

Supplementary Material for  
**HUMILIATION AND THIRD-PARTY AGGRESSION**  
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# Online Appendix

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## **Part A: Data, Coding and Cases**

The original Goertz and Diehl dataset on territorial change described in Tir et al. (1998) contained 826 cases of territorial change for the period through 1996 and coded instances of change as resulting from one of six types of mechanisms: conquest, annexation, cession, secession, mandated territories, or unification. For more information, see the coding details provided in Tir et al. (1998). This dataset included only instances of territorial change in which the acquired territory was actually occupied. It therefore omitted numerous cases of imperial expansion in which states planted flags but did not send occupiers. For my purposes, it was not important to distinguish between occupied territory and non-occupied territory since the simple act of claiming the land may provide the best means to prestige. I therefore added 65 cases of territorial change in which a state claimed but did not occupy territory, the majority of which took place in Africa. The recoded dataset therefore contained 891 total cases of territorial change.

In my updated version of this dataset, I recoded each of the 891 cases according to nine procedural mechanisms: conquest, annexation, mutual exchange, voluntary secession, unification, wars of independence, arbitration, mandated territories, and decolonization, as described in the Codebook below. The largest benefit of this recoding is that it enabled clear distinction between territorial change achieved through compensation or mutual agreement and cession of territory that took place through conquest or annexation. Within the original dataset, all instances in which a piece of, rather than the whole, territory is passed from one state to another is coded as “cession” of territory. It was important for my purposes to

distinguish between exchanges in which coercion played a role and those where it didn't.<sup>1</sup>

Of the territorial losses by state actors, 382 occurred through either conquest, annexation or which resulted from wars of independence and 224 occurred through voluntary secession or mutual agreement. Cases of territorial change occurring through unification, decolonization, arbitration and international mandate were dropped for the sake of analysis. Cases of unification were not included in the analysis because such cases can be considered instances of state death for the states incorporated into the larger state. Acts of unification were voluntary. Cases of decolonization in the 1960s and 70s were coded separately from successful secession achieved through wars of independence. Many can therefore be considered voluntary acts of territorial cession. The decolonizing states however experienced a great deal of international pressure to decolonize at this time – these states may have been humiliated by this fact, as was France in its act of giving up its colonies. Arbitration and mandate may also humiliate a state, but it is unreasonable to make systematic assumptions about their effect on the powers involved.

It is important to note that both the original and the updated territorial change dataset omit instances of wartime conquest in which the territory does not remain in changed hands following the end of conflict. If war-time conquest is formalized in a post-war treaty, the case is coded as conquest. The original dataset includes some instances of territorial loss that

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<sup>1</sup>My coding of voluntary changes correlates highly with that of Kacowicz (1994) which lays out a theoretical description of peaceful territorial change. My coding differs in a few instances in which coercion or threat appeared to play a significant role in affecting the outcome, even if there the outcome did not immediately follow conflict.

occurred just prior to the eruption of world wars, the response to which would be difficult to capture since it likely occurred during wartime and would not be included in the dataset. To account for these irregularities, all losses which occurred during the periods 1914-1919 and 1939-1945 were dropped. All cases of territorial change which resulted in state death were also dropped due to the inability of the deceased state to respond with gains of its own.

The territorial change data also included 263 instances of territorial loss by entities that were not listed as states in the State System Membership data at the time of the territorial change. Given the intent of this project to assess the impact territorial loss has on the future behavior of states, these instances of territorial change at the expense of non-state actors were not included as cases of loss but only cases of gains by the acquiring state actors.<sup>2</sup> The majority of these cases of loss by non-state actors occurred during the process of colonizing Africa. Inclusion of losses by these non-state actors would skew results of statistical analysis since the vast majority of these entities lacked state resources and the ability to respond to loss with subsequent gains of their own. Of these 245 remaining cases of loss, 105 occurred through involuntary means and 140 through voluntary means.

Additionally, territorial gains made during the first year of a state's life and any year that the state is reborn after a period of state death were not included in the dataset, leaving 574 remaining cases of territorial gain in the dataset. These cases were omitted because they did not allow for the testing of the hypotheses that gains are made at higher rates following

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<sup>2</sup>See Correlates of War Project. 2008. State System Membership List, v2008.1. Online, <http://correlatesofwar.org>.

losses. The vast majority of these gains are also associated with the process of unification.

Finally, the dyadic form of the data was used in order to control for revenge gains within the same dyad and because it enables testing the relevance of relative capability within the dyad to territorial acquisitions. Politically-relevant dyads were used because we were interested in dyads in which expansion was plausible. It appears implausible, for instance, that the Bahamas would choose to expand in Iraq.

## Coding Rules: Recoded Territorial Change Data, 1816 – 2000

### *Procedures:*

- 1 Conquest
- 2 Annexation
- 3 Mutual exchange, agreement, compensation
- 4 Unification
- 5 Mandate, Post-war Treat
- 6 Wars of independence
- 7 Decolonization
- 8 Voluntary Secession
- 9 Third-party Arbitration

(1) *Conquest* occurs when armed force is the primary agent of the territorial change. Conquests which occurred during ongoing wars are not included at all in the dataset, unless they become permanent after the war. Territorial gains by the victor finalized in post-war treaties immediately following cessation of the war are coded as conquests.

(2) *Annexation* occurs when one political entity unilaterally extends its sovereignty over another political entity when the primary agent of change is diplomacy with the implied threat of force. Unlike in the Tir, et al. data, annexation does not require the actual occupation of territory. Territorial change which involved exchange or compensation but occurred between countries of vastly different capability, with the larger country taking land, were coded as annexation rather than mutual agreement.

(3) *Mutual exchange* occurs when two entities form a bilateral agreement to exchange territory. Such agreements can involve the purchase or leasing of territory, the formation of a neutral buffer zone, or the exchange of territory for military support or navigation rights, or the willing hand-over of territory. Mutual agreement may also occur in post-war settlements decided by the immediate powers in which official borders do not follow wartime occupation borderlines and in which there is no active conflict.

(4) *Unification* refers to the formation of a new political entity out of two or more pre-existing entities.

(5) *A mandate* is a territorial unit that is placed under the temporary control of another political entity by the League of Nations or the United Nations following defeat in war. It occurs with sanctioning by the international community.

(6) *Wars of independence* refer to the termination of colonial rule over a dependency following a period of conflict between the dependency and mother country. This applies only to cases in which full dependency has been established. This termination must involve the former dependency's attaining effective control over its own foreign affairs and armed forces as well as achieving some measure of diplomatic recognition.

(7) *Decolonization* involves the termination of colonial rule when the mother country grants independence to dependencies through a non-conflictual process.

(8) *Voluntary secession* refers to the dissolution of an existing state as a result of one or more parts of the entity leaving it in order to establish themselves as new independent entities. This may occur through *plebiscite* or mutual agreement between the parties. It occurs when the larger entity takes no military action and does not form a strong diplomatic opposition to the act of secession. Secession occurring as a result of *outside mandate* following defeat in war is coded as annexation. Attempts by dependencies to gain independence are not included under secession even if the mother country considers such dependencies to be part of the metropole (e.g. Angola or Algeria).

(9) *Third-party arbitration* occurs when both states within an ongoing territorial conflict agree to have the issue arbitrated by a third-party entity such as the United Nations, the League of Nations, the ICJ, the Swiss Federal Council or by a leader of another state. If the awarded territory had already been occupied by the gaining state, it is coded as conquest. If arbitration occurs but the outcome is refused by one or both sides, it is not coded as arbitration.

*Sources:* The major source utilized for gathering information concerning many of the territorial changes was Langer's *Encyclopedia of World History*. Sources consulted for the post-1965 changes and for some of the pre-1965 exchanges include the *Statesman's Yearbook*, *The World Almanac*, and Palmer's *Historical Atlas of the World*. For procedural coding, first hand and second hand source documents on the issue area were also consulted.



Table 1. Cross-Tabulation Results

	<i>No Coercive Loss, Last 20 Yrs</i>	<i>Coercive Loss, Last 20 Yrs</i>	<i>Total</i>
<i>No Coercive Attempted Gain</i>	150,024	25,803	175,827
<i>Coercive Attempted Gain</i>	309	176	485
	.21%	.68%	176,315

$$\chi^2 = 179.0114 ***$$

Table 2A. Great Power Cross-Tabulation Results

	<i>Non-major powers</i>	<i>Major Powers</i>
<i>Revenge Gain</i>	9 19.57%	8 6.35%
<i>Third-Party Gain</i>	37 80.43%	118 93.65%

$$\chi^2 = 6.6081*$$

Table 2B. Types of Targets by State Type

	<b>Non Great Powers</b>		<b>Great Powers</b>	
	<i>Revenge</i>	<i>Third-party</i>	<i>Revenge</i>	<i>Third-Party</i>
<i>Contiguous</i>	8 20%	19 46%	5 6%	12 14%
<i>Discontiguous</i>	2 5%	12 29%	5 6%	62 74%
<b>Total</b>	25%	75%	12%	88%

N = 41

N = 85

Table 3. A Selection of Cases

<i>Country</i>	<i>Territory Lost</i>	<i>Lost To</i>	<i>In Year</i>	<i>Entity Gained</i>	<i>In Year</i>
Austria-Hungary	Lombardy	Italy	1859	Denmark	1864
China	Kazakhstan	Russia	1871	Vietnam	1881
France	Alsace-Lorraine	Germany	1871	Cochinchina	1874
				Tunisia	1881
India	Kashmir	Pakistan	1949	China	1950
Italy	Ethiopia	Ethiopia	1896	China	1901
				Turkey	1905
Italy	Somalia	Somalia	1905	Albania	1914
Netherlands	Indonesia	Britain	1819	Papua New Guinea	1828
Russia	Danubian Princ.	Austria-Hungary	1854	Caucasus	1858, 1859
				Japan	1861
Russia	Vilna	Poland	1921	Japan	1925
				Afghanistan	1926
Spain	Cuba, Philippines	United States	1898	Morocco	1907, 1908
Turkey	Merv	Turkey	1884	Greece	1897
Turkey	Libya, Dodecanese IIs.	Italy	1912	Iran	1916
Britain	Equatorial Guinea	Spain	1843	South Africa	1847
Britain	Oregon	United States	1843	Brunei	1847
				Myanmar	1852
Britain	Sudan	Sudan	1884	Botswana	1885

Table 3 presents a selection of cases of involuntary territorial loss followed by attempted acts of territorial aggression. The table indicates which territory the state originally lost and to whom. It also indicates the specific territorial entity and the year that it was subsequently targeted. In some cases, a territorial loss is followed territorial aggression in more than one place. We see the case of the loss of Alsace and Lorraine in 1871 to Germany followed by the targeting of Cochinchina in 1874 and Tunisia in 1881. We also see the case of Russia's loss of the Danubian provinces in 1854 to Austria followed by repeated acts of territorial aggression in the Caucasus and Japan. Detailed analysis has demonstrated that both of these cases were driven in large part by status concerns generated by prior humiliating territorial loss.<sup>3</sup>

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<sup>3</sup>See Barnhart (2016) on the effect of the loss of Alsace and Lorraine on French territorial aggression in 1881. See Meyer and Brysac (2009) on the effect of defeat in the Crimean War on territorial aggression in the Caucasus 5 years later.

## **Part B: Additional Models and Robustness Checks**

### **1. Within-Country Models and Tests:**

The models presented within the primary analysis utilize politically relevant directed-dyad data. This approach assesses variation both across dyads and within dyads. Because it is possible that this approach exaggerates the degree of relationship between past losses and future gains, two additional tests were conducted on more truncated datasets. First, a one-sample t-test was performed to assess whether the probability of attempted gains was higher in the twenty years following a coerced loss than it was in the twenty years leading up to the coerced loss. To isolate the effect of coerced loss, cases of coerced loss were dropped if they occurred within the 20 year period following a prior loss. Cases were also dropped if either the 20 year period before or after the loss corresponded with either major world war. This was done in order to ensure an equivalent number of country year observations before and after losses. The data was reduced to 35 separate country-year observations. Analysis showed that while the probability of gains was 18.9% higher in the period following a loss, this probability could not confidently be distinguished from rates of gains before the loss ( $p = .16$ ). The same test was then performed on great powers using 10 observations with non-overlapping time periods. The two-sample t-test of great power observations indicates that the rate of attempted gains is 48% higher in the period following a loss than in the period before the loss. This difference can be distinguished at .05 level ( $p = .01$ ). Cases of revenge were then removed from the data, leaving 7 observations. The rate of attempted gains against third parties was 43% higher in the period following a coerced loss ( $p = .02$ ).

A second test was also performed to account for cross-national confounding. The three primary models within the paper were run using fixed effects for each directed dyad. This approach analyzes the effect of coerced loss only within those dyads that have experienced a coerced loss. The results of these tests are presented in Table 4. The results are similar to those presented in Table 1 within the manuscript. The variable coerced loss in the past 20 years is significantly correlated with attempted gains in each of the three models. This includes those controlling for revanchist motivations and for one's own past activity. Again, voluntary loss does not significantly correlate with future aggression. Further analysis illustrates that the odds of attempting a gain if you have experienced a coerced loss are roughly 1.54 times those if you have not. Additionally, the odds of targeting the state responsible for one's original humiliating loss are not significantly higher than the baseline odds of territorial aggression amongst non-humiliated states.

These two additional within-country tests indicate that the increased probability of territorial aggression following coerced loss remains statistically and substantively significant even within more localized and truncated subsets of the data which exclude a significant amount of cross-national variation.

Table 4. Directed-Dyad Fixed Effects Models

<i>Variables</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>
<i>Coerced Territorial Loss in Prior 20 Years</i>	.468** (.17)	.546** (.18)	.478* (.19)
<i>Voluntary Territorial Loss in Prior 20 Years</i>	-.195 (.17)	-.199 (.17)	-.177 (.17)
<i>Revanchist Gain?</i>		-.226 (.34)	-.187 (.35)
<i>Relative Capability After Loss</i>	3.86*** (.96)	4.99*** (1.28)	4.24** (1.44)
<i>Dyadic Relative Capability</i>	1.79** (.75)	1.84* (.76)	1.38 (.77)
<i>Total Gains In My Region in Prior 10 Years</i>	.034*** (.00)	.034*** (.00)	.023*** (.00)
<i>Total Gains In My Region in Prior 11 - 20 Years</i>	.015** (.00)	.015** (.00)	.012* (.00)
<i>Total Systemic Gains in Prior 5 Years</i>	.002 (.01)	.002 (.01)	-.000 (.00)
<i>Coercive Attempted Gain in Prior 5 Years</i>			.921*** (.14)
<i>Coercive Attempted Gain in Prior 11 - 20 Years</i>			.199 (.15)
<i>Joint democracy</i>			-1.87*** (.44)
<i>Backed Down in Last MID</i>			.155 (.25)
<i>Border</i>			3.82*** (.45)
<i>Time Since Coercive Gain</i>	-.029** (.01)	-.029** (.01)	-.015 (.01)
<i>Time Since Coercive Gain x 2</i>	.000* (.00)	.000* (.00)	.000 (.00)
<i>Time Since Coercive Gain x 3</i>	-.000 (.00)	-.000 (.00)	-.000 (.00)
	N = 16,742	16,430	16,430

## 2. Activity in the System

To be confident in the significance of the relationship between past losses and future gains, we must eliminate the possibility that the relationship is merely an artifact of heightened levels of territorial change in the system or one's region. Within the primary models in the manuscript, five control variables were included in Model 3 which accounted for levels of activity prior to an attempted gain. As shown in Table 1 in the manuscript, the relationship between past losses and future gains holds even when controlling for this past activity in the system. This section of the appendix will describe and present evidence from 3 additional approaches aimed at assessing the likelihood that systemic activity is driving results. Each of these approaches provides further evidence in support of the theory presented in the manuscript.

### Country-Year Approach:

One straightforward approach to distinguishing the levels of post-loss territorial aggression is to compare the rates of attempted gains in the twenty-years before and after a loss amongst those states with no overlapping observations of coerced loss. This country-year approach is described on page 10 above. The test shows that the likelihood of attempted territorial gains amongst great powers is 48% higher in the 20 years following a loss when compared to the period before the loss. The difference between the likelihood of attempted gains in these two periods is significant at the .02 level. Thus, even when we do not include controls for activity within our test, we see that coerced loss indeed corresponds with heightened subsequent levels of aggression when compared with the activity levels of that same state

prior to the loss of its territory.

*Dropping Cases with Recent Gains:*

The next approach assessed the robustness of results when excluding cases based on prior levels of activity. First, model 3 was run excluding all cases in which states had engaged in territorial aggression within the ten years prior to an attempted gain. The results of this analysis are presented in the first column of Table 5 below. The same model was then run on a subset of data excluding those cases in which states attempted a gain in the ten years prior to experiencing a coerced loss. The results of this model are presented in column two of Table 5. The same two models were then run using fixed effects. The results of these two fixed effects models are presented in columns 3 and 4 below.

As the results in columns 1 and 2 indicate, coerced loss significantly correlates with attempted gains even within these truncated datasets which exclude states with past activity. Column 4 indicates that coerced loss predicts attempted gains within the fixed effects model even when dropping cases in which a state attempted a gain in the ten years before a loss. In contrast, coerced loss does not correspond with an increase in attempted gains in the fixed effects model when cases are dropped in which states experienced a gain within the last ten years. This fixed effects approach, however, reduces the number of observations included in the analysis by almost 96% when compared to the random effects model.

The cumulative results of these four tests provide further evidence that the relationship between coerced loss and future territorial aggression can not be fully explained by systemic activity. Those states which have not recently engaged in territorial aggression either in the



last ten years or in the ten years prior to losing territory engage in significantly higher levels of territorial aggression after a coerced loss.

Table 5. Models Limiting Past Activity

<i>Variables</i>	Logit		Fixed Effects Logit	
	<i>No Gains in L10Y Before Gain</i>	<i>No Gains in L10Y Before Loss</i>	<i>No Gains in L10Y Before Gain</i>	<i>No Gains in L10Y Before Loss</i>
<i>Coerced Territorial Loss in Prior 20 Years</i>	.469* (.22)	.4887* (.21)	.130 (.18)	.464* (.19)
<i>Voluntary Territorial Loss in Prior 20 Years</i>	-.562* (.28)	-.194 (.24)	-.445 (.33)	-.205 (.17)
<i>Revanchist Gain?</i>	1.34** (.36)	.835* (.34)	-.231 (.58)	-.039 (.36)
<i>Relative Capability After Loss</i>	4.99*** (1.30)	3.92** (1.28)	4.05 (2.72)	4.46** (1.55)
<i>Dyadic Relative Capability Backed Down L5Y</i>	1.49*** (.23)	.824** (.27)	1.86 (1.19)	1.20 (.80)
<i>Border</i>	.287 (.41)	.064 (.22)	.391 (.47)	.094 (.25)
<i>Border</i>	5.60*** (.45)	4.69*** (.49)	4.03*** (.70)	3.83*** (.45)
<i>Total Gains In My Region in Prior 10 Years</i>	.025** (.01)	.029*** (.00)	.036** (.01)	.024*** (.01)
<i>Total Gains In My Region in Prior 11 -20 Years</i>	.003 (.00)	-.007 (.00)	.012 (.01)	.010 (.00)
<i>Total Systemic Gains in Prior 5 Years</i>	.002 (.01)	.001 (.01)	.017 (.01)	-.000 (.00)
<i>My Gains in Prior 5 Years</i>	-	1.12*** (.15)	-	.971*** (.15)
<i>My Gains in Prior 11 - 20 Years</i>	.362 (.24)	.606** (.22)	-.875** (.27)	.261 (.15)
<i>Joint Democracy</i>	-1.24** (.44)	-1.76*** (.39)	-1.13* (.51)	-1.97*** (.47)
<i>Time Since Att Gain</i>	.003 (.24)	-.072*** (.02)	.002 (.01)	-.011 (.00)
<i>Time Since Att Gainx2</i>	.000 (.00)	.000** (.00)	.000 (.00)	.000 (.00)
<i>Time Since Att Gainx3</i>	-.000 (.00)	-.000* (.00)	-.000 (.00)	-.000 (.00)
	N= 128,994	173,061	6590	15,695

\*\*\* = Coefficients significant at the .000 level. \* = Coefficients significant at .05 level.

Robust standard errors, clustered by dyad, in parentheses below.

Placebo Tests:

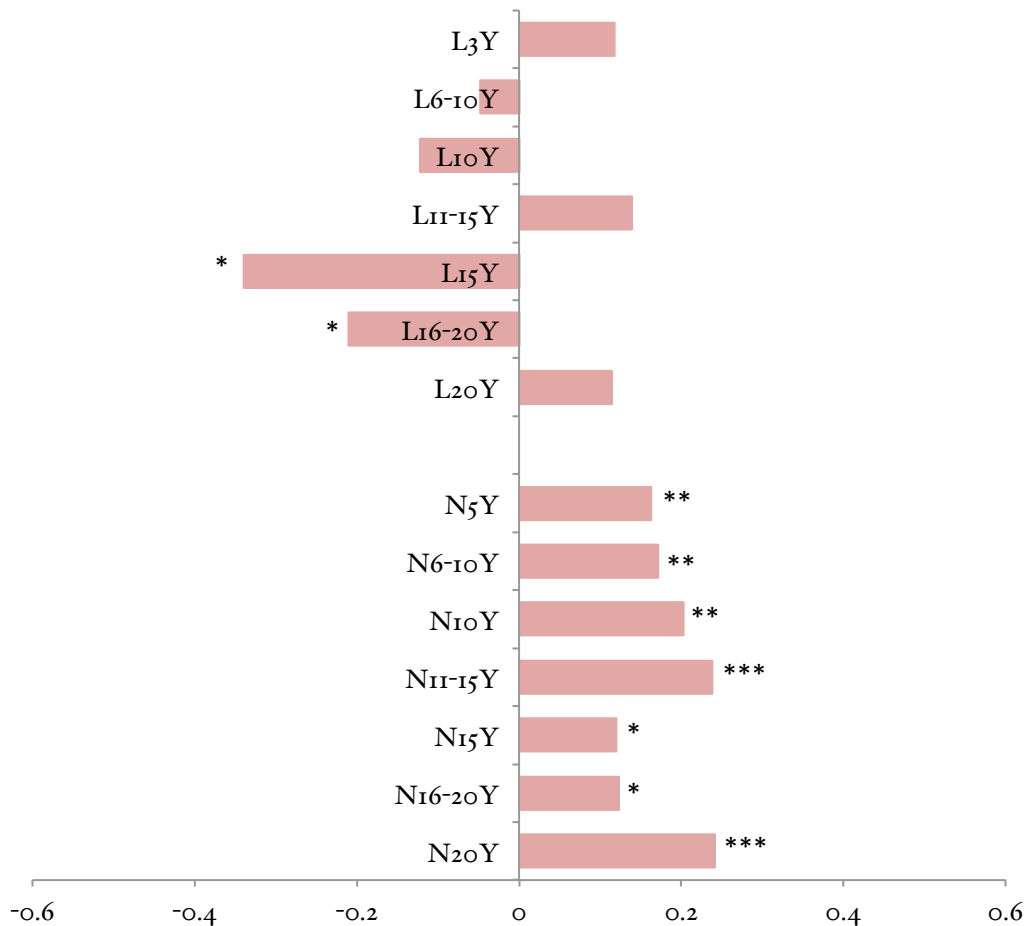
Finally, I engaged in a number of placebo tests aimed at ensuring that the coerced loss in the present does not predict territorial gains in the past, as we would expect it to if periods of heightened activity were explaining the results. These tests assess the relationship between coerced or voluntary loss in the present with three different sets of dependent variables lagged over various time periods in the past. The particular lagged dependent variables were chosen because we would expect the associations of these outcomes with coerced loss in the present to be zero. In all models presented below, the explanatory and control variables are the same as those used within Model 3 within the manuscript with one exception. The models exclude the variable measuring a state's capabilities after a territorial loss because we have no reason to believe that recovery in the present would predict past activity. Inclusion of this variable does not, however, significantly alter the results.

The first set of variables uses a binary measure of whether or not a state attempted a coercive gain over different lagged periods in the past. These lagged variables exclude cases of revenge gains following an earlier territorial loss, focusing only on attempted gains at the expense of third party states. Inclusion of revenge gains also does not, however, significantly alter the results. The results from this first set of tests predicting one's own attempted gains for various periods in the past are presented in Figure 1. The figure presents a bar chart representing the size of coefficients from models presenting one's attempted gains over different periods in the past as well as the size of coefficients from models presenting one's attempted gains over the same periods in the future. The top seven results refer to past gains

and labels refer to the past time period. “L3Y,” for instance, refers to one’s own gains in the last three years; “L11-15Y” refers to gains in the last 11 - 15 year period. The seven results at the bottom predict future gains and their labels convey similar information. Standard indicators of statistical significance are presented next to the bars.

The figure illustrates the following patterns. Coerced loss in the present is not positively and significantly correlated with one’s gains over any period assessed within the last 20 years.

Figure 1. Placebo Tests of Binary Past Activity



In two cases, that of gains over the last 15 years and gains 16 - 20 years ago, coerced loss actually predicts significant declines in past activity.<sup>4</sup> These results stand in contrast to those predicting future activity. We see that coerced loss in the present is positively and significantly correlated with gains over all measured time periods in the future, including gains over the next 5 years.

The second set of dependent variables uses a count variable that sums the total number of one's own gains attempted over differing periods in the past. The results from this set of placebo tests predicting one's total activity in the past are presented in columns 1 - 3 in Table 6. The columns present results from models predicting total gains over the last 5 - 10 years, 11 - 15 years, and 16 - 20 years respectively. We see that coerced loss in the present is not positively correlated with the number of one's own gains in any of the previous periods of time. The third set of dependent variables measures total activity by other states in one's region within different periods in the past. The results from the models predicting past regional activity by others are presented in columns 4 - 6 in Table 6. Here, we see that coerced loss predicts a significant decline in regional activity 5 to 10 years ago. It is not significantly correlated with regional gains 11 to 15 or 16 to 20 years ago.

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<sup>4</sup>The two dichotomous variables included within the model to account for activity in the past – *My Gains in the Prior 5 Years* and *My Gains in Prior 11 to 20 Years* – drop out of some of the models when they predict failure perfectly. In these cases, the models were then run only on cases in which states did not experience a gain in those periods.

Table 6. Placebo Tests II

<i>Variables</i>	<i>My Total Gains 5-10 Yrs Ago</i>	<i>My Total Gains 11-15 Yrs Ago</i>	<i>My Total Gains 16-20 Yrs Ago</i>	<i>Regional Gains 5 -10 Yrs Ago</i>	<i>Regional Gains 11-15 Yrs Ago</i>	<i>Regional Gains 16-20 Yrs Ago</i>
<i>Coerced Loss</i>	-.155*** (.04)	-.240*** (.04)	-.313*** (.03)	-1.38*** (.10)	-.216 (.16)	.176 (.09)
<i>Voluntary Loss</i>	.861*** (.07)	.797*** (.05)	.609*** (.04)	..040 (.05)	.331*** (.05)	-1.55*** (.09)
<i>Relative Caps.</i>	.313*** (.02)	.077*** (.02)	.006 (.14)	-.375*** (.03)	-.670** (.05)	.207*** (.03)
<i>Gains In Region L10Y</i>	.025*** (.01)	.002* (.00)	-.003* (.00)	.499*** (.00)	.011*** (.00)	-.221*** (.00)
<i>Gains in Region L11-20Y</i>	.008*** (.00)	.016*** (.00)	.017*** (.00)	.153*** (.00)	1.27*** (.01)	1.18*** (.02)
<i>Total Systemic Gains in L5Y</i>	-.017*** (.00)	-.004*** (.00)	.001*** (.00)	.014*** (.00)	-.023*** (.00)	.046*** (.00)
<i>My Gains in L5Y</i>	1.26*** (.06)	.377*** (.05)	.617*** (.04)	-.375*** (.04)	-.293*** (.05)	-.095* (.04)
<i>My Gains in L11- 20Y</i>	.463*** (.04)	1.44*** (.03)	1.16*** (.03)	.555*** (.03)	.539*** (.05)	-.162*** (.04)
<i>Joint democracy</i>	.039 (.0)	.065* (.03)	.071** (.03)	-.334*** (.05)	-.082 (.04)	.202*** (.03)

\*\*\* = Coefficients significant at the .000 level.  
Robust standard errors in parentheses below.

N = 176,230

### *Discussion:*

How confident can we be in the relationship between coerced losses and future gains given the results presented in the prior three sections? In none of the three sections did we find evidence that past activity is driving results. The within-country design indicates activity levels are 48% higher in the twenty years after a loss than they are in the twenty years before. Dropping cases in which states had attempted gains in the past did not significantly alter results. Finally, in none of the placebo tests did coerced loss in the present significantly predict activity in the past. Each of these individual tests suggest we have substantial cause

for confidence in the results. The cumulative results from all three approaches suggest we have reason to be highly confident that the findings presented in the paper are not spurious.

### 3. The Effect of Coerced Loss on Great Powers:

A set of models was run to assess the effect of coerced loss on attempted gains amongst great powers over different periods of time. An interaction term between coerced loss and major power was included in model 3 from the manuscript. The results of these models of the effect of differing periods in the past on future activity are presented in Table 7. The percentage change in the predicted probability of attempted coercive gains amongst great

Table 7. The Effect of Coerced Loss on Great Powers Over Time

<i>Variables</i>	<i>Last 5 Years</i>	<i>Last 10 Years</i>	<i>Last 15 Years</i>	<i>Last 20 Years</i>
<i>Coerced Loss x Great Power</i>	1.23* (.50)	.614 (.42)	.441 (.35)	.179 (.34)
<i>Coerced Loss</i>	-.966* (.42)	-.321 (.34)	.182 (.26)	.462 (.24)
<i>Great Power</i>	-1.36*** (.26)	-1.34*** (.25)	-1.36*** (.27)	-1.30*** (.29)
<i>Voluntary Territorial Loss</i>	.233 (.15)	.061 (.17)	-.009 (.23)	.179 (.34)
<i>Revanchist Gain?</i>	.968 (.53)	.830 (.51)	.738* (.37)	.801* (.33)
<i>Relative Capability After Loss</i>	1.89 (1.05)	2.30 (1.26)	3.25* (1.35)	3.36** (1.24)
<i>Dyadic Relative Capability</i>	1.65*** (.34)	1.66*** (.34)	1.66*** (.35)	1.64*** (.35)
<i>Total Gains In Region L10Y</i>	.751*** (.17)	.032*** (.01)	.033*** (.00)	.033*** (.00)
<i>Total Gains In Region L11-20Y</i>	-.000 (.00)	-.000 (.00)	-.004 (.00)	-.004 (.00)
<i>Total Systemic Gains L5Y</i>	-.001 (.01)	-.000 (.00)	-.000 (.01)	-.000 (.00)
<i>Coercive Att. Gain in L5Y</i>	1.31*** (.15)	1.31** (.15)	1.28*** (.15)	1.29*** (.15)
<i>Coercive Att. Gain in L11-20Y</i>	.821*** (.19)	.826*** (.19)	.794*** (.21)	.740*** (.19)
<i>Time Since Coercive Gain</i>	-.074*** (.01)	-.074*** (.01)	-.073*** (.01)	-.074*** (.01)
<i>Time Since Coercive Gain x 2</i>	.000** (.00)	.000** (.01)	.000** (.00)	.000** (.00)
<i>Time Since Coercive Gain x 3</i>	-.000* (.00)	-.000* (.00)	-.000* (.00)	-.000** (.00)

\*\*\* = Coefficients significant at the .000 level.

N = 174,167

Robust standard errors, clustered by dyad, in parentheses below.

powers as a function of coerced loss over these time periods is reported in Table 8 below. The table shows that the predicted probability of attempted gains significantly increases amongst great powers who have experienced coerced loss in the past 10, 15 and 20 year periods. The size of the change increases with time.

Table 8. The Change in Probability of Attempted Gains for Great Powers

	<i>5-Year Period</i>	<i>10-Year Period</i>	<i>15-Year Period</i>	<i>20-Year Period</i>
<i>Coerced Loss</i>	+33%	+35%*	+88%*	+92%*



#### 4. *Risk-Aversion*

The theory of status threat presented in the paper suggests that humiliated states will be more risk averse than will non-humiliated states. According to this theory, humiliated states should engage in acts of aggression which have a higher on average probability of success. We would expect the probability of success to increase with the portion of dyadic capabilities that a state holds *vis a vis* its potential target. This section presents evidence in support of increased risk aversion by humiliated states.

First, there is evidence that humiliated states are significantly more likely to be successful in their subsequent acts of attempted gains than are other non-humiliated states attempting to take territory. The variable *Victory* was coded “1” if a state initiated a territorial dispute and either obtained victory or if the opponent yielded without a fight. The variable was coded as “0” if the state initiated a territorial MID but was either defeated or yielded without a fight. In the first analysis, a two-tailed t-test was used to assess whether the rate of victory was higher for states that had recently lost territory. The test shows that the probability of subsequent victory amongst states with a recent coerced loss is 12.9% higher than it is for states with no recent coerced loss. This difference is significant at the .05 level.

There is also evidence that humiliated states initiate subsequent territorial aggression against states over which they hold a larger relative advantage than that held by non-humiliated states attempting territorial gains. Great powers experiencing recent territorial loss attempt gains within dyads in which their relative military advantage is on average

8% higher than it is for non-humiliated great powers attempting territorial aggression. A two-sample t-test indicates that the difference in the relative capabilities of states targeted by great powers is significant at the .05 level. While this may not equate to a significant jump in relative advantage for great powers, humiliated great powers are 12.9% more likely to win these subsequent contests in which they possess this marginal additional advantage. There may be, moreover, other ways in which some targets are less risky than others. States which do not have defensive alliances with other states may be less risky targets. States that have not recently lost territory are in fact 131% more likely to attempt a territorial gain against a state involved in a defensive alliance than is a recently humiliated state. This value was obtained through a ttest using the COW data on defensive alliances. The difference is significant at the .001 level.

### *5. Contiguous Losses*

We may hypothesize that contiguous coerced losses would be more humiliating and thus more likely to increase the probability of coercive attempted gains than would non-contiguous territorial losses. A variable was added to the dataset capturing whether or not the lost territory was directly contiguous to the state losing the territory. The states were contiguous if the territory was part of the country's homeland and if the territory was adjacent. Model 3 was run with an interaction variable for coerced loss in the last 20 years \* Contiguity. The results confirmed the contiguity hypothesis, indicating that if the coerced loss was contiguous, the probability of a coercive attempted gain was 50.46%\*\* higher than following a non-contiguous coerced loss in territory.

## *6. Other Robustness Checks*

Numerous additional tests were performed to assess the robustness of the results and to test the sensitivity of the results to model specification. Each model was rerun omitting independent and control variables one at a time. The basic results were unaffected by omission of any one or any group of right-hand side variables. Clustering by country and by country-year reduced the standard errors and left the substantive results largely unchanged. Inclusion of a variable for regime type, rather than joint regime type, was not found to significantly correlate with attempted gains and did not significantly alter other significant correlations. The variable for joint democracy was ultimately included because of the high degree of correlation between regime type and those states engaging in the scramble for Africa. When both regime type and the scramble were included, regime type was found to have no significant correlation with attempted gains. Additionally, various versions of variables were considered, including whether other states in the region had gained in the last 3, 10, or 20 years, and including different measures of relative capability such as iron and steel reserves or absolute capability rather than relative capability.

## 7. Reputation for Resolve

The main results find no correlation between backing down but not losing territory in an international dispute and the likelihood of attempting to gain territory through coercive means, suggesting that it is not state concern about reputation for resolve that is driving results. The variable used in Model 3 above does not include cases in which the state was defeated but did not lose territory. Clare and Danilovic (2010) argues that the willingness to fight against an opponent establishes its reputation for resolve and that only backing down without fighting conveys weakness. As a robustness check, a variable which captured instances of both backing down and being defeated with no territorial loss was analyzed as part of Model 3. The coefficient was negative and insignificant.

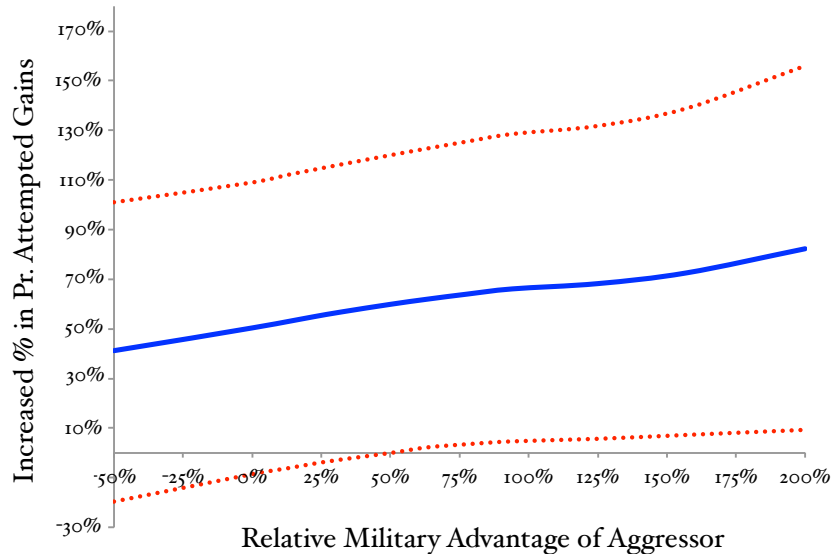
Clare and Danilovic (2010) establishes a correlation between backing down in one's last MID and future MID initiation as a function of the number of potential rivals. Similar to Walter (2003), they argue that the more potential rivals a state faces, the greater the incentive for the state to proactively reestablish its willingness to fight by initiating and escalating conflicts. In keeping with the measure used in Clare and Danilovic (2010), an interaction term *Backed Down w/ No Territorial Loss x Number of Potential Rivals* was included in the analysis. The variable was analyzed using Thompson's Strategic Rivalry data as described in Thompson (2001), for reasons mentioned in Clare and Danilovic (2010). Inclusion of this interaction term, or one which used Goertz and Diehl's data on enduring rivalries, did not substantively alter the results. The probability of attempting a gain in this expanded model increased 53% if a state experienced a coerced loss in the past 20 years.

## Part C. Relative and Absolute Capabilities

### 1. The Role of Relative Capabilities

Eighty-three percent of the cases of aggressive territorial expansion in the twenty years following a coerced loss occur within dramatically skewed dyads in which the gainer has at least 75% of the total dyadic capabilities. Model 3 from the primary analysis in the manuscript was run with an interaction between the variables for coerced loss in the last 20 years and relative capability. The following graph illustrates that as a state's share of the dyadic relative capability increases, the more likely it is to respond to a coerced loss by attempting a coercive gain. A state is most likely to respond to a coerced loss by taking territory from a state with little to no capability at all. This provides further evidence that these acts of territorial gain are not intended as signals of strength or resolve to rivals.

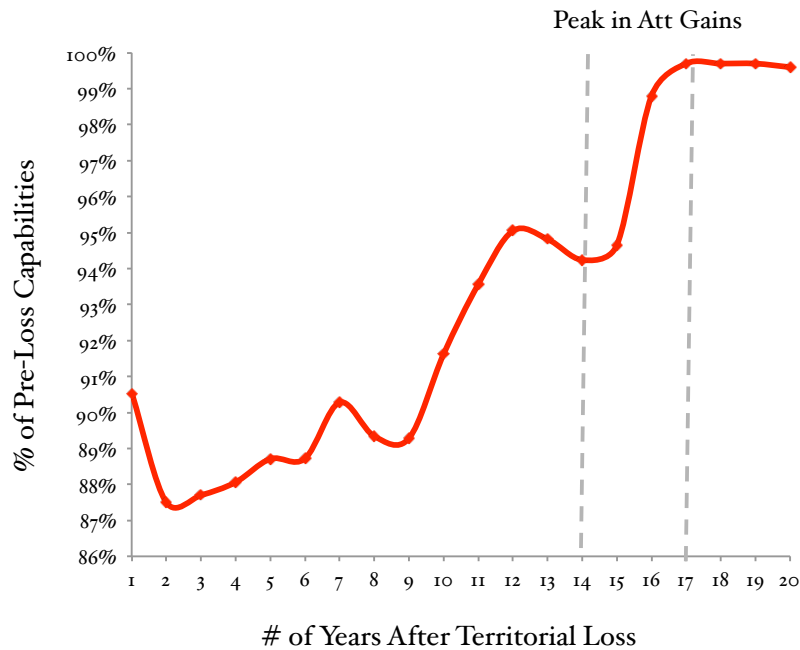
Figure 2: The Impact of Coerced Losses as a Function of Relative Capability



## 2. Recovery of Capabilities

Figure 2 in the article illustrated the average recovery time of military capabilities following a coerced loss. Figure 3 below illustrates the average recovery period and the average size of military decline following coerced loss for great powers in particular. Here we see that great powers on average lose 12.5% of their capabilities in the years after a loss. Great powers return to 95% of their pre-loss capabilities roughly around year 12 following a loss. If we look only at the decline in military personnel and military expenditure, the numbers for great powers are far steeper. The average decline in military personnel is roughly 24% though many powers, like France in 1872 and Russia in 1856, experience declines of up to 50%. The same is also true of military expenditures. Military personnel and expenditures are logically

Figure 3: Average Time to Recover Capabilities for Great Powers



higher during times of war. Declines in personnel and expenditures clearly in part reflect a state assuming a peace-time posture. These pullbacks however also reflect the intention of great powers to reorganize, modernize and rebuild military and state infrastructures following conflict. Political instability also often arises following the loss of territory if that territory is part of the homeland. It can take many years for the political system to stabilize to the degree that the state is ready to reassert itself on the world stage.

As further testament to the role that recovered capabilities in determining when states will reassert their status, I conducted two additional analyses. First, to ensure that recovery of capabilities was not a temporal proxy for a particular average period of time in which states gain territory, I included a count variable for every year since a coerced loss within Model 2. The inclusion of this variable has little effect on the results of the model. Capabilities relative to one's pre-loss levels as well coerced loss both remain positively and significantly correlated with future gains. The size of the coefficients are the same or larger.

Finally, to ensure that recovered capabilities do not mimic a more global trend, I looked at the average period of growth in absolute capabilities for all other major powers during periods of major power recovery. For instance, French capabilities declined 24% in the year following its loss to Prussia in 1871. It took France 11 years to return to those pre-loss capabilities. Over that same period, the absolute capabilities of the four other major powers in the system did not increase but in fact decreased an average of 3.7%. Over that period, the absolute capabilities of Germany in fact declined 12%. Following its loss of territory in 1856, Russian capabilities declined 19%. Recovery for Russia did not occur until 1870.



Over that period, the absolute capabilities of the 4 other major powers actually declined by 16.35%. Similarly, Austrian capabilities declined by 25% following its loss of territory to Italy in 1859. Austrian recovery of those capabilities did not occur until 1878. Over that period, other major powers increased only by 4.4%. These and many similar cases indicate that the increase in absolute capabilities does not reflect a global trend. Of all cases of major power post-loss recovery, other major powers during the same period gained more than the recovering state in only 2 of them.

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