The Sanctions Weapon: The Dual-Sided Policy Shaping the Russo-Ukrainian War

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by
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Abstract

The Russian full-scale conventional invasion of Ukraine has prompted dramatic economic action on behalf of the United States, which seeks to preserve its own interests and defend the sovereignty of Ukraine. This economic action has come in the form of sanctions. This paper identifies two major categories of sanctions, positive and negative, which work through different mechanisms in order to help achieve American interests. Negative sanctions are coercive and seek to modify the behavior of the target country (Russia) through punishment by inflicting costs for undesired action. Positive sanctions are a form of payment and can be used by the sender (The United States) to strengthen the target's (Ukraine) military and bolster the target government's ability to operate in times of war. The U.S. has the ability to use both of these types of sanctions effectively due to its economic power in the current international system and its powers as a sovereign currency issuer, which can most accurately be analyzed through the Modern Monetary Theory framework. This paper takes the position that as a result of its power and the effectiveness of the combination of positive and negative sanctions being utilized, the U.S. has the ability to help shape the conditions for Ukrainian military victory, or the removal of Russian troops from Ukraine, in the ongoing Russo-Ukrainian War. These sanctions can also allow the U.S. to achieve its strategic objectives without the use of American combat forces.

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Introduction

In the 21st century, economic sanctions have been used as a means of deterrence, warfare, and preemptive action by the United States of America in many different cases. One of these instances is the ongoing war between the Russian Federation and Ukraine. This case is of particular interest because it represents a struggle between the global hegemon, the U.S., and its near-peer adversary, Russia. By invading Ukraine, which has developed closer relationships diplomatically and economically with the European Union and the U.S. since its popular revolution in 2014, Russia has posed a direct threat to the U.S.'s influence in eastern Europe as well as to NATO's borders, which lay on the western flank of Ukraine. Influence is important to the U.S. because it is what allows for control over international institutions and ultimately the global economy. In order to help the Ukrainians defend their own borders and to protect American interests, the U.S. has waged a campaign of economic warfare against Russia. There are two sides to this campaign, the negative or coercive side comes in the form of negative economic sanctions on Russia designed to erode its ability to wage war by causing damage to its economy on a macroeconomic scale. The positive or "payment" side comes in the form of foreign aid to Ukraine, meant to bolster the country's ability to wage war and mitigate the costs to its populace. This aid comes primarily in the forms of financial and military aid. Ultimately, negative sanctions on Russia can wreak economic havoc by deteriorating conditions and macroeconomic markers, but they cannot be effective in achieving political goals unless combined with positive sanctions aimed at helping the Ukrainian war effort. By utilizing both positive and negative sanctions in a combined strategy of economic warfare, the U.S. can both preserve its interests and effectively aid the Ukrainian people in defending their nation's sovereignty against a formidable military force. These sanctions can help shape the conditions for Ukrainian victory, which can be defined as the removal of Russian troops from Ukrainian territory.

CHAPTER 1

Background on the Russo-Ukrainian War

On February 24th, 2022, the Armed Forces of the Russian Federation launched a massive invasion of Ukraine from three sides. Europe was witnessing the outbreak of a full-scale conventional war for the first time since World War II. To many across the world, this was a startling development. However, Russian aggression in Ukraine is nothing new. In 2014 after the Euromaidan Revolution, in which the pro-Russian government in Ukraine was overthrown in a popular uprising, “little green men" began occupying Ukrainian territory in Luhansk and Donetsk Oblasts as well as the Crimean Peninsula. These “little green men” were not non-state actors, but paratroopers and Spetsnaz operators of the Russian Army without identifying insignia along with Wagner Private Military Company mercenaries. Since this point, a war, which largely stalemated until 2022, was fought between separatist forces (mainly comprised of Russian soldiers and mercenaries) and the Ukrainian Armed Forces in the eastern Donbas region, while Crimea remained occupied. However, like with the initial occupation of these regions, Russia continued to deny official direct involvement. This changed in 2022 with the aforementioned full-scale invasion, which escalated the situation greatly and expanded the scope of the conflict.

After the initial acts of aggression on behalf of the Russian Federation, economic sanctions were levied against the Kremlin by Western powers; primarily the United States. Additionally, military, economic, and humanitarian aid was supplied to Ukraine. This economic action taken by the U.S. was its only real response to Russia’s actions. That continues to be true today, even after the massive military escalation by Russia. But the U.S. has intensified its efforts to help Ukraine withstand the invasion by waging a campaign of all-out economic warfare against Russia. Economic sanctions by the U.S. were necessary in the eyes of officials because of the aims of the Russian Armed Forces and Vladimir Putin, as well as the sheer size and scope of the invasion. The Russian plan, according to U.S. and British intelligence, was to overthrow the Ukrainian government and occupy the country. This was to be done by taking the capital of Kyiv (along with major population centers like Kharkiv, Kherson, Mykolaiv, Odesa, and Dnipro) and killing or capturing the Ukrainian president, Volodymyr Zelenskyy. The end goal was to incorporate some or all of the territory into Russia proper and to install a puppet government into whatever territory was left. This historic attempt to violate Ukraine's sovereignty is against the will of the Ukrainian people and is a gross violation of international law, which bars wars of conquest. Additionally, the Russian Armed Forces are infamous for systematically committing war crimes, which they have continued to do in Ukraine. It is because of Russia's goal to invade and annex a sovereign state, lack of casus belli, and barbaric tactics that the U.S. waged an economic war. However, escalation beyond that of a non-combatant has remained out of the question due to the risk of thermonuclear war.

While preserving the sovereignty of Ukraine and the barbaric nature of the Russian Armed Forces are key reasons for American involvement, it is important to realize that U.S. interests are also at play in the conflict. First, the U.S. wants to ensure that Russian military units do not reach NATO borders, for if those borders were to be probed, Russian units would be engaged by American combat forces. A conventional war would be far more costly for the U.S., both financially and in terms of the human cost, than an economic war. Second, the U.S. has a unique position in the international order due to its influence in international institutions and due to the position of the U.S. dollar as the global reserve currency. It is in the interest of the U.S. to prevent Russia, its strategic adversary, from expanding its influence. This is especially true in the case of Ukraine due to the fact that the country has shifted to become more closely aligned with the West since 2014. The U.S. would like to prevent a multipolar world order in which its influence could be challenged from taking shape.

The Basics of Economic Sanctions

When it comes to waging economic warfare, sanctions are the most visible tool on the spectrum of possible actions. Some of these other types of instruments available to countries are tariffs, quotas, and rules that control access to markets, the manipulation of currency exchange rates, and the creation of resource cartels. According to Joseph Nye, the former U.S. Assistant Secretary of Defense for International Security Affairs, sanctions can be defined as "measures of encouragement or punishment designed to reinforce a decision or make a policy authoritative" (Nye 2011, 70). Using Nye's definition, there are two types of sanctions: positive and negative. Negative sanctions use coercion to try to modify behavior or enforce policy. They can be designed to punish entities and individuals in the target economy for their actions while also decreasing economic conditions in that country so that the populace becomes discontent with the leadership and changes in policy are forced.

Sanctions can also be positive and represent a form of payment. The most straightforward form of a positive sanction is foreign aid payments. These can be used to encourage certain behaviors by rewarding countries for their actions. For example, the cooperation with the U.S. on counterterrorism efforts during the War on Terror led to aid payments to countries across the

Middle East and Africa. Positive sanctions can also allow the sanctioning country to cause damage to the target of negative sanctions by strengthening the target's opposing force, making it so that they can withstand the toll of war better and can inflict more damage on the target's military, creating a myriad of problems for the target. It is with the combination of both positive and negative sanction, two sides of the same coin, that the U.S. can punish Russia for their aggression and limit their ability to wage war while also strengthening Ukraine and helping them to preserve their sovereignty. By protecting Ukrainian sovereignty, the U.S. can also better position itself to hold its dominant position in the socio-political order of the global economy. Importantly, through this method the U.S. is able to have a major impact without directly engaging the Russian military with American combat forces.

Crucially, we must recognize that the U.S. will not be able to make a significant difference in the situation with coercion or payment alone. In an authoritarian or totalitarian country like Russia, negative sanctions may impact the economy, but not enough to force political change or exert enough domestic pressure on a leader to alter course unless those sanctions are sufficient to completely destroy the country's ability to wage war by preventing the replenishment of military stocks. However, when used in tandem with positive sanctions in the form of foreign aid payments to the defending country, negative sanctions can be effective in damaging the target country.

The prominent role of sanctions in the ongoing war between Russia and Ukraine demonstrates the importance of economic warfare, money, and the relative economic power of states in the 21st century. More specifically, the role of the United States as the hegemonic power in a unipolar world order, as well as the status of the U.S. dollar as the global reserve currency, has massive implications for not only this conflict, but for economic warfare in general. While the current military conflict is limited to just Ukraine and Russia, the existence of an economic war between Russia and the United States is undeniable. The use of American sanctions has undoubtedly made a difference in the conflict. Because of this, an examination of the application and results of the sanctions tool is warranted. This will require several case studies to observe the effects of sanctions in terms of: resulting behavioral changes, impacts on economic performance, impacts of trade, and negative externalities. Additionally, the economic power of the U.S. and its currency must be analyzed to understand the aforementioned economic war.

The History and Development of Sanctions

Negative or coercive sanctions have been used throughout history as a means of waging war. Intuitively, this makes sense; by hampering a country's economy, you can not only limit their ability to use military force, but also decrease support for war among the public. The first recorded use of sanctions occurred in 432 BC, "when the Athenian Empire banned traders from Megara from entering its marketplaces, thereby strangling the rival city-state's economy" (Abughris 2022). Since then, trade restrictions, embargoes, and blockades have been key policies used across the globe to strangle economies of rival nations. In the U.S., the Treasury bears the primary responsibility of overseeing sanctions. During The War of 1812, the Secretary of the Treasury, Albert Gallatin, administered sanctions imposed against the British for harassing American sailors (U.S. Department of the Treasury 2006). Additionally, congress imposed a law prohibiting transactions with the Confederacy during the Civil War.

When dealing with a given international situation, policymakers use statecraft to steer the situation towards an outcome that is in the interest of their state. Statecraft is defined by former U.S. Assistant Secretary of Defense and career diplomat Charles Freeman as the strategy of power (Freeman 2016). Freeman defines power as the capacity to direct the decisions and actions of others. While early examples of the use of sanctions demonstrate the strategic value of targeting the economies of adversarial entities, sanctions really only came to prominence as a primary tool of statecraft in the early 20th century. During World War I, the Allied Powers aimed to control access to international trade and finance. The “Inter-Allied Blockade” did not lay siege to enemy ports, instead Allied navies interdicted German supplies on the seas, denied credit at international banks, and exerted control over global shipping assets and supply chains to disrupt Germany’s access to overseas markets (Dehne 2019). This was even done by non-military means at times, as neutral countries would avoid trading with Germany to avoid being blacklisted by the allies. American President Woodrow Wilson credited these efforts for the Allied victory in the war, arguing that Germany “could have faced the armies of the world more readily” than it did sanctions (Wilson 1923). Wilson also acknowledged the dependence of European countries on imports to survive, especially in wartime conditions, stating

> There is not a nation in Europe that can live for six months without importing goods out of other countries. Some of them are absolutely dependent, some are without raw materials practically of any kind, some of them are absolutely without fuel of any kind, either coal or oil; almost all of them are without a variety of supply of ores which are necessary to modern industry and necessary to the manufacture of munitions of war (Wilson 1923).

This is an extremely important point by Wilson in that it demonstrates just how devastating sanctions can be when countries are dependent on trade and need raw materials from external sources to carry out a war or even sustain conditions in peacetime. The late 19th and early 20th century was the first time economic interdependence on a global scale was seen and consequently the first time that economics could be weaponized on such a large scale.

Wilson posits that although the Allies could have possibly won without the utilization of sanctions, but it would have been a pyrrhic victory due to the costs of a further protracted war when he writes, “I want you to realize that this war was won not only by the armies of the world. It was won by economic means as well. Without the economic means the war would have been much longer continued” (Wilson 1923). This statement by Wilson shows that the case of World War I is interesting not only because of the effectiveness of sanctions in devastating a target economy, but also because they can shorten the duration of armed conflict by intensifying the pressure on an attacking force in the form of restricting supply and complicating logistics. While it is true that the Allied Powers possessed the upper hand from a military standpoint after the entry of American forces into the war, the fighting could not have ended as soon as it did without the imposition of economic sanctions. The context of President Wilson’s comments on the use of sanctions in the war is also important. In addition to realizing sanctions were an integral piece of the allied war effort, Wilson was convinced that international institutions were necessary for the prevention of war as well to target any actor that resorted to military aggression. Such institutions could effectively impose sanctions just as the Allies did during the war.

Although Wilson’s League of Nations did not last very long, the impact of the institution on the development of sanctions as a tool of coercion was profound. Previously, sanctions had only been possible to impose in times of war as a means to isolate communities from exchange within the wider world. The League of Nations ushered in a new era of sanctions policy in which the tool could be used in a broader range of situations. Economic warfare morphed from a strictly reactionary policy to one that could preempt or even prevent military conflict. By carving out this space for the use of sanction, the League of Nations had a profound impact on modern history.

However, despite the advancements in terms of policy space for sanctions, they remained a blunt option designed to crush entire economies with little to no precision. In fact, early 20th century sanctions can best be described by comparing them to a common military tactic in World War II: carpet bombing. Carpet bombing tactics consisted of large formations of heavy bombers dropping massive amounts of unguided ordinance onto entire cities, like was done in the allied attacks on Dresden, Germany. World War I sanctions had a profound impact not only on military and economic conditions in Germany, but also on basic living conditions for civilians. Oxford University economist Mary Elisabeth Cox used a regression analysis of nutritional and health data of German schoolchildren to conclude that "hunger games were indeed played in the First World War," (Cox 2014).

There is a popular misconception that sanctions are weak due to modern cases like Iran and North Korea in which no significant policy changes have been observed, but those working in international affairs in the interwar period actually struggled with the opposite issue according to Cornell University History Professor Nicholas Mulder, "[internationalists] found it difficult in the aftermath of the blockade during the First World War to use these instruments of economic pressure, particularly against larger countries, without provoking a war, and thereby having the cure be worse than the disease" (Mulder 2022). However, the dilemma of applying pressure without instigating a war would soon cease to be a concern for the U.S. and its allies with the start of World War II. This time, the Allies would face an entirely new set of challenges when enforcing sanctions in Europe. First, they would face a much more formidable German Navy in the Kriegsmarine, meaning military enforcement of sanctions on the seas would be a daunting task with forces also tied down in the pacific. Second, Nazi conquests of foreign nations led to Berlin taking control of conquered nations' currency reserves. Control of foreign reserves was beneficial because it gave the Nazis the financial resources to sustain their war effort, especially because nonaligned countries were willing to deal with the Germans given that the American military was tied down in both Europe and the Pacific.

Due to the difficulty of enforcing sanctions primarily through military means like had been done in World War I, as well as the impracticality of doing so due to the increased importance of financial assets (in the form of foreign currency reserves) to the Nazis, the Americans turned to more modern financial measures to restrict Berlin's efforts. In response to German seizure of Norwegian reserves upon the conquest of the Scandinavian country in 1940 by Nazi forces, the U.S. Department of the Treasury created the Office of Foreign Funds Control, or the FFC (U.S. Department of the Treasury 2006). It is important to note that the creation of this office took place before the U.S. declared war on Germany, which happened in 1941. The original purpose of the office was to "prevent Nazi use of occupied countries' holding of foreign exchange and securities and to prevent forced repatriation of funds belonging to nationals of those countries" (U.S. Department of the Treasury 2006). The controls would be expanded to cover other countries invaded by the German Army. Once the U.S. entered the war, the role of the FFC began to evolve and expand. The office took on the responsibility of a leading role in economic warfare against hostile nations by blocking their assets and prohibiting foreign trade and financial transactions. This is significant in that the sanctions of this war more closely resemble modern sanctions, as they evolved from blocking ports, interdicting shipping, and blacklisting countries to freezing assets, blocking financial transactions, and preventing foreign exchange. World War II marked yet another major development in economic warfare in the first half of the 20th century. Shortly thereafter OFAC, or The Office of Foreign Assets Control, was established following the Chinese entry into the Korean War. Since this point, OFAC has administered and enforced American economic sanctions programs against countries and groups across the world.

Institutions and American Hegemony

Another key element of the American role in winning World War I and Wilson's leadership in building international institutions is that the U.S. entered the interwar period as a global power. American leadership and power in international institutions set the foundation for the rise of the U.S. as a superpower and carved out a leading role for the country in the world order, originally in the League of Nations. The Bretton Woods system then became the most significant source of American power. The goal of Bretton Woods was to create an international monetary system that could ensure exchange rate stability, prevent competitive devaluations, provide peace, and promote growth (Ghizoni 2013). The primary designers of the new system were John Maynard Keynes, who was the advisor to the British Treasury at the time, and Harry Dexter White, the chief international economist at the U.S. Treasury Department. The final plan adopted at Bretton Woods resulted in the establishment of several institutions, including two key institutions which act as a source of power for the U.S. today: The International Monetary Fund

(IMF), “which would monitor exchange rates and lend reserve currencies to nations with balance-of-payments deficits” (Ghizoni 2013) and the International Bank for Reconstruction and Development (IBRD), which is now the World Bank. The World Bank was responsible for providing financial assistance for the reconstruction after World War II.

In 1958 the system became fully functional when currencies became convertible. Countries settled international balances in dollars and the dollar was fixed to gold. This resulted in countries pegging their currencies to the dollar. The Bretton Woods system in conjunction with American military power, victory in World War II, the rebuilding of former Axis countries, and eventual fall of the Soviet Union led to the U.S. being atop the global order as the sole hegemonic superpower. However, the Bretton Woods System was altered in 1971, when President Richard Nixon ended the dollar’s convertibility to gold due to the fact that balance of payment deficits led to foreign-held dollars exceeding gold stocks (Ghizoni 2013). The institutions established as part of the system remained and continued to carry out some of the functions they were originally intended to.

The U.S. switched to a floating exchange rate regime in 1973, allowing for more policy space. While some major developed economies switched to a floating exchange rate regime, many nations continued to peg their currencies to the dollar. Today, the dollar maintains its position as the global reserve currency, accounting for a 79.5% share of inter-regional currency usage in value, and 90% of global trade is conducted in dollars (SWIFT 2015). This position of the U.S. in the global order and its control over international institutions such as the IMF and World Bank has allowed for dominance over the international system. The Dollar as well as Treasury securities are viewed as the safest and most desirable assets in the world. Governments seek to accumulate dollars due to the fact that the overwhelming majority of trade is conducted in dollars.

Modern Sanctions

Following World War II , especially in the 21st century, sanctions have become a primary tool of foreign policy. The number of sanctions imposed over the past two decades has increased dramatically. This is in-part due to the deepening integration of the global economy with the United States' economy that has occurred since Bretton Woods. Additionally, after the period following 9/11, in which American invasions of Iraq and Afghanistan took place, sanctions have become a more attractive way to intervene internationally than direct military intervention. Sanctions often represent a far less costly and risky method of influencing outcomes of situations involving other state or non-state actors.

Another reason for the increase in the use of sanctions since the second World War was the establishment of the World Trade Organization. When countries join the WTO, they are left with a smaller amount of tools to pursue their foreign policy goals, which leads to a heavier reliance on sanctions. This is because the WTO deals with policies like quotas, tariffs, and equal treatment of trading partners. Policies and agreements pertaining to these policy levers mean member countries cannot manipulate them on a case-by-case basis to reward or punish specific trading partners. Because of this, economic sanctions must be used to reward or punish.

Additionally, modern crises have led to significant spikes in the use of sanctions. Examples of this include the 1970s, when the threat of nuclear war increased and the Arab-Israeli conflict escalated yet again with the invasion of Israeli-held territory by the Arab coalition in the

Yom Kippur War. During this conflict an oil embargo was imposed on the U.S. by Arab countries as a result of American support for Israel. A similar situation occurred during the 1990s, when American sanctions were imposed as a result of war in Yugoslavia. These sanctions also came in the form of a complete trade embargo, which did significant damage to the Yugoslavian economy and contributed to a currency crisis. Another important development of that decade was the fall of the Soviet Union. This is especially relevant because as countries transitioned from communism to free market systems, they liberalized trade and capital flows, therefore making them vulnerable to sanctions in a way that they had not been before.

The rise of sanctions as a primary tool of statecraft as well as the period of increased globalization after the Cold War has resulted in a wide array of sanctions being used. Sanctions can be broken down into five major categories: trade, financial activity, arms, military assistance, and travel. These categories represent the primary mechanisms through which international economic action can be used to influence international situations. The types of sanctions most relevant to the Russo-Ukrainian War and conflicts like it are trade and financial sanctions.

Trade Sanctions

The first category, trade sanctions, includes any type of sanction which aims to restrain economic interactions within a target country by limiting its involvement in international trade. These types of sanctions are often used, and have been throughout the history of sanctions (World War I blockades are an early example), in order to damage the ability of countries to import materials or build up capital through exports. These sanctions can be complete or partial. Partial sanctions apply only to select sectors of the economy, while complete trade sanctions apply to all sectors. The latter may be used to attempt to destroy an entire economy and power living conditions for a populace, while the former may be used to target specific sectors by limiting access to the necessary factors of production. This is particularly relevant to a case like Russia because specific sectors have been targeted with varying intensity, including Russia's defense and energy sectors.

The use of trade sanctions after 2014, when Russia launched its limited invasion of the Donbas and Crimea, as well as its unrecognized annexation of Crimea, were fairly limited. The official purpose of the original sanctions imposed by the Obama Administration was to inflict a cost for violating Ukraine's sovereignty and "for stealing the assets of the Ukrainian people" (State Department Archives 2017). The initial tranche as a part of Executive Order 13660 focused primarily on travel restrictions on individuals and Russian officials deemed responsible for the situation by U.S. intelligence agencies. The second and third tranche came within the same month as the first and expanded the scope of the initial executive order, allowing trade sanctions to be levied on Russian entities which had supported the violation of Ukraine's sovereignty. In these tranches, the major trade sanctions levied were the prohibition of "the provision, exportation, or reexportation of goods, services (not including financial services), or technology in support of exploration or production for deepwater, Arctic offshore, or shale projects that have the potential to produce oil in the Russian Federation, or in maritime area claimed by the Russian Federation and extending from its territory, and that involve five major Russian energy companies" (State Department Archives 2017).

The focus of these trade sanctions was to damage Russia's energy sector, which is crucial to its economy, as Russia is one of the world's top three crude oil producers and the second-largest producer of natural gas. In 2022, Russia's crude accounted for 14% of the world's total supply and its combined crude and gas revenues were equal to approximately 45% of the country's 2021 federal budget (IEA 2022). Orthodox economists, including those advising the White House, usually turn to this budget statistic and those like it to say that by damaging Russian energy, the U.S. can limit the country's ability to wage war by lowering domestic spending and inflict significant damage on its economy at a macroeconomic level. While they are wrong about the former, as Russia does not rely on revenue to finance its military spending (or federal domestic spending at all), there is some degree of validity to this idea. The Russian government can issue as many Rubles as it needs, but cannot do so for dollars. Since most global trade is conducted in dollars, Russia needs to accumulate dollars via energy exports in order to import many goods, including advanced technology for military production. So, by damaging Russia's energy sector it is plausible that their ability to accumulate and then spend dollars in the international market could be harmed, in turn damaging their military's ability to field weapons systems. However, by targeting energy the U.S. was most directly doing solely economic damage rather than military damage, which was not adequately addressed in the 2014 tranches and can be more directly targeted through other means. Trade sanctions are designed to erode the energy sector's ability to maintain supplies and expand operations, as well as remove Russia from the American market. This is in turn meant to harm revenues and total output, and impose an economic cost.

After the full-scale conventional invasion of Ukraine by Russia in February of 2022, the United States greatly increased its use of trade sanctions. Energy was still a primary focus of these sanctions, however the Biden Administration somewhat shifted the American strategy. The export sanctions imposed under Obama mentioned above remain in place (and were eventually expanded to include export controls as discussed below), but new import sanctions were levied to complement them in March 2022 as a part of Executive Order 14066. This executive order prohibited the importation of crude oil; petroleum; petroleum fuels, oils, and products of their distillation; liquefied natural gas; coal; and coal products of Russian origin into the United States (U.S. Treasury 2022). This round of sanctions was designed to deprive Russia and Russian private companies of revenue from the U.S., which purchased approximately 700,000 barrels of Russian crude per day in 2021 (The White House 2022).

While these trade sanctions undoubtedly have some impacts, Russian-American trade flows were relatively low to begin with prior to 2014 and 2022 (Russia accounted for less than 1% of both exports and imports for the U.S. in 2021), the major impact of trade sanctions comes in the form of export controls, which were only put into effect in a substantial way after the 2022 invasion. These export controls are so potent because they limit the flow of advanced technology to Russia and Belarus, including oil refining equipment, which further amplifies the sanctions put in place under President Obama and closes loopholes which would allow the Kremlin to acquire the necessary technology through Belarus. Crucially, the export controls are primarily targeting Russia’s defense industry, having a direct impact on battlefield conditions as many modern weapons systems require advanced technology that Russia cannot produce domestically. More broad arms embargoes can normally be a potent tool in limiting the combat power of a military, but are only effective when the target is at least somewhat dependent on the sanctioning country for weapons sales, which is not the case for Russia. However, the U.S. and its allies can have a similar impact by limiting the technology that is allowed into Russia through utilizing trade sanctions to achieve the desired impact and target earlier stages of the production process for Russian weapons systems.

Two of the major blockages that have severely hampered Russia's defense industry have been those on airline parts and semiconductors. According to the U.S. State Department, the production of hypersonic ballistic missiles has nearly ceased due to the lack of necessary semiconductors. Missiles such as these have been used by Russia, particularly in the form of the Kh-47 Kinzhal, due to the fact that they are incredibly accurate and hard to intercept even with modern surface-to-air missile systems. By cutting access to these missiles, Russia is forced to use other missile variations that are less precise and can be more easily intercepted by Ukrainian air defense forces. Russia has also been forced to cannibalize existing airline parts they no longer have access to (including for commercial airliners), which has made it hard for the Russian Air Force to resupply and has reportedly stalled the production of its next-generation airborne early warning and control system (AWACS) aircraft. This places an increased strain on alright tight supply lines and stockpiles. Additionally, the State Department reports that Russian mechanical plants, including those that produce surface-to-air missiles (SAMs), have been forced to shut down due to shortages of foreign-made components. SAMs are crucial to any air campaign and are often necessary to protect ground units from enemy air strikes. By placing a strain on Russian capabilities, the U.S. can create major dilemmas for Russian forces without direct military action.

The United States has also issued more broad sanctions beyond just targeting high-tech exports to restrict Russian and Belorussian military access to enhanced capabilities, including denying all U.S. "exports, reexports, and transfers of items subject to Export Administration

Regulations for military end uses or end users in the Russian Federation and Belarus" (U.S. State Department 2022). Russian and Belorussian military end users were also added to the Department of Commerce's Entity List, cutting them off from all items subject to EAR regulations. Even more broadly, the U.S. used new foreign direct product rules targeting Russia to prevent exports of foreign-origin items "produced with U.S. advanced technologies, tools, and software" in order to prevent these items from being transferred to support Russia's military capabilities (U.S. State Department 2022). Rosoboronexport, Russia's sole intermediary agency for exporting and importing military, defense, and dual-use products, technologies, and services, has also been added to export control lists.

The aforementioned technology supply shortages and the strains they have placed on Russian domestic defense production, along with the intense nature of the military conflict with Ukraine and the logistical burden that comes with it have put Russian stockpiles in an undesirable position. This is a position that cannot be fixed through domestic replenishment because of the long-lasting impacts of American export controls on Russian supply chains. As a result, Russia has been forced to revert to Soviet-era stocks in conjunction with turning to less technologically advanced countries such as Iran and North Korea for supplies.

Financial Sanctions

The second major category of sanctions currently being imposed on Russia, financial sanctions, have become increasingly important since the early to mid 20th century. Two key reasons for the rise of financial sanctions are the integration of financial markets and the fact that financial sanctions can be relatively easily imposed and monitored due to improvements in communications technology, which have virtually eliminated the transaction costs of financial activities. Financial sanctions often consist of the freezing of financial assets and investments. Importantly, foreign assets can be frozen partially or completely for specific individuals, meaning that politicians or industry leaders can be targeted. Additionally, key industries can be targeted to damage revenues or to deplete a country's ability to wage war. The targeting of decision-makers is crucial because the imposing country can influence the outcomes of situations by punishing those in charge rather than the entire population of the target country while the leaders insulate themselves. Leaders insulating themselves in the past has been an issue for imposing countries, like in the 1990s when Saddam Hussein occupied Kuwait. Saddam was able to maintain his lifestyle at the expense of the Iraqi populace, which bore the brunt of western sanctions on the country. The ability of leaders to escape broader sanctions is one of the reasons negative sanctions on authoritarian regimes appear to be ineffective at motivating policy change. Modern financial sanctions are capable of far more surgical, precise operations than the sanctions of the first half of the 20th century.

Financial sanctions may also restrict direct investments in target countries in addition to limiting the availability of foreign reserves for payments in exchange for commodities. The effectiveness of financial sanctions has been improved in recent years "by technically prohibiting any financial transaction related to a sanctioned economy, and by resorting to new enforcement methods" (Felbermayr et. al. 2020). In the context of the Russo-Ukrainian War, these new enforcement methods include an incredibly potent option: the suspension of the target country (Russia) from SWIFT. SWIFT, or the Society for Worldwide Interbank Financial Telecommunication, is based in Brussels and is a provider of secure financial messaging services. It connects more than 11,000 banks, financial institutions, and corporations in more than 200 countries. SWIFT exists to enable coordination by banks and "has a virtual monopoly as the switchboard of the international financial system" (Zarate 2013). If a country and its banks are cut off from SWIFT, it is essentially isolated from the international system of payments.

Importantly, SWIFT is overseen by the G-10 central banks (Belgium, Canada, France, Germany, Italy, Japan, The Netherlands, United Kingdom, United States, Switzerland, and Sweden). All of these countries are NATO members aside from Japan, which has a mutual security treaty with the U.S., and Switzerland which maintains neutrality. Control by these specific central banks is important because all of these nations often share geopolitical interests and the United States is at the top of the hierarchy within NATO due to its military power.. Ultimately, the decisions made by these countries generally align with U.S. interests. SWIFT data is critical financial intelligence, providing footprints for international transfers of assets. After the September 11th attacks, the U.S. government began to seek SWIFT data to track those responsible, as it would give them a means to uncover unseen financial links. The Treasury Department was successful in gaining access to SWIFT data by convincing their American CEO, Leonard Schrank, to cooperate with the government (Zarate 2013). This data-gathering program with SWIFT is called the Terrorist Finance Tracking Program, or TTP. The Treasury still has access to certain SWIFT data today in order to track activity and discover terror plots before they are executed (U.S. Department of the Treasury). In the context of sanctions, the U.S.'s special relationship is notable because of how crucial SWIFT is to the operation of the international financial system. The relationship makes it so that the U.S. is in a more powerful position than other countries when it comes to financial intelligence and the implementation of financial sanctions.

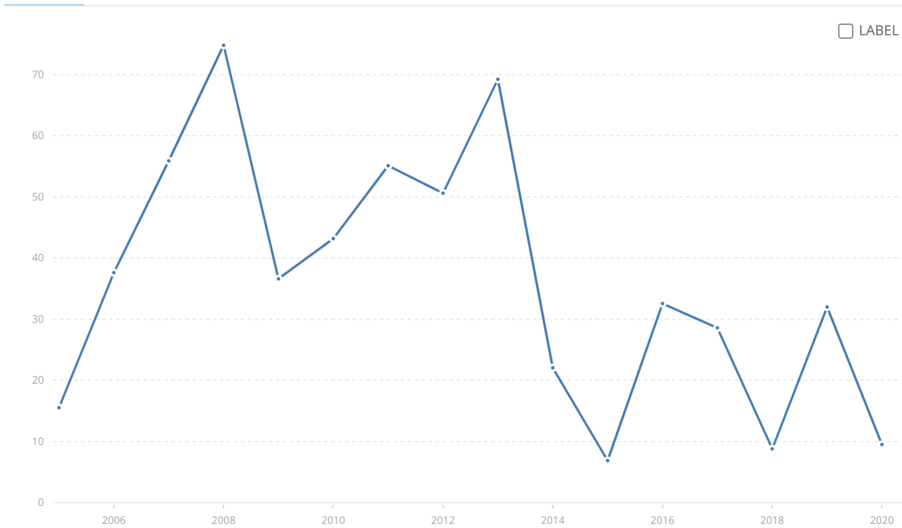
In the Russian case, the American relationship with SWIFT has paid off, as many major Russian financial institutions including Sberbank, the country's largest bank, were cut from the platform in 2022. This severely complicates interbank transactions and makes Russia a less appealing partner for international transactions, effectively isolating their economy. Additionally, the U.S. has been able to impose other financial sanctions due to the position of leverage it has as a result of the dollar's position as reserve currency and its usage in cross-border transactions. This includes freezing approximately $300 billion of Russian Central Bank assets. To complement this action, the U.S. also established sanctions limiting the Russian Central Bank's ability to use gold reserves by sanctioning foreign entities who participate in significant transactions with the bank. In addition, the U.S. prohibited transactions with Russia involving IMF reserve assets, which could function as a resource for their central bank to use during times of economic stress such as this. In prohibiting these transactions and limiting access to reserves, the U.S. is curtailing the ability of the Russian central bank to conduct currency stabilizing operations in the foreign exchange market, therefore restricting their ability to handle volatility in the value of the Ruble. Furthermore, limited access to foreign reserves combined with the aforementioned freeze of overseas assets early in 2022 put Russia in a vulnerable position on foreign debt in June of 2022 just months after the war began, leading to default for the first time since the Bolshevik Revolution in 1918 (CBS News 2022). This was in-part due to sanctions placed by the Biden Administration on Russian sovereign debt meant to target access to international capital markets. The mechanism through which these sanctions worked was by banning American financial institutions from processing debt payments and also by banning all new investment in Russia. Because Russia could not access its reserves and American banks were barred from processing transactions for the Russian government, the country was unable to meet is foreign obligations. As a result, Russia will lose access to foreign investors and will have to pay higher interest rates due to increased credit risk (Rodrigo & Olivares-Caminal 2022).

The financial sanctions above were put in place primarily to target the Russian government's ability to manage their economy, receive foreign investment, and carry out transactions, but other sanctions were put in place by the American government to target private and state entities in Russia to hamper their ability to conduct business. Similar to the focus of the previously covered financial sanctions as well as trade sanctions, the focus has primarily been on energy and defense firms as well as financial institutions. Unlike the other financial sanctions above, some of these firm-targeted sanctions were put in place in 2014. However, these initial sanctions were only placed on 14 total combined defense companies and individuals. In 2022, these sanctions were drastically expanded to include more Russian firms. The defense firms sanctioned include: Rostec (including subsidiaries Sukhoi, MiG [Mikoyan], and Kalashnikov), Mikron, and JSC. These firms produce a wide range of products including fighter aircraft, small arms, ammunition, tactical missiles, and microelectronics; all of which are crucial to the Russian war effort. The sanctions restrict access to international markets and capital for these entities and when combined with the export controls above severely limit their ability to produce. In terms of financial institutions, roughly 80% of Russia's banking sector has been targeted by some form of financial restriction including the country's two largest banks: Sberbank and VTB (Congressional Research Service 2023). The U.S. also applied blocking sanctions on three other systemically-important financial institutions: the Credit Bank of Moscow, Gazprombank, and Rosselkhozbank. In general these sanctions make it extremely difficult, if not impossible, for Russian institutions to process transactions in U.S. dollars, which therefore damages their ability to do business internationally and acquire the necessary resources for domestic development as well as for waging war.

Quantifiable Impacts of Negative Economic Sanctions: The Russo-Ukrainian Case Study

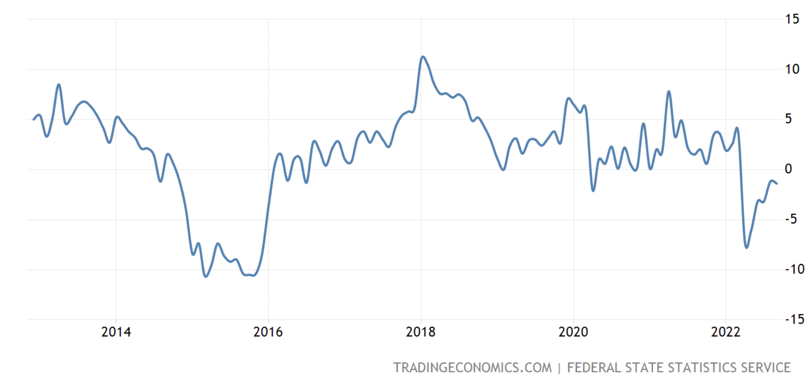
The financial and trade sanctions described above form the coercive arm of the United States' approach to economic warfare in Ukraine. The negative sanctions imposed were designed to erode Russia's ability to wage war by creating supply and logistical issues and curtailing domestic weapons production. They were also designed to isolate Russia from the global financial system, depriving them of capital and hampering their ability to manage the impact of sanctions by limiting their access to dollars. Finally, they were designed to strike a blow to Russia's most crucial sector: energy. This was done by limiting access to finance, supplies, and technology as well as closing them off from markets and making it harder for them to conduct exchanges in dollars. Importantly, not all of this took place after 2014, with only limited versions of these sanctions being applied to a limited number of entities as previously described. Macroeconomic data on the more robust sanctions imposed after February of 2022 is unavailable, but there are some conclusions that can be drawn from the 2014 batch of sanctions.

<u>Figure 1: Foreign Direct Investment (Net Inflows in Billions of U.S. Dollars), Russian Federation</u>



Source: World Bank

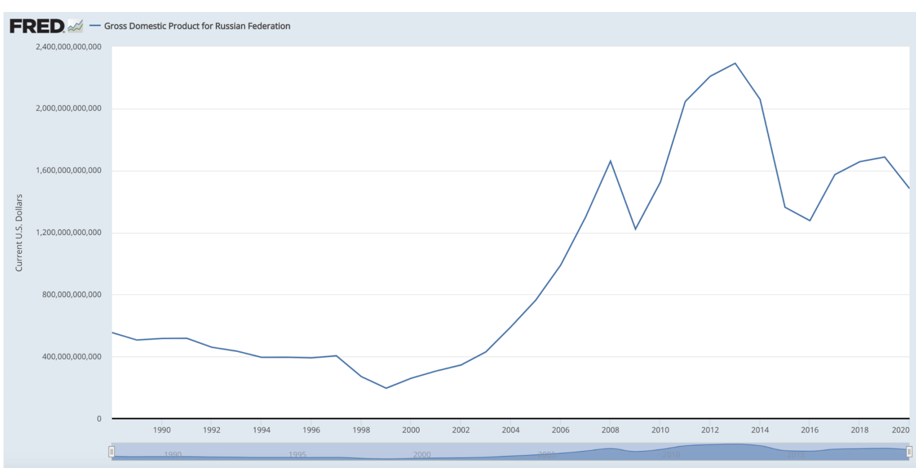
Figure 2: Percent Real Wage Growth, Russian Federation



Source: Trading Economics

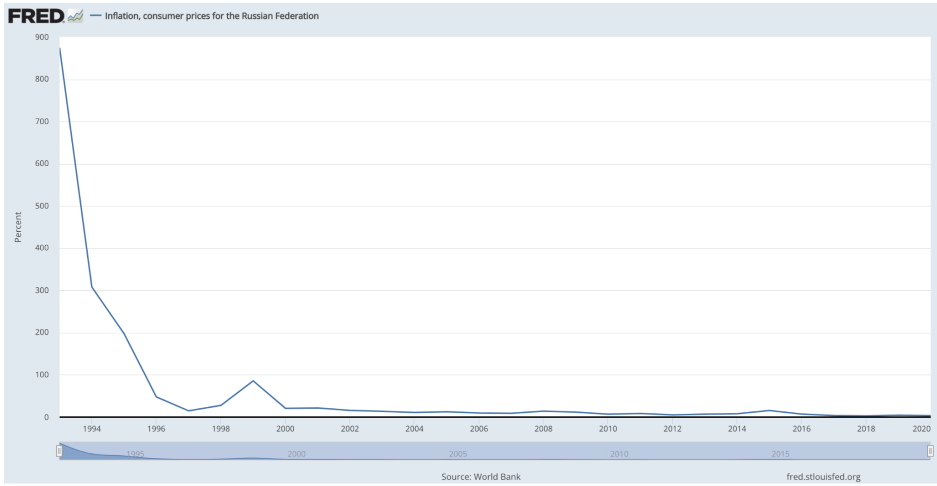
From an economic standpoint, the 2014 sanctions against Russia were somewhat potent and helped drive the country into a recession known as the Russian Financial Crisis. Sanctions, as well as a drop in the price of crude oil, led to a drastic decrease in the confidence in the Russian economy by investors. This can be seen in the sizable decrease in foreign direct investment in Russia. As a result, the Russian Ruble was sharply devalued from an exchange rate of 0.0291 against the dollar in July of 2014 to 0.0144 in January of 2015. In this crisis, "[the] Russian population [had to bear] the brunt of the fallout, with real incomes and living standards having plummeted" (Aleksashenko 2015). This is backed up by state-collected data showing -10% real wage growth in 2015 (Trading Economics 2022). Additionally, Russian businesses were forced to draw on domestic savings and foreign exchange reserves of the central bank for the payment of foreign debts due to the financial sanctions imposed on Russian banks. Large scale net capital outflow was also seen in 2014 after the imposition of sanctions, reaching roughly $151.5 billion (Reuters 2015). All of these factors were cumulatively reflected in a dramatic shrink in GDP from $2.06 trillion to $1.36 trillion, as can be seen in Figure 3. Russian counter-sanctions also had the externality of decreased food imports, which when combined with the impacts of sanctions drove up prices and led to a spike in inflation to about 17% (Figure 4).

Figure 3: Gross Domestic Product, Russian Federation



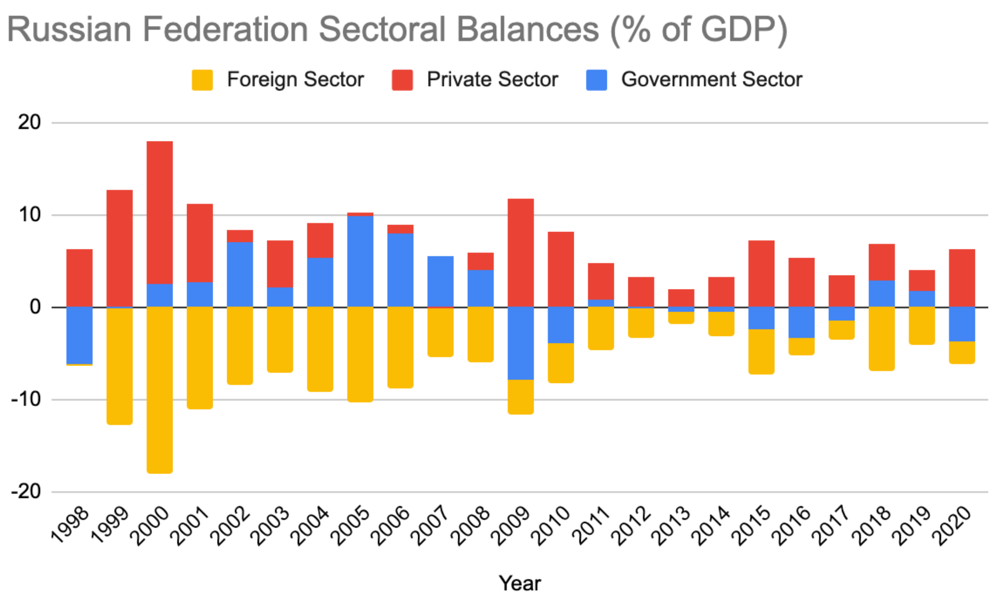
Source: St. Louis Fed

Figure 4: Inflation (Annual), Russian Federation



Source: St. Louis Fed

Figure 5: Sectoral Balances, Russian Federation



Data Acquired from Trading Economics

Russia ran smaller foreign sector deficits in 2014 and 2015, indicating that a combination of sanctions and decreased oil prices took a toll on profits from exports. The sectoral balances graph for Russia in Figure 5 reveals that the government did not run sufficient budget deficits to offset the decrease in foreign sector deficits (or current account surpluses), resulting in very small private sector surpluses. This means there is very little net financial wealth in the private sector, explaining how sanctions can impact living conditions and even contribute to the impoverishment of the public.

This problem of net financial wealth in the private sector is exacerbated by the fact that Russia has an oligarchy. The first step of this privatization after Russia transitioned from communism to a free market system in the 1990s was identifying the government enterprises to be privatized and finding a means of privatizing them. A voucher system was used since it was viewed as the quickest way to transfer enterprises to private ownership and there was otherwise little purchasing power in the economy. This presented two main issues. First, purchase by voucher did not give enterprises access to new capital which they desperately needed in the post-Soviet environment. Second, vouchers led to the emergence of insider privatization, meaning a small number of influential individuals could gain control of the enterprises being privatized. This resulted in the concentration of wealth in the hands of very few individuals as well as a practice known as assets stripping. Asset stripping can be defined as “the acquisition of valuable assets during privatization with the intent of financial gain rather than eventual enterprise restructuring” (Gregory & Stuart 2013, 535). This acts as an attack on valuable assets and abandonment of those which do not carry value.

The voucher system, along with the direct sale of state enterprises to friends of the Communist Party or former leadership led to the rise of the Russian oligarchy. Currently a vast wealth gap exists, as the top 1% in Russia hold a staggering 74.1% of the country’s wealth as of 2020 (World Inequality Database 2022). This means that oligarchs control the vast majority of the net financial wealth that exists in the country, leaving very little for the rest of the population. When it comes to sanctions, broad sanctions attacking the Russian economy's most financially potent sectors will further shrink the net financial wealth in Russia's private sector and place great strain on the civilian population, but it is also an attractive option for the U.S. since oligarchs would face extensive costs for the actions of their regime. However, financial sanctions seeking only to primarily target the assets of the state and the individuals responsible for decision-making will not inflict severe costs on the populus and the conditions of daily life, but oligarchs' assets may not be as heavily impacted. In other words, the degree to which the U.S. continues to apply pressure to Russian energy and Putin's inner circle will determine the toll on Russian citizens. Overall, it is clear that the only things buoying Russia's economy are its vast energy resources, which allow the country to run current account surpluses. When this sector as well as finance are targeted by sanctions, the effects of such sanctions will be felt on a macroeconomic level.

It can be argued that the 2014 tranches of sanctions were politically ineffective due to the fact that Russia still launched a full-scale invasion of Ukraine in early 2022. However, this is more of a reflection of the fact that Putin is fairly insulated from the domestic blowback of sanctions due to his control over information in the country as well as the fact that Russia does not have a true democracy. On the contrary, it is reasonable to conclude that these sanctions did not go far enough in taking steps to erode the Russian military's ability to wage war by targeting their supply chains. This case also demonstrates the importance of using positive sanctions as well, which the U.S. only started doing consistently in 2022. Also, the fact that the negative sanctions issued in 2014 were limited in nature must also be considered. Only a certain number of companies and entities were targeted, financial sanctions blocked credit and financing while refraining from freezing assets, and trade sanctions were less stringent. The negative sanctions imposed in 2022 escalated by targeting more entities and freezing assets as well as simply being more broad in nature, especially when it comes to the Russian energy and defense industries. This will undoubtedly intensify the strain placed on the Russian economy through the same mechanisms but with far greater intensity as well as erode their ability to supply their armed forces with sophisticated weapons systems. However, only time will tell to what degree the intensity will be increased and what the macroeconomic impacts of the new sanctions will be. All in all, negative sanctions on Russia can be effective as a tool of punishment as demonstrated by the measures taken by the U.S. in 2014. This is especially true considering the increased strength of the newly-imposed sanctions from 2022, which have already displayed their ability to strain Russian military supplies. The U.S. has also used its international influence to convince partner nations to apply similar sanctions packages, which enhances the isolating effects on the Russian economy. However, to understand how sanctions can have political ramifications, positive sanctions pertaining to Ukraine must also be examined, as positive and negative sanctions act as two sides of the same coin.

CHAPTER 2

Positive Sanctions

Positive sanctions can be a potent tool in a wealthy country's arsenal to advance their interests. Foreign financial aid payments can be used to project a country's soft power and exert influence in different regions of the world, while military aid can be used to strengthen allies or protect interests abroad. The case of Ukraine, and the United States' position in the war, is a perfect example of a wealthy country using positive sanctions to both gain increased influence and further its interests. However, this case is also extremely unique because of the actors involved. It has been established that the United States is the global hegemonic power and therefore holds a special position atop the economic order. As has also been covered, the Russian Federation can be considered a near peer adversary of the U.S., meaning it has significant military power and a relatively strong domestic military industrial base. Ukraine finds itself situated between these two powers. The aggressive, coercive power, Russia, has been trying to force Ukraine into capitulation for over a year using military force. The U.S. perceives that the only viable way it can actively help prevent Ukraine's capitulation is through positive sanctions, since it cannot intervene directly without significant political and human costs or without triggering nuclear war. Positive sanctions, mainly in the form of military aid, represent a relatively cheap way to strengthen Ukraine's own ability to use hard power in response to Russia, act as a security buffer for NATO to the west, and degrade the combat power of the Russian Armed Forces. Additionally, financial aid can be deployed to subsidize Ukraine's economy during wartime, as well as pull the Ukrainian public closer to the west, ensuring that the U.S.

will wield more influence in the country going forward than its adversary, Russia. All in all, positive sanctions packages represent a way for the U.S. to help damage the Russian military via the Armed Forces of Ukraine and also represent a way to expand American influence in Eastern Europe.

The primary obstacle to a continued policy of a positive sanctions regime centers around feasibility. If the target of the positive sanctions must fight a conventional war against a powerful adversary (as is the case for Ukraine), large amounts of capital and military equipment will need to be delivered over a prolonged period of time in order to be effective. The sanctioning country must be capable of financing such an effort and must also be able to produce and mobilize the necessary equipment to achieve the desired effect. Of course, this is all dependent on the goals of the sanctioning country as well as the situation pertaining to the target country. In the case of the Russo-Ukrainian War, the United States wishes to help Ukraine defeat any offensive military actions taken by the Russian Armed Forces as well as to aid them in retaking sovereign Ukrainian lands which have been conquered by Russia. As a result, American positive sanctions have primarily come in the form of military aid. This aid requires massive amounts of finance on behalf of the U.S. government, as the equipment and weapons systems being delivered to Ukraine must be purchased from American defense contractors, from other nations, or taken from U.S. military stocks which must be replenished in order to maintain the U.S.'s own readiness. Additionally, any economic aid provided by the U.S. requires crediting Ukrainian reserve accounts or delivering loans, which comes with a cost. Meeting these financial requirements is required for an effective positive sanctions regime.

The finance component of a positive sanctions regime also has another obstacle that must be overcome in order to ensure effectiveness: public confidence in the ability to finance. Given that the U.S. is a republic, the American public and the country's elected officials must believe that these financial commitments are sustainable in order for a positive sanctions regime to be implemented and continuously renewed with each tranche. This is because combat losses are inevitable as conflict rages on, so new weapons and equipment must be repeatedly delivered and therefore repeatedly approved and purchased by the U.S. government. Concerns have been raised among the American public and news media that the American government simply cannot sustain spending on positive sanctions packages for Ukraine or that financing such operations will prevent the government from spending on domestic projects. Most drastically, some believe that spending on such packages will contribute negatively to the U.S.'s national debt, which will eventually bankrupt the country and burden future generations of Americans to foreign powers. All of these beliefs are erroneous on multiple levels and lead to conclusions or policy recommendations that are damaging to American objectives and interests. Positive sanctions represent the most direct way to help shape the conditions for a Ukrainian military victory and the preservation of Ukrainian sovereignty.

Economic Framework for Positive Sanctions: the American Case

The primary reason for the myriad of false conclusions about the ability (or inability) of the United States to finance a positive sanctions regime and the externalities of doing so is flawed macroeconomic theory. Orthodox economic thought has led to several misconceptions becoming pervasive among not just the public, but also many mainstream economists. Much of this centers around how the government operates with money. Heterodoxy, specifically Modern Monetary Theory (MMT), provides a more accurate description of government finance and the role of money. One of the most crucial mistakes orthodox theory makes is what heterodox economist Stephanie Kelton refers to as "Thatcher's Backward Dictum," referencing a 1983 speech in which British Prime Minister Margaret Thatcher declared that "the state has no source of money, other than the money people earn themselves. If the state wishes to spend more it can only do so by borrowing your savings or by taxing you more" (Kelton 2021, 40). Thatcher was indicating that the government's finances are limited in the same way that personal or household finances are. In other words, saving is the source of finance, which is a scarce resource. This is known as the loanable funds view of finance and implies that taxing and borrowing precede spending, meaning the government must collect revenue in some way before it is able to spend. In this case, a government that wishes to raise expenditure above what it collects through taxation can raise additional funds by borrowing more from savers (Kelton 2021, 42).

In orthodox theory, limited borrowing may be okay in times of recession, but in normal times the policy prescription is almost always to tax before spending to avoid borrowing (which is also the reason budget rules such as PAYGO in the U.S. have been proposed). The sustainability condition for debt in orthodoxy is that the growth rate of the economy must exceed the interest rate on debt. Increased government spending is said to slow growth rates and crowd out private investment while increasing the interest rate. Should the government decide to print more money, that would lead to inflation according to orthodox thought.

Based on how orthodox theory illustrates the process of government finance, it is apparent that budget deficits are viewed extremely negatively in this framework. Orthodox theory posits that there is a link between twin deficits: the federal budget deficit and trade deficits. This is because government borrowing raises domestic interest rates by “soaking up” domestic saving. As a result, there is increased foreign demand for dollars, causing dollar appreciation, in turn pushing down exports while raising imports and therefore creating a trade deficit. The U.S. then needs “foreign savings” to “finance” its trade deficit that resulted from the government living beyond its means, meaning the U.S. must rely on foreign entities (perhaps China or Japan) to lend dollars. The government is believed to not only need these foreign dollar loans to finance its trade deficit, but also its federal budget deficit. This arrangement threatens solvency and creates a burden on future generations, who must pay the loans back. From this perspective it is easy to see why increases in federal spending and budget deficits raise concerns, as well as why spending can be seen as posing long-term security risks for the country. However, this framework is faulty and does not accurately represent how the U.S. government finances its spending.

The household analogy described above by Prime Minister Thatcher is a perfect place to draw a key distinction that lays at the very foundation of government finance: the federal government is a currency issuer whereas households are currency users. Sovereign currency issuers and currency users operate completely differently with money and face completely different sets of constraints (Mitchell et al. 2019, 95). According to the MMT framework, a sovereign currency issuer is a national government that has chosen its money of account, issues its own currency denominated in that money of account, and imposes obligations (taxes) only payable in that currency. In other words, the state has a monopoly as it is the sole producer of its currency. Money entries are denominated in the money of account, as are financial stocks and flows. The financial system as a whole functions as an electronic scoreboard. As the sovereign, the government acts as the scorekeeper (Kelton 2021, 54-55). The U.S. Constitution stipulates that only congress can create money. Congress created the Federal Reserve in order to issue the money, so it is at the Fed where money is either injected by marking up accounts or erased by debiting them. All of this is done electronically via keystrokes on a computer. The major implication of this arrangement is that the sovereign currency-issuing government faces no financial constraints; it cannot run out of its own currency and can make all payments denominated in that currency as they come due. The only constraints faced by sovereign currency-issuing governments are those on real resources; they cannot buy what is not for sale.

Given this reality, it is clear that households and the government operate completely differently, contrary to what was suggested by Thatcher. Households are financially constrained by their revenue, while governments are not financially constrained at all. The loanable funds view is wrong in another way as well, taxes and borrowing do not precede spending, nor do they fund spending in any capacity. Instead, the primary purpose of taxes is to drive demand for currency (Mitchell et al. 2020, 378). By making taxes and other obligations only payable in dollars, the federal government makes dollars the most desirable money to hold and accumulate. The idea that taxing and borrowing must be undertaken before spending is erroneous and nonsensical because of the fact that the government is the sole issuer of dollars. The government cannot take out what it has not first put in, so it is impossible to start the process by collecting currency which has not yet been spent into existence.

Farley Grubb's example of American colonial currency highlights this process perfectly. In colonial America, paper money was created by colonial legislatures and spent by their respective treasuries. Every paper money act included new taxes (typically a land and poll tax). The number of years over which the new taxes were operative was chosen in order to generate enough funds to redeem the notes authorized by each paper money act (Mitchell et al. 2019, 378). When the notes were redeemed in payment of taxes, all of this tax revenue was simply burned, not spent again. The process above is still true today. While state payments efflux money, tax revenue refluxes money. Tax revenue is never spent, it is electronically debited from bank accounts by the Central Bank and ceases to exist. The scoreboard is marked down by keystrokes. Both the government and taxpayer are redeemed simultaneously.

The above begs the questions: are federal budget deficits actually bad? To answer this, a broad view needs to be taken. Wynne Godley's sectoral balances highlight the role of deficits perfectly; the different sectors isolated are the government sector, domestic private sector, and foreign sector (which is the inverse of the current account). At the aggregate level, the sum of surpluses equals the sum of deficits since income equals expenditure (Kelton 2021, 178-179). For one sector to run a surplus, at least one other must run a deficit. Given that the U.S. consistently runs current account deficits (which are represented as foreign account surpluses), the federal government must run a budget deficit large enough to offset this plus enough to create a private sector surplus. This is the only way for the American public to accumulate net financial wealth (Mitchell et al. 2019, 278). In other words, government debt is actually representative of the net financial assets of the non-government sector; it is a record of all the currency spent into existence that has not been taken back out of the economy through taxes. This is not theory or speculation, it is an accounting identity.

As was discussed above, orthodox theory also views current account deficits as being dangerous for the United States. This is because there seems to be a lack of understanding as to where dollars come from. Foreign nations or their banking systems cannot issue dollars, as the U.S. government holds the monopoly over its money of account. As a result, the U.S. government is the sole source of all dollars accumulated as rest-of-world savings. Consequently, rest-of-world saving cannot finance the U.S. current account deficit. In fact, the American current account deficit 'funds' rest-of-world savings (Mitchell et al. 2019, 821-822). If foreign exporters to the United States do not want dollar savings, they can exchange for domestic currency at their central bank, which provides domestic reserves to support exports. Foreign central banks exchange excess dollar reserves for U.S. Treasury securities to earn interest. While excess dollar assets in the rest of the world can affect the dollar's exchange rate, the U.S. does not need to maintain a peg as it operates under a floating exchange rate regime. Ultimately, current account deficits are sustainable and do not indicate impending financial doom that would put Americans at the mercy of foreign governments.

Contrary to figures presented in the news media about how China and Japan own enormous amounts of the U.S. debt and could simply decide not to loan dollars or declare that the debt is suddenly due, bringing the American economy to its knees, this is not true. The figures representing debt "owned" by foreign nations is really just the size of those nations' securities accounts at the Federal Reserve. This number is simply indicative of how many Treasury Bonds those countries have been paid in exchange for their exports to the U.S. These countries typically choose to have their securities account credited by the Fed rather than their reserve account because bonds are interest-bearing whereas reserves are not. Countries would prefer to earn the extra interest unless they urgently need the spare reserve to conduct their own central bank maneuvers, pay dollar-denominated debt, or purchase goods or services sold in dollars. The U.S. does not depend on foreign savers to lend dollars. The next common fear is that China, Japan, or others will decide that dollars and T-bonds are undesirable assets to hold. This is extremely unlikely. Given the dollar's position as the global reserve currency and the fact that it is impossible for the U.S. to unwillingly default on its debt, the dollar and T-bond are the world's safest assets. Additionally, the U.S. represents a major market for exports, so an unwillingness to accept payment and the cessation of trade would be very costly.

The final concern for the public and mainstream economists that represents an obstacle for government spending, and more specifically budget deficits, is inflation. However, the common explanation for why inflation may result is false. Typically, the problem is referred to as one of excess money; too much money has been pumped in by the government over time and now the money supply is too high, so inflation results. This is not the case. In the MMT framework, the real danger is too much spending, however this only really becomes a concern at full employment, and the U.S. economy does not operate at full employment for reasons outside the scope of this paper (covering this would require a comparison of orthodox and heterodox labor market theories as well as buffer stock policies). True inflation only occurs beyond full employment, but semi-inflation can occur before full employment as a result of factors such as supply chain bottlenecks and the pricing power of firms. Austerity is not useful in alleviating these issues, however spending too much at once can lead to price spikes. What is classified as 'too much' depends on multiple factors including the state of supply chains, where and how the money is being spent, and how many resources have been mobilized or released for use (Mitchell et al. 2019, 661-662). In most cases, it would take massive levels of spending to trigger major inflationary pressure. For example, even the large spending bills passed through Congress in response to the pandemic contributed very little to inflationary pressure, which instead resulted from supply side issues (Wray 2022). According to economist L. Randall Wray, "all of our high inflation periods since 1970 have been due to supply-side pressures produced by three components of the consumer basket: oil, food, and shelter (mostly rents and imputed rents of owner-occupied housing)" (Wray 2022). For this reason government spending, especially on relatively lower-price-tag policies like positive sanctions packages, should not be avoided due to fears over inflation.

Importantly, the framework above implies a floating exchange rate regime. This is a crucial point because mainstream schools of thought which create a case for austerity and contractionary policy use 'gold standard' logic to back their claims, which does not apply to modern fiat systems after 1971 (Mitchell et al. 2019, 389). 1971 was the year that U.S. President Richard Nixon abandoned the gold standard and ended the fixed exchange rate system of Bretton Woods, as was described previously. As a result, currencies were no longer convertible to gold and not all currencies remained pegged to the dollar. Prior to this, states had to operate their economies in such a way to accumulate either gold or dollars, which meant using high interest rates to strengthen their currencies and encourage a trade surplus while using contractionary fiscal policy. This is why it is incredibly important to distinguish between a fixed or floating exchange rate regime. As has also been mentioned above, the U.S. floats the dollar, so it does not need to maintain a peg or accumulate large reserves of foreign currency to defend the exchange rate. This frees it of financial restrictions and constraints that come with a fixed exchange rate regime.

Overall, it is clear that as a sovereign currency issuer operating under a floating exchange rate regime, the United States government is free of financial constraints and is only limited in policy space by the availability of real resources. Despite this, lawmakers must be cautious in how they allocate money and must work to address supply chain issues so that semi-inflation does not result. Additionally, given that the dollar is the global reserve currency, demand for the dollar is high and the U.S. does not need to conduct trade in foreign currency or pay large quantities of foreign-denominated debt. All of this has major implications in terms of the U.S.'s ability to utilize positive economic sanctions. The U.S. has the ability to purchase military equipment and weapons systems from its own robust domestic defense industry without major negative externalities for the American public. Federal deficit or dollar-denominated debt increases need not be feared. Additionally, it has the capacity to provide nations with finance in the form of economic aid without negative consequences. The U.S. is by far the best-positioned nation on the planet to utilize positive sanctions and holds the most economic power.

Historical Uses of Positive Sanctions by the United States

Since the early 20th century, the United States has been able to augment its economic power using its military strength. After World War I, the U.S. emerged as a global power with a military capable of turning the tide in major conflicts. As World War II broke out in Europe, the U.S. was beginning to realize that conflict could soon reach her own shores, but had not yet entered the war. British Prime Minister Winston Churchill repeatedly asked American President

Franklin Roosevelt for help as German forces inflicted losses on the British military. In 1940, Roosevelt agreed to deliver 50 destroyers to the Royal Navy in exchange for 99-year leases on British bases in the Caribbean and Newfoundland (U.S. National Archives and Records Administration), marking the first major delivery of American military equipment to a belligerent in the war. The move by Roosevelt prompted massive public debate over what America's position in the war should be and to what extent they should sacrifice neutrality to aid partner nations.

Despite running his 1940 presidential campaign on keeping America away from war, Roosevelt personally felt that the United States should support Britain. This reflected his broader belief that the United States should serve as the "great arsenal of democracy". Churchill pleaded with Roosevelt, "give us the tools and we'll finish the job" (U.S. National Archives and Records Administration). In 1941, Churchill got his wish and Roosevelt proposed a new military aid bill to "lend-lease or otherwise dispose of arms" and other supplies needed by countries whose security was vital to that of the United States. The bill was passed as the Lend-Lease Act. In support of Lend-Lease, Secretary of War Henry Stimson stated "we are buying… not lending. We are buying our own security while we prepare" (U.S. National Archives and Record Administration). This quote from Stimson accurately depicts the function of any form of military aid. It can be viewed as a purchase or an investment in one's own security; a way to do damage to adversaries or potential adversaries without directly putting troops in the line of fire.

Lend-Lease proved to be a pivotal tool in World War II, contributing greatly to the Allied victory in Europe. Over the course of the war, even after joining the fight with its own combat forces, the U.S. shipped a total of roughly $50 billion of materiel to its allies. Britain received

$31 billion worth of aid while the Soviet Union received $11.3 billion, although some of the aid delivered to Britain was passed on to the USSR via maritime convoys through the Barents Sea to Murmansk, Russia's northern port city (Coalson 2020). Starting with the Soviets, aid was necessary because of the initial successes achieved by the Wehrmacht as a part of Operation Barbarossa. The Soviet Air Force had suffered major losses of airframes in the opening strikes by the Luftwaffe and the Red Army struggled to halt the German blitz across Ukraine, Belarus, the Baltics, and western Russia. German soldiers were positioned on the outskirts of both Moscow and Leningrad (St. Petersburg) by early December. With production hubs being located in the Baltics and Ukraine's southern and eastern regions, the Soviets were in a precarious position.

Although they defeated Barbarossa before it could take Moscow, the Soviets would need to drive back east and remove German forces from their land. To help them achieve this, the Americans delivered approximately 400,000 jeeps and trucks, 14,000 aircraft, 8,000 tractors and construction vehicles, and 13,000 battle tanks. Additionally, the Americans sought to cover materials for which Soviet production struggled to deliver necessary output such as gasoline, explosives, aluminum, and radio communications (Coalson 2020). These less-visible aid deliveries ended up being the truly significant contributors to the Soviet war effort according to Russian historian Boris Sokolov, as the U.S. and Britain provided over 33% of all explosives, over 55% of the aluminum, and more than 80% of the copper used by the USSR during the war. Lend-Lease also provided aviation fuel equal to roughly 60% of what the Soviet Union produced domestically, helping the Soviets counter the Luftwaffe in the air.

The final major way Lend-Lease aided the Soviet war effort was through logistics and infrastructure support. By the time the war came to a close, almost one-third of the Red Army's vehicles had been provided through Lend-Lease. Additionally, the Soviet railway system was supported by Lend-Lease deliveries including just under 2,000 locomotives and a large number of boxcars. Almost half of the rails themselves used by the Soviets entered the nation through Lend-Lease (Coalson 2020). This rail support was crucial because it allowed for the movement and resupply of ground forces. Just a few decades earlier, railway issues plagued the Russian Empire during World War I and the February Revolution. Lend-Lease ensured this issue would not arise again. Factory equipment, including more than 38,000 total metal-working tools, was also a factor in allowing the Soviet industrial base to support the war effort (Coalson 2020). Although today the Russian Federation may call into question the role of American Lend-Lease, Stalin himself raised a toast to the program at the Tehran Conference in 1943, remarking, "the most important things in this war are the machines… The United States is a country of machines. Without the machines we received through Lend-Lease, we would have lost the war" (Coalson 2020). While this position could certainly be argued, there is no doubt that Lend-Lease had a tangible impact on the conditions on the eastern front and contributed to the defeat of German forces.

On the western front, Lend-Lease support to the British proved to be critical to the war effort. Unlike the Soviets, the British did not lose production capacity through territorial losses, rather their currency and gold reserves ran too low to finance the purchase of war material from the U.S., which it had been buying since the war broke out in 1939 (Franklin Delano Roosevelt Library). This, as well as the somewhat desperate situation created by rapid Nazi advances, was what necessitated lend-lease aid provided by the Americans. The $31 billion of Lend-Lease aid delivered to Britain came in the form of aircraft, warships, battle tanks, small arms, machinery, equipment for building roads and airstrips, communications equipment, clothing, and foodstuffs. This material was crucial in its timing as well; Britain had been under blockade by German U-boats and was desperately in need of a wide range of supplies. Early American deliveries of lethal aid (primarily tanks and aircraft) also arrived in time to replenish British forces in Egypt before their drive into Libya in 1941 (American Historical Association). After the Japanese attack on Pearl Harbor in December of 1941, Lend-Lease broadened rapidly in terms of both scope and volume due to American entry into the war. This point that aid continued through the duration of the war, even as America needed to supply its own troops on two fronts, is crucial. The increased aid, especially to the British, had real impacts on the battlefield. For example, in 1942 the British Eighth Army under the command of General Bernard Montgomery defeated Field Marshal Erwin Rommel's Afrika Korps at El Alamein using American planes, tanks, and guns (American Historical Association. The direct, traceable effect of Lend-Lease in the western European theater is less clear, as American ground forces directly joined the fighting there with the initiation of airborne and amphibious assaults as a part of Operation Overlord in 1944. However, the use of Lend-Lease equipment in the African theater highlights the ability of military aid to have an immediate impact on battlefield conditions.

While Allied victory in World War II cannot be completely attributed to Lend-Lease, it undoubtedly played a vital role in equipping Allied nations and keeping them in the fight even when their domestic situations appeared dire. It also provides proof that positive sanctions in the form of military aid are effective in a large-scale conventional war. There is a caveat to

Lend-Lease that must be noted. As the name of the policy indicates, equipment is leased, meaning it must be paid for by recipient nations. Payment is deferred until after the war in order to allow for the rapid delivery of massive quantities of equipment without immediate financial concern, as was the case for recipients of aid during World War II. Lend-Lease still represents a form of positive sanction despite payment being required because of the major benefits of the arrangement during wartime and the advantages it gives to recipient nations. Long term debt burdens are a concern with this method of positive sanctions, however. It is typically chosen as a form of aid because of domestic political concerns in the sanctioning country as well as the sheer size of the packages of aid that tend to be associated with it.

A more contemporary example of American positive sanctions in the form of military aid is the case of Israel. Following World War II, the United States had three key interests in the middle east: securing oil supplies, containing communism and Russian influence, and supporting Israel and Zionism. Because of the Cold War, Israel became the U.S.'s stronghold in terms of influence in the region and buttressed against the expansion of Soviet influence. This meant the U.S. needed to build up a strong Israel in order to counterbalance Baathist Syria and Iraq (as well as a Soviet-friendly Egypt for a period). After the Cold War, the containment of communism is no longer a key objective, but the other two interests remain. Additionally, some of the Arab states that had previously maintained ties with the U.S.S.R. have continued to pursue close relations with the Russian Federation (primarily Syria). Today, the U.S. still considers Israel to be a vital partner in the middle east due to shared strategic goals and democratic values as well as mutual adversaries such as the Islamic Republic of Iran. As a result, the U.S. has provided Israel with over $114 billion dollars in military aid alone since 1946 and has had the goal of giving

Israel a Qualitative Military Edge (QME) in the region since the Yom Kippur War in 1973 (Congressional Research Service 2023). This figure does not include the roughly $9.9 billion worth of aid provided for missile defense over that same span.

Historically, U.S.-provided military aid has been absolutely crucial for Israel's defense. Since its creation, Israel has faced existential threats from within the region and consequently has been involved in several wars. While much of the aid today comes in the form of Foreign Military Financing (FMF) and Foreign Military Sales (FMS), which allow Israel to finance research and development, purchase the most advanced American weapons systems, and boost domestic procurement of weapons systems, the U.S. has also intervened in the past to aid Israel in times of need. In the 1967 and 1973 wars, American aid, particularly in the form of M-60 Patton main battle tanks (MBTs), A-4 Skyhawk attack aircraft, and F-4 Phantom fighter aircraft, proved to be key to Israel's defense. This was especially true given the Soviet aid to belligerent Arab states during this span. Ever since this point, the U.S. has committed to giving Israel the aforementioned QME in the region by partnering with Israel on research and development, providing finance, and approving access to the most modern weapons systems. For example, joint U.S.-Israeli projects include the Iron Dome, Arrow Missile Defense System, and David's Sling Missile Defense System (Congressional Research Service 2023). Israel has also been able to purchase new systems like the F-35 Joint Strike Fighter. Additionally, the U.S. has created weapons stockpiles within Israel that can be accessed in times of need with Presidential approval. All of this indicates that the U.S. has taken a fully-committed approach to a massive positive sanctions regime in order to secure Israel's defense. As a result, Israel has emerged as a dominant power in the middle east despite its relatively small land mass and population. It has also survived numerous wars in which it has been attacked by multiple nations, which received military aid of their own. There is no doubt that positive sanctions have achieved their goals in the case of Israel and continue to be an effective policy.

Lend-Lease during World War II and various forms of military aid to Israel both demonstrate that positive sanctions regimes in the form of military aid are absolutely effective in building the combat power of partner nations as well as shaping conditions for victory for recipient nations in times of war. In both of these instances, a full commitment was made by the United States to a positive sanctions regime, both in terms of the dollar amount it was willing to spend and in terms of the volume and quality of equipment and weapons systems it was willing to provide. While some sensitive technology and top-of-the-line equipment was likely withheld in each case, the level of support was massive. This demonstrates that a full commitment by the sending nation to provide whatever assistance is required for victory can be vital to the success of a sanctions package. In neither of these cases was the assistance passive or a one-off. These two cases outline a broad formula for success. Conventional wars require large aid packages with heavy weaponry and modern systems, and a full political commitment by the sending nation to continue deliveries through the duration of the conflict can increase the chance of success.

The Ukrainian Case

Given the United States' primary goal in the current conflict is the prevention of the capitulation of the Armed Forces of Ukraine (Zbroini syly Ukrainy, or ZSU) and the Ukrainian state, military aid is the top priority among all forms of positive sanctions. If the Russian Armed Forces are able to defeat Ukrainian forces, it is certain that they will topple Ukraine's democratically elected government and either install a puppet regime, incorporate Ukrainian land into Russia proper through annexation, or some combination of both. The only way to prevent this outcome is by building up Ukraine's combat power. The ZSU needs to be able to not only hold the territory it currently controls, but also be able to launch offensive operations in order to retake sovereign lands currently occupied by Russia. This has been the case since the start of Russian military aggression in 2014, although the initial response at that time was far less cohesive and primarily focused on the negative side of sanctions (punishment for Russia). However, it is true that significant training of Ukrainian forces took place and some military aid was delivered (just over $2 billion between 2014 and late 2021), but not at the size and scale which is currently taking place. Another motivating factor in the delivery of lethal aid is that it presents an opportunity to severely degrade the combat power of a major adversary at the cost of a small fraction of the total defense budget, let alone the costs of direct military intervention. Not to mention, there is no human cost for the United States. Ukrainian President Volodymyr Zelenskyy's requests for assistance have echoed those of Churchill mentioned above: "give us the tools and we'll finish the job." The attitude of many U.S. lawmakers has resembled that of Secretary Stimson's, believing that by helping the Ukrainians defeat Russia they are buying the security of the U.S. and Eastern Europe, not just giving away aid for abstract reasons. The U.S. is once again taking on the role as the "great arsenal of democracy" that President Roosevelt once believed it should embrace.

Since early 2022 the U.S. has supplied over $56.1 billion dollars of total military aid to the ZSU. This aid has consisted of much-needed weaponry and equipment that has undoubtedly played a role in helping Ukraine exceed expectations on the battlefield. Some of the first types of weapons systems to enter the country in the initial aid tranches were anti-tank guided missiles (ATGMs) and man-portable air defense systems (MANPADS), particularly in the form of the FGM-148 Javelin ATGM and the FIM-92 Stinger MANPADS. Since the start of the war, over 1,600 Stinger systems and 10,000 Javelin systems have been provided (U.S. Department of State 2023). ATGMs like the Javelin are capable of destroying even the most advanced of tanks (in Russia's case this is the T-90) and can be operated by just one infantryman (U.S. Army Acquisition Support Center). This means a single Ukrainian soldier or marine on foot can disable a $4.5 million tank with a $200,000 missile system. Systems like the Javelin proved to be vital in the early days of the war, when Russian forces threatened Kyiv from the north, storming the towns of Bucha, Irpin, and Hostomel. Ukrainian infantrymen took advantage of the more urban terrain, where tanks were in a more disadvantageous position, by utilizing ATGMs to great effect. In these early assaults on Kyiv, the Russian Army also relied heavily on air assault operations conducted by its airborne forces (Vozdushno-desantnye voyska Rossii, or VDV). These assaults primarily use rotary-wing aircraft, which are extremely vulnerable to MANPADS. Ukrainian forces used MANPADS like the Stinger system to down numerous helicopters, inflicting losses on the VDV. Like the Javelin, the Stinger can also be operated by just a single soldier or marine and can down UAVs, low-flying fixed wing aircraft, cruise missiles, or rotary-wing aircraft at a unit cost of just $120,000 (U.S. Army). Importantly, aircraft and armored vehicles are much harder to produce and take far longer to replenish than these relatively inexpensive, small missile systems. This creates major problems for any force that faces an opponent with high quantities of these systems.

The initial defense of the northern outskirts of Kyiv prevented the rapid fall of the Ukrainian state that Russia and some Western intelligence agencies predicted. Ukrainian forces proceeded to pick off the massive column of Russian military equipment that had resulted from the stalled offensive in the suburbs using ATGMs and artillery fire, making positions around Kyiv untenable and eventually forcing Russia to withdraw from the northern axis. This successful defense of the capital changed the calculus around military aid for the U.S. The concern that Ukraine would fall imminently was gone for the time being. The ZSU demonstrated their professionalism and will to fight, opening up new possibilities for increased military aid.

The aid packages that have been delivered since these earlier days of the war have expanded to include heavier weapons systems and have played a role in shifting the balance of power in the war. Among some of the more important types of weapons systems delivered in this war are artillery pieces and rocket launchers. The U.S. has delivered 160 155mm howitzers, primarily American-made M777 towed howitzers and M109 Paladin self-propelled howitzers, and 1.5 million accompanying shells (U.S. Department of State 2023). The M777 guns are lightweight and can quickly change firing positions, which is imperative to avoid Russian counter-battery fire, as the Russians have the quantitative advantage in both artillery pieces and shells. Self-propelled howitzers combine mobility and firepower to allow for fire support during offensive operations as well as shoot-and-scoot capabilities.

In addition to the conventional 155mm shells provided, the U.S. has also delivered 7,000 precision-guided shells in the form of M982 Excalibur GPS and inertial-guided shell, which can also be fired from the M777 or any NATO-standardized artillery piece with a range of approximately 40 to 57 kilometers and a margin of error of about two meters (United States

Army Acquisition Support Center, 2022). These precision-guided shells are important because they allow the ZSU to hit targets with fewer shells but still achieve the desired effect. In other words, they bring Ukraine closer to parity with Russia in terms of artillery despite having fewer guns and ammunition. To help close the quantitative gap further, the U.S. has delivered 72 105mm guns with 450,000 accompanying shells. The U.S. also provided over 200,000 shells of other calibers that can be fired from Ukraine's wide variety of artillery systems including 152mm, 130mm, and 122mm (U.S. Department of State 2023). This support by the U.S. in building up Ukraine's artillery stocks is critical because of the general importance of reliable artillery fires in any conventional conflict. Artillery fires can be used to keep an opposing force at bay, blunt an offensive, attrit an enemy force before a planned friendly offensive, or degrade lines of supply and communication by targeting command and control nodes or supply hubs.

Rocket systems have also proven to be in-demand on the battlefield and are used by both Russia and Ukraine. The U.S. has delivered 60,000 GRAD rockets for the Soviet-era BM-21 multiple launch rocket systems (MLRS) used by Ukraine. Additionally, it has provided 38 M142 High-Mobility Artillery Rocket Systems (HIMARS) (U.S. Department of State 2023). The HIMARSs provided to Ukraine have been particularly effective and are proven to be incredibly lethal systems, more so than any single rocket or artillery system possessed by the Russian Armed Forces (the Russian counterpart to the system is the BM-30 Smerch MLRS, which is incapable of providing precision fires). The HIMARS has one launch pod capable of launching either six guided MLRS rockets (GMLRS) over 70 kilometers at preselected GPS coordinates or one Army Tactical Missile System (ATACMS) missile at a range of 300 kilometers (United States Army Acquisition Support Center, 2022). While the U.S. has not provided ATACMS missiles, it has given an unspecified quantity of GMLRS rockets to the ZSU. Due to the range and precision of GMLRS rockets, they enable danger-close fires in support of friendly troops and can engage high-value point targets in complex environments such as urban centers where collateral damage should be avoided. Importantly, Russian air defense batteries have been unable to intercept GMLRS rockets, increasing their value. As the name of the system indicates, HIMARS are highly mobile, allowing them to effectively avoid counter-battery fires as not a single HIMARS has been destroyed by Russian forces at the time of the writing of this paper.

HIMARS have been used to great effect by the Ukrainian Army and have received a lot of media attention as a result. According to U.S. Secretary of Defense Lloyd Austin, the use of HIMARS by Ukrainian forces has “changed dynamics” in the war and “created an opportunity for the Ukrainians to maneuver” (Stanton 2022). In the fall of 2022, the Ukrainians did just that. The Ukrainian Eastern Group under the command of General Oleksandr Syrskyi massed forces near the city of Kharkiv before punching through Russian lines at Balakliya. They exploited the initial breakthrough and thinly-defended lines to push further east, taking the strategic cities of Kupyansk and Izyum (Institute For the Study of War 2023). Izyum in particular had been crucial to Russian efforts in the Donbas because it was a major supply depot and was located on the northern side of a pocket the Russians had been able to create around Ukrainian positions. From there, they sought to encircle Ukrainian forces defending the cities of Slovyansk and Kramatorsk. The Ukrainian Kharkiv counteroffensive alleviated pressure on forces around those cities and pushed even further to retake the key town of Lyman. In addition to the movements eastward, Ukrainian forces also moved north and northeast from Kharkiv city, which had been shelled constantly by Russian forces who remained positioned on the city’s outskirts. These

Russian units were pushed back across the Russian border into the Belgorod region, easing the pressure on the city (Institute For the Study of War 2023).

In the fall of 2022, the ZSU also began a campaign of precision rocket attacks in the southern part of the country, particularly the Kherson region, which was almost entirely occupied by Russian forces. HIMARS strikes targeted bridges over the Dnipro River, which were used by Russia to resupply its forces on the western bank of the Dnipro. Troop concentrations, supply depots, and command posts in Kherson city, which was the only administrative capital taken by Russia in its February invasion, were also targeted. The goal of this campaign was to heavily attrit Russian forces and deprive them of supplies so that positions on the western bank of the Dnipro would become untenable, forcing them to retreat or weakening them to the point that they could be easily overrun by the Ukrainian Army and Marine units in the Area of Operations (AO). The campaign worked, and Ukraine's 28th Mechanized Brigade reached Kherson city on November 11th, 2022 (Institute For the Study of War 2023). Ukrainian infantry stormed the city as night fell, chasing Russian rear guard elements as they retreated across the Dnipro. Kherson now remains under Ukrainian control.

HIMARS certainly played a role in both the Kharkiv and Kherson counteroffensives. According to Yagil Henkin, a professor at the Israel Defense Forces (IDF) Command and Staff College, HIMARS strikes force "the Russians to move their ammunition depots farther to the rear, thereby reducing the available firepower of Russian artillery near the front lines and making logistical support more difficult" (Lendon 2022). Additionally, long range fires can hit bridges from tens of kilometers away, just as was done at Kherson. These are the types of changing dynamics that Secretary Austin indicated would allow the Ukrianians to maneuver, which proved to be correct. HIMARS exemplify just how valuable military aid can be, especially when the systems provided are so advanced (relative to other systems being used) that just a few dozen of them can shift the momentum of the war.

The next major category of military aid has come in the form of air defense systems. These systems are crucial for two major reasons. First, they prevent the Russian Air Force from achieving air superiority. This means they are unable to directly over Ukrainian positions, or really anywhere within Ukraine's air defense network, without great risk of being shot down. Strong air defense capabilities help mitigate the exposure of ground forces to enemy aerial threats of all kinds including attack aircraft and intelligence, surveillance, and reconnaissance (ISR) platforms. Second, they can protect civilians and civil infrastructure from attacks by aircraft, missiles, and rockets. Russia has targeted residential apartments, the power grid, and urban areas without discretion countless times since the beginning of this war, so the ability to protect these targets is necessary. To bolster Ukraine's air defenses, the U.S. has sent several surface-to-air missile (SAM) systems. Among these are one MIM-104 PATRIOT battery, two MIM-23 HAWK firing units, and eight National Advanced Surface-to-Air Missile Systems (NASAMS) (U.S. Department of State 2023). The most capable of these systems are the PATRIOT and NASAMS. The PATRIOT is a medium range system designed to intercept aircraft and ballistic missiles. The ranges and coverage of the system are not publicly available. The NASAMS is capable of short to medium range interception using surface-launched air-to-air missiles, specifically the AIM-120 AMRAAM and AIM-9X Sidewinder. By using multiple NASAMS, Ukraine can create a network capable of dealing with complex threats and dealing with larger missile barrages. In the same vein, Ukraine has been given two Harpoon Coastal

Defense Systems to keep ships capable of launching cruise missiles from Russia's Black Sea Fleet further away from the coastline in order to limit their ability to strike targets inside Ukraine (U.S. Department of State 2023). Additionally, these systems complicate any amphibious operations because of the threat they pose.

The U.S. also elected to provide Ukraine with Avenger Air Defense Systems (U.S. Department of State 2023). These are lightweight, highly-mobile, short-range, SAM and gun systems mounted on HMMWVs, commonly referred to as Humvees, which have also been given to the ZSU. The Avenger can counter hostile unmanned aerial systems (UAS), cruise missiles, rotary-wing aircraft, and fixed-wing aircraft. Importantly, these systems are embedded with ground units, allowing for overhead protection during maneuver. The U.S. has also provided RIM-7 air defense missiles, which can be modified to be fired from Soviet-era systems such as the Buk. To help counter Russian air defenses and allow the Ukrainian Air Force to operate near the front lines, the U.S. has delivered AGM-88 High-Speed Anti-Radiation Missiles (HARMs), which have been modified to be launched from the hard points of Ukraine's MiG-29 Fulcrum fighter aircraft (U.S. Department of State 2023). These missiles lock on to enemy radars and destroy air defense sites in suppression of enemy air defense (SEAD) missions. SEAD missions are necessary to contest the air space.

Ukrainian battlefield successes have led the U.S. and its partner nations to deliver heavier weapons systems to Ukraine meant to increase the ZSU's ability to conduct counteroffensives. This includes 31 M1A1 Abrams MBTs, 45 Soviet-era T-72B MBTs, 109 M2A2 Bradley Infantry Fighting Vehicles (IFVs), 90 M1162 Stryker Armored Personnel Carriers (APCs), 300 M113 APCs, 250 M1117 Armored Security Vehicles, and over 500 Mine Resistant Ambush Protected

Vehicles (MRAPs) of different varieties (U.S. Department of State 2023). Tanks, IFVs, and APCs are absolutely crucial to a force's ability to conduct combined-arms maneuver, meaning infantry and armor operating to support each other. Despite claims that tanks lack utility on the modern battlefield given the proliferation of ATGMs, "they remain a key ground component of combined-arms warfare, without which other arms are more vulnerable. Infantry are vulnerable when attempting to seize defensive positions, meaning tanks still play a critical role during offensive operations" (Lee, 2022). Importantly, tanks also possess the necessary firepower to kill other tanks, and Russia possesses a large number of them.

While Abrams tanks seem to be the big-ticket item among these weapons systems, the Bradley Fighting Vehicle is a lethal system in its own right. The Bradley is capable of killing tanks as well, as it is equipped with tactically-operated, wire-guided (TOW) missiles (and there are documented cases of the Bradley's 25mm Bushmaster chain gun penetrating the armor of Soviet-made tanks in Iraq using sabot rounds), but is primarily designed to carry infantrymen and provide fire support for troops in contact, especially against fortified positions (Hertling 2022). According to Lieutenant General (Ret.) Mark Hertling, the former commander of U.S. Army Europe, the 1st Armored Division, and Multinational Division-North in Iraq, giving Bradleys to the ZSU "will transform the tactical capability of a technologically advanced maneuver force" (Hertling 2022). The exact impact of these systems is yet to be seen, as many of them are in the process of being delivered as of the writing of this paper, but on paper they represent a significant increase in offensive capability when combined with aid from partner forces such as Germany (Leopard 1 MBTs and Marder IFVs) and the United Kingdom (Challenger 2 MBTs). These are sophisticated, expensive systems and their delivery indicates that the U.S. is committed to helping Ukraine in a more prolonged conflict and views the ZSU as a capable force.

In terms of air power, support has been more limited. There is major hesitancy over delivering aircraft, most notably the F-16 Fighting Falcon multirole fighter aircraft, due to political considerations. However, the U.S. was able to deliver 20 Soviet-era Mil Mi-17 helicopters (which were originally purchased for the Afghan National Army before the Taliban retook the country) (U.S. Department of State 2023). To augment Ukraine's air-to-ground capabilities, the U.S. also elected to provide conventional bombs with Joint Direct Attack Munition (JDAM) kits, which convert the bombs into precision-guided munitions using GPS and inertial guidance (Boeing). These JDAMs extend the range of conventional bombs due to the fact that they are winged and can be lobbed by Ukrainian bomber aircraft from farther off target. The Ukrainian Air Force may already be using JDAMs in the form of the 500-pound GBU-62 glide bomb in the Bakhmut AO. These JDAMs are important because they increase the lethality of the Ukrainian Air Force, allow for a relatively cheap and feasible solution in terms of providing precision-guided munitions, and allow for the conservation of munitions because of that precision.

Among other items delivered as a part of military aid packages are communications equipment, small arms, explosives, ammunition, ISR platforms, UAS, mortars, radars, night vision equipment, cold gear, medical supplies, logistical vehicles, and other pieces of equipment that are necessary to performance on the modern battlefield (U.S. Department of State 2023). All of the above pieces of aid have already made significant contributions to the efforts of Ukrainian combat forces and their utility has been notable during each of the ZSU's major offensive maneuvers (those in the Kyiv AO, Kharkiv AO, and Kherson AO). They will presumably play an even larger role in the expected spring/summer offensive of 2023, which has not been initiated as of the writing of the paper, due to the fact that many of the more sophisticated weapons systems have just recently been delivered (the PATRIOT System, Bradley Fighting Vehicles, and Stryker APCs) or are currently in the process of being delivered (Abrams MBTs). American military aid will continue to be important to the Ukrainians as their own domestic stockpiles dwindle and their infrastructure remains under attack. In order for the Ukrainians to be in a position to drive Russian forces off of their territory or to otherwise force the Kremlin to approach the negotiating table in a serious manner, Washington will have to continue to supply the ZSU and provide systems that American military planners deem to be necessary in terms of both quality and quantity. However, these sanctions have already imposed massive human costs on Russia, as the U.S. Defense Intelligence Agency assesses that "Russia has suffered 189,500-223,000 total casualties, including 35,500-43,000 killed in action and 154,000-180,000 wounded" (Faulconbridge, 2023). These figures, which are substantially higher than those for Ukraine, indicate the potential for Ukrainian victory with continued aid as well as the effectiveness of the already-provided aid in degrading Russia's combat power.

A policy of continued or prolonged military aid as a part of a positive sanctions regime has drawn many concerns in American domestic politics. First among these is indebtedness and financial feasibility. As has been demonstrated above, this is not a real concern. The United States government faces no financial constraints and can afford to take on the costs of the aid delivered thus far as well as much more. There are, however, factors that must be taken into consideration. These factors center primarily around resource availability and their impacts on two major issues: inflation and American readiness in the Indo-Pacific. First, American readiness is a concern because of the $56.1 billion dollars of total military aid provided, $20.7 billion has been provided through emergency Presidential Drawdown Authority (U.S. Department of State 2023). This means any assistance provided under this category has been provided directly from Department of Defense stockpiles, which must be replenished in order to keep the U.S. military in an appropriate state of readiness. This is especially crucial because of the situation developing with regard to Taiwan in the Pacific. The Chairman of the Chinese Communist Party, Xi Jinping, has instructed the People's Liberation Army (PLA) to be ready to take the island by force by 2027 (Yen 2023). President Biden has stated on the record that American combat forces would directly defend the island should such a situation arise. Because of this evolving situation, the U.S. military must remain prepared to go to war with China in the Pacific. There are concerns among the public that aid to Ukraine will erode American capabilities and readiness, especially when it comes to stockpiles of artillery guns, shells, rockets, ATGMs, and MANPADS. If prolonged positive sanctions are required in the case of Ukraine, the U.S. must improve production capacity and ensure that stocks remain at a sufficient level to maintain readiness.

While lower domestic stocks may seem to be a daunting issue, the U.S. has already made plans for dramatic increases in production of some of the items mentioned above. Additionally, the expansion of production for weapons systems could lead to domestic job creation. Therefore, while there may be a short run issue in terms of maintaining levels of aid to Ukraine while also preserving domestic stocks, this problem can be remedied. Whether such job creation would contribute significantly to increased aggregate demand is unlikely, but possible depending on the size of aid packages to Ukraine going forward as well as investment in branches of the U.S.

armed forces. The issue of inflation, however, is something that must be monitored. Because increased production (which comes as a result of security assistance, or non-drawdown aid) and replenishment of domestic stockpiles requires the domestic use of real resources, there may well be some inflationary pressures that arise. However, any upward pressure on prices that may be observed is highly unlikely to be catastrophic could be considered a worthwhile price to pay as part of the U.S.'s broader investment in its own security via Ukraine if policymakers follow a similar thought process to Secretary Stimson.

The final major component of the American positive sanctions regime for Ukraine is financial support, which totaled $26.4 billion as of January of 2023 (Masters & Merrow 2023). Revenue streams such as grain exports have been drastically reduced as a result of the fighting, leading to a lack of inflow of dollars, which are necessary for the purchase of goods and services in the international market for reasons previously outlined in this paper. However, financial aid has received less attention, since it has less of a direct impact on Ukraine’s ability to win the war and therefore, from an American perspective, is less relevant in terms of dealing a blow to Russian military power while helping shape conditions for Ukrainian military victory. In that sense, it is less of a representation of the American economic weapon and is primarily a matter of allowing for some sort of stability in the Ukrainian economy.

The reason for the delivery of this type of aid is that Ukraine’s economy has contracted by about 45% since the 2022 invasion (U.S. Agency for International Development 2023). One common misconception, however, is that the Ukrainian government requires external financial support in order to maintain government functions. This is only partially true. Since the Ukrainian government issues its own sovereign currency, the Hryvnia, it is able to credit accounts from its central bank as it wishes. Where the Ukrainian government faces financial constraints is its fixed exchange rate regime. The Hryvnia is pegged to the U.S. dollar, meaning the Ukrainian government must maintain this peg by keeping sufficient dollar reserves. This is an especially strenuous feat in times of war, as the demand for foreign currencies, particularly the dollar, is driven up. As a result of this demand and the fact that Ukraine must undertake government spending in order to finance its war effort, Ukraine's foreign currency reserves were depleted by roughly $6 billion by August of 2022 from pre-invasion levels (Skok & de Groot 2022). However, aid deliveries have managed to push reserves back up to a five-year high of approximately $31.88 billion as of April of 2023. These reserves allow the National Bank of Ukraine, Ukraine's Central Bank, to defend the Hryvnia's peg and therefore increase the ability of the Ukrainian government to spend the funds necessary for its war effort and government functions with a lessened threat of insolvency.

While this type of aid has been successful in providing the Ukrainian government with increased policy space, American legislators and officials at the World Bank, which has acted as a facilitator for the financial aid delivered to Ukraine, must be careful about the percentage of aid that is delivered in the form of loans. Loans provided by the World Bank are dollar-denominated, meaning that the granting of such loans will burden the Ukrainian government with foreign-denominated debt. This type of debt can be catastrophic and large amounts of it increase the possibility of default, as the Ukrainian government must accumulate dollar reserves in order to pay it as well as the accompanying interest. To this point, the direct financial support allocated by the U.S. Agency for International Development (USAID) and delivered by the World Bank has kept loans in the form of the "Transfer Out" Multi-Donor Trust Fund (MTDF) to just 7.4% of total aid. This means that the majority of the aid has been directly granted to the Ukrainian government with no conditional strings attached and no repayment required. The “Transfer Out” MTDF loans are conditional on the Ukrainian government retaining records for all expenditures until two years after an applicable project’s closing date. World Bank representatives have access to sites financed by the loans and can examine related documents. The loans also require a prior affirmation of macroeconomic policy stability (Congressional Research Service 2023).

The non-loan components of direct support from USAID come in the form of the non-“Transfer Out” MTDF, which is simply meant to reduce procedural steps and transaction costs associated with individual transfers. Finally, the Public Expenditures for Administrative Capacity Endurance (PEACE) Fund is a mechanism meant to support the Ukrainian government’s ability to compensate public employees (government officials, school employees, healthcare workers, and other social services) (Congressional Research Service 2023). Funds like this indicate that, contrary to the rhetoric of some political actors in Washington, the dollar amounts given to Ukraine are not random or frivolous and are designed to accomplish specific tasks. Despite what Russian information operations or certain political actors may want the American public to believe, financial aid to Ukraine is not part of an embezzlement scheme or large-scale conspiracy. The cash or reserves granted to the Ukrainian government are either earmarked for certain objectives or meant to bolster the ability of the National Bank of Ukraine to conduct monetary policy operations and allow the Ukrainian government to spend the necessary money to sustain their war effort. Additionally, Americans need not fear inflationary pressure as a result of the financial aid obligated by USAID. Because financial aid is simply the crediting of Ukrainian accounts and debiting of American accounts, there is no use of real resources by the U.S. in this process and as a result no inflationary pressure. Simply issuing dollars does not cause inflationary pressures as has been previously covered. The costs of this aid for the U.S. are minimal and it plays a crucial role in helping to stabilize the Ukrainian economy. Therefore, financial aid represents an incredibly effective method to support the Ukrainian effort.

Overall, it is clear that positive sanctions, both in the form of military aid and financial aid, are effective ways to strengthen the Ukrainian government and armed forces, thereby allowing the United States to help deliver a blow to the power of a major adversary, punish that adversary for its aggression, protect its own position in the international order, and aid the Ukrainian people in the defense of their nation. Military aid has proven to be an effective tool in a positive sanctions regime numerous times in American history, most notably in the case of Lend-Lease during World War II. It has maintained its relevance and demonstrated its effectiveness in the post-WWII era with cases like that of Israel. Importantly, it has also demonstrated great utility in the current conflict when combined with the will, professionalism, and gallantry demonstrated by the Ukrainian people. American weapons systems have proven their effectiveness on the modern battlefield in the hands of a motivated force and have helped facilitate the defense of major cities and successful counteroffensives which have retaken key strategic locations and liberated large swaths of territory. Much needed ammunition and other tools have acted to help give the ZSU more even footing against a powerful adversary. The continuance (and potential expansion) of these sanctions have the potential to help Ukraine defeat Russian forces or otherwise force the Kremlin to the negotiating table.

Crucially, the benefits above have come with a relatively low cost for the United States, as the aid to Ukraine represents less than 7% of the U.S. military's planned 2023 expenditure

(United States of America Spending Open Database 2023). Most importantly, the U.S. does not face any human costs, as no American combat personnel are placed in the line of fire as a result of this sanctions policy. The financial component of the aid is critical as well. It allows the Ukrainian government to continue to operate with lessened constraints and allows for the facilitation of the defense of the country. Support for the Ukrainian government is critical in wartime and results in no negative externalities for Americans due to the economic power wielded by the United States as a sovereign currency issuer and the top of the economic order. American sanctions can be effective in helping shape the conditions for Ukrainian victory, which can be defined as the removal of Russian troops from sovereign Ukrainian land.

Conclusion

The Russian Federation's unprovoked, unjustified invasion of Ukraine in 2022 has led to a strong economic response by the United States. The United States wishes to deal a strategic blow to its adversary, Russia, while preserving the sovereignty of Ukraine and protecting America's position atop the socio-political and economic world order. The U.S. also seeks to minimize human and financial costs to itself. As a result, the American government has turned to a strategy of economic warfare. The primary weapon it possesses in this type of warfare is the sanctions weapon. This paper argues that the United States is the country that is best-positioned to utilize this weapon as a result of its aforementioned geopolitical standing, and has the available policy space to achieve its objectives vis-a-vis the war in Ukraine. The most effective way to do this is through a dual-pronged strategy that requires the employment of both a negative sanctions regime and a positive sanctions regime.

Negative economic sanctions act to punish the behaviors of the Russian government and inflict tangible costs on the Russian economy from a macroeconomic perspective. Negative sanctions have lessened the ability of the Russian Armed forces to wage war by complicating logistics and supply chains, and macroeconomic indicators show that the Russian economy has declined in multiple categories since negative sanctions were first imposed in 2014 including overall growth, wages, the valuation of the Ruble, capital flows, inflation, and the net financial wealth of the non-government sector. However, given Russia's authoritarian government, these negative sanctions alone are not enough to allow the U.S. to achieve its objectives.

Positive sanctions represent the flipside of the sanctions tool, acting to build up the combat power of the Armed Forces of Ukraine and helping the Ukrainian government to function effectively in a time of war. Heterodox macroeconomic analysis, specifically from the perspective of Modern Monetary Theory, indicates that the U.S. government has the necessary financial resources to carry out this type of sanctions regime so long as it properly manages the real resources within the economy. Additionally, it highlights that the costs to the American public as a result of this policy is minimal. Additionally, historical uses of these positive sanctions by the U.S. highlight their efficacy in major conventional wars.

From the information currently available, the positive economic sanctions implemented in the case of the Russo-Ukrainian War are working to help shape the conditions for Ukrainian military victory and therefore in achieving the American objectives outlined above. These sanctions are feasible and sustainable from an economic perspective, and it is clear that the U.S. government's economic power as a sovereign currency issuer atop the world order is immense. The best way to maintain this power is to use it to achieve strategic objectives and improve global credibility by coming to the aid of a sovereign nation against imperial aggression. By using the lessons learned from cases like World War II and Israel, the U.S. can continue to improve the effectiveness of aid packages through a fully-committed stance and by withholding as little as possible in terms of the volume and quality of weapons systems it delivers. However, it must work towards solutions to balance this with its own readiness given the state of global affairs today.

The combination of positive and negative sanctions represents the full spectrum of economic power available to the U.S. and the best way to achieve American goals in armed conflict without the use of its own combat forces and where mediation and negotiation are not yet possible. By imposing economic consequences on Russia while simultaneously helping

Ukraine to damage Russian combat power and retake occupied territories, the U.S. is effectively conducting economic warfare using both sides of the sanctions tool. In conclusion, economic power, augmented by the Department of Defense's ability to deliver and procure weapons systems and equipment, is enough to allow the U.S. to achieve its objectives relating to the Russo-Ukrainian War and help shape the conditions for Ukrainian victory. This victory means the removal of Russian troops from sovereign Ukrainian land.

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