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2019

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THREATS OF ECONOMIC SANCTIONS AND THE DURATION OF CIVIL WAR

By

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BA, Economics, The University of Montana, Missoula, Montana, 2019

Thesis

presented in partial fulfillment of the requirements
for the degree of

Master of Arts
in Economics

The University of Montana
Missoula, MT

May 2019

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Halvorson, Jared, M.A., Spring 2019   Economics

Threats of Economics Sanctions and the Duration of Civil War

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  Economic sanctions have been criticized as a tool of political expediency. Detractors argue that international leaders use sanctions to give the appearance of action, rather than as a true agent for change. Previous studies largely confirm this characterization, showing that sanctions are not effective. However, previous studies have ignored a major component of the economic coercion process and powerful tactic of negotiation: the threat of sanctions. Using survival analysis and data on civil wars and sanctions from 1960-2005, I find evidence that import restrictions and asset freezes are valuable types of sanctions in shortening the duration of civil war, and that when threats are accounted for, some types of sanctions are shown to have differing effectiveness. But, when standard errors are accounted for, the difference in effectiveness is not significant.

Introduction

Since World War II, economic sanctions have been used with increasing frequency by powerful countries and international organizations like the United Nations, despite continued controversy surrounding their effectiveness. In Figure 1, the use of sanctions sees a steady rise from 1960 to 2005. While some praise sanctions as an effective soft-power tool in international conflict (Marinov 2005, Escriba-Folch, 2010), others criticize sanctions as ineffective and abusive (Regan 2002, Allen and Lektzian, 2013). The debate is hardly settled.

Post-World War II, civil wars have become more prevalent as well. Figure 2 shows the number of civil wars being fought during each year. It has a general trend upwards from 1945 to 2017. Civil wars now comprise most armed conflicts in the world. Civil wars have an unparalleled ability to harm people for decades after conflict begins.

Most deaths from civil war are indirect. As public health systems collapse, and civilians migrate to unfamiliar places to avoid conflict, sickness kills more people than guns (Collier, 2009). Beside this, civil wars create an economic ripple, conservatively estimated at the equivalent of losing two years of income (Collier, 2009). It is in the interest of the international community to find methods of mitigation for civil war. Doing so will limit lives lost and provide better lives for those afflicted.

Sanctions are often criticized as being a way for political leaders to save face. When there is a crisis happening elsewhere in the world, sanctions provide an expedient way for a leader to claim they are "doing something," short of committing troops. Is this a valid criticism? Are economic sanctions an effective tool when the objective is to decrease the duration of civil war? Using updated databases and unique methods of survival analysis, I shed new light on the effectiveness of economic sanctions for decreasing the length of civil conflict.
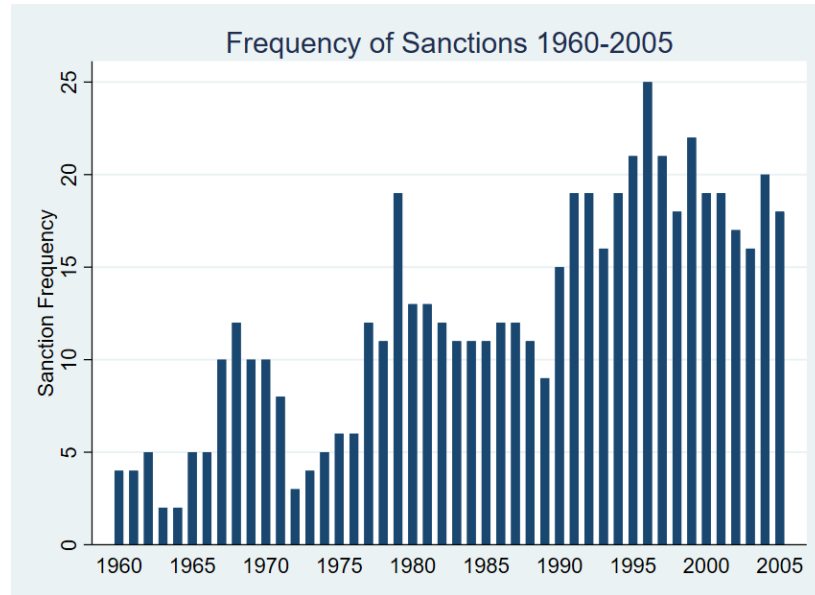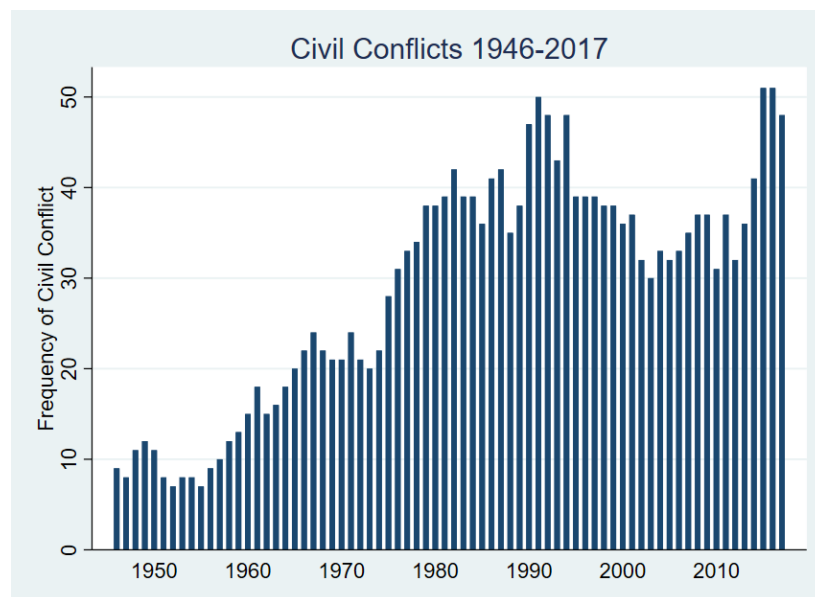
Figure 1: Frequency of sanctions over time

Figure 2: Frequency of civil conflicts over time

Sanctions as a process

Economic sanctions are usually imposed in a series of escalations. Before imposing

sanctions, many countries begin a process of economic coercion by threatening sanctions,

waiting for the offending country's response (Morgan, Bapat, and Kobayashi, 2014). At first

glance, the process seems straightforward. If the leaders of the offending country deem the threat credible with the potential for devastation, they should change their behavior.

However, the sanctioning process is not so simple. Rational leaders can respond to sanctions in politically beneficial ways, while still being harmful to their constituents. This is common in civil wars; many start because leaders do not mind being harmful to at least some of their citizens (Collier, 2009). A leader can use sanctions as a way of consolidating hatred against a common enemy, deflecting criticism. Instead of taking responsibility for their own shortcomings, a leader can blame an outside source.

In international negotiation, leaders are playing a two-level game (Putnam, 1988). As they negotiate with foreign nations, they must do so in a manner that does not destroy them politically at home. On the domestic side, they must negotiate in a manner that does not harm them internationally. Sanctions are a negotiation tactic used to coerce offending nations. In deciding how to respond to a sanction, a leader must calculate how their behavior will impact them internationally and domestically. By not complying with demands, they open themselves to international attacks and economic consequences, but it may give them more options for retaining power at home. Is the loss of face internationally worth what is being pursued domestically? Will the consequences from outside punishment be worth accomplishing the domestic goal? These are the kinds of questions leaders must answer before making decisions.

The efficacy of threats depends on how leaders perceive threats. Sometimes they are effective, other times not. Until recently, the major database of sanctions (TIES) has only included the imposition of sanctions, not including the threat of sanctions. I evaluate the effectiveness of sanctions for limiting the duration of civil conflict.

Sanctions are comprised of escalations in policy. Therefore, a true estimate of sanction effectiveness should not be limited only to sanctions that were imposed. It must also include how countries respond to the threat of sanctions. It may be the case, as Drezner (2003) states, that threats of sanctions are more capable of persuading leaders to stop bad behaviors than the imposition of sanctions. In fact, threats of sanctions have been shown to be effective at spurring negotiation between conflicting parties (Lektzian and Regan, 2016). However, most previous studies have not viewed sanctions as a process of economic coercion. Rather than including a threat phase, they only perform analyses on sanctions that come to fruition and are imposed. When testing the effectiveness of sanctions, those that do not include sanction threats are not looking at the full picture. To get a true estimate of sanctions effectiveness at shortening civil conflict, I will include a variable that records when threats of are made alongside a variable that records when sanctions are imposed. Including a threat variable will give a more accurate picture of the sanctioning process than previous studies which have not included threats in their analysis of sanctions.

Literature Review

1. The Determinants of Civil War

Since World War II, civil wars have increased in frequency. They account for most of all conflicts raging today. Collier, Hoeffler, and Rohner (2009) note that once civil wars start, on average, they last more than ten times as long than international wars. Because of their tendency to decimate both the population and the economy of the country in which they are fought, it is of great interest to understand why civil wars occur. If it is possible to identify the underlying risk factors for civil wars, it may be possible to stifle them.

As the number of civil wars continues to rise, the chief factors behind them are becoming more illuminated. Most researchers find the most important factors are economic. Specifically, slow economic growth, low income, and high-income inequality are the most robust predictors of civil war occurrence (Collier, 1998, Collier and Hoeffler, 2004 Collier, Hoeffler and Soderbaum, 2004). At the household level, economics matters as well. If the economic status of households is lower where armed militias operate, it becomes more likely that armed groups are relied upon for protection and aid (Justino, 2008). Militias thrive in this type of environment. When they amass enough members to have a successful rebellion, civil war breaks out.

Where a rebellion can form is often governed by geography, another indicator of civil war probability. The ability to isolate people from government forces is key. Militias organize and rebellions last longer in areas with mountainous terrain, where fighters can regularly retreat and hide from pursuers (Collier, Hoeffler, and Rohner, 2009). The ability for militia members to find haven in a bordering country has also been found to increase the duration of civil war (Buhaug and Gates, 2002).

Ethnic fractionalization and diversity are some of the first factors that come to mind when thinking about the context of war. Historians seem to favor these explanations, likely because they create a narrative. But, do these explanations hold up to econometric scrutiny? Regions with more ethnic and/or religious diversity are no more prone to civil war than other countries, all else constant (Fearon and Laitin, 2003). It is largely the economic factors in more fractionalized countries that offer causal explanations for civil war. Differences in income between ethnic groups can explain why civil wars occur.

Economic sanctions, if targeted well, may be the solution to some of these underlying factors, especially income disparity between groups. Through sanctions, leaders may be

pressured to reshape policies that make participation in the economy fairer. Because economic factors are shown to be causes of civil war onset, solutions must address significant factors like income inequality, GDP growth, and overall income. If civil war is unavoidable, sanctions can be used to stunt the duration of civil war. To determine if using sanctions for the purpose of shortening civil war makes sense, it is important to understand what stops civil wars from ending.

2. *The Duration of Civil War*

The twentieth century saw massive changes in how the countries of the world interact with each other. Most countries belong to intergovernmental bodies like the United Nations, World Trade Organization, and North Atlantic Treaty Organization. The process of globalization has pushed countries to become more dependent on each other at every level. When countries are dependent, third parties can drastically affect the outcome and duration of a war. When a war is fought internally, countries risk all kinds of external problems. Being a member of the United Nations makes it more likely that a country will peacefully resolve a conflict (Derouen and Sobek, 2004). But, counterintuitively, being in the UN also makes it more likely a conflict will last for a longer duration (Derouen and Sobek, 2004). The duration of war is also affected by the intentions of those who are intervening. If the intervention alleviates underlying factors like poverty, the duration of civil war can be effectively limited (Sambanis and Elbadawi, 2000).

Not all civil wars are the same. Different circumstances can lead to different durations of warfare. Coups and revolutions are relatively short civil wars, whereas conflicts over land and resources last longer on average. Sons of the soil wars are conflicts between a migrant majority and an ethnic group that originated in the area. Sons of the soil wars last longer than average as

well (Fearon, 2004). Again, it is the economic differences between the majority and minorities that fuel these types of conflicts.

Much of the literature only focuses on the characteristics of the state being sanctioned, ignoring the variety of insurgent groups and how they are organized. Cunningham and Salehyan (2009) state that how insurgents operate can be a determinant of the length of civil war. Large insurgent groups are able to last for a long time during a civil war, but small groups can also last if they engage in guerrilla combat. The nature of this style of war lends itself to long lasting wars. These wars do not have front lines, nor do they have insurgents who lack conviction of their beliefs. Insurgents engaged in guerrilla tactics are willing to fight against all odds without laws of war governing their actions. Sometimes the only way to resolve a conflict between a nation and insurgents is to force compromise. Third parties often interfere in civil conflict to facilitate a ceasefire and negotiation of settlement.

3. *Third Party Intervention in Conflict*

Economic sanctions are one of many tools countries use to attempt to influence other countries. To best understand the role of sanctions, it is important to understand the general effects of third-party intervention of any kind.

There are many activities a country may be involved in which warrant third party intervention. Chief among these are human rights abuses, mistreatment of an ethnic minority, widespread political repression, and warfare. With warfare, international intervention occurs in both civil war and war between countries.

To predict the duration of conflict, third parties play an important role, especially when the third party is a world superpower. There is debate among the academic community of the

exact effects of third-party intervention in conflict. Regan (2002) shows third party intervention (be it sanctions, other economic interventions, or military) tends to *prolong* armed conflict. This makes intuitive sense. When it comes to conflict, each side must weigh their probability of victory and their potential reward against their potential loss. When third parties become involved, they tip the scale, propping up sides by giving them more resources with which to fight, and a higher probability of victory. With more resources, the conflict lasts longer. Especially troubling is the finding that when third parties become involved on both sides, war is prolonged even more. When third parties become involved in conflict, they become part of the negotiation process. World superpowers act as a player with veto power once they become involved. The involvement of a veto player means that there are less settlement options on the table between the two original warring parties (Cunningham, 2006). Instead of just two sides with demands that must be met for settlement to occur, third parties come with their own demands that must be met. Because the demands are greater, it is harder for a settlement to be reached that satisfies all parties involved. More complex negotiations must take place to appease all parties.

The duration of civil wars depends on which side of the civil conflict is being aided by a third party. Sambanis and Elbadawi (2000) show that aid with the intent to maintain the status quo (usually the side of the government in the nation in civil conflict) lowers the duration of armed conflict, whereas the opposite is true of interventions that seek to change the status quo. Balch-Lindsay, Enterline, and Joyce (2008) find results consistent with this. In civil war, the side aided by a third party generally achieves victory more quickly, and involvement of a third party makes the process of negotiating a settlement last longer.

Sanctions are a type of third-party intervention, but they are designed to apply pressure in a different way than traditional third-party interference. While supplying troops or arms to an insurgent group will make that group last longer in a war of attrition, denying goods or services to a government group should make that group last a shorter length of time in a war of attrition. Sanctions are a way of tipping the balance by *taking away* the resources of one side, rather than providing one side with additional resources. Because sanctions act in a way that is nearly opposite of other tools for third party intervention, it is worth finding out if they are more effective than other interventions such as supplying troops or weapons.

4. *The Effectiveness of Sanctions*

Economic sanctions have been used more frequently (Figure 1) during the same time frame that civil conflict has become more common (Figure 2). In the eyes of leaders, sanctions are a diplomatic way of becoming involved without the use of hard power like troops on the ground or bombing. For years, researchers have debated the potency of sanctions, with mixed results. In the following, I provide a summary of researchers who found sanctions to be effective as a third-party interventions and researchers who found the opposite.

Economic sanctions have been referred to as a "blunt instrument" by many, including Allen and Lektzian (2013), who test the generalizability of case studies of Cuba, Iraq, and the former Yugoslavia to derive more broad conclusions about the efficacy of sanctions. Arguably, these are extreme examples of conflict, with one leading to an extremely long-lasting unilateral embargo, another to a large scale international military conflict and the third to a genocide and restructuring of that portion of central Europe. Studies that are more inclusive show results that are similar but less definitive. Regan (2006) finds no statistically significant relationship between sanctions and the severity and duration of wars. While they find no statistically significant

relationship to show sanctions cause wars to end more quickly, there is also no evidence to suggest they prolong conflict.

One common intent of sanctions is to dissuade a country from committing human rights abuses within their borders. Intuitively, there are many ways to look at the effect sanctions may have on human rights abusers. They may be incentivized to stop committing human rights abuses. However, some leaders see sanctions as a reason to double down on abuses to prove a point: that outside interests will not control them (Peksen, 2009).

Perception matters in sanctions. Ang and Peksen (2007) find countries must believe the issue they are sanctioning is important if they want their sanction to succeed. If a country does not have the same perception of the conflict as the body in which the conflict is occurring, sanctions are likely to fail; they may not be harsh enough to be convincing. If parties committing atrocities find value in what they are trying to accomplish, they may withstand a certain amount of sanctioning willingly.

The threat of sanctions is another consideration. Countries usually make a threat of using sanctions in advance of actually putting them into place. Drezner (2003) argues that the estimates of effectiveness at resolving conflict with economic sanctions may be largely conservative, because successful economic coercion should work before sanctions are imposed.

But, using case study to argue against or on behalf of economic sanctions may not be the best approach if the objective is to determine whether sanctions are useful in a more general sense. Case study may prove that sanctions were valuable or not or in a particular context but should not be used to justify a position on sanctions more generally. When properly specified, some studies find that sanctions have positive results, especially when targeted well. For

example, Abel Escriba-Folch (2010) found some types of sanctions (embargoes in particular) were successful in shortening the duration of civil conflicts, all else constant.

More recently, so-called 'smart sanctions' have become more common than traditional umbrella sanctions. With smart sanctions, specific offending people or groups are targeted with sanctions. Previously, a criticism of economic sanctions was that they are human rights abuses in themselves. Populations in offending countries might be reduced to poverty or unsafe conditions as a result of sanctions imposed on their country, hoping their leaders would capitulate to stop the suffering. The idea of smart sanctions has flourished, and they are used often by world powers and the United Nations. However, Drezner (2011) finds that while smart sanctions allow countries to say they have "done something," they have largely proven impotent at coercing targets.

Despite argument to the contrary, Marinov (2005) finds sanctions are successful in destabilizing leaders. His analysis centers around whether sanctions have helped lead to regime change in the past, and he finds there is a statistically significant relationship between the imposition of sanctions and the probability a leader losing power.

Identification Strategy and Model

To test the effectiveness of sanctions, I use a survival analysis model, which has an identification strategy similar to a difference in difference model. The model compares wars in which sanctions were threatened or imposed with wars where sanctions were absent, holding other relevant variables constant. The model measures if wars that were "treated" tend to survive for less time than wars that were not.

As stated by Marinov (2005) logistic models can be used to perform survival analysis. If correctly specified, it is virtually equivalent to a more traditional survival model, such as the Cox

proportional hazards model. The model is a complementary log-log regression, which is appropriate when the probability of failure for the variable of interest is either very low or very high. My variable of interest is the ending of a war, which meets the complementary log-log criteria because the probability of wars ending is high. The formula for the model is:

(1) $$h_i(t) = 1 - \exp(-\exp[\ c(j) + \beta'X_i])$$

The hazard rate, *h,* is measured for each war *i* and year *j*. The baseline hazard function is *c(j)*. With this model, a hazard rate is estimated from the relevant coefficients. A hazard rate is a rate of failure for an individual, item, or firm following some sort of treatment. The interpretation of hazard model coefficients is relatively straightforward. Coefficients are average rates of hazard. In my case, I will be looking at the hazard rate of civil war duration, given the amount of time since sanctions were threatened or imposed. In my analysis, "failure" indicates that a war has ended. Essentially, I am comparing a conditional probability with a non-conditional probability. I am comparing the probability of war ending at a given time, conditional upon whether sanctions were put in place.

In models of survival analysis, a few key assumptions must be met for causal identification. First, censoring of the data must be non-informative (Cleves, Gutierrez, Gould, and Marchenko, 2010). Censoring occurs when information for failure is not available at the time of analysis. For instance, in clinical trials, this occurs when subjects are still alive and well at the time of analysis, or if they stop responding to surveys. In my case, there is censored data for civil wars that are ongoing as of the time of analysis. However, this censoring is non-informative. It is not an indicator of some aspect of current civil wars that make them unique from previous civil wars.

One issue is that sanctions are somewhat complex instruments. They vary in severity and are not put into place randomly. This creates endogeneity from missing variables that could explain why sanctions are put into place and might also lend themselves to explaining the duration of civil war. At the same time, sanctions are not put into place in a completely structured manner either. I address this by setting up my analysis in a way that attempts to account for major factors like GDP, population, and the relative trade relationship between the sanctioning countries and country being sanctioned. I compare wars in countries that have been sanctioned with similar wars in countries that have not been sanctioned. In particular, I control for large contextual features in the country in which a war is happening using GDP, population, and governing style with a score for democracy. In addition, I control for variables that describe the nature of the war being fought: third-party involvement, intensity, and duration. By using these controls, I am able to compare wars that have lasted the same amount of time under the same contexts, with the only difference being whether a sanction has been put in place.

I use robust clustered standard errors for my regressions, which are clustered by individual conflicts. This accounts for unobserved correlation in the error terms across time within a country. I also include dummies for individual years because the nature of civil war may have changed over time. For instance, sanctions may have been effective in the past but not in the present, or vice versa. Including year dummies controls for unobserved global characteristics that are common to all countries and wars in the years I control for: 1960-2005.

Data

The data is a panel consisting of countries during years in which a civil conflict was occurring within their borders from 1960 to 2005. There is a variable that indicates time since the civil war started, as well as a variable that indicates how long a war has lasted since sanctions were imposed. Data on warfare comes from the Uppsala Conflict Data Program (UCDP) at Uppsala University and the Centre for the Study of Civil War at the Peace Research Institute Oslo (PRIO), which collaborated to produce many datasets on armed conflict. For data on economic sanctions, I use the Threat and Imposition of Sanctions (TIES) database version 4. I include the same time dependent controls that were included by Lektzian and Regan (2016) in their analysis of imposed sanctions. They include GDP per capita, population, and a democracy score. They also add dummies for whether the sanction has the backing of an international superpower. Real GDP and population are found on the World Bank Development Indicators database. I use yearly democracy scores from the Polity IV database, which has a 21-point rating system ranging from autocracy (-10) to democracy (10).

The trade relationship between the sanctioning country and the country being sanctioned can help to determine how severe a sanction would be, under the assumption that countries that do not trade a lot with each other are unable to use economic sanctions, because they would be only symbolic in nature. I introduce a control that uses bilateral trade from the Correlates of War (CoW) database of bilateral trade. My measure of bilateral trade as well as my measure of total trade are created by adding imports and exports. Each sanction is weighted by how dependent the offending country is on the sanctioning country, in terms of international trade:

$$(2) \quad sanction \times \left(\frac{bilateral\ trade\ with\ sanctioning\ country}{total\ trade\ of\ country\ being\ sanctioned}\right) \times \left(\frac{total\ trade\ of\ country\ being\ sanctioned}{total\ GDP\ of\ country\ being\ sanctioned}\right)$$

Which, when simplified, becomes

(3) $$sanction \times \left(\frac{bilateral\ trade\ with\ sanctioning\ country}{total\ GDP\ of\ country\ being\ sanctioned} \right)$$

While not perfect, this measure provides some indication of whether a sanction should be considered threatening by the country being sanctioned. Admittedly, there are instances where this does not stand scrutiny. For instance, there may be a good that is very important to a country which can be taken away with sanctions. If this good is taken away, the sanction is applying pressure, but the country it comes from may not be a large trading partner. If this were the case, weighting of sanctions by bilateral trade would not catch this. For example, if the goal of a regime is to wage war, guns and ammunition are very important goods, whether they come from a large trading partner, or a small trading partner. Without weapons, the regime cannot pursue its goal. Therefore, weighing by bilateral trade is likely to be conservative because it may weigh important trading partners too low. If there is no bilateral trade between countries, a model of unweighted sanctions would over-weigh the sanction. In addition, I add an alternative weighting mechanism for sanctions, which weights sanctions by how large of a percentage of overall trade is accounted for by the partnership. This weight is described by the equation

(4) $$sanction \times \left(\frac{bilateral\ trade\ with\ sanctioning\ country}{total\ trade\ of\ country\ being\ sancitoned} \right)$$

With this alternative weighting method, bilateral trade is not turned into a percentage of GDP like in equation (3). In equation (3), sanctions are given an extremely small weight because trade with one country typically accounts for a very small percentage of GDP. Weighting sanctions by equation (4) provides an indication of how important the trading partner is without making the weight of sanctions so small that differences in weight among sanctions are nearly imperceptible. Weighting sanctions in this manner is a unique approach that has not been attempted in previous

literature. One concern is that including additional variables through weighting will systematically bias the sample based on available data. It is possible that countries with civil wars may be prone to not reporting trade data. Worse, it may be an aspect of the war that leads data to not be recorded, and wars with some circumstance might be eliminated from analysis, leading to bias. If it is the case that weighting eliminates a chunk of data that is systematically different from the whole, weighting sanctions is a flawed approach. When weighting with equation (3), the number of observations is 379. When weighting with equation (4) the number of observations is 307. Without weighting, the number of observations is 979. Using weights eliminates a large amount of observations. In the unweighted sample there are a total of 316 conflicts, 171 of which warranted sanctions, or threats of sanctions. 22 threats of sanctions did not lead to sanctions being imposed.

I provide descriptive statistics for my entire sample, followed by statistics conditional on whether the conflict was sanctioned or not. Because my results are a comparison of hazard ratios, I am interested in knowing if the treated sample is significantly different from the non-treated sample. As shown in Tables 2 and 3, there are differences that are counterintuitive. Indeed, I find conflicts that were sanctioned tend to be in countries that, on average, have a higher GDP, larger population, and higher democracy score than countries that were not sanctioned.

Descriptive Statistics

Table 1: Descriptive statistics for all observations used

Variable	mean	median	sd	count	min	max
War duration	3.71	2	4.9	316	1	32
GDP constant (billions)	100.07	19	182.89	979	.55	1000
Total population (millions)	98.4	24	232.62	979	0.384	1100
Polity score	-1.52	-3	6.2	979	-10	10
Third party	0.092	0	0.289	979	0	1
Sanction	0.372	0	0.289	979	0	1
Threat	0.46	0	0.499	979	0	1

Table 2: Descriptive statistics for conflicts where sanctioning or threats did not occur

Non-sanctioned countries	mean	median	sd	count	min	max
War duration	2.68	1	3.11	145	1	15
GDP constant (billions)	34.38	8.05	96.48	274	0.55	900
Total population (millions)	19.8	13	22	274	.38	150
Polity Score	-3.81	-6	4.82	274	-10	10
Third party	0.19	0	.40	274	0	1
Intensity	0.60	1	0.49	274	0	1

Table 3: Descriptive statistics for conflicts where sanctioning or threats occurred

Sanctioned countries	mean	median	sd	count	min	max
War duration	4.62	2	5.86	171	1	32
GDP constant (billions)	126.16	31	200.22	704	1.3	1000
Total population (millions)	129.00	29	267	704	2	110
Polity score	-0.58	0	6.46	704	-10	10
Third party	0.051	0	.22	704	0	1
Intensity	.708	1	0.45	704	0	1

Table 4: Tallies of various sanction types

Variable	amount>0	total number	percentage
Sanction	429	1182	0.363
Weighted sanction	305	388	0.786
Alt weighted sanction	262	333	0.787
Threat	498	1182	0.421
Weighted threat	317	388	0.817
Alt weighted threat	300	333	0.901
Total embargo	70	1182	0.059
Partial embargo	94	1182	0.08
Import restriction	153	1182	0.129
Export restriction	40	1182	0.034
Blockade	48	1182	0.041
Asset freeze	190	1182	0.161
Travel ban	86	1182	0.073
Foreign aid termination	92	1182	0.078

To establish a causal relationship, it is important that the treated and non-treated group be similar except for in the variable being tested. Because the treated and non-treated group are not the same, the underlying hazard rate may be different not from sanctions alone, but due to a variety of factors. To this end, my analysis going forward comes with a caveat: while I control for underlying variables, the hazard rate will likely not be proportional between the treated group and the non-treated group. Therefore, my study is not a causal study, but rather a descriptive study. Even so, my results show relevant information about the effectiveness of sanctions, comparisons between different types of sanctions and whether including threats leads to different estimates about sanction effectiveness.

Results
  1. Imposition of Sanctions

Table 5 presents the estimates of a few variations of equation (1), using both weighted sanctions and unweighted sanctions. The coefficients are reported as hazard ratios for interpretive ease. For example, a hazard ratio of .5 means that the treated group is experiencing an end of war

(failure) at one half the rate of the untreated group. A hazard ratio of 2 means that the treated group is experiencing wars ending at twice the rate of the untreated group. If a hazard ratio is above one and significant, wars in the treated group are more at risk of ending than wars in the non-treated group. Hazard ratios that are greater than one show the variable to be useful in shortening the duration of civil war.

At first glance of Table 5, little is statistically significant when sanctions are weighted by trade. Sanctions do not have a statistically significant effect on the duration of civil war, unless the sanction is not weighted by trade. This is in lockstep with previous literature. Most find that sanctions alone do not have the effect of leading to shorter civil wars (Regan, 2006, Allen and Lektzian, 2013, Lektzian and Regan, 2016). In the regression with sanctions weighted by GDP according to equation (3), the coefficient of third-party intervention is both significant and above one, indicating that weighted sanctions shorten civil conflicts. In previous literature, there is disagreement about the effect of third-party intervention on the duration of civil wars. Cunningham (2006) states that third party intervention makes wars last longer on average. But some researchers have taken a more nuanced approach, finding third parties aiding the status quo help to shorten conflicts, while third parties aiding the insurrection prolong conflicts (Sambanis and Elbadawi, 2000. Balch-Lindsay, Enterline, and Joyce, 2008).

When the sanction variable is not weighted, it yields a hazard ratio of 1.352, meaning that at any given point in time, a sanctioned war is 1.352 times more likely to end, and third-party involvement does not have a significant effect. Regressions (1) and (2) do not show the same estimates, showing a difference between how weighing sanctions can change results.

Importantly, Table 5 shows regressions (4) and (5), which are tests to see whether weighting based on equations (3) or (4) leads to a biased sample. I run regressions with unweighted

sanctions, using the same sample as regressions (2) and (3). Hypothetically, they should produce the same hazard rate for sanction.

Table 5: Regressions with imposed sanctions – weighted and unweighted

VARIABLES	(1) unweighted sanction	(2) weighted sanction	(3) alt weighted sanction	(4) weight testing	(5) alt weight testing
Left-hand side variable: War End					
Ln Duration	0.514***	0.606***	0.613***	0.612***	0.599***
	(0.0302)	(0.0542)	(0.0658)	(0.0556)	(0.0657)
Sanction	1.352**			1.172	1.058
	(0.180)			(0.313)	(0.325)
Weighted Sanction		3.381			
		(13.24)			
Alt Weighted Sanction			3.081		
			(2.255)		
Third Party	1.170	1.871*	3.772***	1.849*	3.460***
	(0.195)	(0.624)	(1.513)	(0.606)	(1.398)
Ln GDP (Billions)	1.013	1.018	0.986	1.022	1.019
	(0.0552)	(0.0989)	(0.113)	(0.0917)	(0.114)
Ln Population	0.927	1.029	1.083	1.018	1.054
	(0.0575)	(0.0969)	(0.100)	(0.0858)	(0.0942)
Polity Score	1.000	0.988	1.001	0.989	1.000
	(0.0114)	(0.0178)	(0.0275)	(0.0175)	(0.0266)
Constant	1.945	0.321	0.116	0.339	0.186
	(1.837)	(0.458)	(0.166)	(0.433)	(0.256)
Year dummies	Yes	Yes	Yes	Yes	Yes
Observations	979	379	307	379	307

Robust se in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The observations in regression (4) are the same observations as regression (2), and the observations in regression (5) are the same observations as regression (3). The coefficients on sanction from regressions (4) and (5) should be comparable to the coefficient on sanction from regression (1). As Table 5 shows, the coefficients on sanction from regressions (4) and (5) are different from the corresponding coefficient in regression (1). In regression (1), the coefficient is a statistically significant 1.352, where as in the regressions meant to test whether weighting can work without biasing the sample, the coefficient with weighting based on equation (3) is a non-significant 1.172, and the coefficient with weighting based on equation (4) is a non-significant 1.058. While these coefficients are still positive, they have higher standard errors, are closer to one, and are not statistically significant. The difference in the coefficients leads me to believe that weighting does not give an accurate estimation for sanctions. There are differences in my coefficients for sanctions dependent upon whether they are weighted. I suspect these differences are caused not only by the weighting scheme, but by a loss of observations that biases the sample. For this reason, I will forego weighting in further analyses. Leaving sanctions unweighted will produce the least biased coefficients.

Because the effect of third parties is above one and statistically significant with weighted sanctions and remains positive with unweighted sanctions (even if it is not statistically significant), it is worth placing some extra emphasis on this distinguishing characteristic. In previous literature, authors have focused on creating a distinction between conflicts that are purely internal, and those where an outside force aids one side or both. Is it possible that a difference in third party intervention could lead to sanctions becoming more or less effective? Lektzian and Regan (2016) found sanctions more effective when accompanied by third party intervention. In Table 6, I attempt to isolate this effect by running regressions with an interaction term for third-party involvement.

The coefficient on sanction in Table 5 and in regression (1) of Table 6 is very similar. In regression (1) of Table 6, the coefficient for sanctions is positive and significant. Because I include an interaction term for third party intervention and sanctions, the coefficient on sanction is interpreted as the hazard rate of sanctions, given that there is not third-party involvement in the conflict. My results show that the marginal effect third-party intervention has on the effectiveness of sanctions is positive, but not statistically significant. Sanctions are more effective when there is not a third party involved in the conflict. This makes sense, because sanctions work by taking away resources. Involvement of a third party would likely mean a country has support from an outside party that could help them withstand the effects of sanctions. While sanctions can be used to restrict access to the materials needed for warfare, third party involvement can help a country gain access to the materials needed for war.

Table 6: Conditional regressions – third party involvement and intensity of warfare

VARIABLES	(1) Third party involvement	(2) Intensity of warfare
LHS variable: War end		
Ln Duration	0.510*** (0.0387)	0.509*** (0.0385)
Sanction	1.323* (0.196)	1.383 (0.327)
Third party	1.090 (0.258)	1.124 (0.223)
Third party*Sanction	1.128 (0.456)	
Intensity	0.714** (0.105)	0.732* (0.136)
Intensity*Sanction		0.945 (0.260)
Ln GDP (billions)	1.059 (0.0668)	1.057 (0.0668)
Ln Population	0.886* (0.0579)	0.886* (0.0591)
Polity Score	0.974** (0.0121)	0.974** (0.0120)
Constant	1.363 (2.009)	1.326 (1.960)
Year dummies	Yes	Yes
Observations	947	947

Robust se in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 6 also contains regression (2), which is conditional upon intensity of warfare. The PRIO Database records an indicator of cumulative intensity of warfare. This is measured by a cumulative death toll. In any year, a conflict is given the score of 0 if the conflict has not reached 1000 battle related deaths. Once it does reach 1000 deaths, the intensity dummy variable is changed from 0 to 1 for the remainder of the conflict. While 1000 deaths seem like an arbitrary number in deciding whether or not a war is "intense," it is a good indication of small conflicts versus larger conflicts. The goal of this indication is to separate coups and revolutions from larger scale civil wars, and this benchmark does this. I run a regression to see if this distinction between intense wars and non-intense wars yields any new results.

It seems that war intensity does not make much of a difference in the efficacy of sanctions, at least in terms of coefficients that are statistically significant. It is still worth noting that in lower intensity wars, third party intervention makes war last for a shorter duration, on average. Regression (2) of Table 6 shows sanctions produce a marginal hazard ratio of less than 1 when wars are intense. Sanctions are effective in less intense wars.

Previous literature has found that sanctions are mostly a tool of political expedience. My results are in line with this hypothesis. Even when broken down by different variants of civil conflicts (third-party vs. no third-party, intense vs. non-intense), sanctions do not shorten the duration of civil conflict.

But sanctions come in many different forms. There are embargoes, general import restrictions, and even sanctions targeted at specific individuals. However, it is hard to isolate the effect of any individual sanction. In many instances of sanctions, there are multiple types of sanctions levied at the same time. It may be useful to classify sanctions into general categories, then test whether the inclusion of a type of sanction can lead to a shortening of civil conflict. For

instance, a total economic embargo is an extreme type of sanction. If a package of sanctions containing an embargo can influence the duration of civil war more than a package of sanctions not containing an embargo, then policy makers will know that embargoes can shorten the duration of civil war. I test all types of sanctions noted in my dataset. The results of the regressions that contain a particular type of sanction follow in Table 7. Statistically significant results are shown for both import restrictions, and asset freezes. And, both these results show the sanction shortening the duration of civil wars. In addition, for the remaining sanction types, results maybe statistically insignificant, but all the coefficients are above one. As a robustness check, I run all types of sanctions at the same time in regression (9), showing similar results from the previous eight regressions. Asset freezes are still statistically significant in regression (9), while import restrictions are not.

Table 7: Regressions by type of sanction

VARIABLES	(1) embargo	(2) partial embargo	(3) import restriction	(4) export restriction	(5) blockade	(6) asset freeze	(7) foreign aid terminated	(8) travel ban	(9) all
LHS variable: War end									
Total embargo	1.186								0.931
	(0.290)								(0.334)
Partial embargo		1.184							1.207
		(0.341)							(0.355)
Import restriction			1.408*						1.107
			(0.279)						(0.244)
Export restriction				1.519					1.315
				(0.460)					(0.432)
Blockade					1.253				1.332
					(0.303)				(0.443)
Asset freeze						1.569***			1.524**
						(0.224)			(0.254)
Foreign aid terminated							1.198		0.771
							(0.310)		(0.308)
Travel ban								1.204	0.891
								(0.297)	(0.244)
Ln Duration	0.508***	0.507***	0.521***	0.516***	0.508***	0.518***	0.507***	0.511***	0.525***
	(0.0383)	(0.0386)	(0.0404)	(0.0399)	(0.0382)	(0.0396)	(0.0385)	(0.0394)	(0.0433)
Ln GDP (billions)	1.083	1.073	1.069	1.075	1.083	1.083	1.087	1.076	1.058
	(0.0680)	(0.0671)	(0.0674)	(0.0683)	(0.0673)	(0.0666)	(0.0679)	(0.0688)	(0.0716)
Cumulative intensity	0.724**	0.732**	0.707**	0.708**	0.722**	0.703**	0.726**	0.718**	0.695**
	(0.107)	(0.108)	(0.104)	(0.104)	(0.106)	(0.104)	(0.106)	(0.107)	(0.105)
Third party	1.122	1.108	1.139	1.104	1.105	1.129	1.113	1.114	1.109
	(0.225)	(0.221)	(0.233)	(0.224)	(0.220)	(0.230)	(0.223)	(0.224)	(0.229)
Ln Population	0.887*	0.885*	0.879**	0.886*	0.888*	0.877**	0.884*	0.891*	0.876*
	(0.0562)	(0.0582)	(0.0557)	(0.0559)	(0.0564)	(0.0555)	(0.0559)	(0.0575)	(0.0593)
Polity Score	0.976**	0.974**	0.979	0.977*	0.975**	0.977*	0.976**	0.976**	0.976*
	(0.0121)	(0.0123)	(0.0125)	(0.0122)	(0.0122)	(0.0119)	(0.0122)	(0.0121)	(0.0131)
Constant	1.335	1.556	1.747	1.526	1.443	1.398	1.541	1.385	1.576
	(1.976)	(2.274)	(2.502)	(2.187)	(2.072)	(2.066)	(2.205)	(2.002)	(2.453)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	947	947	947	947	947	947	947	947	947

Robust se in parentheses
*** p<0.01, ** p<0.05, * p<0.1

2. *Threats of Sanctions*

Previous studies have all but ignored the role of threatening sanctions in the economic coercion process. Some researchers believe threats of sanctions may be more effective as bargaining tools than sanctions that are actually imposed. This hypothesis has not been given the econometric scrutiny it deserves. While Drezner (2003) argues that previous estimates of sanctions' efficacy could be conservative due to the absence of threats in record, new updates to the TIES database could help shed new light on this question. Previously, the TIES database only included the imposition of sanctions. In its newest iteration, this database includes observations in which sanctions were threatened in addition to observations where they were imposed.

Table 8 shows the results of regressions where threats were included. The sanction variable does not show a significant effect in decreasing the duration of civil wars and the third-party variable does show the involvement of a third party can shorten the duration of civil wars.

Sanctions do not show a statistically significant effect on the duration of civil war. However, there is a positive, economically significant, effect. In this case, threats can lead to civil war duration being shortened, with a hazard ratio of 1.257. This is interesting. In Table 5, the corresponding coefficient for sanctions that does not include threats has a statistically significant hazard ratio of 1.348, which is slightly larger than 1.257. This does not support the idea that not including sanctions leads to a more conservative estimate, but it does support the opposite idea. Either way, it is notable that including threats provides a different hazard ratio. My results show that including threats can alter analysis of sanctions.

Table 8: Regressions for threats of sanctions

VARIABLES	(1) Threat of sanctions	(2) Third party involvement	(3) Intensity of Warfare
LHS variable: War end			
Ln Duration	0.499***	0.500***	0.497***
	(0.0377)	(0.0377)	(0.0373)
Threat	1.257	1.242	1.071
	(0.195)	(0.203)	(0.260)
Third party	1.136	1.108	1.147
	(0.229)	(0.275)	(0.234)
Third party*Threat		1.119	
		(0.581)	
Intensity	0.731**	0.729**	0.654**
	(0.106)	(0.105)	(0.122)
Intensity*Threat			1.305
			(0.338)
Ln GDP (billions)	1.075	1.077	1.085
	(0.0679)	(0.0698)	(0.0677)
Ln Population	0.874**	0.873**	0.876**
	(0.0585)	(0.0591)	(0.0576)
Polity Score	0.973**	0.973**	0.972**
	(0.0121)	(0.0121)	(0.0121)
Constant	1.660	1.710	1.740
	(2.437)	(2.526)	(2.520)
Year dummies	Yes	Yes	Yes
Observations	947	947	947

Robust se in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Regression (1) of Table 8 presents a broad analysis, without diving into more specific situations in which sanctions are imposed. As I did previously in Table 6 ignoring threats, I isolate an effect for sanctions where the threat is included. I begin by looking at whether the involvement of a third party on either side makes sanctions more effective. This distinction does not yield new results. In fact, the coefficients for sanctions are very similar to Table 6, with all sanction coefficients greater than one. Table 8 shows these results. I cannot conclude that threats of sanctions are more or less effective when third parties are playing a role in a civil war.

What about the intensity of the war? In the same manner as Table 6, I test with regressions dependent on war intensity. An "intense" war is defined by more than 1000 battle deaths. Table 8 shows the results of these regressions.

In terms of statistical significance, breaking the data down by intensity does give sanction some explanatory power in this analysis. Leaders of countries engaged in intense wars respond to threats of sanctions more than their counterparts in non-intense wars do, with a hazard ratio of 1.397 for intense wars that have been threatened by sanctions, and a hazard ratio of 1.071 for non-intense wars. Interestingly, this is flipped from Table 6, where non-intense wars produced a higher coefficient for sanctions. But, even if there is not strict statistical significance for some of these coefficients on sanctions, the point estimates still have some economic significance. The coefficients on sanctions remain positive when sanctions are not weighted. In addition to that, they are close to statistical significance. There is at least some indication that sanctions can be used to shorten the duration of civil war.

Including threats in my regressions has not created any major differences with my regressions that did not include threats of sanctions. While some results have slightly different statistical significance or different hazard ratios, both have yielded the same variables as

significant and with the same sign determining whether they shorten or lengthen civil wars. When broken down by type of sanction, however, significant results from Table 7 where sanctions were imposed, and threats not included remain significant. Table 9 contains results of 9 separate regressions where the coefficients were specific types of sanctions and the control variables I have used throughout my analysis.

Table 9: Threat regressions by sanction type

VARIABLES	(1) embargo	(2) partial embargo	(3) import restriction	(4) export restriction	(5) blockade	(6) asset freeze	(7) foreign aid terminated	(8) travel ban	(9) all
LHS variable: War end									
Total embargo	1.262								0.921
	(0.439)								(0.411)
Partial embargo		1.234							1.212
		(0.355)							(0.360)
Import restriction			1.293						0.997
			(0.257)						(0.268)
Export restriction				1.240					0.960
				(0.371)					(0.379)
Blockade					1.147				1.090
					(0.600)				(0.815)
Asset freeze						1.672***			1.719**
						(0.271)			(0.365)
Foreign aid terminated							0.984		1.021
							(0.261)		(0.275)
Travel ban								1.150	0.960
								(0.293)	(0.326)
Ln Duration	0.478***	0.476***	0.482***	0.479***	0.478***	0.486***	0.477***	0.478***	0.483***
	(0.0334)	(0.0332)	(0.0338)	(0.0335)	(0.0333)	(0.0343)	(0.0332)	(0.0335)	(0.0358)
Ln GDP (billions)	1.095	1.083	1.088	1.092	1.096	1.098	1.096	1.089	1.090
	(0.0674)	(0.0666)	(0.0662)	(0.0671)	(0.0669)	(0.0663)	(0.0669)	(0.0685)	(0.0720)
Third party	1.078	1.064	1.075	1.063	1.069	1.101	1.067	1.066	1.101
	(0.210)	(0.205)	(0.211)	(0.207)	(0.208)	(0.221)	(0.209)	(0.208)	(0.216)
Ln Population	0.877**	0.871**	0.864**	0.874**	0.875**	0.858**	0.874**	0.878**	0.853**
	(0.0541)	(0.0572)	(0.0536)	(0.0537)	(0.0542)	(0.0531)	(0.0539)	(0.0551)	(0.0585)
Polity Score	0.982	0.980*	0.983	0.983	0.982	0.984	0.983	0.983	0.981
	(0.0114)	(0.0119)	(0.0115)	(0.0117)	(0.0115)	(0.0114)	(0.0118)	(0.0115)	(0.0123)
Constant	1.506	1.929	2.201	1.806	1.751	1.827	1.783	1.669	2.108
	(2.199)	(2.764)	(3.067)	(2.504)	(2.435)	(2.626)	(2.475)	(2.333)	(3.305)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	947	947	947	947	947	947	947	947	947

Robust se in parentheses
*** p<0.01, ** p<0.05, * p<0.1

For comparison, with threats accounted for, the hazard rate for wars where asset freezes in Table 9 is 1.672, while it is 1.569 when threats are not accounted for. Keeping standard errors in mind, these differences are not large enough to be considered significant. My analysis does not support the idea that accounting for threats creates a conservative estimate of effectiveness.

3. UN Condemned Conflicts

One issue with conducting survival analysis with sanctions is that sanctions are not given random assignment. Countries use sanctions to further their own agenda or the agenda of their allies. To further my case, I identified conflicts that the international community could generally agree were severe. In these conflicts, the UN general assembly passed resolutions that condemned the participants in the conflict and encouraged reconciliation. I ran regressions using only these conflicts, as well as regressions that used the conflicts that were not explicitly condemned. The difference in coefficient for sanction, whether threats are accounted for or not, provides useful information. As is shown in Table 10, in UN condemned conflicts, the hazard ratio is insignificant, and very slightly below one. In non-UN condemned conflicts, the hazard ratio is significant and much higher than one. The difference between being condemned by the UN and not maybe an indication of the stubbornness of leaders in the war-torn country or a different factor that makes them different from other wars that could also lead to a lower hazard ratio than other wars. Table 10 shows the full results:

Table 10: Regressions with wars separated by UN Condemnation

VARIABLES	(1) UN Condemned Conflicts	(2) Non-UN Condemned Conflicts	(3) UN Condemned Conflicts	(4) Non-UN Condemned Conflicts
LHS variable: War End				
Ln Duration	0.500***	0.595***	0.500***	0.563***
	(0.0962)	(0.0571)	(0.0943)	(0.0544)
Sanction	0.935	1.779***		
	(0.514)	(0.320)		
Threat			0.952	1.571**
			(0.384)	(0.282)
Third party	2.688	0.934	2.717	1.000
	(1.886)	(0.202)	(1.832)	(0.216)
Cumulative Intensity	0.428**	0.676**	0.427**	0.693**
	(0.169)	(0.123)	(0.156)	(0.121)
Ln GDP (billions)	1.432*	1.171**	1.413***	1.158**
	(0.273)	(0.0822)	(0.183)	(0.0805)
Ln Population	1.273	0.688***	1.289	0.698***
	(0.231)	(0.0540)	(0.226)	(0.0554)
Polity Score	0.929*	0.988	0.931*	0.990
	(0.0358)	(0.0145)	(0.0375)	(0.0146)
Constant	0.0170	172.9***	0.0146	137.0***
	(0.0485)	(272.1)	(0.0399)	(218.5)
Year dummies	Yes	Yes	Yes	Yes
Observations	202	663	202	663

Robust se in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Discussion

1. How to weigh a sanction

I report coefficients from my main regressions in several ways. Originally, I gave each of the sanctions weight based on the bilateral trade between the countries sanctioning and the country being sanctioned. There is a possibility that this causes estimates to be conservative.

Weights based on bilateral trade serve as an indicator of how much these countries trade with one and other. What they do not do, is give a precise and accurate estimate of the true economic cost of the sanctions imposed. The true number is difficult to estimate and not completely available in a database. A country may have a very important good that does not account for a large percentage of their trade but may well be deemed important enough that a sanction could be persuasive. The whole idea behind so-called 'smart' sanctions is that they hit leaders in an effective way, causing the ruling body to change course to avert being sanctioned. The ability to do this does not require a large portion of international trade between countries.

When weighed, most of the sanctions in my dataset are given a weight of less than .02. In other words, most trade relationships account for less than 2 percent of that country's GDP. But sanctions may be more powerful because of a range of other factors. For instance, maybe a sanctioning country has a nuclear weapon and is therefore more convincing for reasons that are not trade related. It might even be the case that the sanctioning country has staunch allies that tacitly threaten to follow suit or retaliate in their own way. While it is easier to model this question as a game between a couple of international players, reality is much more complex.

Not all sanctions are created equal. In my analysis, I provide the results from weighing sanctions, as well as the results from non-weighted sanctions. I found that weighing sanctions lead to systematic bias of the estimates. Further research in this area would do well to gather economic

costs of sanctions that are imposed. This is a tall and seemingly impossible order because it depends on how a leader perceives the threat of sanctions. If the threat of sanctions is a large threat to that leader, sanctions will likely work. Though it is hard to find a value to measure how important sanctions are to decision makers, I still have faith that there may be ways obtain an estimate of this value. Doing so will provide a fairer assessment of sanctions as a tool of foreign policy.

2. *Threats, given their due.*

The main contribution of this paper is the inclusion of threats in my analysis of sanctions. The question remains: are sanctions more potent if threats are included? Previous estimates generally show sanctions to be ineffective, at least generally. While there are some results to show that certain types of sanctions work in certain contexts, sanctions remain widely criticized. Judging by my estimates of sanctions, the critics are correct. Including threats does not have a demonstrable effect on the potency of sanctions. Sanctions are not particularly effective when the goal is to limit the duration of a civil war.

When broken down by the type of sanction, threats do not make a difference. There are some instances where the type of sanction had reasonable explanatory power. Import restrictions and asset freezes gave significant coefficients that supported the claim that they were effective in lowering the duration of civil war when included in the package of sanctions. When the same regressions were run including threats of sanctions, only asset freezes remained significant, and provided higher hazard rates for war. But, the difference between hazard ratios was insignificant. There were some instances in which estimates were not statistically significant when threats were accounted for but were statistically significant without threats included. Import restrictions were an example of this. Estimates differ when threats are included.

Further research should continue to look at the effect that sanctions can have with threats included. By studying only sanctions that were imposed, researchers risk missing an important piece of the puzzle. As a negotiation tool, sanctions are complex. Their incentive structure is not only concerned with actual dollars lost after a sanction is placed, but also the perceived risk of losing future dollars *if* a sanction is imposed.

3. *What is the best way to measure sanctions' effectiveness?*

The goal of this research is to determine if sanctions are effective. More specifically, to see if previous estimates of effectiveness were conservative because they ignored the threat stage of sanctioning. I measure the effectiveness of sanctions by seeing if they can be used to shorten the duration of civil wars. While sanctions are often put in place to stop civil conflict, they may be targeted toward other ends as well. The most notable example is nuclear proliferation. Countries sanction in response to nuclear threats from countries like Iran and North Korea, and it is hard to tell if sanctioning has stopped these countries from developing weapons. If sanctioning has been effective at deterring nuclear proliferation, sanctions could be considered very effective in that context.

It is my hope that results from sanctions efficacy in shortening civil wars can be applied more broadly to other problems. Certain types of sanctions seem to be more effective at combating civil war, such as asset freezes. If these types of sanctions can put the most pressure in this context, maybe this applies to other situations worth sanctioning as well. Maybe these are the types of sanctions that should be pursued when the goal is regime change or ending human rights abuses by leaders. Future research will hopefully answer these questions by testing the efficacy of different types of sanctions in many other contexts than civil war.

Conclusion

Economic sanctions are sure to remain a controversial tool of foreign policy. While they seem like an easy way for leaders to avoid more hands-on intervention, there has been debate about whether this characterization is accurate. My research adds more information to the debate over sanctions going forward. While I do not find results that transform the way sanctions are perceived, I do find some indication that the way sanctions have been studied in the past could be flawed.

The truth behind the effectiveness of sanctions is somewhere in the middle: some types of sanctions work in some contexts. The key is to find how well they work. Going forward, including threats will make this estimate more accurate. In doing so, researchers may be able to identify when sanctions can be used in the most advantageous way.

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Appendix 1: list of countries included in data set

Afghanistan	Cambodia	Thailand
Angola	Laos	Tajikistan
Argentina	Lebanon	Trinidad and Tobago
Azerbaijan	Liberia	Tunisia
Burundi	Sri Lanka	Turkey
Burkina Faso	Lesotho	Uganda
Bangladesh	Morocco	Uruguay
Bosnia and Herzegovina	Moldova	Uzbekistan
Bolivia	Madagascar	Venezuela
Central African Republic	Mexico	Yemen Arab Republic
Chile	Macedonia, FYR	South Yemen
Cameroon	Mali	South Africa
Democratic Republic of the Congo	Myanmar	Zimbabwe
Congo	Mozambique	
Comoros	Mauritania	
Cuba	Malaysia	
Djibouti	Niger	
Dominican Republic	Nigeria	
Algeria	Nicaragua	
Egypt	Nepal	
Eritrea	Oman	
Spain	Pakistan	
Ethiopia	Panama	
France	Peru	
Gabon	Philippines	
United Kingdom	Papua New Guinea	
Georgia	Paraguay	
Ghana	Rumania	
Guinea	Russia	
Gambia	Rwanda	
Guinea-Bissau	Saudi Arabia	
Guatemala	Sudan	
Croatia	Senegal	
Haiti	Sierra Leone	
Indonesia	El Salvador	
India	Somalia	
Iran	Yugoslavia	
Iraq	Suriname	
Israel	Syria	
Kenya	Chad	
	Togo	