Russian Arms Sales: A System of Rewards and Incentives?

Troy Tuquero

Senior Undergraduate Honors Thesis

Advised by Professor Philip Roeder

Submitted to the Department of Political Science

University of California, San Diego

March 2021

Acknowledgements

I am so proud to see how this project has transformed over the months, and I am thankful to have had the opportunity to be a part of this program.

To my incredible thesis advisor Professor Philip Roeder, thank you for your never-ending patience with me and for always having an answer to every question that I raised. It has been a real pleasure to work with you.

To Professor Lake, Professor Nichter, and our TA Alexandra Lange, I am thankful for your constant enthusiasm and for providing us with comfortable spaces to share ideas and brainstorm.

To my friend Emily, thank you for answering so many of my technical questions about R. While I am still not a data master, you have helped nudge me in that direction.

Finally, to my fellow classmates, we did it. Particularly Jasmine and Benjamin, thank you for all the late-night texts and words of encouragement that you sent my way. This path was not a lonely one.

Table of Contents

1. Introduction: The Russian Arms Industry and Sales

This thesis examines Russia's usage of foreign arms sales and transfers as an instrument of statecraft. Through influence that the Russians sometimes refer to as "soft power," I argue that the primary objective of Russian decision making to sell arms to one country rather than another is to incentivize or reward a change in the foreign policies of recipient countries.

Arms sales remain a major feature of global diplomacy. According to a report released in March 2020 by the Stockholm International Peace Research Institute, the overall volume of international transfers of major arms from 2015-19 was 5.5% higher than in 2010-14 and 20% higher than in 2005-2009. These sales have been advanced primarily by the world's five largest arms exporters, the United States, Russia, France, Germany, and China, which together accounted for 76% of all arms sales during this five-year period from 2015- 19.
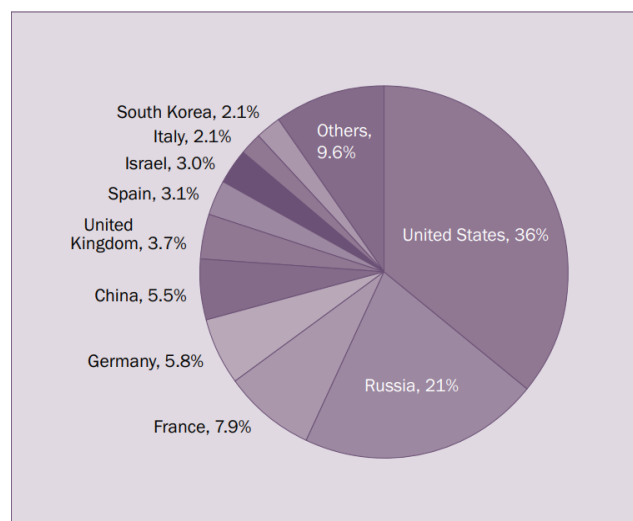
Figure 1: Global share of major arms exports by the 10 largest exporters, 2015-2019

Source: SIPRI Arms Transfers Database, Mar. 2020

At the time of its collapse in 1991, the Soviet Union was the single largest international exporter of conventional weapons (Anthony 1998). During the country's existence, Soviet policy towards arms transfers was directed by the Politburo with the aims of enhancing the country's

power and influence, improving the ability of its close allies to defend themselves against perceived Western aggression, and gaining regional basing rights. While commercial interests were considered, Soviet security officials felt that providing its clients with free weapons deliveries, discounts, and long-term, low interest loans would yield more important ideological and geopolitical advantages (Sorokin 1993).

In the post-Cold War 1990's, Russia was left with an oversized Soviet defense industry. Conversion of the industries for civilian production was considered impractical as it would require new investment, so the alternative was to boost arms exports and offer significant price reductions (Sorokin 1993). This entailed a renewal of arms relationships with its former Soviet allies, and other partners such as India, Syria, and Vietnam which had previously received arms from the USSR. With the ascendance of Vladimir Putin to the presidency in 2000, there was a notable strategic reorientation of Russian foreign policy towards the Asia-Pacific region, coinciding with greater outreach in the form of trade and arms sales towards traditional Asian partners such as Vietnam, as well as other ASEAN states such as Indonesia and Malaysia (Buszynski 2006).

The Middle East and North Africa (MENA) region accounted for 17.8% of Russian total arms sales between 2000 and 2016, and these deals include traditional customers such as Iraq and Egypt, as well as new markets in Algeria and Iran (Connolly & Sendstad 2017). Expansion into this area has followed the Russian approach of building political influence through emphasis on business interests, such as arms, energy, and high-tech goods like nuclear reactors (Borshchevskaya 184). A better-known example is Russian arms transfers to President Bashar al-Assad's government in the Syrian Civil War. The continued provision of arms provides Russia an important strategic foothold and extensive future influence within the country should

al-Assad's government triumph. Latin America has also seen an increased Russian presence and a continuation of Soviet-era foreign policy in the region. Finally, Russia uses its "economic contacts in areas of comparative conflict," namely its arms sales and energy technology, to leverage political support in Latin America for Russian positions and in opposition to Washington (Kim & Blank 2015).

Borshchevskaya (2018) provides an insightful analysis of the attractiveness of Russian weaponry from the demand side in the context of the Middle East and North Africa. Russian weaponry is considered relatively inexpensive and is generally seen as more robust than comparable American systems. For example, Russian aircraft and ballistic missile defenses are considered on par with those of the United States, with some having even longer range. Russian weaponry is considered a good choice for states on a budget and is often of superior quality to what purchasing states can build domestically (Borshchevskaya 2018). This fact is advertised through public displays by the Russians, such as the firing of 26 cruise missiles against targets in Syria in early October 2015 to demonstrate their effectiveness.

Overall, Russia delivered major arms to 45 different countries and accounted for 20% of total global arms exports from 2016 to 2020 (Wezeman et. al 2021). India was the main recipient of 23% of Russian arms during this period, followed by China at 18%, and Algeria with 15% of the share. At the regional level, Asia and Oceania accounted for 55% of Russian arms exports, followed by the Middle East at 21% and Africa at 18%. The main commodity sold by the Russian was aircraft, which accounted for 49% of Russian arms exports during this time (Wezeman et. al 2021).
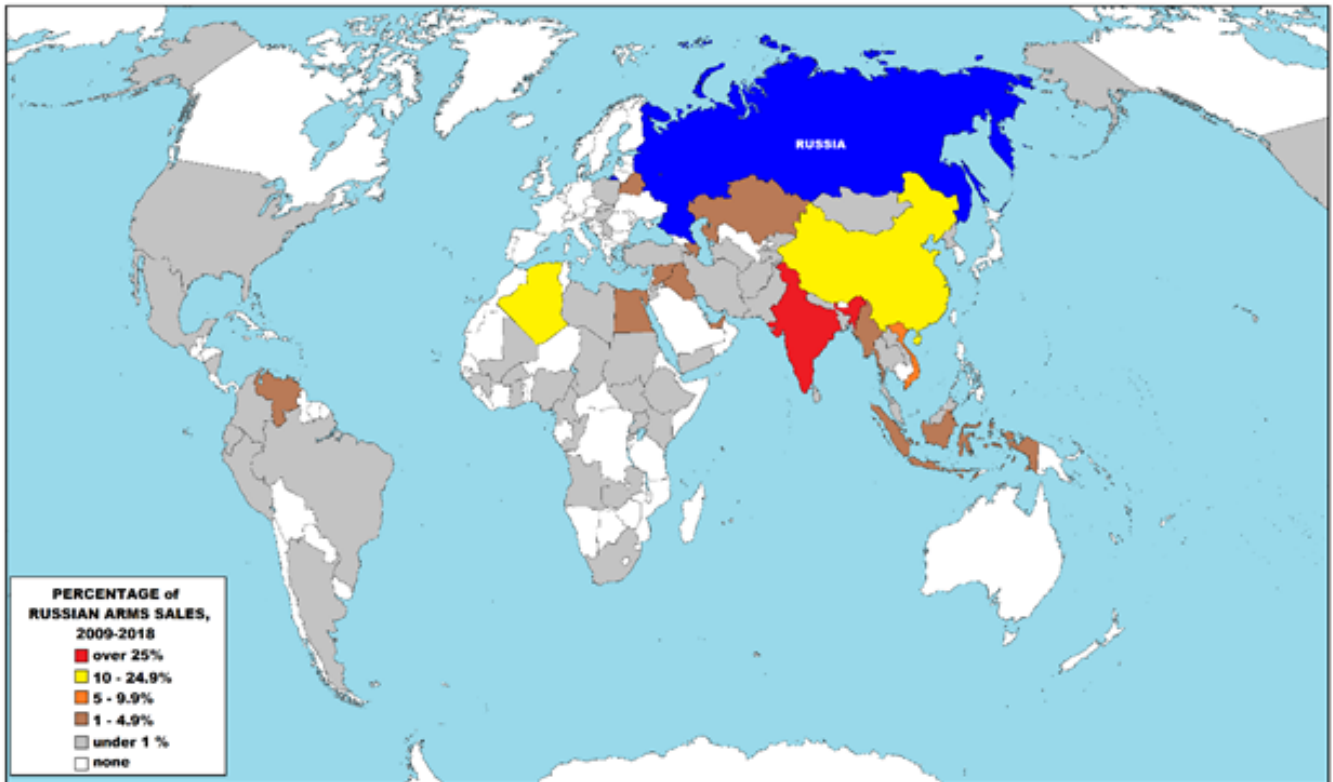
Figure 2. Russian Arms Sales to Individual Countries 2009-18

2. Explaining the Pattern of Russian Arms Sales

The Russian practice of selling arms to other states is a continuation of earlier Soviet policies. Yet, the geopolitical contours that Russia is operating in have changed drastically as the country pursues its national security objectives. This begs the question of which objectives provide the best explanations as to the logic of Russian arm sales and its choice of countries that it sells arms to?

Analysts generally understand Russian foreign policy and its strategic objectives. However, it is less clear as to whether the locations where Russia transfers arms to and the magnitude of them are born out from geopolitical explanations. In this research paper, I will focus on exploring a variety of potential hypotheses that could provide some insight into whether

the logic of Russian arms sales is consistent with our understanding of some testable military, political, and economic motivations.

My starting hypothesis is that if Russian seeks to influence or change the foreign-policy behavior of other states through influence that the Russians sometimes refer to as "soft power," then it will sell arms to either incentivize or reward countries in exchange for tangible benefits. These include changes in United Nations General Assembly voting behavior, the signing of a Defense Cooperation Agreement, and the stationing of Russian troops in that country. Alternative hypotheses are explored below.

2.1 Russian Balance-of-Power Policies

Commonly cited explanations of Russia's national-security objectives include the building of alliances, acquiring military assets such as access to ports or airfields, or disrupting the influence of Russia's adversaries, particularly at the expense of the United States. Concretely, the fulfilment of these goals has seen Russia pursue the creation of geopolitical buffer states in the Near Abroad[1], the formation of new regional political and economic architectures, and the challenge of the liberal order (Sussex 2017).

One key part to Russian national security is image-building or projecting the image of Russia as a great power. Since the 1990's, the consensus among political elites in Russia was that the country continued to hold status as a great power, despite the "aberration" caused by the fall of the USSR. The Russian historical concept of "*derzhavnost*," or "great powerness," has influenced Russian foreign policymaking through both instrumental and expressive signals of status (Grajewski 2017). The implications of this great power logic is that Russia likely feels that it is warranted the strategic independence to pursue its goals, particularly regional hegemony and

---

[1] The term "Near Abroad", used by Russia, refers to the 14 other successor states that were part of the Soviet Union until late 1991.

global recognition. The rhetoric of Russian leadership seems to indicate that arms transfers are an instrument to realize these goals. In a speech to the Federal Service for Military-Technical Cooperation, Russian President Vladimir Putin touted Russia's status as a major exporter of technical and military hardware and said that it was "an important indicator of our country's industrial, technological, scientific, and political capabilities," (Putin 2012). Every new arms contract or military-technical cooperation agreement reinforces this strategic independence. If Russia fails to expand and diversify its military exports, then it will lose the ability to be militarily competitive and independent. Russia would then likely come under pressure to align itself with China or the West and yield the independence of its foreign policy (Blank and Levitsky 2015). With tensions high between Russia and the West over the 2014 Ukraine Crisis, Russia has begun pivoting to Asia with new arms sales to maintain strategic autonomy. However, Russia finds itself continually constrained by both its dependence on China and the lack of opportunities due to American predominance in the region (Andrijauskas 2017). Nonetheless, arms sales play a key role in Russian national security policy by providing a mechanism to court everyone and compete with the West, the main threat, whenever an opportunity arises (Borshchevskaya 2018).

Military exports also provide a basis for security relations with other countries. Arms sales agreements include bilateral after-sale service agreements, such as maintenance services, delivery of spare parts, training and future upgrade agreements, and other opportunities (Kim and Levitsky 2015). In its Near Abroad, Russian military exports to its allies are a means of enhancing their military integration by making them reliant on Russia for the maintenance, modernization, and operation services of their exported armaments systems and equipment (Stoicescu 2018). The shared utilization of Russian weaponry and the doctrine behind their use

can also help jumpstart joint military exercises to test the weapons' capabilities and identify weaknesses (Pollack 1996). For instance, Russia has historically been and remains the largest provider of military arms to India. Their defense relationship is particularly strong as a result, and Russia and India cooperate in joint military programs such as BrahMos cruise missile program and the FGFA fifth-generation fighter jet program, as well as other joint development projects. Part of the incentive in developing these defense relationships in Asia is to counterbalance against China and maintain strategic flexibility in case of conflict (Kim and Levitsky 2015).

Russian arms exports may help to secure basing rights and access to ports and military bases in key regions of the world for power projection. Moscow lost about two million square miles of territory after the collapse of the Soviet Union, which has exacerbated Russian feelings of perennial geographic vulnerability (Kotkin 2016). As a result, Russia has made efforts to station forces in former Soviet states such as Belarus, Armenia, and Kazakhstan to act as "Russia's military outposts" on the outskirts of the Russian homeland (Stoicescu 2018). Remarks in 2014 from Russian Defense Minister Sergei Shoigu show a Russian interest in also securing basing agreements with far-flung nations such the Seychelles and Singapore, to effectively project air and naval power outside of its regional waters and airspace (Kim and Levitsky 2015). Russian officials have justified the creation of these new bases as a means of promoting the safety of Russian shipping against piracy attacks and to allow for new sites for refueling (Kuzmanov and Zendelovski 2017). Nonetheless, these bases likely have a military purpose and seem aimed to match the security measures taken by the United States.

Finally, Russia's interest in asserting itself on the world stage and counterbalancing against the influence of the West is primarily done in the United Nations. Russia has its own

narrow definition of international law as being based around the UN Charter and Security Council resolutions, as opposed to the "rules-based order" that Russia feels is "expansive" and advances only "Western interests." Additionally, the promotion of the concept of a multipolar world allows Russia to assert that it is a member of an oligarchic group of states that decide when and how to take collective action (Remler 2020). The former allows Russia to reject commitments on human rights and democratic governance, while the latter concept sets the stage for opposition against Western interests at the UN Security Council with the help of China. In the General Assembly, the growing degree of voting cohesion between BRICS[2] members seem to suggest that there is diplomatic common ground that may aid in challenging the United States's influence in the future (Ferdinand 2014). The work of Onderco (2013) hints that there may be a wider geopolitical trend of counterbalancing against the U.S. at the UN, as countries vote less often with the "lonely superpower." Despite these developments, the current literature seems to lean more towards Russian UN policy as being centered around its permanent spot in the Security Council (Remler 2020; Panagiotou 2011). Additionally, the past few years have demonstrated that Russia is increasingly taking more assertive and confrontational policies outside of UN auspices (Panagiotou 2011).

2.2 Arms as Political Influence to Shape the Foreign Policies of Recipients/Soft Power

To discuss the potential for arms sales to be used as a tool of foreign influence, it is important to first elaborate on the Russian reinterpretation of soft power. Soft power, a term coined by Joseph Nye, refers to the ability of a state to shape others' preferences through attraction rather than coercion. The Russian conception of soft power is different in that it links the concept to a broader definition of security more in line with post-Cold War geopolitics

---

[2] Acronym for Brazil, Russia, India, China, and South Africa. These five countries are emerging economies and regional powers.

(Gronskaya and Makarychev, 2010; Rusakova, 2010; Tsygankov, 2013). According to some Russia analysts, hard power strategy is associated with military strength, whereas soft power is linked to economics, political strength, healthy societies, environmental sustainability, attractive culture, and public diplomacy (Konyshev and Sergunin, 2014; Lukyanov, 2009; Troitski, 2011). The Russian take on soft power is thus much more expansive and instrumentalist in that it includes all non-military instruments and resources at the disposal of international actors (Sergunin and Karabeshkin 2015). This notably contradicts Nye's original definition as he excludes coercive tools and "payment" from soft power.

Thus, the Russian concept of soft power has been utilized as a tool for the country's foreign policy strategy. Soft power was first embraced by Russia as a means of consolidating its power amongst other states in the Near Abroad and was partly shaped as a reaction to the Color Revolutions in Georgia, Ukraine, and Kyrgyzstan in the early 2000's (Sergunin and Karabeshkin 2015). The application of the concept has seen Russia seeking further economic, political, and socio-cultural integration with post-Soviet states by improving its international image and attractiveness (Sergunin and Karabeshkin 2015). Russia has conducted more traditional styles of soft power, including the creation of "friendship societies" with foreign countries and hosting a Festival of Youth and Students in 2017 (Sergunin and Karabeshkin 2015). At the same time, Russia has taken a very statist-driven approach to soft power by engaging in both "positive propaganda" and "information operations" to change public opinion through active weaponization of information. For example, the distorted historical image of Russia and the Soviet Union as the only victor against Nazism during the Second World War has been disseminated to foster a sense of gratitude and to justify Russia's current foreign policy decisions to foreign audiences (Krillova 2020). The Russian interpretation of soft power has also been felt

in the usage of energy wealth as a tool to exert political pressure on its European consumers and to reward allies for good behavior. Changing political conditions are the main determinant of whether Moscow orders Gazprom[3] to give or take away energy export discounts (Korteweg 2018). Some analysts criticize Russia's soft power approach as being too coercive. Joseph Nye (2013) notes Russia's initiatives pursue pragmatic, interest-based goals that typically fail to account for their international partners' interests and are thus met with suspicion or hostility. Others like Grygas (2012) condemn Russian soft power as not being built upon "legitimacy" and "moral authority," but instead relies on fear. These critical views are not without merit, as Russian soft power has been interpreted in the Baltic states as a means of breaching their sovereignty and reintegrating them into the Russian sphere of influence (Sergunin and Karabeshkin 2015).

Turning back to arms transfers within this discussion of the Russian conception of soft power, there is the relevant question of how arms sales work as both an incentive and reward for international actors. Logic suggests that arms sales can be both a means to influence another power to change direction as well as the carrot to reward them for taking or maintaining a pro-Russian position. Every reward also has two other sides: Arms delivered are a promise of future arms deliveries and an implicit threat of discontinuation of arms deliveries in the future. This "future" face of arms deliveries is more important due to the dependence on parts, maintenance, and training into the future.

Finally, Woo and Verdier (2011) suggest that a government's responsiveness to either rewards or sanctions as a means of altering policy behavior is primarily dependent upon government type. Prior research on regime type and incentives show that sanctions are generally

---

[3] Gazprom refers to the majority Russian state-owned energy corporation. It is responsible for pipeline access and gas price setting.

more effective against "accountable" governments such as democracies, whereas "unaccountable" regimes are more responsive to rewards. Their contribution suggests that intermediate regimes, neither quite democratic nor autocratic, are not responsive to sanctions and are instead drawn to the promise of large rewards.

2.3 Economics Motives for Arm Sales

Arms transfers have been credited with creating economies of scale, reducing unit prices, promoting the export of high-value-added goods, producing revenue, encouraging research and development, and maintaining the low costs of the arms industry (Peron 2011). There are also a range of economic stakeholders both within and outside of government and the private sector that seek continued arms exports. Although Russian manufacturing industries have diminished or disappeared after the fall of the Soviet Union, Russia remains one of the world leaders in arms exports. As of 2017, the defense industry employed 2.5 million workers, accounting for over 3% of total employment, and about one-third of employment in defense-industrial research and development and military production (Connolly & Sendstad 2017). Export markets are of continued importance to Russian firms as they provide income and are a potential source of future sales that will compensate for anticipated declines in Russian domestic demand (Connolly & Sendstad 2017). This also helps preserve Russian production capabilities and can be profitable for arms manufacturers especially because government spending can contribute to development costs (Connolly & Sendstad 2017).

While there are clear economic benefits to arm sales, some of the available literature warns of negative externalities. The work of Avila et. al (2017) argues that over-reliance on the arms industry can foster corruption (Feinstein 2011), a lack of adequate transparency and accountability, overproduction, drops in domestic arms stocks, and imbalances between

economic benefits and political risks. Additionally, the development of an influential military-industrial complex (Rosen 1973) can hamper government decision-making and create ethical dilemmas over the usage of public funds for these industrial ventures (Avila, de Souza, and Guedes 2017). These are all apparent in the Russian case, but do not appear to have limited arm sales abroad.

The nature of the global arms market is important to understanding the benefits of participation for Russia. Supply and demand for military goods is described as an imperfect market with few suppliers and few customers (Blum 2019). Most industrialized countries have arms industries with an oligopolistic structure. The capital needed to produce goods, the high costs of military R&D, and the confidentiality standards needed in procurement projects are barriers to entry that create a market structure where only a few dominant arms companies develop and produce arms (Glisman and Horn 1992, Levine et al. 1994). On the demand side, Glismann and Horn (1992) describe it as a monopsony where the domestic government is the only domestic customer and decides whether arms are exported to other countries. Despite the few suppliers, the global arms market is quite open. If a supplying nation declines to provide a client with arms, others will do so in their place (Kapstein 1992). For example, several Iraqi officials expressed interest in major arms purchases from Russia, including the S-400 air defense system, amid calls for U.S. forces to leave the country (Congressional Research Service Report 2020). In terms of the number of arms that are sold, Meijer, Beraud-Sudreau, Holtom, and Uttley (2018) introduce a framework drawing upon neoclassical realism. They argue that the volume of arms transfers depends not only upon threat assessments on the global balance of power; it is domestically constrained by the autonomy of the exporting state's defense and technological industrial bases.

Arms-exporting nations transfer manufacturing technology weapons and engage in collaborative research and development with one another. Co-production agreements are known to lower individual research and manufacturing costs for both parties (Avila, de Souza, and Guedes 2017). There is also substantial evidence that arms can be used to trade for access to natural resources. The head of Rosoboroneksport, the government agency responsible for Russian exports and imports of defense products and services, publicly commented that his organization was a part of an effort to gain resource access (Blank and Levitsky 2015). One example is a Russian-Algerian arms deal signed in 2006 where Russia waived $4.5 billion of debt in exchange for access to Algerian oil and gas reserves, which was part of a larger agreement (Connolly & Sendstad 2017). Interestingly, the implications of the argument that Russian arms sales could be driven by turning a profit might also mean that they may be more indiscriminate in who they sell arms to.

In terms of the demand for Russian arms, there are a few factors that go into it. Many Middle Eastern states, for example, view Russia as an alternative supplier of arms or as a second option whose presence might increase their leverage with U.S. officials and arms companies (Congressional Research Service Report 2020). Moscow is seen as easier to deal with as it does not include preconditions alongside its arms sales like the United States does, an issue that can be protested by purchasing Russian arms (Borshchevskaya 2018). Additionally, U.S. weapons are generally more expensive than Russian arms (Cordesman 2016). In terms of on-the-ground use, many local military personnel in the MENA region have experience with Russian weaponry and are more comfortable with operating it (Borshchevskaya 2018). Despite the predominance of American weaponry and the possible threat of sanctions for purchasing Russian arms,

authoritarian leaders still choose to engage with Russia as it offers advantages such as quicker delivery and better negotiating terms (Borshchevskaya 2018).

3. Hypotheses

The literature cited above suggests a series of potential hypotheses that may offer plausible explanations of how Russian strategy in arms exportation is driven. Each is conditional on a different assumed Russian operational objective:

Hypothesis 1 (H1): If Russia seeks to build a buffer zone between it and potential threats, then it will sell arms to neighboring states.

Hypothesis 2 (H2): If Russia seeks to build security relations between it and potential partners, then it will sell arms to countries with which it has defense cooperation agreements.

Hypothesis 3 (H3): If Russia seeks to acquire access to foreign military assets, then it will sell arms to countries with important port facilities or airfields or the potential for either.

Hypothesis 4 (H4): If Russia seeks access to energy and raw materials, then it will sell arms to countries with access to these resources as defined by energy and raw materials sales as a percentage of GDP.

Hypothesis 5 (H5): If Russia wishes to raise revenue, then Russia will sell arms to countries with higher GDPs per capita.

Hypothesis 6 (H6): If Russia seeks to undermine U.S. influence, then it will sell arms to countries opposed to the U.S.

4. Research Design

4.1 Dataset

I test these hypotheses with data on Russian arms sales from 1992 to 2018. The dataset is organized as a panel with 4,423 country-year observations on 172 countries over 26 years. The analysis's starting point marks the year after the dissolution of the Soviet Union and the renaming of the Russian Soviet Federative Socialist Republic to the Russian Federation. To be included, the country of analysis must have existed from 1992 to 2018 and must have a 2006 population exceeding five hundred thousand people, as defined by the Polity IV country dataset. This 26-year time frame allows for an analysis of Russians arms transfers as it tracks through major developments in Russian foreign policy strategy. Shifting from an initially pro-Western outlook under President Boris Yeltsin and Foreign Minister Andrei Kozyrev, Russia saw itself increasingly drawn towards the ideas of the new Primakov Doctrine in 1996 that called for recognition of Russia as an independent power and as a leader of an alternative to the U.S.-led unipolar system (Gurganus & Rumer 2019). Acceptance of this foreign policy concept under President Vladimir Putin has manifested itself into both active intervention in neighboring states such as the 2008 war with Georgia and the 2014 annexation of Crimea, as well as expanded outreach in farther geographic areas where Russian presence has not been as consequential.

My statistical analyses address three questions.

1. What determinants best explain whether a country is given arms by the Russians in a given year?

2. If the country did receive arms, what indicators impact the amount Russia provided?

3. Is the sale of Russian arms intended to be a reward for past policy or incentive to change foreign policy? Is the sale of arms by the Russians a means to incentivize a change in the foreign policy behavior of the recipient country? Or does the provision of arms act as a reward for the maintenance of foreign policy behaviors that are agreeable to the Russians?

4.2 Variables

All variables are re-scaled to range from 0 to 1, representing the lowest and highest observed variables. That is, the transformation of each variable is: Operationalization = (Observed Value – Lowest Observed Value) / (Highest Observed Value – Lowest Observed Value). This re-scaling allows comparison of the magnitudes of different coefficients to ascertain the effect of each on the dependent variable.

Dependent Variables

Russian Arms Exports Per Capita (ArmsRussia) is the value of the arms transferred from Russia to a country each year divided by the population of the recipient-country. This data is from the Stockholm International Peace Research Institute (SIPRI) database on arms transfers. This utilizes a common unit system, the trend-indicator value (TIV) to measure the volume of international transfers of major conventional weapons based on standardized unit production costs. This represents the volume and embedded technology rather than the price actually paid for the arms (SIPRI Arms Transfers Background). For the purposes of this project, I assumed that any country-year observation in which there is no SIPRI record of a Russian arms transfer takes on a value of 0 in my analysis. I felt comfortable making this determination as the SIPRI Arms Industry Database is well-trusted by academic scholars and utilizes a wide variety of sources, including company reports, military journals, and press releases in its reporting.

Russian Arms Exports (ArmsRussiaBinary) is a binary variable for whether Russia delivered arms to a country in that year.

Independent Variables

Distance of Capital from Moscow (Distance) is the geodesic distance between Moscow and the observed country's capital. Geodesic distances are calculated using the great circle formula (Mayer and Zignago 2011). These are from the French research center CEPII's GeoDist database. This variable is relevant to buffer zones in H1 in that smaller geographical distance is associated with buffer zones.

Defense Cooperation Agreements (DCARussia and DCAUSA) indicates the presence of a framework treaty between the state and Russia (or the United States) to coordinate and institutionalize defense cooperation, perform joint operations, conduct research and development, and other tasks. This data is from the Correlates of War Project and it includes all DCA's irrespective of their type or the level of confidence in their assigned category. The inclusion of this data will answer whether H2 holds. Since these COW datasets cover only up to 2010, these two variables are the source of many missing observations—specifically 1297 country-years. My regression analysis will go further into how listwise deletion of cases may impact the model later in this work.

Russian Troop Deployment (Troops, Naval Forces, Air Forces) indicate the presence and specific type (Naval or Air) of Russian troops within another country each year. The first indicates any presence of troops, while the latter two indicate specific presence of naval or marine components and non-helicopter aerial deployments. These data are drawn from the International Institute of Strategic Studies' (IISS) yearly reports, *Military Balance*. This metric will allow for analysis of H3.

Raw Materials and Fuel Sales as a Percentage of GDP (RM&Fuels) is the annual number of

raw materials and fuels exported by a country in thousand U.S. dollars as a percentage of GDP.

These data are from the UN Comtrade database in the World Integrated Trade Solution (WITS)

that is maintained by the World Bank and other UN agencies. The volume of trade is divided by

the country's GDP in that year using PPP. This variable also has missing values for some

country-years.

 Country GDP Per Capita (GDPpc) is from the World Bank's World Development Indicators. It

is denominated in constant purchasing power parity (PPP) U.S. dollars of all countries between

1992 to 2018. This will be used to test H5 that Russian arms are merely a means of making a

profit and so Russia is more likely to sell arms to higher GDP per capita nations whom they

know will be able to pay for the arms.

 UN Agreement Scores with Russia (Agree) is a voting similarity index between Russia and

each country taken from Voeten, Strezhnev, and Bailey's (2020) database of roll-call votes in the

United Nations General Assembly from 1946 to 2019. This permits a test of H6, which predicts

that agreement with Russia and opposition to the United States will bring greater Russian arms.

Other Variables

Arms Transfers from Other Permanent Five Members (ArmsChina, ArmsFrance, ArmsUK,

ArmsUSA) follow the same methodology for the creation of the Russian TIV per capita

variables. These are the four other permanent members of the UN Security Council. These serve

as control variables for alternative sources of arms. These four variables are also used in the

creation of a variable (RusP5Comp.) noting the Russian percentage of total arms imported by P5

members within a given year, by dividing Russian TIV values by a summation of all P5 arms

imported by that country.

Polity2 (Polity) is a measure of the extent of democracy in each recipient country. The original

Polity2 scores range from +10 (strongly democratic) to -10 (strongly autocratic) and is computed

by subtracting the *autoc* variable from the *democ* variable. Polity2 is a revised version that

converts standardized authority scores of -66, -77, and -88 to conventional polity scores,

allowing for the representation of foreign interruptions, anarchy, and transition, respectively.

Population (Population) measures the number of people who live in the recipient country each

year. The data is provided by the World Bank, which derives the information from reports by the

UN Population Division, national census statistics, among other sources.

Table 1: Variables and Descriptive Data

Name of Variable	Number of Observations	Mean	Standard Deviation	Minimum	Maximum
ArmsRussiaBinary	4423	0.2	0.3710602	0	1
ArmsRussia	4315	0.0000010	0.0000063	0	0.0001729
Polity	4364	3.3375344	6.5083703	-10	10
Distance	4391	5912	3612.495	687	16774
DCARussia	3126	0.1609085	0.3675053	0	1
DCAUSA	3112	0.2599614	0.4386836	0	1
Agree	4163	0.7688	0.0852297	0	1
Population	4315	39530870	139791745	329995	1392730000
ArmsUSA	4315	3.966734e-06	2.131524e-05	0	0.00062
ArmsChina	4315	2.306657e-07	1.819904e-06	0	5.368654e-05
ArmsFrance	4315	1.142978e-06	1.246343e-05	0	0.0005003971
ArmsUK	4315	5.79618e-07	5.355482e-06	0	0.0001856349
RM&Fuels	2974	5.851522e-05	9.310876e-05	2.82504e-09	0.0008945056
RusP5Comp.	4423	0.1131915	0.293189	0	1

| GDPpc | 4123 | 14003.9 | 17624.24 | 285.5869 | 141635 |
| Troops | 4423 | 0.1008365 | 0.3011462 | 0 | 1 |

4.3 Estimation Procedures

I begin with OLS regression models that include all independent variables and control variables. Then in tests of the robustness of these results and estimation bias associated with panel data, I reestimate the models with Logit, Pooled, two way Random-effects, Poisson, and Negative-Binomial estimation.

As first tests of my overall model and the determinants of the number of arms transferred by the Russians, I regressed my binary variable on Russian arms exports on all variables using all country-years and then regressed Russian arms per capita on the same independent variables but using just country-years in which Russian arms had been transferred. I included the OLS coefficient estimates using both my regular and scaled variables to compare the magnitude of effect.

A question raised by this thesis is whether Russia uses arms transfers as an incentive for future foreign policy changes by the recipients or as a reward for past favorable behavior. The changes in behavior after receipt of Russian arms would appear in the dataset as new Russian naval troop deployments in the country, new aerial systems placements, changes in voting behavior at the United Nations to align with Russia, and creation of new defense cooperation agreements *after* receipt of Russian arms. To determine this, I placed the changed-outcome variable acting as the dependent variable and placed Russian Arms Exports per capita prior to that change (that is, lagged) as one of my independent variables.

While I have included a wide variety of variables, I cannot guarantee that my models are immune to the impact of omitted-variable bias. To facilitate better analysis about the measure of spread of y-values around my regressions, I have included my RMS Errors. It is my hope that my analysis will provide further insight into potential independent variables that should be included in the model.

5. Results and Analysis

5.1 Results and Discussion

Table 2 displays my OLS regressions with regular and scaled variables. The left-hand side displays the regression of my binary dependent variable on multiple independent variables, while the right-hand side models the magnitude of arms that are given by the Russians in the truncated subset. The results are broken down into the six hypotheses that this paper discusses.

Table 2: Did Russia Provide Arms? If So, How Many? 1992-2018				
	ArmsRussiaBinary (OLS)	**ArmsRussiaBinary (Scaled OLS)**	**ArmsRussia (OLS)**	**ArmsRussia (Scaled OLS)**
Polity	-8.582e-04 (7.354e-04)	-0.017164 (0.014708)	2.768e-07 (1.563e-07)**.**	0.032025 (0.018081)**.**
Distance	-3.099e-07 (1.144e-06)	-0.005199 (0.019189)	-7.824e-10 (3.079e-10)*	-0.075919 (0.029874)*
DCARussia	-1.596e-02 (9.189e-03)**.**	-0.015961 (0.009189)**.**	-1.750e-06 (2.196e-06)	-0.010121 (0.012701)
DCAUSA	2.640e-02 (9.4Table 73e-03)	0.026404 (0.009473)	-4.908e-06 (2.140e-06)*	-0.028388 (0.012380)*
Agree	3.179e-02 (5.007e-02)	0.031791 (0.050072)	3.159e-06 (1.349e-05)	0.018272 (0.078050)
Population	9.850e-11 (2.519e-11)***	0.137177 (0.035084)***	-7.250e-15 (2.538e-15)**	-0.058407 (0.020444)**
RM&Fuels	-9.013e+01 (4.530e+01)*	-0.080622 (0.040524)*	-1.009e-02 (1.195e-02)	-0.052195 (0.061840)

RusP5Comp.	1.112e+00 (1.548e-02)***	1.112492 (0.015477)***	1.372e-05 (2.888e-06)***	0.079361 (0.016705)***
GDPpc	2.933e-07 (2.872e-07)	0.041542 (0.040673)	3.084e-10 (1.011e-10)**	0.252633 (0.082857)**
Troops	-3.769e-02 (1.385e-02)**	-0.037693 (0.013849)**	-6.030e-06 (3.134e-06).	-0.034879 (0.018129).
Intercept	1.816e-02 (4.176e-02)	0.018158 (0.041756)	-8.297e-07 (1.145e-05)	-0.004799 (0.066253)
Number of Observations	1967	1967	310	310
R²	0.7696	0.7696	0.1419	0.1419
RMSE	0.1744376	0.1744376	1.550713e-05	1.550713e-05
Significance: *** p<.001, ** p<.01, * p<.05, . p<.1				

Hypothesis 1 (H1): If Russia seeks to build a buffer zone between it and potential threats, then it will sell arms to neighboring states.

The results in Table 2 show that there is no statistically significant relationship between Distance and whether Russia sells arms to a country. However, Distance is statistically significant in determining the magnitude of arms that are provided and the coefficient estimates are negative. Looking at the other independent variables when they are scaled from 0 to 1, the magnitude of the distance coefficient is second only to RusP5Comp. These results suggest that distance does not necessarily play a role in whether Russia chooses to sell arms to a country. However, it indicates that less arms are provided to countries that are farther away. This is consistent with H1, as it suggests that Russia has given priority to building its buffer zone by cementing security relations with countries nearer to it.

As is shown in the results, Russia prioritizes giving more military exports to its neighbors, particular those countries within its Near Abroad. Interestingly, RusP5Comp is also

statistically significant and has a positive coefficient. Taken together, these results could support

the findings of Stoicescu (2018) in that increased Russian arm sales to its neighbors can make

these recipient countries more reliant on Russia for the maintenance, modernization, and

operation services for their armaments systems and equipment. Reliance on Russia for arms and

security likewise restricts the ability for the recipient country to pivot away from Moscow,

allowing for the maintenance influence in the Near Abroad. For example, the Russian response

to increased Armenian interest in strengthening relations with the European Union in 2013 was

to increase its arms export to Azerbaijan by US$1 billion. This sought to warn Armenia that

Russia may not support it in case of conflict over Nagorno-Karabakh. By regularly playing both

sides of regional conflicts using arms sales as rewards or incentives, Russia can maintain its

standing in the region (Babayan 2015). Taking this literature into account, it is possible that state

dependency on Russia for arms and security can create and solidify long-term relationships.

Hypothesis 2 (H2): If Russia seeks to build security relations between it and potential partners,

then it will sell arms to countries with which it has defense cooperation agreements.

It is slightly statistically significant that Russia is less likely to provide arms to countries

with which it has a DCA. The coefficient estimate is negative, but the magnitude is smaller than

most variables. There is no statistical significance between the existence of a Russian DCA and

the amount of Russian arms that are sold to a country. These results are not consistent with my

assumptions for H2, as it suggests that Russia does not provide arms as a reward to countries

with which it already has security agreements. Interestingly, it runs counter to established

research on bilateral defense cooperation agreements and arms procurement. After signing a

DCA, country dyads are typically more likely to participate together in peacekeeping and joint

military exercises, more likely to collaborate on the same side of a militarized interstate dispute (MID), more likely to engage in arms trade, and have cooperative interactions overall (Kinne 2018). My model also shows that it is slightly statistically significant that Russia will provide less arms to countries who have DCA's with the United States. This result is much more consistent with the above research.

Hypothesis 3 (H3): If Russia seeks to acquire access to foreign military assets, then it will sell arms to countries with important port facilities or airfields or the potential for either.

My model suggests a statistically significant relationship between Russia selling arms and the presence of Russian forces in the recipient country. The coefficient estimate is negative, but it is smaller than other variables such as Population. With respect to the magnitude of arms that are provided, it is slightly statistically significant that Russia provides less arms as a reward to countries in which it already has forces stationed. In a later section, I will discuss the possibility that arm sales are statistically significant in incentivizing a country to grant Russia access to new basing.

Hypothesis 4 (H4): If Russia seeks access to energy and raw materials, then it will sell arms to countries with access to these resources as defined by energy and raw materials sales as a percentage of GDP.

According to my regression analysis, it is statistically significant that Russia is less likely to provide arms to countries which sell more energy and raw materials as a percentage of GDP. However, there is no statistical significance between the magnitude of arms that Russia sells and the amount of energy and raw materials sold by a country. This runs counter to my assumptions

of H4 but is logical. Russia is known as a major energy exporter as opposed to a buyer. Russia possesses the world's largest conventional natural gas reserves, second largest coal reserves, and has the ninth largest crude oil reserves (Simons et. al 2014). At the very least, Russia would likely be less interested in courting for access to energy or fuels.

I reran my regression analysis by including only raw material sales as a percentage of GDP, to determine if a country's sales of raw materials were a determinant of Russian arms. As Table 5 shows in the appendix, it is slightly statistically significant that Russia is less likely to sell arms to countries that sell more raw materials; however, there is no relationship between the magnitude of arms sales and raw materials. My model thus suggests that access to raw materials and energy is not a major reason for Russian arm sales. Therefore, H4 does not hold.

Hypothesis 5 (H5): If Russia wishes to raise revenue, then Russia will sell arms to countries with higher GDPs per capita.

My model suggests that there is no statistical significance between the likelihood of Russia providing arms to a country and the recipient country's GDP in constant PPP per capita. However, it is statistically significant that Russia provides more arms to countries with higher GDPs per capita. In comparing the magnitude of the coefficient, country GDP is the variable that has the greatest effect on the number of arms that Russia sells to a country. This is consistent with H6 as it suggests that more Russian arms exports go to countries that could afford it.

This does not necessarily mean that Russia chooses to sell arms solely as a means of financial gain. As the literature I cited earlier suggests, Russia has domestic incentives to participate in the global arms market because of the profits it generates and the innovation that it can spark in arms industries (Connolly & Sendstad 2017). However, the major recipients of

Russian arms in the past few years include India and China. Not only are these two countries quite prosperous, but there are also several geopolitical motives that may incentivize interest in selling to these markets.

Hypothesis 6 (H6): If Russia seeks to undermine U.S. influence, then it will sell arms to countries opposed to the U.S.

UN agreement with Russia is not statistically significant in determining the likelihood of Russia providing arms to a country nor the magnitude of arms sales that are provided. This suggests that Russia does not sell arms as a reward for a country's alignment with Russia on votes in the UN General Assembly. In a later section, I will further determine whether changes in agreement score were incentivized by Russian arms.

5.2 Do Russian Arms Influence Recipient Countries?

Table 3 provides a series of OLS regression models that describe whether the magnitude of Russian arms is able to incentivize recipient countries to provide certain tangible rewards. These potential rewards are derived from my hypotheses: changes in UN voting agreement indices with Russia, the signing of a DCA with Russia, and the allowance for new Russian troops to be deployed in the country. With the dependent variable now a measure of changed-outcome such as a new defense agreement, the independent variables are lagged by one year to determine whether arms sales in one year played a role in the provision of benefits to Russia in the next.

Table 3: Does the Provision of Arms Incentivize Tangible Rewards for Russia?					
	Agree	**DCARussia**	**Troops**	**Naval Forces**	**Air Forces**
ArmsRussia	-2.014e+02 (2.461e+02)	-2.112e+03 (1.576e+03)	-1.979e+03 (1.172e+03)**.**	6.885e+01 (3.890e+02)	-1.006e+03 (5.484e+02).
Polity	-9.124e-04 (6.543e-04)	5.353e-03 (4.446e-03)	-3.395e-03 (3.172e-03)	-2.858e-03 (1.053e-03)**	2.288e-03 (1.484e-03)
Distance	-3.669e-06 (1.371e-06)**	-2.766e-05 (8.980e-06)**	-4.837e-06 (6.552e-06)	3.249e-06 (2.174e-06)	-4.134e-06 (3.065e-06)
DCARussia	-6.214e-04 (9.581e-03)	--	2.035e-02 (4.585e-02)	3.463e-02 (1.522e-02)*	3.366e-03 (2.145e-02)
DCAUSA	-1.265e-02 (9.302e-03)	3.335e-01 (5.805e-02)***	-9.551e-02 (4.425e-02)*	2.537e-02 (1.469e-02).	-4.913e-02 (2.070e-02)*
Agree	--	-7.256e-02 (3.787e-01)	-4.208e-01 (2.841e-01)	4.528e-02 (9.429e-02)	5.587e-02 (1.329e-01)
Population	9.255e-13 (1.074e-11)	3.251e-11 (6.990e-11)	-1.177e-10 (5.102e-11)*	-1.394e-11 (1.693e-11)	-5.852e-11 (2.387e-11)*
RusP5Comp.	1.967e-02 (1.296e-02)	4.196e-02 (8.536e-02)	2.393e-01 (6.070e-02)***	2.383e-02 (2.014e-02)	8.511e-02 (2.840e-02)**
RM&Fuels	1.376e+02 (4.840e+01)**	1.655e+01 (3.458e+02)	8.890e+01 (2.356e+02)	-5.186e+01 (7.819e+01)	-1.566e+02 (1.102e+02)
GDP Per Capita	-1.134e-06 (4.149e-07)**	-1.170e-05 (3.038e-06)***	-1.127e-06 (2.047e-06)	-2.767e-07 (6.792e-07)	5.292e-08 (9.576e-07)
Troops	-7.295e-03 (1.387e-02)	5.569e-02 (8.750e-02)	--	--	--
Intercept	8.144e-01 (1.358e-02)***	4.345e-01 (3.184e-01)	3.869e-01 (2.407e-01)	-5.816e-02 (7.987e-02)	-2.162e-02 (1.126e-01)
Number of Observations	274	251	274	274	274
R²	0.1116	0.1826	0.0753	0.05638	0.0517
RMSE	0.06236334	0.3880436	0.2989716	0.09921791	0.1398817
Significance: *** $p<.001$, ** $p<.01$, * $p<.05$, . $p<.1$					

According to my model, there is no statistically significant relationship between the

magnitude of Russian arms sales and a change in the dyadic UN General Assembly voting

agreement score. This goes against H6 that Russian arms play a role in influencing the foreign behavior of states as operationalized by UN voting. Russian arms are neither a reward nor incentive for agreement with Russia in UN General Assembly votes.

The results also show that there is no statistically significant relationship between the number of arms that Russia sells to a nation and the signing of a new Defense Cooperation agreement. This is consistent with the earlier finding for H2, which indicated that there is also no relationship between having DCA with Russia and the number of arms that are provided. Russian arms are neither a reward nor incentive for defense agreements.

The model also suggests that Russian arms do not bring Russia access to new or expanded basing opportunities. The coefficients in Table 3 are statistically significant at the .10 level for Russian Troop Deployment and Air Deployment, but not for Naval Deployment. And interestingly, the coefficient estimates are negative. The weak statistical significance and the counterintuitive finding make me reluctant to draw a substantive conclusion about the effects of Russian arms.

5.3 Tests of the Robustness and Bias and Possible Estimation Bias in the OLS Models

Table 6 and Table 7 in the appendix section of this paper describe four robustness test models that I ran. I begin with a logit regression on my binary dependent variable with all independent and control variables included. Second, I created a Poisson process which models discrete events where the average between the events is known, but the exact timing is random (Koehrsen 2019). Third, I ran a negative binomial regression, which is a discrete probability distribution model for random variables that counts the number of failures before a success.

Lastly, I ran a few regression models specifically tailored towards panel data, utilizing the PLM package in R.[4]

To determine whether a fixed-effects model would improve upon my random-effects model, I ran a pooled OLS. This technique estimates the dataset by OLS with a sample of observations and not recognizing the panel structure of the data. This assumes homoskedasticity and no correlation between unit observations in different periods, or between different units in the same period. I then conducted a Hausman test to determine if I would utilize a random effects model as opposed to a random effects model. It tests whether the unique errors (ui) are correlated with the regressors; the null hypothesis assumes that the preferred model is random effects, and the hypothesis is fixed effects (Torres-Reyna 2010). Seeing as the p-value was insignificant with a value of 1, I concluded that a random effects panel regression model should be used. The random effects model assumes that the parameters that define systematic components have some sort of random variation. By contrast, the fixed-effects model assumes the system effects are nonrandom (Salkind 2010).

Reasons for the low R2 in the equations for volume of arms sold to recipient-countries include a non-linear (such as a logarithmic) relationship between dependent and independent variables. In addition, there may be additional controls that should be included in the model to better explain my variation. Table 1 also indicates that there are many missing observations within three of my variables, DCARussia, DCAUSA, and RM&Fuels. The absence of this data may impact the statistical power of my model, meaning that the null hypothesis may be rejected

---

[4] Initially these did not run, as the program assumed that my small coefficients were zero values, leading to an assumption that I was using a singular matrix. By utilizing my scaled variables instead, the regressions were able to pass muster.

in instances where it is false. The missing values can also cause bias in the estimation of parameters and can reduce the representativeness of my samples (Kang 2014).

The robustness tests that I conducted lead me to qualify the results of my OLS regression model, as there is great variance in whether my coefficient estimates are statistically significant at across my models.

Starting with H1, the models tend to agree that Distance is not statistically significant with ArmsRussiaBinary. However, the models do suggest that increased distance from Russia means that it will provide a smaller number of arms to the recipient nation.

In terms of H2, the robustness models seem to suggest that there is no statistically significant relationship between DCARussia and changes in Russian arms sales.

For H3, my models generally agree that Troops is statistically significant with ArmsRussiaBinary as well as ArmsRussia. The coefficient is negative, meaning that the presence of Russian troops in a foreign country likely decreases both the likelihood and magnitude of Russian arms sales.

With respect to H4 and H5, my robustness tests provide mixed information as to whether RM&Fuels and GDPpc are statistically significant. These hypotheses are thus inconclusive.

Finally, all my models agree that UN voting agreement is not statistically significant in changing either ArmsRussiaBinary or ArmsRussia.

These mixed results do not necessarily mean that my OLS regression model has no utility whatsoever, but I would like to caution my reader about some of my results based on these robustness tests. Based on my information, I am more certain that my findings in H1, H2, H3,

and H6 have higher levels of validity. However, further investigation would be needed to confirm this.

6. Conclusion

This thesis examines Russia's usage of foreign arms sales and transfers as an instrument of statecraft. Through influence that the Russians sometimes refer to as "soft power," I argued that the primary objective of Russian decision making to sell arms to one country rather than another is to incentivize or reward a change in the foreign policies of recipient countries.

I first sought to answer the extent to which the determinants of Russian global arms sales − both the decision to sell to a country and the magnitude of arms sold − are drawn from six possible Russian operational objectives. These include the creation of a buffer zone, the enhancement of security relations, acquiring access to foreign military basing, securing energy and raw materials, raising revenue, and challenging the influence of the United States.

My results suggest that countries which have the presence of Russian troops have a statistically significant, lower probability of being sold Russian arms. Countries which are more geographically distant from Russia or have Russian troops stationed in them usually receive a smaller magnitude of Russian arms. My robustness tests indicate uncertainty as to how statistically significant are a country's raw materials and fuel sales and GDP per capita as determinants of Russian arms sales. Finally, my analysis found that having a defense cooperation agreement with Russia or having higher levels of UN voting affinities with Russia has no statistically significant bearing on whether they receive arms, nor the amount provided.

In this thesis, I had assumed that the provision of Russian arms to a country could incentivize or reward a change in foreign behavior. These tangible, potential rewards were

derived from possible Russian strategic objectives, namely changes in UN voting agreement with Russia, the signing of a DCA with Russia, and the allowance for new Russian troops or equipment to be deployed in the country. The analysis found that Russian arms act as neither a reward nor incentive for any of these possible rewards.

I do want to quantify the findings of my regressions within this thesis. The significant amount of missing data points within certain key variables may impact the statistical power of my model, meaning that the null hypothesis may be rejected in instances where it is false. The missing values can also cause bias in the estimation of parameters and can reduce the representativeness of my samples. While I am thankful that my dependent variables were drawn from the comprehensive SIPRI database, the availability of data for other variables was a clear limitation. It is possible that an analysis of Russian arms within a different, limited timeframe where data is more complete may yield different results.

The model that I created for this thesis builds upon the body of past literature and provides opportunities for further research. The inclusion of other control variables may reduce omitted variable bias and improve how the model captures the variation. As opposed to an all-encompassing regression, research into regional patterns of Russian arm sales may better elucidate Russian priorities and motivations. Finally, it is my hope that future research on this subject better contextualizes the geopolitical motivations behind Russian conceptualization of soft power and informs smarter policy.

Appendix

Table 4 Did Russia Provide Arms? If So, How Many? 1992-2018. Individual Country Arms Exports				
	ArmsRussiaBinary (OLS)	ArmsRussiaBinary (Scaled OLS)	ArmsRussia (OLS)	ArmsRussia (Scaled OLS)
Polity	-6.541e-03 (1.430e-03)***	-0.13082 (0.02859)***	3.997e-07 (1.641e-07)*	0.04624 (0.01898)
Distance	-1.176e-05 (2.164e-06)***	-0.19723 (0.03630)***	-1.076e-09 (3.145e-10)***	-0.10438 (0.03052)***
DCARussia	-2.873e-02 (1.757e-02)	-0.02873 (0.01757)	-1.944e-06 (2.309e-06)	-0.01124 (0.01336)
DCAUSA	9.939e-02 (1.801e-02)***	0.09939 (0.01801)***	-3.508e-06 (2.219e-06)	-0.02029 (0.01284)
Agree	1.750e-01 (9.580e-02).	0.17501 (0.09580).	4.863e-06 (1.379e-05)	0.02813 (0.07976)
Population	7.310e-10 (4.509e-11)***	1.01816 (0.06279)***	-5.083e-15 (2.585e-15).	-0.04095 (0.02083).
ArmsUSA	8.163e+01 (4.541e+02)	0.05033 (0.27995)	-9.170e-02 (8.254e-02)	-0.32700 (0.29434)
ArmsChina	1.221e+04 (5.501e+03)*	0.65533 (0.29530)	-2.128e-01 (5.533e-01)	-0.06607 (0.17181)
ArmsFrance	-1.479e+03 (1.500e+03)	-0.74001 (0.75084)	1.444e+00 (7.082e-01)*	4.18048 (2.04992)*
ArmsUK	-1.240e+02 (1.639e+03)	-0.02301 (0.30422)	3.979e-01 (1.852e-01)*	0.42721 (0.19884)*
RM&Fuels	1.153e+02 (8.628e+01)	0.10310 (0.07718)	1.760e-02 (1.286e-02)	0.09104 (0.06656)
GDPpc	-1.606e-06 (5.725e-07)**	-0.22753 (0.08109)**	1.324e-11 (1.255e-10)	0.01085 (0.10284)
Troops	6.020e-03 (2.639e-02)	0.00602 (0.02639)	-3.266e-06 (3.174e-06)	-0.01889 (0.01836)
Intercept	8.275e-02 (8.002e-02)	0.08275 (0.08002)	8.454e-06 (1.160e-05)	0.04890 (0.06709)
Number of	1967	1967	310	310

Observations				
R²	0.1623	0.1623	0.1056	0.1056
RMSE	0.332394	0.332394	1.575194e-05	1.575194e-05
Significance: *** p<.001, ** p<.01, * p<.05, . p<.1				

Table 5 Did Russia Provide Arms? If So, How Many? 1992-2018 Raw Materials Replacement				
	ArmsRussiaBinary (OLS)	**ArmsRussiaBinary (Scaled OLS)**	**ArmsRussia (OLS)**	**ArmsRussia (Scaled OLS)**
Polity	-6.932e-04 (7.068e-04)	-0.013863 (0.014137)	2.753e-07 (1.545e-07).	0.031842 (0.017869).
Distance	-1.658e-07 (1.141e-06)	-0.002780 (0.019139)	-7.684e-10 (3.082e-10)*	-0.074559 (0.029901)*
DCARussia	-1.542e-02 (9.023e-03).	-0.015415 (0.009023).	-1.612e-06 (2.184e-06)	-0.009324 (0.012631)
DCAUSA	2.598e-02 (9.309e-03)**	0.025981 (0.009309)**	-4.835e-06 (2.130e-06)*	-0.027969 (0.012319)*
Agree	2.267e-02 (4.876e-02)	0.022670 (0.048756)	3.049e-06 (1.338e-05)	0.017638 (0.077413)
Population	9.913e-11 (2.494e-11)***	0.138068 (0.034740)***	-7.197e-15 (2.534e-15)**	-0.057975 (0.020411)**
RM	-1.908e+02 (8.794e+01)*	-0.084789 (0.039085)*	-2.395e-02 (2.494e-02)	-0.061567 (0.064129)
RusP5Comp.	1.112e+00 (1.518e-02)***	1.112030 (0.015176)***	1.360e-05 (2.868e-06)***	0.078676 (0.016588)***
GDPpc	2.650e-07 (2.688e-07)	0.037537 (0.038078)	3.161e-10 (9.738e-11)**	0.258995 (0.079780)**
Troops	-3.633e-02 (1.369e-02)**	-0.036331 (0.013695)**	-5.784e-06 (3.121e-06).	-0.033456 (0.018050).
Intercept	2.373e-02 (4.081e-02)	0.023728 (0.040814)	-8.903e-07 (1.136e-05)	-0.005150 (0.065720)
Number of Observations	2009	2009	313	313
R²	0.772	0.772	0.1412	0.1412

RMSE	0.1727306	0.1727306	1.544832e-05	1.544832e-05
Significance: *** p<.001, ** p<.01, * p<.05, . p<.1				

Table 6: Logit, Poisson, and Negative Binomial Regressions			
	ArmsRussiaBinary (Logit)	**ArmsRussia (Poisson)**	**ArmsRussia (Negative Binomial)**
Polity	-3.263e-01 (1.074e+02)	7.197e-08 (2.738e-08)**	5.810e-02 (4.588e+00)
Distance	-4.038e-03 (4.690e-01)	-7.605e-11 (4.259e-11)**.**	-1.007e-04 (9.723e-03)
DCARussia	2.889e+01 (1.318e+03)	-3.845e-07 (3.422e-07)	-6.632e-01 (6.069e+01)
DCAUSA	2.272e+01 (1.348e+03)	-7.403e-07 (3.527e-07)*	-7.713e-01 (5.598e+01)
Agree	-3.552e+01 (1.050e+04)	9.793e-07 (1.864e-06)	2.719e+00 (3.745e+02)
Population	1.672e-07 (1.863e-05)	-6.896e-15 (9.379e-16)***	-1.537e-09 (1.417e-07)
RM&Fuels	9.550e+04 (4.626e+06)	7.838e-04 (1.687e-03)	-5.583e+02 (2.317e+05)
RusP5Comp.	1.205e+04 (2.661e+05)	1.176e-05 (5.763e-07)***	5.290e+00 (8.335e+01)
GDPpc	-7.197e-05 (1.146e-02)	1.204e-11 (1.069e-11)	3.667e-05 (1.751e-03)
Troops	-5.039e+01 (2.541e+04)	-8.581e-07 (5.156e-07).	-1.008e+00 (8.316e+01)
Intercept	-4.195e+01 (8.443e+03)	-3.266e-07 (1.555e-06)	-1.826e+01 (3.313e+02)
Number of Observations	1967	1967	1967
R^2	--	--	--
RMSE	--	6.494888e-06	3.324243
Significance: *** p<.001, ** p<.01, * p<.05, . p<.1			

Table 7 Scaled Pooled and Random Effects, 1992 - 2018				
	ArmsRussiaBinary (Pooled)	**ArmsRussiaBinary (Random)**	**ArmsRussia (Pooled)**	**ArmsRussia (Random)**
Polity	-0.0171636 (0.0147079)	0.01167202 (0.16679275)	0.0320255 (0.0180812)**.**	0.0299169 (0.390211)
Distance	-0.0051992 (0.0191885)	-0.05474438 (0.30223690)	-0.0759194 (0.0298738)*	-0.0813940 (0.7416554)
DCARussia	-0.0159609 (0.0091894)**.**	-0.00027855 (0.07177572)	-0.0101209 (0.0127015)	0.0058736 (0.1902228)
DCAUSA	0.0264038 (0.0094731)**	0.00073457 (0.08239807)	-0.0283880 (0.0123801)*	-0.0164875 (0.2018681)
Agree	0.0317908 (0.0500721)	0.01102817 (0.36550201)	0.0182720 (0.0780501)	0.0390116 (1.0126921)
Population	0.1371772 (0.0350839)***	0.19130073 (0.57600566)	-0.0584066 (0.0204440)**	-0.0548597 (0.7766519)
RM&Fuels	-0.0806217 (0.0405239)*	0.02298016 (0.39781581)	-0.0521947 (0.0618396)	-0.0689140 (0.9566682)
RusP5Comp.	1.1124925 (0.0154771)***	1.07388940 (0.10558765)***	0.0793607 (0.0167050)***	0.0460606 (0.2651071)
GDPpc	0.0415418 (0.0406732)	-0.09698698 (0.45619978)	0.2526335 (0.0828565)**	0.2280758 (1.4880196)
Troops	-0.0376929 (0.0138490)**	-0.02647233 (0.12528141)	-0.0348789 (0.0181290)**.**	-0.0085134 (0.2725174)
Intercept	0.0181579 (0.041755)	0.05549149 (0.3373972)	-0.0047992 (0.0662534)	-0.0097107 (0.9270637)
Number of Observations	1967	1967	310	310
R²	0.76963	0.76605	0.1419	0.11698
RMSE	0.1744376	0.1759195	0.08969725	0.09122698
Significance: *** p<.001, ** p<.01, * p<.05, . p<.1				

Bibliography

Andrijauskas, Konstantinas. (2017). Russia's Turn to Asia: More or Less Room for Manoeuvre?. Lithuanian Annual Strategic Review. 15. 10.1515/lasr-2017-0002.

Anthony, Ian, editor. *Russia and the Arms Trade*. Stockholm International Peace Research Institute, 1998, *SIPRI.org*, www.sipri.org/sites/default/files/files/books/SIPRI98An/SIPRI98An.pdf.

"Arms Sales in the Middle East: Trends and Analytical Perspectives for U.S. Policy." *Federation of American Scientists*, Congressional Research Service, 23 Nov. 2020, fas.org/sgp/crs/mideast/R44984.pdf.

Avila, Carlos F. D., Deywisson R. de Souza, and Marcos A. Guedes. "Arms Transfer Policies and International Security: The Case of Brazilian-Swedish Co-Operation." *Contexto Internacional*, vol. 39, no. 1, 2017, pp. 135-156. *ProQuest*, https://search.proquest.com/docview/1868155602?accountid=14524, doi:http://dx.doi.org/10.1590/s0102-8529.2017390100007.

Babayan, Nelli (2015) The return of the empire? Russia's counteraction to transatlantic democracy promotion in its near abroad, Democratization, 22:3, 438-458, DOI: 10.1080/13510347.2014.993973

Bailey, Michael A., Anton Strezhnev, and Erik Voeten. 2017. Estimating dynamic state preferences from united nations voting data. Journal of Conflict Resolution 61 (2): 430-56.

Batashvili, David. Russian Military Forces: Interactive Map. *Georgian Foundation for Strategic and International Studies.* https://www.gfsis.org/maps/russian-military-forces

Blank, Stephen, 2013. What do Russia's arms sales to Bangladesh mean? Eurasia daily monitor 10 (17). Jamestown Foundation Available from: http://www.jamestown.org/single/?tx_ttnews [tt_news]=40386&no_cache=1#.U2qJcFcVef8

Blum, Johannes, 2019. Arms production, national defense spending and arms trade: Examining supply and demand, *European Journal of Political Economy*, **60**, (C)

Borshchevskaya, Anna. "The Tactical Side of Russia's Arms Sales to the Middle East." *Russia in the Middle East*, The Jamestown Foundation, 2018, pp. 183–200.

Buszynski, Leszek. "Russia and Southeast Asia: A New Relationship." *Contemporary Southeast Asia*, vol. 28, no. 2, 2006, pp. 276-296. *ProQuest*, https://search.proquest.com/scholarly-journals/russia-southeast-asia-new-relationship/docview/59738885/se-2?accountid=14524, doi:http://dx.doi.org/10.1355/cs28-2e.

Connolly, Richard, and Cecilie Sendstad. "Russia's Role as an Arms Exporter' The Strategic and Economic Importance of Arms Exports for Russia." *Chatham House*, The Royal Institute of International Affairs, 20 Mar. 2017, www.chathamhouse.org/2017/03/russias-role-arms-exporter.

Cordesman, Anthony H. *The Changing Patterns of Arms Imports in the Middle East and North Africa*. Center for Strategic and International Studies, 23 Mar. 2021, www.csis.org/analysis/changing-patterns-arms-imports-middle-east-and-north-africa.

Coyne, C.J., Hall, A.R. The Case Against a U.S.-Arms Monopoly. *Atl Econ J* 42, 181–190 (2014). https://doi.org/10.1007/s11293-014-9414-6

Feinstein, Andrew. 2011. The Shadow World: Inside the Global Arms Trade. New York: Farrar, Strausand and Gioux.

Peter Ferdinand (2014) Rising powers at the UN: an analysis of the voting behaviour of brics in the General Assembly, Third World Quarterly, 35:3, 376-391, DOI: 10.1080/01436597.2014.893483

Glismann, Hans H.; Horn, Ernst-Jürgen (1992) : Rüstung und Wohlfahrt: Theoretische und strukturelle Besonderheiten des Rüstungsmarktes, Kiel Working Paper, No. 517, Kiel Institute of World Economics (IfW), Kiel

Grajewski, Nicole Bayat. "Russia's Great Power Assertion: Status-Seeking in the Arctic." *St Antony's International Review*, vol. 13, no. 1, 2017, pp. 141–163. *JSTOR*, www.jstor.org/stable/26229126. Accessed 29 Mar. 2021.

Gronskaya, N. and Makarychev, A. (2010) 'Ideya Imperii i "Myagkaya Sila": Mirovoy Opyt i Rossiyskie Perspectivy', Voprosy Upravleniya 10, pp. 22–27.

Grygas, A. (2012) 'Legacies, Coercion and Soft Power: Russian Influence in the Baltic States', Chatham House Briefing Paper, August, Available from: http://www.chathamhouse.org/sites/files/chathamhouse/public/Research/Russia%20and%20Eurasia/0812bp_grigas.pdf [Accessed 7 December 2020].

Gurganus, Julia, and Eugene Rumer. *Front Matter*. Carnegie Endowment for International Peace, 2019, *Russia's Global Ambitions in Perspectives*, www.jstor.org/stable/resrep20991.1. Accessed 1 Mar. 2021.

Hancock, Kathleen J. "RUSSIA: GREAT POWER IMAGE VERSUS ECONOMIC REALITY." *Asian Perspective*, vol. 31, no. 4, 2007, pp. 71–98. *JSTOR*, www.jstor.org/stable/42704609. Accessed 7 Dec. 2020.

Kang, Hyun. "The Prevention and Handling of the Missing Data." *National Center for Biotechnology Information*, Korean Journal of Anesthesiology, May 2013, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3668100/#:~:text=Missing%20data%20present%20various%20problems,the%20representativeness%20of%20the%20samples.

Kapstein, Ethan. 1992. The Political Economy of National Security. Columbia: University of South Carolina Press.

Kinne, Brandon J. "Defense Cooperation Agreements and the Emergence of a Global Security Network." *International Organization*, vol. 72, no. 4, 2018, pp. 799–837., doi:10.1017/S0020818318000218.

Kinne, Brandon J. 2020. "The Defense Cooperation Agreement Dataset (DCAD)." Journal of Conflict Resolution 64(4): 729-755.

Kirillova, Kseniya. "Soft Power and 'Positive Propaganda': How Russia Uses Cultural and Historical Stereotypes to Increase Political Influence." *ICDS*, International Centre for Defense and Security - Estonia, 21 Dec. 2020, icds.ee/en/soft-power-and-positive-propaganda-how-russia-uses-cultural-and-historical-stereotypes-to-increase-political-influence/.

Koehrsen, Will. "The Poisson Distribution and Poisson Process Explained." *Medium*, Towards Data Science, 20 Aug. 2019, towardsdatascience.com/the-poisson-distribution-and-poisson-process-explained-4e2cb17d459.

Konyshev, V.N. and Sergunin, A.A. (2014) 'Mezdunarodnaya Bezopasnost': Podkhody i Kontsepty' in Ivanov, O. (ed.), 21 Vek: Perekrestki Mirovoy Politiki, Moscow: Kanon-Plus, pp. 39–61.

Korteweg, Rem. "Energy as a Tool of Foreign Policy of Authoritarian States, in Particular Russia." *European Parliament*, EU Policy Department for External Relations, Apr. 2018, www.europarl.europa.eu/RegData/etudes/STUD/2018/603868/EXPO_STU(2018)603868_EN.pdf.

Kosachev, K. (2012b) 'V mire Slozhilas Prezumptsiya Vinovnosti Rossii', Kommersant, 1 September.

Kotkin, Stephen. "Russia's Perpetual Geopolitics: Putin Returns to the Historical Pattern." *Foreign Affairs*, vol. 95, no. 3, 2016, pp. 2–9., www.jstor.org/stable/43946851. Accessed 29 Mar. 2021.

Kim, Younkyoo, and Stephen Blank. "Russia's Arms Sales Policy After the Ukraine Sanctions." *Asian Politics & Policy*, vol. 11, no. 3, 2019, pp. 380-398. *ProQuest*, https://search.proquest.com/scholarly-journals/russia-s-arms-sales-policy-after-ukraine/docview/2331788992/se-2?accountid=14524, doi:http://dx.doi.org/10.1111/aspp.12471.

Lukyanov, F. (2009) 'Poiski Myagkoy Sily', Forbes Online, 2 November, Available from: http://www.forbes.ru/column/23084-poiski-%C2%ABmyagkoi%C2%BB-sily (in Russian).

Marshall, Monty, and Ted Robert Gurr. "POLITY5 Political Regime Characteristics and Transitions, 1800-2018 Dataset Users' Manual." *Systemic Peace*, Center for Systemic Peace, PolityV Project, 23 Apr. 2020, www.systemicpeace.org/inscr/p5manualv2018.pdf.

Matthew Sussex (2017) The triumph of Russian national security policy? Russia's rapid rebound, Australian Journal of International Affairs, 71:5, 499-515, DOI: 10.1080/10357718.2017.1342761

Mayer, Thierry and Zignago, Soledad, Notes on CEPII's Distances Measures: The GeoDist Database (December 1, 2011). CEPII Working Paper No. 2011-25, Available at SSRN: https://ssrn.com/abstract=1994531 or http://dx.doi.org/10.2139/ssrn.1994531

MAYER, T. AND S. ZIGNAGO (2005), "Market Access in Global and Regional Trade", CEPII Working Paper 2. Geodist Database. http://www.cepii.fr/CEPII/en/bdd_modele/presentation.asp?id=6

Meijer, Hugo, et al. "Arming China: Major Powers' Arms Transfers to the People's Republic of China." *Journal of Strategic Studies*, vol. 41, no. 6, 2018, pp. 850-886. *ProQuest*, https://search.proquest.com/docview/2083995491?accountid=14524, doi:http://dx.doi.org/10.1080/01402390.2017.1288110.

Military Balance. International Institute for Strategic Studies. 1992-2018. 26 vols.

Moraes, Rodrigo. 2011. 'O Mercado Internacional de Equipamentos Militares: Negócios e Política Externa'. Texto para Discussão 1596. Brasilia: Ipea. [Links]

Nye, J. (2004) Soft Power: The Means to Success in World Politics, New York: Public Affairs.

Nye, J. (2013) 'What China and Russia Don't Get about Soft Power', Foreign Policy, 29 April, Available from:
http://www.foreignpolicy.com/articles/2013/04/29/what_china_and_russia_don_t_get_about_soft_power [Accessed 7 December 2020].

Onderco, Michal. "'Tell Me What You Want': Analyzing the Visegrád Countries' Votes in the UN General Assembly." East European Politics and Societies, vol. 28, no. 1, Feb. 2014, pp. 63–83, doi:10.1177/0888325413484757.

Panagiotou, Ritsa. (2011). The Centrality of the United Nations in Russian Foreign Policy. Journal of Communist Studies and Transition Politics. 27. 195-216. 10.1080/13523279.2011.564088.

Paul Levine , Somnath Sen & Ron Smith (1994) A model of the international arms market , Defence and Peace Economics, 5:1, 1-18, DOI: 10.1080/10430719408404776

Peron, Alcides. 2011. O Programa FX-2 da FAB: Um estudo acerca da possibilidade de ocorrências dos eventos visados. Master's Dissertation, Universidade de Campinas. [Links]

Pollack, K., 1996. The influence of Arab culture on Arab military effectiveness. MIT political science dissertation. Massachusetts Institute of Technology. Boston, MA: MIT Press.

Putin, V., 2012. President of Russia. Meeting of the commission for military technology cooperation with foreign states.. Available from: http://eng.kremlin.ru/ news/4121 [Accessed 4 December 2020]

Remler, Philip. "Russia at the United Nations: Law, Sovereignty, and Legitimacy." *Carnegie Endowment for International Peace*, 22 Jan. 2020, carnegieendowment.org/2020/01/22/russia-at-united-nations-law-sovereignty-and-legitimacy-pub-80753.

Rosen, Steven. 1973. Testing the Theory of the Military-Industrial Complex. Lexington: Lexington Books.

Rusakova, O.F. (2010) 'Kontsept "myagkoy" sily v sovremennoy politicheskoy philosophii', Yearbook of the Institute of Philosophy and Law, Ural Section, Russian Academy of Science, 10, pp. 173–192.

Salkind, Neil J. *Encyclopedia of Research Design.* 0 vols. Thousand Oaks, CA: SAGE Publications, Inc., 2010. *SAGE Research Methods*. Web. 1 Mar. 2021, doi: 10.4135/9781412961288.

Sergunin, Alexander, and Leonid Karabeshkin. "Understanding Russia's Soft Power Strategy." Politics, vol. 35, no. 3–4, Nov. 2015, pp. 347–363, doi:10.1111/1467-9256.12109.

SIMMONS, RICHARD A., et al. "Global Energy Policy Perspectives." *Understanding the Global Energy Crisis*, edited by RICHARD A. SIMMONS and EUGENE D. COYLE, Purdue University Press, West Lafayette, Indiana, 2014, pp. 27–72. *JSTOR*, www.jstor.org/stable/j.ctt6wq56p.7. Accessed 29 Mar. 2021.

SIPRI Arms Transfers Database, 15 March 2021. https://www.sipri.org/databases/armstransfers

Sorokin, Konstantin. "Russia's 'New Look' Arms Sales Strategy." *Arms Control Today*, vol. 23, no. 8, 1993, pp. 7–12. *JSTOR*, www.jstor.org/stable/23625154. Accessed 7 Dec. 2020.

Stephen Blank & Edward Levitzky (2015) Geostrategic aims of the Russian arms trade in East Asia and the Middle East, Defence Studies, 15:1, 63-80, DOI: 10.1080/14702436.2015.1010287

Stephen Blank & Younkyoo Kim (2015) Russia and Latin America: The New Frontier for Geopolitics, Arms Sales and Energy, Problems of Post-Communism, 62:3, 159-173, DOI: 10.1080/10758216.2015.1019817

Stoicescu, Kalev. "Russia's 'Allies.'" *ICDS*, International Centre for Defense and Security, Estonia, Jan. 2018, icds.ee/wp-content/uploads/2018/05/ICDS_Report_Russia__s_Allies_Kalev_Stoicescu_January _2018_web.pdf.

Thrall, A. Trevor, et al. "Power, Profit, or Prudence? US Arms Sales since 9/11." *Strategic Studies Quarterly*, vol. 14, no. 2, 2020, pp. 100–126. *JSTOR*, www.jstor.org/stable/26915279. Accessed 7 Dec. 2020.

Thompson, L. (2012). Obama makes arms sales a key tool of U.S. foreign policy. Forbes. January 2. Available online at: http://www.forbes.com/sites/lorenthompson/2012/01/02/obama-makes-arms-sales-a-key-toolof-u -s-foreign-policy/.

Torres-Reyna, Oscar. "Getting Started in Fixed/Random Effects Models Using R." Data and Statistical Services, Princeton. 2010.

Troitski, M. (2011) 'Russian Soft Power in the European Union'. Paper presented at the 'Russian Soft Power: Perspectives and Prospects' conference, Centre for Polish-Russian Dialogue and Understanding, Warsaw, 20 December, Available from: http://mikhailtroitski.livejournal.com/2099.html [Accessed 7 December 2020].

Tsygankov, A. (2013) 'Moscow's Soft Power Strategy', Current History 112(756), pp. 259–264.

Tsygankov, A. (2013) 'Vsesil'no Potomuchto Verno?', Russia in Global Affairs, December, Available from: http://www.globalaffairs.ru/number/Vsesilno-ibo-verno-16251 [Accessed 7 December 2020].

United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects: The 2019 Revision, DVD Edition.

United Nations. Department of Economic and Social Affairs. United Nations Commodity Trade Statistics Database (2021).

United Nations. The World Bank. GDP, PPP (current international $) (2019).

Verdier, Daniel & Woo, Byungwon. (2011). Why rewards are better than sanctions. Economics and Politics. 23. 220-238. 10.1111/j.1468-0343.2010.00380.x.

Wezeman, Pieter D, et al. "Trends in International Arms Transfers, 2019." *SIPRI.org*, Stockholm International Peace Research Institute, Mar. 2020, www.sipri.org/sites/default/files/2020-03/fs_2003_at_2019.pdf.

Wezeman, Pieter, et al. "Trends In International Arms Transfers, 2020." *SIPRI*, Stockholm International Peace Research Institute, Mar. 2021, www.sipri.org/publications/2021/sipri-fact-sheets/trends-international-arms-transfers-2020#:~:te xt=The%20volume%20of%20international%20transfers,%2C%20France%2C%20Germany%20 and%20China.

Yarhi-Milo, Keren, Alexander Lanoszka, and Zack Cooper. "To Arm Or to Ally? the Patron's Dilemma and the Strategic Logic of Arms Transfers and Alliances." *International Security*, vol. 41, no. 2, 2016, pp. 90. *ProQuest*, https://search.proquest.com/docview/1842389693?accountid=14524, doi:http://dx.doi.org/10.1162/ISEC_a_00250.

Zendelovski, Goran, and Zlatko Kuzmanov. "GREAT POWERS' MILITARY BASES AND STRENGTHENING SECURITY IN THE URBANIZED WORLD." *Bezbednosni Dijalozi*, Филозофски Факултет, Универзитет "Св. Кирил и Методиј", 2017, www.ceeol.com/search/article-detail?id=924751.