Examining the Effect of Western Sanctions on Russian Public Opinion

by

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1.1 Introduction

Sanctions are an essential means through which countries attempt to influence the foreign and domestic policies of other states, often forming the backbone of the international community's response to the violation of its norms.

Sanctions are coercive actions taken by a state or group of states, known as the sender, to alter the policies and behavior of another state, the target. At the elementary level, sanctions work by imposing costs on a targeted entity in order to pressure them into altering their policies to those preferred by the sender, so that the sanctions will be lifted. However, as I will discuss in my Background section, the intended effects of sanctions and the means through which they attempt to achieve their ends are varied and complex.

Sanctions are often a favored response to the undesirable policies of other states as they present a middle option between simple public condemnation and the use of military force. Accordingly, countries use them extensively. For instance, at the end of March 2023 the United States was sanctioning 18 distinct countries and countless individuals for violations ranging from human rights abuses to military aggression. The frequency with which new sanctions have been imposed has increased dramatically over the last twenty years (Koeze 2022).

Sanctions formed an integral part of the West's response to Russia's annexation of Ukraine's Crimean peninsula in 2014 and its continuing support of a separatist movement in Ukraine's East. Since 2014, the United States and the European Union have placed sanctions against individuals and corporations associated with the planning and conduct of Russian actions and against those benefiting from Russia's territorial gains (Council of Europe 2022; U.S. Department of State 2017).

Russian escalation of its conflict with Ukraine in the form of expanding support for separatists fighting the Ukrainian government in the Donbas region, deploying its own troops to Ukraine when the separatists began to lose ground, shooting down a civilian airliner, and continually failing to comply with ceasefires it agreed to, were all met by the United States and European Union with the imposition of further, harsher sanctions.

As a result of these sanctions, and a global fall in oil prices, a resource of which Russia is a great exporter, Russia's economy shrank substantially, the value of its currency plummeted, and Russia fell into a recession in 2015. The costs imposed by sanctions may have played some role in convincing Russia to later negotiate with Ukraine and sign the Minsk Agreements meant to end the conflict in the Donbas. However, in spite of the impact of the sanctions imposed on Russia, they did not dissuade Russia from launching a full-scale invasion of Ukraine in February of 2022.

The apparent successes, and later failures, of the sanctions regime imposed on Russia ties to a lively academic debate over the effectiveness of sanctions that has persisted among political scientists for decades. A series of high-profile macro-analyses of sanctions over time and the achievement of their intended effects have concluded that sanctions are effective at a rate that ranges from 5 to 34% depending on the methodologies and interpretations of policy changes in targeted states chosen by the individual scholar(s) (Pape 1997, 1998; Huffbauer, Schott, and Elliot 1990). Regardless of the authors' claims of the efficacy of sanctions, the proposals by proponents and skeptics of sanctions share a common intervening mechanism that explains the success or failure of sanctions: that is, the impact they have on the public's support for the sanctioned government. The existing thinking imagines two ways that sanctions may induce a targeted government to change its policies: One is through inducing a public call for policy

change while the other is through motivating powerful elites to advocate for change. A further discussion of these mechanisms is taken up in the Background section.

The traditional conceptualization of sanctions embraced by their proponents suggests that as a population experiences the costs of sanctions, they pressure their governments to make policy changes for relief. In contrast, sanctions skeptics posit that sanctions actually incite a pro-government rally that hardens the resolve of the population to endure the cost of sanctions, insulating leaders from their costs.

Yet, despite the theorized importance of the targeted population's reaction to sanctions in determining the ability of a sanction to effect policy change, little empirical work has been done to test if, and under what conditions, sanctions stand as a salient issue in targeted populations, as required by both theories.

Since they constitute a major implement in the foreign policy toolbox, it is vital that the sanctions imposed by a state are able to effectively meet their desired ends. Giving policymakers accurate insights into how sanctions will impact the domestic politics of a target state is essential to crafting sanctions that reach their objectives. In the hopes of doing so, this thesis will attempt to shed light on one possible determinant of sanction success by answering the following question:

"Is, and when is, the imposition of sanctions a salient issue in determining a targeted population's support for their government?".

I argue that the impact of sanctions on a targeted population's support for their government is a function of three factors—the degree and target of the material costs induced by sanctions, the symbolic cost of the sanctions, and the extent of the public's prior exposure to the imposition of sanctions. I define these more precisely in the next section.

In order to test my theory and answer my larger research question, I analyze the effect of the sanctions imposed on Russia by the United States and the European Union from 2014 until 2019. As the target of dozens of sanctions of varying nature and targets over the span of these four years, Russia is an ideal case study to test the effect of different types of sanctions and the cumulative effect of serial application of multiple sanctions in a sustained sanctions campaign. In addition, the relatively high openness and freedom of speech, for an autocracy, enjoyed by Russians between 2014 and 2019 facilitates the collection of their sentiments towards their government.

To granularly quantify the linkage of sanctions to the Russian government, I will be examining the volume of Tweets made by Russian Twitter users mentioning Russia and Russian President Putin caused by the imposition of sanctions, in addition to the sentiments of these Tweets. I will be comparing my findings with polling data collected by the Levada Center on the Russian people's approval of the Russian government and President Putin.

1.2 Background: Types of Sanctions Discussed in the Paper

In this paper, I will analyze the effect of three distinct types of sanctions: comprehensive, targeted, and diplomatic, all of which have been levied against Russia. Below lies a description of each:

Comprehensive Sanctions

Comprehensive sanctions are meant to maximize the economic harm experienced by a targeted population in order to pressure a targeted state into making policy concessions towards the sending state(s). These sanctions are predicated on the theory that increasing public material

losses will lead to a large mobilization of the public against the sanctioned policy and force the government to acquiesce to the demands of the sender to end the sanctions (Galtung 1976). .

Alternatively, comprehensive sanctions may instead create a countervailing tendency in the public—a resentment against the sanctioning state and rallying behind the government—due to the perception that these sanctions are a direct attack on the targeted country (Pape 1997).

Senders have been reluctant to impose comprehensive sanctions because historical applications of these sanctions generally appear to be unsuccessful in achieving their aims and entail massive humanitarian costs for the targeted populations. For instance, the comprehensive sanctions placed on Iraq in the 1990s, intended to end the dictator Saddam Hussein's rule (Global Policy Forum), impoverished the country, halved its GDP, and killed at least one hundred thousand Iraqi children (Drezner 2011). Yet, despite the immense costs placed on Iraq, Saddam remained in power until the invasion of Iraq in 2003.

In recognition of both the humanitarian disasters that comprehensive sanctions entail and their seeming ineffectiveness, policymakers have largely turned toward targeted sanctions as the dominant means by which to coerce policy changes in targeted countries.

Targeted Sanctions

Unlike comprehensive sanctions, targeted sanctions are intended to harm the powerful elites of the sanctioned state. This approach assumes that these elites will attempt to reverse the economic punishment by using their high levels of influence to advocate for policy changes (Drezner 2011). This will achieve the sender's goals while sparing the mass civilian suffering characteristic of comprehensive sanctions. In this approach, any role for the public reaction is secondary, but may have a counterproductive effect for the sending country: If the public sees the

targeted sanctions as an attack on the nation, they may rally around the government, insulating it from the pressure for policy change from the elites bearing the cost of sanctions. Targeted sanctions have become the dominant means through which states attempt to induce policy change in targeted states.

Diplomatic Sanctions

Diplomatic sanctions are sanctions designed to harm the targeted country's ability to engage in international affairs and can include such measures as removing a targeted country from an international organization, ending dialogues between countries on issues, and expelling diplomats from a host country. Diplomatic sanctions have a less substantial effect on the material well-being of the public at large and/or elites but may provoke a widespread symbolic response of resentment over an attack on the nation's status (Snegovaya et al. 2023). While these sanctions are rarely of financial significance, they can damage a country's international aspirations. This may support a moderate response in public opinion and a rally around the government and its policy.

2 Literature Review: Prior Study of the Effect of Sanctions on a Targeted Population's Support of Their Government

Having explained the types of sanctions and their intended effects, I will now discuss the prior study of my research question. While far from extensive, and often varying in the regions studied, this topic has been broached by several groups of scholars. Below lies a summary of their findings and the limitations of their studies that I look to overcome with my research

design. Prior research finds mixed and occasionally conflicting evidence concerning whether and when sanctions are salient to the people's approval of their government.

Existing Literature on the Impact of Sanctions Placed on Russia

Of most relevance to this project, prior studies of the effect of the sanctions imposed on Russia in response to its actions in Ukraine using surveys of the Russian people found that the broader Russian population did not change its opinion of President Putin in response to sanctions, but that his well-known surge in popularity immediately following the annexation of Crimea was because of the overwhelming support of his actions in Ukraine (Frye 2019; Alexseev and Hale 2020). When observing the response of the population of Russia most affected by the sanctions, however, the existing literature finds conflicting results. Frye (2019) claims that Russians who are financially affected by sanctions withdraw support from President Putin. Alekseev and Hale (2020) claim that those most impacted by sanctions increase their support of President Putin. Despite their diverging findings concerning the direction of changes in support for Russia's leadership, these studies reach two common conclusions: Sanctions do produce a reaction in the public, but sanctions become a salient factor in determining support for a targeted government only when their personal material interests are being harmed, but not otherwise.

There are two empirical weaknesses in these earlier studies: They attempt to show a causal link between sanctions and public opinion that are separated by a substantial stretch of time and they do not distinguish between different types of sanctions.

Concerning the first, while these studies lend important insight into the way sanctions appear to affect the public opinion of different subsets of the population by noting the response of Russians by varying income levels, they fail to provide the temporal precision to match. Both

studies were conducted based on two polling dates, neither chosen because of their proximity to sanctions. This is potentially problematic: if the effect of sanctions on the public quickly subsides, this methodology may fail to capture the true effect of sanctions on the public. In addition, conducting polling after the imposition of many sanctions obscures how the public's response to sanctions changes as additional sanctions are imposed.

Concerning the second, by conducting polling well after the fact, neither of these studies is able to discriminate between the effects of different types of sanctions, treating them instead as a monolith, leaving important policy questions about the effects of different sanction types unanswered.

Existing Literature on the Impact of Sanctions on Other States

Studies of the impact of sanctions imposed on other states have found somewhat different results from the studies centered on Russia.

In studies of the effect of sanctions on public support for the governments of South Korea and Israel, Sung and Park (2022) and Grossman et al. (2018) found that sanctions increased the support of the sanctioned government across the larger population as opposed to exclusively those harmed by sanctions. The broad effect of these sanctions on public opinion, regardless of their limited financial impact on the individual, suggests that the symbolic significance of the sanctions contributed to their salience to the public's perception of the government.

Alternatively, evidence supporting the conclusion that it is immediate financial harm that increases public reaction and that sanctions lead to a rallying around the government was found in Ukrainians' responses to Russian sanctions. Seitz and Zazzaro (2019) found that Russian economic sanctions on Ukraine in the form of raising the price of natural gas exported to the

country influenced the attitudes of Ukrainians whose personal expenditure on gas rose and these Ukrainians adopted a more pro-Western political stance, supporting the government's policy. These findings further suggest that those who specifically pay the costs of sanctions let sanctions inform their support of their government, but these findings cast doubt on the ability of sanctions to elicit a society-wide reaction as observed in Israel and South Korea.

These studies of other countries have two limitations in addressing the question posed in this thesis. First, they do not distinguish between different types of sanctions and the material and symbolic significance they may represent to the public in the targeted state. Second, unlike Russia, all three of these cases involved the imposition of a single sanction on a targeted country. In the case of Russia, multiple, expanding sanctions were imposed on Russia as part of a sanctions regime lasting through all four years of this study (2014-2018). The singular sanctions placed on these other countries mean we cannot draw conclusions about the marginal effects of additional sanctions. Perhaps as the number of sanctions increases, those not directly financially affected by sanctions grow numb to the imposition of additional sanctions.

In addition, the countries where the widest-reaching changes in public opinion occurred, South Korea and Israel, are both democracies. This questions the universality of the effect of sanctions on a targeted population by suggesting the citizen's reaction may partially be a function of the form of the targeted government. Unfortunately, given that my analysis is limited to Russia, I am not able to directly address the impact of regime type on the effect of sanctions on the targeted population.

In summary, existing literature suggests that sanctions do have an impact on the public's perception of their government. However, authors have differing answers to what subset of the targeted population's perception of the government is influenced by sanctions. Some studies find

that sanctions affect the broader targeted population while others find that only those who bear the financial costs of sanctions find them relevant to the perception of their government. These differing findings offer little clarity on the causal mechanisms behind the saliency of sanctions by providing mixed evidence for targeted populations responding to the symbolic significance of sanctions or their financial toll. In addition, no current study can discriminate between the effects of different types of sanctions.

Potential for Further Study

These studies lay the groundwork for analyzing the effect of sanctions on targeted populations and serve as useful reference points and evidence for developing my own theory. However, these works, specifically those addressing Russia, lack the degree of granularity necessary to inform policy decisions. These surveys were often distant in time from the actual imposition of sanctions. The survey methodologies employed were not able to distinguish between the public's reaction toward different types of sanctions, an important consideration given the variety of options available to sending states. And the studies of countries targeted by only one sanction cannot discern whether the effect of each sanction in a series of sanctions differs in effect depending on its order in the series of multiple sanctions. These are the questions addressed in this study.

In order to address the limitations of the current literature, I collect the daily Tweets of Russians mentioning President Putin and Russia and compare the volume and sentiment of Tweets written near in time to sanctions with those not near in time to sanctions. This procedure permits me to detect, with high temporal precision, the impact of different types of sanctions and the marginal effect of additional sanctions in a series on the salience of the sanctions to the

Russian people. These procedures give us greater insight into the causal mechanisms that link the targets of sanctions to the likelihood the Russian public will respond. These procedures do not, however, give us greater precision in estimating whether sanctions produce a rally around the targeted government or mounting appeals for a change in the policies that brought on the sanctions. I will return to these strengths and weaknesses in the evaluation of results.

3 Theory and Hypothesis

3.1 Hypothesis

I hypothesize that the influence of sanctions on the opinion that Russians hold towards their Government varies with the nature and the number of sanctions imposed. I theorize that sanctions will be most influential to Russians in the perceptions of their President and Government when they impose a direct material cost on the public and symbolic cost on the international standing of Russia. Sanctions that impose high symbolic costs on the Russian state will have less influence on the Russian public's response and sanctions that impose no direct material costs on the public and only moderate symbolic costs on the Russian state will have the least influence. Accordingly, comprehensive sanctions which impose high material costs on average Russians and moderate symbolic costs on the Russian state will have the strongest influence on Russian public opinion. Diplomatic sanctions which hold high degrees of symbolic cost to Russia, but only low material costs to the Russian public, will be more salient to the average Russian's perception of the Government than targeted sanctions which target and harm only the ruling class. Additionally, I predict that the marginal effect generated by sanctions will decline with additional sanctions as the public tires of thinking of them. Below lies a table

describing the expected costs of different sanction types and the reactions they incite in the average Russian.

Table 1: Theorized costs of different sanction types on the Russian population and the linkage to the perception of the Russian Government they provoke

Sanction Type	Material Costs	Symbolic Costs	Salience to Perception of the Government
Comprehensive	High	Moderate	Strong
Diplomatic	Low	High	Moderate
Targeted	Low	Moderate	Weak

To provide a framework to answer my research question, I present and address the following hypotheses:

H1: Russian public perception of President Putin and the Russian Government is influenced by the imposition of sanctions. Comprehensive sanctions have the greatest influence on public perception of President Putin and the Government while targeted sanctions are the least significant of the three.

H2: Each sanction in a series of sanctions has a declining marginal influence on the perception of President Putin and the Russian Government.

H3: Sanctions of any type do not lead to a change in the domestic approval rating of President Putin or the Russian Government.

3.2 Analytical Claim and Theory

I theorize that the following three factors play a significant role in determining the salience of sanctions to Russians' opinion of their leaders. Below I explain each of the three factors and place each sanction type into the context of the factor in order to justify my hypotheses.

1. *Targets and Degree of the Material Cost of Sanctions:* While Putin's popularity in Russia following the annexation of Crimea was as high as 88% (Levada Center 2014), the Russian people generally view the ruling class with disdain (Goldman 2004). With the fall of the Soviet Union and the newly formed Russian state's turn to capitalism, the privatization of the state's industries meant ownership of Russia's vast natural resources was available for pennies on the dollar to those rich and connected enough to obtain them (Black et al. 2000). Consequently, a generation of inordinately wealthy businessmen, known as oligarchs, emerged with nearly complete control of the most productive elements of Russia's economy. While individual oligarchs' grip on power is tenuous, a phenomenon that will be explored in more depth at the conclusion of this paper, the ruling class has persisted despite the ostensible efforts of various agencies within the Russian state to eliminate their influence (Tavernise 2000), largely by associating with President Putin (Goldman 2004).

   The influence, wealth, and lack of accountability Russian oligarchs enjoy compared to the widespread poverty experienced by ordinary Russians is a consistent point of friction in Russian political life, to the extent that President Putin initially campaigned in 2000 on reining in the influence of Russia's ruling class (Gentleman, 2000).

By intent, the majority of the *targeted* sanctions imposed by Russia on the United States and the European Union exclusively imposed material costs on Russia's oligarchs. Consequently, given the animosity felt toward oligarchs, I hypothesize that the Russian public will react less strongly toward targeted sanctions than they react to the comprehensive and diplomatic sanctions imposed on Russia.

In contrast, the comprehensive sanctions imposed on Russia did have the potential to impose material costs on a high number of ordinary Russians, in addition to moderate symbolic costs given they excluded Russia from global trade. As such, I propose that these sanctions will generate the greatest response among the Russian public of all sanction types.

2. *Effect on Russia's International Standing:* I theorize that diplomatic sanctions will elicit a heightened response among Russians compared to targeted sanctions as they undermine the leading role that Russians strongly believe their country should take in international affairs (Levada Center 2015).

The fall of the Soviet Union in 1991 marked the end of Russia's former superpower status and ended the bipolarity that characterize the post-WW2 era, letting the US enter a period of unchecked global hegemony that debatably persists today. President Putin is widely known to have described the dissolution of the Soviet Union and the subsequent loss of Russian influence in its Near Abroad (the fourteen non-Russian Soviet successor states) and globally as the "biggest geopolitical catastrophe of the century" (Putin 2005), and Russian national security strategy and public statements made by President Putin both indicate that the Russian state sees itself as a resurgent

power that should play a leading role in a non-US dominated global order ("Russian National Security Strategy" 2015). Far from just an official talking point, ordinary Russians broadly expressed confidence that the country is a superpower (Levada Center 2016) and, in 2014, considered "strengthening Russia's international position" as President Putin's greatest accomplishment (Levada Center 2016).

I theorize that diplomatic sanctions threaten Russia's important view of itself as a key international player by limiting its ability to engage in actions on the international stage. Despite these diplomatic sanctions posing very little material threat to the average Russian, I hypothesize that they serve as a symbolic blow to the Russian public's national pride and perception of their country as an eminent international power, and will thus be treated with high degrees of hostility. Nevertheless, without a direct material cost to the Russian public, diplomatic sanctions will not produce as intense a reaction from the public as comprehensive sanctions that impose both material and symbolic costs.

3. *Sanctions Fatigue:* I argue that the ability of each sanction to generate a response from the Russian public will decrease as additional sanctions are imposed as the population tires of discussing them and they become normalized. Both the sheer number of sanctions imposed on Russia over the course of this study (48) and the length of time over which they were applied (4 years) give rise to the potential that sanctions will not continually be a substantial determinant of the Russian public's opinion of their Government as more sanctions are applied. The effect of people becoming less interested in and even avoiding certain topics as they receive more attention is known as issue fatigue and is commonly

observed across a range of topics that receive large amounts of media attention for a prolonged period (Gurr and Metag 2021).

Outside of my broader theory, I expect that sanctions will not produce a noticeable impact on the nationwide approval rating of President Putin and the Russian Government as their effects will be masked by a variety of other factors that may have significant impacts on public approval including the popularity of annexing Crimea, economic performance, and domestic politics.

4. Research Design

4.1 Independent Variables: Sanctions

In order to study the ability of sanctions to influence the public perception of the Russian government, this paper examines 48 instances of sanctions imposed on Russia by the United States and the European Union from March 2014 to August 2018, in response to Russia's annexation of Crimea and involvement in the Donbas. Among the 48 sanctions, 30 were imposed by the United States and 18 by the European Union. I classified each of the sanctions into one of the three sanction types discussed above. Each sanction type is operationalized as follows:

1. Targeted Sanctions: sanctions directed at specific individuals or organizations within a targeted country that are thought to hold influence, without harming the larger population
2. Comprehensive Sanctions: sanctions designed to have a profound impact on a large part of a targeted country's population.
3. Diplomatic Sanctions: sanctions that disrupt the diplomatic relations between the sender and the sanctioned state and/or limit the ability of the sanctioned state to engage with other third-party states.

Table 2: Distribution of sanctions by type:

Sanction Type	Instances	Percentage of All Sanctions
Targeted	40	83.3%
Diplomatic	6	12.5%
Comprehensive	2	4.2%

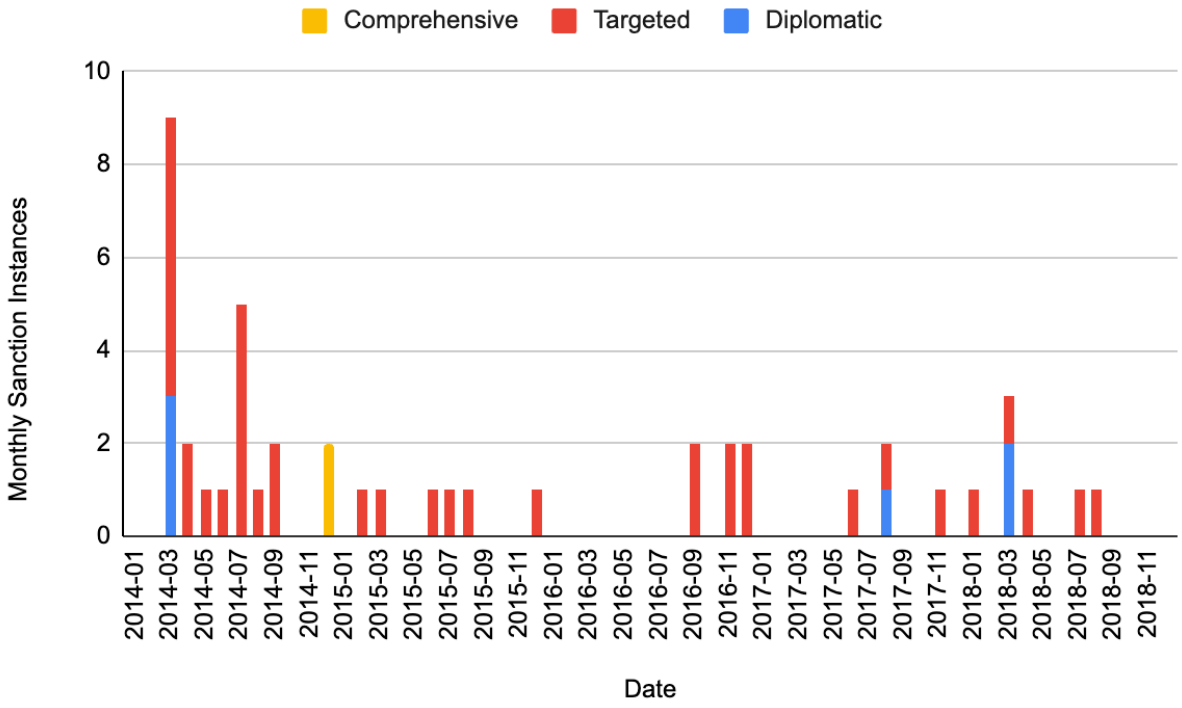


Figure 1 Instances of Sanctions Imposed on Russia Russia by Type and Month, 2014-8

Figure 1 shows that these sanctions are not evenly distributed across time, forming clusters, and are frequently situated within the same month as each other. This near-simultaneous imposition of sanctions poses challenges to distinguish the effect of an individual sanction, a difficulty I will attempt to address in my methodology.

4.2 Dependent Variables

To observe the effect of sanctions on public opinion in Russia from 2014 to 2018, this thesis uses two indicators: tweets collected from Russian Twitter users and surveys conducted by the Levada Center. The data collection methods and descriptions are discussed in detail below.

Dependent Variable 1: Russian Twitter Data:

Data Collected

In order to granularly measure the salience of sanctions to the Russian people's perception of their government, I scraped every tweet containing Russian language keywords related to Russia and President Putin, originating from within 10 kilometers of the 10 largest cities in each of Russia's eight federal districts from 2014 to 2019. The names of these 80 cities are listed in the Appendix. I also performed a sentiment analysis on each tweet using the Dostoevsky Russian social media sentiment analysis library. This allows me to automatically classify the sentiment of each tweet as either positive, negative, or neutral. Observing the change in the daily volume and sentiment of Tweets mentioning President Putin and Russia near sanctions allow me to infer the linkage of sanctions to the perception of the Government.

When looking to interpret sentiment analysis, it is important to note that it does not produce a measure of the sender's sentiments towards the keyword included in their Tweet; rather, it is simply a measure of the tone of the Tweet. This distinction is best illustrated by looking at an example. Below are two Tweets mentioning President Putin both classified as having negative sentiment:

Tweet 1: “Если завтра пропадёт Путин, это будет интересно только его окружению. #ГдеНавальный” (English: If Putin disappears tomorrow, it will be interesting only to his entourage. #WhereNavalny”)

Tweet 2: “Бедный Путин 16 лет борется с нацпредателями …” (English: “Poor Putin has been fighting national traitors for 16 years…”)

Tweet 1 is clearly a person expressing their disdain for President Putin; however, Tweet 2 is someone proclaiming their support for President Putin. While both Tweets were correctly classified as having a negative sentiment, this example shows that one cannot correctly infer the person sending the Tweet’s feelings towards the keyword included.

Bearing this ambiguity in mind, I added the percentage of positive and negative Tweets into a single measure: charged sentiment. I will use this as a parallel means with Tweet volume to determine the intensity of the Russian people’s response to sanctions.

I aggregated the 638,461 tweets I collected to create a dataset with the volume of tweets mentioning Russia and President Putin, and the percentage of daily tweets mentioning each with charged sentiment for each day from 2014 to 2019. An example of the data from February 20 to February 24, 2014, is shown below in Table 3.

Table 3: Twitter dataset from February 20-24th, 2014

	Date	Time	Daily Mentions of Russia	Daily Mentions of President Putin	Russia Charged Sentiment	Putin Charged Sentiment
50	2014-02-20	51	637	39	26.991870	24.242424
51	2014-02-21	52	641	38	28.246753	30.555556
52	2014-02-22	53	862	37	39.213349	31.250000
53	2014-02-23	54	1947	93	50.535906	49.367089
54	2014-02-24	55	537	40	16.571429	42.105263

The aggregation produces daily records for 1826 days from January 1st, 2014 to December 31st, 2018.

Selection of Keywords and Locations:

I selected the keywords referring to “Putin” and “Russia” to gauge the intensity of the Russian public’s response to sanctions. The keywords are listed in the Appendix. Increases in the mentions of President Putin and Russia and/or the percentage of charged sentiments near sanctions also may indicate that sanctions are influencing the Russian public’s opinion toward their Government.

I choose to collect data from the ten largest cities, as defined by the 2010 Russian census data, in each of Russia’s eight federal districts in the hopes of creating a fairly representative sample of Russian opinions. Each of Russia’s eight federal districts encompass a different geographical region of the country and by selecting the ten largest cities from each district, I looked to account for any regional differences in reaction to sanctions. In total, these cities account for approximately 35% of Russia’s 2010 population and likely a larger proportion of its internet users.

While this attempt to represent a broader subset of Russia’s population still heavily favors those in urban areas, I felt I lacked the ability to construct a truly representative sample of the Russian population, especially given the likely substantially lower rates of Twitter usage in rural

areas. The limitations of these data collection choices and their potential impact on results will be discussed in more depth in the Assessment of results and Limitations of the research design section of this paper.

Keyword Tweet Volume Over Time

Across the 1826 days included in this analysis, the average volume and sentiment for each keyword are as follows:

Table 4: Daily Average Tweet Volume and Charged Sentiment For Each Keyword 2014 -2019

Keyword	Average Daily Tweets	Charged %
Russia	316.35	11.13%
Putin	33.3	21.61%

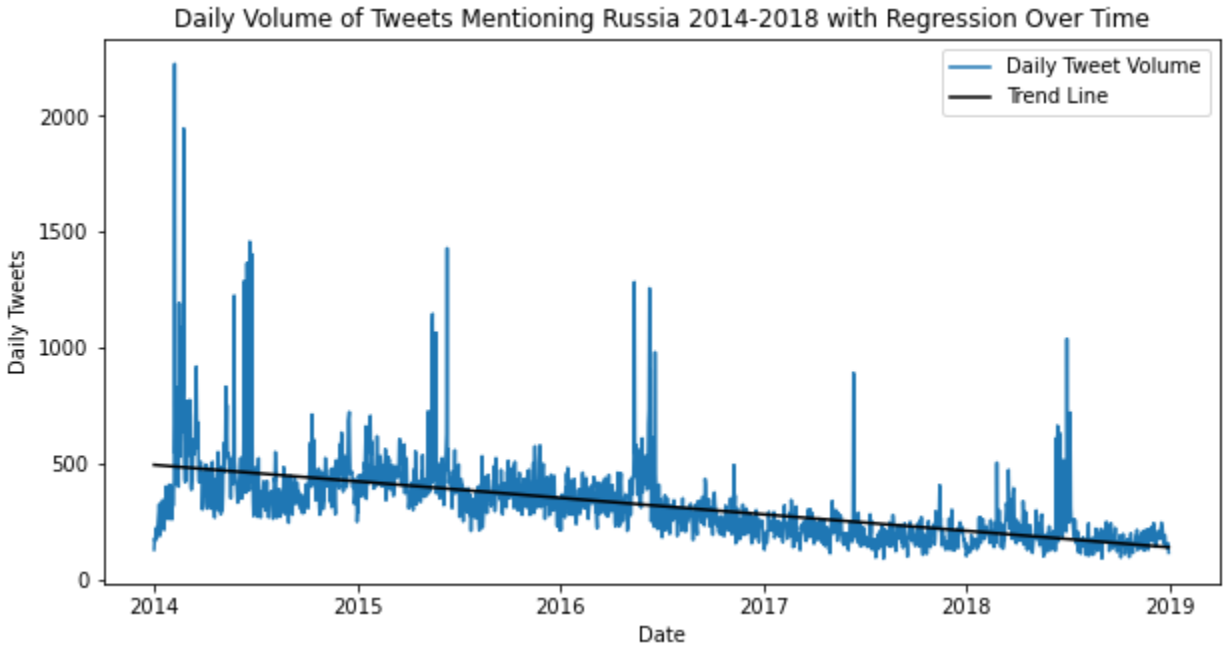
At the center of this analysis is understanding how mentions of President Putin and Russia change over time. To reveal if there is an overarching trend over time that may complicate discerning the effect of sanctions, I regressed daily mentions of each keyworded tweet on time. Figure 2 shows the mentions of President Putin and Russia over the observation period and their respective trend lines over time. Table 5 includes the results of the linear regressions.

Table 5: Regression Results for Mentions of President Putin and Russia Over Time

	Daily Volume of Tweets Mentioning Russia	Daily Volume of Tweets Mentioning President Putin
Independent Variable	Regression Coefficients	Regression Coefficients

Time	-0.195*** (-33.865)	-0.0191*** (-12.495)
Constant	494.428*** (81.441)	50.737*** (31.485)
R-squared	0.386	0.079
No. observations	1826	1826

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.



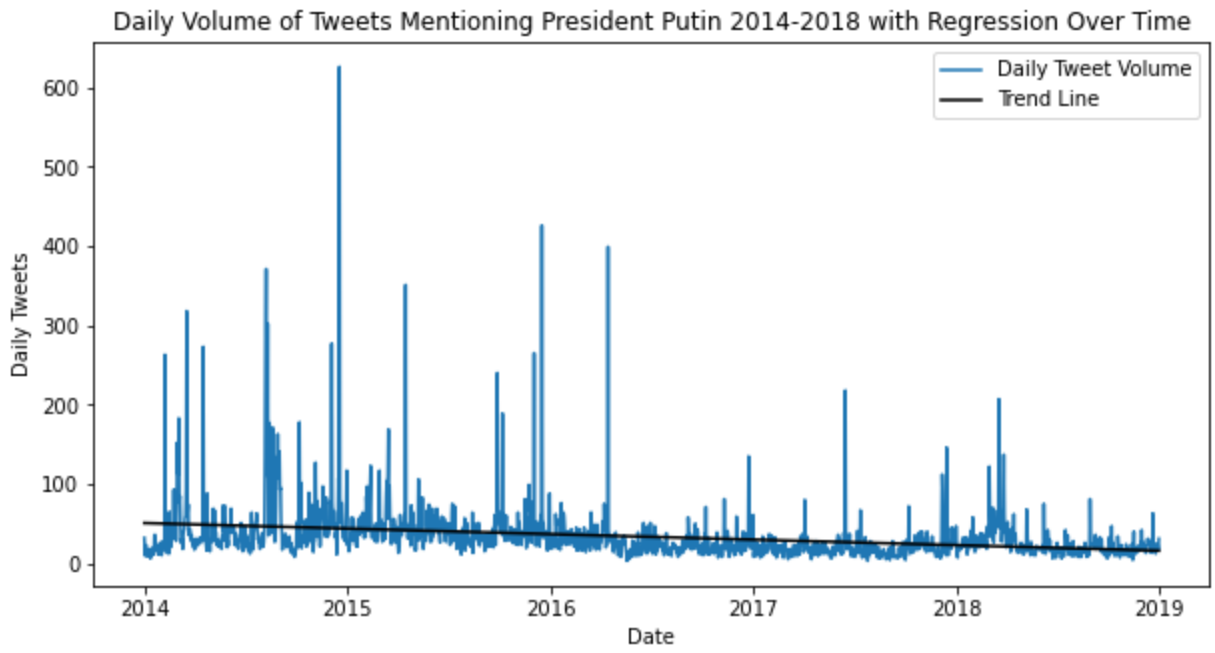


Fig 2: Daily Tweets Mentioning Russia and President Putin from 2014-18

These regression results, as well as visual inspection, reveal that mentions of both President Putin and Russia declined over time. While I hypothesize that sanctions cause short-term changes in keyworded Tweet volume near their imposition, this universal decline is unlikely to be solely due to the cumulative number of sanctions. It is likely largely a function of factors such as a declining Twitter user base. As such, in order to accurately compare the effect of sanctions instances over time, I must control for the long-term trend that these regressions indicate.

Sentiment Data Over Time

Similarly to keyworded Tweet volume, I look to see how the daily percentage of charged sentiments in these Tweets change over time.

Table 6: Regression Results of Sentiment Data Over Time

	Percentage of Daily Tweets Mentioning Russia with Charged Sentiment	Percentage of Daily Tweets Mentioning President Putin with Charged Sentiment
Independent Variable	Regression Coefficients	Regression Coefficients
Time	0.0 (-0.400)	-0.0024*** (-4.975)
Constant	11.20*** (54.654)	23.808*** (46.707)
R-squared	0.000	0.013
No. observations	1826	1826

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

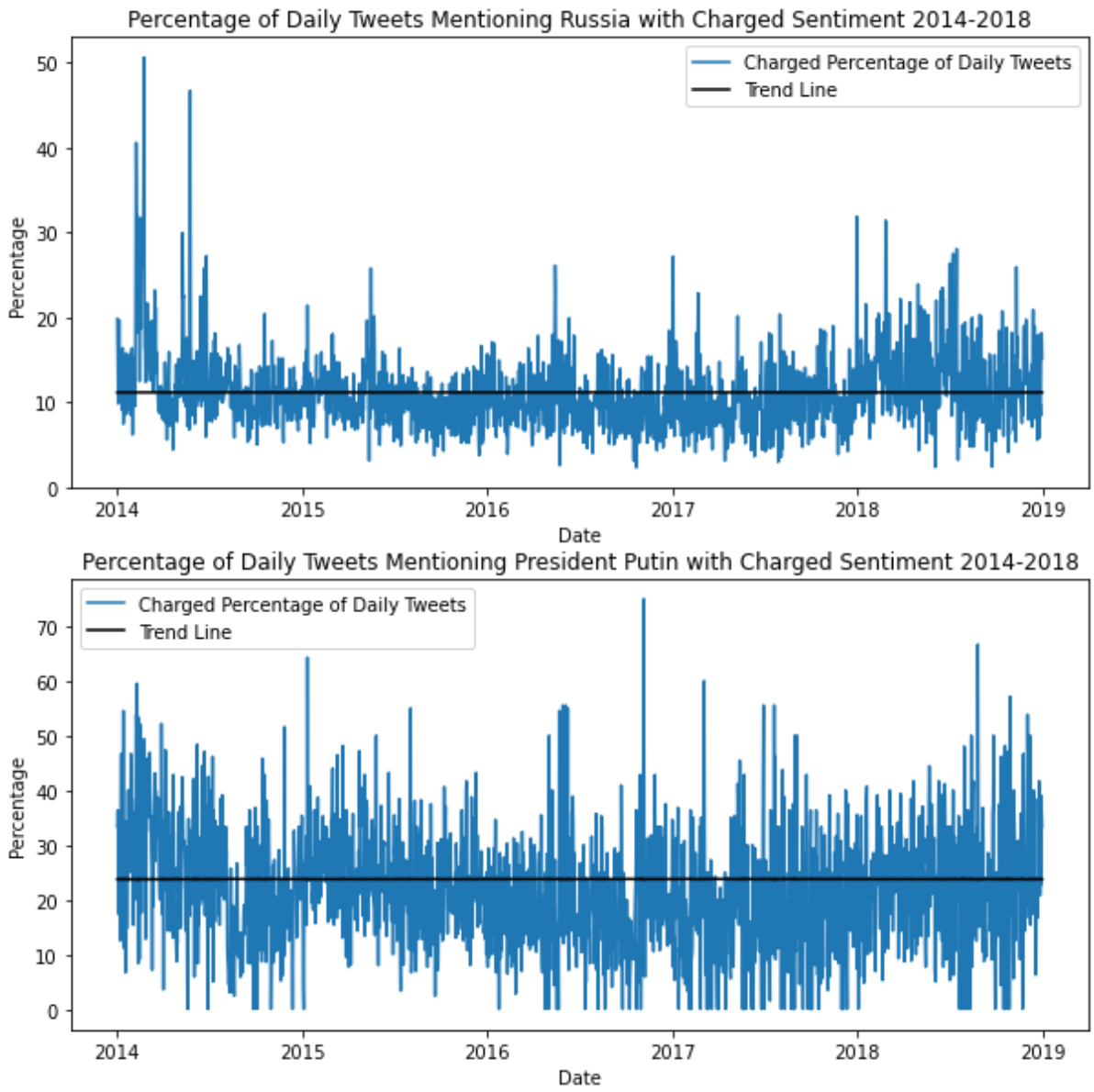


Figure 3: Percentage of Daily Tweets Mentioning Russia and President Putin with Charged Sentiment from 2014 to 2018

Unlike the volume of Tweets mentioning Russia and President Putin, in Figure 3 there is not a visually obvious change in the percentage of daily Tweets with a charged sentiment over

time; however, Table 3 shows there is a statistically significant decrease among mentions of President Putin, so it must be controlled for as well.

Dependent Variable 2: Russian Polling Data

In addition to data scraped from Twitter, I collected monthly polling data from the widely well-reputed Levada Center, Russia's only independent polling organization, on the Russian people's approval of President Putin and the Russian government. This data, considered the benchmark for Russian opinion polling, will be useful to compare and contrast with the results found by my analysis of Twitter data; however, it is considerably less granular than my Twitter dataset, requiring distinct methods of analysis. It is also worth noting that the Levada Center is able to produce polling figures that are representative of the entirety of Russia, while, as previously stated, my Twitter data is collected solely from urban areas. This contrast will be further addressed when looking at the results of my analysis.

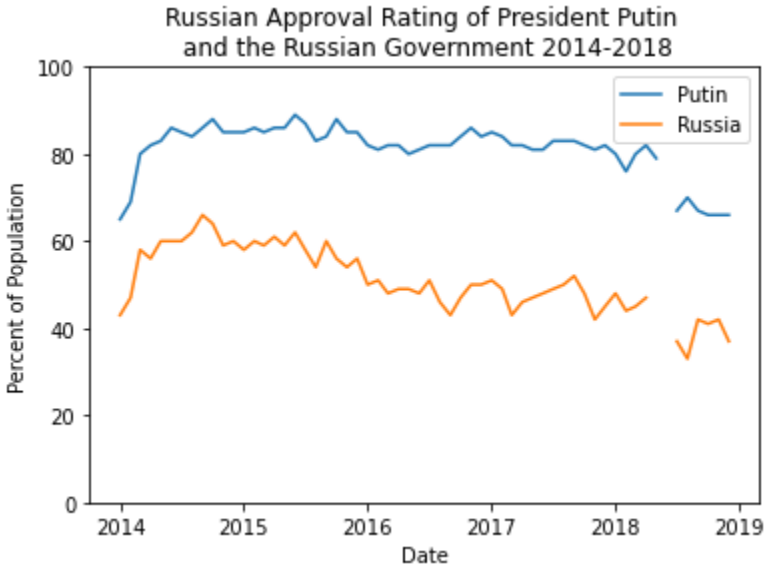


Fig 4: Russian Approval Rating of President Putin and the Russian Government

As observed above, the Russian public's approval of President Putin and the Russian Government skyrocketed by almost 20 percentage points in the early months of 2014, notably a period including the 2014 Winter Olympics hosted by Russia and the annexation of Crimea. Known as the "Crimean Consensus" due to the near-unanimous popularity of the annexation of Crimea (86% of Russians approved the annexation; Levada Center 2016), this period of consistently high approval of the Russian Government and especially President Putin lasted several years. However, President's Putin approval rate slowly began to decline by 2018, while the Russian people's perception of the Russian Government began to substantially decline by mid-2015. By 2019, Russian approval for Putin and the state rested near their pre-Crimea levels.

4.4. Methodology

Sanctions-Induced Changes in Keyworded Tweet Volume and Sentiment

In order to address my hypotheses, I first analyze the immediate effect of the three types of sanctions on the volume and sentiment of Tweets mentioning President Putin and the Russian state. The timeframe of "immediate effect" is a week before and after the imposition of a sanction. Including the week before the actual imposition of a sanction is important as a prior announcement of an impending sanction often sparks a public discussion in anticipation of their actual imposition. As such, when looking to capture the public reaction to a sanction, this segment of time is included.

Table 7: Days within a week before and after a sanction by sanction type

Sanction Type	Days Within a Week Before and After a Sanction
Comprehensive	15

Targeted	407
Diplomatic	62

To observe the effect of the different types of sanctions on keyworded tweet volume and sentiment, I performed a series of multivariate ordinary least squares (OLS) regressions.

For the independent variables of each regression, I created a binary variable for each of the three types of sanctions that has a value of one if a day was within a week before and after a sanction of that type, and 0 otherwise. In addition, I controlled for the long-term effect of time noted previously by creating a time variable representing the days since the beginning of my analysis (January 1st, 2014) and including it as an independent variable. I controlled for time because, as seen in figure 2, the volume of tweets mentioning Russia and President Putin declined significantly over the four-year period of this analysis. As I theorize that this decline is not solely a direct result of sanctions, but also of a declining Twitter user base, I had to control for its effects.

I observed the effect of my independent variables on the daily volume of tweets mentioning President Putin and Russia, in addition to the daily percentage of tweets mentioning them with charged sentiment. In sum, this amounts to four separate multivariable regressions.

Marginal Effect of Sanctions

To determine the marginal effect of sanctions of varying types (the difference in how the Russian public reacts in response to each additional sanction), I performed another series of OLS regressions. The results of these regressions allow me to test hypothesis H2: that Russians respond less intensely to each additional sanction.

I created two new independent variables that represented targeted and diplomatic sanctions. In both, I created an observation for each of the 1826 days in the analysis. If a day is within a week before or after a sanction of a given type, the day takes the value of the instance number of the sanction, and is otherwise zero. For example, days within a week before or after the third targeted sanction imposed on Russia will have a value of 3 as I theorize they are affected by the third sanction. I did not create a variable representing comprehensive sanctions as there were only two instances, a day apart, making its inclusion in this analysis not reasonably meaningful.

I then regressed these two new independent variables and time, as previously defined, against the four separate dependent variables previously described: daily volume of Tweets mentioning Russia and Putin, and the percentage of those Tweets with a charged sentiment. This amounted to four separate regressions.

The results of these regressions will show the marginal effect of each additional targeted or diplomatic sanction on a given dependent variable, giving insight into how the Russian public's reaction changes or doesn't change with additional sanctions

Sanctions-Induced Changes in Polling

In order to provide a basis of comparison for the result of my analysis of Twitter data, I looked to analyze the effect of sanctions on the Russian people's approval of President Putin and the Russian Government from 2014 until 2019. I turned again to using multiple linear regressions, with the polling data as the dependent variable. However, as the Levada Center polling occurred monthly as opposed to the daily values contained in my Twitter dataset, I needed to create a new set of independent variables. Accordingly, I created a binary variable for

each of the three types of sanctions that contained a 1 if a sanction of that type occurred in a given month and 0 otherwise. I then regressed the two dependent variables (approval of the Russian Government, and President Putin) on the three independent variables (comprehensive, targeted, and diplomatic sanctions).

5. Results

5.1. Effect of Sanctions on Keyworded Tweet Volume

In order to determine the short-term effect, defined as the days spanning the week before and after the imposition of a sanction, of different types of sanctions on keyworded tweet volume, I ran multiple OLS regressions with the daily volume of tweets mentioning Russia or Putin as the dependent variables. These are regressed on each sanction type and time as the independent variables.

As seen in table 8, in the first column of coefficient estimates (for mentions of Russia), comprehensive and diplomatic sanctions both yield statistically significant increases in the daily volume of Tweets mentioning Russia, but targeted sanctions fail to produce a statistically significant change. Observing the regression coefficients reveal that comprehensive sanctions produce a substantially greater increase in Tweet volume than diplomatic sanctions, accounting for an increase of 72 daily tweets in days near comprehensive sanctions compared to 38 in those near diplomatic sanctions. These increases are 22.76% and 12% more than the mean, respectively.

As seen in the second column of table 8, comprehensive, targeted, and diplomatic sanctions all yield statistically significant increases in Tweets mentioning President Putin; however, the degree of effect between sanction types varies to a high degree. Similarly to Tweets

mentioning Russia, comprehensive sanctions induce the highest number of Tweets mentioning President Putin with an increase of 48 per day. Diplomatic sanctions have the second largest effect, producing an increase of nearly 14 tweets mentioning Putin a day, while targeted sanctions produce a lesser, but still statistically significant, increase of nearly 5 tweets per day. Respectively, these amounted to percentage increases from the mean of 144.4%, 42%, and 15%.

Table 8: Regression Results for Daily Volume of Tweets Mentioning Russia and President Putin

	Daily Volume of Tweets Mentioning Russia	Daily Volume of Tweets Mentioning President Putin
Independent Variable	Regression Coefficients	Regression Coefficients
Comprehensive Sanctions	72.366** (2.143)	48.19*** (5.427)
Targeted Sanctions	-11.337 (-1.512)	4.843** (2.457)
Diplomatic Sanctions	38.228** (2.248)	13.797** (3.086)
Time	-0.195*** (-33.401)	-.0178*** (-11.589)
Constant	495.47*** (75.088)	47.635*** (27.456)
R-squared	0.39	0.102
No. observations	1826	1826

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

5.2. Effect of Sanctions on Keyworded Tweet Sentiment

To test the changes in sentiment of Tweets mentioning Russia and President Putin caused by different sanction types, I used the same independent variables as in 5.1 (time, and

comprehensive, targeted, and diplomatic sanctions) and regressed them against the percentage of daily Tweets mentioning Russia and President Put with charged sentiment. Table 9 shows the results of these models.

In the coefficient estimates of column one of table 9, I observe that only diplomatic sanctions cause an increase in the percentage of daily Tweets mentioning Russia with charged sentiment, accounting for an increase of one percentage point.

Contrastingly, as seen in column two, both targeted and diplomatic sanctions produce increases in the percentage of daily Tweets mentioning President Putin with charged sentiment. Diplomatic sanctions account for the largest increase, 4.46 percentage points, while targeted sanctions account for a 1.33 percentage point increase. The over three times greater effect of diplomatic sanctions on the sentiment of Tweets mentioning President Putin clearly suggests diplomatic sanctions produce stronger feelings within the Russian population than either targeted or comprehensive sanctions.

Table 9: Regression Results for the Effect of Sanctions on the Sentiment of Tweets Mentioning Russia and President Putin

	Percentage of Daily Tweets Mentioning Russia with a Charged Sentiment	Percentage of Daily Tweets Mentioning President Putin with a Charged Sentiment
Independent Variable	Regression Coefficients	Regression Coefficients
Comprehensive Sanctions	-1.3506 (-1.184)	-1.3007 (-0.460)
Targeted Sanctions	0.4108 (1.622)	1.3315** (2.119)
Diplomatic Sanctions	1.0005* (1.742)	4.4635*** (3.132)

Time	-5.904e-05 (0.765)	-0.0023*** (-4.696)
Constant	11.0689*** (49.659)	23.2772*** (42.088)
R-squared	0.005	0.023
No. observations	1826	1826

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

5.3. Marginal Effect of Sanctions on Keyworded Tweet Volume

To test the marginal effect of targeted and diplomatic sanctions on keyworded Tweet volume, that is the change in the volume of keyworded Tweets generated in response to each additional imposition of a given sanction type, I regressed days near a sanction of a given type and instance number (the construction of this variables is described in detail in section 4.4) against the daily volume of Tweets mentioning Russia and President Putin. The results of these regressions are found in table 10.

In column one's regression coefficients, I observed that each additional targeted sanction produces approximately .55 fewer Tweets mentioning Russia than the prior (- .17% from the mean), while Diplomatic sanctions retain a consistent effect on the volume of Tweets they generate.

In colume two, I found inversely that each additional targeted sanction increased the mentions of President Putin by 0.19 Tweets (.57% from the mean). I also observed that the marginal effect of each additional Diplomatic sanction was a much larger increase of 3.4 Tweets mentioning President Putin. These amount to increases of .57% and 10.2% from the mean daily mentions of President Putin, respectively.

Table 10: Changes in Keyworded Tweet Volume With Additional Instances of Sanctions

	Daily Volume of Tweets Mentioning Russia	Daily Volume of Tweets Mentioning President Putin
Independent Variable	Regression Coefficients	Regression Coefficients
Targeted Sanctions Instances	-0.5534* (-1.904)	0.1892** (2.460)
Diplomatic Sanctions Instances	6.4839 (1.629)	3.4021*** (3.232)
Time	-0.1946*** (-33.450)	-0.0201*** (-13.050)
Constant	495.942*** (81.104)	50.2522*** (31.074)
R-squared	.388	.088
No. observations	1826	1826

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

5.4. Marginal Effect of Sanctions on Keyworded Tweet Sentiment

In column one of table 11, I observed no change in the effect of targeted and diplomatic sanctions on the percentage of Tweets mentioning Russia with charged sentiment with additional instances of sanctions.

In column two, I observed that diplomatic sanctions had a marginal effect of a . 9 percentage point increase, or 4.2% increase from the mean, in the percentage of daily mentions of President Putin with a charged sentiment; however, targeted sanctions did not alter in their effect on the percentage of charged sentiments of Tweets mentioning President Putin with additional instances of sanctions.

Table 11: Changes in Percentage of Charged Keyworded Tweets With Additional Instances of Sanctions

	Percentage of Daily Tweets Mentioning Russia with Charged Sentiment	Percentage of Daily Tweets Mentioning President Putin with Charged Sentiment
Independent Variable	Regression Coefficients	Regression Coefficients
Targeted Sanctions Instances	-0.0022 (-0.227)	0.0151 (0.621)
Diplomatic Sanctions Instances	0.2123 (1.579)	0.9084*** (2.720)
Time	-0.0001 (-0.532)	-0.0026*** (-5.287)
Constant	11.2076*** (54.251)	23.7733*** (46.340)
R-squared	.001	.018
No. observations	1826	1826

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

5.5. Effect of Sanctions on the Approval of President Putin and Russia

In order to determine if sanctions produced a change in the Russian public's approval of President Putin or the Russian Government, I regressed my dependent variables which indicated whether a sanction of a given type was in a month against the monthly approval ratings of Putin and the Government. A full explanation of my dependent variables is included in Section 4.4.

As indicated in table 12 below, I found that neither comprehensive, targeted, nor diplomatic sanctions induced statistically significant changes in either the approval of the Russian Government or President Putin.

Table 12: The Effect of Sanctions on the Approval of President Putin and Russia

	Approval of the Russian Government	Approval of President Putin
Independent Variable	Regression Coefficients	Regression Coefficients
Comprehensive Sanctions	3.5018 (0.734)	1.758 (0.307)
Targeted Sanctions	1.356 (-0.782)	1.604 (1.019)
Diplomatic Sanctions	0.353 (0.122)	-0.534 (-0.153)
Constant	-0.640 (-0.782)	-0.666 (-0.679)
R-squared	0.029	0.020
No. observations	58	58

t-statistics are reported in parentheses. *, **, and *** indicate significance at the 90%, 95%, and 99% levels, respectively.

6. Discussion, Limitations, and Potential for Future Research

6.1.1 Discussion of Results

At the beginning of this paper, in **H1**, I hypothesized that sanctions influence the public perception of President Putin and the Russian Government, that the causal mechanism is the symbolic and material costs that sanctions impose on the average Russian, and that comprehensive sanctions have the greatest influence on public perception followed by diplomatic and then targeted sanctions. I theorized that this variance in effect among sanction types is due to the combination of symbolic and material costs that each sanction type imposes on the average Russian. In addition, in **H2**, I expected that increasing numbers of sanctions have a declining marginal influence on the perception of President Putin and the Russian Government due to issue fatigue. Finally, in **H3**, I hypothesized that the effect of sanctions on the public

perception of President Putin and the Russian Government are not visible in country-wide polling due to the variety of other factors that influence public opinion.

Discussion of H1

I found mixed and somewhat contradictory evidence for hypothesis H1. By using parallel measures to infer the importance of sanctions to the public perception of President Putin and the Russian Government, I hoped to gain additional insight into the different means by which sanctions affect discourse on social media; however, I ended up with somewhat contradictory results between my two metrics that are difficult to reconcile. Analysis of the volume of Tweets generated by sanctions yielded results directly in line with my hypothesis and appear to confirm the theory I proposed earlier in the text. Alternatively, analysis of the percentage of charged Tweets generated by sanctions presented results that somewhat contradicts my theory and volume results.

As hypothesized, I found that measuring the volume of Tweets mentioning President Putin and Russia provided evidence that the Russian public found sanctions salient to their perception of Putin and the Government and weighed the material and symbolic costs of specific sanctions to determine their response. Confirming my hypothesis, comprehensive sanctions are most salient to their perception of President Putin and the Russian Government, followed by diplomatic sanctions, then targeted sanctions. Comprehensive sanctions produced the greatest percentage increase in the volume of Tweets mentioning President Putin from the mean (144%), and Russia (22.76%), with diplomatic sanctions next (42% increase in mentions of President Putin, and 12% of Russia), while targeted sanctions produced the smallest increase in mentions

of President Putin (15%) and no change in mentions of Russia. These results largely match the theory table I proposed in the hypothesis section.

All sanction types induce greater increases in the mean mentions of President Putin than they do in mean mentions of Russia. This may suggest that Russians find sanctions more important determinants of their perception of President Putin than the Russian Government; however, it may also be a function of the different contents of Tweets mentioning President Putin and Russia. Tweets mentioning President Putin are inherently political while a Tweet mentioning Russia could range from a discussion of the national soccer team to an opinion on the direction of the country; as such, mentions of President Putin should be more responsive to sanctions than mentions of Russia. This makes determining whether the saliency of sanctions to opinions of President Putin and the Government are different impossible to determine.

While these results broadly agree with the findings of Sung and Park (2022) and Grossman et al. (2018), that sanctions produce a reaction across the public, the variation of effect among sanction types does somewhat reflect the conclusions of Frye (2019) and Alexseev and Hale (2020): that a targeted public reacts most strongly when sanctions impose personal material costs. However, my results suggest that in addition to the material costs of sanctions, the public weighs their symbolic cost as well, as evidenced by their strong reaction to diplomatic sanctions in spite of their minimal material cost.

Turning to the effect of sanctions on the percentage of Tweets mentioning Russia and President Putin with a charged sentiment, the results diverge somewhat from the results for the volume of Tweets generated by sanctions and from my hypothesis (H1). Using this parallel measure, I found that diplomatic sanctions produced the greatest increase (relative to the mean) in charged sentiment in both mentions of President Putin (14.5%) and mentions of Russia (9%).

Targeted sanctions produced a lesser increase (6%) in the charged sentiment of mentions of President Putin, but neither comprehensive nor targeted sanctions produced a change in the percentage of Tweets mentioning Russia with a charged sentiment, while comprehensive sanctions also failed to induce a change in the charged sentiment of mentions of President Putin.

Reconciling the differing results between the volume of mentions and the percentage of mentions with a charged sentiment is difficult. It is puzzling that comprehensive sanctions did not yield an increase in charged sentiment as they have the largest material impact of any sanction type while also carrying symbolic weight. One could infer that only high symbolic costs cause an increase in the charged sentiment of Tweets as diplomatic sanctions did yield increases; however, targeted sanctions also brought increases in charged sentiment despite carrying the least symbolic cost and imposing lesser material costs than comprehensive sanctions. The failure of comprehensive sanctions to induce higher amounts of charged sentiment also contradicts the orthodox theories of sanctions presented by Pape (1997, 1998).

These seemingly illogical differences in the effect of different sanction types on charged sentiment could mean that the percentage of Tweets with charged sentiment is a poor indicator of the interest individuals have in a subject, but it's interesting that charged sentiments increased in response to diplomatic sanctions for both mentions of President Putin and Russia, suggesting there may be some trait of diplomatic sanctions that provokes a stronger response in the Russian pubic's sentiment of Tweets; unfortunately, a question not addressed in current sanctions literature.

Discussion of H2

Contrary to what I hypothesized in H2, I found that the marginal effect of sanctions on the public's perception of President Putin and the Russian Government is not universally negative but instead varies on the subject (Putin vs the Russian Government) and that the marginal effect of additional sanctions depends on whether a sanction imposes greater symbolic or material costs.

I found that the marginal effect of additional diplomatic and targeted sanctions on Tweets mentioning President Putin was positive, with diplomatic sanctions yielding a greater marginal effect (18%) than targeted sanctions (3%). Similarly, I found that diplomatic sanctions had a positive marginal effect on the percentage of Tweets mentioning President Putin with a charged sentiment (4% over the mean). Alternatively, targeted sanctions had no marginal effect on the percentage of charged Tweets mentioning Putin.

Interestingly, the positive marginal effects observed in mentions of President Putin did not extend to Tweets mentioning Russia. Targeted sanctions had a negative marginal effect (-.17% from the mean) on the volume of Tweets mentioning Russia while diplomatic sanctions had no marginal effect. Neither diplomatic nor targeted sanctions had a marginal effect on the percentage of mentions of Russia with a charged sentiment.

The marginal effects of sanctions on Tweets mentioning President Putin and Russia suggest that Russians were sensitized by the successive imposition of sanctions. The marginal effects suggest that Russians found additional sanctions increased the salience of sanctions to their perception of President Putin. Alternatively, increased numbers of sanctions neither increased nor decreased the impact of each new sanction on the Russian people's perception of their Government; the exception to this was targeted sanctions which did appear to have decreasing marginal effect. The greater magnitude of the marginal effect of mentions of

President Putin compared to Russia indicate that average Russians associate sanctions more with President Putin than the Russian Government. In addition, the larger marginal effect of diplomatic sanctions compared to targeted sanctions reinforces my prior findings and underlying theory - that Russians are more sensitive to the symbolic costs of diplomatic sanctions than the material costs of targeted sanctions mostly borne by oligarchs - while adding a new dimension: Russians increasingly link the sanctions, especially those with higher symbolic costs, to President Putin.

The Russian people's discussion of sanctions at the same rate or higher as more are imposed is a contradiction of my issue fatigue hypothesis and could suggest that Russians feel very strongly about sanctions. The enduring power of sanctions to create discourse might potentially be a result of the influence of Russian state media which could play up the effect of sanctions for a political benefit, or simply be an organic response to their costs.

Discussion of H3

As I hypothesized, no sanction of any type induced observable changes in the nationwide approval of President Putin or the Russian Government as measured by the Levada Center. I theorized that the effect of sanctions on Presidential approval is influenced by a variety of factors that may mask the impact of sanctions such as the extreme popularity of the annexation of Crimea, the state of Russia’s economy, and domestic politics.

The difficulty in deciphering the effects of individual events on monthly nationwide polling is precisely why my study and those before have adopted alternative methods of inferring the impact of sanctions. These results confirm the necessity of using methods with higher temporal precision or specially designed polling to understand their effects. However, the results

of my Twitter data analysis suggest that the sanctions' lack of observable effect is not because they have a limited impact on the approval of President Putin and the Russian Government.

6.2. Limitations and Potential for Further Research:

Limitations of the Twitter Dataset:

Using Twitter data from Russian users, I intended to capture a more granular understanding of the impact of different sanction types and the impact of repeated application of sanctions on the Russian peoples' perception of their President and Government. Nonetheless, I believe my data collection methods and the hypothesized demographics and usage habits of Twitter users have a high probability of underrepresenting support for President Putin and the Russian Government.

As discussed in section 4.2, when collecting Twitter data I exclusively scraped data from within 10 kilometers of the ten most populous cities in each of Russia's eight federal districts. I chose this methodology as I felt I lacked the resources and knowledge to attempt to construct a fully representative sample of the Russian population. As such, the opinions represented in this study are exclusively those of residents of urban areas. Based on opinion polling conducted by the Levada center, I theorize that this leads to an underrepresentation of pro-Russian and Putin opinions due to the proportionally higher support for President Putin in rural areas of Russia (Mamonova 2018). Those living in rural areas comprised 26% of Russia's total population during the period from 2014 to 2019 (World Bank 2023), and so the exclusion of this rural population from my dataset has a potential to distort the results of this study, showing the popular response to be less reactive to sanctions. A similar methodology including every Russian Twitter user could possibly show sanctions inducing a greater response.

In addition to the effects of exclusively collecting data from Russia's urban population, the average Russian Twitter user likely differs from the average Russian in a way that lessens their reaction to sanctions. While there is no data on the demographics of Russian Twitter users, extrapolating an authoritative study on American Twitter users (Wojcik and Hughes 2019) suggests that Russian Twitter users are younger, more liberal, better educated, and wealthier than the average Russian. These demographic attributes are all associated with lower support for President Putin and a generally more positive view of the West (Levada Center 2021). The fact that Twitter is an American platform may further cause the population of Russian Twitter users to be more pro-Western than the average Russian. These factors suggest that the average Twitter user is more pro-Western and critical of President Putin and the Russian state than the average Russian, as such, resulting in a lesser reaction toward Western sanctions than the broader population.

The manner in which Russian users engage with Twitter may also pose a threat to the validity of extending their reactions to sanctions so as to draw inferences about the reactions of the entire Russian population. The same study of American Twitter users revealed that the top 10% of Twitter users account for 80% of total Tweets. Assuming that this phenomenon holds true for Russian Twitter users, if these super Tweeters possess a particular ideological preference, they may influence the results of this study, by showing a particular reaction to sanctions that is not shared by even the larger Russian Twitter user base.

Of additional note, the likely presence of Twitter accounts created and controlled by the Russian government intended to shape public opinion and discourse in a beneficial manner through the posting of misinformation and propaganda, known as bots, may have impacted the discourse surrounding the sanctions in a pro-Russian direction. Studies have found that Twitter

bots form a large portion of the discourse on contentious issues such as elections and the coronavirus pandemic (Bessi and Ferrara 2016; Himelein-Wachowiak et al. 2021). While bots may not have been consistently active at high levels over the entire course of the four years included in the study, it is highly plausible they were present during key moments, such as during the annexation of Crimea and the first imposition of sanctions by the US and EU. Unfortunately, detecting posts made by bots is an applied computer science problem too time-consuming to consider approaching within the scope of this project, and, as such, the presence of bots may have shifted my data in a pro-government direction.

Limitations of Sentiment Analysis:

In addition to the ambiguity of positive and negative classification of sentiments of tweets discussed in section 4.2, sentiment analysis also has the potential to misrepresent sentiment to a high degree which can systematically alter results. In order to evaluate the accuracy of the sentiment analysis, one could manually code several hundred Tweets chosen at random for sentiment and then compare these results with those generated by the sentiment analysis algorithm to approximate accuracy and the tendency of the algorithm to generate false positives or false negatives. A poorly performing sentiment analysis algorithm could have partially contributed to some of the seemingly counterintuitive results I observed when analyzing the percentage of charged Tweets generated by sanctions. Unfortunately, as I don't speak Russian, I was unable to perform this test and must take my sentiment analysis results at face value.

Applicability of Results to Other Countries:

When applying the results of this study to other countries, it's important to note that the high response of Russians to sanctions may partially be a function of the popularity of the policies that provoked the sanctions. President Putin's annexation of Crimea was immensely popular among Russians (Levada Center 2019) and viewed by most as a legal and justifiable act (Volkov and Goncharov 2019) borne of a necessity to protect the Russian people and strategic interests. Sanctions applied to a country where the policies that induced sanctions are less popular may experience a lesser effect than those observed in this study.

Avenues of Further Study:

Observing the limitations of this study, one could see several obvious areas to improve both the validity and significance of my results. With greater methodological knowledge of poll sampling procedures, one could work to create a dataset that confidently describes the totality of the Russian response to sanctions. In addition, integrating a detection algorithm for Tweets made by bots could remove some of the shadow of state directed opinion shaping efforts and get to the heart of the sentiments of real Russians, while personally testing the accuracy of the sentiment analysis algorithm could better contextualize the accuracy of the findings of the analysis.

Given more time, I would also like to extend this project to include the analysis of another social media site to address some of my concerns around the composition of Twitter's user base and those who choose to Tweet regularly. Scraping Vkontakte, Russia's Facebook analog and the most widely used Russian social media site (Statista 2022), could potentially yield results more in line with Russia's population at large and could conflict with the reactions towards sanctions observed on Twitter.

Finally, in the same vein as scraping multiple social media sites, conducting a comparative case study using the same methodology applied to another country that has recently experienced economic sanctions would provide an opportunity to deduce the universality of my findings, potentially holding important policy considerations.

7. Conclusion

Observing the impact of sanctions on the Russian public through their Twitter usage, I conclude that sanctions do produce a response within the Russian public and influence their perceptions of President Putin and the Russian Government. Sanctions that bring material harm to average Russians (comprehensive) and sanctions that threaten Russia's global prestige (comprehensive and diplomatic) appear to be the most important in influencing average Russian's perception of President Putin and the Government, while sanctions that harm the ruling class (targeted) prove less salient.

I found that the symbolic costs of diplomatic sanctions appear to become more important to Russians as additional sanctions are applied; in contrast to sanctions that impose material costs on elites, which provoke a consistent effect. Unfortunately, due to insufficient sample size, I cannot make inferences on the marginal effect of sanctions that bring material harm to average Russians.

Finally, this analysis suggests that Russians associate President Putin more with sanctions than the larger Russian Government, a logical outcome given that Putin directed the hostilities against Ukraine.

Distilling my results into a policy recommendation is difficult as it was not the primary objective of this paper. Nevertheless, these findings clearly show what costs imposed by

sanctions Russians find most important. Of notable significance, my findings suggest that the underlying logic behind targeted sanctions is sound. Russians reacted considerably less strongly to sanctions that targeted elites as opposed to those that posed symbolic and material costs on average Russians, abating fears that targeted sanctions lead to a large-scale rally that degrades their effectiveness. However, amid dozens of reports of oligarchs dying in mysterious and highly suspicious ways in recent years, the degree of influence oligarchs have within the Kremlin is suspect, making exclusively imposing costs on them a potentially ineffective means of inducing policy change.

On the other hand, imposing symbolic or material costs on the broader Russian population provokes a larger response; unfortunately, it is outside of the scope of this paper to determine whether this is a productive or unproductive effect when looking to create policy changes within a targeted state.

As sanctions continue to be a key response of the international community to transgressions, understanding their impact on targeted populations is vital. This paper cannot conclusively state whether sanctions increased or decreased support for President Putin and the Russian Government, but it provides evidence that they have an impact on their public perception and proposes a theory on how the public evaluates sanctions. While not without limitations, collecting and analyzing the Tweets of ordinary Russians afforded me a granular understanding of the impact of sanctions on the Russian people not found in any other scholarly work on the subject.

Appendix:

Keywords Used to Scrape Tweets:

Russia Keywords	Putin Keywords
Россию	Путипа
Россией	Путину
России	Путином
Россия	Путине
	Путин

Cities Scrapped by Federal District

Central	North West	Volga	Ural	South	Siberia	North Caucasus	Far East
Moscow	St. Petersburg	Kazan	Yekaterinburg	Rostov-on-Don	Novosibirsk	Makhachkala	Khabarovsk
Voronezh	Kaliningrad	Nizhny Novgorod	Chelyabinsk	Krasnodar	Krasnoyarsk	Stavropol	Vladivostok
Yaroslavl	Vologda	Samara	Tyumen	Volgograd	Omsk	Grozny	Ulan-Ude
Ryazan	Cherepovets	Ufa	Magnitogorsk	Astrakhan	Barnaul	Vladikavkaz	Yakutsk
Balashikha	Arkhangelsk	Perm	Surgut	Sochi	Irkutsk	Nalchik	Chita
Lipetsk	Murmansk	Saratov	Nizhny Tagil	Volzhsky	Kemerovo	Khasavyurt	Blagoveshchensk
Tula	Petrozavodsk	Tolyatti	Kurgan	Novorossiysk	Tomsk	Pyatigorsk	Komsomolsk-on-Amur
Kursk	Veliky Novgorod	Izhevsk	Nizhnevartovsk	Taganrog	Novokuznetsk	Kislovodsk	Yuzhno-Sakhalinsk

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