

# Impact of the U.S. and Allied Sanction Regimes on Russian Arms Sales

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## About This Report

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As the Biden administration shapes its approach toward Russia, the use of sanctions is one policy tool it has to influence the nature of the relationship. Following the 2014 Russian military takeover of Crimea and aggression in Eastern Ukraine, the United States and the European Union (EU) engaged sanctions on Russia. In 2017, the U.S. Congress passed the Countering America's Adversaries Through Sanctions Act (CAATSA), whose Section 231 directs the President to apply sanctions "to a person the President determines knowingly, on or after August 2, 2017, engages in a significant transaction with a person that is part of, or operates for or on behalf of, the defense or intelligence sectors of the Government of the Russian Federation."<sup>1</sup> The Congressional logic of the legislation was to underscore the disapproval of the U.S. Congress of Russia's malign activities in Crimea and Eastern Ukraine and its interference in the 2016 U.S. elections. Countering Russian arms sales to other nations could reduce Russian influence on them, as well as revenue from the sale of weapons that contributes indirectly to Russia's ability to continue its irresponsible international behavior.

This report draws on publicly available information that the RAND Corporation has compiled in a searchable database to examine Russia's marketing and exporting of advanced conventional weapons around the globe. The research team examined 65 potential and actual Russian arms sales to 33 countries. From this set, the team focused on three short case studies that illustrate challenges and prospects of using third-party sanctions to prevent Russian arms sales abroad. The results of this analysis can support strategy development on which country cases might be more susceptible to diplomatic discussion about alternatives to purchasing Russian weapons, which country cases will prove difficult, and how to balance trade-offs for broader U.S. foreign policy with nations around the globe in light of objectives to manage the bilateral relationship with Russia.

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<sup>1</sup> U.S. Department of State, "Section 231 of the Countering America's Adversaries Through Sanctions Act of 2017," webpage, undated.

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## Summary

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In this report, we examine Russian arms exports, the impact of diplomacy, and the prospect of sanctions designed to deter and raise the cost to future Russian covert and overt malign interference in other nation-states. The United States has sanctioned over 700 Russian entities and individuals since the invasion of Crimea and Eastern Ukraine and the interference in the 2016 U.S. election. Finding the right role and cases for sanctions to further U.S. policy toward Russia warrants a fresh look in light of recent history. We draw from open-source material compiled in a database to illustrate when U.S. diplomatic engagement has led third countries to reconsider importing Russian weapons. The data set examined for this report contains 33 country cases of Russian arms export negotiations and sales, beginning in July 2017 and ending in May 2021.

An examination of these cases illustrates that, as U.S. officials acknowledge, the monetary value of lost Russian arms sales as a result of U.S. diplomatic efforts buttressed by the prospect of third-party sanctions is difficult to determine with precision. However, there are a number of examples in which countries have clearly entertained purchasing Russian weapons and then demurred and opted not to do so. There is no question that the “chilling effect” has resulted in Russia losing arms sales.

Countries with significant portions of their military arsenal composed of Soviet Union and Russian weapons systems face formidable challenges in quick diversification away from Russian systems. The lifetime of weapons systems is measured in decades. Operating and maintaining them also entails a significant training and support regimen. Even countries that might want to diversify away from Russian systems may find it difficult and costly to do so in the short run.

In contrast, countries that do not have legacy arsenals composed of Soviet and Russian systems may be more amenable to eschewing Russian arms export offers as long as suitable, competitively priced and politically desirable alternatives are available. Russia argues that its systems cost less and are more durable. However, the lower cost is frequently discounted over the life cycle of the weapons system, because the Russians require that they service and repair the weapons, frequently back in Russia. The United States and countries wary of Russian malign interference might highlight full life-cycle and not just purchase costs. Additionally, U.S. and other Western systems may be more sophisticated and offer performance advantages, sometimes stemming from more-advanced sensors or computing power. But often Western systems have higher purchase prices; e.g., the U.S. Patriot air defense system costs more than the Russian S-400 system.

Moreover, the United States needs to persuade other countries not to purchase because of Russia’s malign behavior around the globe. Part of the U.S. diplomatic message to counter Russia’s malign interference in the affairs of other states needs to be that every state has a stake

in abiding by international laws and norms of state behavior. If Russia is permitted to get away with actions that the international community of nations deems counter to international agreements and norms of responsible state behavior, these rules are eroded for all states. By not purchasing Russian weaponry because of the Putin regime's malign activities around the globe, countries are signaling to Russia and other states that they oppose malign interference in the affairs of other states and will impose a cost for it.

To get states to join the United States in the effort to curb Russia's malign behavior, the United States needs to help foreign governments appreciate the corrosive effects of the Putin government and how it is not in the interest of *any* states to turn a blind eye. The U.S. diplomatic message needs to be much more than "don't buy Russian weapons to punish it for past bad behavior." Instead, the point should be made that Russia's bad behavior, left unchecked, endangers other nations and endangers the integrity of the international system of states.

Based on cases extracted from a database that RAND researchers have assembled, diplomacy paired with the prospect of sanctions will likely be most effective when it acknowledges the legacy of Russian arms exports to certain countries; the desire to assert independence from the influence of Russia and/or the United States; and the availability of suitable, competitively priced alternatives to meet buyers' security needs. Several country cases reveal the unique diplomatic challenges of employing third-party sanctions to dissuade countries from purchasing Russian armaments as a means to raise the costs of and deter Moscow's international behavior. Turkey and India are two country cases that display the policy dilemmas that the United States faces with the implementation of third-party sanctions. There are inherent policy trade-offs, and these two country cases provide insight on how to mediate them and mitigate risks to other U.S. policy goals. Turkey is a formal treaty ally, and its purchase of Russia's S-400 air defense system is both a threat to North Atlantic Treaty Organization (NATO) capabilities and an unprecedented breach of alliance behavior. The Erdoğan government's ire with the United States over the reaction to the 2016 coup attempt, differences over the Syrian conflict, and criticism of Turkey's human rights policies—and the long-standing perceived snub by European Union countries—create a chasm in Turkey's relations with its NATO alliance partners.

India, in contrast, is an increasingly important partner in the Indo-Pacific theater, exemplified by its key role in the recently formed *Quad*, a loose alliance of the United States, Japan, India and Australia. Shared interests in countering a rising China make India potentially an important player in the Asian great power competition. Its summer 2020 border conflict with China spurred India's interest in upgrading some of its existing Russian-supplied capabilities. Diversifying away from Russian weapons is difficult for India, even if it wanted to do so. Balancing relations between the three major global powers puts India in a delicate position. Any U.S. sanctioning of India for importing Russian arms would entail a complicated set of policy trade-offs. Even deft U.S. diplomatic engagement may not prevent damage to the U.S.-India relationship. Thus, facilitating India's transition from its long-standing legacy arms relationship with the Soviet Union—and, subsequently, Russia—requires the United States to develop a strategic approach

that enables diversification to non-Russia sources of weaponry over time. Making exceptions for India on Russian arms sales to forge a strong U.S.–India bilateral relationship is a trade-off that warrants serious consideration because it may further the long-term security interests of both nations.

Several countries that do not have such complicated relations with either Russia or the United States and have arsenals with largely Western or non-Soviet/Russian equipment have better alternatives to Russian arms. U.S. diplomatic intervention has helped lead Indonesia, Nepal, and Morocco to consider other alternatives to meet their security needs. In other cases, the chilling effect of U.S. diplomatic efforts backed up with the prospect of sanctions has deterred countries from completing previously made deals with Russian arms producers or embarking on extensive negotiations with them. Further, the success of these diplomatic efforts will depend upon strategic and sustained diplomacy and suitable alternative systems for countries to address their security needs.

To better meet the objectives of sanctions policies, such as the Countering America’s Adversaries Through Sanctions Act (CAATSA), the U.S. narrative that foreign officials and publics receive might focus more on curbing Russian malign behavior and less on the threat of U.S. sanctions. Too often, in many of the country cases that we examined, Russian diplomacy, propaganda, and disinformation seek to define the narrative as *U.S. interference in the affairs of states aimed at preventing them from meeting their legitimate security needs*. A counterargument might highlight the rationale for not purchasing Russian weapons as a means to signal to Moscow that there is a penalty for its malign interference in the affairs of other states. Countries are willing to overlook Russia’s malign interference around the globe so that they can buy Russian weapons—and avoid antagonizing Russia by allowing the United States to persuade them not to buy Russian arms. The anti-interference rationale needs to be complemented with suitable, competitively priced alternatives that countries can acquire to meet their security needs.

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# 1. Policy on Russian Arms Exporters, Sanctions, and Malign Interference in Other States

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As the Joseph R. Biden administration continues to shape its approach to Russia, it will review the political, economic, and military aspects of its policy. The use of sanctions is one instrument of influence. Currently, there are over 700 Russian individuals and entities targeted by different types of sanctions that the United States has applied unilaterally or in concert with other nations since the invasion of Crimea and Eastern Ukraine in 2014.<sup>2</sup> As U.S. policy toward Russia continues to take shape, the Biden administration will inevitably examine the web of sanctions, their rationales, and their achievements of desired outcomes.

President Vladimir Putin's government has pretended that these sanctions have little effect, yet Russian diplomacy with the United States has given priority to obtaining sanctions relief. Since 2014, according to a recent study, Russia's economy "has grown by an average of 0.3 percent per year, while the global average was 2.3 percent per year." Further, sanctions "have slashed foreign credits and foreign direct investment, and may have reduced Russia's economic growth by 2.5–3 percent a year." Sanction effects have burdened a sluggish Russian economy, and Russia's continual request for sanctions relief is evidence that they are influencing the thinking of its leaders.<sup>3</sup>

Yet, sanctions are just one tool in the policy toolkit that the United States can employ in an overall approach to deterring and raising the costs to Russia of conducting malign activities. The United States continues to cooperate with Russia on matters of common interest, such as the extension last February of the 2010 New Strategic Arms Reduction Treaty (START) agreement. At the same time, the United States criticizes Russian malign activities and sometimes imposes sanctions in response to them. Bi-lateral relationships are shaped by many different means of engagement and policy trade-offs. Imposing sanctions is a means countries use when diplomatic engagement fails to avert a malign activity but a coercive response is not merited. In a prescient 2019 paper, Jarrett Blanc and Andrew Weiss described the U.S. government's challenge with regard to policy on Russia as one of prioritizing "objectives as part of a comprehensive U.S. policy on Russia, deconfliction of overlapping sanctions regimes targeting Russia, focused messaging, and close coordination with allies [as] all essential to improve policy effectiveness."<sup>4</sup>

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<sup>2</sup> Ingrid Burke, "US Sanctions Against Russia May Be Recalibrated, but Overhaul Unlikely," *In The Thick of It* blog, Belfer Center for Science and International Affairs, Harvard University, February 19, 2021.

<sup>3</sup> Anders Åslund and Maria Snegovaya, *The Impact of Western Sanctions on Russia and How They Can Be Made Even More Effective*, Washington, D.C.: Atlantic Council, May 3, 2021, p. 2.

<sup>4</sup> Jarrett Blanc and Andrew S. Weiss, *U.S. Sanctions on Russia: Congress Should Go Back to Fundamentals*, Washington, D.C.: Carnegie Endowment for International Peace, April 3, 2019, p. 2.

The following analysis is intended to contribute to the formulation of U.S. policy by examining the impact of the prospect of sanctions on countries' purchases of Russian military equipment, particularly through the Countering America's Adversaries Through Sanctions Act (CAATSA). The report draws from publicly available secondary sources, social media postings, and scholarly articles that the RAND team compiled in a relational database. The content of entries contained in this database references Russian arms sales, Russian defense production, and sanctions activities associated with Russian arms sales. The materials examined date from July 2017 to May 2021 and amount to over 5,500 source articles.

Material in this database served as the foundation material to inform judgments about common trends in Russian arms sales and about whether and when U.S. diplomatic engagement or the prospect of U.S. sanctions led third countries to reconsider importing Russian weapons. From this database, a data set of 65 arms sales cases involving 33 countries was examined in depth to assess Russian arms export negotiations and export sales. Country cases were compared to identify the similarities and differences of the historical relationships that countries had with the Soviet Union and Russia on the one hand, and non-Russian arms suppliers on the other. When comparing country cases, the authors also assessed the importance of bilateral and multilateral relationships that influenced country arms import decisions, given the possibility of U.S. third-party sanctions on countries that import Russian weapons.

The systematic analysis of historical cases provides a basis for assessing the potential impact that sanctions have on country arms import decisions. This assessment provides a baseline understanding of potential outcomes of sanctions tied to arms exports, as well as sanctions' limitations. Based on our findings from open-source information gathered from around the globe, the United States might be more effective in influencing country decisions and meeting the objective of sanctions by shifting the public and diplomatic narrative away from prospects of sanctions to Russia's malign activities.

The first generation of sanctions that negatively affected the Russian aerospace and defense sector and armed forces modernization program were put in place by both the United States and the European Union (EU), in response to Russia's forcible annexation of Crimea and its commencement of war in Eastern Ukraine in 2014 and to deter Russian aggression against other states.<sup>5</sup> These sanctions were imposed via executive orders. These were blocking sanctions designed to raise the costs to and deter Russia by preventing entities from transacting business with Russian organizations and persons.

The United States imposed additional sanctions in response to Russian interference in the 2016 U.S. election, malicious cyber attacks, human rights abuses, use of banned chemical weapons, illicit trade with North Korea, and support for the governments of Syria and

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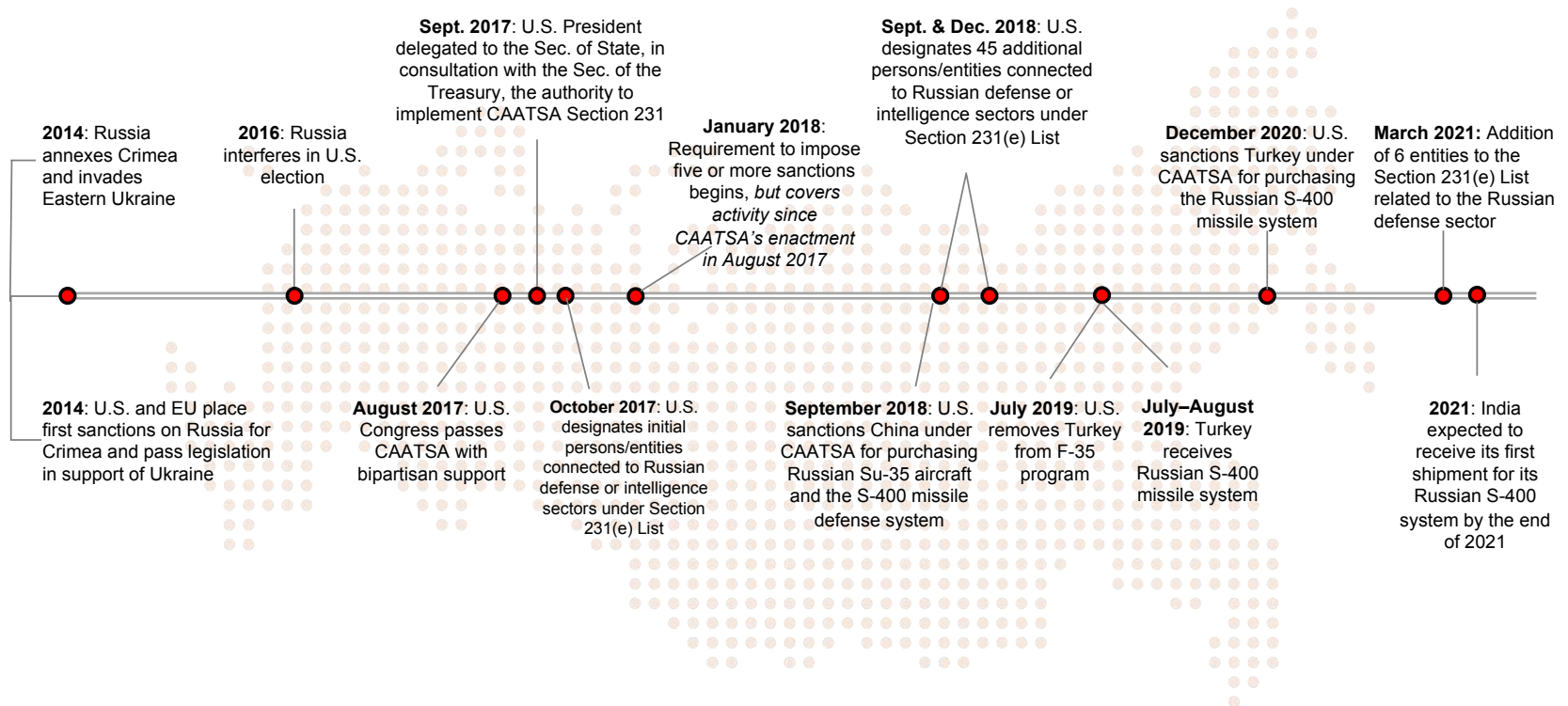
<sup>5</sup> For a useful summary of U.S. sanctions pertaining to Russia, see Cory Welt, Kristin Archick, Rebecca M. Nelson, and Dianne E. Rennack, *U.S. Sanctions on Russia*, Washington, D.C.: Congressional Research Service, R45415, updated January 17, 2020.

Venezuela. Europeans joined in imposing some related sanctions. Then, in August 2017, the U.S. Congress authorized further sanctions in CAATSA to underscore its concern about Russian misbehavior. These related events and further activities occurring after the passage of CAATSA can be seen in the Figure 1.1 timeline. The legislation was approved with an overwhelming majority in both houses of Congress. Blank and Weiss observed that this massive congressional support arose because “[President Donald J.] Trump’s clumsy handling of his first face-to-face meeting with Putin at the Hamburg G20 summit in July 2017 . . . ignited bipartisan political anger.”<sup>6</sup>

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<sup>6</sup> Blanc and Weiss, 2019, pp. 1–2.

**Figure 1.1. Timeline of Events Related to CAATSA**



The CAATSA law specifically focuses on transactions related to Russia’s defense or intelligence sectors and calls for imposing secondary (or third-party) sanctions on non-U.S. persons and entities involving Russia. The legislation stipulates “that the President shall impose five or more of the sanctions described in Section 235 of the Act with respect to a person the President determines knowingly, on or after such date of enactment, engages in a significant transaction with a person that is part of, or operates for or on behalf of, the defense or intelligence sectors of the Government of the Russian Federation.”<sup>7</sup> On September 20, 2017, President Trump signed an executive order authorizing the implementation of the Act and designating the Secretaries of State and Treasury to take the lead on implementing it.<sup>8</sup> Thereafter, the United States put 49 entities (companies, organizations, agencies, and others) and 35 individuals related to the Russian government’s defense or intelligence sectors on a prohibited entities list.<sup>9</sup>

By implementing CAATSA, Section 231, the Trump administration buttressed diplomatic engagement by relying upon the prospect of sanctions to discourage states from purchasing advanced conventional weapons from Russia. In testimony before the U.S. Congress, former Assistant Secretary of State Christopher Ford argued that “Congress’ purpose in passing Section 231 was to pressure Russia and incentivize Russia to change its behavior, not to hurt U.S. friends and allies who might happen to purchase arms from Moscow.”<sup>10</sup> He went on to assert that State Department officials effectively engaged foreign partners in diplomatic discussions to discourage countries from purchasing Russian weapons before the United States begins to consider sanctions. He asserted “these successes are ones about which it is not possible or advisable to speak in public, because most interlocutors who take action to reduce their exposure to Section 231 sanctions are not keen to publicize the fact.”<sup>11</sup>

Despite diplomatic urgings, some countries purchased Russian advanced conventional weapons, in part due to long-standing arms relationships with the Soviet Union and later Russia. The extent of the asserted successes and the impact on Russian arms exports and its defense sector is difficult to measure with a high degree of confidence, but seeking to weigh the impact may provide a useful baseline for assessing the value of CAATSA sanctions. By employing a strategic approach to the implementation of CAATSA, the United States is better able to shift the

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<sup>7</sup> U.S. Department of State, “Section 231 of the Countering America’s Adversaries Through Sanctions Act of 2017,” webpage, undated.

<sup>8</sup> Donald J. Trump, *Executive Order Authorizing the Implementation of Certain Sanctions Set Forth in the Countering America’s Adversaries Through Sanctions Act*, Executive Order 13849, Washington, D.C., September 20, 2018.

<sup>9</sup> U.S. Department of State, undated.

<sup>10</sup> Christopher A. Ford, “Implementing CAATSA Section 231 Diplomacy,” testimony before the Senate Committee on Banking, Housing, and Urban Affairs, Washington, D.C., August 21, 2018.

<sup>11</sup> Ford, 2018.

U.S. narrative from threats and consequences of sanctions to their value in raising the costs of and deterring Russia's malign activities around the globe.

## Impact of Post-Crimea/Ukraine Crisis Sanctions on the Russian Defense Industry

U.S. and EU sanctions following Russia's intervention in Crimea and Eastern Ukraine have had an impact on Russia's aerospace and defense sectors, but the extent of the impact might not be apparent for years to come. Restrictions on the importation of certain technologies and machine tools have been particularly challenging, given the Russian defense sector's reliance on foreign high-performance machine tools and information technology.<sup>12</sup> Robust Russian spending on defense acquisition from 2011 to 2016 to create indigenous capabilities may not have been sufficiently productive to outweigh the opportunity costs of such investment. Russian government and industry officials have asserted that sanctions have brought little or no harm to their industry. Developing indigenous marine and aircraft engine capability has proven particularly difficult.<sup>13</sup> Some foreign experts note that slow or costly import substitution efforts to replace critical imported technologies, along with "ageing physical infrastructure, an ageing R&D workforce, and weak linkages between higher education and defence-industrial firms" may all combine to make Russian weapons less attractive in a highly competitive international arms market.<sup>14</sup>

Other assessments argue that several additional factors could have an impact on the Russian defense industrial sector, which is an important source of manufacturing employment. Some of these factors could have broader consequences for Russia than a change to its competitiveness in international arms markets.

First among these factors is that Russia has lost Ukraine as a partner in arms manufacturing. Ukraine has long been a critical supplier of defense components to Russia's defense industry, and the 2014 invasion ended this relationship. Unable to use critical Ukrainian-produced military components has seriously disrupted Russian military modernization plans during the ambitious State Armaments Program (SAP) 2020.<sup>15</sup> A number of examples illustrate Russia's defense

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<sup>12</sup> Tomas Malmlof, *The Russian Machine Industry—Prospects for a Turnaround?* Stockholm: Swedish Defense Research Agency (FOI), February 2019; Ruslan Bazhenov, Tatyana Krasota, and Irina Mironova, *Import Substitution in Developing the Defense Industry of Russia as a New Economic Industrialization Tool*, Paris: Atlantis Press, 2019.

<sup>13</sup> Alla Hurska, "Inbox: The Battle for 'Motor Sich,'" webpage, Center for European Policy Analysis, November 20, 2020. See also Richard A. Bitzinger and Nicu Popescu, eds., *Defense Industries in Russia and China: Players and Strategies*, Luxembourg: European Union Institute for Strategic Studies, Report No. 38, December 2017.

<sup>14</sup> Richard Connolly and Cecilie Sendstad, "Russia's Role as an Arms Exporter: The Strategic and Economic Importance of Arms Exports for Russia," Chatham House, Royal Institute of International Affairs, March 20, 2017.

<sup>15</sup> A. Kaukin and Pavel Pavlov, "Import Substitution in Russia's Manufacturing Industry: A Weak Effect," *Russian Economic Developments*, No. 3, 2016.

industry dependence on Ukraine.<sup>16</sup> Prior to 2014, the Russian aerospace and defense sector depended upon Ukraine for the following:

- Ukrainian Motor Sich provided the bulk of all turboshaft engines for Russian helicopters.<sup>17</sup>
- Motor Sich provided the Russian Navy with high-performance marine gas turbine engines for a new generation frigate. That frigate family has had to await the development of a Russian marine turbine for nearly five years.<sup>18</sup>
- The Ukrainians were the primary producer of several of the Russian Short-Range Air Defense System Surface-to-Air Missile.<sup>19</sup>
- The Ukrainians had provided servicing for the SS-18 and SS-19 intercontinental ballistic missiles produced by Yuzmash in Ukraine.<sup>20</sup>

The Russian defense industry has struggled to develop national replacements for these lost capabilities.<sup>21</sup> To deflect attention to shortcomings in Russian defense import substitution and to undermine Ukraine's reputation in the international arms market, Russia has spread disinformation about Ukraine as a reliable defense industry partner to countries considering purchasing Russian weapons, such as Egypt, Algeria, and India.<sup>22</sup> These disinformation campaigns include incorrectly claiming that Ukraine is unable to fulfill defense orders and is not licensed to modernize Soviet defense systems.<sup>23</sup>

Second, the decline in oil prices since 2014 has increased the relative importance of arms exports in contributing to Russia's economy. Arms sales help keep up employment in the defense industry and aid in maintaining economies of scale to meet domestic military needs. Arms exports provide resources that help with military equipment research and development. Given the slow growth in the Russian economy in the past decade, even a modest amount of export revenue contributes meaningfully to the Russian economy and government budget. Revenue from arms exports is important for the Russian economy because aside from natural resources, it is one of the few significant sources of export earnings. Arms exports are important

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<sup>16</sup> F. Stephen Larrabee, Peter A. Wilson, and John Gordon IV, *The Ukrainian Crisis and European Security: Implications for the United States and U.S. Army*, Santa Monica, Calif.: RAND Corporation, RR-903-A, 2015.

<sup>17</sup> Alla Hurska, "The Motor Sich Factory and Its Covert Ties to Russia," *Eurasia Daily Monitor*, Vol. 16, No. 128, September 19, 2019.

<sup>18</sup> John C. K. Daly, "Ukrainian Espionage Incident Highlights Ongoing Russian Naval Shortcomings," *Eurasia Daily Monitor*, Vol. 17, No. 45, April 6, 2020.

<sup>19</sup> Daly, 2020.

<sup>20</sup> Gustav Gressel, "The Sanctions Straitjacket on Russia's Defence Sector," European Council on Foreign Relations, February 13, 2020.

<sup>21</sup> Oleg Lypko, "Import Substitution in the Russian Defense Industry: Issues and Achievements," *Meta-Defense*, August 22, 2020.

<sup>22</sup> Dylan Malyasov, "Russia Deploying Disinformation to Discredit Ukrainian Defense Industry," *Defence Blog*, November 4, 2020.

<sup>23</sup> Malyasov, 2020.

to Russia's economy and defense but also to its foreign policy. Arms sales are an important means Russia uses to maintain, further, and initiate relations with leaders and militaries around the globe.<sup>24</sup>

## Current State of Russian Arms Sales

According to the Stockholm International Peace Research Institute's (SIPRI's) most recent annual global assessment examining a five-year period, the United States is the largest arms exporter, and Russia is second.<sup>25</sup> The other top ten exporting countries are France, Germany, China, the United Kingdom, Spain, Israel, Italy, and South Korea.<sup>26</sup> Additionally, several new arms exporters have emerged, including Turkey, the United Arab Emirates (UAE), and Brazil.<sup>27</sup> Russia faces a more competitive arms market than in the past. Prospective importers of weapons increasingly seek to assert their sovereignty and avoid the dependence and political complications of working with a single major power.

The emergence of China as a major arms exporter with products that may include hybridized variants of Russian weapons systems may add to the competition Russia encounters in the international arms marketplace. Despite the plethora of potential competitors during the 2015–2019 time frame, Russia exported major weapons systems to 47 different countries.<sup>28</sup> With a quarter of the United Nations member countries purchasing weapons from Russia, its ability to use weapons sales to extend its influence around the globe is formidable.

As the primary Soviet successor state, Russia remains a major military power with a defense industry that produces and exports a full spectrum of advanced conventional weapons and maintains a robust defense industry. It is particularly strong as a producer of air defense systems, missiles, and aircraft. Only the United States can produce as wide an array of weaponry.<sup>29</sup>

For more than a decade, Asia has been the largest market for Russian arms exports.<sup>30</sup> The militaries of China, India, and Vietnam have purchased or received Soviet and Russian weapons for decades. China is liable to purchase fewer Russian weapons in the future as it builds up its indigenous arms industry to meet its own needs and supply certain types of weapons to foreign buyers. This could leave India as the largest long-term Russian customer for weapons even

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<sup>24</sup> Connolly and Sendstad, 2017.

<sup>25</sup> Pieter D. Wezeman, Aude Fleurant, Alexandra Kuimova, Diego Lopes da Silva, Nan Tian, and Siemon T. Wezeman, "Trends in International Arms Transfers, 2019," fact sheet, Stockholm International Peace Research Institute, March 2020.

<sup>26</sup> Wezeman et al., 2020.

<sup>27</sup> Lucie Béraud-Sudreau, Diego Lopes Da Silva, Alexandra Kuimova, and Pieter D. Wezeman, "Emerging Suppliers in the Global Arms Trade," *SIPRI Insights on Peace and Security*, No. 2020/13, December 2020.

<sup>28</sup> Wezeman et al., 2020.

<sup>29</sup> Connolly and Sendstad, 2017.

<sup>30</sup> Wezeman et al., 2020.



though it has sought to both develop its own indigenous production capabilities and acquire weapons from other national suppliers. Both India and Vietnam will likely remain significant customers for Russian weapons as Russia seeks to bolster their defenses in light of perceived and potential military threats from a rising China.

In the past decade, the Middle East has been a fast-growing market for Russia as a number of the countries in the region have either increased defense spending due to regional conflicts or energy wealth or sought to diversify their weaponry away from Western suppliers. Conflicts in the Middle East and across North Africa have led many countries to seek to replace expended weaponry or modernize their arsenals. Additionally, the suspension of restrictions on weapon sales to Iran provides a new customer for some equipment.

Russia has also not hesitated to export weapons to such historical allies as Syria, even though payment is uncertain, or to countries in the region with which it has a long-standing defense relationship, such as Algeria, that do pay. Algeria is the largest importer of Russian weapons in Africa.<sup>31</sup> Other countries, such as Egypt, seek to diversify the supplier relationship to assert their independence in an international system characterized by increasing great-power competition.<sup>32</sup> Commenting on Egypt's desire to purchase the Russian Su-35 aircraft after the United States declined to sell Egypt F-35 fighter jets, a University of Cairo-based political scientist observed, "Egypt heavily relied on the United States to secure weapons, but Cairo realized the importance of not relying on Washington alone."<sup>33</sup> Russia has taken advantage of this geopolitical preference on the part of such countries as Egypt, the UAE, and Saudi Arabia.<sup>34</sup>

Russia has been very active on the African continent, marketing its weaponry and using arms sales as a means of influence.<sup>35</sup> U.S. Africa Command commander Stephen J. Townsend stated in congressional testimony that "Russian strategy in Africa has long centered on building influence to facilitate economic opportunity, obtain political support for Russian initiatives, and increase military presence on the North Atlantic Treaty Organization's (NATO's) southern flank."<sup>36</sup> Russia has used its weapons exports in Africa as currency to extend its influence. While not traditionally a high-value market for arms exports, Africa has many countries for which Russian weapons fit their security needs and budgets. Moreover, the 54 African countries

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<sup>31</sup> Tatiana Kondratenko, "Russian Arms Exports to Africa: Moscow's Long-Term Strategy," *DW*, May 29, 2020.

<sup>32</sup> "Egypt Moves Ahead with Purchase of Russian Arms Despite US Warnings," *Al-Monitor*, March 3, 2021.

<sup>33</sup> "Egypt Moves Ahead with Purchase of Russian Arms Despite US Warnings," 2021.

<sup>34</sup> Ilya Kramnik, "Russia Hopes to Exploit the Chill in US-Saudi Relations and Gain a Foothold in the Saudi Arms Market," Middle East Media Research Institute, Special Dispatch No. 9223, Washington, D.C., March 10, 2021.

<sup>35</sup> "Russian Arms Sales Growing in Africa," *Defense World*, March 24, 2020. See also Eric Schmitt and Thomas Gibbons-Neff, "Russia Exerts Growing Influence in Africa, Worrying Many in the West," *New York Times*, January 28, 2020.

<sup>36</sup> General Stephen J. Townsend, U.S. Army, Commander, U.S. Africa Command, "Africa: Securing U.S. Interests, Preserving Strategic Options," testimony before the Committee on Armed Services, U.S. House of Representatives, Washington, D.C., April 20, 2021.

are influential in global affairs, including in the United Nations General Assembly, which makes Africa an important market for Russia's weaponry.<sup>37</sup> Russia has leveraged arms sales to develop relations in African countries where it also seeks to gain basing rights, commercial opportunities, and access to minerals in Somaliland, Mozambique, Libya, and the Central African Republic. In countries lacking currency reserves, weapons and support from Russian private military companies, such as the Wagner Group, can serve as a means of exchange.<sup>38</sup>

Despite some long-standing customers and a broad customer base, Russian arms sales have declined. The increasing competition in the arms market, sanctions since 2014, and geopolitical repositioning around the globe amid the coronavirus disease 2019 (COVID-19) pandemic combine to explain this decline. Russian weapon sales abroad rose from nearly \$5 billion in 2000 to approximately \$35 billion in 2015. Since that time, defense sales have declined to \$25 billion a year.<sup>39</sup> Weapons systems generating the most sales revenue have been the Su-27 fighter aircraft family that includes the current Su-35; the Mi-8 and Mi-17 helicopters; and a wide array of surface-to-air missiles (SAMs) that include the Pantsir S-1 SA-22 Greyhound short-range air defense system and the S-300/400 family of air defense systems. Further "big ticket" sales include conventional and nuclear-powered submarines and frigate and corvette class warships. The Russians have also had considerable success in selling a wide range of land armaments that included small arms, rocket and tube artillery, and the current generation of armored fighting vehicles.

## Impact of CAATSA Sanctions on Russian Arms Exports

As the income provided by the Russian Federation's export of petroleum and natural gas has declined, income gained through arms exports has increased in relative importance. Yet Russian arms sales are not just a source of income to lower its arms production costs and contribute to its military research and development base. Russia's arms sales are one of its few high-technology exports; others include software and nuclear reactors. Advanced conventional weapons further Russia's foreign policy and help maintain relations with other countries' leaders, particularly their military leaders. Understanding how Russia leverages arms sales to further its relations with

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<sup>37</sup> Theo Neethling, "Assessing Russia's New Interaction with Africa: Energy Diplomacy, Arms Exports and Mineral Resource Markets," *Strategic Review for Southern Africa*, Vol. 42, No. 2, December 18, 2020.

<sup>38</sup> Schmitt and Gibbons-Neff, 2020.

<sup>39</sup> For an account of the decline in global ranking of the Russian defense industry in international arms sales, see SIPRI, "International Arms Transfers Level Off After Years of Sharp Growth; Middle Eastern Arms Imports Grow Most, Says SIPRI," press release, March 15, 2021. See also Lucie Béraud-Sudreau, Alexandra Marksteiner, Diego Lopes da Silva, Nan Tian, Alexandra Kuimova, Pieter D. Wezeman, and Siemon T. Wezeman, "Mapping the International Presence of the World's Largest Arms Companies," *SIPRI Insights on Peace and Security*, No. 2020/12, December 2020.

its long-standing allies or develop relations with new countries is important for assessing the potential impact that U.S. and EU sanctions may have.

An analysis of open-source information on 65 potential or actual Russian advanced conventional arms sales involving 33 countries provides some basis on which to assess the impact.<sup>40</sup> RAND researchers have assembled a database of open-source materials on Russian arms export marketing and sales, and this analysis is focused on a set of country cases that may trigger CAATSA sanctions. The database includes over 5,500 entries of publicly available information collected from July 2017 to May 2021. These actual and prospective sales involve countries with varying degrees of relations with Russia.

In some cases, countries have long-standing arms relationships or close ties with Russia (including, for some, membership in the Russian-dominated Collective Security Treaty Organization). China, India, Vietnam, and Algeria have been some of the biggest long-standing buyers of Russian arms. Six of the 33 countries had been part of the Soviet Union, and their militaries remain largely, if not exclusively, composed of Soviet- and Russian-produced weapons. Armenia, Azerbaijan, Belarus, Kazakhstan, Kyrgyzstan, and Uzbekistan gained independence when the Soviet Union dissolved and built their arsenals mostly with Soviet, and now Russian, weapons. All but one of the 33 countries had purchased Soviet or Russian weapons prior to the implementation of the CAATSA legislation. Seven of the countries that were not part of the Soviet Union had been politically aligned with the Soviet Union, and most of their militaries have been equipped with Soviet and Russian weapons. Dissuading these 33 countries from importing Russian weapons means asking them to discontinue a line of weaponry and all the maintenance infrastructure associated with it. Most weapons systems, regardless of their origin, last two to three decades. Unless countries previously allied or aligned with the Soviet Union or Russia wanted to break free from their long-standing military relationship, they would need a compelling rationale to do so.

Naturally, the United States has more of a case to dissuade a country from purchasing Russian advanced conventional weapons if the majority of the country's arsenal is composed of non-Soviet and non-Russian systems. Nonetheless, some countries with long-standing arms importing relationships with the Soviet Union and Russia may want to diversify the composition of their arsenals. Vietnam and India have imported most of their arsenals from Russia, but they also have an interest in weaponry from the United States and other countries as a way to further a political relationship or get access to high-quality weaponry. Vietnam and India want to acquire capabilities and further their relations with the United States as a deterrent to China. Certain

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<sup>40</sup> The RAND Corporation team obtained publicly available source materials by searching a variety of traditional media and social media. The 65 cases studied involved the following 33 countries: Algeria, Angola, Armenia, Azerbaijan, Belarus, Cameroon, China, Egypt, Ghana, India, Indonesia, Iran, Iraq, Kazakhstan, Kyrgyzstan, Malaysia, Mexico, Morocco, Myanmar, Nepal, Nicaragua, Nigeria, Pakistan, Peru, Philippines, Qatar, Saudi Arabia, Serbia, South Korea, Turkey, UAE, Uzbekistan, and Vietnam.

former Soviet states seek some political distance from Russia and do not want to be too dependent on Russia for weaponry.

Despite obvious challenges, the United States can use CAATSA to dissuade some countries with historical arms importing relationships with Russia. Getting a country to switch to non-Russian weapons systems can result in important downstream changes. Interoperability of systems makes it difficult to switch, but once a country does it, there are great interoperability forces that steer future purchases to be compatible. The intelligence, surveillance, and reconnaissance (ISR) capabilities on major systems like ships, planes, and armored vehicles entail significant software and signals compatibility to function effectively. Making it attractive for a country to forgo Russian systems and acquire something from another country can have significant and lasting results. However, it is important to caveat that there may be other factors that contributed to the stalling of Russian sales. For instance, geopolitics is a crucial dimension. An appreciation of the political dynamics is important to understanding the prospects for diplomatic success with third-party countries.

The following three cases help to illustrate the different levels of geopolitical complications that the United States faces when it employs third-party sanctions to curtail Russian arms sales and consequently raise the cost of Russia's malign interference in the affairs of other states. The first application of CAATSA sanctions by the Trump administration posed very little cost to U.S. foreign policy. China's purchase of the Russian Su-35 fighter aircraft and S-400 air defense system was the first use of the CAATSA sanctions.<sup>41</sup> China was an easy country case for the application of CAATSA sanctions because the Trump administration had cast China as an unfair rival trading partner and a belligerent rising power.

In contrast, Turkey and India are two country cases that illustrate the challenge of using the threat and application of third country sanctions to persuade countries to not purchase Russian weapons. Relations with these two countries entail a formal alliance, in the case of Turkey, and a growing strategic relationship with India, as a partner in the Indo-Pacific Quad, that is designed to promote security in the region.

After China, Turkey was the second country case in which the United States exercised the CAATSA sanctions, and it was not easy at all. As will be reviewed below, after years of negotiations, the U.S. sanctioning of Turkey, a valued NATO ally, for purchasing the Russian S-400 air defense system creates a significant diplomatic problem with formidable consequences.

In contrast to U.S. relations with Turkey, which have become more strained since the 2016 coup attempt, U.S.-Indian relations have been on a slow but steady upswing over the course of the past decade. Indian officials have sought and expect a waiver of the CAATSA sanctions provision. As of June 2021, India has neither received a waiver nor has it been sanctioned, despite planned and prospective Russian arms purchases—most prominently its acquisition of

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<sup>41</sup> Lesley Wroughton and Patricia Zengerle, "U.S. Sanctions China for Buying Russian Fighter Jets, Missiles," Reuters, September 20, 2018.

the S-400 air defense system, the same Russian weapons system that is at the heart of the dispute with Turkey.

The United States and India share a common interest in checking a rising China. However, the United States faces conflicting interests that it must navigate when it comes to its bilateral relationship with India. On the one hand, U.S. policy seeks to punish Russia for malign interference in the affairs of other states by discouraging states like India from purchasing Russian weapons. On the other, India has a long-standing arms relationship with the former Soviet Union and now Russia that simply cannot be severed quickly, if at all. Weapons systems often last for decades, and switching from one weapons supplier to another introduces interoperability issues of systems that may not seamlessly interface with other equipment, presenting a costly operational problem. Moreover, if the United States sanctions India for its purchase of Russian weapons, it runs the risk of losing India as an ally in the strategic competition with China and pushing it into closer relations with Russia. Furthermore, if the United States provides India with a waiver on sanctions, other countries may also seek waivers so that they too can purchase Russian weapons—possibly creating a gallop effect that erodes the power of the CAATSA sanctions.

Evidence that the cases of Turkey and India have broader implications is represented in part by the number of entries both countries have in the RAND database. Russian arms sales to these two countries generated significantly more articles about the prospects and implications of sanctions than any other Russian arms sale.

## 2. Highlighting Russian Malign Interference by Curtailing Russian Arms Exports: Turkey and India

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### Turkey and the Consequences

Russian officials argue that CAATSA sanctions are an effort to create unfair conditions in the defense export marketplace and are ineffective. In March 2020, the director of Russia’s Federal Service for Military-Technical Cooperation (FSMTC), Dmitry Shugaev, pointed to Turkey’s decision to purchase the S-400 as a clear example of how the threat of sanctions does not dissuade countries from purchasing Russian weapons.<sup>42</sup> Despite requests from both U.S. and NATO partners to reject the deal, for fear that the S-400 would collect data on Western aircraft, and threats of sanctions from the United States, Turkey concluded the contract—and talks of a second S-400 deal with Turkey have emerged.<sup>43</sup>

Amid growing bipartisan pressure from Congress, on December 14, 2020, the United States imposed sanctions against Turkey’s Presidency of Defense Industries (SSB), Turkey’s top defense procurement entity.<sup>44</sup> According to the U.S. State Department, the sanctions against Turkey “are not intended to undermine the military capabilities or combat readiness of Turkey,”<sup>45</sup> which reflects the selection of less stringent and more targeted sanctions imposed on the country.<sup>46</sup>

Nevertheless, sanctions against the SSB could create challenges for critical Turkish defense projects and may make third parties more hesitant to work with the SSB.<sup>47</sup> In addition, sanctions against Turkey, a NATO ally, may also give pause to other countries that are considering the purchase of Russian defense systems. Former Assistant Secretary of State for International Security and Nonproliferation Christopher Ford said that he hoped that other countries considering purchasing Russian weapons would take note of the sanctions against Turkey.<sup>48</sup>

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<sup>42</sup> “Глава ФСВТС заявил, что санкции США не работают так, как предполагалось” [“Head of FSMTC Stated That U.S. Sanctions Do Not Work as Intended”], *RIA Novosti*, August 28, 2019.

<sup>43</sup> Dorian Jones, “Turkey to Go Ahead with Russian Weapons Purchases Despite US Objections,” *VOANews*, May 17, 2021.

<sup>44</sup> “Factbox: U.S. Sanctions Target Turkish Defence Body,” Reuters, December 14, 2020.

<sup>45</sup> Office of the Spokesperson, “CAATSA Section 231 ‘Imposition of Sanctions on Turkish Presidency of Defense Industries,’” U.S. Department of State, Washington, D.C., December 14, 2020.

<sup>46</sup> Dorian Jones, “Turkey Slams US Sanctions over Russian Missile System Purchase,” *Voice of America*, December 15, 2020.

<sup>47</sup> Ragıp Soylu, “How US Sanctions Will Affect Turkey’s Defence Industry,” *Middle East Eye*, December 15, 2020.

<sup>48</sup> Christopher A. Ford, “Assistant Secretary for National Security and Nonproliferation Dr. Christopher Ford and Deputy Assistant Secretary for European Affairs Matthew Palmer on the Imposition of Sanctions on Turkey Under

## *Secondary Effects for Turkey of the CAATSA Sanctions*

In addition to the direct effect of sanctions that a country can receive from purchasing Russian defense systems, there is also a potential for secondary effects. Turkey's purchase of the S-400 provides a clear example.<sup>49</sup> Prior to imposing sanctions against Turkey, the United States decided on July 17, 2019, to officially remove Turkey from the F-35 program.<sup>50</sup> Fearing that Turkey's S-400 system would allow Russia to collect sensitive information on the fighter's advanced capabilities, the United States argued that Turkey's acquisition of the S-400 "renders its continued involvement with the F-35 impossible."<sup>51</sup> Purchasing a Russian air defense system is an unusual step for a NATO ally. Yet, President Recep Tayyip Erdoğan has adopted a foreign policy at odds with several U.S. and NATO positions. His assertion of a Turkish way ahead accelerated following the 2016 coup attempt, given Erdoğan's doubts about support from the United States and the European Union. Turkey's approach to Iran, Syria, and Iraq; collaboration with Russia; Black Sea policy; and a neo-Ottoman assertion of its influence throughout the Mediterranean are all foreign policy moves that complicate U.S.-Turkish relations.<sup>52</sup>

With Turkey developing more than 900 parts for the F-35 program, former U.S. Under Secretary of Defense for Acquisition and Sustainment Ellen M. Lord explained that "Turkey will certainly and regrettably lose jobs and future economic opportunities from this decision. It will no longer receive more than \$9 billion in projected workshare related to the F-35 over the life of the program."<sup>53</sup> Turkey also is now forced to look for an alternative fifth-generation aircraft. One option is to develop its own fifth-generation aircraft, though some sources have estimated that it could take at least a decade to become operational.<sup>54</sup> Russia has offered its Su-57 aircraft as a

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CAATSA 231," special briefing, Washington, D.C.: U.S. Department of State, December 14, 2020. See also "US Sanctions Turkey on S-400, Cautions India, Others on Buying Russian Arms," webpage, December 15, 2020.

<sup>49</sup> For a description of the decision to formally sanction Turkey for the S-400 purchase, see Michael R. Pompeo, U.S. Secretary of State, "The United States Sanctions Turkey Under CAATSA 231," press statement, December 14, 2020; and Lara Jakes, "U.S. Imposes Sanctions on Turkey over 2017 Purchase of Russian Missile Defenses," *New York Times*, December 14, 2020.

<sup>50</sup> Ellen Mitchell, "US Officially Kicks Turkey out of F-35 Fighter Jet Program," *The Hill*, July 17, 2019.

<sup>51</sup> Mitchell, 2019.

<sup>52</sup> Jonathan Gorvett, "Erdoğan Is Digging a Hole He Can't Escape," *Foreign Policy*, April 28, 2021. See also Daniel Fried, "Sanctions Against Turkey over Russian Arms: Has the United States Found a Sweet Spot?" *New Atlanticist* blog, Atlantic Council, December 17, 2020; and Stephen J. Flanagan, F. Stephen Larrabee, Anika Binnendijk, Katherine Costello, Shira Efron, James Hoobler, Magdalena Kirchner, Jeffrey Martini, Alizera Nader, and Peter A. Wilson, *Turkey's Nationalist Course: Implications for the U.S.-Turkish Strategic Partnership and the U.S. Army*, Santa Monica, Calif.: RAND Corporation, RR-2589-A, 2020.

<sup>53</sup> Jim Garamone, "U.S. Begins Process of 'Unwinding' Turkey from F-35 Program, DOD Officials Say," U.S. Department of Defense, July 17, 2019.

<sup>54</sup> Paul Iddon, "Where Can Turkey Buy Stopgap Fighter Jets for Its Aging Air Force?" *Forbes*, August 11, 2020.

replacement for the F-35, though the Su-57 is experiencing development problems, as described in a previous article written by the authors.<sup>55</sup>

A lesser-known consequence of Turkey's S-400 purchase is its recent difficulty exporting the T129 ATAK helicopter. Though the T129 is a Turkish helicopter, it uses a Western engine and requires a U.S. export license. This export license had been held up due to Turkey's S-400 purchase.<sup>56</sup> As a result, Turkey has been forced to put potential deals with the Philippines and Pakistan on hold—with Pakistan's order alone totaling 30 helicopters worth \$1.5 billion.<sup>57</sup> Recently, Turkish Aerospace Industries (TAI) has reportedly hired American law firms to lobby on Turkey's behalf to help obtain the U.S. export license.<sup>58</sup> A recent report quoting a TAI representative indicated that "Washington had issued the required paperwork regarding the sale of an initially designated number of six helicopters," which may be a U.S. carrot designed to encourage Turkey to rethink its use of the S-400 system.<sup>59</sup> Recent reports of Turkey sending Russian missile experts home suggests that it is willing to work with the United States to resolve differences on purchases of Russian systems.<sup>60</sup>

The geostrategic implications of how the United States seeks to curb Russia's behavior working with third party countries is complex and dynamic. For example, to obtain certain engine capabilities, Turkey hopes to acquire and eventually coproduce turboshaft engines with a similar performance from the Ukrainian company, Motor Sich.<sup>61</sup> An expanding Turkish-Ukrainian military relationship creates an alternative source of equipment that Russia might otherwise provide to Turkey. A strategic dilemma for the U.S. government is whether to interfere with this developing military relationship that serves the U.S. interest in containing Russia's continued aggression against Ukraine—or to give higher priority to U.S. efforts to punish Turkey for developing an increasingly autonomous military industrial capacity. The United States faces a similar dilemma in its relations with India.

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<sup>55</sup> Ryan Bauer and Peter Wilson, "Russia's Su-57 Heavy Fighter Bomber: Is It Really a Fifth-Generation Aircraft?" *RAND Blog*, August 17, 2020.

<sup>56</sup> Jon Grevatt, "'Update: Philippines DND Seeks T129 'guarantees' from Turkey,'" *Janes*, July 15, 2020.

<sup>57</sup> "Turkey First Indigenous Helicopter Engine to Be Ready for Integration This Year," *Defense World*, June 20, 2020.

<sup>58</sup> Ian J. Lynch, "Turkey Hires U.S. Lobbyists to Break Congress's de Facto Arms Embargo," *Ahval*, August 21, 2020.

<sup>59</sup> "Turkey Get U.S. License to Export T129 ATAK Helicopter to the Philippines," *Defense World*, May 19, 2021.

<sup>60</sup> Selcan Hacaoglu, "Turkey to Send Russian Missile Experts Home in Signal to Biden," *Bloomberg*, May 31, 2021.

<sup>61</sup> Metin Gurcan, "Turkey on Course to Strategic Partnership with Ukraine," *Al-Monitor*, October 22, 2020.



## Balancing Competing Objectives to Influence the Behavior of Great Powers: The Indian Dilemma

Like Turkey, India has also agreed to purchase the Russian S-400 air defense system, but it has not yet been delivered. The Indian and Turkish cases of purchasing this Russian air defense system illustrate the complications the CAATSA law poses for U.S. foreign policy. In both cases, the public discussion around the transactions focuses on the prospect that the United States may apply sanctions rather than on the rationale for the sanctions, which is Russian covert and overt malign interference in other states. The United States might usefully rebalance the narrative to seek to shift public debate away from sanctions and toward Russia's malign activities.

The Indian military has purchased Soviet and Russian weaponry since the country's independence. India was a leader of the nonaligned movement throughout the Cold War era, and the Soviet Union was frequently seen as more supportive of postcolonial states. Additionally, India aligned with Moscow because its main adversaries, Pakistan and China, were aligned with Washington. This legacy has enduring effects, particularly in the form of purchases and use of military equipment that has a service life measured in decades. India's long history of importing weapons from Russia means that, for many of its systems, command and control are interoperable. Moreover, the Indian military has a history of training on Russian weapons and has the infrastructure to maintain, repair, and overhaul them. Switching to new systems has considerable collateral costs, and the Indian armed forces would need a compelling rationale to do so, particularly for systems where Russia provides the low-cost option. In the past 15 years, India has opened its economy and fostered political and economic relations with the United States. While not a treaty ally with the United States, like Turkey, India has changed its bilateral relationship with the United States dramatically since the Cold War ended. India's largely democratic political system, increasingly open economy, and concern about a rising China as a major power have caused India to rebalance its foreign policy toward closer relations with the United States. India's involvement with Japan, Australia, and the United States in the Quad arrangement is the most recent example of this growing relationship. In response to questions for the Senate Armed Services Committee, U.S. Secretary of Defense Lloyd Austin indicated that his "overarching objective for our defense relationship with India would be to continue elevating the partnership." He also stated that he wanted to "operationalize India's 'Major Defense Partner' status and continue to build upon existing strong defense cooperation to ensure the U.S. and Indian militaries can collaborate to address shared interests."<sup>62</sup> India's concern with China's rise as a major power and with a border dispute that recently erupted into armed conflict has motivated Indian leaders to pursue closer relations with the United States on security matters.

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<sup>62</sup> Lloyd J. Austin, Nominee for Appointment to Be Secretary of Defense, U.S. Senate Armed Services Committee, Advance Policy Questions, January 19, 2021.

Given India's extensive arsenal of Russian weapons and its increasingly important bilateral relationship with the United States, experts in India and the United States call for a sanctions waiver on its purchase of the S-400 and other Russian weapons systems as long as India diversifies its arms imports and its relationship with the United States strengthens.<sup>63</sup> Support in India to purchase the S-400 is very strong in the parliament and the Indian public. To make the system effective, the Indian military must have a constellation of systems to support the S-400 in its role as a high-altitude air defense system. Protecting the S-400 from threats adds to the cost of the system.<sup>64</sup> Moreover, for the S-400 to operate as advertised by Russia, the system needs to be operated by a highly trained military workforce. Again, achieving this level of personnel skill is a cost. The attacks by Huthi rebels on Saudi oil fields is a reminder that even sophisticated air defense systems can be defeated or fail if the personnel who operate them are not adequately trained or alert regarding the nature of their defensive role.<sup>65</sup>

Fostering the U.S.-Indian defense relationship as an alternative to India's relationship with Russia will probably require a combination of joint diplomatic initiatives and reciprocal defense purchases of each other's weaponry. The Indian government has greatly expanded its military supply relationship with the United States in recent years. India is importing from the United States "maritime and transport aircraft, attack and heavy-lift helicopters and light-weight howitzers . . . worth an estimated \$18 billion."<sup>66</sup> Additionally, India is negotiating with the United States for another \$20 billion in defense systems that include unmanned aerial capabilities and air defense systems. India has also submitted a bid to provide the U.S. Navy with light combat trainer aircraft.<sup>67</sup> Lockheed Martin and Tata are in a joint venture producing defense items for India to export. This joint venture is also competing to produce the F-21 to meet the Indian Air Forces' need for a new jet fighter.<sup>68</sup> Various forms of defense production collaboration provide a clear means for India to diversify its arsenal away from Russia.

As with U.S. defense companies, India has increasingly sought coproduction arrangements with Russia to bolster its own defense industrial base. These arrangements, over time, facilitate important transfer of advanced manufacturing technologies and contribute to Indian

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<sup>63</sup> Observer Research Foundation and the Asia Group, *An Agenda for Innovation in the U.S.-India Defence Relationship*, ORF Special Report No. 153, New Delhi, July 2021, p. 5. See also Kenneth I. Juster, "Remove a Sanctions Cloud from U.S.-Indian Relations," *War on the Rocks*, April 27, 2021.

<sup>64</sup> Peter A. Wilson and John V. Parachini, "Russian S-400 Surface-to-Air Missile System: Is It Worth the Sticker Price?" *RAND Blog*, May 6, 2020.

<sup>65</sup> John V. Parachini and Peter A. Wilson, "Drone-Era Warfare Shows the Operational Limits of Air Defense Systems," *RealClear Defense*, July 2, 2020.

<sup>66</sup> Rahul Bedi, "India Ready to Sell BrahMos, but Exports Remain Hostage to Concerns over CAATSA," *The Wire*, March 4, 2021.

<sup>67</sup> Anupam Srivastava and Scott Jones, "The Promise and Limits of Indo-US Defense Cooperation," *India Global Business*, February 12, 2021.

<sup>68</sup> Srivastava and Jones, 2021.

employment. India's sophisticated digital technology capabilities make it more than ready to assume a greater role in the development and production of certain military systems. While coproduction arrangements with Russia help to lessen India's dependence on importing off-the-shelf systems, they do not free it from the risk of triggering CAATSA sanctions. For example, the coproduction agreement to produce the Brahmos missile in India still requires India to purchase an estimated 65 percent of the components from Russia,<sup>69</sup> which owns 49.5 percent of the production project.

Several countries in Southeast Asia are interested in purchasing the Brahmos because of their concern about Chinese maneuvers and intentions in the South China Sea. Indian sales of the missile to such countries as Vietnam and the Philippines could boost its defense industry. One estimate is that sales of Brahmos cruise missiles to these countries could amount to 5 billion dollars by 2025.<sup>70</sup> However, since the missile is a jointly produced weapon with a considerable number of Russian components, it might trigger U.S. diplomatic engagement to discourage its sale.

The case of the Brahmos missile illustrates how India poses conflicting policy objectives for the United States. India reinforces U.S. policy toward one major power but conflicts with policy toward the other major power. On the one hand, India is an important member of the Indo-Pacific Quad and a potential exporter of weapons to nations seeking to check China's territorial ambitions in the region. On the other hand, its importation and coproduction of Russian weapons, while contributing to its ability as a valued security partner in the region, conflicts with U.S. policy toward Russia.

Despite its burgeoning arms relationship with the United States, India's deep and enduring military industrial relationship with the Russian Federation is not easily discounted for historical, political, and economic reasons. While codevelopment of the Brahmos cruise missile is one successful outcome of this partnership, the relationship has encountered problems. India was codeveloping the Su-57 fighter aircraft with Russia, with plans to produce a version of the aircraft in India, when Indian officials broke off the deal.<sup>71</sup> Indian officials were not persuaded that the Russian-claimed fifth generation aircraft really had the advertised capabilities, and it was turning out to be much more expensive to produce than originally envisioned. The Russians were also reluctant to share critical design information.<sup>72</sup> Indian officials perceived the aircraft as too expensive, cut their losses, and switched to acquire the French Rafale fighter jet. India has sought coproduction arrangements to meet Prime Minister Narendra Modi's policy to promote the

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<sup>69</sup> Bedi, 2021.

<sup>70</sup> Bedi, 2021.

<sup>71</sup> David Axe, "Why India Rejected Russia's Su-57 Stealth Fighter," *The National Interest*, April 22, 2020.

<sup>72</sup> Ajai Shukla, "Russia Can't Deliver on Fifth Generation Fighter Aircraft: IAF," *Business Standard*, January 21, 2014.

development of the Indian defense industry; the experience with the coproduction arrangements for the Su-57 showed that it was willing switch suppliers when core issues were not addressed.

Even with a codevelopment disappointment, it appears that New Delhi has no interest in severing its relationship with Russia. Noteworthy are recent decisions to rapidly acquire the S-400 air defense and buy additional Su-30s and MiG-29s.<sup>73</sup> This latter decision was prompted by the armed clashes with the Chinese People's Liberation Army (PLA) along the high Himalayan border during the early summer of 2020.<sup>74</sup> A domestic political imperative to act decisively prompted New Delhi to turn to Moscow for an immediate if symbolic response to the acts of Chinese aggression. There is considerable support in India for the purchase of the systems to add to India's arsenal because of the threats perceived from Pakistan and China. The cost advantages of Russian weapons systems may be an important consideration for India.

The challenge for the United States is to refocus the debate associated with Russian arms sales on Russian behavior as a bully state in the international system and, to the extent possible, away from the prospect of U.S. sanctions on states with long histories of meeting their military equipment needs by importing Russian weapons. India and the United States might search for better ways to communicate about certain arms decisions and develop suitable, competitively priced alternatives that meet their mutual objectives. To the extent possible, cases of disagreement about a purchase of Russian military equipment might be matched with an alternative purchase or coproduction arrangement from another country. This may, in some cases, be more expensive, but it could send an important signal to Russia and help set an example for other countries of how to diversify their long-standing arms importation arrangements away from Russia.

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<sup>73</sup> Snehesh Alex Philip, "IAF Set to Place Orders for 21 MiG-29 Jets from Russia by Dec to Shore Up Aircraft Strength," *The Print*, October 6, 2020.

<sup>74</sup> Dave Makichuk, "Border Clashes Prompt India to Fast-Track Weapons Buys," *Asia Times*, July 7, 2020a.

### 3. Other States Meet Security Needs and Comply with CAATSA Objectives: Indonesia, Morocco, and Nigeria

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According to an analysis of our open-source database, there are several cases in which CAATSA sanctions appear to have contributed to the stalling or reconsideration of a Russian defense export. The clearest example is Russia’s attempt to export Su-35s to Indonesia. In February 2018,<sup>75</sup> Russia and Indonesia signed a \$1.14 billion contract in which Indonesia would purchase 11 Su-35 fighter jets.<sup>76</sup> Possibly half of this cost was to be covered through the exchange of commodities, such as spices and palm oil.<sup>77</sup>

Financing the purchase was not the only problem.<sup>78</sup> Indonesia has sought to chart a foreign policy aligned with neither Russia nor the United States. It has imported most of its weaponry from the United States and other Western suppliers, but it also has Russian weaponry in its arsenal. While it would like to maintain some independence from the United States by purchasing some Russian weaponry, it does not want to risk Washington’s disapproval and not be able to procure spare parts for its largely American-supplied arsenal. Indonesia’s Presidential Chief of Staff summed up the decision by saying that potential purchase of Russian Su-35 fighter jets is “not just a business-to-business related commercial transaction, but there are other factors.”<sup>79</sup> The implication is that there are political factors, as well as such technical issues as interoperability and downstream training and maintenance costs, that extend beyond buying a particular weapons system.

In 2019, reports began to surface that Indonesia was reconsidering the purchase because of the threat of U.S. sanctions. Speaking during the major 2019 Moscow air show, Russian Trade Commissioner Yaroslav Tarasyuk confirmed Indonesia’s reluctance to purchase the Su-35. According to Tarasyuk,

I talked to the Indonesian chief of the air force and he mentioned CAATSA, the US law. From what he says, I understand they receive threats. They are

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<sup>75</sup> Karlis Salna and Arys Aditya, “Trump Threat Spurred Indonesia to Drop Russia, China Arms Deals,” Bloomberg News, March 12, 2020.

<sup>76</sup> Rehia Sebayang, “Dubes Rusia Komentari Rencana Prabowo Borong 11 Sukhoi Su-35,” CNBC Indonesia, February 3, 2020.

<sup>77</sup> “Глава ФСМТС: бартер в военно-техническом сотрудничестве для РФ останется исключением” [“Head of FSMTC: Barter in Military-Technical Cooperation Will Remain an Exception for the Russian Federation”], TASS, July 6, 2020.

<sup>78</sup> “Russia: Finances Are Barriers to Indonesia’s Purchase of Su-35 Fighter Jets,” *Warta Ekonomi*, February 12, 2020.

<sup>79</sup> “Rencana Indonesia Beli Sukhoi Su-35 Terancam Gagal gara-gara CAATSA—Apa Itu?” [“Indonesia’s Plan to Buy Sukhoi Su-35 Is Threatened with Failure Because of CAATSA—What Is It?”], *KumparanBisnis*, July 6, 2020.

dependent not just on Russian equipment, they are dependent on a large part of US-made equipment. If as a punishment measure, let's say, American manufacturers stop supplying spares, stop supporting American-made equipment, then there will be a breach in security in national defence in Indonesia. So, they are very cautious.<sup>80</sup>

The implication of Tarasyuk's comment was that countries can depend on Moscow to deliver equipment and spare parts in the future, but they cannot be sure the United States or other Western suppliers will be as dependable. Additionally, numerous Russian officials have argued that they respect Indonesia's sovereignty and right to choose the weaponry it deems appropriate for its security needs. During the negotiations over the S-35 aircraft sale, Russian ambassador Lyudmila Vorobieva said, "The contract has been signed. We hope it can pass. Because as Mr. Prabowo said, Indonesia is an independent country and can determine who or what to buy war equipment from." Russia's Deputy Ambassador in Jakarta, Oleg V. Kopylov, also reiterated the theme of Indonesia resisting the efforts to dissuade it from purchasing Russian weapons by observing that "Indonesia still wants to continue the Sukhoi purchase contract even though several countries are trying to threaten Indonesia. But Indonesia does not feel threatened; this is very good."<sup>81</sup> This is an argument Russian officials make whenever they are selling weapons and the issue of CAATSA is relevant.<sup>82</sup>

Vorobieva sought to convey that Indonesia had not canceled the agreement. However, by July 2020, Indonesia communicated its interest in purchasing Austria's Typhoon fighters in light of the threat of U.S. sanctions.<sup>83</sup> Recent reports indicate that Indonesia is also in advanced talks with France for the potential purchase of 36 Rafale jets.<sup>84</sup> This is an example in which patient diplomacy and credible alternatives to Russian systems were available and made the difference.

Indonesia's Su-35 case, however, is not the sole example. Despite Shugaev's statements that U.S. sanctions are not producing their intended effect, he noted that "The pressure is going up every day [on potential customers]. We see it every day and it is not a secret, not a secret for anyone."<sup>85</sup> For example, a few months earlier, U.S. sanctions may have influenced Morocco's arms import decisions. According to the Spanish news outlet *Defensa*, Morocco's interest in acquiring a long-range air defense system has shifted from Russia's S-400 to the American

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<sup>80</sup> Garrett Reim, "MAKS: US Sanctions Make Air Forces Wary of Russian Jets," *FlightGlobal*, August 28, 2019a.

<sup>81</sup> "CAATSA, US Strategy to Prevent Russian Defense Equipment Enthusiasts," CNN Indonesia, January 22, 2020.

<sup>82</sup> Chandra Gian Asmara, "This Is What Makes the Purchase of 11 Sukhoi Jets Never Complete," CNBC Indonesia, February 25, 2020.

<sup>83</sup> "Австрия согласилась продать Индонезии 15 истребителей EF-2000 'Тайфун'" ["Austria Agreed to Sell Indonesia 15 EF-200 Typhoon Fighters"], TsAMTO [Center for the Analysis of the World Arms Trade], September 8, 2020.

<sup>84</sup> "Indonesia Close to Signing Rafale Contract: French Media," *Defense World*, May 19, 2021; Dave Makichuk, "Indonesia, France Reportedly Close on Rafale Fighter Deal," *Asia Times*, December 7, 2020b.

<sup>85</sup> Reim, 2019a.

Patriot system, in an effort to avoid U.S. sanctions.<sup>86</sup> Following the media report of Moroccan interest in the S-400, Russia's ambassador to Rabat, Valerian Shuvaev, explained how Russia sought defense collaboration with Morocco. However, he downplayed the media report of Moroccan interest in acquiring the S-400 by saying that Morocco had "made no official request" for the system.<sup>87</sup> Russia has been a main weapons supplier to Morocco's neighbor Algeria, with which Morocco has decidedly cool relations. Moroccan interest in air defense capabilities is natural, but it recognizes that Russia arms its regional rival and that it needs to stick with its American ally, which supplies most of its weaponry.<sup>88</sup> Morocco's decision to not risk American pressure is both practical, since most of its weaponry is American, and strategic because it wants to be in good standing with its long-standing great-power supporter.

As former Assistant Secretary of State Ford argued when announcing the sanctions on Turkey's purchase of the S-400, CAATSA sanctions may make other U.S. allies, including Saudi Arabia and Qatar, more reluctant to purchase the S-400.<sup>89</sup> In addition, an Iraqi parliament member recently claimed that the United States created obstacles to Iraq's purchase of Russian S-300 and S-400 defense systems.<sup>90</sup> This sense of growing hesitancy is something Russian officials have noted as well. Victor Kladov, the director of international cooperation and regional policy for Rostec, indicated that because of U.S. sanctions, "We feel like some nations are more cautious."<sup>91</sup> Russian statements are an indication that U.S. diplomatic outreach attempts to dissuade countries from purchasing Russian weapons and to comply with CAATSA is a factor leaders are weighing when considering Russian arms imports. While this is a case in which a third party was dissuaded from importing Russian weapons, the U.S. narrative did not include the rationale for the sanctions. The better narrative is that countries are not importing Russian weapons because doing so is tacit approval of Russia's malign behavior in the international system of nations.

U.S. diplomatic engagement and the prospect of sanctions may have also influenced Nigeria's willingness to complete its acquisition of an Mi-35 helicopter contract. In 2014, the United States canceled a shipment of attack helicopters to Nigeria following accusations that

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<sup>86</sup> Mohammed Halimi, "La ley CAATSA empuja a Marruecos hacia la defensa aérea de Estados Unidos" ["The CAATSA Law Pushes Morocco Towards the Air Defense of the United States"], *Defense*, May 24, 2019. See also "Fearing Trump, Morocco Reconsiders US Arms Instead of Russia's," *Middle East Monitor*, May 29, 2019.

<sup>87</sup> Safaa Kasraoui, "Ambassador to Morocco: Morocco Made No Request for Russian S-400 Missiles Systems," *Morocco World News*, December 13, 2018.

<sup>88</sup> Jasper Hamann, "Algeria Orders Russian Su-57 Jets, Does Morocco Need the F-35?" *Morocco World News*, January 2, 2021.

<sup>89</sup> Ford, 2020. See also Halimi, 2019.

<sup>90</sup> "The U.S. Stops Business Deal Between Iraq, Russia," Middle East North Africa Financial Network, October 24, 2020.

<sup>91</sup> Garrett Reim, "ANALYSIS: Russian Helicopters Looks for Growth Path Around US Sanctions," *FlightGlobal*, October 25, 2019b.

government soldiers had committed human rights violations against suspects in the fight against Boko Haram.<sup>92</sup> In that same year, Nigeria agreed to purchase 12 Mi-35 helicopters from Russia, since Russia has a history of selling weapons to governments known to have committed human rights abuses. Rather, this is a competitive advantage leveraged whenever Western arms sales are halted due to human rights concerns and reinforces Russia's argument that it respects the sovereignty of governments to which it sells weapons; for some regimes, neutrality regarding human rights issues may be a reason to buy arms from Russia rather than from the United States and other Western countries.

Six of the 12 helicopters have been delivered. According to Nigerian Ambassador to Russia Steve Davies Ugbah, the purchase and delivery of the remaining helicopters is under discussion but is hindered by U.S. sanctions against Russia's defense sector.<sup>93</sup> The ambassador's statement is confirmation that the prospect of U.S. sanctions is a factor that may deter prospective third-country importers of Russian weapons. Russia has confirmed that the remaining helicopters for Nigeria have been built and are awaiting payment. Finding a way to deliver this payment may be difficult if Abuja is concerned about triggering U.S. sanctions.<sup>94</sup>

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<sup>92</sup> Kondratenko, 2020.

<sup>93</sup> "Nigeria Confirms Order for a Dozen Mi-35 Helicopters from Russia," *DefenceWeb*, October 24, 2019.

<sup>94</sup> Sumaira Hussain, "Russia Finishes Order for 7 Mi-35 Helicopters for Nigeria, Awaiting Payment—Source," *UrduPoint*, January 20, 2020.



## 4. Arms-Importing States Have Adapted to U.S. and Allied Sanctions

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### Russia's Difficulty Finding Financial Workarounds

U.S. sanctions have also complicated the way countries make payments for Russian defense systems. Shugaev has acknowledged that the sanctions do create “certain problems” but indicated that such measures as completing the transactions in national currencies help address these issues.<sup>95</sup> For instance, Dmitry Dolgin, ING Bank’s Chief Economist covering Russia and countries in the Commonwealth of Independent States, pointed out that in the first half of 2019, trade between Russia and India in rubles jumped 76.5 percent, “which coincided with the news about the next deliveries of Russian arms to India.”<sup>96</sup>

But Russia and a potential foreign customer may not always have an interest in completing transactions through their respective national currencies. Nepal, which is interested in purchasing seven Mi-17 helicopters from Russia but is still determining how the payment will be made, is one example. According to the Nepalese ambassador to Russia, the two states cannot carry out transactions in U.S. dollars because the money will be blocked, and neither Nepal nor Russia wants to pay using the other country’s currency because of the low volume of trade between the two countries.<sup>97</sup> At an added cost, they could settle in a third currency, such as euros.

Barter has been explored as an alternative form of payment to circumvent U.S. sanctions. Malaysia raised the possibility of paying, in part, with palm oil for exchanges of Russian aircraft it currently has for new systems.<sup>98</sup> Russia sought to sell Indonesia Su-35 aircraft, and the Indonesians planned to pay for nearly half of the transaction with commodities “such as palm oil, rubber, furniture, tea and coffee, as well as spices.”<sup>99</sup> However, in July 2020, Shugaev clarified that bartering is an alternative that Russia likely won’t seek to replicate in the near future.<sup>100</sup>

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<sup>95</sup> “Глава ФСВТС заявил, что санкции США не работают так, как предполагалось” [“Head of FSMTC Stated That U.S. Sanctions Do Not Work as Intended”], 2019.

<sup>96</sup> Alina Nazarova, “Турция стала покупать российское оружие за рубли,” [“Turkey Began Buying Russian Weapons for Rubles”], *Vzglyad*, October 29, 2019.

<sup>97</sup> “Итог санкций: «застряла» оплата за вертолеты Ми-17 от Непала” [“The Result of Sanctions: Payments for Mi-17 Helicopters to Nepal Cannot be Processed”], *Voennoe obozrenie [Military Review]*, March 5, 2020.

<sup>98</sup> “‘With Additional Payment of Palm Oil’: Malaysia Is Ready to Exchange Su-30MKM for Su-35 and MiG-29 for MiG-35,” *Voennoe obozrenie [Military Review]*, November 29, 2019.

<sup>99</sup> Caleb Larson, “America Is Winning the Arms Sales War with Russia and China for Indonesia,” *The National Interest*, April 12, 2020.

<sup>100</sup> “Глава ФСВТС: бартер в военно-техническом сотрудничестве для РФ останется исключением” [“Head of FSMTC: Barter in Military-Technical Cooperation Will Remain an Exception for the Russian Federation”], 2020.

Efforts to develop barter schemes rest on whether countries have something to offer each other because if they do not, “then such a mechanism will not work.”<sup>101</sup>

In some cases, a foreign country’s failed attempt to make payments for Russian defense systems occurred after a system was already delivered. According to Rosoboronexport’s financial statements from 2018, the company was owed \$13 billion, with a fairly large percentage of this debt due for defense products already delivered, “including non-payments due to sanctions.”<sup>102</sup> Part of this includes funds “that were actually paid, but got stuck in the banks because they came under sanctions, and there’s no way to withdraw them.”<sup>103</sup>

## Russian Countermeasures to Sanctions in the Information Sphere

In addition to denigrating the Ukrainian defense industry to advantage itself, Russia has also sought to control the information sphere by limiting information available about its own defense industry. Russia has begun to limit public information about financial aspects of its defense transactions. In January 2020, Russia passed a law allowing several sanctioned Russian defense companies to keep their financial records private.<sup>104</sup> The law seeks to protect information related to the companies’ finances but also their customers and contractors from being named in future U.S. or EU sanctions.<sup>105</sup>

Another indication that U.S. implementation of CAATSA via diplomatic engagement backed up with the prospect of sanctions is affecting Russia’s defense industry is the Russian law passed in April 2020 that limits access to information about state defense orders.<sup>106</sup> An explanatory note for the April 2020 law stated, “While almost all major defenses manufacturers such as United Aircraft Corporation and Rostec are under sanctions, a good number of smaller and lesser known firms as well as individuals who represent them are not in the sanctions list.”<sup>107</sup> In effect, these laws are an effort by the Russian government to shield defense companies and associated parties that have not yet been the subject of U.S. sanctions. Over the course of the past six years, the

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<sup>101</sup> “Итог санкций: «застряла» оплата за вертолеты Ми-17 от Непала” [“The Result of Sanctions: Payments for Mi-17 Helicopters to Nepal Cannot be Processed”], 2020.

<sup>102</sup> Ivan Tkachev and Inna Sidorkova, “Поставщики и покупатели оружия задолжали ‘Рособоронэкспорту’ \$13 млрд” [“Suppliers and Purchasers of Weapons Owed Rosoboronexport \$13 Billion”], *RBC*, November 10, 2019.

<sup>103</sup> Tkachev and Sidorkova, 2019; “Russia Loses \$13 Billion on Arms Deals,” *UAWIRE*, November 12, 2019.

<sup>104</sup> “Russian Govt Lets Sanctioned Cos Keep Accountancy Private,” *PRIME*, January 24, 2020.

<sup>105</sup> “Russia Might Ease Accounting Rules on Sanctioned Firms,” *Moscow Times*, November 8, 2019.

<sup>106</sup> “Госдума приняла закон о закрытии сведений о закупках в рамках гособоронзаказа” [“State Duma Passed Law Closing Information on Purchases Associated with the State Defense Order (Gosoboronzakaz)”], *Interfax*, April 17, 2020.

<sup>107</sup> “Госдума приняла закон о закрытии сведений о закупках в рамках гособоронзаказа” [“State Duma Passed Law Closing Information on Purchases Associated with the State Defense Order (Gosoboronzakaz)”], 2020.

Russian government has attempted to limit the damage resulting from U.S. and allied sanctions through policies of adaptation and attempted import substitution.

To further its arms exports, Russia has taken several approaches. First, Russia focused on countries that have either a recent political disagreement with Western nations or a desire to assert their independence by importing weapons from each of the great powers. Turkey's President Erdoğan's disenchantment with several developments in U.S.-Turkish relations, along with growing economic ties with Russia (e.g., natural gas purchases, tourism, construction), have led him to forge a better relationship with Moscow.<sup>108</sup> Second, Russia has agreed to coproduction arrangements, sharing the economic benefits of technology transfer and employment. As an element of its "Made in India" campaign, India has negotiated firmly with Russia to increase coproduction arrangements as part of its arms imports. And finally, Russia has worked with countries to find non-dollar financing systems to handle weapons sales transactions. Considering barter arrangements with Indonesia is an example of an alternative means of exchange to gain Russian arms imports.

Appeals to nationalism have also been effective with China, Algeria, Vietnam, Egypt, and Turkey. In the case of China, the geostrategic and military supply relationship between Beijing and Moscow has greatly strengthened. China is one of Moscow's important arms sales clients. Despite U.S. sanctions applied to China's arms procurement agency and its director, China has not been deterred by the U.S. threat of sanctions.<sup>109</sup> For example, it has committed to acquire additional Su-35s from Russia.

Another country undeterred by the prospect of third party sanctions as a result of importing Russian advanced conventional weapons is Algeria, which has commitments to acquire Russian combat aircraft and warships.<sup>110</sup> Similarly, Vietnam plans to acquire Russian tanks<sup>111</sup> and the Yak-130 advanced jet trainer/light fighter.<sup>112</sup>

The harder cases requiring deft diplomatic approaches are Egypt and the Philippines. Among a variety of weapon imports, Egypt plans to acquire the Su-35.<sup>113</sup> Egypt has considerable Western weaponry in its arsenal, but it has recently elevated its interest in Russian weapon imports. U.S. defense expert Anthony Cordesman argued that "Egypt has been so dependent on the U.S. that it is beginning to try to find some kind of contingency arrangement so that it

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<sup>108</sup> Flanagan et al., 2020.

<sup>109</sup> Wroughton and Zengerle, 2018.

<sup>110</sup> "Will Become the Most Dangerous Ships in Africa': The US Press on Algeria's Purchase of 'Guard'-Type Corvettes," *Voennoe obozrenie [Military Review]*, November 24, 2020.

<sup>111</sup> "The Second Batch of Mig-29M/M2 Fighters Is Being Prepared for Dispatch to Algeria," webpage, TsAMTO [Center for the Analysis of the World Arms Trade], February 2, 2021; "Vietnam Got Hooked on Russian Tanks," *Voенно-promyshlennyi kur'er*, undated.

<sup>112</sup> "Winning: Tale of Two Trainers," *StrategyPage*, February 24, 2020. "Vietnam Orders \$350M Combat Training Jets from Russia—Vedomosti," *Moscow Times*, January 29, 2020.

<sup>113</sup> "Egypt Moves Ahead with Purchase of Russian Arms Despite US Warnings," 2021.

can't be levered by Congressional pressure to change their policies on dealing with dissidents."<sup>114</sup> Similarly, after considering acquiring American and Canadian helicopters, the Philippine government is reportedly seeking to acquire the Mi-171 despite the U.S. threat of sanctions. Philippine President Duterte seems determined to make a geopolitical statement of "independence."<sup>115</sup> In both of these cases, there have been strains in bilateral relations with the United States, and senior leaders are willing to risk CAATSA sanctions to demonstrate their autonomy.

Despite some states desiring to chart an independent course from Western states, others may conclude that importing advanced conventional weapons from the Russians is not worth the price of clashing with the United States. Three cases are noteworthy. The first is the recent decision by Indonesia to halt buying a squadron of Su-35s.<sup>116</sup> The second is Brazil's decision not to consider a major purchase of Russian Mi-17 medium-lift helicopters.<sup>117</sup> Additional cases include Morocco's reconsideration of air defense options<sup>118</sup> and the Iraqi government's hesitancy to acquire the S-400 air defense system in light of U.S. pressure.<sup>119</sup> Indonesia, Brazil, Morocco, and Iraq all have important security relationships with the United States and U.S. weapons systems in their arsenals. Thus, the United States can make a stronger case that these countries have alternatives to Russian weapons. In the event that the systems are not price-competitive, the United States and other allied suppliers can underscore the advantage that they offer: Their systems are interoperable with other systems in the country's arsenal and, in many cases, operationally more advanced.

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<sup>114</sup> "Egypt Sidelines Rafale Jets for SU-35s; Claims Only Russian Jets Can Match US/Israeli War Planes," *EurAsian Times*, August 6, 2020.

<sup>115</sup> "Philippines to Buy Russian Helicopters," *Voенно-promyshlennyi kur'er*, November 19, 2020; Daniel Darling, "Philippines Defense Secretary Says U.S. Attack Helicopter Offers Are Too Pricey," *Defense and Security Monitor*, May 15, 2020; Chandler Sachs and John Parachini, "Is Political Balancing Good for Philippine Defense Acquisition, Asks RAND Corporation?" *Asian Military Review*, May 7, 2020; Richard Javad Heydarium, "The New Realignment Between Russia and the Philippines," *The National Interest*, October 25, 2019.

<sup>116</sup> Vladimir Karnozov, "Indonesia May Refuse Military-Technical Cooperation with Russia," *Nezavisimoe voennoe obozrenie*, March 18, 2021; "Russian Su-35 Jet Not Mentioned in Indonesian Air Force Purchase Plan," *Defense World*, February 23, 2021; Salna and Aditya, 2020.

<sup>117</sup> The Brazilian Air Force bought 12 Mi-35M Hind attack helicopters in 2008 that now may be sold to the Government of National Accord, Libya. The Russians actively marketed the sale and set-up of maintenance, repair, and overhaul facilities for the Mi-171 transport helicopters. At this time, the Brazilian Air Force has not purchased the Mi-171 for military use. See Russian Helicopters, "Russian Helicopters Begins Certification of Mi-171A2 in Brazil," press release, February 15, 2019.

<sup>118</sup> Halimi, 2019. See also "Fearing Trump, Morocco Reconsiders US Arms Instead of Russia's," 2019.

<sup>119</sup> "Iraq Interested in Buying Anti-Aircraft System from Russia," *Prensa Latina*, December 4, 2020; "The U.S. Stops Business Deal Between Iraq, Russia," 2020.

## Codevelopment and Coproduction Contracts

As mentioned previously, India and China have longstanding military-industrial relationships with Russia. With the suspension of Russia's military-industrial ties to Ukraine, the relationships are more complicated for several reasons. First, Ukraine provided key engine components for several major military aerospace and marine systems, and Russia no longer has access to them. Lacking these key components raises some questions about the quality of some of Russia's weapons. Second, some arms-importing countries want to build up their indigenous defense industrial base, obtain key technologies that might have dual-use benefits, and bolster their employment in a high-technology manufacturing sector. China is rapidly emerging as a supplier of certain categories of competitively priced weaponry, such as fighter aircraft, drones, and missiles. India also is building up its defense industrial base with successes in the areas of short-range missile and light fighter aircraft. Third, while Rosoboronexport has sought to set up maintenance, repair, and overhaul (MRO) facilities to service Russian military systems around the globe, other countries with long histories with Soviet and Russian weapons are offering to service and repair Russian-origin weapons, and some may offer lower costs.

As China and India continue their arms collaboration with Russia, they too will have MRO capabilities that they can offer to other countries that compete with Russia. So there are inherent trade-offs for Russia. As it offers coproduction arrangements or establishes MRO facilities in countries to further its sales, Russia at the same time is creating longer-term competition for its services. Russia has or seeks to establish maintenance and repair facilities in such countries as Peru, India, and Malaysia.<sup>120</sup> What is unclear is whether Russia will be able to manage coproduction arrangements and MRO dependencies in ways that allow it to increase its leverage and influence.

## Alternative Payment Options Outside of the Dollar Financial System

Both Russia and China seek indigenous payment systems with foreign partners to separate themselves from the restrictions of the United States and its allies in Europe and Asia. They have sought to develop economic structures that avoid the United States and its allies and, in some cases, bind Russia and China closer together. The Putin government has launched a major effort to advance strategic and economic ties with China. The Russian leadership sees China as a major market for Russian hydrocarbons, and China has now become an increasingly close financial and military technological ally. Recently, Presidents Xi Jinping and Vladimir Putin called for a strategic partnership that implies the synchronization of the Chinese Belt and Road Initiative and

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<sup>120</sup> "The Peruvian Army and Russian Helicopters Will Expand the Capabilities of the Army Aeronautical Maintenance Center," *Baviation Business Aviation News*, November 30, 2020; "Regional Center for Maintenance of Russian-Made Helicopters in Peru," *LiveJournal*, November 23, 2019; "Russian Helicopters to Set Up Mi-17V5 Helo Engine Overhaul Facility in India," *Defense World*, February 12, 2021; "Repair Center for Russian Helicopter Engines to Open in India in 2021," TASS, February 1, 2021.

the Russian-dominated Eurasian Economic Union.<sup>121</sup> The hope of the Russian political leadership is that China will sustain broader military technological ties with Russian defense industries. Simultaneously, both capitals are attempting to construct an alternative to the U.S. dollar–dominated payment system. That alternative would provide another way for potential Russian arms sale clients to finance their transactions without reliance on the U.S. financial system.<sup>122</sup> These efforts remain a work in progress.

Recently, Russia has been exploring the rules governing third-party country resale of Russian weapons. For instance, Russia no longer requires third-party countries to officially notify Russia about the purchase, thereby removing any direct communication between the third-party buyer and Russia.<sup>123</sup> According to arms expert Konstantin Makienko, this policy change will reduce the fear of secondary sanctions for potential buyers.<sup>124</sup> In the case of Nepal, for example, the country’s ambassador to Russia spoke about the potential for making the purchase through China or India in an effort to avoid U.S. sanctions.<sup>125</sup> Another suggestion presented in 2019 to the Central Bank of Russia is to consider the use of cryptocurrencies, backed by tangible assets such as gold, to conduct weapon sales to avoid pressure from sanctions.<sup>126</sup> It is unclear to what degree Russia is considering this option.

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<sup>121</sup> Cao Desheng, “Xi, Putin Hail Deepening Sino-Russian Cooperation,” *China Daily*, July 23, 2020.

<sup>122</sup> See Jonathan E. Hillman, *China and Russia: Economic Unequals*, Washington, D.C.: Center for Strategic and International Studies, Washington, D.C., July 2020, for an analysis of the risks and benefits of Moscow’s effort to build a “Eurasian Entente” with China.

<sup>123</sup> Michael Peck, “Revealed: The Secret to Buying Russia’s Top Arms While Avoiding US Sanctions,” *The National Interest*, November 12, 2019.

<sup>124</sup> “Russia Eases Arms Resale Rules to Avoid Sanctions—Reports,” *Moscow Times*, May 15, 2019.

<sup>125</sup> “Nepal May Route Payment for Russian Mi-17 Helicopters via China or India,” *Defense World*, March 4, 2020.

<sup>126</sup> “ГосДума предложила продавать оружие за криптовалюту” [“State Duma Requested the Sale of Weapons for Cryptocurrency”], *FINANZ*, July 23, 2019.

## 5. Conclusions and Recommendations

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Russia's continued arms sales highlight challenges to effective implementation of CAATSA sanctions to curb its international behavior. Nevertheless, an examination of country cases reveals that these sanctions are having a chilling impact on Russian defense exports and resulting in significant lost arms sales. Collectively, all the U.S. and EU sanctions levied after Russia's invasion of Crimea have also complicated Russia's capacity to modernize its defense industry, which may have degrading effects on its armed forces and the competitiveness of its arms exports. Restrictions on Western technology transfers over time will challenge Russian weapons producers in a competitive international arms market.<sup>127</sup>

Thus far, CAATSA sanctions are most effective as a means to facilitate diplomatic dialogue between the United States and potential buyers of Russian weapons regarding Russia's aggressive and malign behavior in the system of states. The prospect of sanctions creates more opportunities for the United States to explore how to meet arms buyers' security needs via diplomatic measures or with weapons from more responsible players in the international system. The greatest success in the diplomatic engagements have come with countries that historically imported U.S. weaponry and have good relations with Western nations.

The United States will need to approach these diplomatic discussions strategically with governments that have large quantities of former Soviet or Russian weapons in their arsenal—especially states with which the United States has other important or even vital interests (e.g., Turkey offers access to Incirlik air base, a strategic asset for the United States in the volatile Middle East). As one study noted, regarding the implications of CAATSA for U.S. relations with nations in the Indo-Pacific region, the goal of reducing Russian revenue from arms exports “should be pursued more flexibly” because it “is ultimately counterproductive to sanction these countries, or threaten to sanction them, for Russian equipment that would improve their ability to counter Chinese coercion or deter Chinese aggression.”<sup>128</sup>

Russia's use of arms exports is an element of its foreign policy to reinforce ties with long-standing partners, sustain legacy Soviet-era relationships, forge ties with countries it has not historically had close relations with, boost the economy and employment in Russia, and generate foreign exchange. Moscow will continue to aggressively market its weaponry around the globe.

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<sup>127</sup> For a description of this increased global competition in arms trade, see “Global Arms Industry: Sales by the Top 25 Companies up 8.5 Percent; Big Players Active in Global South,” Stockholm International Peace Research Institute, December 7, 2020.

<sup>128</sup> Ely Ratner, Daniel Kliman, Susanna V. Blume, Rush Doshi, Chris Dougherty, Richard Fontaine, Peter Harrell, Martijn Rasser, Elizabeth Rosenberg, Eric Sayers, et al., *Rising to the China Challenge: Renewing American Competitiveness in the Indo-Pacific*, Washington, D.C.: Center for a New American Security, January 28, 2020.

While the United States can rely on the various sanction regimes to encourage potential Russian arms clients to reconsider acquiring Russian weapons systems, it will be more successful if it chooses strategically when to leverage the prospect of sanctions, when to issue a waiver, and when to demur on the issue of sanctions altogether. The U.S. objective is not to hinder other countries' ability to procure the weaponry they need to defend themselves, but rather to curtail Russia's malign actions and influence and raise their cost to Moscow. The United States might be more effective by giving greater public and private attention to recasting the narrative of its diplomacy associated with Russian arms sales to focus on Russian malign behavior and not on U.S. sanctions. To make this case to other countries, the United States, European Union, and like-minded nations need to provide credible diplomatic and military alternatives to Russian arms exports and work with countries to address their security needs.



## Abbreviations

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CAATSA	Countering America’s Adversaries Through Sanctions Act
COVID-19	coronavirus disease 2019
EU	European Union
FSMTC	Federal Service for Military-Technical Cooperation
ISR	intelligence, surveillance, and reconnaissance
MRO	maintenance, repair, and overhaul
NATO	North Atlantic Treaty Organization
PLA	People’s Liberation Army
SAM	surface-to-air missile
SAP	State Armaments Program
SIPRI	Stockholm International Peace Research Institute
SSB	Turkey’s Presidency of Defense Industries
TAI	Turkish Aerospace Industries
UAE	United Arab Emirates

## References

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- Åslund, Anders, and Maria Snegovaya, *The Impact of Western Sanctions on Russia and How They Can Be Made Even More Effective*, Washington, D.C.: Atlantic Council, May 3, 2021. As of June 10, 2021:  
<https://www.atlanticcouncil.org/in-depth-research-reports/report/the-impact-of-western-sanctions-on-russia/>
- Asmara, Chandra Gian, “This Is What Makes the Purchase of 11 Sukhoi Jets Never Complete,” CNBC Indonesia, February 25, 2020. As of September 17, 2021:  
<https://www.cnbcindonesia.com/news/20200225174312-4-140411/ini-yang-buat-pembelian-11-jet-sukhoi-tak-kunjung-selesai>
- Austin, Lloyd J., Nominee for Appointment to Be Secretary of Defense, U.S. Senate Armed Services Committee, Advance Policy Questions, January 19, 2021. As of August 24, 2021:  
[https://www.armed-services.senate.gov/imo/media/doc/Austin\\_APQs\\_01-19-21.pdf](https://www.armed-services.senate.gov/imo/media/doc/Austin_APQs_01-19-21.pdf)
- “Австрия согласилась продать Индонезии 15 истребителей EF-2000 ‘Тайфун’” [“Austria Agreed to Sell Indonesia 15 EF-200 Typhoon Fighters”], TsAMTO [Center for the Analysis of the World Arms Trade], September 8, 2020.
- Axe, David, “Why India Rejected Russia’s Su-57 Stealth Fighter,” *The National Interest*, April 22, 2020. As of June 1, 2021:  
<https://nationalinterest.org/blog/buzz/why-india-rejected-russia%E2%80%99s-su-57-stealth-fighter-146771>
- Bauer, Ryan, and Peter Wilson, “Russia’s Su-57 Heavy Fighter Bomber: Is It Really a Fifth-Generation Aircraft?” *RAND Blog*, August 17, 2020.
- Bazhenov, Ruslan, Tatyana Krasota, and Irina Mironova, *Import Substitution in Developing the Defense Industry of Russia as a New Economic Industrialization Tool*, Paris: Atlantis Press, 2019.
- Bedi, Rahul, “India Ready to Sell BrahMos, but Exports Remain Hostage to Concerns over CAATSA,” *The Wire*, March 4, 2021. As of August 24, 2021:  
<https://thewire.in/trade/india-brahmos-exports-hostage-russia-caatsa-sale>
- Béraud-Sudreau, Lucie, Diego Lopes da Silva, Alexandra Kuimova, and Pieter D. Wezeman, “Emerging Suppliers in the Global Arms Trade,” *SIPRI Insights on Peace and Security*, No. 2020/13, December 2020.

- Béraud-Sudreau, Lucie, Alexandra Marksteiner, Diego Lopes da Silva, Nan Tian, Alexandra Kuimova, Pieter D. Wezeman, and Siemon T. Wezeman, “Mapping the International Presence of the World’s Largest Arms Companies,” *SIPRI Insights on Peace and Security*, No. 2020/12, December 2020. As of August 24, 2021:  
[https://www.sipri.org/sites/default/files/2020-12/sipriinsight2012\\_mapping\\_the\\_international\\_presence\\_of\\_the\\_worlds\\_largest\\_arms\\_companies.pdf](https://www.sipri.org/sites/default/files/2020-12/sipriinsight2012_mapping_the_international_presence_of_the_worlds_largest_arms_companies.pdf)
- Bitzinger, Richard A., and Nicu Popescu, eds., *Defense Industries in Russia and China: Players and Strategies*, Luxembourg: European Union Institute for Strategic Studies, Report No. 38, December 2017. As of May 31, 2021:  
[https://www.iss.europa.eu/sites/default/files/EUISSFiles/Report\\_38\\_Defence-industries-in-Russia-and-China.pdf](https://www.iss.europa.eu/sites/default/files/EUISSFiles/Report_38_Defence-industries-in-Russia-and-China.pdf)
- Blanc, Jarrett, and Andrew S. Weiss, *U.S. Sanctions on Russia: Congress Should Go Back to Fundamentals*, Washington, D.C.: Carnegie Endowment for International Peace, April 3, 2019. As of August 24, 2021:  
<https://carnegieendowment.org/2019/04/03/u.s.-sanctions-on-russia-congress-should-go-back-to-fundamentals-pub-78755>
- Burke, Ingrid, “US Sanctions Against Russia May Be Recalibrated, but Overhaul Unlikely,” *In The Thick of It* blog, Belfer Center for Science and International Affairs, Harvard University, February 19, 2021. As of August 25, 2021:  
<https://www.russiamatters.org/blog/us-sanctions-against-russia-may-be-recalibrated-overhaul-unlikely>
- “CAATSA, US Strategy to Prevent Russian Defense Equipment Enthusiasts,” CNN Indonesia, January 22, 2020. As of September 17, 2021:  
<https://www.cnnindonesia.com/internasional/20200122064416-106-467483/caatsa-jurus-as-halangi-peminat-alutsista-rusia>
- Cao Desheng, “Xi, Putin Hail Deepening Sino-Russian Cooperation,” *China Daily*, July 23, 2020. As of August 25, 2021:  
<https://www.chinadaily.com.cn/a/202007/23/WS5f19a315a31083481725bb77.html>
- Connolly, Richard, and Cecilie Sendstad, “Russia’s Role as an Arms Exporter: The Strategic and Economic Importance of Arms Exports for Russia,” Chatham House, Royal Institute of International Affairs, March 20, 2017. As of August 25, 2021:  
<https://www.chathamhouse.org/2017/03/russias-role-arms-exporter>

- Daly, John C. K., “Ukrainian Espionage Incident Highlights Ongoing Russian Naval Shortcomings,” *Eurasia Daily Monitor*, Vol. 17, No. 45, April 6, 2020. As of August 25, 2021:  
<https://jamestown.org/program/ukrainian-espionage-incident-highlights-ongoing-russian-naval-shortcomings/>
- Darling, Daniel, “Philippines Defense Secretary Says U.S. Attack Helicopter Offers Are Too Pricey,” *Defense and Security Monitor*, May 15, 2020. As of August 25, 2021:  
<https://dsm.forecastinternational.com/wordpress/2020/05/15/philippines-defense-secretary-says-u-s-attack-helicopter-offers-too-pricey/>
- “Egypt Moves Ahead with Purchase of Russian Arms Despite US Warnings,” *Al-Monitor*, March 3, 2021. As of August 24, 2021:  
<https://www.al-monitor.com/pulse/originals/2021/03/egypt-us-tension-sanctions-russia-arms-deal.html>
- “Egypt Sidelines Rafale Jets for SU-35s; Claims Only Russian Jets Can Match US/Israeli War Planes,” *EurAsian Times*, August 6, 2020. As of August 24, 2021:  
<https://eurasianimes.com/egypt-dumps-rafale-jets-for-su-35s-says-only-russian-jets-can-match-us-israeli-war-planes/>
- “Factbox: U.S. Sanctions Target Turkish Defence Body,” Reuters, December 14, 2020.
- “Fearing Trump, Morocco Reconsiders US Arms Instead of Russia’s,” *Middle East Monitor*, May 29, 2019. As of August 24, 2021:  
<https://www.middleeastmonitor.com/20190529-out-of-fear-of-trump-morocco-reconsiders-uss-mim-104-patriot-instead-of-russias-s400/>
- Flanagan, Stephen J., F. Stephen Larrabee, Anika Binnendijk, Katherine Costello, Shira Efron, James Hoobler, Magdalena Kirchner, Jeffrey Martini, Alizera Nader, and Peter A. Wilson, *Turkey’s Nationalist Course: Implications for the U.S.-Turkish Strategic Partnership and the U.S. Army*, Santa Monica, Calif.: RAND Corporation, RR-2589-A, 2020. As of August 25, 2021:  
[https://www.rand.org/pubs/research\\_reports/RR2589.html](https://www.rand.org/pubs/research_reports/RR2589.html)
- Ford, Christopher A., “Implementing CAATSA Section 231 Diplomacy,” testimony before the Senate Committee on Banking, Housing, and Urban Affairs, Washington, D.C., August 21, 2018. As of August 25, 2021:  
<https://www.banking.senate.gov/imo/media/doc/Ford%20Testimony%208-20-18.pdf>

Ford, Christopher A., “Assistant Secretary for National Security and Nonproliferation Dr. Christopher Ford and Deputy Assistant Secretary for European Affairs Matthew Palmer on the Imposition of Sanctions on Turkey Under CAATSA 231,” special briefing, Washington, D.C.: U.S. Department of State, December 14, 2020. As of August 25, 2021: <https://2017-2021.state.gov/assistant-secretary-for-international-security-and-nonproliferation-dr-christopher-ford-and-deputy-assistant-secretary-for-european-affairs-matthew-palmer-on-the-imposition-of-sanctions-on-turkey-und/index.html>

Fried, Daniel, “Sanctions Against Turkey over Russian Arms: Has the United States Found a Sweet Spot?” *New Atlanticist* blog, Atlantic Council, December 17, 2020. As of May 31, 2021: <https://www.atlanticcouncil.org/blogs/new-atlanticist/sanctions-against-turkey-over-russian-arms-has-the-united-states-found-a-sweet-spot/>

Garamone, Jim, “U.S. Begins Process of ‘Unwinding’ Turkey from F-35 Program, DOD Officials Say,” U.S. Department of Defense, July 17, 2019.

“Global Arms Industry: Sales by the Top 25 Companies up 8.5 Percent; Big Players Active in Global South,” Stockholm International Peace Research Institute, December 7, 2020.

Corvett, Jonathan, “Erdogan Is Digging a Hole He Can’t Escape,” *Foreign Policy*, April 28, 2021. As of May 31, 2021: <https://foreignpolicy.com/2021/04/28/canal-kanal-istanbul-erdogan-channel-trench-protest/>

Gressel, Gustav, “The Sanctions Straitjacket on Russia’s Defence Sector,” European Council on Foreign Relations, February 13, 2020. As of August 25, 2021: [https://ecfr.eu/article/commentary\\_the\\_sanctions\\_straitjacket\\_on\\_russias\\_defence\\_sector/](https://ecfr.eu/article/commentary_the_sanctions_straitjacket_on_russias_defence_sector/)

Grevatt, Jon, “Update: Philippines DND Seeks T129 ‘guarantees’ from Turkey,” *Janes*, July 15, 2020.

Gurcan, Metin, “Turkey on Course to Strategic Partnership with Ukraine,” *Al-Monitor*, October 22, 2020.

Hacaoglu, Selcan, “Turkey to Send Russian Missile Experts Home in Signal to Biden,” *Bloomberg*, May 31, 2021. As of June 10, 2021: <https://www.bloomberg.com/news/articles/2021-05-31/turkey-to-send-russian-missile-experts-home-in-signal-to-biden>

Halimi, Mohammed, “La ley CAATSA empuja a Marruecos hacia la defensa aérea de Estados Unidos” [“The CAATSA Law Pushes Morocco Towards the Air Defense of the United States”], *Defense*, May 24, 2019.

- Hamann, Jasper, “Algeria Orders Russian Su-57 Jets, Does Morocco Need the F-35?” *Morocco World News*, January 2, 2021. As of June 1, 2021:  
<https://www.moroccoworldnews.com/2021/01/330801/algeria-orders-russian-su-57-jets-does-morocco-need-the-f-35>
- “Глава ФСВТС: бартер в военно-техническом сотрудничестве для РФ останется исключением” [“Head of FSMTC: Barter in Military-Technical Cooperation Will Remain an Exception for the Russian Federation”], TASS, July 6, 2020.
- “Глава ФСВТС заявил, что санкции США не работают так, как предполагалось” [“Head of FSMTC Stated That U.S. Sanctions Do Not Work as Intended”], *RIA Novosti*, August 28, 2019.
- Heydari, Richard Javad, “The New Realignment Between Russia and the Philippines,” *The National Interest*, October 25, 2019.
- Hillman, Jonathan E., *China and Russia: Economic Unequals*, Washington, D.C.: Center for Strategic and International Studies, Washington, D.C., July 2020.
- Hurska, Alla, “The Motor Sich Factory and Its Covert Ties to Russia,” *Eurasia Daily Monitor*, Vol. 16, No. 128, September 19, 2019. As of August 25, 2021:  
<https://jamestown.org/program/the-motor-sich-factory-and-its-covert-ties-to-russia/>
- Hurska, Alla, “Inbox: The Battle for ‘Motor Sich,’” webpage, Center for European Policy Analysis, November 20, 2020. As of May 31, 2021:  
<https://cepa.org/inbox-the-battle-for-motor-sich/#page>
- Hussain, Sumaira, “Russia Finishes Order for 7 Mi-35 Helicopters for Nigeria, Awaiting Payment—Source,” *UrduPoint*, January 20, 2020.
- Iddon, Paul, “Where Can Turkey Buy Stopgap Fighter Jets for Its Aging Air Force?” *Forbes*, August 11, 2020.
- “Indonesia Close to Signing Rafale Contract: French Media,” *Defense World*, May 19, 2021. As of June 1, 2021:  
[https://www.defenseworld.net/news/29600/Indonesia\\_Close\\_to\\_Signing\\_Rafale\\_Contract\\_French\\_Media#.YLatAvlKg2x](https://www.defenseworld.net/news/29600/Indonesia_Close_to_Signing_Rafale_Contract_French_Media#.YLatAvlKg2x)
- “Rencana Indonesia Beli Sukhoi Su-35 Terancam Gagal gara-gara CAATSA—Apa Itu?” [“Indonesia’s Plan to Buy Sukhoi Su-35 Is Threatened with Failure Because of CAATSA—What Is It?”], *KumparanBisnis*, July 6, 2020. As of June 1, 2021:  
<https://kumparan.com/kumparanbisnis/rencana-indonesia-beli-sukhoi-su-35-terancam-gagal-gara-gara-caatsa-apa-itu-1tkVqXjwkcw/full>
- “Iraq Interested in Buying Anti-Aircraft System from Russia,” *Prensa Latina*, December 4, 2020.

- Jakes, Lara, "U.S. Imposes Sanctions on Turkey over 2017 Purchase of Russian Missile Defenses," *New York Times*, December 14, 2020.
- Jones, Dorian, "Turkey Slams US Sanctions over Russian Missile System Purchase," *Voice of America*, December 15, 2020.
- Jones, Dorian, "Turkey to Go Ahead with Russian Weapons Purchases Despite US Objections," *VOANews*, May 17, 2021. As of June 10, 2021:  
<https://www.voanews.com/europe/turkey-go-ahead-russian-weapons-purchases-despite-us-objections>
- Juster, Kenneth I., "Remove a Sanctions Cloud from U.S.-Indian Relations," *War on the Rocks*, April 27, 2021. As of September 17, 2021:  
<https://warontherocks.com/2021/04/remove-a-sanctions-cloud-from-u-s-indian-relations/>
- Karnozov, Vladimir, "Indonesia May Refuse Military-Technical Cooperation with Russia," *Nezavisimoe voennoe obozrenie*, March 18, 2021. As of August 25, 2021:  
[https://nvo.ng.ru/armament/2021-03-18/5\\_1133\\_indonesia.html](https://nvo.ng.ru/armament/2021-03-18/5_1133_indonesia.html)
- Kasraoui, Safaa, "Ambassador to Morocco: Morocco Made No Request for Russian S-400 Missiles Systems," *Morocco World News*, December 13, 2018. As of June 1, 2021:  
<https://www.moroccoworldnews.com/2018/12/260310/ambassador-morocco-russia-s-400-missiles>
- Kaukin, A., and Pavel Pavlov, "Import Substitution in Russia's Manufacturing Industry: A Weak Effect," *Russian Economic Developments*, No. 3, 2016.
- Kondratenko, Tatiana, "Russian Arms Exports to Africa: Moscow's Long-Term Strategy," *DW*, May 29, 2020. As of June 2, 2021:  
<https://www.dw.com/en/russian-arms-exports-to-africa-moscows-long-term-strategy/a-53596471>
- Kramnik, Ilya, "Russia Hopes to Exploit the Chill in US-Saudi Relations and Gain a Foothold in the Saudi Arms Market," Middle East Media Research Institute, Special Dispatch No. 9223, Washington, D.C., March 10, 2021.
- Larrabee, F. Stephen, Peter A. Wilson, and John Gordon IV, *The Ukrainian Crisis and European Security: Implications for the United States and U.S. Army*, Santa Monica, Calif.: RAND Corporation, RR-903-A, 2015. As of August 25, 2021:  
[https://www.rand.org/pubs/research\\_reports/RR903.html](https://www.rand.org/pubs/research_reports/RR903.html)
- Larson, Caleb, "America Is Winning the Arms Sales War with Russia and China for Indonesia," *The National Interest*, April 12, 2020. As of August 25, 2021:  
<https://nationalinterest.org/blog/buzz/america-winning-arms-sales-war-russia-and-china-indonesia-142632>

- Lynch, Ian J., “Turkey Hires U.S. Lobbyists to Break Congress’s de Facto Arms Embargo,” *Ahval*, August 21, 2020.
- Lypko, Oleg, “Import Substitution in the Russian Defense Industry: Issues and Achievements,” *Meta-Defense*, August 22, 2020.
- Makichuk, Dave, “Border Clashes Prompt India to Fast-Track Weapons Buys,” *Asia Times*, July 7, 2020a. As of August 25, 2021:  
<https://asiatimes.com/2020/07/border-clashes-prompt-india-to-fast-track-weapons-buys/>
- Makichuk, Dave, “Indonesia, France Reportedly Close on Rafale Fighter Deal,” *Asia Times*, December 7, 2020b.
- Malmlof, Tomas, *The Russian Machine Industry—Prospects for a Turnaround?* Stockholm: Swedish Defense Research Agency (FOI), February 2019.
- Malyasov, Dylan, “Russia Deploying Disinformation to Discredit Ukrainian Defense Industry,” *Defence Blog*, November 4, 2020.
- Mitchell, Ellen, “US Officially Kicks Turkey out of F-35 Fighter Jet Program,” *The Hill*, July 17, 2019.
- Nazarova, Alina, “Турция стала покупать российское оружие за рубли,” [“Turkey Began Buying Russian Weapons for Rubles”], *Vzglyad*, October 29, 2019.
- Neethling, Theo, “Assessing Russia’s New Interaction with Africa: Energy Diplomacy, Arms Exports and Mineral Resource Markets,” *Strategic Review for Southern Africa*, Vol. 42, No. 2, December 18, 2020. As of August 25, 2021:  
[https://upjournals.up.ac.za/index.php/strategic\\_review/article/view/72](https://upjournals.up.ac.za/index.php/strategic_review/article/view/72)
- “Nepal May Route Payment for Russian Mi-17 Helicopters via China or India,” *Defense World*, March 4, 2020.
- “Nigeria Confirms Order for a Dozen Mi-35 Helicopters from Russia,” *DefenceWeb*, October 24, 2019.
- Observer Research Foundation and the Asia Group, *An Agenda for Innovation in the U.S.-India Defence Relationship*, ORF Special Report No. 153, New Delhi, July 2021. As of September 17, 2021:  
<https://www.orfonline.org/research/an-agenda-for-innovation-in-the-u-s-india-defence-relationship/>
- Office of the Spokesperson, “CAATSA Section 231 ‘Imposition of Sanctions on Turkish Presidency of Defense Industries,’” U.S. Department of State, Washington, D.C., December 14, 2020.



- Parachini, John V., and Peter A. Wilson, "Drone-Era Warfare Shows the Operational Limits of Air Defense Systems," *RealClear Defense*, July 2, 2020. As of August 25, 2021: [https://www.realcleardefense.com/articles/2020/07/02/drone-era\\_warfare\\_shows\\_the\\_operational\\_limits\\_of\\_air\\_defense\\_systems\\_115430.html](https://www.realcleardefense.com/articles/2020/07/02/drone-era_warfare_shows_the_operational_limits_of_air_defense_systems_115430.html)
- Peck, Michael, "Revealed: The Secret to Buying Russia's Top Arms While Avoiding US Sanctions," *The National Interest*, November 12, 2019.
- "The Peruvian Army and Russian Helicopters Will Expand the Capabilities of the Army Aeronautical Maintenance Center," *Baviation Business Aviation News*, November 30, 2020.
- Philip, Snehash Alex, "IAF Set to Place Orders for 21 MiG-29 Jets from Russia by Dec to Shore Up Aircraft Strength," *The Print*, October 6, 2020. As of August 25, 2021: <https://theprint.in/defence/iaf-set-to-place-orders-for-21-mig-29-jets-from-russia-by-dec-to-shore-up-aircraft-strength/517907/>
- "Philippines to Buy Russian Helicopters," *Voenno-promyshlennyyi kur'er*, November 19, 2020. As of August 24, 2021: <https://www.vpk-news.ru/news/59590>
- Pompeo, Michael R., U.S. Secretary of State, "The United States Sanctions Turkey Under CAATSA 231," press statement, December 14, 2020.
- Ratner, Ely, Daniel Kliman, Susanna V. Blume, Rush Doshi, Chris Dougherty, Richard Fontaine, Peter Harrell, Martijn Rasser, Elizabeth Rosenberg, Eric Sayers, et al., *Rising to the China Challenge: Renewing American Competitiveness in the Indo-Pacific*, Washington, D.C.: Center for a New American Security, January 28, 2020. As of June 2, 2021: <https://www.cnas.org/publications/reports/rising-to-the-china-challenge>
- "Regional Center for Maintenance of Russian-Made Helicopters in Peru," *LiveJournal*, November 23, 2019. As of August 24, 2021: <https://bmpd.livejournal.com/3849465.html>
- Reim, Garrett, "MAKS: US Sanctions Make Air Forces Wary of Russian Jets," *FlightGlobal*, August 28, 2019a.
- Reim, Garrett, "ANALYSIS: Russian Helicopters Looks for Growth Path Around US Sanctions," *FlightGlobal*, October 25, 2019b.
- "Repair Center for Russian Helicopter Engines to Open in India in 2021," TASS, February 1, 2021. As of August 24, 2021: <https://tass.ru/armiya-i-opk/10591925>

- “Итог санкций: «застряла» оплата за вертолеты Ми-17 от Непала” [“The Result of Sanctions: Payments for Mi-17 Helicopters to Nepal Cannot be Processed”], *Voennoe obozrenie [Military Review]*, March 5, 2020. As of August 24, 2021:  
<https://topwar.ru/168651-itog-sankcij-zastrjala-oplata-za-vertolety-mi-17-ot-nepala.html>
- “Russia Eases Arms Resale Rules to Avoid Sanctions—Reports,” *Moscow Times*, May 15, 2019.
- “Russia: Finances Are Barriers to Indonesia’s Purchase of Su-35 Fighter Jets,” *Warta Ekonomi*, February 12, 2020. As of June 1, 2021:  
<https://www.wartaekonomi.co.id/read271579/rusia-finansial-jadi-hambatan-pembelian-jet-tempur-su-35-oleh-indonesia>
- “Russia Loses \$13 Billion on Arms Deals,” UAWIRE, November 12, 2019.
- “Russia Might Ease Accounting Rules on Sanctioned Firms,” *Moscow Times*, November 8, 2019.
- “Russian Arms Sales Growing in Africa,” *Defense World*, March 24, 2020. As of August 24, 2021:  
[https://www.defenseworld.net/news/26576/Russian\\_Arms\\_Sales\\_Growing\\_in\\_Africa](https://www.defenseworld.net/news/26576/Russian_Arms_Sales_Growing_in_Africa)
- “Russian Govt Lets Sanctioned Cos Keep Accountancy Private,” *PRIME*, January 24, 2020.
- Russian Helicopters, “Russian Helicopters Begins Certification of Mi-171A2 in Brazil,” press release, February 15, 2019.
- “Russian Helicopters to Set Up Mi-17V5 Helo Engine Overhaul Facility in India,” *Defense World*, February 12, 2021. As of August 24, 2021:  
[https://www.defenseworld.net/news/28956/Russian\\_Helicopters\\_to\\_set\\_up\\_Mi\\_17V5\\_Helo\\_Engine\\_Overhaul\\_Facility\\_in\\_India#.YGtxhehKg2x](https://www.defenseworld.net/news/28956/Russian_Helicopters_to_set_up_Mi_17V5_Helo_Engine_Overhaul_Facility_in_India#.YGtxhehKg2x)
- “Russian Su-35 Jet Not Mentioned in Indonesian Air Force Purchase Plan,” *Defense World*, February 23, 2021. As of August 24, 2021:  
[https://www.defenseworld.net/news/29036/Russian\\_Su\\_35\\_Jet\\_Not\\_Mentioned\\_in\\_Indonesian\\_Air\\_Force\\_Purchase\\_Plan#.YGtfr-hKg2x](https://www.defenseworld.net/news/29036/Russian_Su_35_Jet_Not_Mentioned_in_Indonesian_Air_Force_Purchase_Plan#.YGtfr-hKg2x)
- Sachs, Chandler, and John Parachini, “Is Political Balancing Good for Philippine Defense Acquisition, Asks RAND Corporation?” *Asian Military Review*, May 7, 2020. As of August 25, 2021:  
<https://asianmilitaryreview.com/2020/05/is-political-balancing-good-for-philippine-defence-acquisition-asks-rand-corporation/>
- Salna, Karlis, and Arys Aditya, “Trump Threat Spurred Indonesia to Drop Russia, China Arms Deals,” Bloomberg News, March 12, 2020.

- Schmitt, Eric, and Thomas Gibbons-Neff, “Russia Exerts Growing Influence in Africa, Worrying Many in the West,” *New York Times*, January 28, 2020.
- Sebayang, Rehia, “Dubes Rusia Komentari Rencana Prabowo Borong 11 Sukhoi Su-35,” CNBC Indonesia, February 3, 2020.
- “The Second Batch of Mig-29M/M2 Fighters Is Being Prepared for Dispatch to Algeria,” webpage, TsAMTO [Center for the Analysis of the World Arms Trade], February 2, 2021. As of August 24, 2021:  
<https://armstrade.org/includes/periodics/news/2021/0202/103561511/detail.shtml>
- Shukla, Ajai, “Russia Can’t Deliver on Fifth Generation Fighter Aircraft: IAF,” *Business Standard*, January 21, 2014. As of June 1, 2021:  
[https://www.business-standard.com/article/economy-policy/russia-can-t-deliver-on-fifth-generation-fighter-aircraft-iaf-114012100059\\_1.html](https://www.business-standard.com/article/economy-policy/russia-can-t-deliver-on-fifth-generation-fighter-aircraft-iaf-114012100059_1.html)
- SIPRI—See Stockholm International Peace Research Institute.
- Soylu, Ragip, “How US Sanctions Will Affect Turkey’s Defence Industry,” *Middle East Eye*, December 15, 2020.
- Srivastava, Anupam, and Scott Jones, “The Promise and Limits of Indo-US Defense Cooperation,” *India Global Business*, February 12, 2021. As of August 25, 2021:  
<https://www.indiaglobalbusiness.com/geopolitics/north-america/the-promise-and-limits-of-indo-us-defense-cooperation>
- “Госдума приняла закон о закрытии сведений о закупках в рамках гособоронзаказа” [“State Duma Passed Law Closing Information on Purchases Associated with the State Defense Order (Gosoboronzakaz)”], *Interfax*, April 17, 2020.
- “ГосДума предложила продавать оружие за криптовалюту” [“State Duma Requested the Sale of Weapons for Cryptocurrency”], *FINANZ*, July 23, 2019.
- Stockholm International Peace Research Institute, “International Arms Transfers Level Off After Years of Sharp Growth; Middle Eastern Arms Imports Grow Most, Says SIPRI,” press release, March 15, 2021. As of August 25, 2021:  
<https://www.sipri.org/media/press-release/2021/international-arms-transfers-level-after-years-sharp-growth-middle-eastern-arms-imports-grow-most>
- Tkachev, Ivan, and Inna Sidorkova, “Поставщики и покупатели оружия задолжали ‘Рособоронэкспорту’ \$13 млрд” [“Suppliers and Purchasers of Weapons Owed Rosoboronexport \$13 Billion”], *RBC*, November 10, 2019.

Townsend, General Stephen J., U.S. Army, Commander, U.S. Africa Command, “Africa: Securing U.S. Interests, Preserving Strategic Options,” testimony before the Committee on Armed Services, U.S. House of Representatives, Washington, D.C., April 20, 2021. As of June 2, 2021:  
<https://www.africom.mil/document/33691/usafricom-statement-for-record-hasc-20-apr-2021-gen-townsendpdf>

Trump, Donald J., *Executive Order Authorizing the Implementation of Certain Sanctions Set Forth in the Countering America’s Adversaries Through Sanctions Act*, Executive Order 13849, Washington, D.C., September 20, 2018. As of August 25, 2021:  
<https://www.state.gov/wp-content/uploads/2019/05/Executive-Order-13849-.pdf>

“Turkey First Indigenous Helicopter Engine to Be Ready for Integration This Year,” *Defense World*, June 20, 2020.

“Turkey Get U.S. License to Export T129 ATAK Helicopter to the Philippines,” *Defense World*, May 19, 2021. As of June 10, 2021:  
[https://www.defenseworld.net/news/29596/Turkey\\_Get\\_U\\_S\\_\\_License\\_to\\_Export\\_T129\\_A\\_TAK\\_Helicopter\\_to\\_the\\_Philippines#.YMI1mvlKg2x](https://www.defenseworld.net/news/29596/Turkey_Get_U_S__License_to_Export_T129_A_TAK_Helicopter_to_the_Philippines#.YMI1mvlKg2x)

U.S. Department of State, “Section 231 of the Countering America’s Adversaries Through Sanctions Act of 2017,” webpage, undated. As of August 25, 2021:  
<https://www.state.gov/section-231-of-the-countering-americas-adversaries-through-sanctions-act-of-2017>

“US Sanctions Turkey on S-400, Cautions India, Others on Buying Russian Arms,” webpage, December 15, 2020. As of August 24, 2021:  
<https://www.india.com/news/world/us-sanctions-turkey-on-s-400-cautions-india-others-on-buying-russian-arms-4266937/>

“The U.S. Stops Business Deal Between Iraq, Russia,” Middle East North Africa Financial Network, October 24, 2020.

“Vietnam Got Hooked on Russian Tanks,” *Voенно-promyshlennyi kur’er*, undated. As of August 24, 2021:  
<https://www.vpk-news.ru/news/59519>

“Vietnam Orders \$350M Combat Training Jets from Russia—Vedomosti,” *Moscow Times*, January 29, 2020. As of August 24, 2021:  
<https://www.themoscowtimes.com/2020/01/29/vietnam-orders-350m-combat-training-jets-from-russia-vedomosti-a69074>

- Welt, Cory, Kristin Archick, Rebecca M. Nelson, and Dianne E. Rennack, *U.S. Sanctions on Russia*, Washington, D.C.: Congressional Research Service, R45415, updated January 17, 2020. As of August 25, 2021:  
<https://crsreports.congress.gov/product/details?prodcode=R45415>
- Wezeman, Pieter D., Aude Fleurant, Alexandra Kuimova, Diego Lopes da Silva, Nan Tian, and Siemon T. Wezeman, “Trends in International Arms Transfers, 2019,” fact sheet, Stockholm International Peace Research Institute, March 2020. As of August 25, 2021:  
<https://www.sipri.org/publications/2020/sipri-fact-sheets/trends-international-arms-transfers-2019>
- “‘Will Become the Most Dangerous Ships in Africa’: The US Press on Algeria’s Purchase of ‘Guard’-Type Corvettes,” *Voennoe obozrenie [Military Review]*, November 24, 2020. As of August 24, 2021:  
<https://topwar.ru/177392-stanut-samymi-opasnymi-korabljami-v-afrike-pressa-ssha-o-pokupke-alzhirom-korvetov-tipa-stereguschij.html>
- Wilson, Peter A., and John V. Parachini, “Russian S-400 Surface-to-Air Missile System: Is It Worth the Sticker Price?” *RAND Blog*, May 6, 2020. As of August 25, 2021:  
<https://www.rand.org/blog/2020/05/russian-s-400-surface-to-air-missile-system-is-it-worth.html>
- “Winning: Tale of Two Trainers,” *StrategyPage*, February 24, 2020. As of August 24, 2021:  
<https://www.strategypage.com/htm/htwin/articles/20200224.aspx>
- “‘With Additional Payment of Palm Oil’: Malaysia Is Ready to Exchange Su-30MKM for Su-35 and MiG-29 for MiG-35,” *Voennoe obozrenie [Military Review]*, November 29, 2019. As of August 24, 2021:  
<https://topwar.ru/165266-s-doplatoj-palmovym-maslom-v-malajzii-gotovy-obmenjat-su-30mkm-na-su-35-i-mig-29-na-mig-35.html>
- Wroughton, Lesley, and Patricia Zengerle, “U.S. Sanctions China for Buying Russian Fighter Jets, Missiles,” Reuters, September 20, 2018. As of August 25, 2021:  
<https://www.reuters.com/article/us-usa-russia-sanctions/u-s-sanctions-china-for-buying-russian-fighter-jets-missiles-idUSKCN1M02TP>