THE ART OF SANCTIONS: A GAME THEORETIC APPROACH

TO SANCTIONS AGAINST THE POWERFUL

by

Matthew Brown

Submitted in partial fulfillment of the

requirements for Departmental Honors

in the Department of Political Science

Texas Christian University

Fort Worth, Texas

May 6th, 2019

THE ART OF SANCTIONS: A GAME THEORETIC APPROACH

TO SANCTIONS AGAINST THE POWERFUL

Project Approved:

Supervising Professor: Eric Cox, Ph.D.

Department of Political Science

James Scott, Ph.D.

Department of Political Science

Kiril Tochkov, Ph.D.

Department of Economics

ABSTRACT

While many have studied the effectiveness of sanctions, few have researched the purpose of sanctions against the powerful. In this study, I examine the imposition and effectiveness of sanctions against the permanent five members of the United Nations Security Council given their unique position to multilaterally impose sanctions on others without the fear of imposition of sanctions on themselves through the United Nations. In this study, I use an incomplete-information, sequential-move game theoretic model to produce concluding observations for further studying. My results indicate: sanctions are largely ineffective in producing the desired result due to reputation costs associated with the target country, coercing blocs can rationally impose sanctions with little confidence of producing success, and prolonged multilateral sanctions will be questioned for their effectiveness due to the high cost of the sanctioning effort. My analysis points to the rational imposition of sanctions despite a probable intolerant actor.

Introduction

Sanctions are the intermediate step between reasonable peace and physical conflict. Within the international community, many countries invoke sanctions in an attempt to persuade a country to act in a different way. Most recently, sanctions have been well-covered in the media due to sanctions imposed by the United Nations (UN) Security Council (SC) on North Korea. Furthermore, in recent years, there has been an influx of sanctions against Russia due to their invasion of Crimea in 2014 and their meddling in the United States 2016 presidential election.[1] Despite much use of international sanctions imposed by the UN and other governing bodies, there has been much debate on the effectiveness of sanctions in achieving the desired result.[2] Still, policymakers often impose sanctions to achieve their desired results.

Under UN sanctions, all 193-member states of the UN must comply, meaning UN sanctions are massive multilateral sanctions. For the permanent five members of the UN Security Council (P5)—Russia, the United States, the United Kingdom, China, and France—only sanctions outside of the UN will be brought against them because these countries have veto power. This means each P5 member would veto any sanctions brought to them within the UN framework. In the modern era, only sanctions outside of the UN are imposed against these five countries and have less countries participating in them than UN sanctions.

Within this study, I employ a game theoretic model to determine under what conditions are sanctions likely to be imposed on P5 Security Council Members, and when are they successful. In doing so, I conduct a comparative case study to generate concluding observations for further testing.

---

[1] Dewan 2017.
[2] See Pape 1997.

Since the creation of the UN following World War II, sanctions have become a primary tool in international diplomacy, but the question remains how can sanctions against the powerful be effective. Are the sanctions the US and various EU countries imposing on Russia actually successful in bringing about change, or would sanctions brought against the US for interfering in conflicts worldwide be worth the costs? In the globalized world full of cyber-threats, military threats, and political threats, the successful imposition of sanctions on some of the most powerful countries in the world is an important consideration.

Previous Literature

In this section, I first describe the previous literature on general sanction efficacy before examining previous literature for what conditions improve the likelihood of sanction effectiveness. After reviewing the literature, I develop an analytical framework determining the factors that prove most significant to P5 Members of the UNSC. Sanction effectiveness has been hotly debated since the rising use of sanctions following the Cold War. Between 1945 and 1990, there were only two cases of economic sanctions imposed by the UN; however, in the 1990s, the UN Security Council has imposed economic sanctions a multitude of times.[3] At the center of the rising use has been the question of efficacy.

While there has been vast research on both sides of the debate, the majority of scholars believe that sanctions are ineffective in bringing about the desired result. Hufbauer et al., the first to use a large-N data set, found that sanctions succeeded in bringing about the desired change 34 percent of the time.[4] Pape re-examined this claim using the same data set; however, the criteria for success was vastly limited. These three criteria confirm success: First, the target state conceded largely to the sender's demands. Second, economic sanctions were threatened and

---

[3] Cortright and Lopez 2000.
[4] Hufbauer, Elliott, and Schott 1990.

applied prior to the change in behaviors, and third, no better explanation exists for the change in behavior.[5] By this definition of success, sanctions actually only achieved the desired result less than five percent of the time.[6]

This body of literature left little purpose for sanctions; however, policymakers still regularly employed sanctions, thus, switching the debate from the efficacy of sanctions generally to under what conditions are sanctions more successful. In other words, what circumstances increase the likelihood of success? Three ideas have developed in improving sanction efficacy: the magnitude of sanctions, the regime type and allies, and the level of international cooperation in deploying the sanctions. The first idea is fairly simple. Sanctions are more likely to succeed when the costs to the target are greater than the benefit of continuing the sanctioned behavior.[7] Larger costs incentivize the targeted country to change its policies because of widespread economic hurt. Thus, when the costs are high enough, the expected policy shift is more likely to happen.

However, as the literature has expanded, this seems to be less significant than originally thought. Other factors, such as the target country's regime type and allies, developed significance. First, sanctions are more likely to succeed against democratic countries.[8] Because of the electoral nature of democracies, politicians have larger winning coalitions. Robust sanctions that harm this larger coalition of voters more heavily incentivizes rulers to change policies or be voted out of office. For nondemocratic regimes, a smaller winning coalition incentivizes rulers to protect the interests of the small ruling group. While the common citizen may suffer, it is less likely that the ruler will lose power. While some literature has discounted

---

[5] Pape 1997.
[6] *Ibid*.
[7] Drury 1998; Drezner 1998b.
[8] Lektzian and Souva 2007.

the impact of democracies, new studies find this premise mostly true.[9] Furthermore, sanctions imposed on allies rather than adversaries are more likely to succeed.[10] The logic is that allies are more likely to respond favorably to one another because of the reluctance in imposing sanctions and the reduced threat of future conflict. One of the most prominent examples of sanctions against allies was the various sanctions imposed on U.S. allies against the acquisition of nuclear weapons.[11] Overall, the literature puts forth the general idea that comprehensive sanctions are more likely to be successful in democracies and against allies.

The third feature in improving sanction efficacy is the idea of unilateral versus multilateral sanctions. In theory, it seems that multilateral sanctions would be more effective because of the widespread harm against the target country. However, Doxey, using a bivariate analysis, concludes that involving many nations ruins chances for success because the difficulties in cooperation on a sanctioning effort.[12] Contrasting with this conclusion, Drury finds supporting evidence that multilateral sanctions improve effectiveness when involving an international organization, such as the UN or NATO.[13] By utilizing an international organization, coordination and cooperation between states is greatly improved.[14] Using different forms of analysis and covering a multitude of sanctions, newer studies support using multilateral sanctions over unilateral (through international organizations).[15] Overall, these three premises increase the likelihood of sanction success.

---

[9] Drezner 1998b; Lektzian 2007.
[10] Drezner 1998b.
[11] *Ibid.*
[12] Doxey 1971, 1980, 1987.
[13] Drury 1998.
[14] *Ibid.*
[15] Hufbauer, Schott, and Elliott 2008; Bapat and Morgan 2009.

One important distinction is the type of sanctions being employed. Over the past few decades, there has been a rise in advocacy for targeted sanctions (or smart sanctions).[16] These sanctions target elites breaking international norms to prevent harming the common citizen. Smart sanctions, in theory harm the elite enough to bring forth concessions that normal sanctions do not. Success for this type of sanctions is largely two-part. First, do smart sanctions ameliorate humanitarian costs better than comprehensive sanctions, and second, do smart sanctions increase effectiveness relative to comprehensive sanctions?[17] The first question is relatively agreed upon: targeted sanctions reduce suffering of local populations more than comprehensive sanctions.[18] However, the second question is much more clouded. Previous literature finds that comprehensive sanctions are much more effective in producing success than targeted sanctions, when imposed against democracies.[19] Other conclusions for targeted sanctions are relatively mixed on their success.[20] Still, harming the perpetrators of violations rather than harm to the entire nation as a whole is a significant consideration when looking at the effectiveness of smart sanctions. While success may not be achieved, some sort of harm and shaming is produced.

Previous literature, employing a game theoretic approach, was initially focused on games with complete information.[21] With complete information, the equilibrium outcome leaves little room for the imposition of sanctions. However, as sanctions are still regularly enforced, Lacy and Nieu created a theory in which players may different preferences for the outcome of the dispute, and the players lack certainty for the other side's preferences.[22] The literature also explored two-phases of sanction effectiveness—the threat stage and the enforcement stage—and

---

[16] Weiss 1999; Cortright and Lopez 2002a,b; Wallensteen and Staibano 2006
[17] Drezner 2011.
[18] Wood 2008.
[19] Bolks and Al-Sowayel 2000; Brooks 2002; Lektzian 2007.
[20] Drezner 2011.
[21] Tsebelis 1990; Eaton and Engers 1992; Drezner 1998a.
[22] Lacy and Nieu 2004.

found that sanctions are more effective during the threat stage at producing concessions from the target country.[23] While the two stages are an important consideration, they are not directly included in my game; however, different preferences and uncertainty tie directly into the game and payoffs.

While the aforementioned research provided much context into the efficacy of sanction, most studies employ either large-N datasets or are examples of large, dominating states (such as the US) imposing sanctions on others. Little literature has looked specifically at sanctions imposed on the P5 Members of the Security Council, who are some of the most powerful countries in their world. Their unique position to multilaterally impose UN sanctions on others without the fear of imposition on themselves is a critical position. In the political realm, these five countries can act with limited fear of UN backlash because of their veto power. The narrow focus finds a niche in the literature that has not been specifically researched. This study furthers recent findings by contextualizing the imposition and effectiveness of sanctions on the powerful in a way that has not been studied.

Analytical Framework

The aforementioned literature displays the complexity of sanctions, but there are some characteristics that simplify sanctions. These characteristics are the type of the sanctions, the regime of the targeted government, the international support, and the desired results of imposition. The previous literature suggests these four factors are relevant to sanctions. Examining these factors in the context of sanctioning episodes against P5 UNSC countries should lead to initial hypotheses for further testing.

---

[23] Eaton and Engers 1992; Drezner 2003; Lacy and Nieu 2004; Krustev 2010.

The type of sanctions—whether targeted or comprehensive—within each case brings forth different overall effects for the local population. As the aforementioned literature suggests, comprehensive sanctions lead to more humanitarian harm than targeted sanctions, but targeted sanctions have limited evidence for success. Throughout this study, targeted sanctions are sanctions targeting individuals or businesses (or both) for their behavior, while comprehensive sanctions target the aggregate economic output. In the cases that follow, one case employs comprehensive sanctions, while the other predominantly employs targeted sanctions. The literature also emphasizes the importance of regime type in the targeted country. As mentioned earlier, democracies are more likely to succumb to sanctions than authoritarian regimes due to their reliance on voters. For my study, the level of democracy is a vital background factor in each case.

Another crucial factor, as determined by the literature, is the international support of the sanctions. International support examines both the sanctioning institution and the sanctioning countries involved in the effort. Unilateral sanctions are single countries imposing sanctions on a different country, while multilateral involve a host of countries. For the purposes of this study, each case implores multilateral sanctions; however, there are differences in utilization of an international organization. The international organizations in each case are extremely different in country makeup and political agenda. Overall, previous literature promotes higher success for sanctioning efforts imposed through a multilateral body than those that are not because of increased international cooperation between targeting countries.

Finally, the desired outcome of the sanctions is the last crucial factor. The desired outcome of the sanctioning is a measure for success. The literature does not put forth a single view of success but multiple views. On one side, the mere implementation of sanctions provides

an outlook for success. On the other, success is determined by the sanctioning efforts causing the specific change in the targeted regime. Despite the multiple definitions of success, the literature puts forth a united front on the importance of some sort of success. Previous studies determine the likely importance of these four factors in determining sanction success against the powerful. By examining these four factors through a comparative case study approach, I hope to create initial hypotheses for further testing approach.

Research Design

Cases Study Selection

In order to generate meaningful hypotheses on sanctions against P5 members of the Security Council, I employ a comparative case study design focusing on two cases: the 1973 oil embargo imposed by Organization of the Petroleum Exporting Countries (OPEC) against the United States and the various sanctions brought by the United States, the EU, and other countries against Russia for its invasion of Crimea in 2014. I utilize the method of agreement in this comparative case study meaning that while the factors—the governing bodies of the targets and targeting bodies, the type of sanctions, and the time frame—are relatively different, the outcome in both cases is similar.

The sanctions against the United States in 1973 are a good example for case study due to the democratic makeup of the US and the multilateral imposition by OPEC countries. The United States represents the exemplar for a typical democracy on the UNSC, and their indifference (in terms of policy change) to the sanctions provides a baseline for how other democracies on the SC would most likely act in the face of sanctions. In addition, member countries of OPEC (Iran, Iraq, Saudi Arabia, and others) represent developing powers putting forth a mutual front against a major power through collective coercion. This multilateral-sanction

approach contrasts greatly from a multilateral approach from the UN or the EU because of the mostly Middle-Eastern actors. These reasons coupled with the older time frame contrast greatly from the Russian example but still produce similar outcomes to the Crimea sanctions. For these reasons, the OPEC sanctions against the United States are a good example.

The Crimea example represents a very different sanctioning effort. The first major distinction is that Russia represents an authoritarian-type government compared to the United States. In 2018, Russia scored an aggregate score of 20 out of 100 on the Freedom House Democracy Index, while the US scored an 86.[24] This contrast in regime type allows each member of the SC representation through this study. Furthermore, this sanctioning effort is multilateral as is the oil embargo; however, the countries involved in the Crimea sanctioning effort represent a very different socioeconomic and culture makeup than those involved in the oil crisis. Those sanctioning Russia include large, developed superpowers. One other distinction is the type of sanctioning effort. Sanctions against Russian represent a multi-faceted approach having both targeted and comprehensive sanctions.[25] The Russia example is a prime case selection because of these reasons. By utilizing both the United States and the Russian examples, my study covers a wide array of factors with similar outcomes.

Evidence

This study requires creating a gauge for sanction effectiveness. In the literature, there are many differing views of successful sanctions from sanctions must bring about the desired change to the idea that just enforcing sanctions implies success. In between these two ideas are other definitions for success. Within my study, I apply the most comprehensive definition to both cases to determine the success of each sanctioning effort. I use the Hufbauer, Schott, and Elliott (HSE)

---

[24] Freedom House 2018.
[25] Christie 2015.

Index. The HSE Index, includes a 16-point scale and has two main focuses. The first focuses on the extent that the policy change is achieved, and the second is the contribution made by the sanctions. The two are scaled from 1-4, with four either being successful or significant, and one either being failed or no contribution. [26] The two numbers are then multiplied together to get a 16-point scale with 9 being labeled successful. This scale allows for tiers of success.

I conduct each case study with the intention of using a wide variety of factors to either consider or deny success on the scales. I first consider the context for each of these cases within the international framework, with special focus on the reasons behind the implementation and the reasons for the differing international community's response. For the United States sanctions, I briefly describe the Middle East situation, and for the Russian sanctions, the specific actions that led to sanction imposition. This better contextualizes some of the factors surrounding the sanctioning effort.
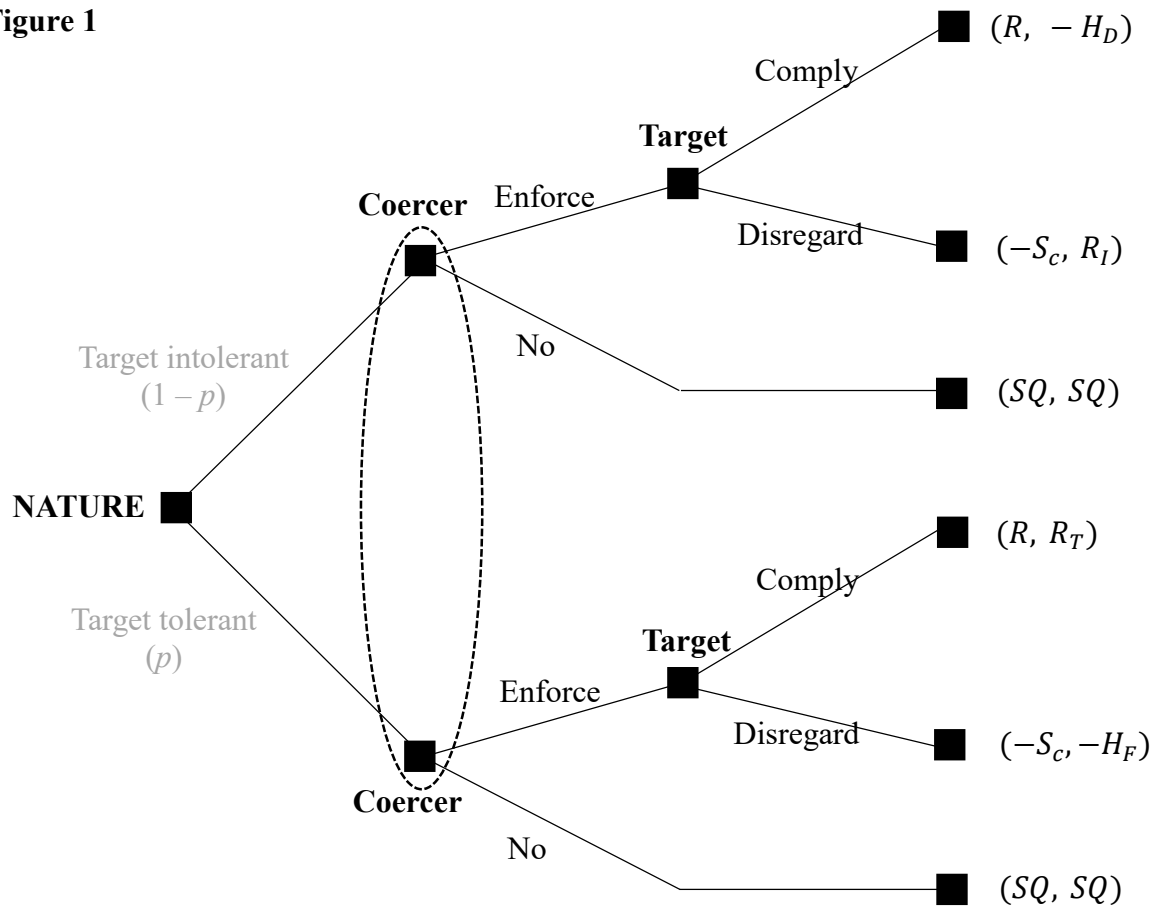
Game Theory

For the game theoretic model, I employ an incomplete-information, sequential-move game. In this game, the concern for the coercer is that the coercing country is unable to determine whether the target will behave agreeably and succumb to the sanctions or behave in intolerably and ignore the sanctioning effort. If the coercer decides to employ sanctions, then the target makes the next move to either comply with the sanctions and change their behavior or disregard the sanctioning effort. The game, with payoffs, is better formalized in Figure 1.

Nature first determines whether the target is tolerant or intolerant. The primary difference between a tolerant and intolerant country is that the tolerant country has incentive to cooperate

---

[26] Hufbauer and Elliott 1988.

with the sanctions, while the intolerant country has a reward for disregarding the sanctioning

effort. R_I represents the reward for the intolerant country for continuing the targeted action, and

R_T represents the reward for submitting to the sanctions. Additionally, R_I is a function of the

reward minus some cost for lost economic ties to the targeting country—but still is net positive.

Figure 1

In variable terms, $f(R_I) = R - S_C$. For, R_T, the function is the reward for compliance to the

target country minus the reputation cost. In this scenario, the reputation cost could either be

positive or negative based on the specific situation. For the intolerant actor, the reputation harm

for compliance is primarily domestic for the government succumbing to the sanctioning effort,

represented by H_D. For the tolerant actor, the reputation harm is primarily from foreign actors

since the target disregards the sanctioning effort, as seen by H_F. For the coercer, R represents the

reward for compliance, and $-S_c$ represents the cost to the coercer for continuing the sanctions.

The cost for the coercer includes the lost economic activity between the two countries, the

strained diplomatic relationship between the two, and other costs associated with sanctions.

Finally, SQ represents the unique status quo of each sanctioning effort.

For the coercer, the desired payoff order is $R > SQ > -S_c$, meaning for a rational coercer

the reward for compliance is greater than the status quo; the cost for prolonged sanctions is the

worst outcome. The coercer's ultimate goal is to enforce enough economic hurt to force the

target country to concede the problematic action. However, for many coercers a secondary goal

is to show disdain at the target country's action without direct confrontation. With this secondary

goal, the SQ may actually fall below the negative cost for continuing sanctions. As in the Russia-

Crimea example, the invasion of a country violated international law and was significantly

worrisome for the European bloc and the United States. In this case, the SQ was the worst

outcome for the coercing countries. At the same time, as sanctions continue without a change in

policy from the target, the cost to the coercing bloc gradually increases from lost economic ties

to the coercing country. For more powerful economies such as P5 members, the lost economic

activity can cause significant harm to the coercing countries. As the sanctions continue, the new

status quo may again move above the cost to continuing sanctions. At this point in the game, the

coercing country may decide to change course. Overall, the coercer implements and continues

sanctions without the knowledge if the target country will comply or disregard them.

For the intolerant target, the payoff preference is $SQ > R_I > -H_D$, meaning the status

quo with no sanctions is more preferred than sanctions without a change in policy. For the

intolerant actor, the negative domestic reputation is the least preferred outcome. Since the target

moves after the coercer's decision to enforce sanctions and has complete knowledge (of themselves as tolerant or intolerant), the intolerant target can rule out compliance and decide to disregard the sanctioning effort. However, the policy preference for the tolerant target values compliance more than the intolerant target. For the tolerant player, the preference order is $SQ > R_T > -H_F$, where R_T is the reward for submitting the sanctioning effort. The reward for compliance is a function of saved economic gain (because of the lack of sanctions) and the good reputation with foreign actors.

In this game theoretic model, I make a few assumptions to simplify the complexity and narrow the focus. First, I assume sanctions against more powerful countries have a relatively more harmful effect on the global economy than sanctions against less powerful countries, thus making the decision to enforce sanctions against a powerful country relatively riskier. Secondly, I ignore the threat stage of sanctions. Often, before a country imposes sanctions on another country, they will first threaten the use of sanctions in order to dissuade the target country from continuing the targeted action. My assumption provides the coercer with a binary choice and simplifies the game without have a third option for the coercer.

The outcomes are as follows from top to bottom:

O1: the coercer enforces sanctions on an intolerant target, but the sanctions are strong enough to force the target to comply.

O2: the coercer enforces sanctions on an intolerant target, but the sanctions fail to persuade the target to comply.

O3: the coercer does not enforce sanctions on an intolerant target, and the target continues the disputed action.

O4: the coercer enforces sanctions on a tolerant target and force concession by the target.

O5: the coercer enforces sanctions on a tolerant target but fails to dissuade the target to

the coercer's demands.

O6: the coercer does not enforce sanctions on a tolerant target, and the target continues

the disputed action

In the aforementioned outcomes, O1 and O5 will never occur due to the target's preference

order. However, the intolerant and tolerant player will still prefer the SQ to the imposition of

sanctions. We can begin to find the rollback equilibrium by deriving the expected probability

threshold for the coercer to impose sanctions. For imposition to occur, the reward must outweigh

the current status quo; however, as the game stands, the reward is uncertain due to the

asymmetric information available to the coercing countries. Therefore, for the coercer to enforce

sanctions, the probability of each option (O2 and O4) must be multiplied by the probability of

each outcome to achieve the expected utility for the coercers. Then, if the this is greater than the

status quo, sanctions will be enforced. This is defined as follows: $-S_c(1 - p) + R(p) > SQ$.

Through manipulation, we get that the threshold probability is as follows:

$$p^* = \frac{SQ + S_C}{S_C + R}$$

Through this equation, we see a negative status quo coupled with a great return from the

enforcement of sanctions (R) can lead to a low p^*(*ceteris paribus*). This means a coercing bloc

needs little certainty that a target will act tolerantly to enforce sanctions. With a lower threshold

probability, an enforcing country can impose sanctions with even the slightest probability of

achieving compliance. In the cases that follow, the two enforcing blocs—despite the high cost

for sanctioning effort—found the present status quo quite alarming. Due to the high cost of the

status quo and the chance of achieving a great reward, the Western bloc and OPEC both decided

to impose sanctions to deter their targets from further involvement.

Case Studies

The 1973 Oil Embargo

The 1973 oil embargo started due to US involvement in the October War (Yom Kippur War) between Egypt and Syria against Israel. On October 6th, 1973, Egypt and Syria launched a joint surprise attack against Israel in two keys areas: the Golan Heights in northeast Israel and the Sinai Peninsula in southwest Israel. During the Six-Day War in 1967, Israel had claimed both of these regions from Egypt and Syria. This attack was an attempt to regain lost territory during the Six-Day War. In this case, I will first describe the situations in the Middle East and the US before describing the actual war. Next, I apply this case to the game in Figure 1.

In 1967, a few months after the Six-Day War, the UNSC unanimously adopted Resolution 242 that affirmed the "withdrawal of Israel armed forces from territories occupied in the [1967 war]."[27] The United States and the rest of the western P5 members voted in favor of this resolution highlighting their support of the return of these territories to the Arab nations. However, Israel had not succumbed to Resolution 242 and occupied the Golan Heights (acquired from Syria), the Sinai Peninsula (acquired from Egypt), and the West Bank (acquired from Jordan) from the Six-Day War onward. After the Jordanian crisis in 1970 to the beginning of the October War, the Middle East was relatively calm.[28] Behind closed doors, however, Egyptian President Anwar Sadat and Syrian President Hafiz al-Asad devised a plan to regain the lost territories.

On the United States side, there was much political and economic turmoil. At the end of 1970, the United States was coming out of a mild recession that officially ended in November 1970 but saw the continuance of unemployment around 6 percent well into the beginning of

---

[27] Resolution 242.
[28] Quandt 2005, pg. 103.

1972.[29] Furthermore, in August 1971, Nixon suspended the gold standard eventually leading to the end of a fixed exchange rate system.[30] Politically, the United States seemed weaker. On October 10th—just days after the beginning of the October War—Vice President Spiro Agnew resigned after pleading no contest for a felony charge for failing to report his correct income while Governor of Maryland.[31] However, Agnew's corruption charge was not the only political crisis; President Richard Nixon was also under scrutiny regarding the Watergate scandal. From before the sanctions in October 1973 to the end of sanctions in March 1974, President Nixon continually faced a growing crisis at home with the scandal. In November 1973, *Time* published their first-ever editorial titled, "The President Should Resign," where *Time* removed its initial endorsement of President Nixon for president.[32] Various other Republican leaders expressed the same sentiment set forth in the *Time* editorial and began to question Nixon's actions.[33] By January 1974, 25 percent of Republican voters and 40 percent of independents voters believed the country would benefit from a Nixon resignation, further showing the faltering support of the American people for the president.[34] The economic turmoil coupled with the Nixon administration's political scandals made for an uneasy situation within the United States.

Prior to the beginning of the October War, it was generally believed that the Arabs would not lead an intended military offensive in an attempt to regain the lost territories; rather, the United States and others believed an unintended war caused by defensive moves between the Arab countries and Israel was more probable.[35] This belief stemmed from the military superiority of Israel relative to the Arabs. In the Six-Day War, the Arab countries lost in embarrassing

---

[29] Business Cycle Expansions and Contractions; Unemployment Rate 1967-1976.
[30] Gavin 2003, pg. 185.
[31] Editors of Encyclopedia Britannica 2018.
[32] Olson and Holland 2016, pg. 123.
[33] *Ibid*, pg. 124-125.
[34] *Ibid*, pg. 129.
[35] Quandt 2005, pg. 105.

fashion to the Israelis, and on top of that, the United States heavily supplied Israel with military credits giving upward of $1.1 billion in credits between the fiscal years of 1971 to 1973.[36] Militarily, the Israelis seemed the dominant force in the region, and any planned military offensive by the Arabs seemed unlikely. However, despite this notion, Egypt and Syria were able to conduct a largely successful and deceptive attack on Israel on October 6th, 1973. Within a few days of the initial attack, however, Israel soon recovered and began to push beyond the status quo ante lines.[37] During Israel's offensive, Secretary of State and National Security Advisor, Henry Kissinger, spearheaded an attempt to establish a ceasefire between the three countries. Over the course of next few days, the ceasefire was largely ignored, and the United States and the Soviet Union began to resupply arms to Israel and Egypt, respectively.[38] Although the US initially stalled a full-scale resupply of arms, President Nixon—seeing no ceasefire agreement in view—ordered a complete airlift of military equipment to Israel on October 13th.[39] In response, on October 17th, the Arab oil ministers announced a 5 percent production cut each month until Israel withdrew from all Arab territories. After Nixon requested $2.2 billion for aid for Israel on October 19th, Saudi Arabian King Faisal called for a 10 percent cut and an embargo of oil to the US and the Netherlands.[40] This marked the beginning of the full-scale sanctioning effort against the United States for their involvement in the Middle East.

While war only continued until October 25 with the passing of a successful ceasefire line, the sanctions continued until March 1974.[41] During this time, the price of oil skyrocketed and pushed the global economy into recession. Within the United States, people were

---

[36] *Ibid,* pg. 104.
[37] *Ibid,* pg. 111-113.
[38] *Ibid,* pg. 112.
[39] *Ibid,* pg. 114.
[40] *Ibid,* pg. 117-118.
[41] *Ibid,* pg. 131.

overwhelmingly supportive of Israel, and the oil embargo did not help increase sentiments for the Arab countries.[42] For this reason, Nixon and Kissinger made sure that American policy did not seem as succumbing to oil pressure.[43] Throughout the entirety of the embargo, the United States was strongly involved in diplomatically brokering a deal between the Arab states, the Soviet Union, and Israel with Kissinger as the primary intermediary between the parties. Kissinger began with Israel and Egypt and produced an agreement, Kilometer 101, that called for disengagement between the two parties in mid-January 1974.[44] Following this agreement, Kissinger turned to ending the oil embargo and finding a Syrian-Israeli agreement.[45] Finally, after much shuttling between Syria and Israel, the sanctions were officially ended on March 18th, 1974 with no true agreement between Israel and Syria.[46] Overall, the sanctions were a failure in producing the desired change. The Arab states wished to see Israel withdrawal to the prior 1967 lines (or even further), and this could not have been further from the result. Israel still occupied each territory from beginning of the sanctions until the end 5-months later.

Now, I apply this case to the aforementioned game. In this case, the target was the United States, and the coercer was OPEC led primarily by Saudi Arabian King Faisal. OPEC was faced with determining if the actual probability that US would behave tolerantly to the sanctioning effort (p_{actual}) was higher than the p^*. If OPEC determined that p_{actual} was greater than p^*, then it would be rational for OPEC to enforce sanctions. In order to determine p^* and p_{actual}, I determine the factors involved in the threshold probability equation mentioned above.

---

[42] *Ibid,* pg. 134.
[43] *Ibid.*
[44] *Ibid,* pg. 143.
[45] *Ibid,* pg. 144.
[46] *Ibid,* pg. 147.

In this case, the cost of sanctions continuing (S_c) for OPEC was relatively low. The US was in an uneasy situation both politically—with the rising Watergate Scandal—and economically—with the end of a recent recession. Taken together, these demonstrate that the US was in a relatively unstable position. Concurrently, it would be naïve to assume that OPEC would create relatively little self-harm from their production cut; however, with the US instability and seemingly short conflict period, the embargo was not to be prolonged over many years. Overall, the uneasy US position pushed the cost of sanctions continuing down. At the same time, the current status quo for the Arab countries in the war was extremely small or even negative. The embarrassing defeat in the Six-Day War left Arab countries with less land, and even more than that, by this point in the October War, the Israelis had rebounded from the surprise attack and pushed beyond the Six-Day War borders. On October 16th, just one day prior to the enforcement of the embargo, Israel had crossed the Suez Canal and began to instill chaos on the Egyptian front.[47] With the Israel rebound and push beyond previous borders, the current SQ for the Arab countries was extremely alarming. Lastly, the reward for compliance from forcing the United States to succumb was extremely beneficial for the Arab league. If the Arab's achieved a reward in getting the US to succumb to the sanctioning effort, then OPEC would have succeeded in having a western super-power succumb to them, and second, it would have forced the US to stop supplying arms to Israel.

By placing these factors— S_c, SQ, and R—into the equation, we see that the numerator of the fraction becomes relatively small compared to the denominator, and therefore, drives down p^*. In turn, this means OPEC had to have little confidence for tolerance from the US to rationally enforce sanctions. As we saw, the US acted intolerantly, and the sanctions only lasted

---

[47] *Ibid,* pg. 116.

a matter of months, but they achieved great harm against the US economy. While not explicitly involved in the game, I hypothesize that a large factor in the US' intolerance was the reputation costs associated with succumbing to the sanctioning effort. R_T for large powerful countries is a function of the reward plus some reputation benefit for non-compliance. In this case, we see domestically, the United States was very favorable toward Israel and not the Arab states. For this reason, it would be unfavorable for Nixon to give a perception of partnering with an unfavorable target because of the costs associated with losing his winning coalition. Overall, the support for Israel plus the positive reputation was of more importance to the US than succumbing to the sanctions.

Russia Invasion of Crimea

The United States and the European Union officially enforced sanctions against Russia for their involvement in Ukraine in March 2014. In this case, I first summarize the Euromaidan Protests that led to the Ukrainian Euromaidan Revolution before describing Russia's continuing involvement in Ukraine. After, I apply this case to the aforementioned game in two aspects: the initial imposition of the sanctions and second, the shifting costs associated with continuing the sanctions.

The Russia involvement in Ukraine began with a crisis in Ukraine involving the president's decision to align more with Russia than with the EU. In November 2013, Ukrainian President Viktor Yanukovych turned away from his former promises to support the EU Association Agreement, causing a small group of students to protest.[48] After about a week of protesting, the students were surrounded by the police force and brutally beaten in the public square.[49] Shortly after, the protests erupted with thousands coming to the streets to protest not

---

[48] Baer 2015.
[49] *Ibid.*

only the police brutality and Yanukovych's decision, but also to protest for the end of

government corruption on a much wider scale.[50] On January 16th, the government passed

legislation to ban civil rights to subside the protests; however, this legislation failed leading

Yanukovych to flee Ukraine on February 21st, 2014.[51] With the fleeing president, it seemed that

the Ukrainians could now start a new democratic chapter with the people at the head.

However, shortly after the fleeing of the president, Russian President Vladimir Putin

decided to become militarily involved in Eastern Ukraine. Russia successfully deployed

unidentifiable soldiers into Crimea with the mission to seize control of the region.[52] Just a few

weeks later in March, Russia held a referendum in Crimea regarding the annexation into Russia.

According to Russian figures, 97 percent of voters voted in favor of annexation.[53] However,

according to the Freedom House Report for Crimea in 2015, Russian authorities used

intimidation tactics to largely influence the referendum in favor of annexation and unfairly

swayed the elections.[54] Furthermore, Freedom House found confounding evidence that suggested

such a favorable outcome in favor of the annexation to Russia.[55] In response to the referendum

on March 16, the EU joined the US in deploying the first round of sanctions against Russia for

their involvement in Crimea on March 17th, 2014.[56] Prior to the referendum, some in the EU

were initially hesitant to enforcing sanctions. German Prime Minister, Angela Merkel, in early

March, called for a diplomatic solution toward the Russian intervention prior to enforcing

sanctions, and there was news reported that the United Kingdom may have been turning away

---

[50] *Ibid.*
[51] *Ibid.*
[52] *Ibid.*
[53] Crimea 2015.
[54] *Ibid*
[55] *Ibid.*
[56] Council Decision 2014/145/CFSP.

from the sanctions.[57] Despite the original pushback, the Western came forward in unison against the Russian annexation of Crimea. Furthermore, following the Western Bloc's first sanctioning effort, Russia responded with counter-sanctions that included travel bans for targeted individuals and banned the import of agricultural products for those involved in sanctioning Russia.[58]

Different from the OPEC case, the target, Russia, continued to take more aggressive actions after the initial attack. Later in 2014, fighting broke out between pro-Russian fighters and the Ukrainian government in another portion of Ukraine leading to the beginning of the war in Donbas.[59] Throughout this conflict, Russia has consistently aided the rebels in supplying weapons, funding, and other forms of support to the rebels.[60] In response to the support, the United States and the EU have enforced new sanctions that still remain in place to this day.[61] However, as the sanctions have continued, many EU countries have started to question the efficacy of these sanctions. Italy and Hungary, as well as others, have pushed for an end to the sanctioning effort citing their concerns for lost revenue and an undue burden upon European markets.[62]

Now, I apply this case to the game. The primary coercing agents in this game are the United States and the European Union, and the target is Russia.[63] To begin, let us focus in on the status quo immediately following the invasion of Russia into Crimea. Shortly after the initial invasion, the status quo for the coercing agents was extremely negative: An Eastern superpower had just led a military conquest into Ukraine who was working toward admission into the EU. At

---

[57] Lynch 2014.
[58] Welt, Archick, Nelson, and Rennack 2019.
[59] Vasilyeva 2018.
[60] *Ibid.*
[61] Russia Fact Sheet 2018; EU Sanctions Map: Russia 2018.
[62] Emmott and Baczynska 2016.
[63] Although others, such as Australia, have enforced sanctions against Russia, for simplification sake, I limit my game to these coercing countries.

the same time, there was large uncertainty regarding Russia pursuing more advances like Crimea or taking further portions of Ukraine. Overall, the extremely small status quo—especially after the full annexation of Crimea—left the West without the possibility of a peaceful solution. Initially, the European Union was slow to enforce sanctions on Russia because of the relatively high cost of sanctions continuing (S_c) due to the close ties between Russian energy and trade. In 2014, fifty-four percent of the EU's energy needs were met by Russia.[64] Initially, this may be one of the significant reasons for the EU wanting to find a diplomatic solution before enforcing sanctions. A near-zero SQ and high S_c seems to make the outcome of p^* ambiguous by having uncertainty on the numerator and a relatively large number in the denominator; however, after the suspicious referendum in Crimea, the EU found the SQ so difficult that this significantly outweighed the cost of the sanctioning effort. This drove down p^* and allowed for the rational choice of sanction enforcement even with little indication that Russia would behave tolerantly. With the next round of sanctions for Russia's involvement in the War in Donbas, the game again drove p^* down and allowed for further sanctions against Russian entities.

In this case, the game is not just static, but it is a dynamic game. By applying it to the model, we can correctly predict what we have seen regarding some countries within the EU bloc becoming displeased with the sanctioning effort. As the sanctions have continued, the cost of lost economic ties has continually increased as EU continues to lose critical imports from Russia. Concurrently, the SQ has become less and less unfavorable. Russia is not crafting further military advances within Ukraine or other former Soviet Union countries, driving up the value of the SQ. The rising SQ coupled with the rising S_c has driven p^* higher and made sanctions a less favorable option compared to the SQ. Now, the sanctioning countries have to be more certain

---

[64] Gedmin 2014, pg. 11.

that Russia will act tolerantly with little proof that they will behave in this way. For some

countries, the p^* has pushed beyond p_{actual}, and they have begun to call for an end to the

sanctions. Overall, the sanctions have failed in producing the desired change in Russian policy,

but they did signal the West's displeasure toward Russian actions and did produce harm against

the Russian economy. The model was able to predict the rational enforcement of sanctions

despite a low probability of tolerance and correctly identify the increased pressure to end

sanctions with a higher p^*.

Conclusion

Success

As mentioned previously, I use the two-factor HSE Index to give a measuring tier of

success. I multiply the harm achieved against the target by the policy change achieved from the

sanctions, both measured on a four-point scale. Within the OPEC case, I evaluate the harm factor

as 4 since the sanctioning effort drove the US and the global economy into a major recession,

while simultaneously increasing the price of oil. However, the sanctions caused no true change in

American policy, and for that reason, I evaluate this as 1. Multiplied together, we see that this

sanctioning effort was a relative failure on the HSE Index. For the Russia case, the Western

sanctions brought about no change in policy from Russia and therefore, the value of the change

factor is 1. While the OPEC case involved comprehensive sanctions against the United States,

the Russia case involved mostly targeted sanctions against Russian energy companies and

individuals. After the beginning of the sanctions in 2014, the price of oil consistently fell making

it difficult to separate loses from the decline in the price of oil from the loses due to sanctions.[65]

Despite the ambiguity, it is evident that Russia lost imports in some capacity due to the

---

[65]   See Gros and Mustilli 2015 and Dreger et al. 2016.

sanctions. Furthermore, the Russian counter-sanctions on agricultural products led to further losses of critical agricultural exports to the West. Overall, Russia lost significant exports to the Western Bloc in both the oil and agriculture industries, but the global impact was much less than in the OPEC case. For these reasons, I value the harm factor at 3. In both cases, the sanctions failed to achieve policy change from the target, but they both produce some form of harm against the target. By the HSE Index, both of the sanctioning efforts are classified as failures.

Concluding Observations

By applying the aforementioned game to each case, I developed three concluding observations for further testing. The first is:

Sanctions against P5 Members will most likely be ineffective in producing the desired result because the reputation costs associated with compliance for the target.

In the OPEC case, we saw that the US complying to the sanctioning effort would be sufficiently damaging for the Nixon administration and that the administration sought to distance themselves from being perceived as having close ties with OPEC countries. In the Russia case, President Putin soared to near record approval rating after the annexation of Crimea reflecting similar incentive to opposing the sanctioning effort as in the US-OPEC case.[66] For the P5, acting intolerantly is often of more value than barring the reputation costs associated with succumbing to the sanctions. The second observation is:

If the status quo is so disturbing that other countries cannot stand idle, the imposition of sanctions can be done even if there is a very low probability for the target to behave tolerantly.

---

[66] Ray and Esipova 2014.

In both cases, we saw that the threshold probability (p^*) fell so low, the coercer need not much sign for the target to behave tolerantly for them to rationally enforce sanctions. As seen in the Crimea case, the SQ was extremely alarming as Russia violated international law and attacked a European country. The sanctioning countries were not convinced that Russia would behave tolerantly, but even the slight chance outweighed the current SQ. We would expect to see further sanction enforcement and failure when a very negative status quo (as perceived by the coercer) exists. The third concluding observation is:

> Since sanctions against more powerful countries will cause relatively more harm to the coercer, prolonged sanctions will eventually be questioned for their effectiveness.

In the Russia case, this observation is extremely evident as many countries within the EU, such as Italy, Hungary, and others, have started to question the sanctions for their effectiveness. As sanctions continue, the SQ may increase along with the cost of the sanctions. With this, we expect to see countries began to remove sanctions as p^* rises overtime. Looking forward, I hope to further test the theory set forth in this paper to develop a more comprehensive study. These five countries—Russia, China, US, the UK, and France— hold the keys to peace in the world and have a significant say in the imposition of sanctions. With rising tensions between the US and Russia for their involvement in the 2016 election and the rising use of cyberthreats between superpowers, sanctions are becoming an even more prominent tool for diplomacy.

References

Baer, Daniel B. (2015, Feb 24). Don't forget the Russia Sanctions are Russia's Fault. *Foreign Policy.* Retrieved from https://foreignpolicy.com/2017/02/24/dont-forget-the-russia-sanctions-are-russias-fault/.

Baldwin, D. and Pape, R. (1998). Evaluating Economic Sanctions. *International Security, 23*(2), 189-198. doi:10.2307/2539384

Bapat, N. A. and Clifton, Morgan T. (2009). Multilateral Versus Unilateral Sanctions Reconsidered: A Test Using New Data. *International Studies Quarterly*, 53: 1075-1094.

Bolks, S. and Al-Sowayel, D. (2000). How Long Do Economic Sanctions Last? *Political Research Quarterly* 53 (June): 241-26.

Brooks, R (2002). Sanctions and Regime Type: What Works, and When? *Security Studies* 11 (4): 1-50.

Business Cycle Expansions and Contractions. (2019) *National Bureau of Economic Research: Public Information Office*. Retrieved from https://web.archive.org/web/20081029112539/http:/www.nber.org/cycles/.

Christie, E.H. (2015). Sanctions after Crimea: Have They Worked? *NATO Review*, NATO, www.nato.int/docu/review/2015/Russia/sanctions-after-crimea-have-they-worked/EN/index.htm.

Cortright, D. and Lopez, G. (2000). *The Sanctions Decade.* Boulder, CO: Lynne Reiner.

Cortright, D. and Lopzez G., eds. (2002a). *Smart Sanctions*. New York: Rowman and Littlefield.

Cortright, D. and Lopez, G. (2002b). *Sanctions and the Search for Security*. Boulder, CO: Lynne Reiner.

Council Decision 2014/145/CFSP (2014). *Office Journal of the European Union,* (78/16) Retrieved from https://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2014:078:0016:0021:EN:PDF

Crimea (2015). *Freedom House,* Retrieved from https://freedomhouse.org/report/freedom-world/2015/crimea

Dewan, A. (2017). "Russia Sanctions: What You Need to Know." *CNN.com*, CNN. www.cnn.com/2017/07/25/europe/russia-sanctions-explainer/index.html.

Doxey, M.P. (1971). *Economic Sanctions and International Enforcement.* London: Oxford University Press.

Doxey, M.P. (1980). *Economic Sanctions and International Enforcement.* London: Oxford University Press.

Doxey, M.P. (1987). *International Sanctions in Contemporary Perspective.* London: Macmillan.

Dreger C., Kholodilin, K.A., Ulbricht, D., and Fidrmuc, J. (2016). Between the Hammer and the Anvil: The Impact of Economic Sanctions and Oil Prices on Russia's Ruble. *Journal of Comparative Economics* 44(2): 295-308.

Drezner, D.W. (1998a). Conflict Expectations and the Paradox of Economic Coercion. *International Studies Quarterly* 42(4): 709–31.

Drezner, D.W. (1998b). Serious About Sanctions. *The National Interest* (53): 66-74.

Drezner, Daniel W. (2003) The Hidden Hand of Economic Coercion. *International Organization* 57 (3): 643-659

Drezner, D.W. (2011). Sanctions Sometimes Smart: Targeted Sanctions in Theory and Practice. *International Studies Review, 13*(1), 96-108.

Drury, A.C. (1998). Revisiting Economic Sanctions Reconsidered. *Journal of Peace Research* 35 (4): 497-509.

Eaton, J. and Engers, M. (1992). Sanctions. *Journal of Political Economy* 100 (5): 899- 928.

Editors of Encyclopedia Britannica (2018). Spiro Agnew. *Encyclopedia Britannica, Inc.* Retrieved from https://www.britannica.com/biography/Spiro-Agnew.

Emmott, R. and Baczynska, G. (2016). Italy, Hungary Say No Automatic Renewal of Russia Sanctions. *Reuters News.* Retrieved from https://uk.reuters.com/article/uk-ukraine-crisis-eu-idUKKCN0WG1B4.

EU Sanctions Map: Russia (2018). European Union. Retrieved from https://www.sanctionsmap.eu/#/main/details/26/?search=%7B%22value%22:%22Russia%22,%22searchType%22:%7B%22id%22:1,%22title%22:%22regimes,%20persons,%20entities%22%7D%7D&checked=26.

Freedom in the World 2018 (2018). *Freedom House.* freedomhouse.org/report/freedom-world/freedom-world-2018.

Gavin, F. J. (2003). *Gold, dollars, and power: The Politics of International Monetary Relations, 1958-1971.* Chapel Hill: University of North Carolina Press. Retrieved from https://books.google.com/books?id=8SpcleB5AXwC&lpg=PR11&ots=L8sh-mo39c&dq=nixon%20end%20gold%20standard%201971&lr&pg=PR11#v=onepage&q&f=false.

Gedmin, J. (2014). Beyond Crimea: What Vladimir Putin Really Wants. *World Affairs, 177*(2), 8-16. Retrieved from http://library.tcu.edu.ezproxy.tcu.edu/PURL/EZproxy_link.asp?http://search.proquest.com.ezproxy.tcu.edu/docview/1778402516?accountid=7090.

Gros, D. Mustilli, F. (2015). The Economic Impact of Sanctions against Russia: Much Ado about Very Little. *Centre for European Policy Studies, CEPS Papers 11036*. Retrieved from https://www.ceps.eu/system/files/DGandFM_RussianSanctions.pdf.

Hufbauer, G. and Elliott, K. (1988). Financial Sanctions and Foreign Policy: Qualified Success. *Harvard International Review, 10*(5), 8-11. Retrieved from http://www.jstor.org/stable/42760987

Hufbauer, G., Schott, J., and Elliott, K. (1990). *Economic Sanctions Reconsidered*, 2nd edn. Washington: Institute for International Economics.

Hufbauer, G., Schott, J., and Elliott, K. (2008). *Economic Sanctions Reconsidered,* 3rd edn. Peterson Institute for Internattional Economics, 2008.

Krustev, V. (2010). Strategic Demands, Credible Threats, and Economic Coercion Outcomes. *International Studies Quarterly,54*(1), 147-174. Retrieved from http://www.jstor.org/stable/40664241

Lacy, D., and Niou, E. (2004). A Theory of Economic Sanctions and Issue Linkage: The Roles of Preferences, Information, and Threats. *The Journal of Politics, 66*(1), 25-42. doi:10.1046/j.1468-2508.2004.00140.x

Lektzian, D., and Souva, M. (2007). An Institutional Theory of Sanctions Onset and Success. *The Journal of Conflict Resolution, 51*(6), 848-871.

Lynch, C. (2014, Mar 2014). US Increasingly Isolate on Russia Sanctions. *Foreign Policy.* Retrieved from https://foreignpolicy.com/2014/03/04/u-s-increasingly-isolated-on-russia-sanctions/.

Olson, K. W., and Holland, M. (2016). From the Saturday Night Massacre to the Tape Transcripts; November 1973 to May 1974. Watergate (pp. 123-147) University Press of Kansas. Retrieved from http://www.jstor.org/stable/j.ctt1ggjm1r.12

Pape, R. (1997). Why Economic Sanctions Do Not Work. *International Security, 22*(2), 90-136. doi:10.2307/2539368

Quandt, W. B. (2005). *Peace Process: American Diplomacy and the Arab-Israeli Conflict Since 1967* (3rd ed.). Washington, D.C.: Brookings Institution Press; Berkeley: University of California Press.

Ray, J and Esipova, N. (2014, Jul 18). Russian Approval of Putin Soars to Highest Level in Years. *Gallup News.* Retrieved from https://www.gallup.com/services/177797/country-data-setdetails.aspx?utm_source=link_newsv9&utm_campaign=item_173597&utm_medium=copy.

Resolution 242 (1967). United Nations Security Council. Retrieved from https://peacemaker.un.org/sites/peacemaker.un.org/files/SCRes242%281967%29.pdf.

Russia Fact Sheet (2018). U.S. Department of State: Bureau of Economic and Business Affairs. Retrieved from https://www.state.gov/e/eb/rls/fs/2018/288152.htm.

Tsebelis, G. (1990). Are Sanctions Effective? A Game-Theoretic Analysis. *The Journal of Conflict Resolution, 34*(1), 3-28. Retrieved from http://www.jstor.org/stable/174132

Unemployment Rate 1967-1976. US Bureau of Labor Statistics. Retrieved from https://beta.bls.gov/dataViewer/view.

Vasilyeva, Natalyia (2016, Nov 26). Russia's Conflict with Ukraine: An Explainer. *Military Times.* Retrieved from https://www.militarytimes.com/news/your-military/2018/11/26/russias-conflict-with-ukraine-an-explainer/.

Wallensteen, P. and Staibano, C. eds. (2005). *International Sanctions: Between War and Words in the International System*. London: Roudedge.

Wood, R. (2008). A Hand upon the Throat of the Nation: Economic Sanctions and State Repression, 1976-2001. *International Studies Quarterly* 52: 489-513.

Welt, C., Archick, K., Nelson, R., and Rennack, D. (2019). U.S. Sanctions on Russia. *Congressional Research Service.* Retrieved from https://fas.org/sgp/crs/row/R45415.pdf.

Weiss, T. (1999). Sanctions as a Foreign Policy Tool. *Journal of Peace Research* 36 (5): 499-509.