustav Friedrich Held
Baden	Prussia	1849	Lorenz Peter Brentano
<i>Roman Republic</i>	<i>France/Austria/Sicily/Spain</i>	<i>1849</i>	<i>Triumvirate</i>
Argentina	Brazil	1852	Juan Manuel de Rosas
Honduras	Guatemala	1855	Trinidad Cabañas
Modena	Piedmont/France	1859	Francesco V
Mexico	France	1863	Benito Juarez
Honduras	Guatemala/Nicaragua	1863	José Francisco Montes
El Salvador	Guatemala	1863	Gerardo Barrios
Paraguay	Brazil	1869	Francisco Solano Lopez
France	Prussia	1870	Napoleon III
El Salvador	Honduras	1871	Francisco Dueñas
Honduras	El Salvador/Guatemala	1872	José Maria Medina
Honduras	El Salvador/Guatemala	1874	Celeo Arias
El Salvador	Guatemala	1876	Andres del Valle
Honduras	Guatemala	1876	Ponciano Leiva
Afghanistan	UK	1879	Sher Ali
Afghanistan	UK	1879	Yakub Khan
Peru	Chile	1881	Nicolas Pierola
Peru	Chile	1881	Francisco Garcia Calderon
Peru	Chile	1882	Lizardo Montero
Honduras	Nicaragua	1894	Domingo Vasquez
Honduras	Nicaragua	1907	Manuel Bonilla
Korea	Japan	1907	Yi Hyong
<i>Nicaragua</i>	<i>U.S.</i>	<i>1909</i>	<i>José Santos Zelaya</i>
<i>Nicaragua</i> †	<i>U.S.</i>	<i>1910</i>	<i>José Madriz</i>
<i>Honduras</i>	<i>U.S.</i>	<i>1911</i>	<i>Miguel Davila</i>
<i>Dominican Republic</i> †	<i>U.S.</i>	<i>1912</i>	<i>Eladio Victoria</i>
<i>Mexico</i>	<i>U.S.</i>	<i>1914</i>	<i>Victoriano Huerta</i>
Belgium	Germany	1914	Charles, Baron de Broqueville
<i>Dominican Republic</i> †	<i>U.S.</i>	<i>1914</i>	<i>José Bordas Valdez</i>
<i>Haiti</i>	<i>U.S.</i>	<i>1915</i>	<i>Revolutionary Committee of Safety</i>
Serbia	Austria	1915	King Alexander
Albania	Italy	1916	Esat Pashe Toptani
<i>Dominican Republic</i> †	<i>U.S.</i>	<i>1916</i>	<i>Francisco Henriquez</i>
Montenegro	Austria	1916	Nikola I
<i>Greece</i>	<i>UK/France</i>	<i>1917</i>	<i>King Constantine I</i>
<i>Belgium</i>	<i>UK/France/U.S.</i>	<i>1918</i>	<i>Von Faulkenhausen</i>
<i>Latvia</i>	<i>Germany</i>	<i>1919</i>	<i>Karlis Ulmanis</i>
Hungary	Romania	1919	Bela Kun
<i>Costa Rica</i> †	<i>U.S.</i>	<i>1919</i>	<i>Federico Tinoco Granados, Juan Bautista Quiros</i>

Mongolia	Soviet Union	1925	Elbek-Dorzhi Rinchino
Nicaragua†	U.S.	1926	Emiliano Chamorro
China	Japan	1928	Chang Tso-lin
Ethiopia	Italy	1936	Haile Selassie
China	Japan	1937	Chiang Kai-shek
Albania	Italy	1939	King Zog
Norway	Germany	1940	Johan Nygaardsvold
Luxembourg	Germany	1940	Pierre Dupong
The Netherlands	Germany	1940	Dirk Jan De Geer
Belgium	Germany	1940	Hubert Pierlot
Latvia	Soviet Union	1940	Karlis Ulmanis
Lithuania	Soviet Union	1940	Antanas Smetona, Antanas Merkys
Estonia	Soviet Union	1940	Konstantin Pats
Ethiopia	UK	1941	King of Italy
Yugoslavia	Germany	1941	King Peter II
Greece	Germany	1941	Emmanouil Tsouderos
Iran	UK/Soviet Union	1941	Reza Khan
Iraq	UK	1941	Rashid Ali
Denmark	Germany	1943	Erik Scavenius
France	UK/U.S.	1944	Pierre Laval
Belgium	Canada/UK/U.S.	1944	Alexander von Falkenhausen
Bulgaria	Soviet Union	1944	Kyryl, Prince of Preslav
Luxembourg	UK/U.S.	1944	Gustav Simon
Hungary	Germany	1944	Miklós Horthy
Romania	Soviet Union	1945	King Michael
Hungary	Soviet Union	1945	Ferenc Szalasi
Denmark	UK/U.S.	1945	Werner Best
The Netherlands	Canada/UK/U.S.	1945	Arthur Seyss-Inquart
Norway	UK/U.S.	1945	Vidkun Quisling
Germany†	UK/U.S. /Soviet Union	1945	Admiral Karl Doenitz
Japan†	U.S.	1945	Suzuki Kantaro
Czechoslovakia	Soviet Union	1948	Edvard Beneš
Indonesia	Netherlands	1948	Sukarno
Iran	U.S.	1953	Mohammed Mossadeq
Guatemala	U.S.	1954	Jacobo Arbenz, Carlos Enrique Diaz, Elfigio Monzon
Hungary	Soviet Union	1956	Imre Nagy
Congo	Belgium	1960	Patrice Lumumba
Republic of Vietnam	U.S.	1963	Ngo Dinh Diem
Gabon	France	1964	Jean-Hilaire Aubaume
Czechoslovakia	Soviet Union	1968	Alexander Dubček, Ludvik Svoboda
Chile	U.S.	1973	Salvador Allende
Cyprus	Greece	1974	Archbishop Makarios III
Cyprus	Turkey	1974	Nikos Sampson
Cambodia	Vietnam	1979	Pol Pot
Uganda	Tanzania	1979	Idi Amin
Central African Republic	France	1979	Jean-Bedel Bokassa
Afghanistan	Soviet Union	1979	Hafizullah Amin
Grenada†	U.S.	1983	Hudson Austin
Mongolia	Soviet Union	1984	Yumzhagiin Tsendenbal
Afghanistan	Soviet Union	1986	Babrak Karmal
Comoros	France	1989	Bob Denard
Panama†	U.S.	1990	Manuel Noriega
Haiti†	U.S.	1994	Raul Cedras
Lesotho	South Africa	1994	King Letsie III
Comoros	France	1995	Bob Denard
Zaire/DRC	Rwanda/Uganda	1997	Joseph Mobutu
Sierra Leone	Nigeria, Ghana, Guinea	1998	Jonny Koroma
Afghanistan†	U.S.	2001	Mullah Omar
Iraq†	U.S.	2003	Saddam Hussein

Appendix B

Control Variables

In the statistical analysis in “Forced to Be Free,” we included several additional variables to control for other factors thought to be associated with democratization. This section describes each of these variables and where we obtained the data.

1. **Economic Development.** As noted, many democratization scholars posit a strong relationship between levels of societal wealth and democratic institutions. The usual indicator of wealth is gross domestic product per capita, but obtaining data for all countries is problematic given our extended time period. One commonly-used proxy available for most states after 1816 is primary energy consumption.¹ We include energy consumption (logged), taken from the Correlates of War National Material Capabilities data, as our indicator of economic development.²
2. **State Age.** Previous studies have also found a strong secular trend towards greater democracy over time.³ States are argued to become more stable as they grow older and are thus more likely to have conditions favorable to the development of democracy. To account for these effects, we include a year counter for each country, starting at zero in the year it enters the dataset.⁴
3. **Previous Experience with Democracy.** States that have had democratic institutions at some point in the past may be more likely to transition to democracy in the future. When a state becomes a democracy for the first time, we code it one on a dummy variable for prior experience with democracy. States that have always or never been democracies are coded zero on this variable.⁵

¹ Jeffrey Pickering and Mark Peceny, “Forging Democracy at Gunpoint,” *International Studies Quarterly*, Vol. 50, No. 3 (September 2006), p. 547.

² Version 3.02, available at <http://www.correlatesofwar.org>. Results using historical GDP data collected by Carles Boix were highly similar. Carles Boix, “Economic Roots of Civil Wars and Revolutions in the Contemporary World,” *World Politics*, Vol. 60, No. 3 (April 2008), pp. 390-437. Some analysts contend that economic development affects prospects for democracy only up to a certain threshold. See Pickering and Peceny, “Forging Democracy at Gunpoint,” p. 547. To test this conjecture, we included energy consumption squared. This variable was never significant, and so was omitted from the models reported in the article.

³ Pickering and Peceny, “Forging Democracy at Gunpoint,” p. 547; Bruce Bueno de Mesquita and George W. Downs, “Intervention and Democracy,” *International Organization*, Vol. 60, No. 3 (Summer 2006), p. 641.

⁴ We begin counting state age in 1816, which is when our broader dataset starts. The analyses in this paper commence in 1900; thus many states have values greater than one in the first year.

⁵ This variable is coded one whether or not the state later reverts to autocracy. A potential problem with measuring prior democracy in this way is that it picks up some of the effect of states that are currently democracies rather than the effect of having been a democracy in the past. We therefore employ two variants of this measure. First, we use the same measure described above except that we recode states as zero starting in the year after they transition to democracy. If the state transitions back to autocracy, we change the coding back to one. Second, we code a variable that counts the number of years since the state last equaled or exceeded 17 on the Polity index, the assumption being that the more time that has elapsed since a country experienced democracy, the more difficult it will be to effect a transition. See Bruce E. Moon, “Long Time Coming: Prospects for Democracy in Iraq,” *International Security*, Vol. 33, No. 4 (Spring 2009), pp. 115-148. This variable takes the value of zero if a state is currently a democracy or has

4. **British Colony.** Previous studies suggest that former British colonies possess greater potential for democratization.⁶ We include a dummy variable to indicate countries that are former British colonies.⁷
5. **Ethnic Fractionalization.** Democracy may be more difficult to sustain in countries that are more diverse in terms of ethnicity and religion. We include the ethno-linguistic fractionalization index to detect any negative effect of social heterogeneity on democracy.⁸
6. **Interstate and Civil War.** Involvement in either interstate or civil war could retard the development of democracy by causing the power of the executive branch or the military to increase, or by prompting governments to crack down on civil liberties and restrict political participation. We include dummy variables to indicate whether a state participated in an interstate war or had an ongoing civil war in a given year.⁹

never been a democracy. See Pickering and Peceny, "Forging Democracy at Gunpoint," pp. 547-48. Results using these alternative measures of previous democracy have little effect on our main results.

⁶ Adam Przeworski, Michael E. Alvarez, Jose Antonio Cheibub, and Fernando Limongi, *Democracy and Development: Political Institutions and Well-Being in the World, 1950-1990* (Cambridge: Cambridge University Press, 2000).

⁷ This variable is also coded one for states that Britain administered under a League of Nations mandate, such as Israel and Iraq.

⁸ Commonly employed in studies of civil war after 1945, ELF is actually measured twice, in 1961 and 1985. Countries for which data are available thus have at most two values on ELF. We extend the earlier measure of ELF back to 1920 under the assumption that ethnic composition changes slowly. For a precedent for this, see Andrew J. Enterline and J. Michael Greig, "Against All Odds? The History of Imposed Democracy and the Future of Iraq and Afghanistan," *Foreign Policy Analysis*, Vol. 4, No. 4 (October 2008), pp. 321-347. Data are from Philip G. Roeder, "Ethnolinguistic Fractionalization Indices, 1961 and 1985," February 16, 2001, <http://weber.ucsd.edu/~proeder/elf.htm>.

⁹ Data on interstate war participation are taken from the Alexander B. Downes, *Targeting Civilians in War* (Ithaca, N.Y.: Cornell University Press, 2008). Data on civil war are taken from COW; Kristian Skrede Gleditsch, "A Revised List of Wars between and within Independent States, 1816-2002," *International Interactions*, Vol. 30, No. 3 (2004), pp. 231-262; Micheal Clodfelter, *Warfare and Armed Conflicts: A Statistical Encyclopedia of Casualty and other Figures, 1494-2007*, 3rd ed. (Jefferson, NC: McFarland, 2008); and Nicholas Sambanis, "List of Civil Wars," available at <http://pantheon.yale.edu/~ns237/index/research.html#Data>.

Appendix C

Multivariate Regression Analyses: Complete Tables

In “Forced to Be Free,” we conducted several multivariate statistical tests to ascertain the relationship between experiencing different types of foreign-imposed regime change (FIRC) and subsequent democratization. Owing to space constraints in the published article, we reported only the regression coefficients for the FIRC variables and omitted the results for the control variables. The tables below display complete results for all of the models that appear in Table 1 in the article. The tables are organized as follows:

- Table C1 shows results using the complete dataset for all six types of FIRC and both dependent variables: change in Polity score—yearly movement up or down the 21-point Polity index of democracy—and transition to consolidated democracy—whether a country reaches the threshold for consolidated democracy (+6 on the -10 to +10 version of the scale; +17 on the 1 to 21 version used in our analysis). Recall that we ran three regressions for each dependent variable: one containing FIRCs by non-democracies and FIRCs by democracies; a second containing leadership and institutional FIRCs by democracies; and a third containing FIRCs by the United States and FIRCs by democracies other than the United States.
- Table C2 shows results obtained for each type of FIRC after matching was performed. Change in Polity score is the dependent variable. In the matching process (described in greater detail in Appendix F), each type of FIRC is used as a treatment variable, creating six different datasets. Because matching is not exact, the control variables are included in each regression.
- Table C3 is the same as table C2 except that transition to consolidated democracy is the dependent variable.

TABLE C1. The Effect of Foreign-Imposed Regime Change (FIRC) on Target Democratization, 1900-2000

	1 Change in Polity Score	2 Change in Polity Score	3 Change in Polity Score	4 Democratic Transition	5 Democratic Transition	6 Democratic Transition
FIRC by nondemocracy	-0.08 (0.11)	-	-	-0.50 (0.72)	-	-
FIRC by democracy	0.09 (0.12)	-	-	0.94† (0.50)	-	-
Institutional FIRC	-	0.53† (0.28)	-	-	2.42*** (0.50)	-
Leadership FIRC	-	-0.05 (0.12)	-	-	0.17 (0.78)	-
FIRC by United States	-	-	0.06 (0.17)	-	-	0.94† (0.56)
FIRC by non-U.S. democracy	-	-	0.15 (0.16)	-	-	1.19* (0.50)
State age	0.0007** (0.0003)	0.0007** (0.0002)	0.0007** (0.0003)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)
Economic development	0.020*** (0.004)	0.021*** (0.004)	0.020*** (0.004)	0.168*** (0.037)	0.174*** (0.036)	0.165*** (0.036)
Previous democracy	0.235*** (0.035)	0.238*** (0.034)	0.236*** (0.034)	0.984*** (0.224)	0.961*** (0.223)	0.972*** (0.222)
Former British colony	-0.092** (0.030)	-0.087** (0.029)	-0.087** (0.029)	0.001 (0.335)	0.066 (0.331)	0.059 (0.331)
Civil war	0.064 (0.069)	0.061 (0.068)	0.062 (0.070)	0.435† (0.247)	0.362 (0.252)	0.405 (0.252)
Interstate war	-0.040 (0.065)	-0.037 (0.065)	-0.045 (0.065)	-1.482 (1.029)	-1.446 (1.027)	-1.585 (1.059)
Constant	-0.103*** (0.029)	-0.110*** (0.028)	-0.106*** (0.029)	-6.454*** (0.338)	-6.545*** (0.341)	-6.499*** (0.339)
N	9,535	9,535	9,535	6,618	6,618	6,618

NOTE: Robust standard errors clustered on country code in parentheses. † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

TABLE C2. The Effect of Foreign-Imposed Regime Change (FIRC) on Change in Target Polity Score after Matching, 1900-2000

	1	2	3	4	5	6
FIRC by nondemocracy	-0.31† (0.17)	-	-	-	-	-
FIRC by democracy	-	0.18 (0.14)	-	-	-	-
Institutional FIRC	-	-	0.38 (0.25)	-	-	-
Leadership FIRC	-	-	-	-0.13 (0.18)	-	-
FIRC by United States	-	-	-	-	0.09 (0.17)	-
FIRC by non-U.S. democracy	-	-	-	-	-	0.19 (0.22)
State age	0.0046† (0.0026)	-0.0007 (0.0019)	-0.0053** (0.0012)	0.0017 (0.0013)	-0.0023 (0.0024)	0.0031 (0.0023)
Economic development	0.027 (0.084)	0.101† (0.052)	0.345* (0.126)	0.020 (0.053)	0.091† (0.054)	0.042 (0.095)
Previous democracy	-0.111 (0.210)	0.107 (0.291)	0.111 (0.257)	0.268 (0.285)	0.476 (0.410)	0.361 (0.318)
Former British colony	0.381 (0.309)	-0.509† (0.293)	(dropped)	0.234 (0.209)	(dropped)	-0.292 (0.399)
Civil war	0.072 (0.251)	0.092 (0.255)	1.327 (0.937)	0.589† (0.336)	0.585 (0.345)	-0.002 (0.480)
Interstate war	-0.095 (0.211)	0.081 (0.354)	-1.407* (0.548)	0.198 (0.379)	0.238 (0.410)	0.113 (0.447)
Ethnic heterogeneity	-0.624 (0.701)	-0.956† (0.511)	2.180* (0.952)	-0.382 (0.620)	-0.479 (0.660)	-1.367 (1.001)
Population	-0.090 (0.069)	-0.070 (0.060)	-0.116 (0.110)	-0.148** (0.056)	-0.088 (0.086)	0.023 (0.075)
Constant	0.988 (0.625)	0.413 (0.371)	-1.266** (0.387)	1.127* (0.500)	0.467 (0.481)	-0.020 (0.748)
N	464	652	159	500	452	388

NOTE: Robust standard errors clustered on country code in parentheses. † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

TABLE C3. The Effect of Foreign-Imposed Regime Change (FIRC) on Probability of Transition to Consolidated Democracy after Matching, 1900-2000

	1	2	3	4	5	6
FIRC by nondemocracy	-0.95 (0.71)	-	-	-	-	-
FIRC by democracy	-	0.25 (0.63)	-	-	-	-
Institutional FIRC	-	-	1.53† (0.91)	-	-	-
Leadership FIRC	-	-	-	0.16 (0.91)	-	-
FIRC by United States	-	-	-	-	1.62 (1.43)	-
FIRC by non-U.S. democracy	-	-	-	-	-	1.32 (1.39)
State age	0.014 (0.011)	0.0003 (0.0061)	-0.0065 (0.0085)	0.0005 (0.0063)	-0.0062 (0.0131)	0.0160 (0.0125)
Economic development	0.225 (0.239)	1.922* (0.931)	0.607† (0.344)	0.656 (1.059)	0.606 (1.332)	1.157 (0.774)
Previous democracy	0.985 (0.920)	-0.858 (0.961)	0.591 (0.845)	1.486 (1.352)	-0.007 (0.991)	-0.280 (1.433)
Former British colony	0.812 (1.631)	-0.955 (1.064)	(dropped)	0.376 (1.135)	(dropped)	-0.550 (0.949)
Civil war	-0.030 (1.391)	0.617 (0.908)	0.943 (1.077)	1.064 (1.706)	1.008 (1.767)	(dropped)
Interstate war	0.063 (0.940)	(dropped)	(dropped)	0.385 (1.533)	(dropped)	-0.529 (1.787)
Ethnic heterogeneity	-2.621 (3.668)	-7.719 (5.150)	3.042 (11.449)	1.624 (3.647)	-6.076 (7.356)	-6.249 (7.215)
Population	-0.574* (0.236)	-1.016 (0.705)	-0.383 (0.304)	-0.667 (1.411)	-0.592 (0.901)	-0.630 (0.848)
Constant	0.707 (1.978)	-3.908 (3.665)	-3.771 (5.741)	-3.232 (6.159)	0.744 (10.541)	-3.768 (3.901)
N	420	434	108	500	276	222

NOTE: Robust standard errors clustered on country code in parentheses. † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

Appendix D

Conditional Hypotheses

In “Forced to Be Free,” three hypotheses were conditional in nature; that is, they posited that the effect of FIRC depended on another variable. We repeat them here for reference.

H1: The effect of institutional FIRC on democratization increases as targets’ level of economic development increases.

H2: The effect of institutional FIRC on democratization increases as targets’ level of ethnic homogeneity increases.

H3: The effect of institutional FIRC on democratization is greater if targets have previous experience with democracy.

Figures 3 through 6 and table 3 in the article presented results for these three hypotheses using transition to consolidated democracy as the dependent variable. Specifically, figures 3 and 4 showed the effect of institutional and leadership FIRC, respectively, on the probability of transition to consolidated democracy as targets’ level of economic development increased. Figures 5 and 6 repeated this exercise as targets’ level of ethnic heterogeneity increased. These figures were produced from regressions that incorporated interaction terms between institutional and leadership FIRC on the one hand and levels of economic development and ethnic heterogeneity on the other. Table 3 in the article showed the respective effects of institutional and leadership FIRC on democratization depending on whether the target had previously been a democracy. This table was produced using simple t-tests between institutional and leadership FIRC and whether the target had previously been a democracy.¹⁰

We reported in the article that results were similar when we used change in Polity score as the dependent variable. In table D1 below, we present the regression results that underlie figures 3 through 6 from the article. We reproduce these figures (as figures D1 to D4) and then show the t-tests that produced the results in table 3 (reproduced as table D2). Table D3 shows the corresponding regression results when we substitute change in Polity score for transition to consolidated democracy as the dependent variable. This table is followed by four figures (D5 to D8) that plot these effects graphically. Lastly, table D4 shows the effects of institutional and leadership FIRC depending on previous democracy, followed by the t-tests that produced those results.

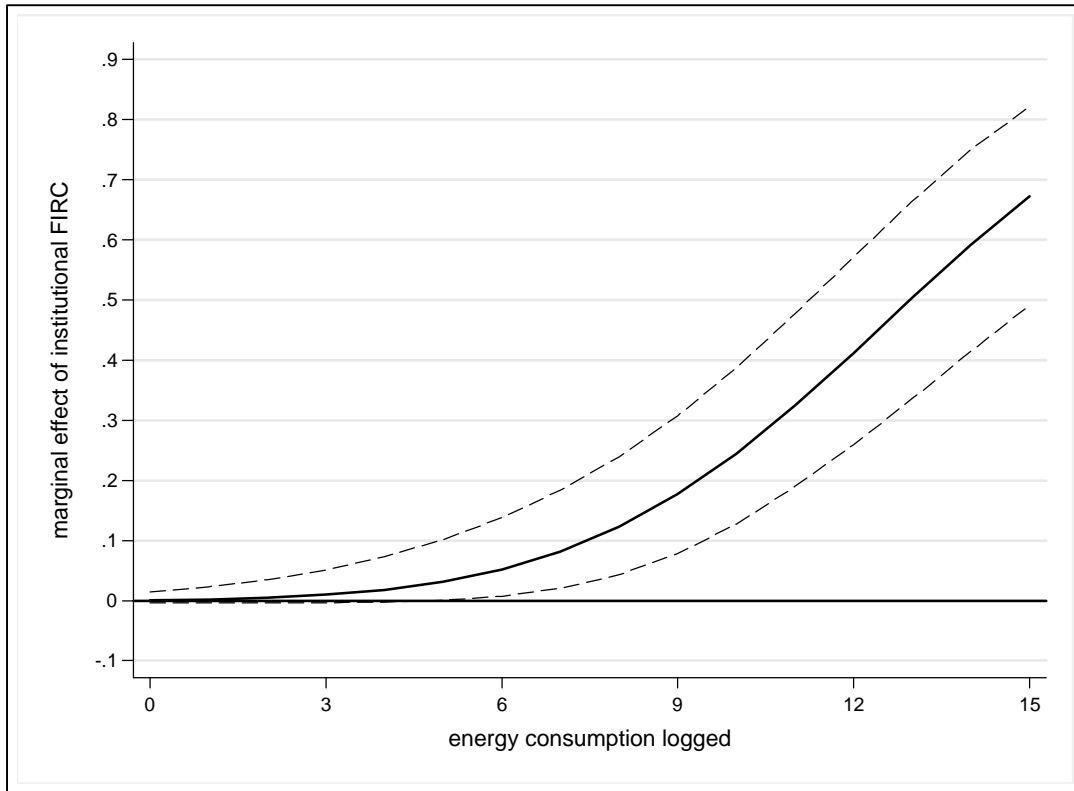
¹⁰ T-tests were used rather than interaction terms in this instance because the regression model for leadership FIRC and previous democracy could not produce estimates for the interaction term, meaning that we could not obtain predicted probabilities from the regression.

TABLE D1. The Effect of Institutional and Leadership Foreign-Imposed Regime Change (FIRC) on Probability of Transition to Consolidated Democracy, 1900-2000: Conditional Effects

	1	2	3	4
Institutional FIRC	-0.249 (0.496)	1.012*** (0.264)	1.068*** (0.271)	1.090*** (0.272)
Leadership FIRC	-0.065 (0.296)	-0.439 (0.950)	-0.028 (0.304)	0.498 (0.457)
State age	0.0033*** (0.0008)	0.0032*** (0.0008)	0.0034*** (0.0009)	0.0034*** (0.0009)
Economic development	0.062*** (0.015)	0.069*** (0.015)	0.059*** (0.016)	0.059*** (0.016)
Previous democracy	0.393*** (0.094)	0.396*** (0.094)	0.414*** (0.093)	0.404*** (0.091)
Former British colony	0.028 (0.132)	0.019 (0.132)	0.055 (0.141)	0.051 (0.141)
Civil war	0.139 (0.108)	0.130 (0.106)	0.157 (0.113)	0.158 (0.112)
Interstate war	-0.712* (0.356)	-0.702* (0.350)	-0.610† (0.356)	-0.618† (0.359)
Ethnic heterogeneity	-	-	-0.090 (0.160)	-0.064 (0.160)
Institutional FIRC × Economic development	0.181*** (0.042)	-	-	-
Leadership FIRC × Economic development	-	0.047 (0.115)	-	-
Institutional FIRC × Ethnic heterogeneity	-	-	0.160 (3.723)	-
Leadership FIRC × Ethnic heterogeneity	-	-	-	-1.810† (0.936)
Constant	-3.054*** (0.137)	-3.099*** (0.141)	-3.020*** (0.165)	-3.031*** (0.162)
N	6,618	6,618	5,770	5,770

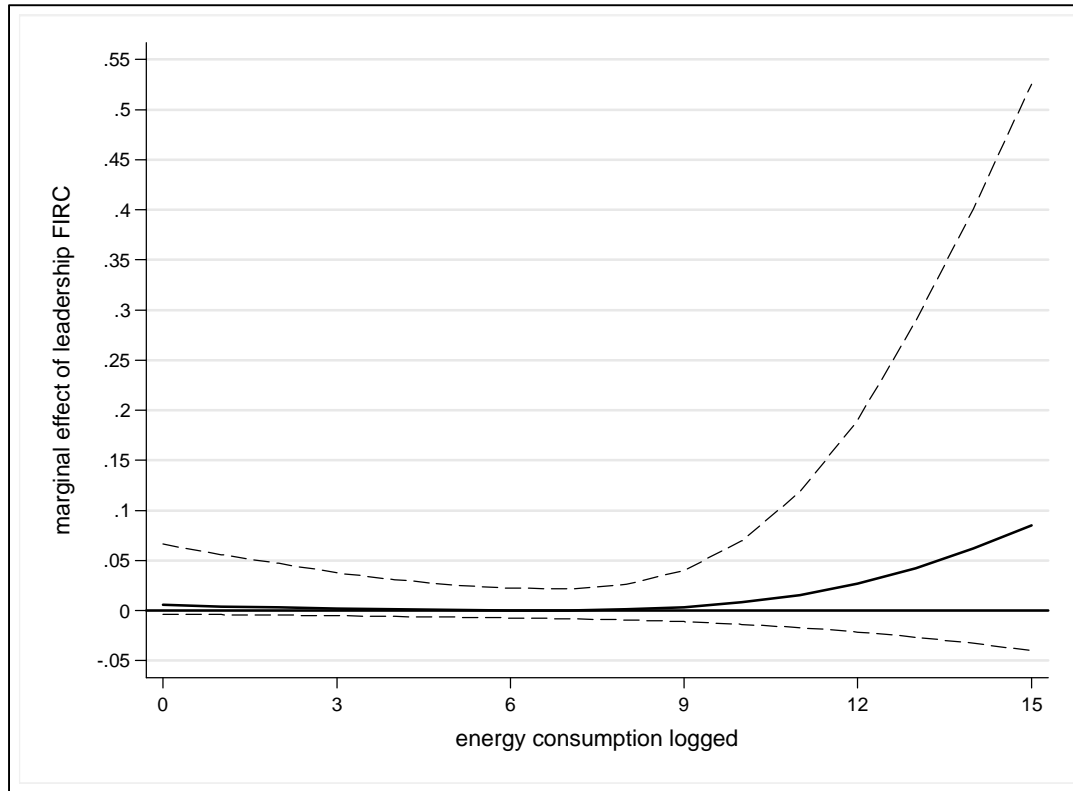
NOTE: Robust standard errors clustered on country code in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure D1. Marginal Effect of Institutional Foreign-Imposed Regime Change (FIRC) over Ten Years on Probability of Transition to Consolidated Democracy as Target's Level of Democracy (Log of Energy Consumption) Increases¹¹



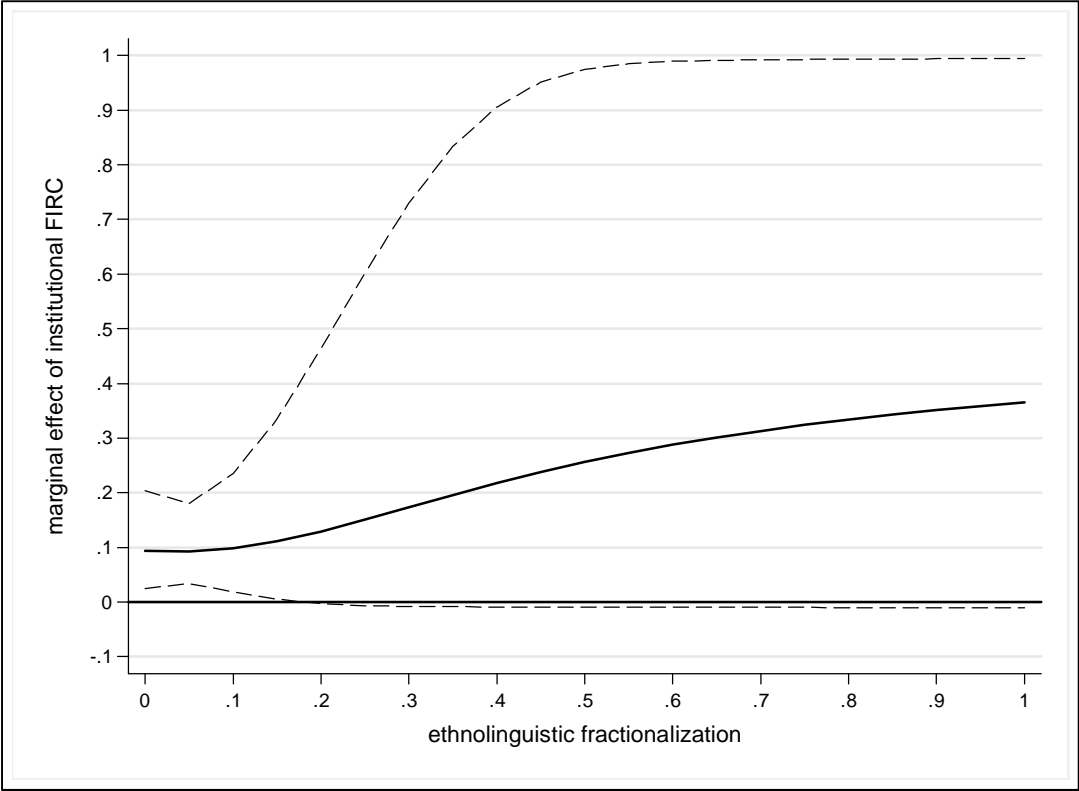
¹¹ Figure 3 in “Forced to Be Free.”

Figure D2. Marginal Effect of Leadership Foreign-Imposed Regime Change (FIRC) over Ten Years on Probability of Transition to Consolidated Democracy as Target's Level of Democracy (Log of Energy Consumption) Increases¹²



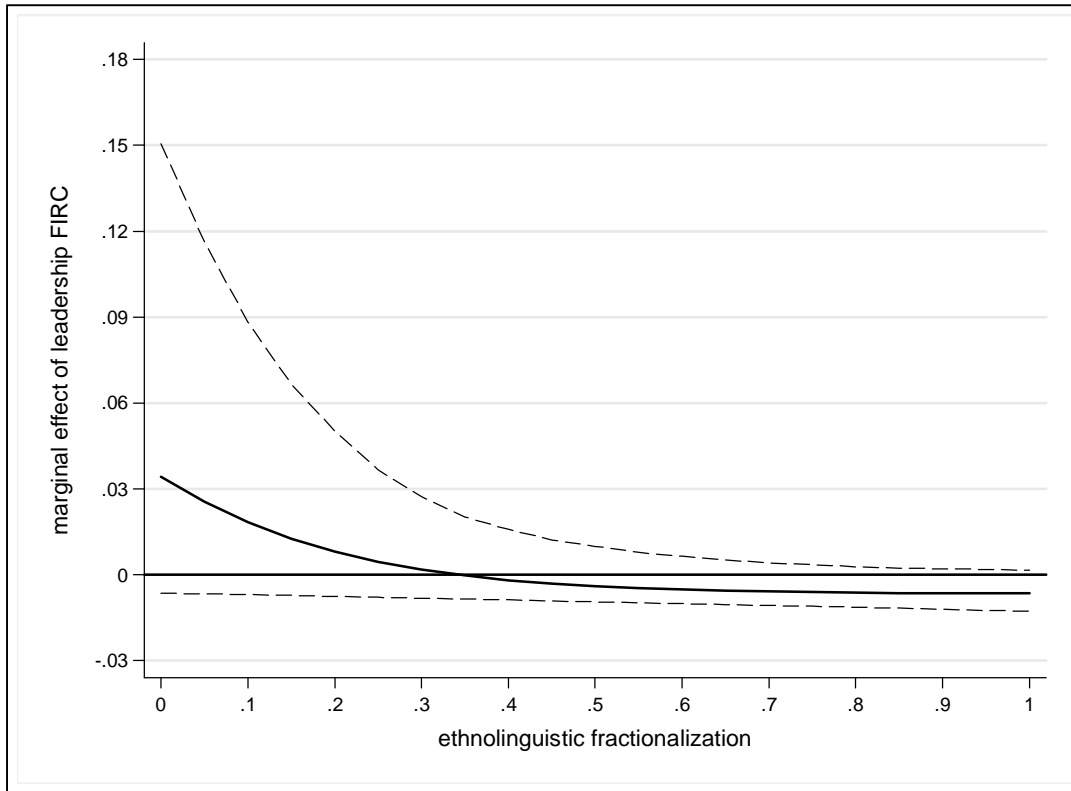
¹² Figure 4 in “Forced to Be Free.”

Figure D3. Marginal Effect of Institutional Foreign-Imposed Regime Change (FIRC) over Ten Years on Probability of Transition to Consolidated Democracy as Target’s Level of Ethnic Heterogeneity Increases¹³



¹³ Figure 5 in “Forced to Be Free.”

Figure D4. Marginal Effect of Leadership Foreign-Imposed Regime Change (FIRC) over Ten Years on Probability of Transition to Consolidated Democracy as Target's Level of Ethnic Heterogeneity Increases¹⁴



¹⁴ Figure 6 in “Forced to Be Free.”

Table D2. The Effect of Previous Democracy and Type of Foreign-Imposed Regime Change (FIRC) on the Probability of Transitions to Democracy, 1900-2000

		Previous Democracy	
		yes	no
Institutional FIRC	yes	0.200	0.043
	no	0.039	0.010
Leadership FIRC	yes	0.111	0.007
	no	0.038	0.011

1. The effect of institutional FIRC if target was previously a democracy

ttest demtrans1 lagnodem if prevdemall==1 & year>=1900, by(dmzfirc10)

Two-sample t test with equal variances

```

-----+-----
Group| Obs   Mean      Std. Err.   Std. Dev.  [95% Conf. Interval]
-----+-----
  0 | 1216  .0386513  .0055301   .1928418   .0278017   .049501
  1 |   10    .2         .1333333   .421637    -.101621   .501621
-----+-----
Comb. | 1226  .0399674  .0055966   .1959625   .0289873   .0509474
-----+-----
diff|      -.1613487  .0620774                -.2831386  -.0395588
-----+-----
diff = mean(0) - mean(1)                t = -2.5992
Ho: diff = 0                            degrees of freedom = 1224

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0047          Pr(|T| > |t|) = 0.0095          Pr(T > t) = 0.9953

```


TABLE D3. The Effect of Institutional and Leadership Foreign-Imposed Regime Change (FIRC) on Change in Target Polity Score, 1900-2000: Conditional Effects

	1	2	3	4
Institutional FIRC	-0.083 (0.069)	0.528† (0.275)	0.723* (0.358)	0.620* (0.295)
Leadership FIRC	-0.051 (0.118)	0.069 (0.253)	-0.066 (0.131)	0.252 (0.228)
State age	0.0008** (0.0002)	0.0007** (0.0002)	0.0005* (0.0002)	0.0005* (0.0002)
Economic development	0.018*** (0.003)	0.021*** (0.004)	0.024*** (0.004)	0.025*** (0.004)
Previous democracy	-0.244*** (0.035)	-0.238*** (0.034)	-0.181*** (0.037)	-0.183*** (0.036)
Former British colony	-0.081** (0.028)	-0.089** (0.029)	-0.112*** (0.029)	-0.117*** (0.029)
Civil war	0.067 (0.069)	0.060 (0.068)	0.023 (0.073)	0.028 (0.071)
Interstate war	-0.036 (0.064)	-0.037 (0.065)	-0.081 (0.068)	-0.086 (0.069)
Ethnic heterogeneity	-	-	0.055 (0.041)	0.079† (0.042)
Institutional FIRC × Economic development	0.132*** (0.026)	-	-	-
Leadership FIRC × Economic development	-	-0.018 (0.041)	-	-
Institutional FIRC × Ethnic heterogeneity	-	-	-1.260 (4.101)	-
Leadership FIRC × Ethnic heterogeneity	-	-	-	-0.807* (0.334)
Constant	-0.097** (0.028)	-0.113*** (0.029)	-0.134*** (0.032)	-0.146*** (0.034)
N	9,535	9,535	8,410	8,410

NOTE: Robust standard errors clustered on country code in parentheses. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure D5. Marginal Effect of Institutional Foreign-Imposed Regime Change (FIRC) over Ten Years on Change in Polity Score as Target's Level of Economic Development (Log of Energy Consumption) Increases

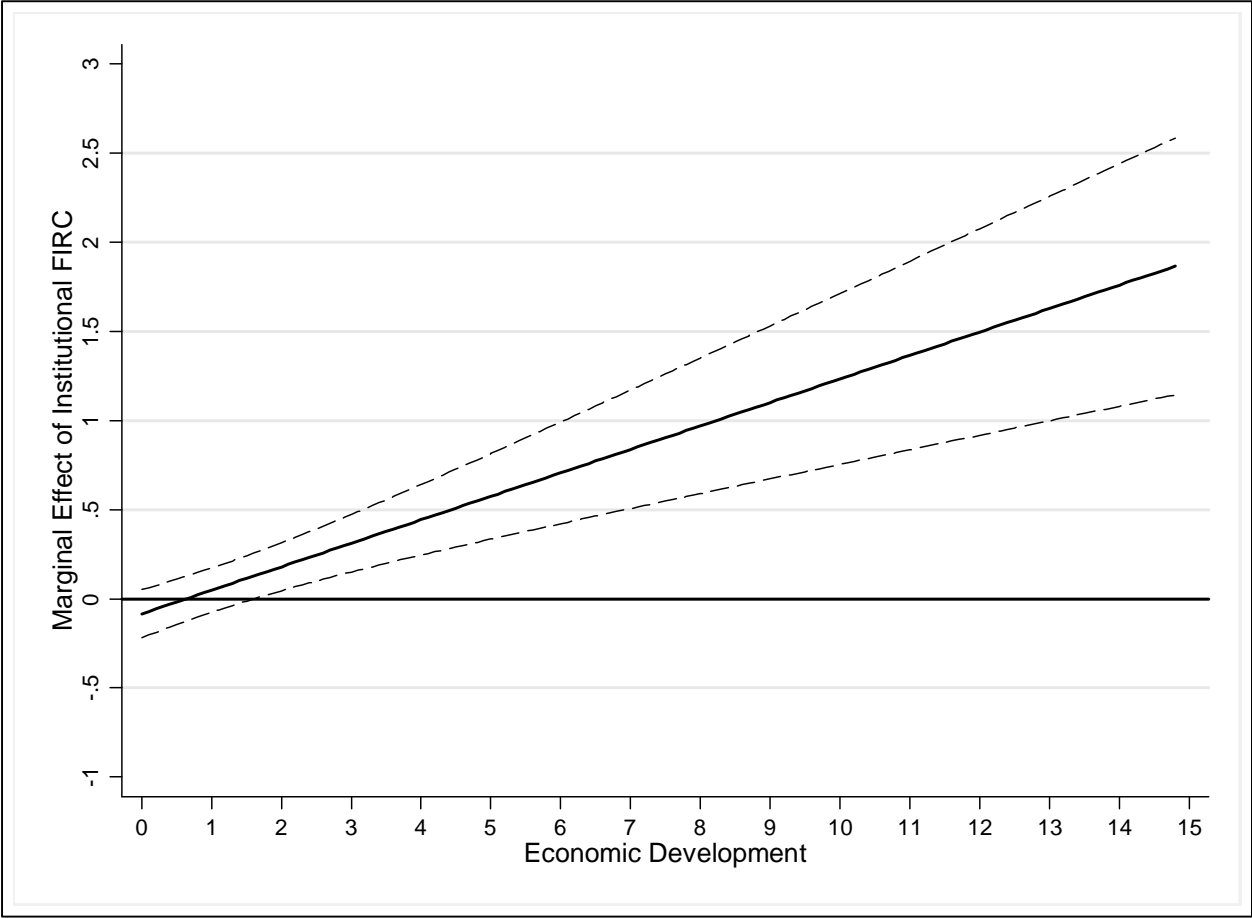


Figure D6. Marginal Effect of Leadership Foreign-Imposed Regime Change (FIRC) over Ten Years on Change in Polity Score as Target's Level of Economic Development (Log of Energy Consumption) Increases

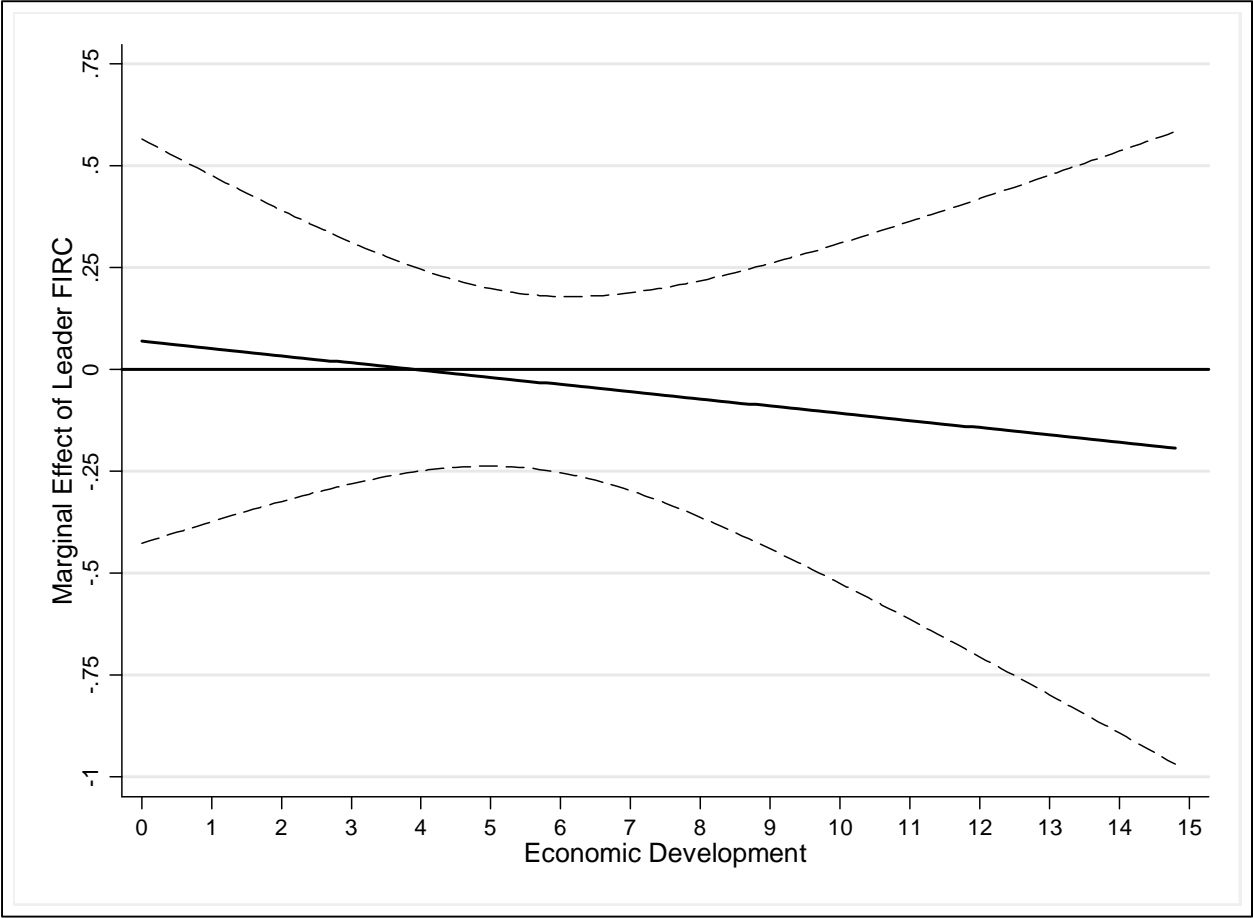


Figure D7. Marginal Effect of Institutional Foreign-Imposed Regime Change (FIRC) over Ten Years on Change in Polity Score as Target's Level of Ethnic Heterogeneity Increases

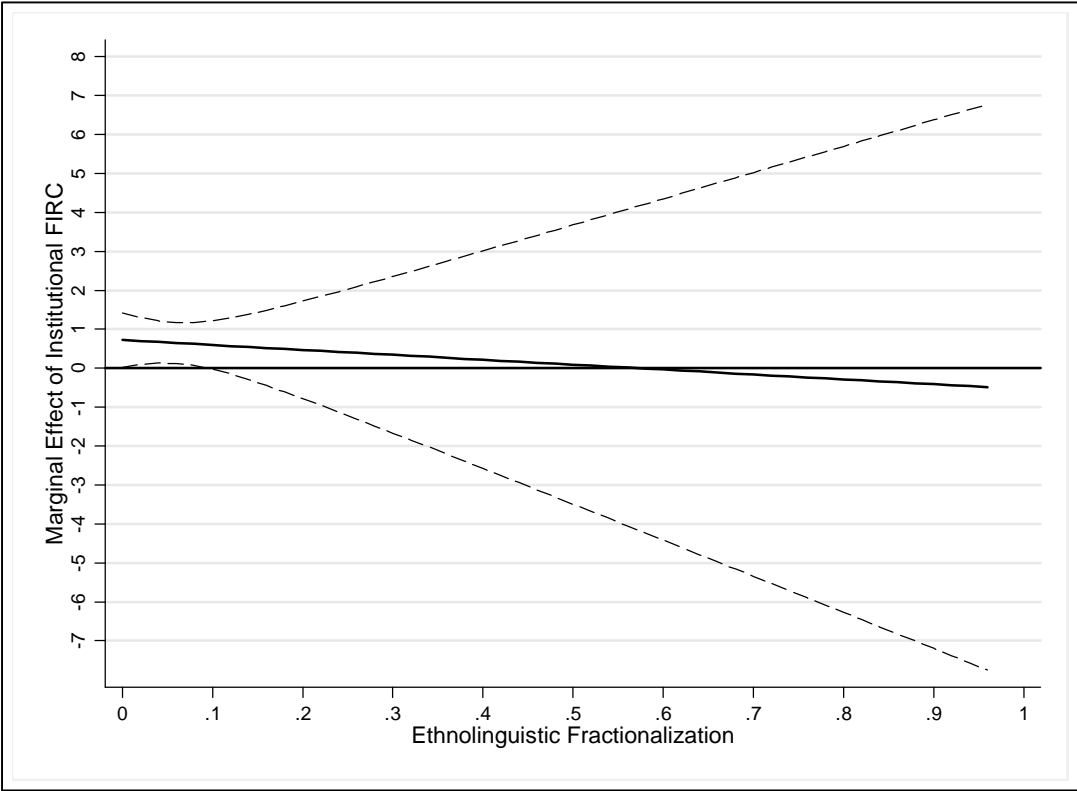


Figure D8. Marginal Effect of Leadership Foreign-Imposed Regime Change (FIRC) over Ten Years on Change in Polity Score as Target's Level of Ethnic Heterogeneity Increases

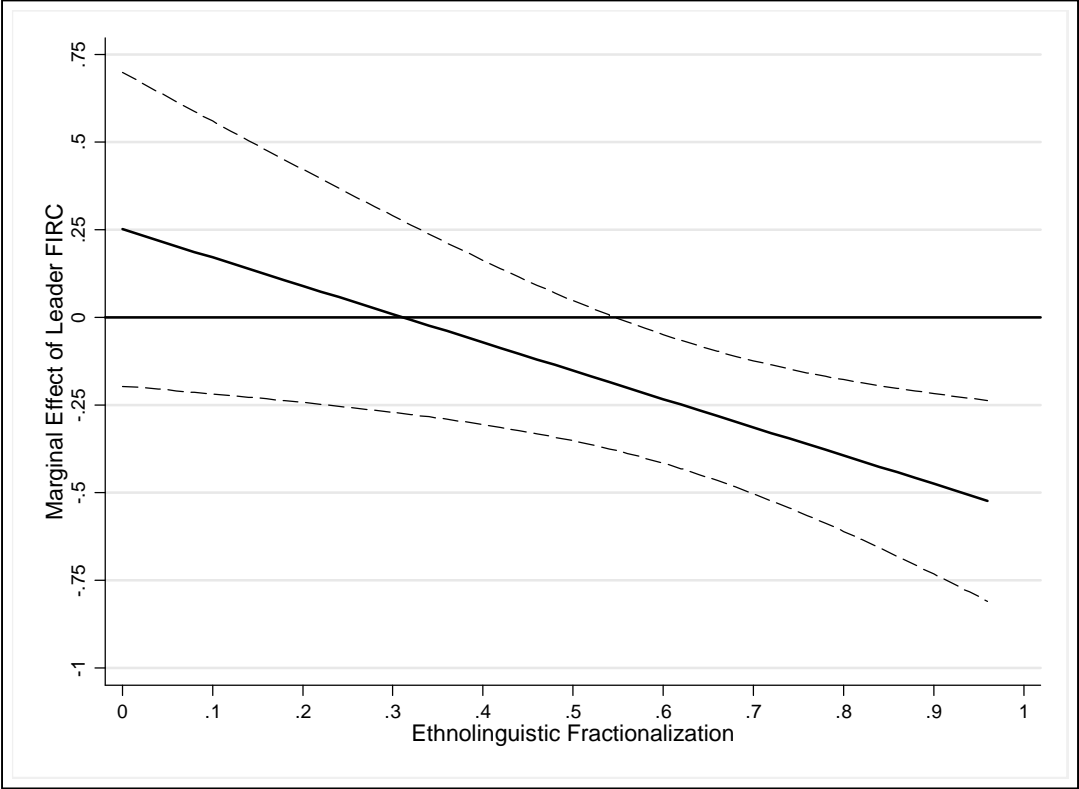


Table D4. The Effect of Previous Democracy and Type of Foreign-Imposed Regime Change (FIRC) on Change in Polity Score, 1900-2000

		Previous Democracy	
		Yes	No
Institutional FIRC	yes	1.182	0.319
	no	-0.079	0.076
Leadership FIRC	yes	0.372	-0.025
	no	-0.075	0.081

1. The effect of institutional FIRC if target was previously a democracy

ttest pol21_ch1lag if prevdemall==1 & year>=1900, by(dmzfirc10)

Two-sample t test with equal variances

```

-----+-----
Group| Obs   Mean      Std. Err.   Std. Dev.   [95% Conf. Interval]
-----+-----
0 |  1992  -.0793173   .0593697   2.649779   -.1957506   .037116
1 |    22   1.181818   1.11199   5.215694   -1.130691   3.494327
-----+-----
Comb. | 2014  -.0655412   .05998     2.691761   -.1831707   .0520882
-----+-----
diff|          -1.261135   .5765039                -2.391743   -.1305283
-----+-----
diff = mean(0) - mean(1)                t = -2.1876
Ho: diff = 0                            degrees of freedom = 2012

Ha: diff < 0                Ha: diff != 0                Ha: diff > 0
Pr(T < t) = 0.0144          Pr(|T| > |t|) = 0.0288          Pr(T > t) = 0.9856

```


Appendix E

Robustness Checks

In “Forced to Be Free,” we reported the results of several robustness checks but did not have the space to present them in detail. Below we first describe each additional test; tables E1 through E5 contain the statistical results.

1. All of the results reported in “Forced to Be Free” used a ten year treatment effect for all types of foreign-imposed regime change. The results, however, are not sensitive to the duration of the treatment window: table E1 shows results using a five year window, which differ little from those in the article.
2. In the article we defined transitions to consolidated democracy inclusively by not requiring that states remain above the democracy threshold for any minimum period of time after experiencing a transition. It is conventional practice, however, to insist that states remain democratic for a few years for a transition to count. Some scholars argue that a peaceful exchange of power from one party to another must occur before a country can be considered a consolidated democracy. In table E2, we adopt Michael Doyle’s definition by coding as transitions only those cases where democracy survives at least three years.¹⁵
3. Scholars in comparative politics and international relations use a number of indicators to measure political democracy. In “Forced to Be Free,” we used one of the most common of these indicators, the Polity index, a 21-point index that combines six separate scales that measure regulation, competitiveness, and openness of executive recruitment, constraints on executive authority, and regulation and competitiveness of political participation. Polity, however, is a subjective measure of democracy, relying on coders’ judgments of the quality of political institutions. To ensure that our results do not rely solely on the source of our data on democracy, we substitute an objective measure of democracy, Tatu Vanhanen’s *Polyarchy* dataset.¹⁶ Vanhanen, like Robert Dahl, conceives of democracy along two dimensions: degree of participation and degree of competitiveness.¹⁷ The former is measured by the proportion of the population that votes in a given election; the latter consists of the percentage of votes won by political parties other than the largest party. These two figures are multiplied together (and then the product is divided by 100) to obtain an index of democratization. We use this change in this index as one alternative dependent variable. For a second alternative variable, we code transitions to democracy from year to year according to Vanhanen’s criteria.¹⁸ Table

¹⁵ Michael W. Doyle, “Kant, Liberal Legacies, and Foreign Affairs,” *Philosophy and Public Affairs*, Vol. 12, No. 3 (Summer 1983), pp. 205-235, at p. 212. As with the original version of this variable, states are coded as missing after they transition to democracy unless or until they backslide to autocracy.

¹⁶ Tatu Vanhanen, “A New Dataset for Measuring Democracy, 1810-1998,” *Journal of Peace Research*, Vol. 37, No. 2 (March 2000), pp. 251-265.

¹⁷ Robert Dahl, *Polyarchy: Participation and Opposition* (New Haven, Conn.: Yale University Press, 1971).

¹⁸ Vanhanen considers a country to be a democracy if at least 10 percent of the population votes, 30 percent of the votes were won by smaller parties, and the country exceeds 5 on the combined index. Vanhanen, “A New Dataset for Measuring Democracy,” p. 257.

E3 contains the results for these regressions. They follow the same pattern as those in the article: no significant effects for democratic FIRC on change in level of democracy, but several significant effects for democratic transition. The only major difference is that leadership FIRC significantly increases the likelihood of a democratic transition (at the 10 percent level) using Vanhanen's data.

4. In a fourth robustness check, despite recently expressed reservations about it, we tried the standard model for panel data in political science, a fixed effects model with a lagged dependent variable.¹⁹ Fixed effects models include dummy variables for every country to control for unmeasured factors specific to each country. For this model to work, we need to use states' Polity scores as the dependent variable rather than change in those scores from year to year. In this case, the dependent variable is a state's Polity score 10 years later. The lagged dependent variable (Polity score in the prior year) is included to control for auto-correlation, the fact that a country's level of democracy score in any given year is highly dependent on its score in the previous year.²⁰ Combined with the ten year effect of FIRC, this test captures states' Polity scores between ten and twenty years after FIRC occurs. This is the same procedure used by Bueno de Mesquita and Downs in their study of the effect of intervention and democratization.²¹ Results are shown in table E4 and generally show no significant positive effect for any kind of FIRC by democracies.
5. Finally, in the article we discussed the issue of how to code the Allied FIRCs in Western Europe at the conclusion of World War II. In these cases, Britain, Canada, and the United States ejected Nazi occupation authorities or overthrew Nazi-supported puppet regimes in France, Belgium, the Netherlands, Luxembourg, Denmark, and Norway. Because the Allies did nothing to build new democratic institutions in these countries (all six countries simply reverted to their previously democratic status), we argued that these cases should be coded as leadership FIRCs rather than institutional FIRCs. In the event, with the sole exception of France, Polity codes the regime types of these countries as missing during the war years. For example, Belgium is coded as 21 in 1939, missing from 1940 to 1943, and 21 in 1944, meaning that change in Polity score in 1944 is zero and there is no democratic transition coded. Our final robustness check (shown in table E5) changes these cases to institutional FIRCs and re-runs the regressions. The results are hardly affected.

¹⁹ For an example of the standard approach, see Bueno de Mesquita and Downs, "Intervention and Democracy." For criticism of the fixed effects approach, see Thomas Plümper, Vera E. Troeger, and Philip Manow, "Panel Data Analysis in Comparative Politics: Linking Method to Theory," *European Journal of Political Research*, Vol. 44, No. 2 (March 2005), pp. 327-354.

²⁰ These models tend to explain a very high proportion of the variance in the dependent variable, but this is because of the inclusion of the lagged dependent variable. Because our dependent variable is change in Polity score from year to year rather than actual Polity scores, we find little evidence of autocorrelation in our models.

²¹ Bueno de Mesquita and Downs, "Intervention and Democracy."

TABLE E1. The Effect of Foreign-Imposed Regime Change (FIRC) on Target Democratization, 1900-2000: Five Year Treatment Window

	1 Change in Polity Score	2 Change in Polity Score	3 Change in Polity Score	4 Democratic Transition	5 Democratic Transition	6 Democratic Transition
FIRC by nondemocracy	0.02 (0.19)	-	-	-0.41 (0.99)	-	-
FIRC by democracy	0.17 (0.20)	-	-	1.32** (0.50)	-	-
Institutional FIRC	-	1.04* (0.44)	-	-	2.69*** (0.44)	-
Leadership FIRC	-	-0.11 (0.19)	-	-	0.34 (1.04)	-
FIRC by United States	-	-	0.26 (0.29)	-	-	1.46** (0.52)
FIRC by non-U.S. democracy	-	-	0.14 (0.25)	-	-	0.96† (0.54)
State age	0.0007** (0.0003)	0.0007** (0.0002)	0.0007** (0.0003)	0.008*** (0.002)	0.008*** (0.002)	0.008*** (0.002)
Economic development	0.020*** (0.004)	0.021*** (0.004)	0.020*** (0.004)	0.167*** (0.036)	0.170*** (0.035)	0.164*** (0.035)
Previous democracy	-0.236*** (0.035)	-0.240*** (0.035)	-0.236*** (0.034)	0.984*** (0.224)	0.963*** (0.222)	0.961*** (0.222)
Former British colony	-0.088** (0.030)	-0.087** (0.029)	-0.086** (0.029)	0.023 (0.333)	0.080 (0.332)	0.069 (0.332)
Civil war	0.058 (0.069)	0.059 (0.068)	0.058 (0.069)	0.410† (0.247)	0.348 (0.254)	0.382 (0.253)
Interstate war	-0.043 (0.066)	-0.037 (0.065)	-0.042 (0.065)	-1.512 (1.036)	-1.445 (1.028)	-1.600 (1.075)
Constant	-0.108*** (0.030)	-0.112*** (0.028)	-0.109*** (0.029)	-6.470*** (0.337)	-6.520*** (0.339)	-6.475*** (0.335)
N	9,535	9,535	9,535	6,618	6,618	6,618

NOTE: Prais-Winsten regressions for models 1-3; rare events logit for models 4-6. Standard errors clustered on country code in parentheses (robust standard errors for models 1-3). † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

TABLE E2. The Effect of Foreign-Imposed Regime Change (FIRC) on Probability of Democratic Transition, 1900-2000: Three Year Rule for Coding Transitions

	1 Democratic Transition	2 Democratic Transition	3 Democratic Transition
FIRC by nondemocracy	-0.37 (0.72)	-	-
FIRC by democracy	1.14* (0.52)	-	-
Institutional FIRC	-	2.65*** (0.47)	-
Leadership FIRC	-	0.37 (0.79)	-
FIRC by United States	-	-	1.07† (0.59)
FIRC by non-U.S. democracy	-	-	1.33** (0.50)
State age	0.007** (0.002)	0.008** (0.002)	0.008** (0.002)
Economic development	0.202*** (0.040)	0.209*** (0.039)	0.198*** (0.039)
Previous democracy	1.069*** (0.251)	1.041*** (0.249)	1.053*** (0.251)
Former British colony	-0.216 (0.357)	-0.149 (0.357)	-0.157 (0.355)
Civil war	0.527* (0.258)	0.459† (0.262)	0.506† (0.263)
Interstate war	-1.366 (1.037)	-1.314 (1.033)	-1.502 (1.088)
Constant	-6.918*** (0.381)	-7.010*** (0.385)	-6.949*** (0.381)
N	6,627	6,627	6,627

NOTE: Rare events logit models, standard errors clustered on country code in parentheses. † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

TABLE E3. The Effect of Foreign-Imposed Regime Change (FIRC) on Target Democratization, 1900-2000: Vanhanen's Polyarchy Data

	1 Change in Polity Score	2 Change in Polity Score	3 Change in Polity Score	4 Democratic Transition	5 Democratic Transition	6 Democratic Transition
FIRC by nondemocracy	-0.07 (0.19)	-	-	-0.24 (0.45)	-	-
FIRC by democracy	0.26 (0.16)	-	-	1.07** (0.36)	-	-
Institutional FIRC	-	0.40 (0.26)	-	-	1.76** (0.53)	-
Leadership FIRC	-	0.21 (0.20)	-	-	0.83† (0.47)	-
FIRC by United States	-	-	0.09 (0.21)	-	-	1.03* (0.40)
FIRC by non-U.S. democracy	-	-	0.33 (0.22)	-	-	1.27** (0.47)
State age	0.0007† (0.0004)	0.0007† (0.0004)	0.0007* (0.0004)	0.005* (0.002)	0.005* (0.002)	0.005* (0.002)
Economic development	0.019*** (0.005)	0.019*** (0.005)	0.017*** (0.005)	0.063* (0.030)	0.066* (0.029)	0.061* (0.029)
Previous democracy	-	-	-	-	-	-
Former British colony	-0.038 (0.049)	-0.035 (0.045)	-0.033 (0.045)	0.248 (0.288)	0.262 (0.284)	0.270 (0.286)
Civil war	-0.123 (0.078)	-0.126 (0.076)	-0.121 (0.076)	0.160 (0.218)	0.144 (0.217)	0.145 (0.222)
Interstate war	0.050 (0.135)	0.050 (0.135)	0.045 (0.134)	-0.042 (0.347)	-0.038 (0.349)	-0.089 (0.347)
Constant	-0.018 (0.040)	-0.023 (0.039)	-0.017 (0.038)	-4.467*** (0.254)	-4.500*** (0.255)	-4.482*** (0.253)
N	9,838	9,838	9,838	6,098	6,098	6,098

NOTE: Prais-Winsten regressions for models 1-3; rare events logit for models 4-6. Standard errors clustered on country code in parentheses (robust standard errors for models 1-3). † p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001.

TABLE E4. The Effect of Foreign-Imposed Regime Change (FIRC) on Target Polity Scores over Ten Years: Cross-Sectional Time Series Models with Fixed Effects

	1	2	3
FIRC by nondemocracy	-1.01*** (0.21)	-	-
FIRC by democracy	-0.20 (0.23)	-	-
Institutional FIRC	-	0.14 (0.45)	-
Leadership FIRC	-	-0.33 (0.26)	-
FIRC by United States	-	-	0.42 (0.29)
FIRC by non-U.S. democracy	-	-	-0.46 (0.33)
Polity score in prior year	0.46*** (0.01)	0.46*** (0.01)	0.46*** (0.01)
State age	0.015*** (0.002)	0.016*** (0.002)	0.016*** (0.002)
Economic development	0.269*** (0.022)	0.268*** (0.022)	0.270*** (0.022)
Previous democracy	1.602*** (0.175)	1.571*** (0.175)	1.565*** (0.175)
Former British colony	-	-	-
Civil war	0.536*** (0.132)	0.469*** (0.132)	0.49*** (0.132)
Interstate war	-0.025 (0.148)	-0.066 (0.148)	-0.065 (0.148)
Constant	3.112*** (0.112)	3.079*** (0.112)	3.078*** (0.112)
N	12,157	12,157	12,157

NOTE: Cross-sectional time series regressions with fixed effects, standard errors clustered on country code in parentheses. Former British colony dropped because it is a fixed effect. † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

TABLE E5. The Effect of Foreign-Imposed Regime Change (FIRC) on Target Democratization, 1900-2000: Re-coding Allied FIRCs at the End of World War II

	1 Change in Polity score	2 Democratic Transition
Institutional FIRC	0.38† (0.20)	2.39*** (0.44)
Leadership FIRC	-0.12 (0.12)	-0.22 (1.05)
State age	0.0007** (0.0002)	0.008*** (0.002)
Economic development	0.020*** (0.004)	0.172*** (0.036)
Previous democracy	-0.237*** (0.035)	0.954*** (0.221)
Former British colony	-0.085** (0.029)	0.072 (0.332)
Civil war	0.066 (0.068)	0.365 (0.252)
Interstate war	-0.042 (0.065)	-1.612 (1.068)
Constant	-0.104*** (0.028)	-6.523*** (0.339)
N	9,535	6,618

NOTE: Prais-Winsten regressions for model 1; rare events logit for model 2. Standard errors clustered on country code in parentheses (robust standard errors for model 1). † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix F

Matching

As discussed in the article, the goal of matching is to identify a set of states that is as similar as possible to cases of foreign-imposed regime change in terms of their potential to democratize, but that did not experience intervention. It is important to emphasize that it is not necessary for control cases to match treated cases exactly on every variable; such “exact matches” rarely exist. The key is for the aggregate *distributions* of treatment and control cases to be matched very closely on every variable.²²

Three points about our matching procedure bear emphasizing. First, to avoid the possibility that non-FIRC years from states that experienced FIRC at some point in their history would show up in our control group, we dropped all such years prior to perform matching. Often the closest matches for state X in year Y come from state X in the prior or following year, but if states that endure FIRC are systematically different than states that do not, including state-years from countries that undergo FIRC at some point could introduce bias into our control cases. Second, to avoid the potential for post-treatment bias, we use FIRC only in the year that it occurred as our treatment variable rather than FIRC coded for a ten-year or five-year period. Using the latter could introduce post-treatment bias if, for example, FIRC affected a state’s level of economic development. In that case, matching would be performed using a variable the values of which were (at least partially) a consequence of FIRC. To avoid this possibility we matched only on the state-years in which FIRC took place. After the matching procedure was completed, we added the ten years following each case of FIRC back to the dataset and did the same for each control case selected by the matching algorithm.²³ Finally, we prioritized achieving exact matches on five dummy variables corresponding to different regional groupings: Europe, North Africa/Middle East, Sub-Saharan Africa, Asia, and the Americas. Finding regional matched pairs helps control for factors common to different regions that might be relevant to democratization, such as shared cultural characteristics.

To perform matching, we took the complete dataset “firc_democratization_final.dta,” modified so that only the variables needed for matching remained. Matching cannot be performed with missing data, so we first dropped cases with missing values on variables that we did not feel comfortable imputing: states’ Polity scores and one of the dependent variables, change in Polity score.²⁴ Next, we performed multiple imputation with the “ice” program in Stata 10 to impute

²² Daniel E. Ho, Kosuke Imai, Gary King, and Elizabeth A. Stuart, “Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference,” *Political Analysis*, Vol. 15, No. 3 (Summer 2007), p. 212.

²³ Note that we are not arguing that FIRC does not have a downstream effect on other variables like economic development. We are simply saying that, by not using those potentially contaminated observations after FIRC in our matching procedure, we avoid introducing bias. In some cases, it was not possible to add ten years following each control case, either because the algorithm selected years from the same state that were less than ten years apart, or because it chose a state-year close to 2008, the last year for which the dependent variable is coded. The number of control cases is thus not the same as the number of treatment cases.

²⁴ The other dependent variable, transition to consolidated democracy, was omitted from the matching procedure entirely because it has missing data built into it—states that experience a transition are coded as missing unless or until they become nondemocracies again, after which they are coded zero. The variable was added manually after matching was completed.

missing values for log of energy consumption (*lnenergy*), log of population (*lnpop*), and ethnic fractionalization (*elfroeder*).²⁵ Third, we dropped all state-years before 1900. Finally we dropped all state years for states that experienced FIRC except in the year they actually suffered the type of FIRC we wanted to use as the treatment in that dataset. So, for institutional FIRC, the command was “drop if firstate==1 & dmzfirc==0.” We then repeated this for each of the six types of FIRC, which yielded six datasets containing state years with one type of FIRC each (only in the year FIRC occurred) and control cases that never experienced any type of FIRC.

To perform matching, we used the *MatchIt* program in R.²⁶ We tried several matching techniques, but in every case one-to-one genetic matching with replacement yielded a large improvement in balance between treated and control cases as well as nearly perfect matches for the regional dummy variables. Other forms of matching (such as nearest neighbor) also greatly improved balance, but the individual matches produced by these alternative techniques were less plausible because they did not match as well on region.²⁷

In Appendix C we showed tables that contained the complete regression results for all six types of FIRC after matching was performed. Here, for each matched dataset, we include a table that shows the means of the treated and control cases on each covariate before and after matching, the improvement in balance after matching, as well as a measure of how close the treated and control cases are after matching. This measure, known as standardized bias, simply divides the difference between the treated and control cases for each variable after matching by the standard deviation of the treated cases. Variables where treated and control differ by less than one-quarter of a standard deviation are considered a “good match.”²⁸ In general matching was highly successful in generating datasets with negligible differences between treated and control cases: only one variable in the six datasets we produced exceeds the 0.25 threshold.²⁹

We also include three figures for each type of FIRC to help visualize the improvement in balance that resulted from matching: quantile-quantile plots, histograms, and jitter plots. Each type of figure shows the distribution of treatment and control cases before and after matching.

²⁵ Imputation programs assume that continuous variables are distributed normally, and thus sometimes impute negative values for variables that in reality never take negative values. To correct for this, we used two procedures. For *elfroeder*, which varies between zero and one, we added the inverse of the minimum value to make all values non-negative (for example, if the imputed version of *elfroeder* varied between -0.78 and 1.65, we added 0.78), and then divided by the new maximum value (2.43) to re-normalize the variable between zero and one. For energy consumption and population, we added the inverse of the minimum value and then divided by the ratio of the new standard deviation and the old standard deviation. For example, if the imputed variable had a mean = 6.44 with minimum = -7.10 and maximum = 24.31, we added 7.10 and divided by the ratio of the new and old standard deviations ($13.54/6.44 = 2.10$), creating a new variable with the same mean as the old one (6.44), with minimum = 0 and maximum = 14.95.

²⁶ On *MatchIt*, see Ho et al., “Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference.”

²⁷ Nearest neighbor matching also sometimes made balance worse on particular variables, whereas genetic matching rarely did this.

²⁸ Ho et al., “Matching as Nonparametric Preprocessing for Reducing Model Dependence in Parametric Causal Inference,” p. 23, n. 15.

²⁹ That variable is interstate war (*interwar*)—a variable that was never significant in the unmatched analysis—in the institutional FIRC dataset.

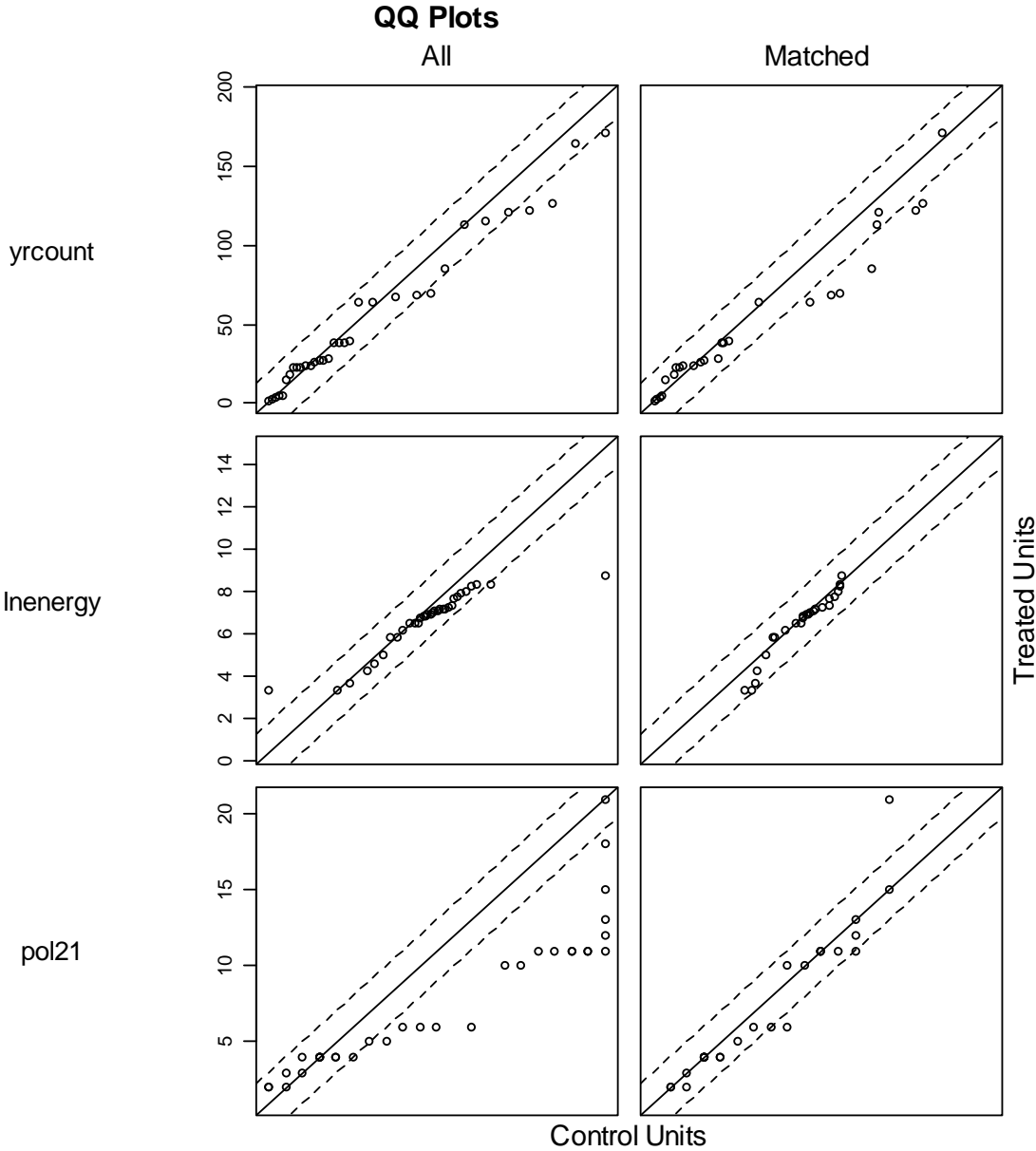
FIRC BY NONDEMOCRACIES

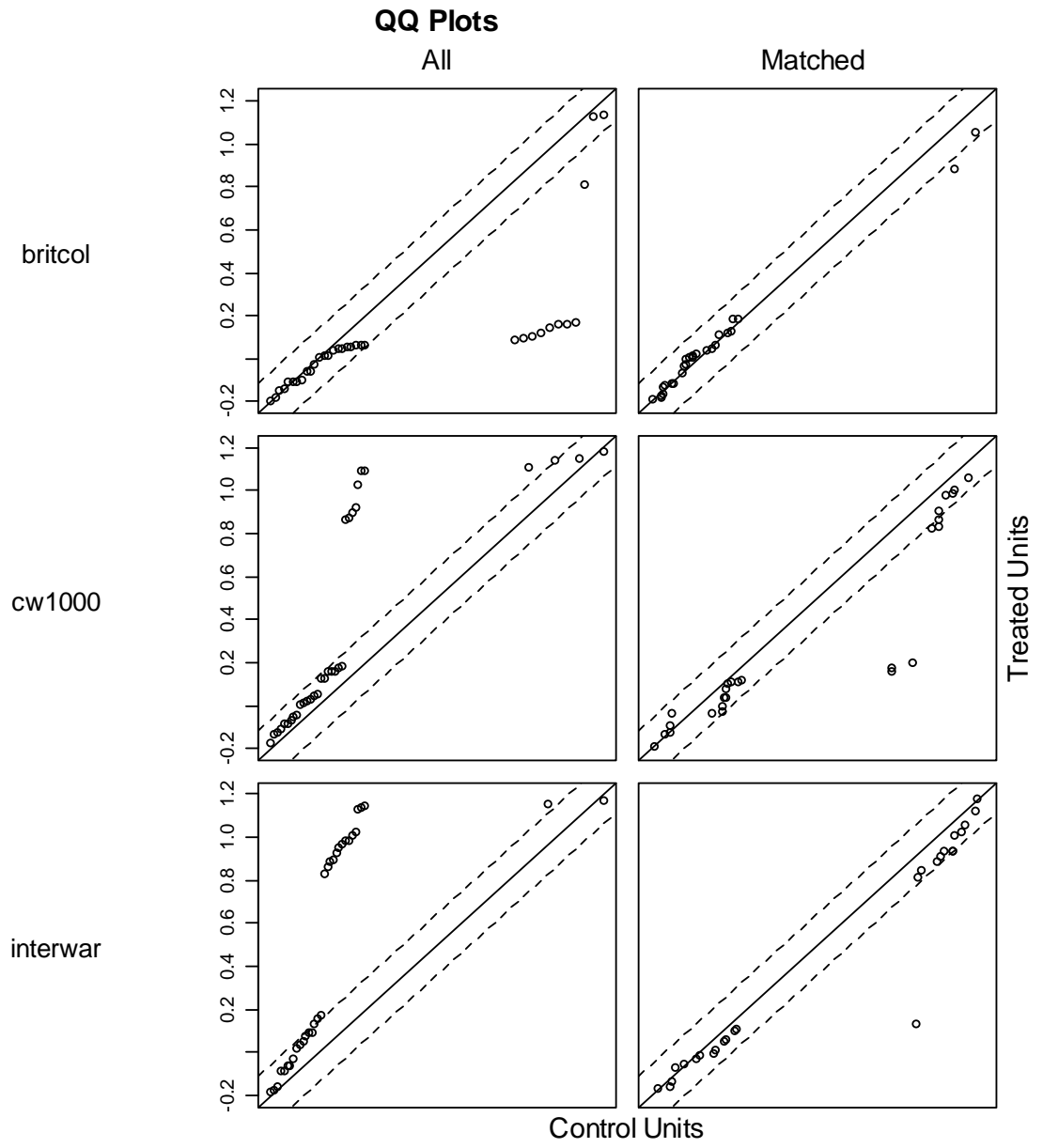
Table F1. Summary of Balance between Treatment and Control Cases Before and After Matching (Treatment Variable is Foreign-Imposed Regime Change by Nondemocracies)

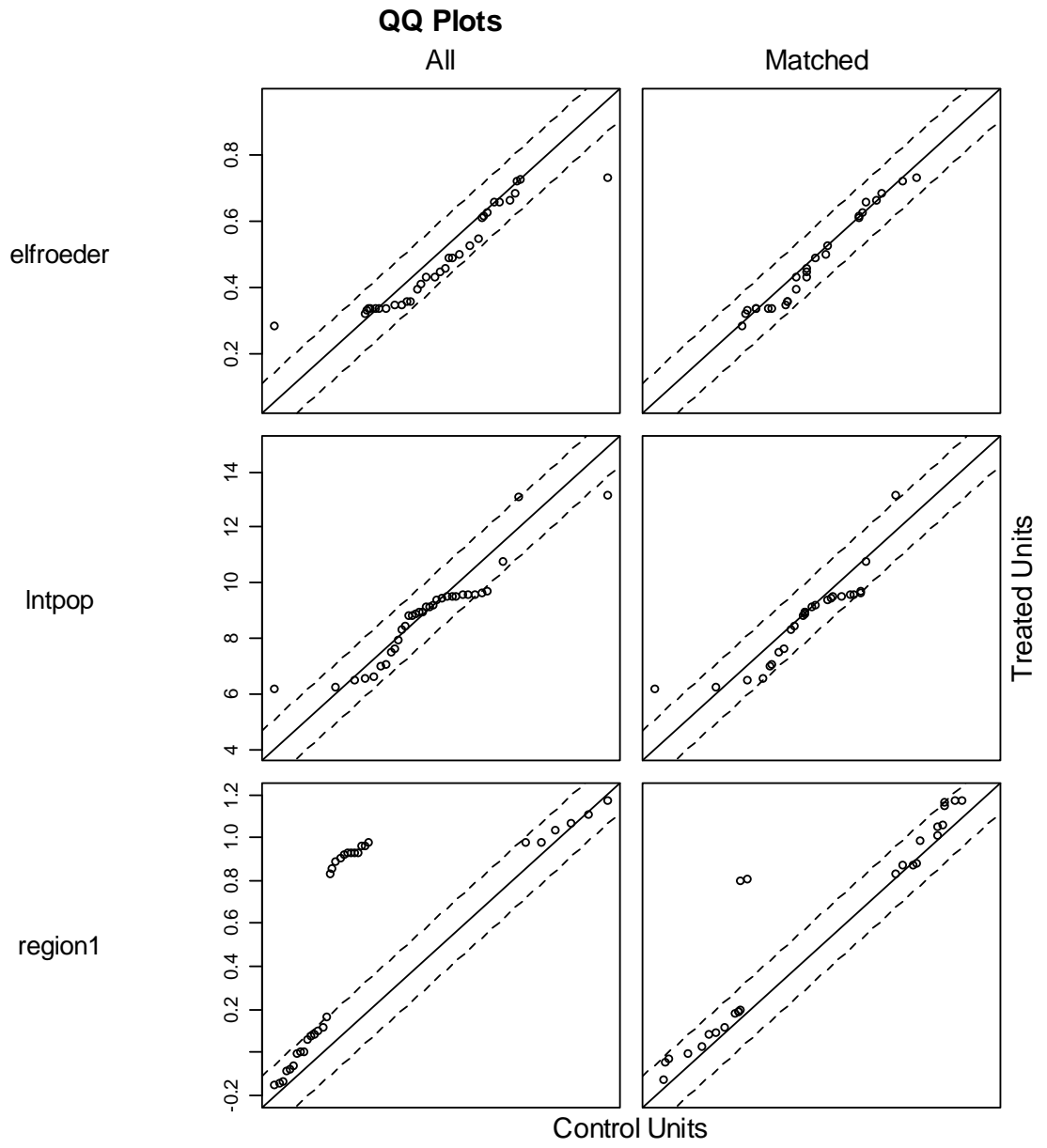
Variable	Mean Treated	Mean Control pre-Matching	Mean Control post-Matching	Mean Difference post-Matching	Percent Improvement	Standardized Bias
Distance	0.1230	0.0045	0.1184	0.0045	96.18	-
State Age	53.9394	58.2502	54.3939	-0.4545	89.46	0.0095
Econ. Development	6.6037	7.0792	6.6838	-0.0800	83.17	0.0558
Polity Score	7.6970	11.2527	7.7273	-0.0303	99.15	0.0063
British Colony	0.0909	0.3361	0.0606	0.0303	87.64	0.1038
Civil War	0.3333	0.1180	0.3939	-0.0606	71.85	0.0633
Interstate War	0.4848	0.0508	0.4848	0	100	0
ELF	0.4789	0.5041	0.4811	-0.0022	91.22	0.0153
Population	8.7942	8.9428	8.7767	0.0175	88.26	0.0107
Europe	0.5455	0.1805	0.5455	0	100	0
N. Africa/Middle East	0.0303	0.1690	0.0303	0	100	0
Sub-Saharan Africa	0.1515	0.2640	0.1818	-0.0303	73.06	0.0832
Asia	0.2424	0.2163	0.2121	0.0303	-16.16	0.0696
Americas	0.0303	0.1702	0.0303	0	100	0

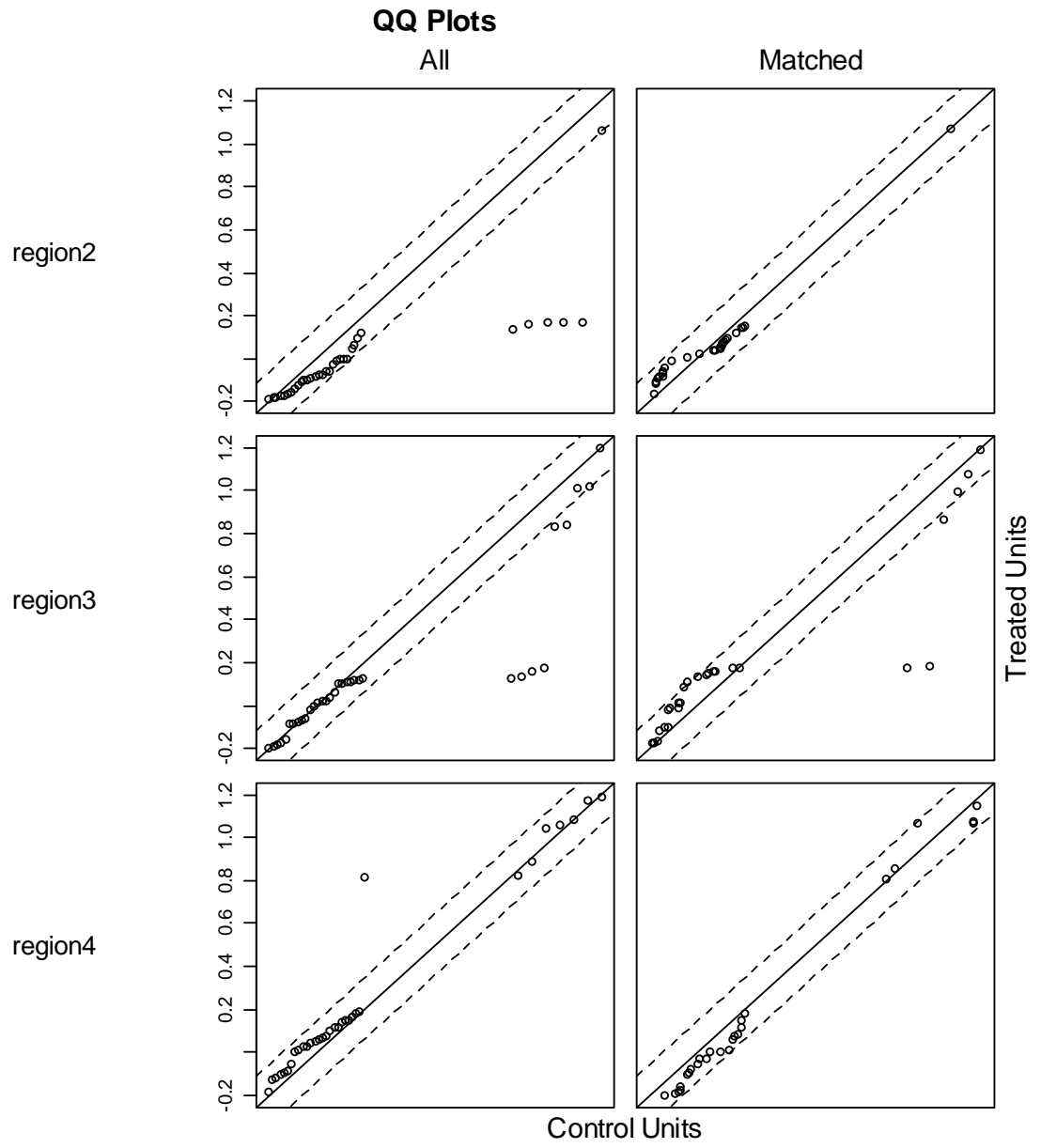
NOTE: Prevdemall was omitted from matching because balance was already good: mean treated = 0.2121, mean control = 0.1798, difference = 0.0323, SD treated = 0.4151, Standardized bias = 0.0778.

Figure F1. Quantile-Quantile Plots of Treated and Control Cases, Treatment is FIRC by Nondemocracies

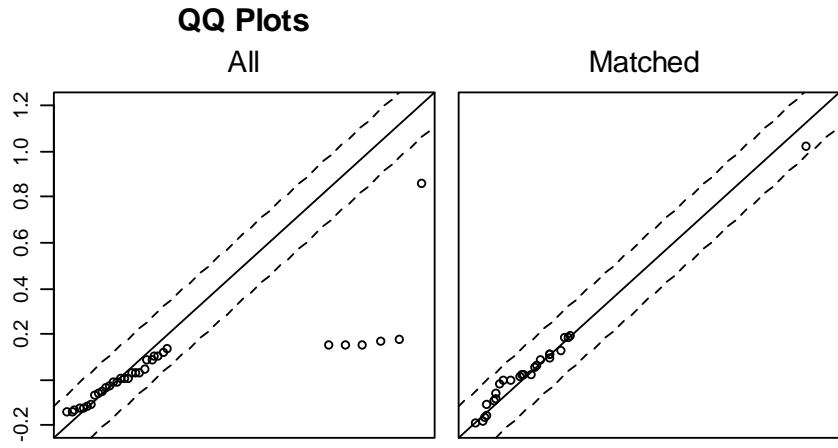








region5



Treated Units

Control Units

Figure F2. Histogram of Treated and Control Cases, Treatment is FIRC by Nondemocracies

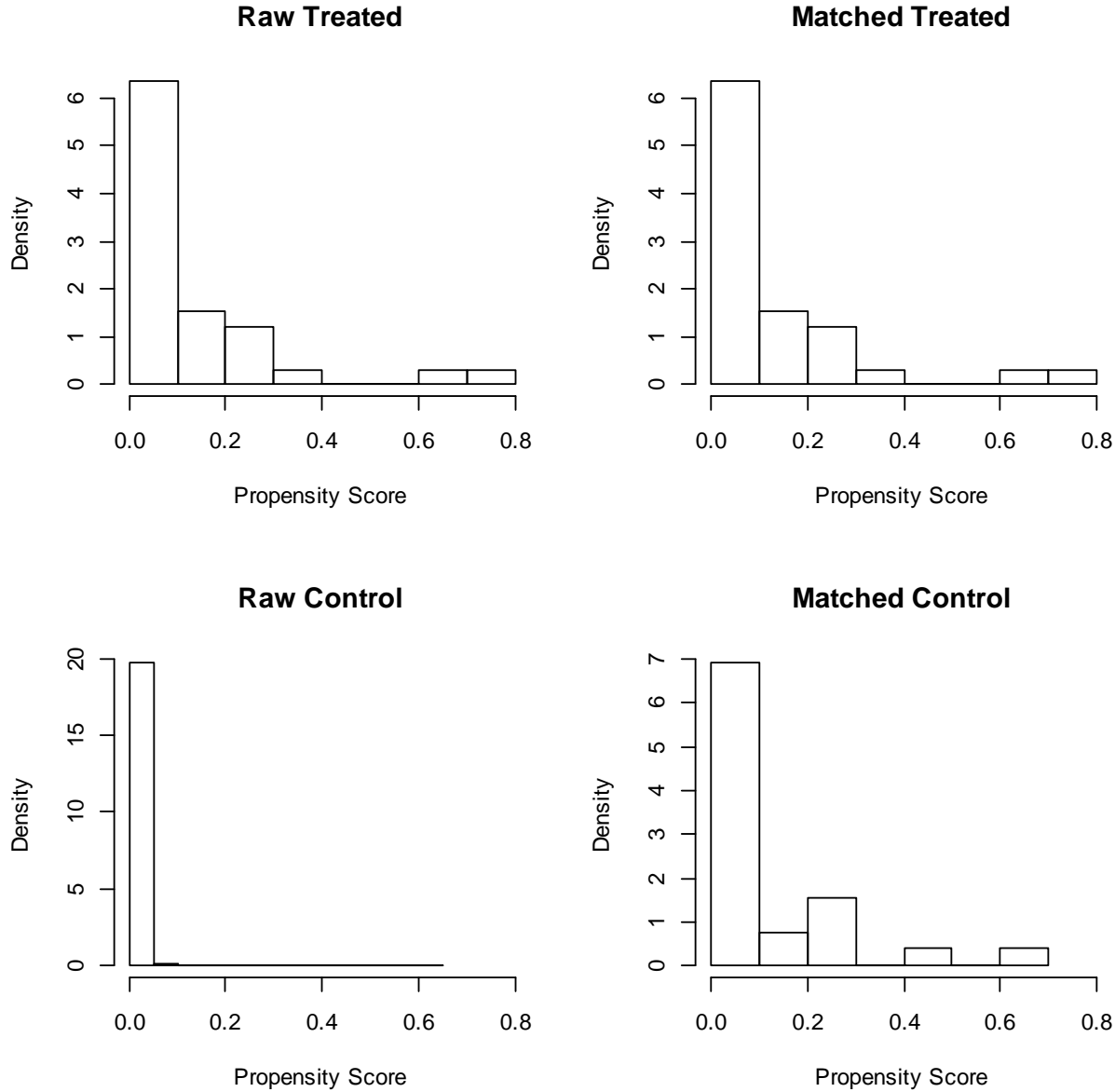
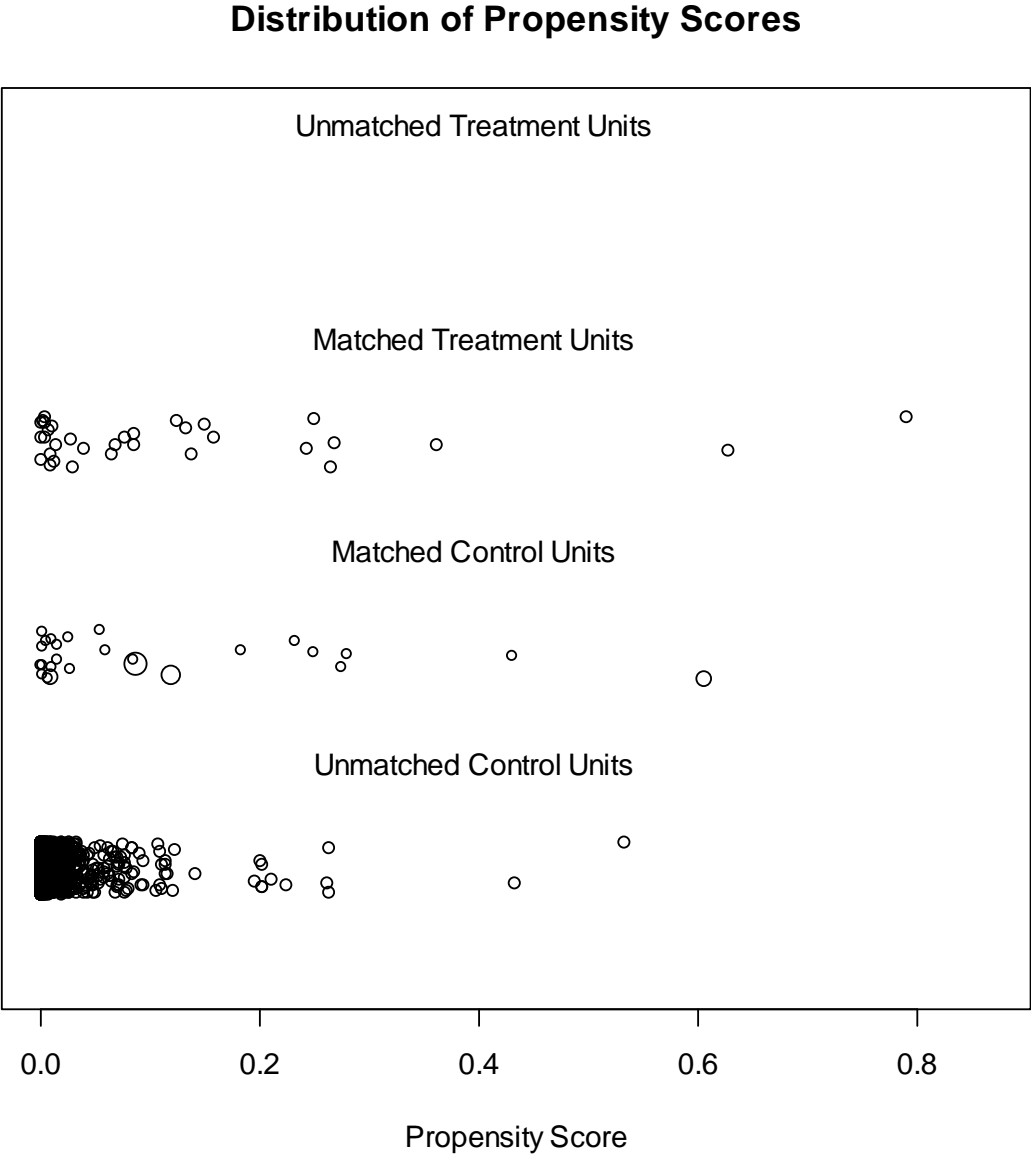


Figure F3. Jitter Plot of Treated and Control Cases, Treatment is FIRC by Nondemocracies



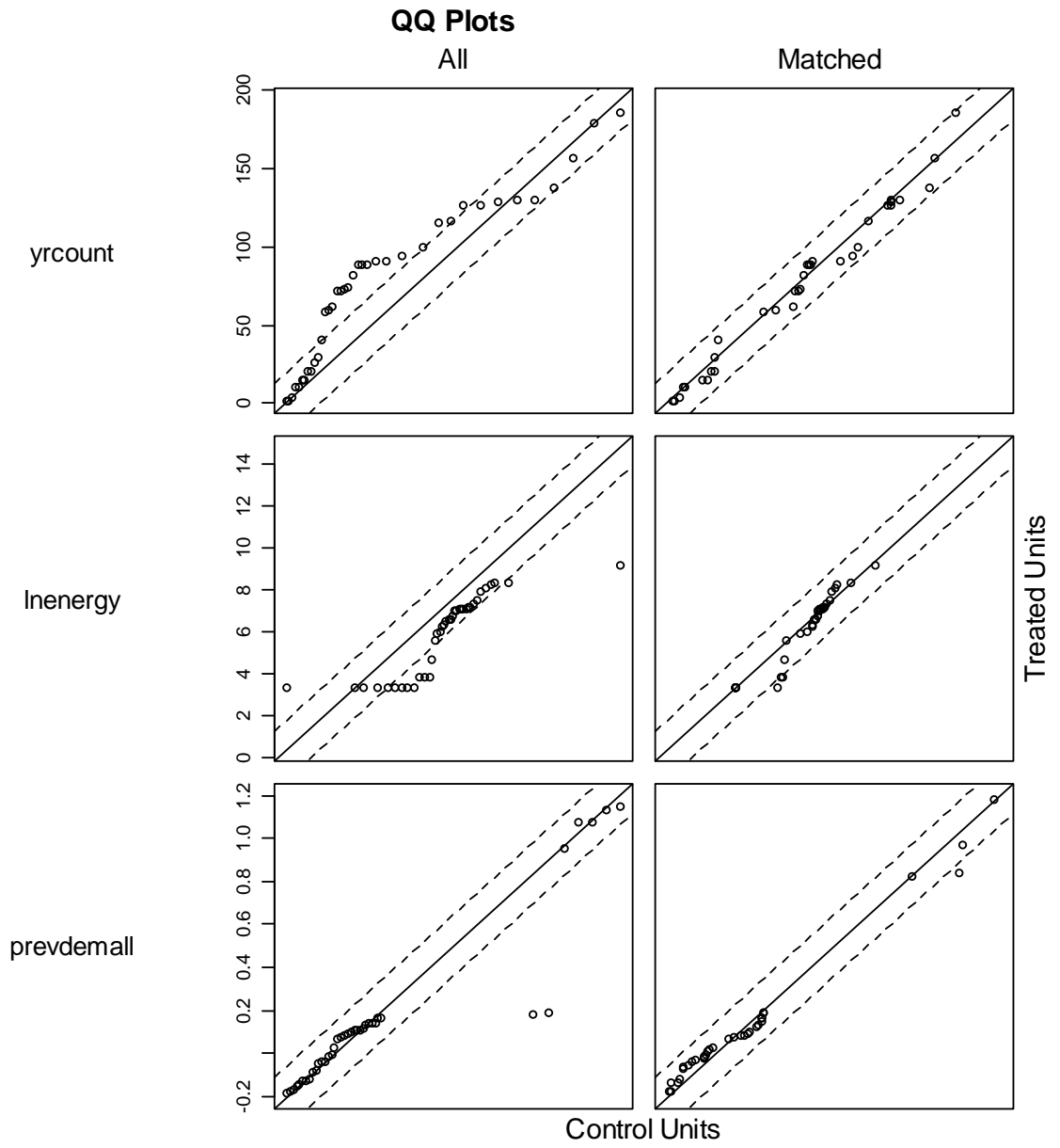
FIRC BY DEMOCRACIES

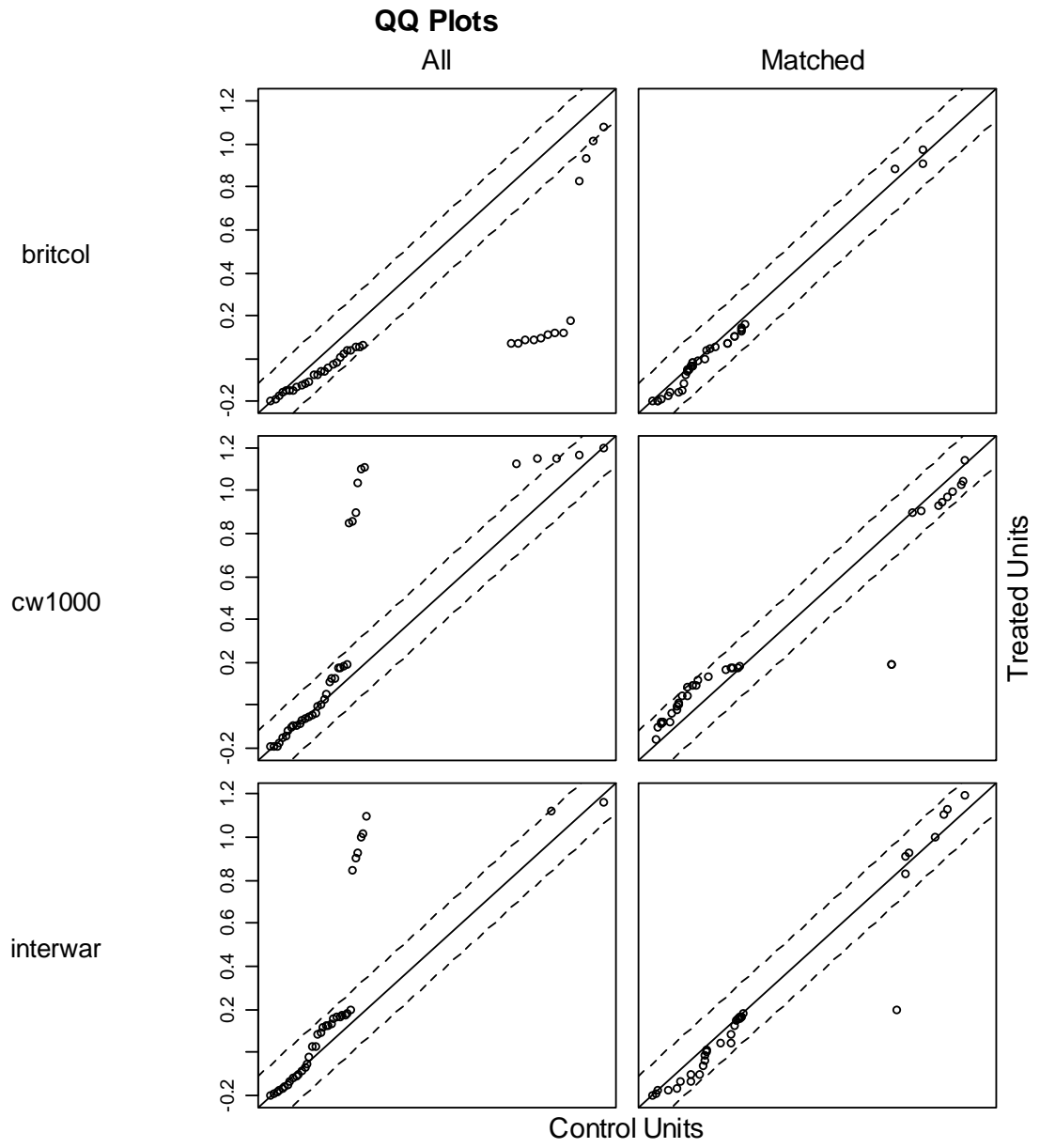
Table F2. Summary of Balance between Treatment and Control Cases Before and After Matching (Treatment Variable is Foreign-Imposed Regime Change by Democracies)

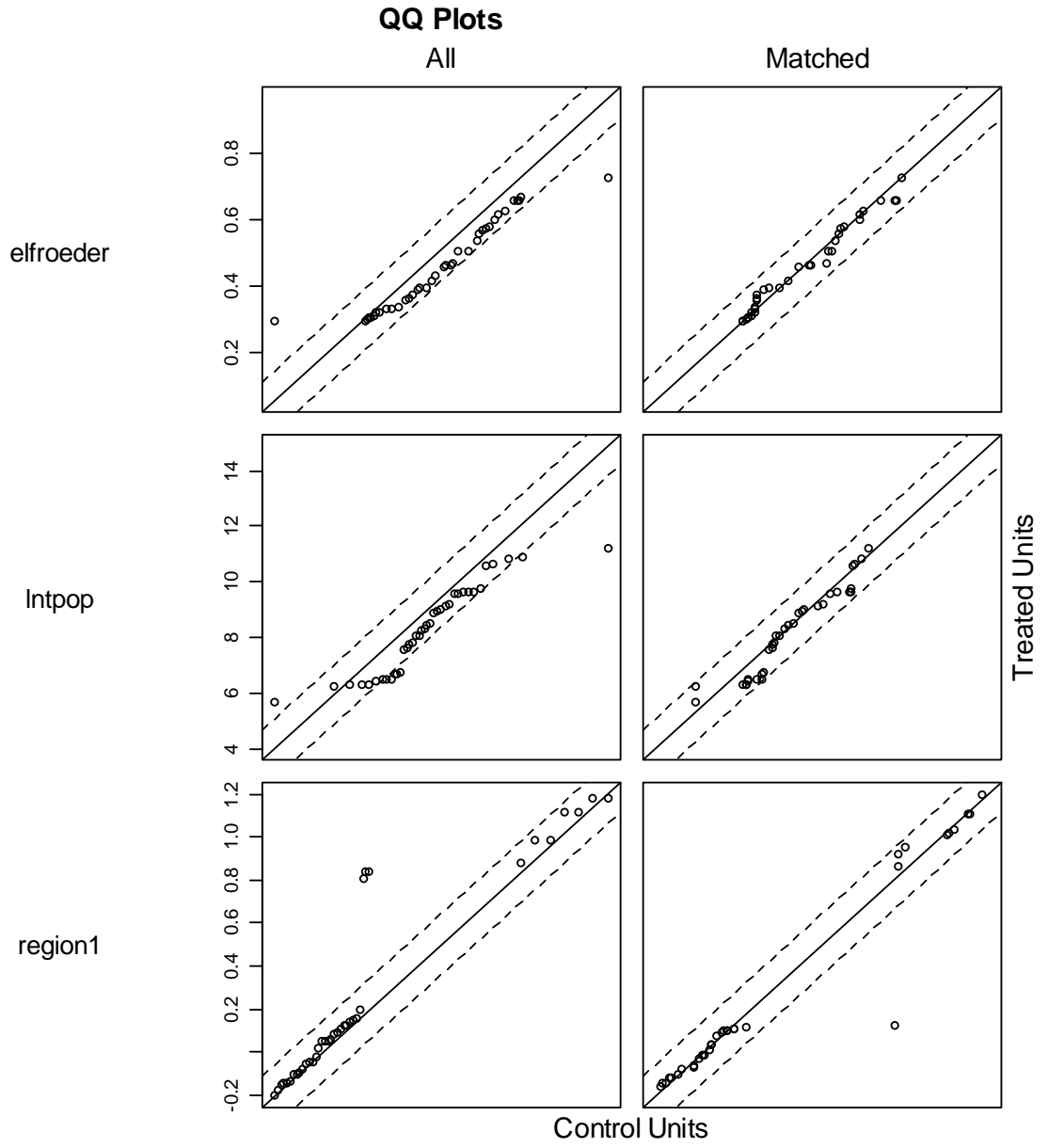
Variable	Mean Treated	Mean Control pre-Matching	Mean Control post-Matching	Mean Difference post-Matching	Percent Improvement	Standardized Bias
Distance	0.0425	0.0057	0.0385	0.0039	89.32	-
State Age	76.8158	58.2502	76.2368	0.5789	96.88	0.0113
Econ. Development	5.9048	7.0792	5.7959	0.1089	90.73	0.0584
Previous Democracy	0.1316	0.1798	0.1053	0.0263	45.47	0.0768
British Colony	0.1053	0.3361	0.0789	0.023	88.60	0.0740
Civil War	0.2895	0.1180	0.2895	0	100	0
Interstate War	0.2105	0.0508	0.2105	0	100	0
ELF	0.4586	0.5041	0.4595	-0.0009	97.98	0.0068
Population	8.2642	8.9428	8.2752	-0.0110	98.38	0.0070
Europe	0.2632	0.1805	0.2632	0	100	0
N. Africa/Middle East	0.1053	0.1690	0.1053	0	100	0
Sub-Saharan Africa	0.1579	0.2640	0.1579	0	100	0
Asia	0.1053	0.2163	0.1053	0	100	0
Americas	0.3684	0.1702	0.3684	0	100	0

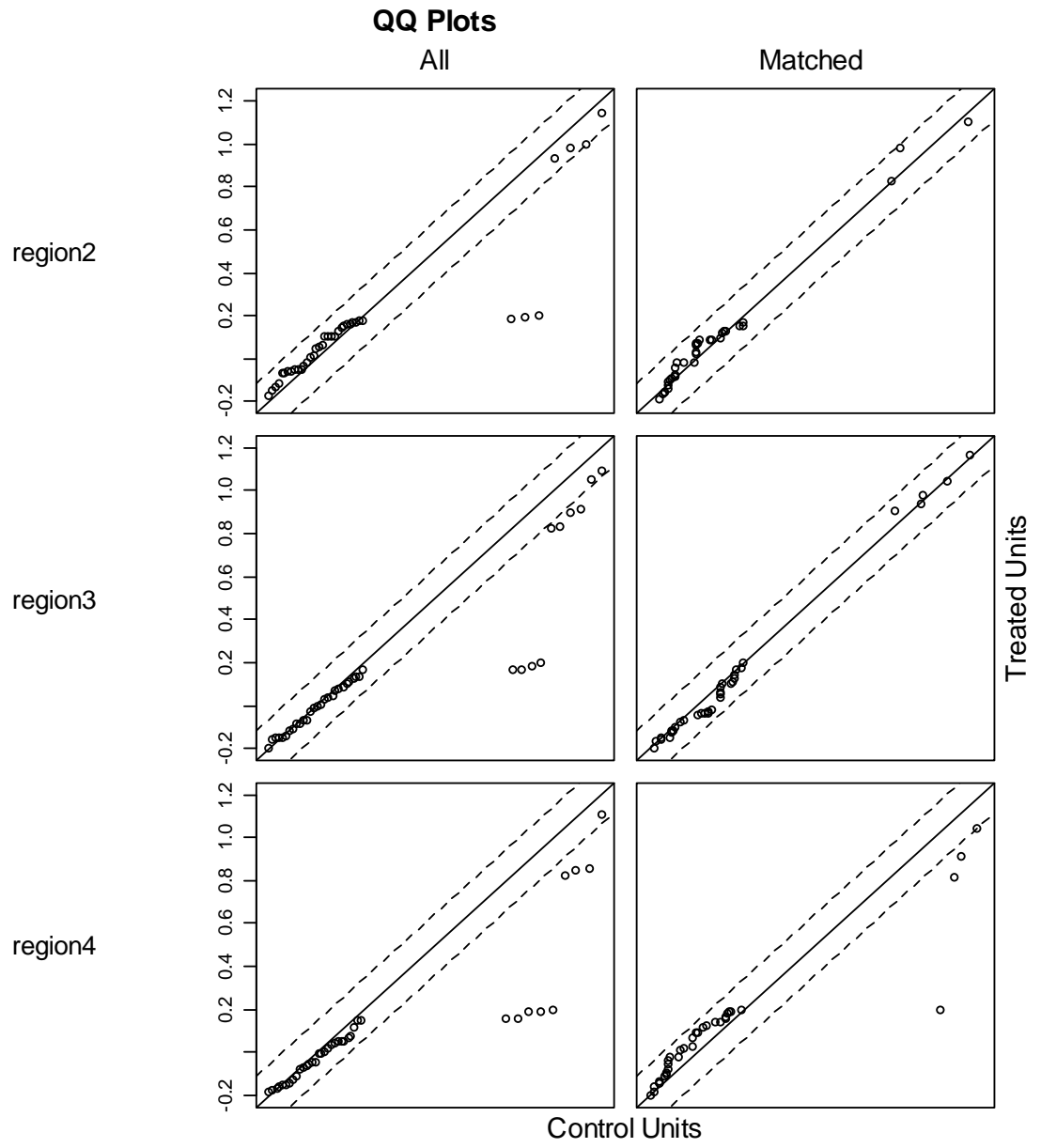
NOTE: Polity score was omitted from matching because balance was already good: mean treated = 11.16, mean control = 11.25, difference = -0.0948, SD treated = 6.40, Standardized bias = 0.0148.

Figure F4. Quantile-Quantile Plots of Treated and Control Cases, Treatment is FIRC by Democracies

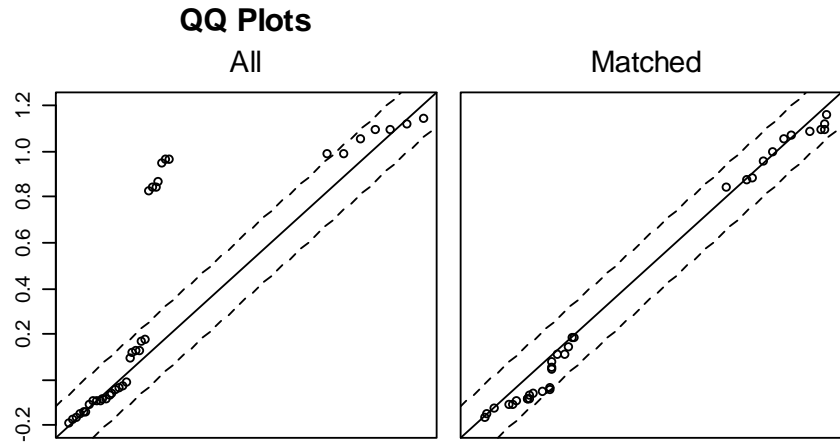








region5



Treated Units

Control Units

Figure F5. Histogram of Treated and Control Cases, Treatment is FIRC by Democracies

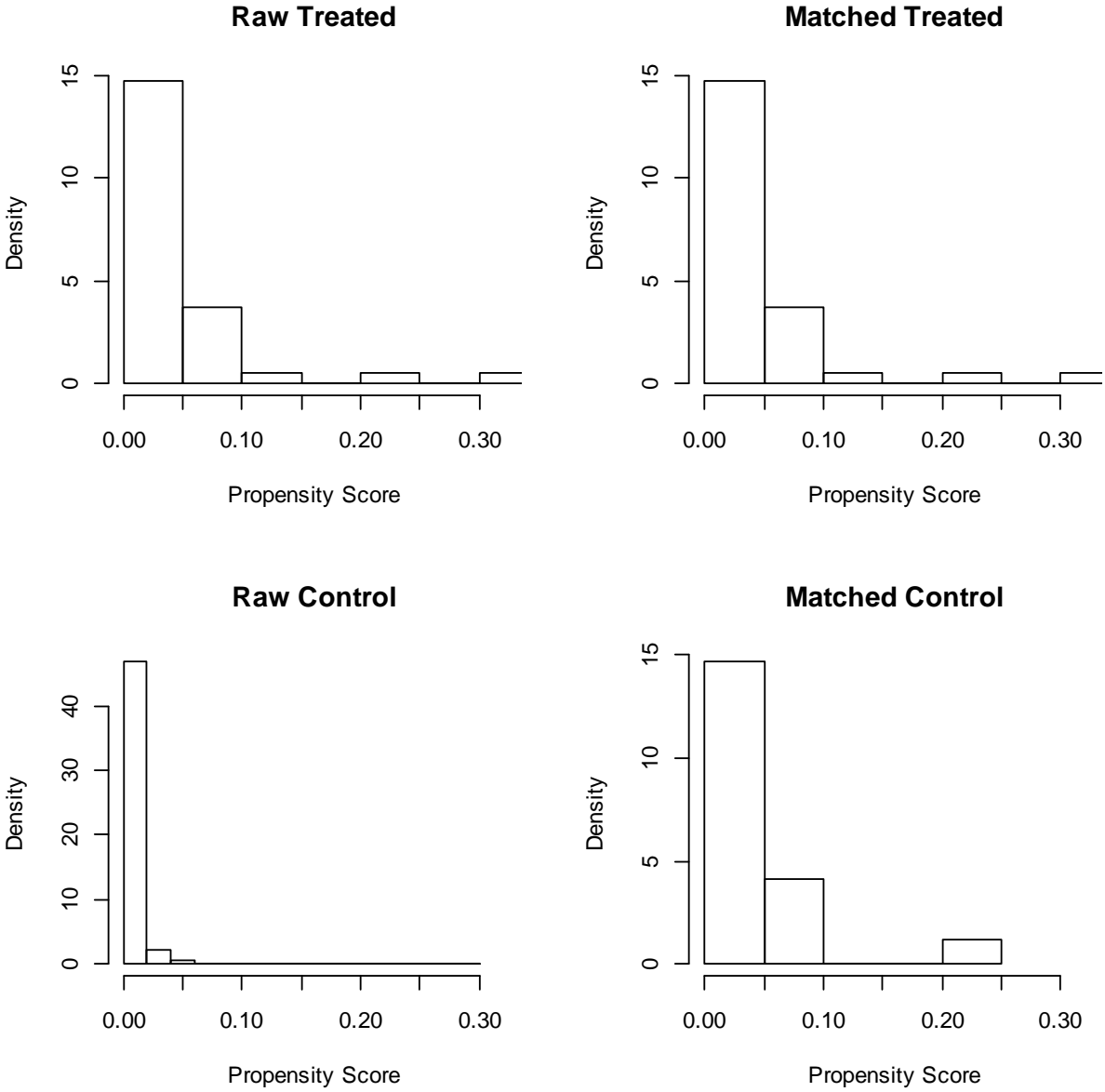
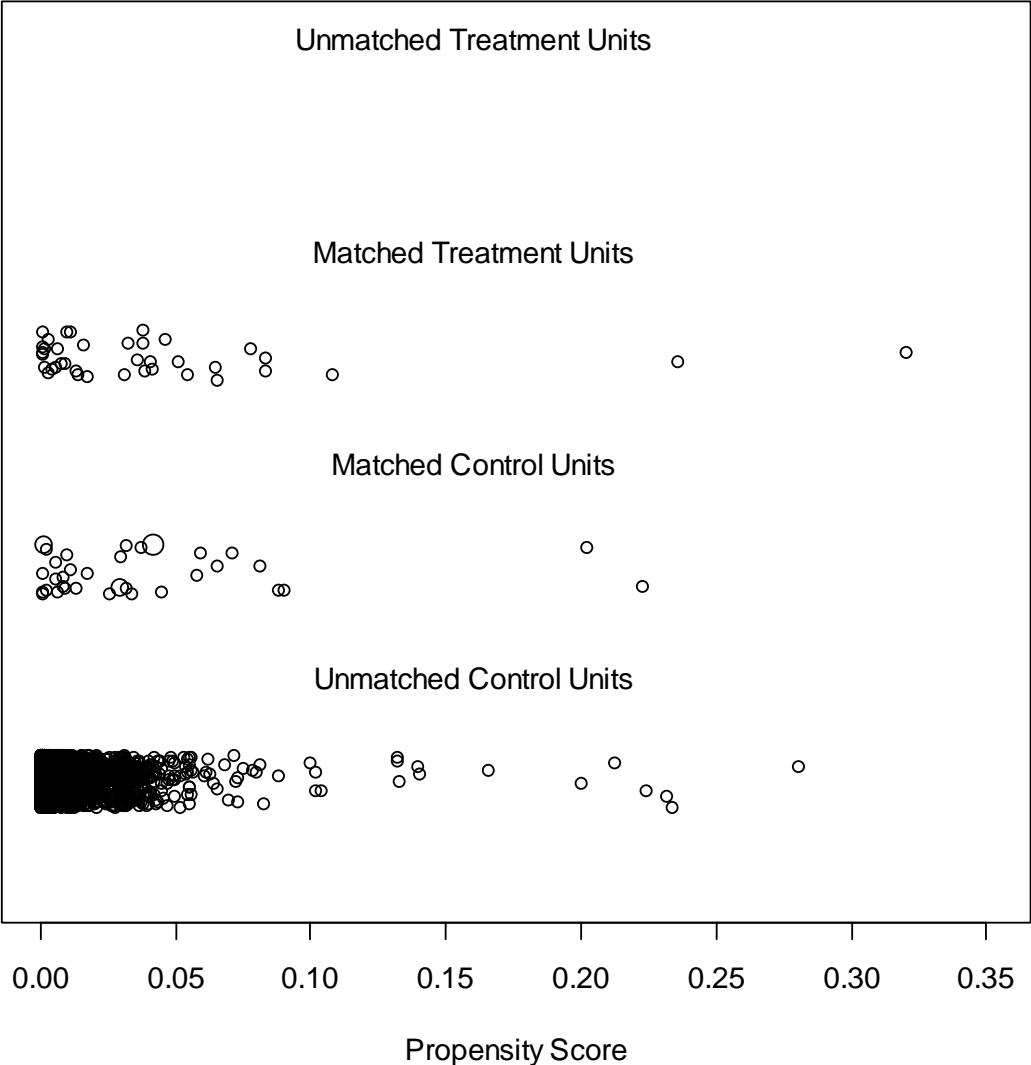


Figure F6. Jitter Plot of Treated and Control Cases, Treatment is FIRC by Democracies

Distribution of Propensity Scores



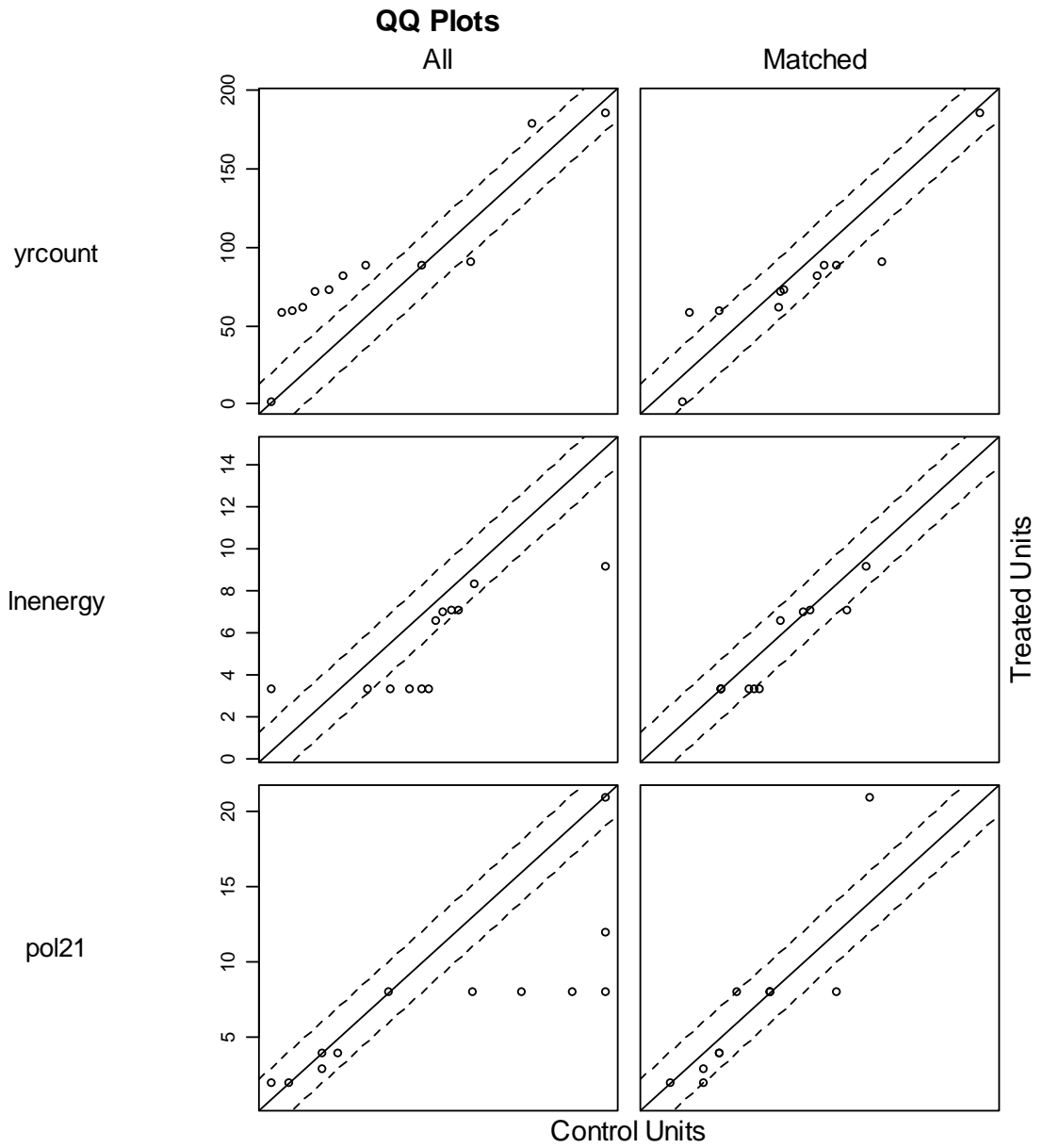
INSTITUTIONAL FIRC BY DEMOCRACIES

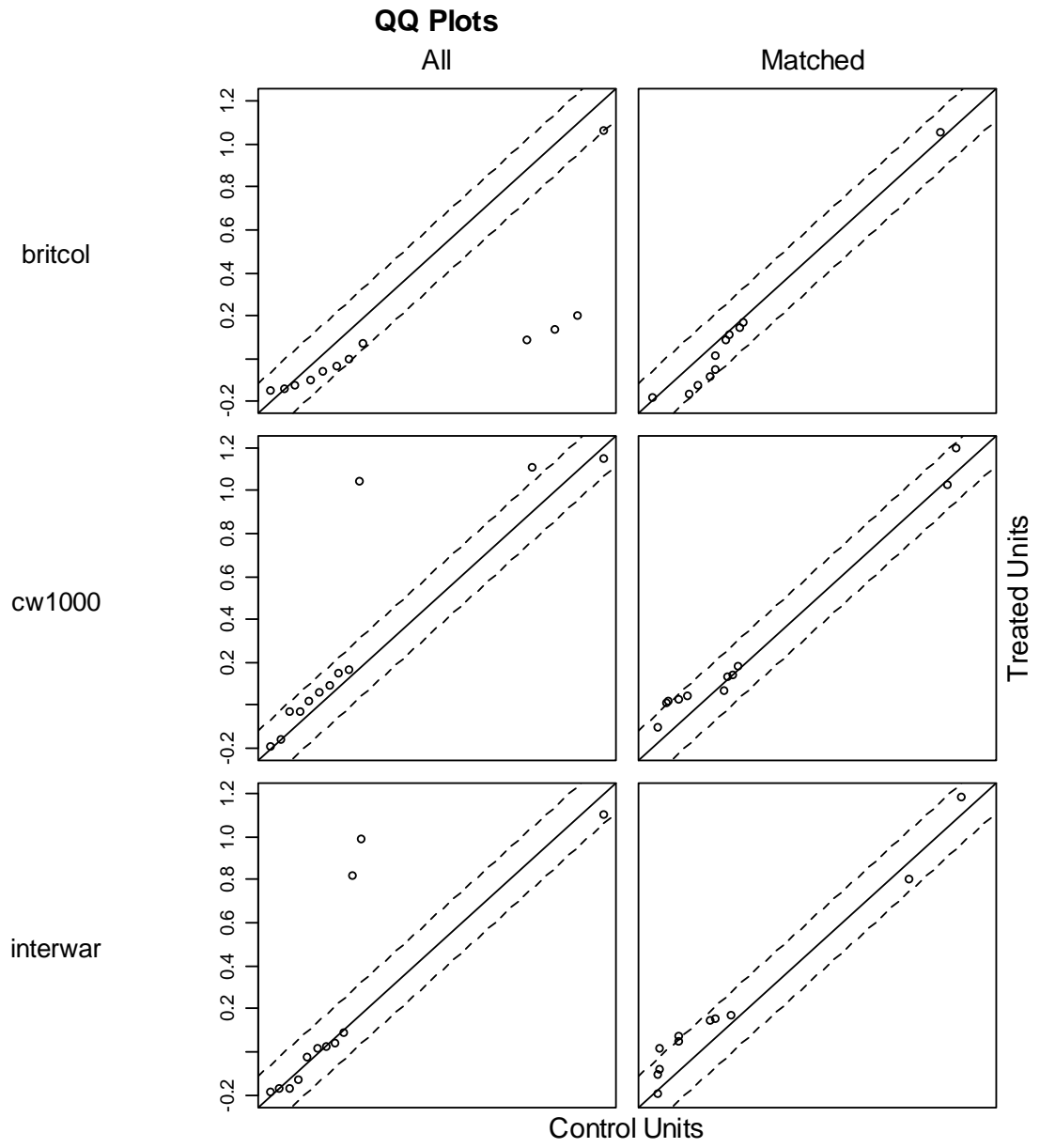
Table F3. Summary of Balance between Treatment and Control Cases Before and After Matching (Treatment Variable is Institutional Foreign-Imposed Regime Change by Democracies)

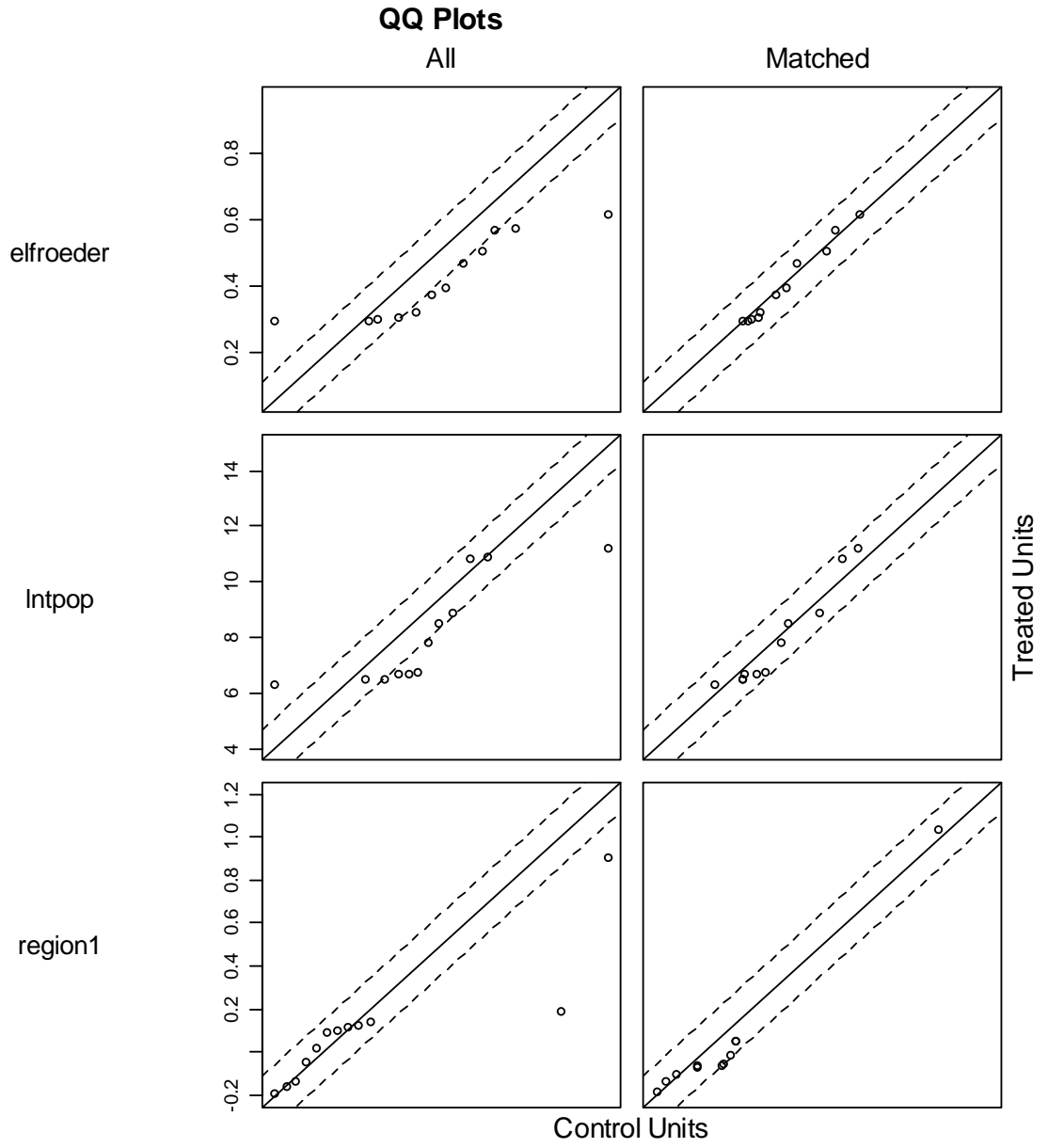
Variable	Mean Treated	Mean Control pre-Matching	Mean Control post-Matching	Mean Difference post-Matching	Percent Improvement	Standardized Bias
Distance	0.0707	0.0017	0.0679	0.0028	95.90	-
State Age	86.7500	58.2502	83.2500	3.5000	87.72	0.0003
Econ. Development	5.4379	7.0792	5.4805	-0.0425	97.41	0.0174
Polity Score	7.3333	11.2527	7.0000	0.3333	91.50	0.0618
British Colony	0.0833	0.3361	0.0833	0	100	0
Civil War	0.2500	0.1180	0.1667	0.0833	36.85	0.1976
Interstate War	0.2500	0.0508	0.1667	0.0833	58.17	0.2634
ELF	0.4166	0.5041	0.4185	-0.0019	97.83	0.0167
Population	8.1121	8.9428	7.9124	0.1997	75.95	0.1097
Europe	0.0833	0.1805	0.0833	0	100	0
N. Africa/Middle East	0.0833	0.1690	0.0833	0	100	0
Sub-Saharan Africa	0.0000	0.2640	0.0000	0	100	0
Asia	0.1667	0.2163	0.1667	0	100	0
Americas	0.6667	0.1702	0.6667	0	100	0

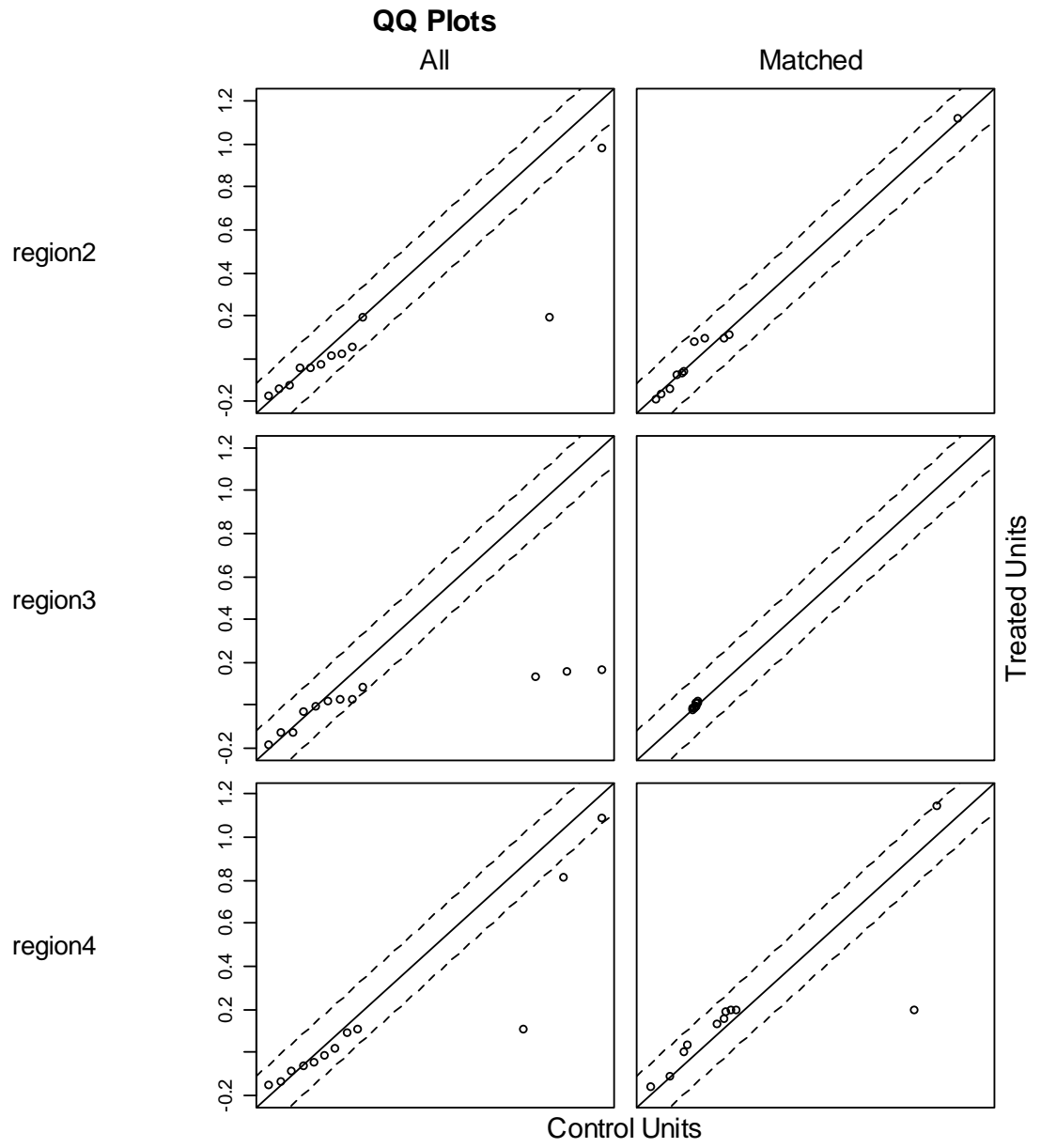
NOTE: Previous democracy was omitted from matching because balance was already good: mean treated = 0.1667, mean control = 0.1798, difference = -0.0132, SD treated = 0.4216, Standardized bias = 0.0313.

Figure F7. Quantile-Quantile Plots of Treated and Control Cases, Treatment is Institutional FIRC

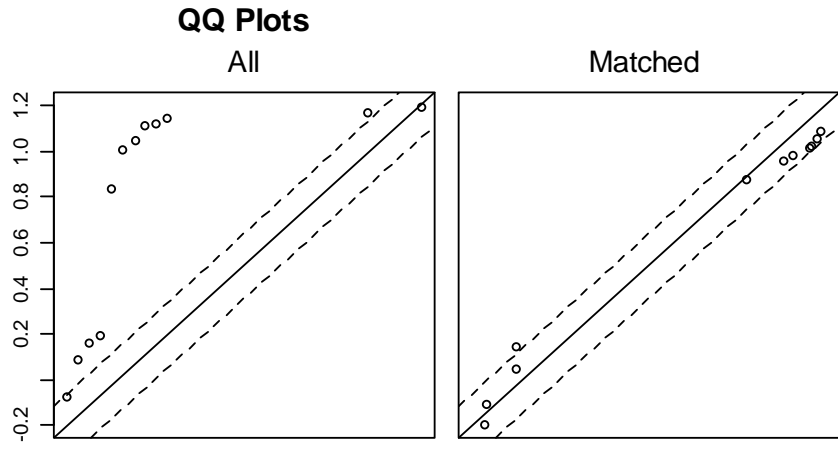








region5



Treated Units

Control Units

Figure F8. Histogram of Treated and Control Cases, Treatment is Institutional FIRC

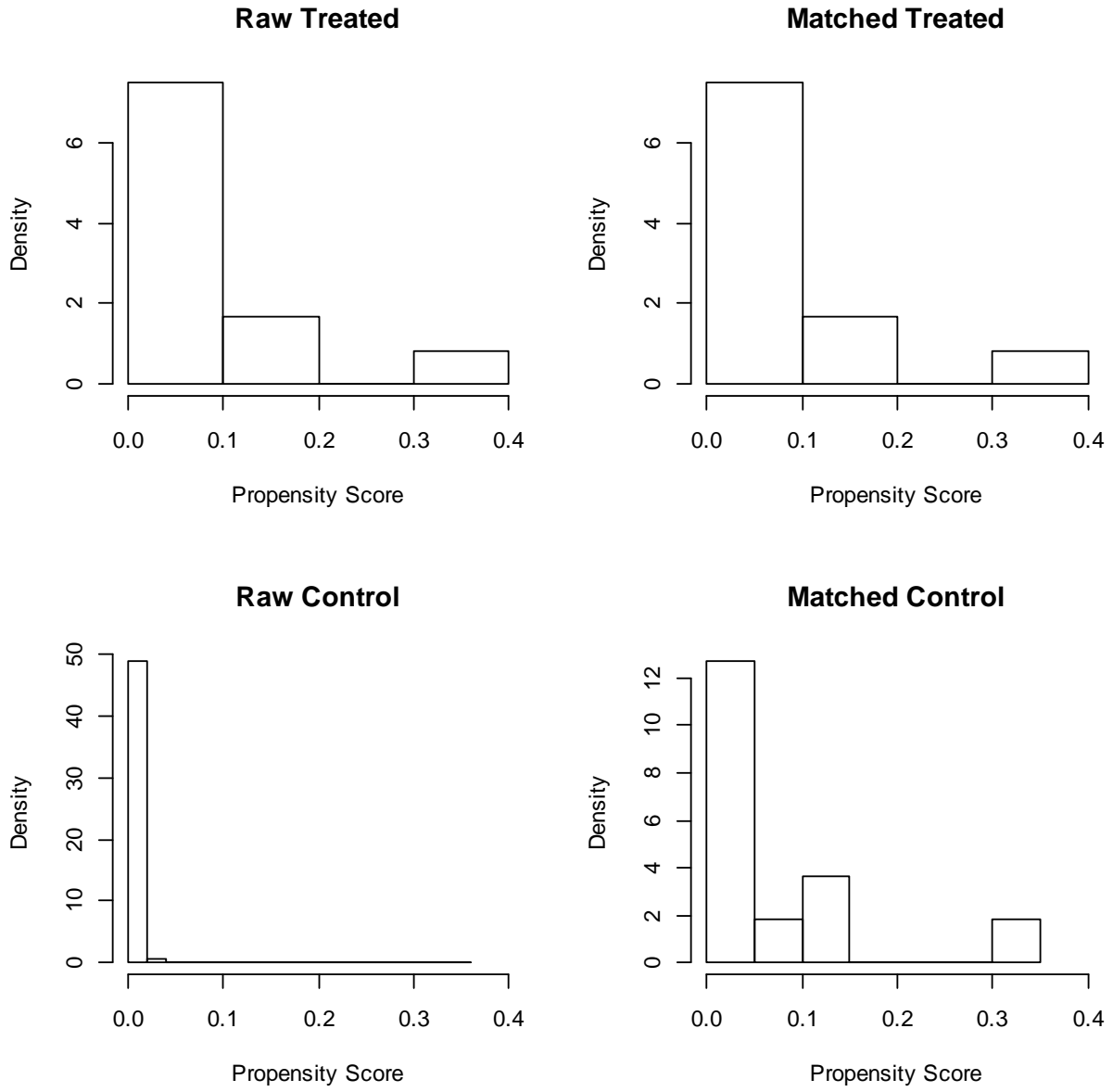
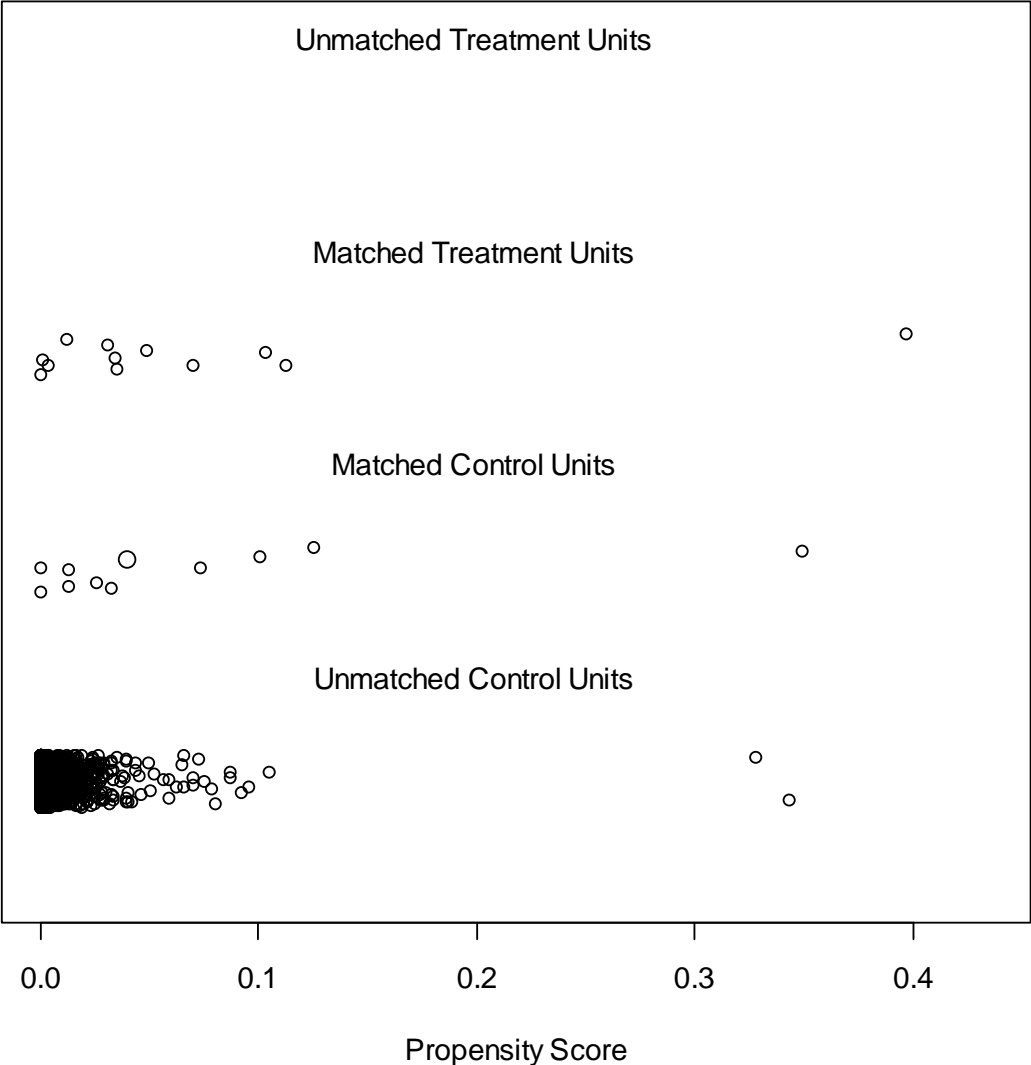


Figure F9. Jitter Plot of Treated and Control Cases, Treatment is Institutional FIRC

Distribution of Propensity Scores

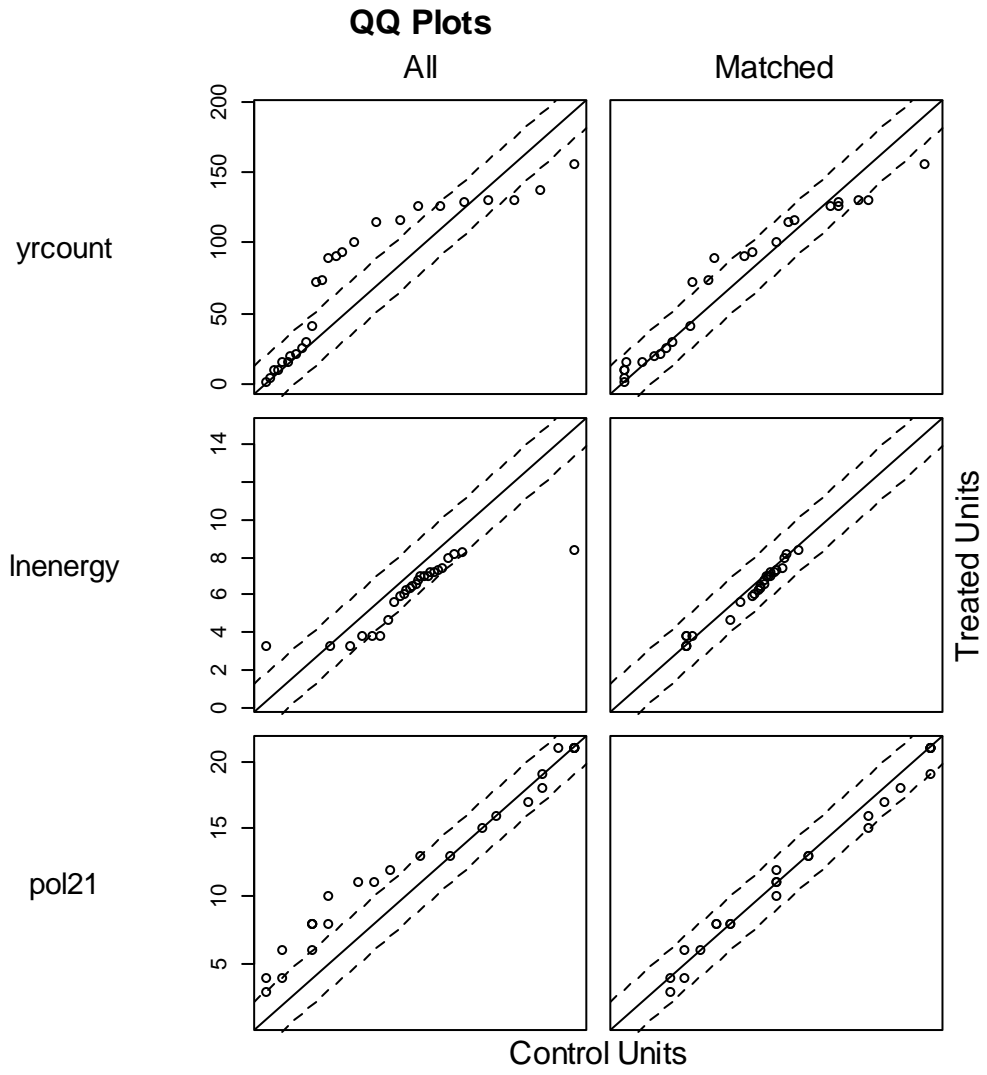


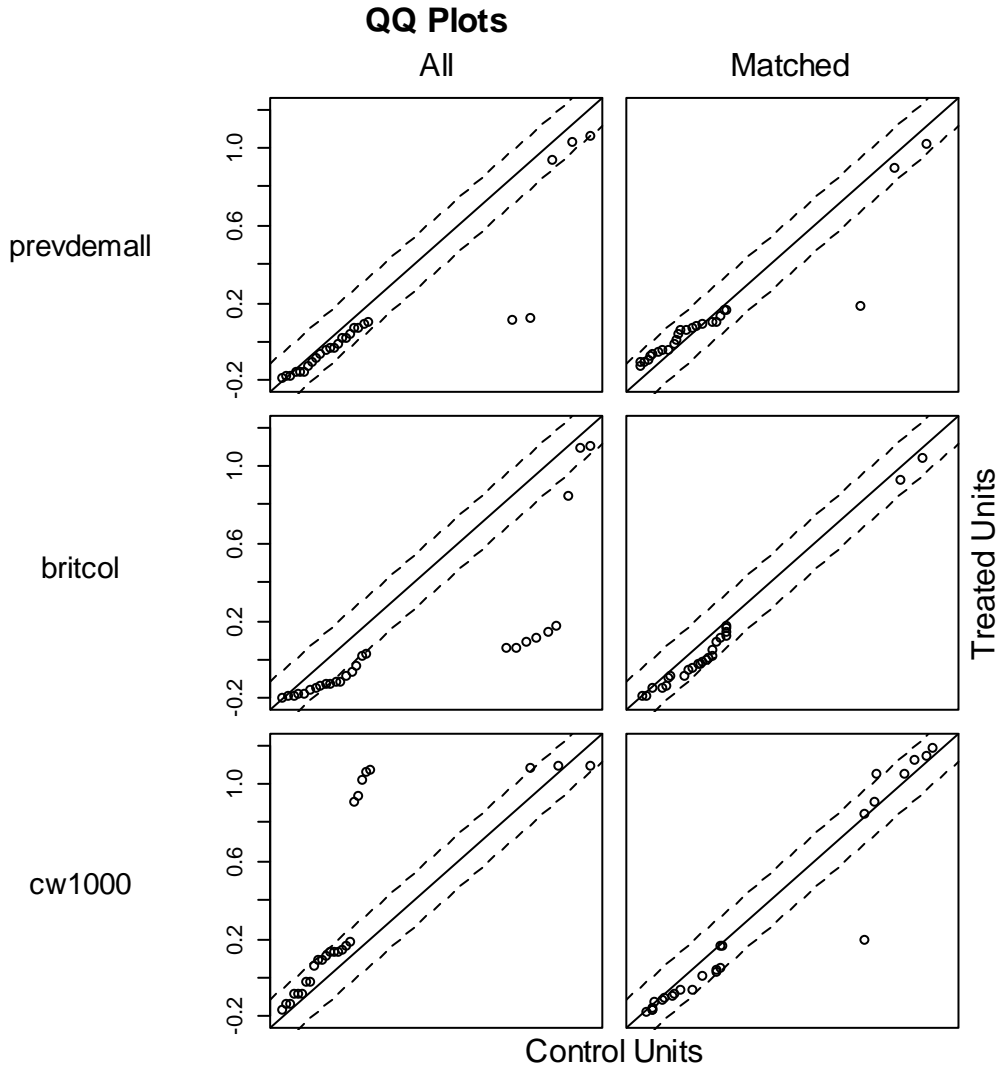
LEADERSHIP FIRC BY DEMOCRACIES

Table F4. Summary of Balance between Treatment and Control Cases Before and After Matching (Treatment Variable is Leadership Foreign-Imposed Regime Change by Democracies)

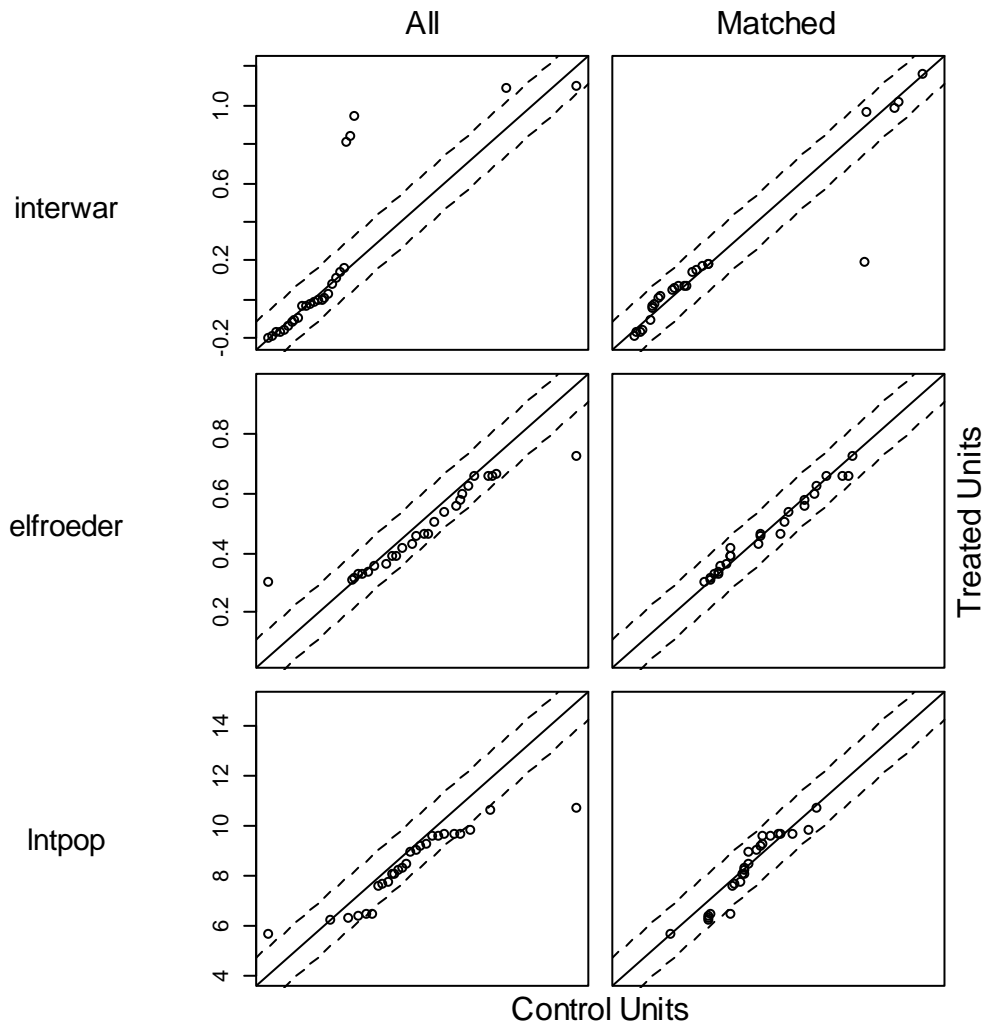
Variable	Mean Treated	Mean Control pre-Matching	Mean Control post-Matching	Mean Difference post-Matching	Percent Improvement	Standardized Bias
Distance	0.0221	0.0039	0.0220	0.0001	99.63	-
State Age	72.2308	58.2502	68.9231	3.3077	76.34	0.0639
Econ. Development	6.1203	7.0792	6.2025	-0.0822	91.43	0.0503
Polity Score	12.9231	11.2527	12.5385	0.3846	76.97	0.0623
Previous Democracy	0.1154	0.1798	0.1154	0	100	0
British Colony	0.1154	0.3361	0.0769	0.0385	82.57	0.1182
Civil War	0.3077	0.1180	0.3077	0	100	0
Interstate War	0.1923	0.0508	0.1923	0	100	0
ELF	0.4780	0.5041	0.4748	0.0032	87.92	0.0239
Population	8.3344	8.9428	8.3929	-0.0585	90.38	0.0407
Europe	0.3462	0.1805	0.3462	0	100	0
N. Africa/Middle East	0.1154	0.1690	0.1538	-0.0385	28.22	0.1182
Sub-Saharan Africa	0.2308	0.2640	0.2308	0	100	0
Asia	0.0769	0.2163	0.0769	0	100	0
Americas	0.2308	0.1702	0.1923	0.0385	36.49	0.0896

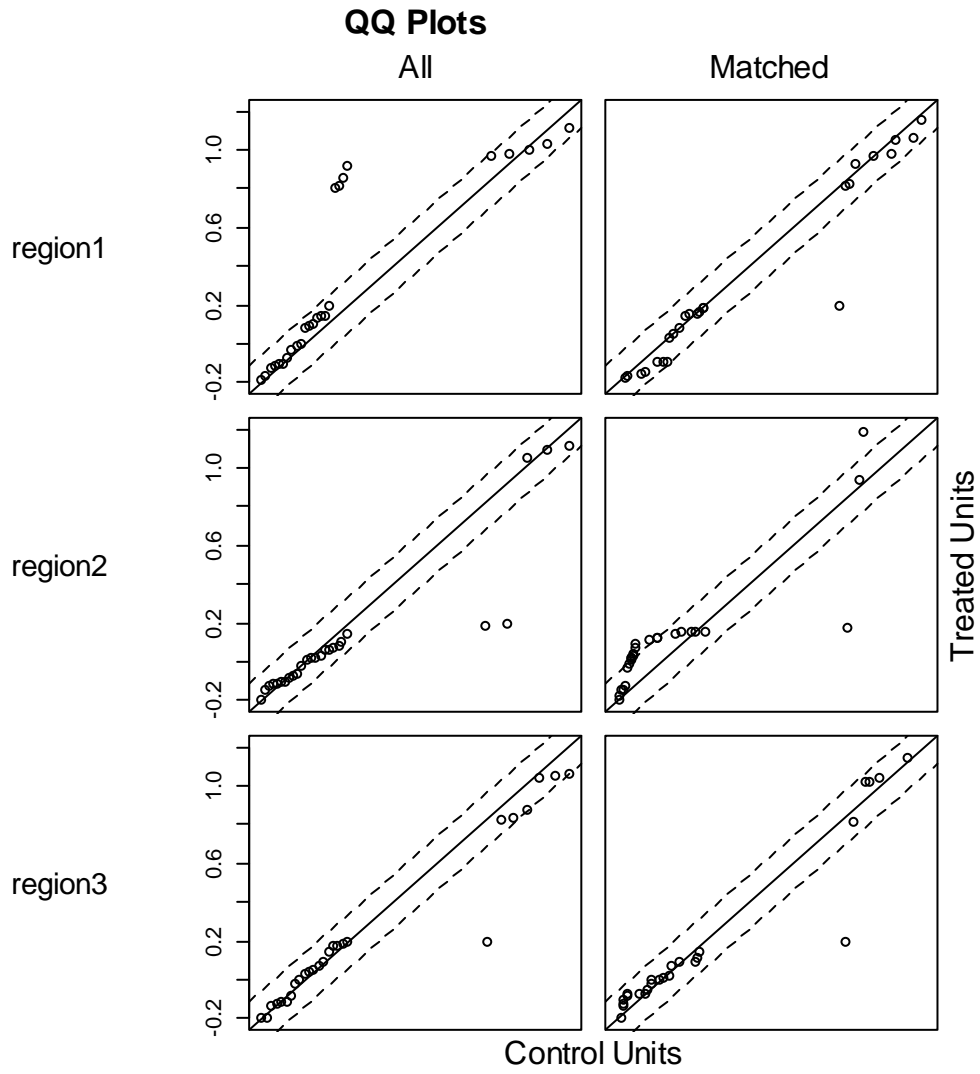
Figure F10. Quantile-Quantile Plots of Treated and Control Cases, Treatment is Leadership FIRC





QQ Plots



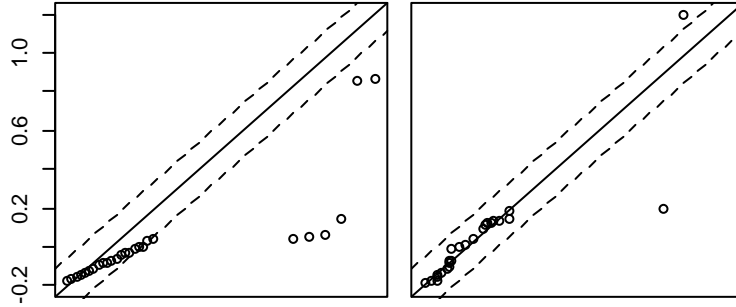


QQ Plots

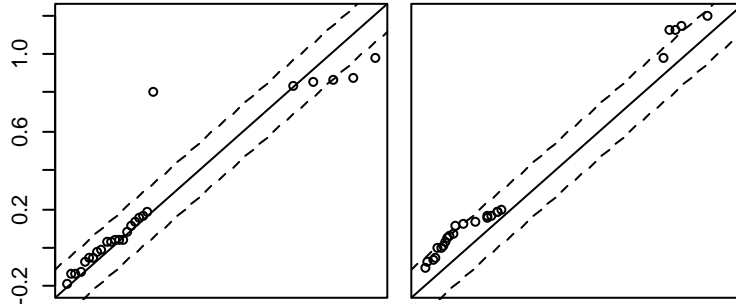
All

Matched

region4



region5



Treated Units

Control Units

Figure F11. Histogram of Treated and Control Cases, Treatment is Leadership FIRC

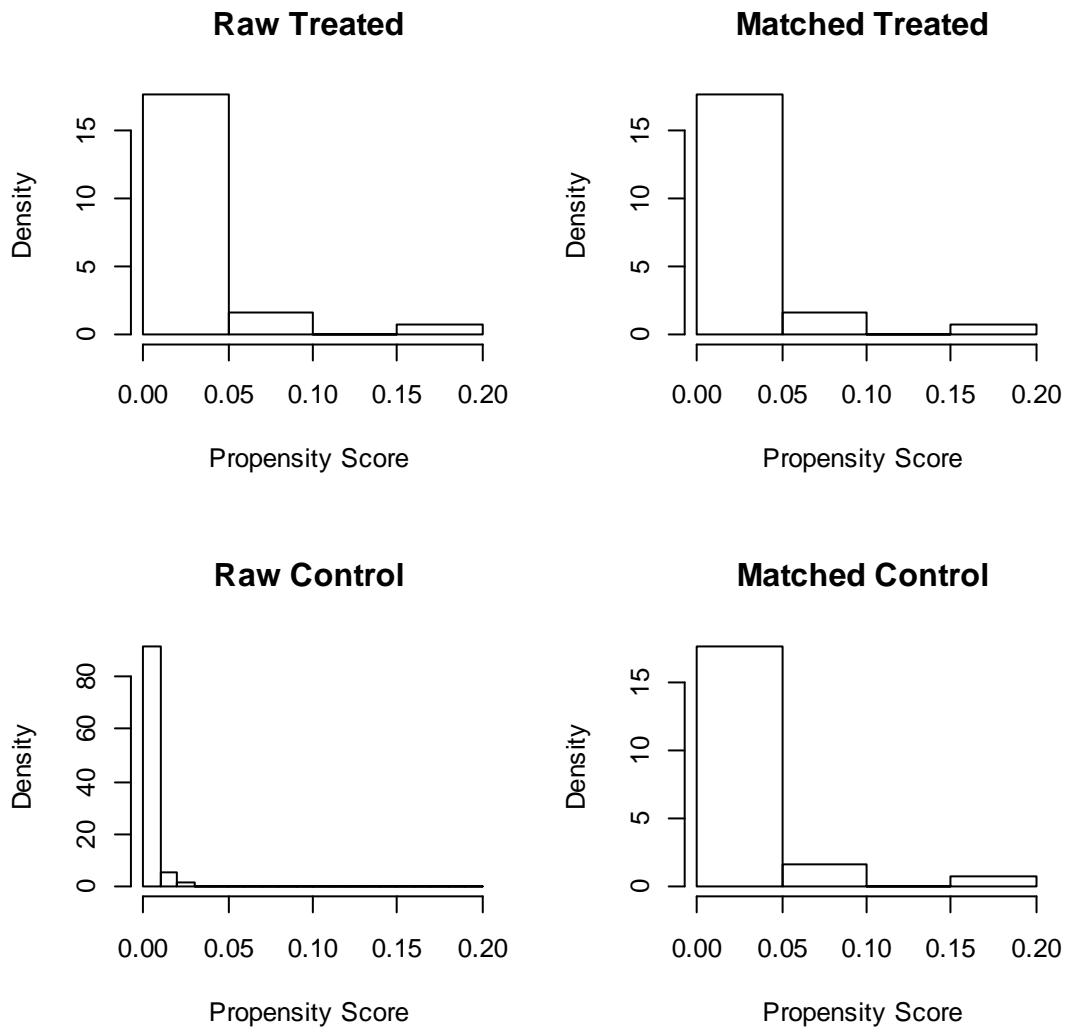
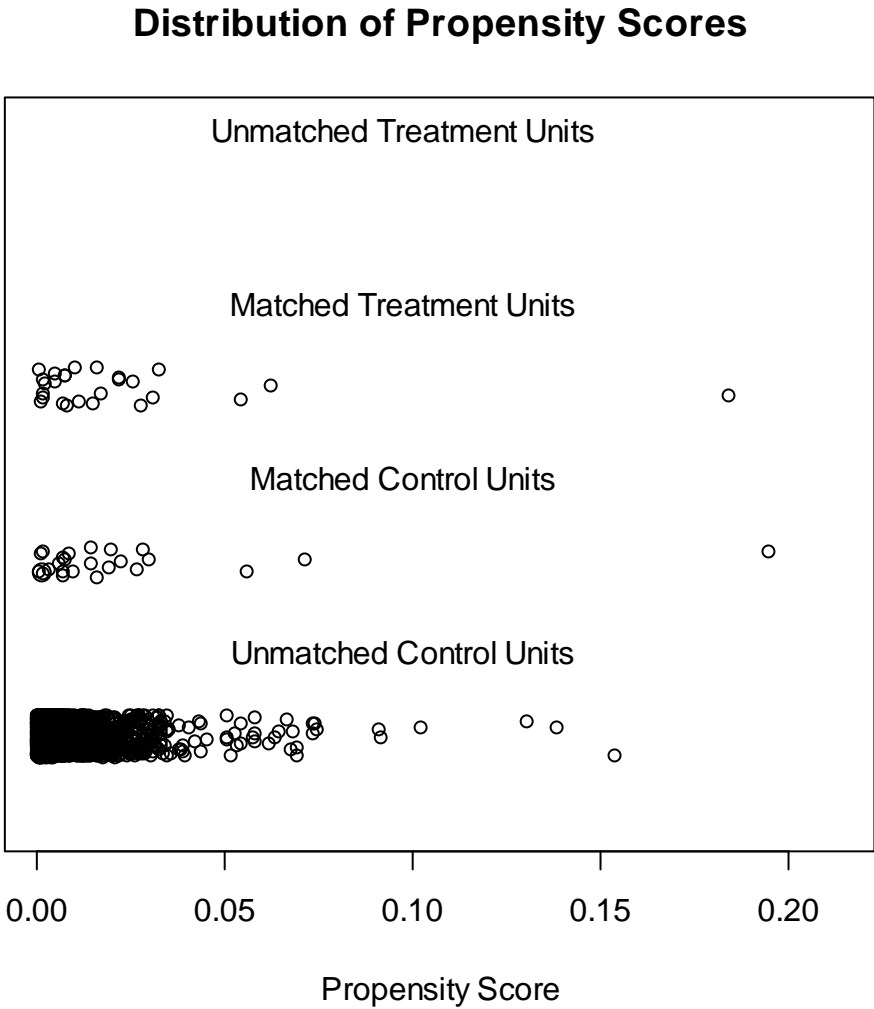


Figure F12. Jitter Plot of Treated and Control Cases, Treatment is Leadership FIRC



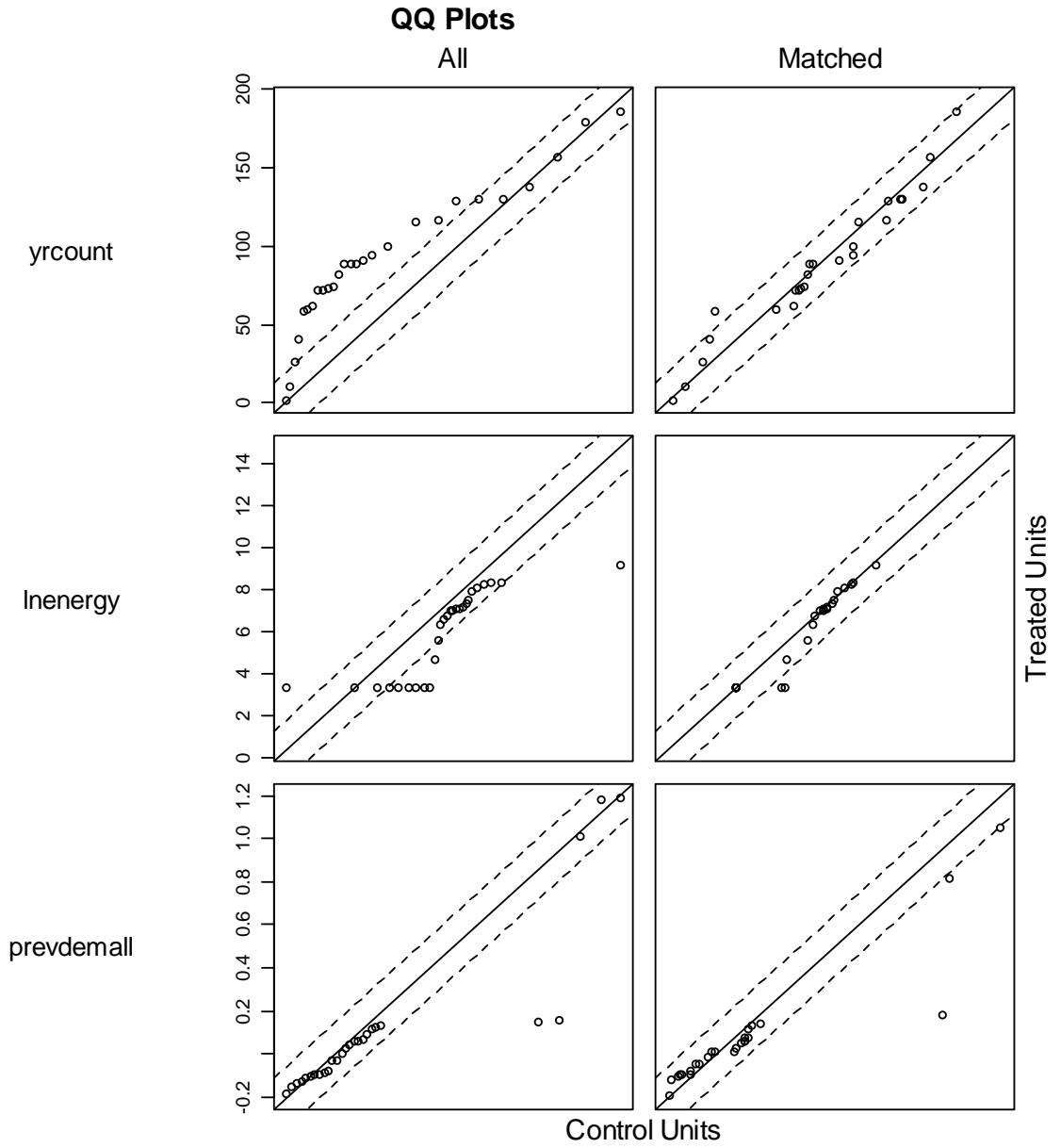
FIRCS BY THE UNITED STATES

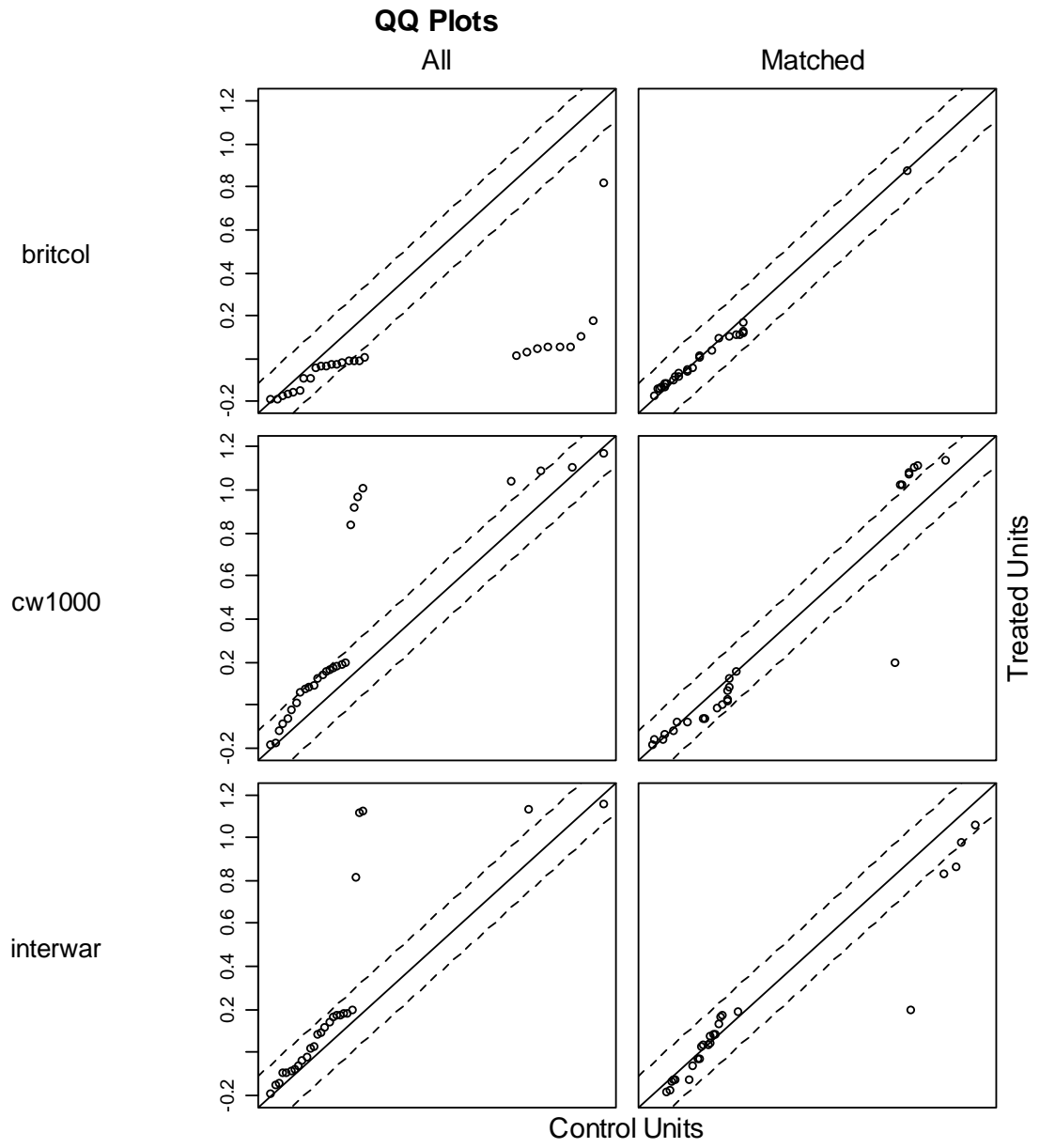
Table F5. Summary of Balance between Treatment and Control Cases Before and After Matching (Treatment Variable is Foreign-Imposed Regime Change by the United States)

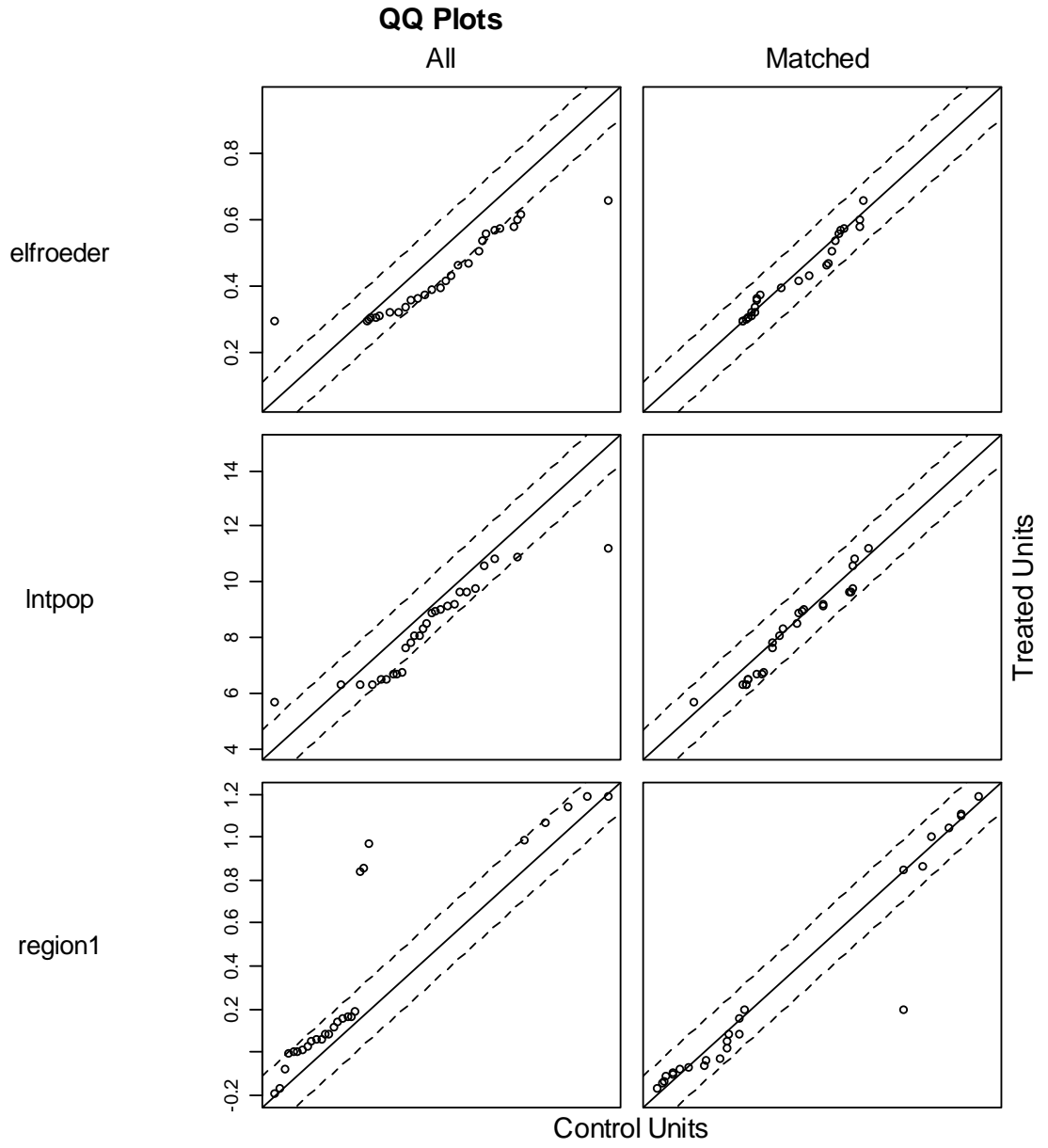
Variable	Mean Treated	Mean Control pre-Matching	Mean Control post-Matching	Mean Difference post-Matching	Percent Improvement	Standardized Bias
Distance	0.0546	0.0040	0.0471	0.0076	85.08	-
State Age	91.1481	58.2502	86.9259	4.2222	87.17	0.0921
Econ. Development	5.9366	7.0792	5.8650	0.0715	93.74	0.0346
Previous Democracy	0.1111	0.1798	0.1111	0	100	0
British Colony	0.0370	0.3361	0.0370	0	100	0
Civil War	0.2963	0.1180	0.2963	0	100	0
Interstate War	0.1852	0.0508	0.1852	0	100	0
ELF	0.4304	0.5041	0.4373	-0.0069	90.64	0.0586
Population	8.2777	8.9428	8.3504	-0.0728	89.06	0.0446
Europe	0.2963	0.1805	0.2963	0	100	0
N. Africa/Middle East	0.0741	0.1690	0.0741	0	100	0
Sub-Saharan Africa	0.0000	0.2640	0.0000	0	100	0
Asia	0.1111	0.2163	0.1111	0	100	0
Americas	0.5185	0.1702	0.5185	0	100	0

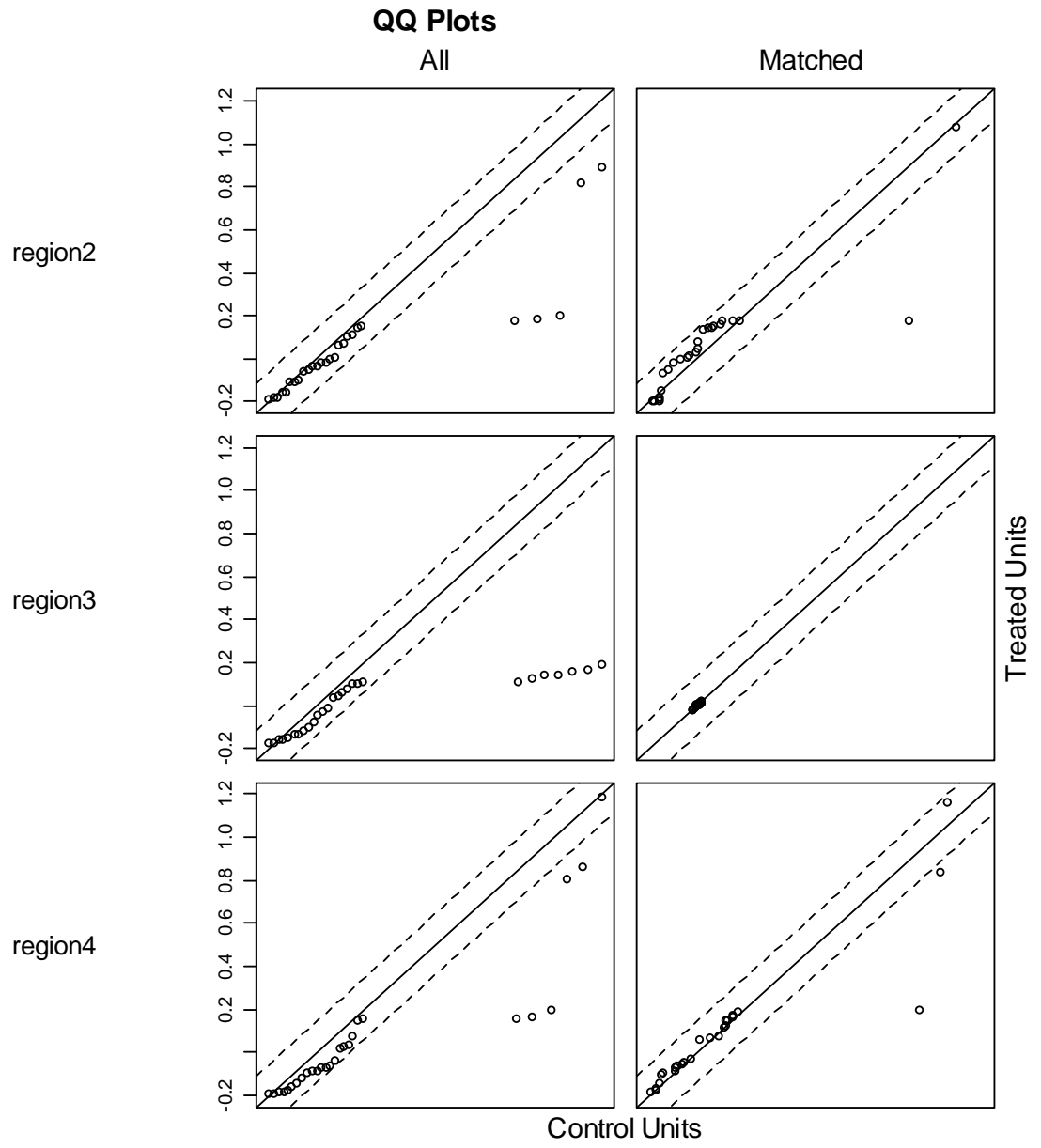
NOTE: Polity score was omitted from matching because balance was already good: mean treated = 11.41, mean control = 11.25, difference = 0.1547, SD treated = 6.60, Standardized bias = 0.0234.

Figure F13. Quantile-Quantile Plots of Treated and Control Cases, Treatment is FIRC by the United States

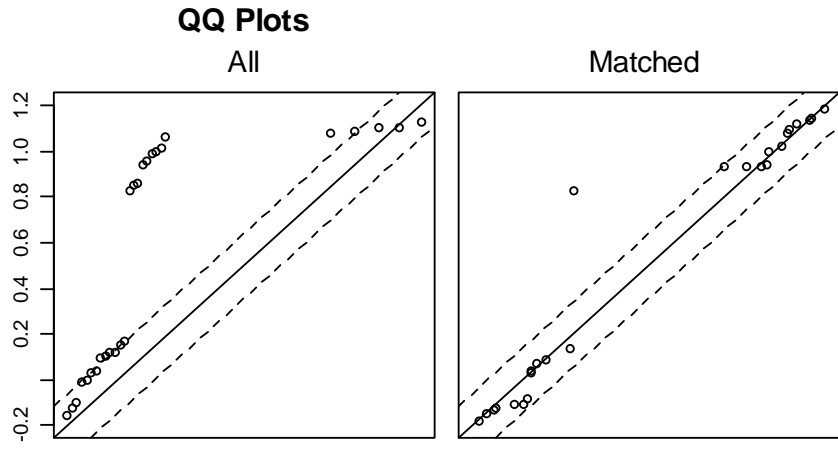








region5



Treated Units

Control Units

Figure F14. Histogram of Treated and Control Cases, Treatment is FIRC by the United States

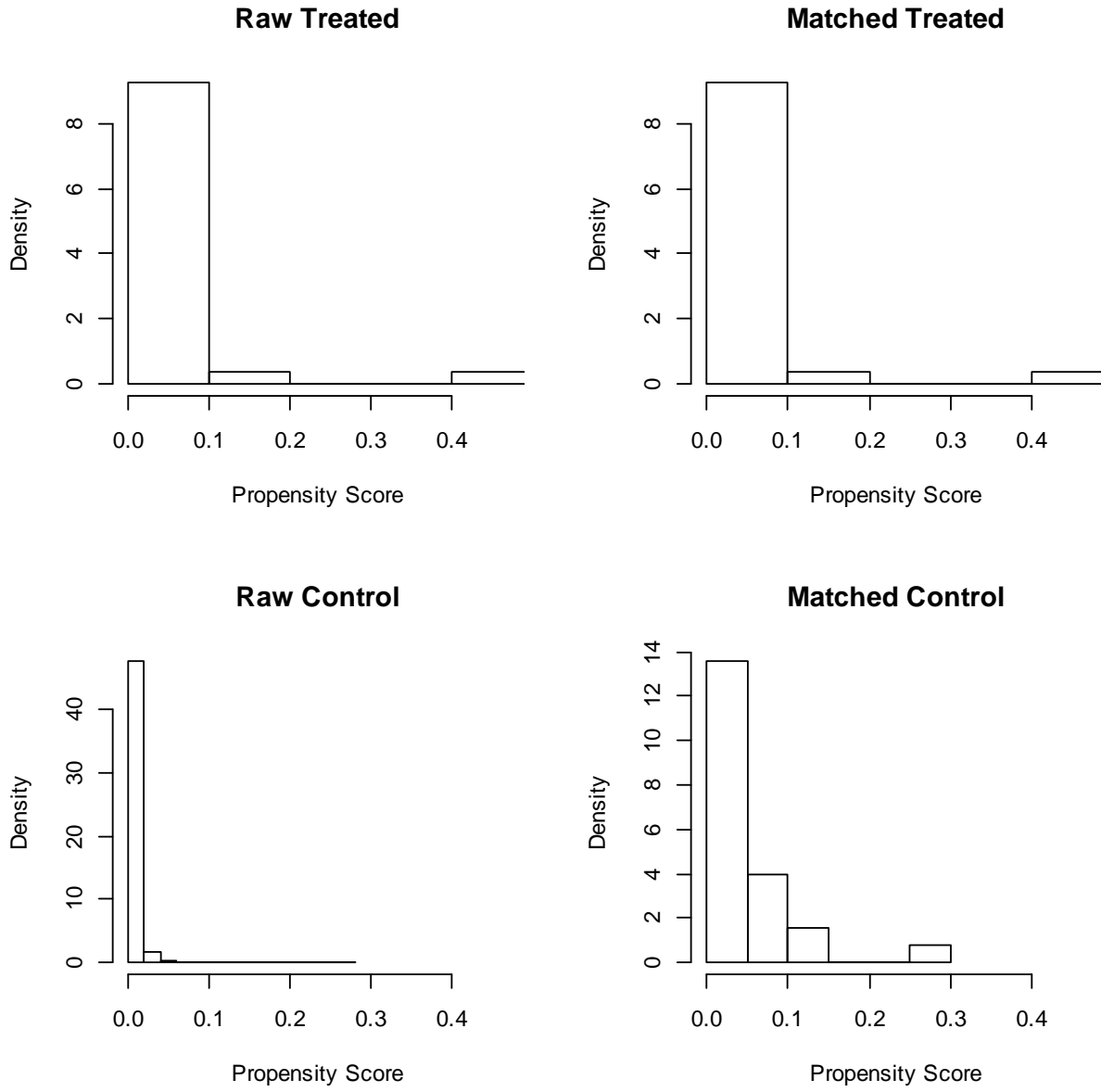


Figure F15. Jitter Plot of Treated and Control Cases, Treatment is FIRC by the United States

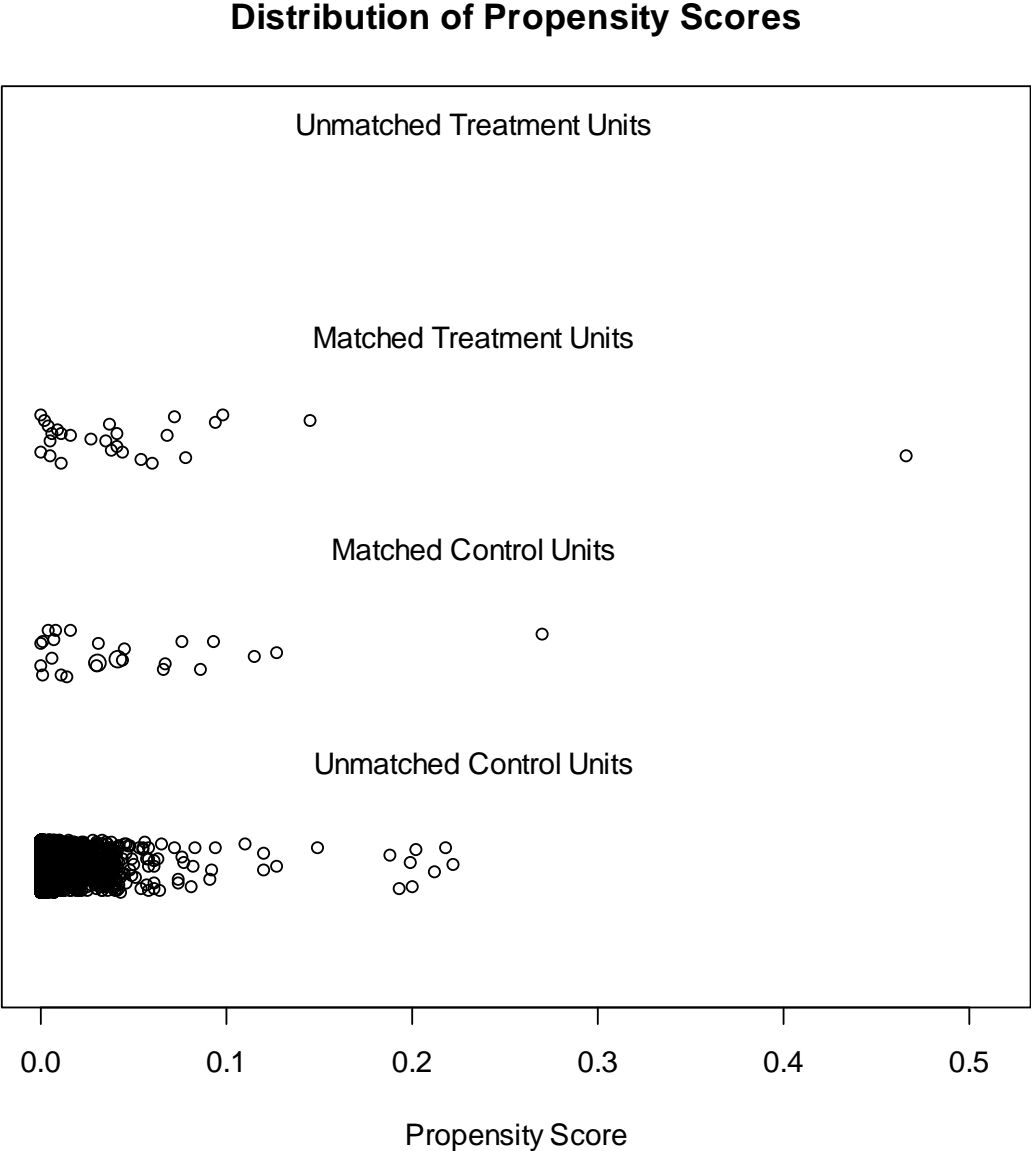
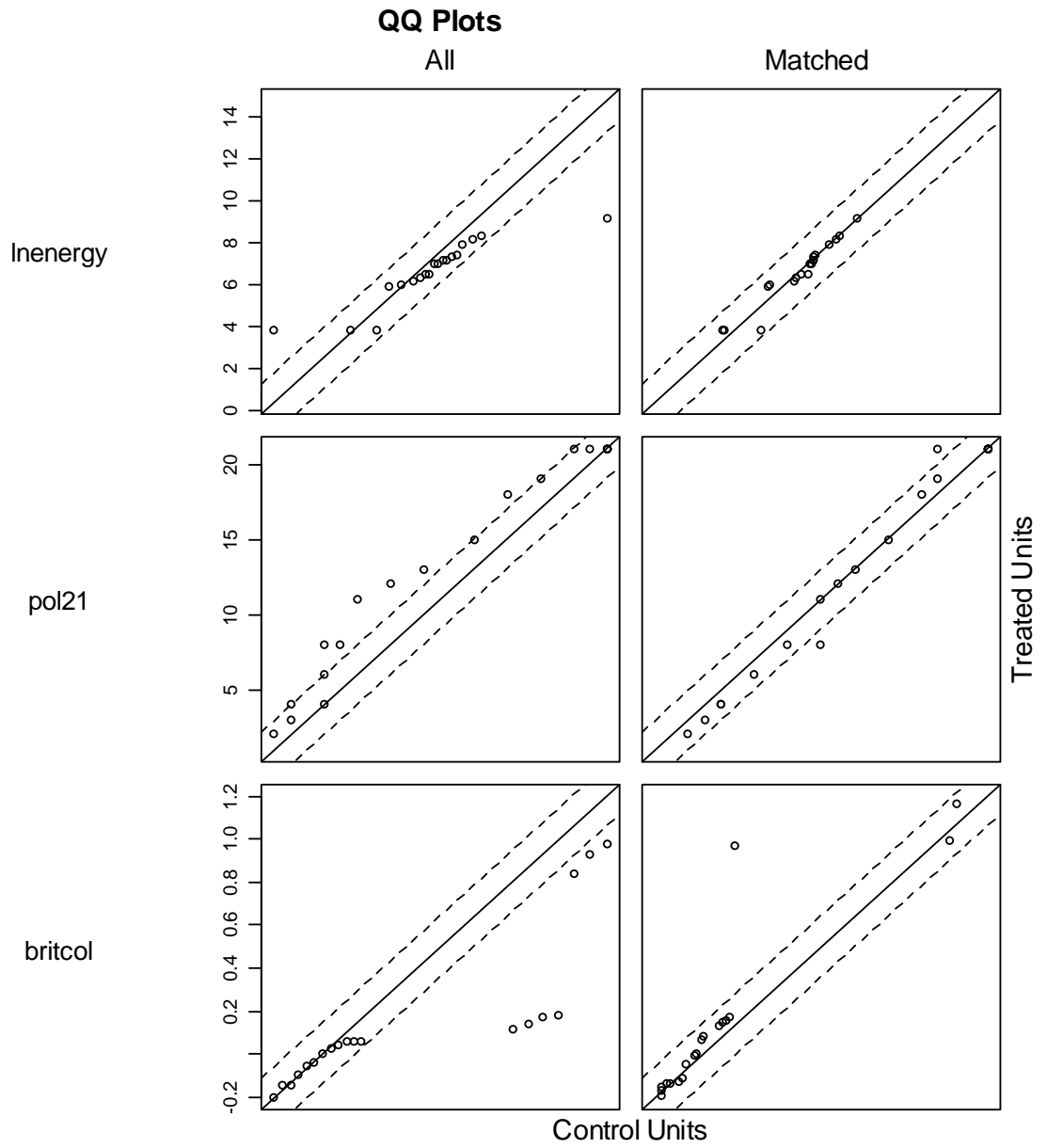


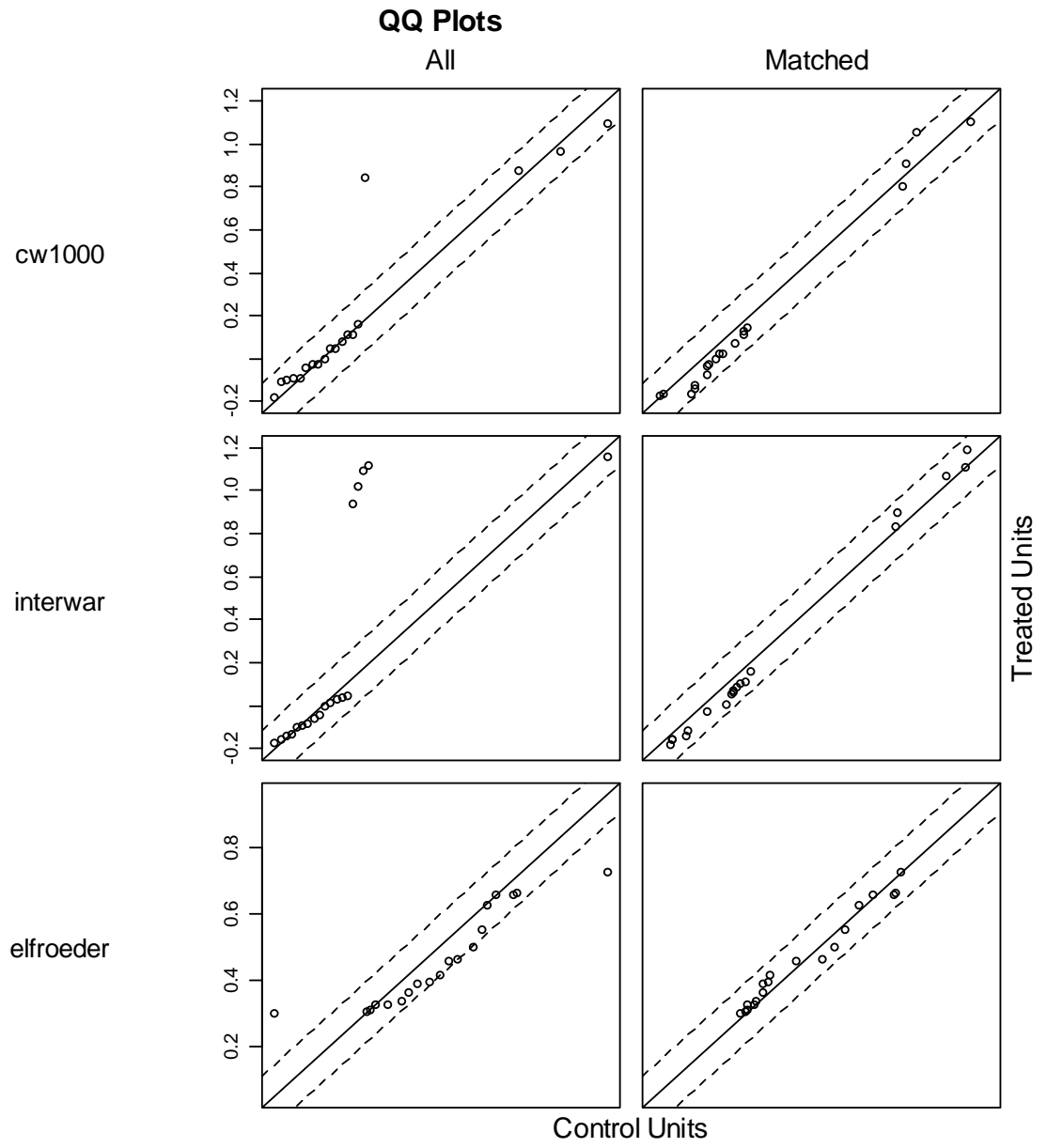
Table F6. Summary of Balance between Treatment and Control Cases Before and After Matching (Treatment Variable is Foreign-Imposed Regime Change by Democracies other than the United States)

Variable	Mean Treated	Mean Control pre-Matching	Mean Control post-Matching	Mean Difference post-Matching	Percent Improvement	Standardized Bias
Distance	0.0199	0.0029	0.0205	-0.0006	96.73	-
Econ. Development	6.6384	7.0792	6.6264	0.0120	97.27	0.0081
Polity Score	13.1053	11.2527	13.3158	-0.2105	88.64	0.0292
British Colony	0.1579	0.3361	0.1053	0.0526	70.46	0.1404
Civil War	0.2105	0.1180	0.2105	0	100	0
Interstate War	0.2632	0.0508	0.2632	0	100	0
ELF	0.4622	0.5041	0.4604	0.0018	95.70	0.0125
Population	8.4760	8.9428	8.5232	-0.0472	89.88	0.0307
Europe	0.5263	0.1805	0.5263	0	100	0
N. Africa/Middle East	0.1053	0.1690	0.1053	0	100	0
Sub-Saharan Africa	0.3158	0.2640	0.3158	0	100	0
Asia	0.0526	0.2163	0.0526	0	100	0
Americas	0.0000	0.1702	0.0000	0	100	0

NOTE: Previous democracy was omitted from matching because balance was already good: mean treated = 0.2105, mean control = 0.1798, difference = 0.0307, SD treated = 0.4189, Standardized bias = 0.0733. State age was also omitted from matching because balance was already good: mean treated = 58.89, mean control = 58.25, difference = 0.6445, SD treated = 52.8750, Standardized bias = 0.0122.

Figure F16. Quantile-Quantile Plots of Treated and Control Cases, Treatment is FIRC by Democracies other than the United States



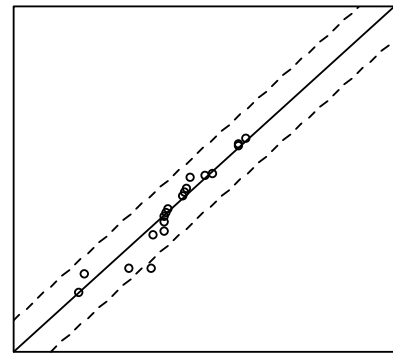
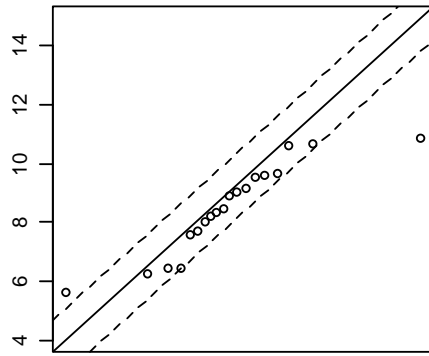


QQ Plots

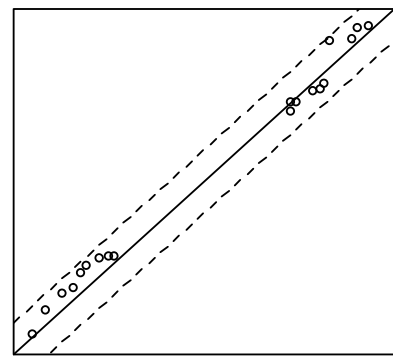
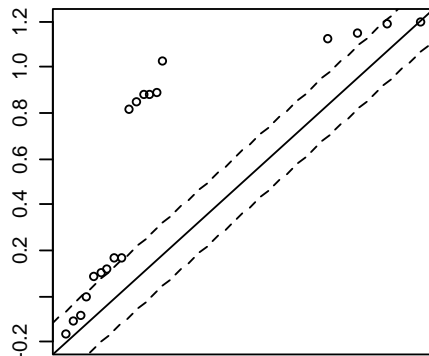
All

Matched

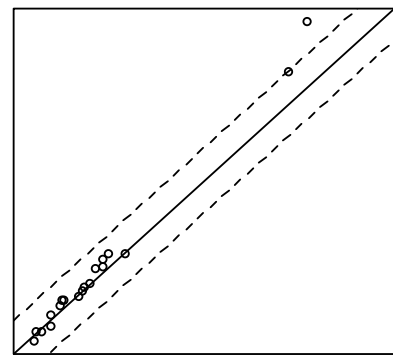
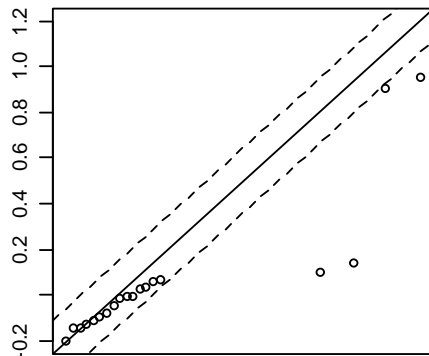
Intpop



region1



region2



Treated Units

Control Units

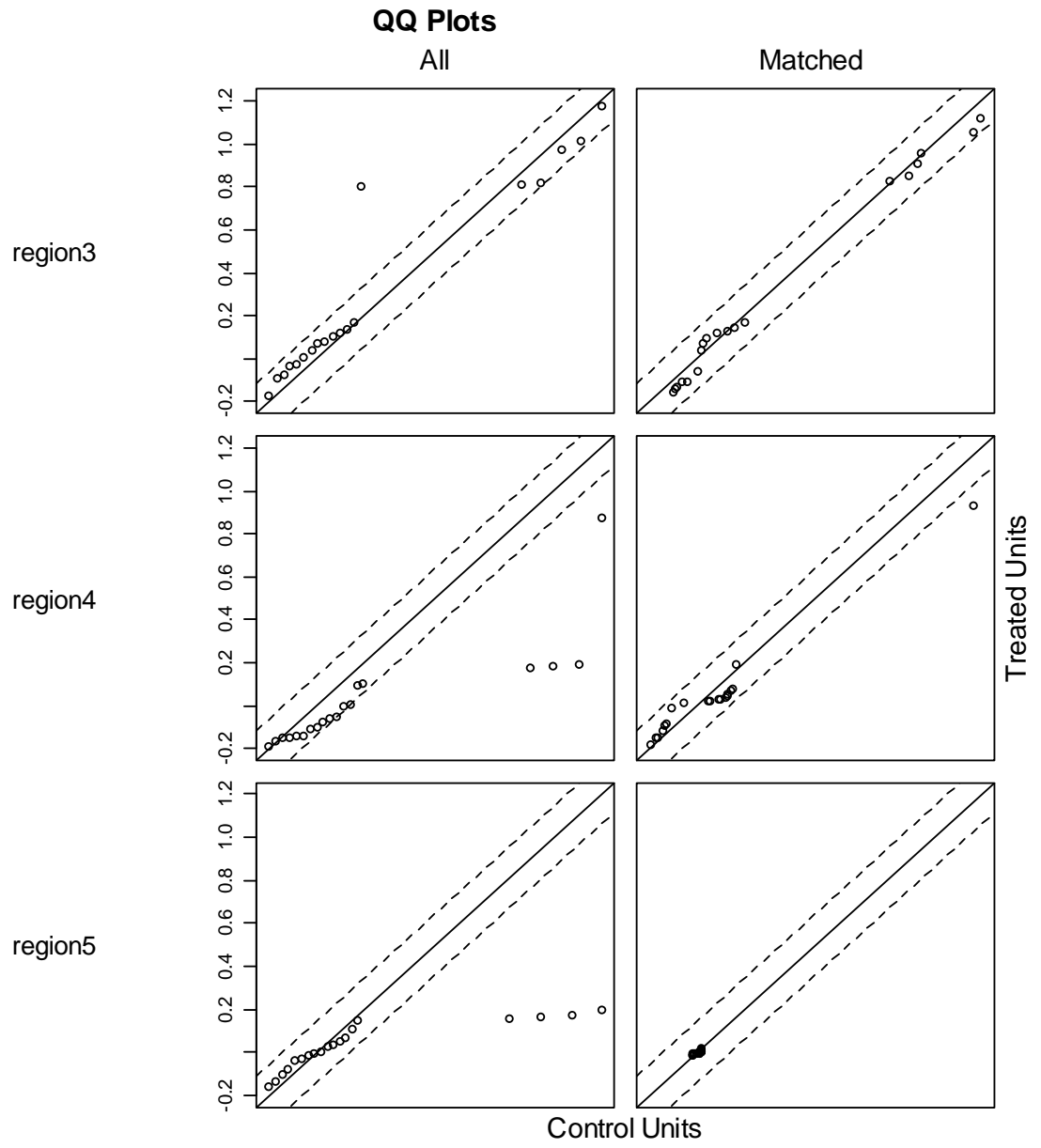


Figure F17. Histogram of Treated and Control Cases, Treatment is FIRC by Democracies other than the United States

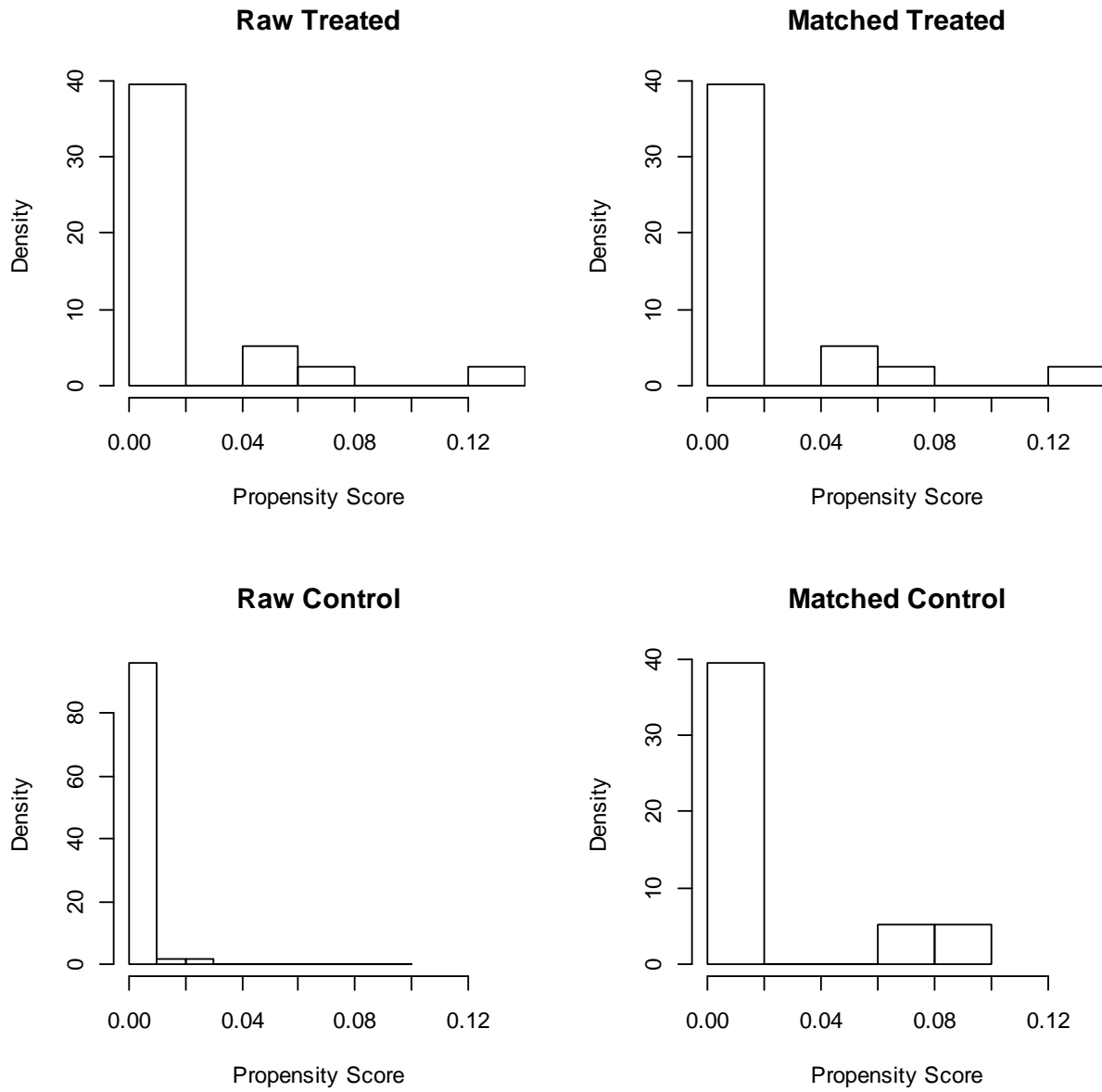


Figure F18. Jitter Plot of Treated and Control Cases, Treatment is FIRC by Democracies other than the United States

