Emigration and Political Contestation Online Appendix

Margaret E. Peters · Michael K. Miller

The following pages display additional information and robustness checks referenced in the text of our *ISQ* paper "Emigration and Political Contestation":

- **Table A1** shows the first-stage regression predicting dyadic emigration share from socioeconomic and geographic variables.
- **Figure A1** shows the robustness of the instrumental variables results when calculating emigration share from different sets of IVs.
- **Figure A2** shows the robustness of the instrumental variables results when calculating net democratic emigration share from different sets of IVs.
- **Table A2** shows the main IV results when including receiver-country fixed effects in the emigration prediction equation, when including both sending-country and receiver-country fixed effects in the equation, when also adding the country mean of the dependent variable in the outcome equation, and when estimating coefficients and standard errors through a two-stage bootstrapping procedure.
- **Table A3** shows the IV results for net democratic emigration from autocracies when including sending-country and receiver-country fixed effects in the prediction equation and when also including the country mean of the dependent variable in the outcome equation.
- **Figure A3** shows the robustness of the instrumental variables results to dropping individual countries from the full sample.

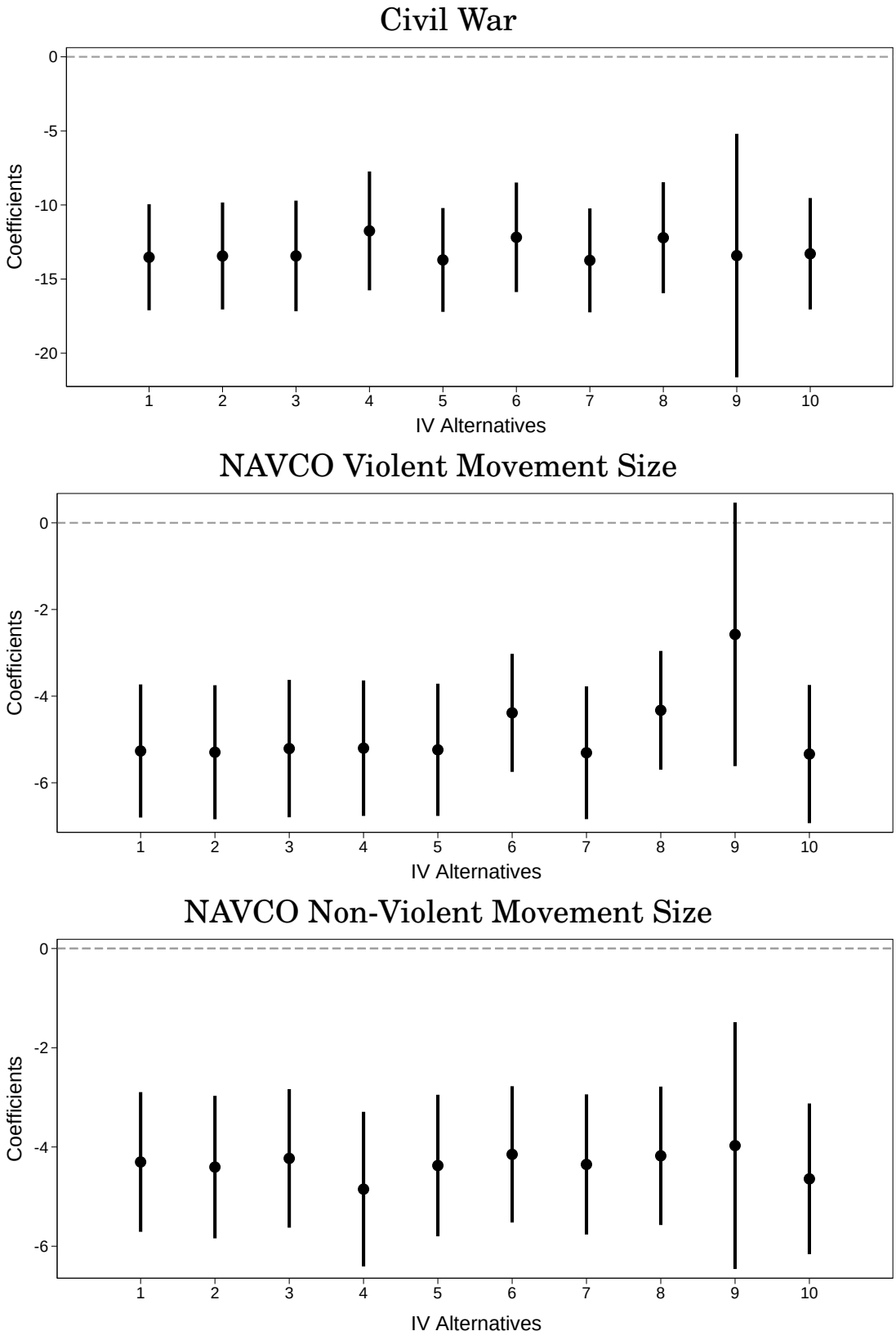
- **Table A4** shows placebo tests in which emigration share (instrumented) fails to predict elite-level political violence.
- **Table A5** shows the main IV results when autocratic regime types are added and when stratifying by regime type.
- **Table A6** shows the main IV results stratified by economic conditions, with the effect of emigration generally shown to be stronger during economic crisis.
- **Table A7** tests other average characteristics of expected emigration receivers (from an IV prediction), namely income and freedom of association.
- **Table A8** presents IV models showing emigration share predicts an alternative measure of anti-regime activity and net democratic emigration predicts the democratic character of the opposition.

Table A1: Regression Predicting Emigration Share

DV = *Dyadic Emigration (Population %)*	(1)
Sender Variables	
Population (ln)	-0.012^{***}
	(-6.63)
GDP/capita (ln)	-0.00
	(-0.32)
Receiver Variables	
Population (ln)	0.310^{***}
	(6.16)
GDP/capita (ln)	0.203^{***}
	(4.32)
Distance (ln) $\times$ *GDP/capita* (ln)	-0.021^{***}
	(-3.96)
Distance (ln) $\times$ *Population* (ln)	-0.035^{***}
	(-6.01)
Shared Border $\times$ *GDP/capita* (ln)	0.131^{*}
	(2.22)
Shared Border $\times$ *Population* (ln)	0.086^{*}
	(2.05)
Dyadic Variables	
Distance (ln)	0.695^{***}
	(5.71)
Shared Border	-2.014^{*}
	(-2.09)
≤ 12 *Miles of Water*	0.050
	(0.79)
≤ 24 *Miles of Water*	-0.021
	(-0.43)
≤ 150 *Miles of Water*	0.060
	(0.65)
≤ 400 *Miles of Water*	0.016
	(0.32)
Colonial History	0.277^{***}
	(3.38)
Shared Language	0.066^{***}
	(4.11)
Year	-0.000^{*}
	(-2.37)
N	956,672
Sender Countries	163
Adj. R^2	0.085

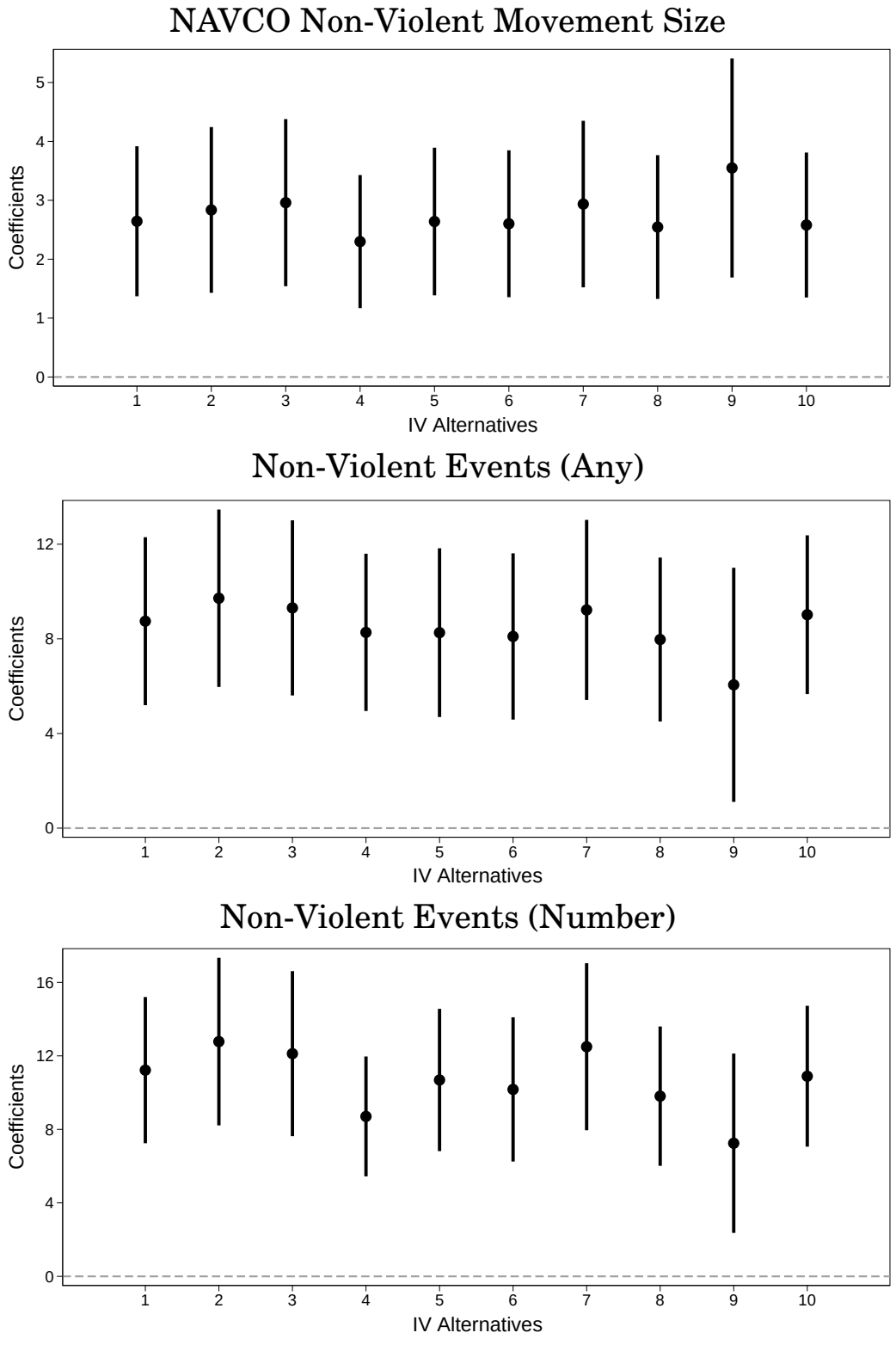
Notes: The table shows results from the regression used to predict dyadic emigration (as sender population %). t statistics (based on robust standard errors clustered by country dyad) are shown in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Figure A1: Variation in Emigration Share from Alternative IV Sets



Notes: The figures show the variation in coefficients on *Emigration Share* (with 95% confidence intervals, based on robust standard errors) from alternative sets of instruments. Alternative 1 is the original. The other nine remove specific variables in turn from the instrument set. In order, the alternatives remove (2) the contiguity dummies, (3) colonial history, (4) shared language, (5) the year, (6) interactions with bilateral distance, (7) interactions with contiguity, (8) bilateral distance, (9) population, and (10) average income. Results are highly consistent with the original.

Figure A2: Variation in Net Democratic Emigration from Alt. IV Sets



Notes: The figures show the variation in coefficients on *Net Democratic Emigration* (with 95% confidence intervals, based on robust standard errors) from alternative sets of instruments. Alternative 1 is the original. The other nine remove specific variables in turn from the instrument set. In order, the alternatives remove (2) the contiguity dummies, (3) colonial history, (4) shared language, (5) the year, (6) interactions with bilateral distance, (7) interactions with contiguity, (8) bilateral distance, (9) population, and (10) average income. Results are highly consistent with the original.

Table A2: Alternative IV Models for Emigration Share

Dependent Variables	Variation	All	Auth.	Dem.
Civil War	*Receiver FE in Prediction*	-13.636^{***}	-21.465^{***}	-13.873^{***}
		(-7.48)	(-9.84)	(-6.91)
Civil War	*Receiver and Sender FE in Prediction*	-3.950^{***}	-4.444^{***}	-0.504
		(-4.46)	(-3.90)	(-0.35)
Civil War	*R/S FE in Prediction and Country Mean in Outcome*	-2.089^{*}	-1.930	-6.279^{*}
		(-2.32)	(-1.65)	(-2.34)
Civil War	*Bootstrapped Estimates*	-13.603^{***}	-19.993^{***}	-12.204^{***}
		(-5.21)	(-3.61)	(-4.36)
NAVCO Violent	*Receiver FE in Prediction*	-6.359^{***}	-9.671^{***}	-2.007^{***}
		(-7.44)	(-6.74)	(-3.87)
NAVCO Violent	*Receiver and Sender FE in Prediction*	-0.694^{***}	-1.050^{***}	-0.236
		(-5.19)	(-5.36)	(-1.56)
NAVCO Violent	*R/S FE in Prediction and Country Mean in Outcome*	-0.192	-0.467^{**}	0.060
		(-1.83)	(-2.83)	(0.49)
NAVCO Violent	*Bootstrapped Estimates*	-5.499^{***}	-8.873^{**}	-1.859^{**}
		(-4.65)	(-3.14)	(-2.68)
NAVCO Non-Violent	*Receiver FE in Prediction*	-4.681^{***}	-7.412^{***}	-1.432^{***}
		(-6.25)	(-5.49)	(-3.45)
NAVCO Non-Violent	*Receiver and Sender FE in Prediction*	-0.075	-0.107	-0.268^{**}
		(-0.51)	(-0.40)	(-2.94)
NAVCO Non-Violent	*R/S FE in Prediction and Country Mean in Outcome*	-0.033	0.052	-0.205^{*}
		(-0.21)	(0.18)	(-2.25)
NAVCO Non-Violent	*Bootstrapped Estimates*	-4.624^{***}	-8.008^{**}	-2.289^{**}
		(-4.61)	(-3.02)	(-3.12)

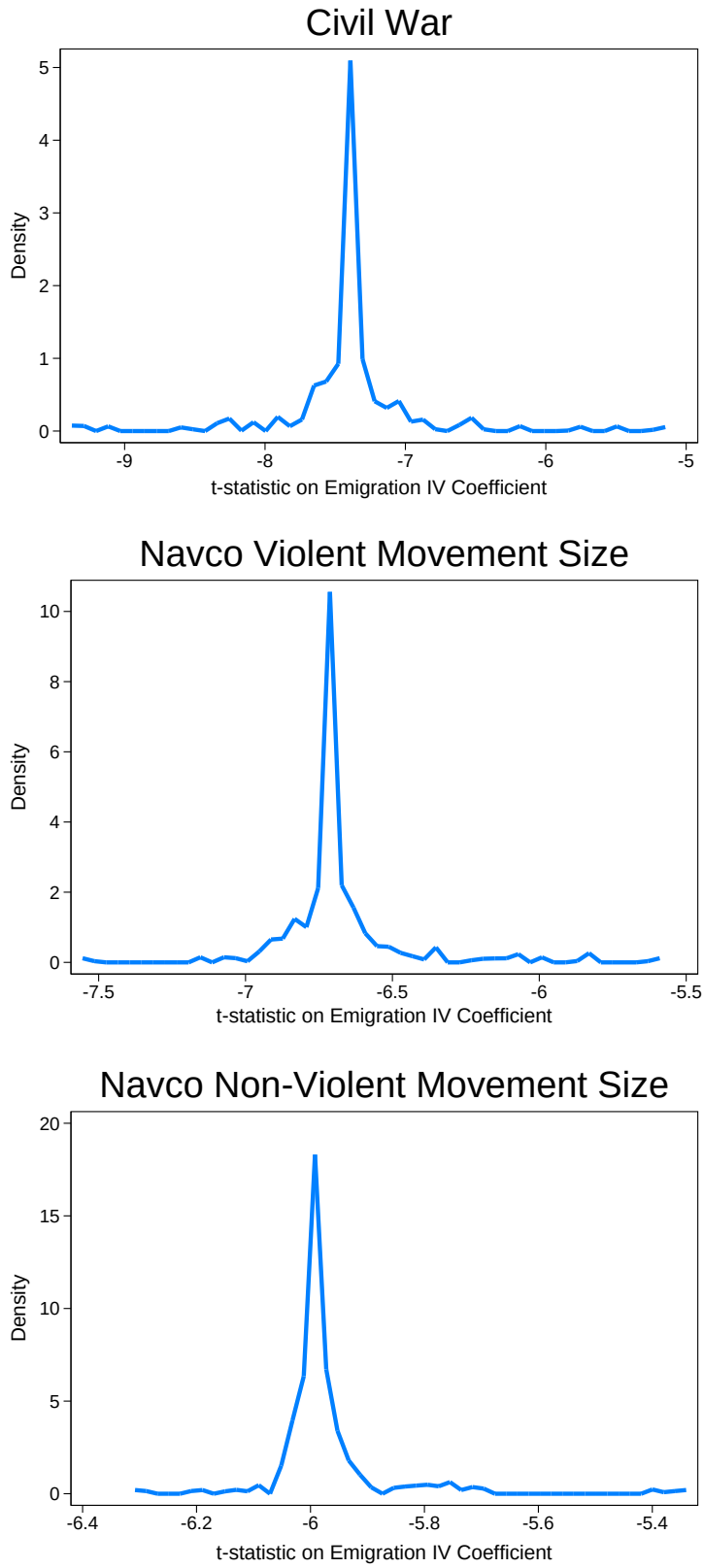
Notes: The table shows the estimated effects of emigration share on the dependent variables listed at left. The main IV models are adjusted in four ways. First, the emigration prediction equation is adjusted to include receiver country fixed effects. Second, the emigration prediction equation is adjusted to include both sender and receiver country fixed effects. Third, the country average of the dependent variable is included in the outcome equation to account for country-specific omitted factors (an alternative to country fixed effects). Fourth, the coefficients and standard errors are bootstrapped by repeatedly generating a new dyadic sample by sampling with replacement, then re-calculating the instruments and IV estimates. This is repeated 500 times, with the displayed coefficients the average estimate and the standard errors the observed variation in the coefficient. Each coefficient represents a separate IV model. t statistics are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table A3: Alternative IV Models for Net Democratic Emigration

	Auth. Only	
Dependent Variables	**R/S FE**	**R/S FE and Country Mean**
Violent Outcomes		
Civil War	-7.192^{***}	-1.565
	(-4.31)	(-0.64)
Civil Conflict	-4.410^{**}	-0.583
	(-2.81)	(-0.32)
Conflict Intensity	-2.862^{***}	-1.154^{*}
	(-3.98)	(-1.96)
NAVCO Violent Movement Size	-1.085^{*}	0.019
	(-2.26)	(0.05)
Violent Events (Any)	1.610	3.287^{*}
	(1.00)	(2.01)
Violent Events (Number)	0.799	1.996
	(0.45)	(1.13)
Non-Violent Outcomes		
NAVCO Non-Violent Movement Size	0.774	0.728
	(1.62)	(1.53)
Non-Violent Events (Any)	6.230^{***}	6.331^{***}
	(3.50)	(3.57)
Non-Violent Events (Number)	5.548^{***}	5.523^{***}
	(3.47)	(3.49)

Notes: The table shows the estimated effects of net democratic emigration on the dependent variables listed at left, tested in autocracies only (since our hypothesis is about this sample). The main IV models are adjusted to include both sender and receiver country fixed effects in the prediction equation and additionally with the country average of the dependent variable in the outcome equation to account for country-specific omitted factors (an alternative to country fixed effects). Each coefficient represents a separate IV model. t statistics are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Figure A3: Variation in Emigration Share from Dropping Individual Countries



Notes: The figures show the variation in t-statistics on *Democratic Share* from dropping individual countries from the IV estimation. All estimates remain significant and vary only slightly in magnitude, indicating low dependence on outliers.

Table A4: Placebo Tests for Emigration Share (IV Models)

Dependent Variables	**All**	**Auth.**	**Dem.**
Irregular Turnover	1.858	4.242	−6.026
	(0.73)	(0.97)	(−1.47)
Coups	0.327	0.722*	−0.204
	(1.85)	(2.47)	(−0.96)
Purges	−0.420	−1.334	0.100
	(−0.90)	(−1.61)	(0.44)

Notes: The table shows the estimated effects of emigration share on three dependent variables capturing intra-elite violence (listed at left). *Irregular Turnover* is a dummy for an executive turnover through extra-constitutional means during the year (Goemans et al. 2016). *Coups* is a count of coups in the year (Thyne and Powell 2016). *Purges* is a count of governmental purges (Norris 2008). There is no relationship with emigration, demonstrating that our results are specific to mass contestation and that our instrumented emigration measure does not simply correlate with generally unstable countries. The samples vary by column, with all restricted to non-OECD countries. Each coefficient represents a separate IV model. t statistics (based on robust standard errors) are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table A5: Emigration and Autocratic Regime Types (IV Models)

	Civil War		**NAVCO Violent**		**NAVCO Non-Violent**	
	All Emigration (1)	Net Dem. Emigration (2)	All Emigration (3)	Net Dem. Emigration (4)	All Emigration (5)	Net Dem. Emigration (6)
Regime Types Added	-14.555^{***}	-5.786^{*}	-7.409^{***}	-0.012	-6.337^{***}	2.635^{***}
	(-4.38)	(-2.51)	(-5.81)	(-0.02)	(-5.05)	(3.74)
Party-Based	-30.699^{***}	-1.099	-18.811^{***}	2.693	-8.491^{**}	2.562
	(-7.67)	(-0.21)	(-4.90)	(1.82)	(-2.78)	(1.77)
Not Party-Based	-4.312	-10.225^{***}	0.020	-1.014	-3.774^{*}	1.253
	(-0.73)	(-4.11)	(0.01)	(-0.99)	(-2.50)	(1.43)
Personalist	-18.933^{**}	-12.340^{***}	2.380	-2.520	-4.364^{**}	1.233
	(-3.00)	(-3.42)	(1.45)	(-1.71)	(-2.58)	(1.17)
Not Personalist	-25.981^{***}	3.157	-11.803^{***}	1.247	-7.355^{***}	4.264^{**}
	(-10.45)	(0.70)	(-4.88)	(0.98)	(-3.54)	(2.96)
Competitive Autocracy	-14.033^{**}	-11.825^{***}	-4.378^{**}	-2.669^{**}	-6.419^{***}	1.532
	(-2.61)	(-5.29)	(-2.91)	(-2.80)	(-3.97)	(1.57)
Not Competitive Autocracy	-29.939^{***}	3.798	-20.065^{*}	-0.947	-3.953	-0.155
	(-33.16)	(0.94)	(-2.49)	(-1.05)	(-1.18)	(-0.27)

Notes: The table shows the effect of emigration and net democratic emigration on three dependent variables, accounting for autocratic regime types (from Geddes et al. 2014). Each sample is limited to non-OECD autocracies. The first row controls for autocratic regime type dummies. The following rows split the sample by autocratic types, dividing by whether they are party-based, hold contested multi-party elections, and personalist. Each coefficient represents a separate IV model. t statistics (based on robust standard errors) are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table A6: Effect of Emigration by Economic Condition (IV Models)

Dependent Variables	Negative Growth	Moderate Growth	High Growth	Econ. Crisis	No Econ. Crisis
Violent Outcomes					
Civil War	-4.190^{***}	-1.904^{**}	-1.119^{*}	-7.110^{***}	-0.873^{**}
	(-3.86)	(-3.03)	(-2.48)	(-4.98)	(-2.92)
Civil Conflict	-1.682	-2.480^{**}	-0.898	-5.441^{***}	-1.064^{**}
	(-1.67)	(-2.90)	(-1.77)	(-4.03)	(-2.74)
Conflict Intensity	-7.853^{**}	-5.965^{**}	-2.618^{*}	-18.142^{***}	-2.916^{***}
	(-3.13)	(-3.00)	(-2.24)	(-4.85)	(-3.34)
NAVCO Violent	-10.922^{***}	-5.190^{***}	-3.421^{**}	-15.263^{***}	-3.614^{***}
	(-4.19)	(-3.87)	(-3.24)	(-5.38)	(-5.09)
Violent Events (Any)	-4.413^{**}	-4.450^{***}	-3.350^{***}	-6.918^{***}	-3.239^{***}
	(-3.13)	(-3.79)	(-3.70)	(-4.14)	(-5.39)
Violent Events (Number)	-9.843	-11.121^{**}	-6.127^{*}	-18.154^{***}	-10.320^{***}
	(-1.64)	(-2.72)	(-2.08)	(-3.56)	(-4.82)
Non-Violent Outcomes					
NAVCO Non-Violent	-7.795^{**}	-3.711^{**}	-2.912^{***}	-0.203	-4.026^{***}
	(-2.77)	(-3.25)	(-3.51)	(-0.12)	(-5.53)
Non-Violent Events (Any)	-3.758^{**}	-5.107^{***}	-3.270^{***}	-1.304	-3.947^{***}
	(-3.25)	(-4.32)	(-4.20)	(-1.11)	(-6.73)
Non-Violent Events (Number)	-27.418^{***}	-17.991^{***}	-7.582^{**}	-22.027^{***}	-14.816^{***}
	(-4.00)	(-3.91)	(-2.65)	(-3.68)	(-6.08)

Notes: The table shows estimated effects of emigration share on several outcomes (listed at left). The samples differ by column, stratifying by varying economic conditions. The first three successively limit the sample to countries with *Economic Growth* below 0, between 0 and 3.5%, and above 3.5%. The next two columns stratify by whether the country is in an economic crisis (*Economic Growth* in the bottom 10% of the sample or a two-year inflation rate above 50%, from World Bank 2015). Each coefficient represents a separate 2SLS model. The pacifying effect of emigration share is stronger in worse economic conditions. t statistics (based on robust standard errors) are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Table A7: Effect of Other Receiver Characteristics (IV Models)

Dependent Variables	**GDP/capita**	**Freedom of Association**
Violent Outcomes		
Civil War	0.493^{**}	-1.437^{***}
	(3.09)	(-3.84)
Civil Conflict	-0.217	-0.861^{**}
	(-1.49)	(-2.86)
Conflict Intensity	-0.166^{*}	-0.608^{***}
	(-2.09)	(-3.90)
NAVCO Violent Movement Size	-0.055	-0.279^{*}
	(-1.02)	(-2.27)
Violent Events (Any)	-0.058	-0.196
	(-0.46)	(-0.65)
Violent Events (Number)	-0.696^{***}	-0.309
	(-3.59)	(-1.06)
Non-Violent Outcomes		
NAVCO Non-Violent Movement Size	0.233^{***}	0.346^{**}
	(4.19)	(2.89)
Non-Violent Events (Any)	-0.433^{**}	0.401
	(-3.23)	(1.24)
Non-Violent Events (Number)	-0.374^{*}	0.144
	(-2.13)	(0.41)

Notes: The table shows the estimated effects of average income and freedom of association (Cingranelli and Richards 2014) in receiving states on several dependent variables (listed at left). The sample includes all non-OECD countries. Each coefficient represents a separate IV model. t statistics (based on robust standard errors) are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

Recalling that $\widehat{EmShare}_{ijt}$ is the estimated emigration share from country i to country j in year t, we compute the exogenous expected mean of variable X in receivers as follows:

$$\widehat{EmShare}_{it}(X) = \frac{\sum_j \widehat{EmShare}_{ijt} X_{jt}}{\widehat{EmShare}_{it}}$$

Table A8: Alternative Dependent Variables (IV Models)

Dependent Variables	Indep. Variables	All	Auth.	Dem.
Anti-Regime Activity	*Emigration Share*	-1.2316^{***}	-2.4796^{***}	-0.7326^{***}
		(-4.78)	(-4.44)	(-4.00)
Pro-Dem. Opposition	*Net Dem. Emigration*	0.028	0.766^{***}	0.042
		(0.26)	(4.53)	(0.19)
Pro-Dem. Opposition	*Fraction Dem. Emigration*	0.016	0.081^{***}	-0.070
		(0.74)	(3.92)	(-1.19)

Notes: The table shows the estimated effects of emigration share and democratic-focused emigration on two alternative measures of anti-regime activity (both 0-1, listed at left). The first captures the level of anti-regime activity. The second captures how democratic the opposition is, as reflected by electoral participation and acceptance of democratic norms. Both are from the Varieties of Democracy Project (Coppedge et al. 2016). The samples vary by column, with all restricted to non-OECD sending countries. Each coefficient represents a separate IV model. t statistics (based on robust standard errors) are in parentheses. $^{*}p < 0.05$, $^{**}p < 0.01$, $^{***}p < 0.001$

References

Coppedge, Michael, et al. 2016. *V-Dem [Country-Year/Country-Date] Dataset, Version 6*. Varieties of Democracy (V-Dem) Project.

Geddes, Barbara, Joseph Wright, and Erica Frantz. 2014. Authoritarian breakdown and regime transitions: A new data set. *Perspectives on Politics* 12(2): 313-31.

Goemans, H. E., Kristian Skrede Gleditsch, and Giacomo Chiozza. 2016. *Archigos: A Data Set on Leaders, 1875-2015, Version 4.1.*

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