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The Effects of the Russia-Ukraine War on Arms Sales: A Case Study of the United States and Turkey

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Abstract

The sale of arms stands as one of the oldest trades in human history, enabling civilizations with superior weaponry and warfare capabilities to conquer others, even in the face of lower population. The historical context of the two World Wars demonstrated that belligerent powers could not solely rely on their domestic arms industry to shift the tides of war; rather, the performance of battlefield weapons played a significant role in determining their value. A notable example is the realization by Britain that suppressing Nazi Germany's U-Boat power required assistance from the United States (U.S.). The Royal Air Force imported B-24 bombers from the U.S. to locate and destroy the mighty U-Boats. In the present day, the U.S. dominates the arms trade, accounting for over 40% of global arms sales, while Turkey emerges as a rising star in the international market, particularly in Unmanned Aerial Vehicles (UAVs). This research aims to examine the impact of the Russia-Ukraine War on arms trade between the U.S. and Turkey, utilizing the arms sales theory to evaluate its assumptions. The central question this research seeks to answer is how the arms sales of the U.S. and Turkey have been affected by the Russia-Ukraine War. The argument put forth is that the performance and quality of Turkish and American weapons have led to an increase in arms exports to other countries. By critically analyzing the implications of the Russia-Ukraine conflict on the arms trade, this research aims to shed light on the dynamics between the U.S., Turkey, and other nations, elucidating how armed conflicts impact the global arms market and the subsequent trade patterns that emerge.

Keywords: Arms Sales, Russia-Ukraine War, Turkey, United States of America, War.

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Introduction

The importance of arms sales in today's political economy is highlighted by a famous quote from the 2005 movie 'Lord of War': “There are over 550 million firearms in worldwide circulation. That is one firearm for every twelve people on the planet. The only question is: How do we arm the other eleven?" (Quotes, 2022). Throughout history, the exchange of arms has been an integral part of trade between nations, from ancient civilizations trading gold, supplies, and metal for spears, swords, and catapults. Notable examples of arms sales include the Great War and the Second World War, where allied forces traded supplies for weaponry to counter the formidable threats posed by the Central Powers and Axis forces. During the Second World War, the Land-Lease Act was implemented as a means to provide crucial defense support to nations deemed vital for the United States (U.S.) (Archives, 2021). This act facilitated the transfer of a significant quantity of military equipment from the U.S. to the Soviet Union between June 1941 and June 1944, including over 11,000 planes, 6,000 tanks and tank destroyers, 300,000 trucks, and various other military vehicles (AHA, 2022).

The performance and quality of a weapon on the battlefield have a direct impact on its sales. This relationship is evident in historical instances such as the Falklands War in 1982, where Argentinian Super Entendard warplanes armed with French-made Exocet missiles successfully sank the British HMS Sheffield, catapulting the Exocet missiles to international fame (Cobain, 2017). Likewise, during the Iran-Iraq War in 1987, the U.S.S. Stark was targeted by two Iraqi Exocet missiles, resulting in the tragic loss of thirty-seven U.S. servicemen. This incident prompted the urgent reassessment of the U.S. Navy's defensive procedures and anti-missile weaponry (Gaskill, 2018). The exceptional accuracy and performance demonstrated by the Exocet missile in these conflicts contributed to its widespread adoption. As a result, this anti-ship missile was sold to numerous countries, including Brunei, Greece, Morocco, Oman, Peru, Qatar, the United Arab Emirates, and Egypt (Security, 2018).

Arms sales have emerged as a pivotal component of global politics, deeply intertwined with the fabric of international affairs. The significance of arms sales extends beyond mere economic

transactions, encompassing military leadership and posing challenges to arms control efforts. Notably, the human rights factor plays a decisive role in shaping the dynamics of weapon transfers from Western nations to arms importers. In 2018, Germany halted a plan to upgrade Turkey's Leopard tanks with better protection against mines and improvised explosive devices (IEDs) due to the usage of German-made Leopard tanks in the anti-Kurd offensive in northern Syria (Pierre, 1981:9; Deutsche Welle, 2018).

The arms trade is an inseparable element of global politics. Arms sales have an effect on the world order for the following reasons. Arms sales promote self-sufficiency great powers reduce the probability of direct intervention by making solid defense systems for weakened countries; help foster alliance relationships with industrialized states (ex., the U.S. arms sales policy toward North Atlantic Treaty Organization (NATO) is based on open-ended arms packages such as a potential package to sell $8.4 billion of 35 F-35s to Germany); affect the strategic balance of power (ex., selling arms to the Socialist Federal Republic of Yugoslavia (SFRY) to prevent SFRY from Soviet Union control), regional balance of power (ex., justifying arms package sales to ensure access to resources, in particular oil, and in general, political influence) and base and transit rights and general political influence (ex., to maintain political good with foreign leaders and, in particular, good relations between foreign military establishments and the American military) (Gelb, 1976: 13-18; Machi, 2022).

Numerous studies have attempted to elaborate the effects war has on arms exporters and importers. However, the impacts of the Russia-Ukraine War of 2022, which has the potential to change arms sales patterns, has yet to be reviewed. This research specifically examines the roles of the United States and Turkey in the Ukraine war, as well as the remarkable effectiveness of their weapons in combat situations. Furthermore, the selection of Turkish and American weapons is motivated by the recent propaganda claim made by the Ukrainian defense ministry, in which they encourage arms producers to provide their weapons to Ukraine. The chosen research method for this study is the explanatory method.

Theoretical Framework

Arms trade has a direct relationship with security, but each arms trade's model has a specific meaning for arms importer's security. Also, technology and arms racing have a direct impact on arms importers' decision to acquire that weapon by considering their opponent military technology and capability. This section will review the principles of the arms trade, such as the volume of arms transfer between 2017 and 2021. It will also attempt to account for the ways in which great powers are interested in arms sales to boost their and their client's security. Also, it will state the different models of arms transferring to the client. Finally, it will elaborate on the effect of technology on arms sales and explain arms racing, which is very prevalent after the fall of the Soviet Union.

The Arms Trade Phenomenon

The arms industry is a global business whose participants trade in weapons, military technology, and complementary equipment. This industry heavily depends on research and development in engineering, servicing military materials, equipment, and facilities. Unlike other industries, this industry is a vast enterprise in its own right. Distribution of arms is arranged by government agency and, to a lesser extent, by private merchants (F. Byrne, 2017:1). Governments buy arms from their own arms industries, or a country exports weapons to other countries (CAAT, 2021).

According to Stockholm International Peace Research Institute (SIPRI), the world's military expenditure in 2021 totaled an estimated $2.1 trillion U.S. This amount was 0.6 percent higher than in 2020 and 41 percent higher than in 1990. Also, the burden of world military expenditure on the world gross domestic product (GDP) fell by 0.1 percentage points, from 2.3 percent in 2020 to 2.2 percent in 2021 due to 2021's sharp economic recovery. The five largest military spenders in 2021 were the U.S., China, India, the United Kingdom, and Russia, accounting for 62 percent of all expenditure (SIPRI, 2022b). According to the 2022 SIPRI report, there has been a 4.6 percent decrease in international arms transfers between the periods of 2017 to 2021 and 2012 to 2016. In contrast, U.S. arms exports witnessed a significant growth of 14 percent during the same time frame. On the other hand, Russia experienced a notable decline of 26 percent in arms

exports between these periods. The report identifies the current leading arms exporters as the United States, Russia, France, China, and Germany. These countries continue to have a prominent presence in the global arms market, with their respective defense industries playing a significant role in international arms transfers.

In addition to the shifts in arms exports, the 2022 SIPRI report reveals that European countries emerged as significant arms importers from 2017 to 2021, representing 13 percent of all global arms transfers during this period. This indicates a reliance on foreign arms to meet their defense needs. Furthermore, Asia and Oceania accounted for the largest share of global arms transfers, receiving 43 percent of the total transfers between 2017 and 2021. This highlights the region's continued demand for military equipment and technologies to bolster their defense capabilities (SIPRI, 2022a). The top five biggest arms importers in 2017 to 21 were India, Saudi Arabia, Egypt, Australia, and China (Wezeman et al., 2022:1).

Arms Sales and Security Issues

Arms transfers is when a state transfers weapons to another state to enhance its military capabilities. Arms transfers can deter and defend alliances by shifting the local balance of power in the recipient’s favour. Unlike traditional alliances, great powers have an open hand in arms sales, such as transferring arms quickly and sometimes without involving domestic legislatures, modulating the magnitude and type of military assistance provided over time, and supplying a loan or grant to clients to purchase weapons or directly provide arms (Yarhi-Milo, et al., 2016:95).

Arms transfers and their patterns can serve as signals or indicators of a great power's intentions towards its client's security. Some of these signals include:

1. The size of the arms transfer: A large transfer can signal strong interest to the client and its adversary. A strong signal would reflect the importance of the client for the great power due to the augmentation of the client’s arsenal (Yarhi-Milo, et al., 2016:95). For example, Israel became the first country outside the U.S. to receive the F-35. In December 2016, Israel received the first two F-35s out of an order of 50 (CNBC, 2018). 2. The type of weapons being transferred:

Defensive weapons can limit the client's capability for offensive attack or first strike against its adversary. However, offensive weapons might reflect the great power's approval of the client's offensive aims (Yarhi-Milo, et al., 2016: 95). In the 1970s, the Iranian government started to receive the first group of F-14 Tomcat interceptors from the U.S. to challenge its adversaries (the Soviet Union and Iraq). This super fighter was the costliest and intricate fighter built to date and could meet foreseeable threats over the next 20 years (Leone, 2019). 3. Institutionalization: The value and repetition of transferring arms from a great power to a client can reflect the client's value. A single arms transfer would not signal the client's future commitment due to the limitation of the great power's future behaviour. On the contrary, repeated and institutionalized arrangements can lead to an expectation of future arms transfers and anticipation of the great power's benefits to the client. Institutionalization would encourage the great power to be seen as being on the winning side. Also, institutionalization would prevent the great power from the client's defeat and guarantee the client's self-defense capabilities (Yarhi-Milo, et al., 2016:96). On the day four of the 1973 war between Israel and Arab states, things were so bad for Israel Defense Forces (IDF), the Egyptian Army captured the famous Bar Lev line and the Syrian Army advance had not been halted. Therefore, the U.S. Air Force (USAF) prepared Operation Nickel Grass to resupply IDF with its weapon. This direct arms transfer from the U.S. to IDF boosted IDF's capabilities to turn the tide of war and recapture all lost territory (Boyne, 1998:57-59).

Arms Trade Models

Arms transfers can be categorized into five distinct models (see Figure 1), which are intricately linked to broader concepts within the field of International Relations.

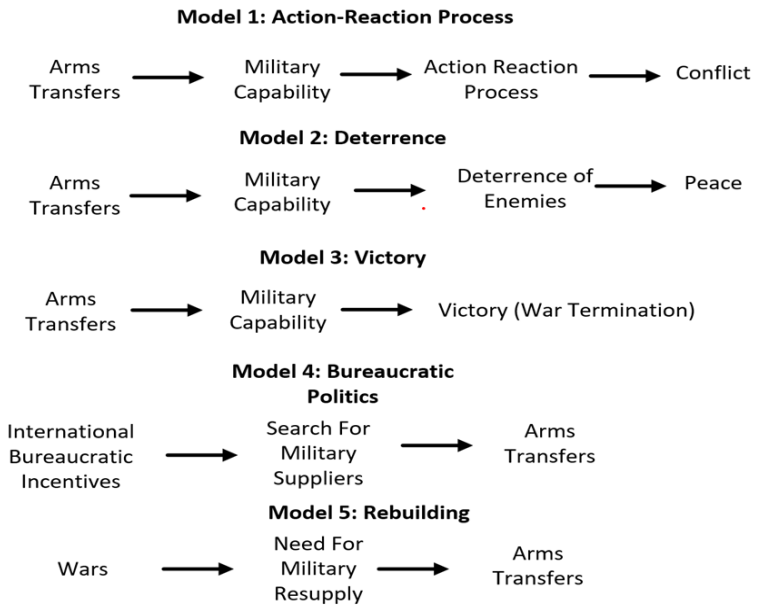

Fig. 1. Five Models Relating Arms Transfers and Conflict (Source: Baugh and Squires, 1983:40).

Model 1: Arms transfers increase a state's military capability, which initiates an action-reaction process that further leads to conflict (Willardson, 2013:23). Receiving weapons promotes the military capabilities of arms importers. From the neighbours' viewpoint, this would be interpreted as a threat, and they would request aid to counter the arms importer. Therefore, this procedure would increase the possibility of arms conflicts between rivals (Benson, 1979:7).

Model 2: Arms transfer boosts the military capabilities of arms importer. Therefore, solid military capabilities deter a state's enemies from attacking it, leading to peace (Willardson, 2013:24). This model has been seen on both sides in the Middle East (Baugh and Squires, 1983:42).

Model 3: Arms transfer boosts the military capabilities of arms importer. The boosted military capability allows the state to have the upper hand in conflict with another state (Willardson, 2013:24)

Model 4: Grants a bureaucratic incentive to perform an arms transfer due to the bureaucrat's desire to gain leverage and position by promoting the program (Sylvan, 1976:623).

Model 5: Arms transfer flows to the defeated states in a recent war. This would lead to some motivation to replace the losses of the winner and to restore a military balance (Baugh and Squires, 1983: 43).

These five models can lead to conflicting predictions about the temporal relationship between arms transfers and wars. Arms transfers in Model 1 should lead to wars; Model 5 should either lag or be contemporaneous with wars; Model 3 would occur either before or during wars, and under Models 2 and 4, the lead/lag relationship is difficult to predict (Baugh and Squires, 1983:43).

Arms Trade and Technology

The technological revolution is another crucial factor in the global arms trade. Barry Buzan (1987: 9-17)states that arms transfer is included in the spread of technology around the world, such as an increase in firepower, accuracy of delivery systems, precision-guided munitions, and mobility. Great powers should keep pace with technological advancement to maintain their rank and status (Tan, 2014:8).

Rivalries between states in the level of technology have in fact become a crucial strategic issue. States attempt to buy modern weapons systems to maintain parity or gain an edge. Those states that cannot buy modern weapons compensate with the second-hand market (Buzan, 1987: 38). Buzan argues that the arms trade is a permanent feature of the international system because of the potent community of interest between suppliers and buyers in maintaining the arms trade. Therefore, states should buy weapons to gain advanced military technology, and suppliers should sell weapons to sustain domestic arms industries and for other economic and political reasons (Buzan, 1987: 42).

Arms Dynamic and Arms Races

The arms dynamic can be defined as a whole set of pressures that make states acquire armed forces and change the quantity and quality of the armed forces they already possess. Arms racing is the most extreme manifestation of the arms dynamic when states enter major

competitive expansions of military capability (Buzan, 1987: 73-74). The arms dynamic includes three processes: action-reaction (strengthening the armaments as a response to external threats which were perceived by other states), domestic structure (technological innovation and the arms modernization will be driven by the institutionalization of research and development), and technological imperative (it forces states to behave in a way that looks like arms racing. This will avoid any threat in the armed forces' effectiveness (Buzan, 1987: 108-113).

The arms race describes the process of continuous improvement in weaponry and "militarism" to infer the dominating influence of military interests on the rest of society (Buzan, 1987: 26). There are four conditions for an arms race: there must be two or more parties, conscious of their antagonism; they must structure their armed forces with attention to the probable effectiveness of the forces in combat with, or as a deterrent to, the other arms race participants; they must compete in terms of quantity and quality; and there must be rapid increases in quantity and/or improvement in quality (Gray, 1971: 41).

The 2022 Russian Invasion of Ukraine

This section will review the brief history of the Russia-Ukraine War and explain the performance of US and Turkish weapons on the battlefield. Furthermore, this research will delve into the performance of anti-tank weapons, high-mobility artillery, and UAVs. Additionally, this study will assess the most frequently utilized weapons in the Russian-Ukraine War.

On February 24, 2022, to "de-Nazify" and "de-militarize" Ukraine, about two hundred thousand Russian troops flowed into Ukrainian territory from the south (Crimea), east (Russia), and north (Belarus), in an attempt to seize major cities, including the capital Kyiv, and depose the government (Masters, 2022). Russia invaded on four main fronts: Northern, Northeastern, Eastern, and Southern (Jones, 2022). Russian bombers and missile forces subsequently attacked all Ukrainian military bases, airports, naval bases, and ports to dictate air superiority, pin down Ukrainian air defenses, and close Ukraine's airspace (Charpentreau, 2022). Russia, however, has failed to achieve the main objective of this invasion which is overthrowing the Kyiv government

in a military blitzkrieg operation. The Russian armed forces could not seize and hold territory. These problems have led to the suspension or firing of several senior military officials (Jones, 2022).

The main reason for Russia's failure is because of the heavy assistance Ukraine has received from foreign countries, mainly from the U.S. and NATO members. According to October 2022 data, from January 24 to October 3, 2022, about 52 billion dollars of aid were sent to Ukraine to defend it against Russian forces (Kiel Institute, 2022). Most recently, the government of Canada announced that it sent four Towed Howitzers, 39 Armored Combat Support Vehicles, 4,500 M72 LAW Anti-Tank Weapons, and 390,000 meals to Ukraine to assist the Ukraine Armed Forces (Mitzer and Oliemans, 2022).

Turkish Weapons in the Russia-Ukraine War

The primary weapon of Turkish origin used in Ukraine War is the Baykar Bayraktar TB2 UAV. This drone has proven efficiency and reliability in six conflicts, such as Turkey's military operation against the Kurdistan Workers' Party, the Libyan War, the Syrian Civil War, the Nagorno-Karabakh War, the Ethiopia and Tigray War, and the Russian invasion of Ukraine. The Bayraktar TB2 is a tactical armed UAV designed and developed by the Turkish Baykar defense company. It is a Medium Altitude Long Endurance drone with superb capabilities for conducting intelligence, surveillance, reconnaissance, and armed attacks missions with 27 hours of operational time and four laser-guided smart ammunitions (Baykar, 2022).

The most significant achievement of this drone was seen in the Nagorno-Karabakh War of 2022, which ultimately turned the tide of war. This war resulted in Azerbaijan's decisive victory over Armenia, in which Azerbaijan recaptured at least five cities and a part of the Iranian borderline. In this war, the Armenian side suffered very high and disproportionate losses, primarily due to the Turkish-made Bayraktar TB2 UAV (Fodor, 2022: 27). Azerbaijani drones allowed a long-range strike on Armenian forces to find, fix, track, and kill targets with precise strikes far beyond the front lines. Azeri drones could destroy and disable many Armenian tanks, fighting vehicles, artillery units, and air defenses. Armenian supply lines were unsafe from Azeri drones, bombed and struck daily to waver strategic supply

lines. Moreover, Azerbaijan installed high-definition cameras to produce many propaganda videos (Shaikh and Rumbaugh, 2020).

In 2019, Baykar announced it won a $69 million contract to sell six Bayraktar TB2 to Ukraine (Denirci, 2021). Ukraine started receiving the first Bayraktar TB2s from Turkey in 2020 (Alemdar, 2020). Ukraine received this drone through a direct arms agreement with Turkey or donations from other countries. From the first day of the war, Lithuania, Poland, Norway, Canada, and Latvia all donated Bayraktar TB2s to Ukraine to challenge Russian forces in the east and south (Sabah, 2022). To improve combat and reconnaissance efficiency, Canada lifted its embargo on sophisticated targeting cameras against the Bayraktar TB2 (D'Andrea, 2022). It is unclear how many drones Ukraine has in its inventory and whether Turkey could provide logistical support. This UAV has been called the "Most Valuable Player" in the first four months of the Russian-Ukraine War (Saballa, 2022).

In the first days of the war, military planners and experts believed that drones with no self-defense system or evasive tools would be spotted and hunted by Russia's many-layered air defense system. Russian armed forces are equipped with long-range cruise missile systems that can eliminate the drones in their shelter, short-range missile systems, and jammers that can block the drone's communications. In those first days, Russia also believed that it would quickly dictate air superiority to Ukrainian forces and eliminate Ukrainian fighters, drones, and anti-air systems before they could be used. However, Ukraine could not only keep Russia from dictating air superiority but also force Russian forces to move in anti-air launchers and electronic warfare, which allowed Ukrainian forces to ambush Russia's forces or strike them with drones (Philipps and Schmitt, 2022).

The Bayraktar TB has inflicted heavy losses on Russian forces. This UAV has destroyed Russian armored units, air defense systems, patrol ships, and heavily defended places. This weapon has also been used to assist Ukrainian forces in special missions, reconnaissance, and propaganda videos particularly in:

1. Destroying Russian Armored Units and convoys: The UAV has destroyed armored units and reduced Russian advancement, forcing them to move their anti-air systems close to armored units. According

to the Ukrainian Ministry of Defense, the Bayraktar TB2 destroyed $26.5 million Russian military assets in three days. These losses included eight T-72 tanks, one Acacia self-propelled gun, and various infantry fighting vehicles and howitzers (Saballa, 2022).

2. Striking air defense systems: Ukrainian TB2s prioritized anti-air defense systems. They striked when the Russian air defense systems were outdated or the system's radars turned off. According to the Ukrainian reports, the Bayraktar TB2s destroyed or neutralized 15 Russian anti-air systems (Janovsky and Dan, 2022).

3. Destroying patrol ships and heavily defended places: the Ukrainian TB2 has proved that it can destroy or eliminate mobile objects and damage heavily defended places due to its highly precise laser missiles. In May 2022, a Ukrainian TB2 sank two Russian fast attack ships in the Black Sea (Coleman, 2022).

4. Assisting Ukrainian Forces in Special Missions: two crucial features of this drone are long endurance and low radar cross-section, which allow TB2 to assist Ukrainian defense planners in attacking unique targets such as Russia's Black Sea flagship - Missile Cruiser Moskva. In this operation, the Ukrainian forces used TB2 to distract the Moskva's crew and weapon systems while Neptune anti-ship missiles were launched (Finnerty, 2022).

5. Increasing People's Morale: One of the main objectives of this lethal machine is to raise the home front's morale by recording war footage and broadcasting it on the Internet and in public places. In March 2022, about a month after the Russian invasion of Ukraine, the Ukrainians composed a folk song about the Bayraktar TB2 drone. This song symbolized the Ukrainian resistance against Russian forces and increased the people's morale (Kadam, 2022).

American Weapons in the Russia-Ukraine War

The U.S. is the leading supporter of Ukraine in the Russian invasion and has supported Ukraine with weapons, financial aid, and humanitarian aid. This study will review the most effective U.S. weapons in the Ukraine war, especially the famous anti-tank weapon Javelin and the High Mobility Artillery Rocket System Himars.

Advanced Anti-Tank Weapon System—Javelin

The Soviet Union and its successor Russia have always considered

ground forces as the spearhead of their plans to confront NATO members. The power and readiness of the Red Army tanks and artilleries had allowed Soviet decision-makers to develop a plan to repulse or eliminate NATO forces and unify Germany under East Germany in just seven days. The top-secret plan was named "Seven Days to the River Rhine" (Watt, 2005).

The Javelin anti-tank weapon is one of the few weapons in the Ukraine War that is a hammer to Russian heavy armed units. The FGM-148 Javelin anti-tank system entered the U.S. Army in 1996. An infrared seeker guides this fire-and-forget weapon to destroy armored vehicles from the top. This weapon is effective within 2.5 kilometer range and is much lighter and handier than other anti-tank weapon. According to the U.S. Army, this weapon has an accuracy of 90% (112 Javelins used, 100 hit the targets), both directly and on trajectories from above, where armor vehicle is much thinner and more vulnerable to missile penetration (Guttman, 2022). The performance of this weapon has been tested earlier in combat in Iraq, Afghanistan, and Syria, where it could work on any tank. The light weight system of this weapon allows its crew to be in less danger than the typical guided missile system. This weapon may become a first responder to massive and unexpected tank invasion (a scenario the U.S. military could have faced during Operation Desert Shield when it deployed light infantry to defend Saudi Arabia). This weapon was designed in the 70s and 80s when the U.S. military leaders struggled to face mighty Soviet tanks. The first saw action of this weapon was in northern Iraq during the U.S. invasion of Iraq, where a force of a few dozen U.S. Special Forces and a larger Peshmerga contingent engaged and destroyed an Iraqi mechanized company of over a 100 soldiers. The exorbitant price of a Javelin missile can be justified as this missile could prevent hundreds of thousands of dollars by operating jet fighters dropping pricy smart bombs or deploying a large number of ground troops to counter enemy forces (Roblin, 2020).

Javelin anti-tank weapon has been sold to NATO and non-NATO countries, including France and the U.K., allies in the Middle East, such as Saudi Arabia and the United Arab Emirates, and Asian-Pacific countries, including Australia, Indonesia, and Taiwan. In 2015, when a column of Russian tanks seized the government strongpoints and

Donetsk International Airport, Senator John McCain asked the U.S. government to provide Javelin missiles to Ukraine, which would reverse the Ukrainian Army's fortunes on the battlefield—a far more practical weapon to put into action than a battle tank or jet fighter. However, this weapon was not transferred to Ukraine to avoid further escalation with Russia (Roblin, 2020).

After the Russian invasion of Ukraine on February 24, 2022, the Javelin came swiftly into play to halt the Russian advance. Since the start of the Biden administration, Ukraine has received more than 5,000 Javelins as part of its more than $8 billion US in material aid (Khurshudyan, 2022a). According to the U.S., the official estimation in the first week of the conflict is that the Ukrainian forces destroyed 280 Russian armored vehicles by the Javelin out of 300 total missiles fired (93 percent Kill Ratio) (Murphy, 2022). Ukrainian forces claimed two Russian T-90s with the Javelin anti-tank missile system (UKRINFORM, 2022). Russian forces innovated two tactics to overcome threats from Ukrainian Javelins: 1- sending infantry units without any cover from armored units to neutralize the Ukrainian anti-tank units (Ukrainian forces equipped with Javelins would hide and move), which would make them vulnerable to artillery and ambush and 2- installing new cages from locally available material to protect attacks from above. However, experts note that the main Javelin charge is still more than powerful to pierce armor and destroy a tank (Menon, 2022; Achom, 2022).

Consequently, this weapon has two advantages over other anti-tank weapons. 1- It has forced Russia to pay a heavy toll for their invasion and replaced damaged or eliminated new armored tanks and combat vehicles with the oldest models. Currently, the newest version of the Russian infantry fighting vehicle is the BMP3. However, due to fierce fighting in Ukraine, Russia has been forced to replace the newer version with an older version, such as the BMP1 (Khurshudyan, 2022a). A major concern for Ukrainians is the shortage of Javelins, with the U.S. having sent approximately two-thirds of its existing Javelin arsenal, which cannot be promptly replenished. (Guttman, 2022).

High Mobility Artillery Rocket System-Himars

Artillery has a prominent role in the Russia-Ukraine War. In World War 2, artillery mostly involved unguided munitions fired from howitzers and rocket launchers. Currently, artillery involves guided munitions that can inflict many casualties and much destruction on enemy forces.

Himars is a high mobility artillery rocket system that can fire six guided missiles within a 80 kilometers range. This system has a shoot-and-scoot capability, allowing users to fire, retreat, and reload quickly (Hurst, 2022). The range of this system is roughly similar to the Russian Smerch missile system, but Himars is much more accurate due to the GPS-guided missiles (BBC News, 2022). This system operates in the U.S., Singapore, the United Arab Emirates, Canada, Poland, Romania, and Jordan (Tass, 2022). The first combat launch of this system was in the Persian Gulf War when more than 100 rockets were launched to pummel Iraqi armored units. Iraqi soldiers called this system "Steel Rain" due to its unprecedented accuracy and firepower (Lockheed Martin, 2018). This system also operated in Syria to defeat Islamic State in Iraq and Syria (ISIS) and was reported as a precise and flexible weapons system (Gibbons-Neff, 2021).

In June 2022, the U.S. government started sending the Himars system to Ukraine to completely change the Ukraine war's momentum and direction. The U.S. exported 16 missile systems to Ukraine with a range of 70 kilometers. Despite Ukraine's demands, the U.S. government has restricted the longest-range missiles of this system to avoid possible missile attacks on Russian territory and a shortage of long-range missiles in the U.S. arsenal (Khurshudyan, et al., 2022b). Russian forces have not destroyed any Himars systems due to the following reasons. 1- Advanced Himars missile technology. Himars missiles were designed to change the missile's flight path (shifts the coordinates set by Russian counter batteries by hundreds of meters).2- Russian forces do not have enough counter batteries, and the Russian's targeting process is prolonged (Peck, 2022). Indeed, the Himars missile system can challenge Russian forces in two ways:

1. Destroying Russian Ammunition Depots, Himars was first deployed against ammunition depots, fuel dumps, and command centers. In August, Ukraine claimed that the Himars system had

destroyed 50 Russian ammunition depots in just one month since deployment (Bisht, 2022). Himars attacks on Russian ammunition depots affects Russia's war performance due to ammunition and fuel shortages. Russian forces have to transfer the ammunition outside their shelters, making them vulnerable to Ukrainian drone attack as ISIS forces attacked Syrian forces in the same way (Archambault and Veilleux-Lepage, 2020: 966).

2. Destroying Russian Supply Lines. Ukrainian forces are focused on attacking bridges, railways, and other Russian supply lines to force Russian forces to retreat from their previous positions or pay a heavy price to replace reserve forces. The Himars has been used to destroy Russian logistical hubs in the southern region of Kherson, Antonovskiy Bridge, a key supply route that connects the Crimean Peninsula to captured territories (Khurshudyan et al., 2022c). Therefore, the Himars attacks caused chaos in Russian supply lines and forced Russian troops to withdraw from Kherson (Beaumont and Sauer, 2022).

Discussion

The Ukrainian Ministry of Defense has advertised the Himars and Bayraktar on Twitter and invited arms producers to transfer their weapons to Ukraine where they will be as infinitely and indefinitely popular as Beyoncé (Defense of Ukraine [@defenceu], 2022). This demonstrates the relationship between a weapon's performance on the battlefield and the demand for that weapon in the arms market. In this section, the impact of the Russia-Ukraine War will be elaborated to defend the research assumptions.

The Outstanding Performance of U.S and Turkey's Weapons in the Ukraine War

The Bayraktar TB2 is one of the most popular drones in the arms market due to its excellent performance in active conflict zones. In 2020, only five countries were using this drone, but 12 countries ordered it after its superb performance in the Nagorno-Karabakh war. Since the outbreak of the Ukraine War on February 24, 2022, and the strong demonstration of this drone in the first four months of the war, Iraq, Romania, Indonesia, and Malaysia all showed interested in adding this weapon to their arsenal (Oryx, 2022; Reuters, 2022). The

manufacturer of this company plans to produce 500 TB2 drones by 2023, which requires more than double the current manufacturing capacity. According to the manufacturer, low price (Turkish TB2 costs on average between $1 million to $2 million per unit, which is far less than the near $20m American next-generation drone) and maintenance costs, and high efficiency in real-world theatres of war have encouraged the arms importers to consider this drone (Iddon 2022; Sykes 2022; Saballa 2022). Also, by considering the great success of TB2 UAVs in the Second Nagorno-Karabakh war, it can be predicted that the superb excellent performance of the Turkish UAVs in the Ukraine war would lead to an increase in Turkish arms sales to other countries. Table1. shows the Baykar TB2 confirmed deliveries from 2014 to 2022.

Table 1. Baykar TB2 Confirmed Deliveries from 2014 to 2022

Year	Confirmed Deliveries (TB2 UAV)
2014	6
2015	6
2016	6
2017	20
2018	37
2019	40
2020	19
2021	39
2022 (July)	71

(Source: LeGrone, 2022).

The Javelin anti-tank weapon and the Himars artillery system have both taken a heavy toll on Russian armored forces and became a symbol on battlefields. The manufacturer of the Javelin has received orders from Norway, Albania, Latvia, and Brazil. In addition, Lockheed Martin has said it wants to increase its missile production rate beyond the current production rate (2,100 per year) due to the high demand (the effective range of Javelin missile is up to 4.5 kilometers and the range of similar British anti-tank weapon NLAW is 1 kilometer) of this weapon in the Ukraine War (Reuters 2022c; Dwyer 2022). Moreover, Estonia, Latvia, Lithuania, and Taiwan have

all asked to purchase the Himars systems due to its success (Jackson and Stone 2022; ERR 2022; Televīzija 2022; LRT 2022; Feng 2022).

The superb performance of weapons on the battlefields encourages arms importers to purchase them. For example, the impressive performance of U.S. weapons in the Persian Gulf War boosted demands for such advanced arms (Fieleke, 1991: 57). The U.S. government can increase its arms sales by offering to sell NATO members and other countries advanced weapons such as the F-35, which would allow them to overcome Russia, China, and North Korea's threats. According to Lockheed Martin, the F-35 is stealthier than the Russian SU-57, is nearly impossible to track with radar, and is equipped with advanced sensors and other gear (Doyle, 2019). It can also detect and engage Russian S-400 anti-air systems by using its electronic warfare system, which can passively detect an enemy air defense system's emissions and destroy them with an anti-radiation missile (Leone, 2020). Greece, Spain, the Czech Republic, Romania, and Germany have all expressed an interest in acquiring one (Reuters, 2022a; Atlamazoglou, 2022).

Poor Performance of Russian Equipment in the Ukraine War and New Sanctions

Russia is the second largest arms exporter in the world, after the U.S. Russia is a favourite exporter among low and middle-income countries because of its low prices, acceptance of part-payment in commodities, and bypassing of human rights records when selling (Storey, 2022). However, according to the Russian arms exports branch, Russia's revenue in 2022 was about 26 percent lower than in 2021 (Smith, 2022).

In the Ukraine War, other countries have seen that Russia's weapons look good on parade but are less impressive on the battlefield. Russia has lost its reputation due to its enormous casualties on the battlefield. In seven months of the war, Russia has lost about 1000 tanks, 50 helicopters, and 36 military planes (Guay, 2022). Russia's sophisticated aircrafts—the Ka-52 helicopter and Su-35 have shown a disappointing weapon failure rate, lack of precision, and have resulted in massive Russian casualties (Ledwidge, 2022; Guay, 2022). Furthermore, new sanctions on Russia will restrict Russia's military manufacturers from accessing high-tech hardware such as semiconductors,

microelectronics, machine tools, and software. These sanctions will affect the production rate of military equipment used by Russian forces (Russia will need to replace its destroyed and damaged weapons before they export abroad) and foreign buyers. These sanctions will also impact the provision of spare parts, munitions, and upgrade packages to existing customers (Guay, 2022; Storey, 2022). As a result, these issues have raised serious doubts among Russia's traditional customers for weapons exports, and they may look for more reliable military weapon traders such as the U.S., China, and India.

Conclusion

This study implemented the arms sales theory to examine the impact of the Ukraine war on the arms sales of the United States and Turkey. Arms sales hold significant importance in global politics, influencing factors such as nuclear non-proliferation, self-sufficiency, alliances with industrialized states, the strategic balance of power, regional power dynamics, base and transit rights, and overall political influence. Technological advancements and arms races are pivotal in shaping world politics. Countries are compelled to acquire or upgrade their military technologies to maintain their standing and prestige. The arms race, particularly prominent post-Cold War, drives states to enhance their weaponry, asserting military dominance over other nations. The Russian-Ukraine War presents a unique opportunity to evaluate the performance of weapons in a real combat setting. This study examines three widely utilized weapons during the conflict: the Turkish Baykar Bayraktar TB2, the American Javelin anti-tank weapon, and the Himars system. The exceptional battlefield performance and quality of these weapons result in significant losses for Russian forces when attempting to advance into Ukrainian territories. Consequently, it is assumed that the impressive performance of Turkish and American weapons will lead to increased arms sales, while Russian weapons' underperformance and new economic sanctions against Russia will create fresh opportunities for Turkish and American arms exports. No amount of propaganda or grand military parades can conceal the shortcomings in Russia's military strategy; victory in arms sales will be determined by those who possess superior battlefield technology.

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