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Economic Sanctions: Evolution, Consequences, and Challenges

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Many countries responded to Russia's invasion of Ukraine in February 2022 by imposing a wide range of economic sanctions on Russia and by escalating their use over time. These sanctions, which are among the most extensive ever imposed on a significant economic power, have stirred a great deal of interest in sanctions as an instrument of foreign policy and in what we know about when and how they work. We will define sanctions as "restrictive policy measures that one or more countries take to limit their relations with a target country in order to persuade that country to change its policies or to address potential violations of international norms and conventions" (Morgan, Bapat, and Krustev 2009; Syropoulos et al. 2022). Sanctions can serve many purposes and take many forms. Sanctions have been used to promote democracy, further human rights, combat terrorism and nuclear proliferation, destabilize regimes, and hasten the end of military conflicts. Sanctioning states commonly seek to curtail trade or foreign aid with the target state, but they can also restrict travel, freeze assets, and deny access to financial institutions by specified individuals or groups.

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This essay will focus on patterns of and lessons about economic sanctions since 1950. To aid our analysis, we will rely on data from the third release of the Global Sanctions Data Base (Syropoulos et al. 2022), covering 1,325 sanction cases during the period 1950–2022. A sanction case is defined for each year in which there is an active sanction imposed by a sanctioning state ("sender") on a sanctioned state ("target"), with senders and targets usually being individual countries or, especially in the case of senders, groups of countries, including international organizations (like the European Union or the United Nations).

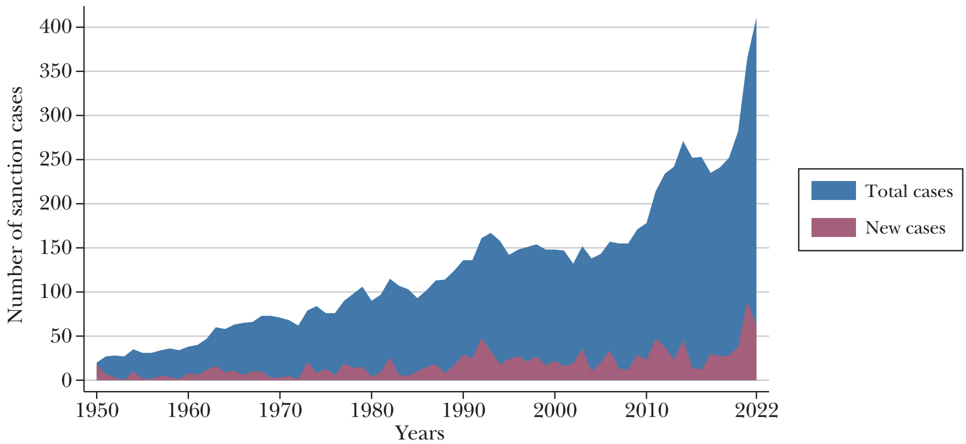
Consistent with the salient features and evolution of sanctions, the Global Sanctions Data Base identifies sanction cases on the basis of three distinct characteristics/dimensions related to type, sender, and objective. For example, cases are classified according to six sanction types: trade sanctions, financial sanctions, travel restrictions, arms sanctions, military assistance sanctions, and "other" sanctions, which do not fall into any of the main categories. There are nine sanction objectives, including changing policy, destabilizing regimes, resolving territorial conflicts, fighting terrorism, preventing war, ending war, restoring and promoting human rights, restoring and promoting democracy, and other objectives. Finally, for all sanctions that have been terminated/lifted, the Global Sanctions Data Base assigns a success score that corresponds to each sanction objective and varies from "total success" to "partial success", "settlement," and "failure."[1]

While, as we discuss below, there have been changes in the patterns of sanctions use over time, one trend stands out: there has been a phenomenal increase in the use of sanctions as an instrument of foreign policy since the end of World War II. Figure 1 highlights the steady increase in sanctions use over the past 70 years—there are roughly ten times as many active sanctions per year now as in 1950. Moreover, while a relatively small number of countries initiate the imposition of sanctions (the "primary senders"), often these sanctions trigger the imposition of countersanctions, or some other form of retaliatory response(s), with repercussions on nearly every state in the international system. In the next section, we trace some of the historical patterns in the use of sanctions. We will suggest that many of these patterns can be linked to evolving features of the international political and economic system.

Along with the rapid growth in the use of sanctions, research into sanctions processes has expanded in recent decades. One of our objectives in this essay is to identify some of what we know about the use of sanctions and about their effectiveness as instruments of foreign policy. An interesting aspect of this research is that

[1] The Global Sanctions Data Base is constructed from publicly available sources and cross-checked against other databases. Two prominent examples are the Hufbauer-Schott-Elliott sanctions database, (Hufbauer, Schott, and Elliott 1990; Hufbauer et al. 2007) and the Threat and Imposition of Economic Sanctions (TIES) database (Morgan, Bapat, and Krustev 2009; Morgan, Bapat, and Kobayashi 2021) which also includes sanction threats. For definitions, examples, and additional details on the Global Sanctions Data Base, see Felbermayr et al. (2020), Kirilakha et al. (2021), and Syropoulos et al. (2022). The Global Sanctions Data Base is freely available to researchers, although access must be requested by email at GSDB@drexel.edu. Details are available at http://www.globalsanctionsdatabase.com/.

Figure 1
Evolution of Sanction Cases, 1950–2022



Source: The figure is produced by the authors with the full sample from the third release of the Global Sanctions Data Base.
Note: This figure displays the evolution of existing and new sanction cases (of any type) over the period 1950–2022. The coverage stops before the middle of 2022.

economists often evaluate sanctions based on their economic effects, while political scientists often evaluate sanctions based on whether the ultimate goals of the sanctions are achieved. We suggest a need to bring these perspectives together if we are to continue improving our understanding.

One pattern that emerges from our investigation into the changing patterns in the use of sanctions is that contemporary sanctions policies are quite different from those adopted in earlier decades. Recent uses emphasize, to a much greater extent, the necessity of designing sanctions to target key individuals, companies, or sectors (for example, "smart" or "targeted" sanctions including financial and travel sanctions) rather than using sanctions as a blunt instrument designed to harm the entire target nation (for example, trade sanctions). Our theoretical and empirical understanding of sanctions has not kept up with these changes. Finally, an important contribution of this essay is that, in the conclusion, we lay out some of the new questions being raised by contemporary sanctions policies that need to be addressed in future research.

Evolution of Economic Sanctions, 1950–2019

Although our focus in this section is on the use of economic sanctions since 1950 and on the possible lessons we can draw from studying their patterns over time, we would be remiss if we did not note that debates over the merits of economic sanctions as an instrument of foreign policy have existed for at least 2,500 years.

One of the first (if not the first) recorded instance of economic sanctions can be found in the Megarian Decree (circa BCE 432), by which Athens barred trade with Megara and denied the Megarians access to Athenian ports. Ostensibly, this action was taken as a diplomatic measure against the Megarians for having cultivated Athenian land and killing an Athenian herald. The Megarian Decree is viewed by many as a trigger, if not a major cause, of the Peloponnesian War that followed. One view is that these sanctions were a way of imposing costs on the Megarians without having to resort to war, in which case the sanctions failed to achieve their goal. On the other side, many believe that Pericles persuaded the Athenians to adopt the Megarian Decree precisely because he intended to foment war (Kagan 1969; MacDonald 1983), in which case they would count as a success in achieving a dubious goal.

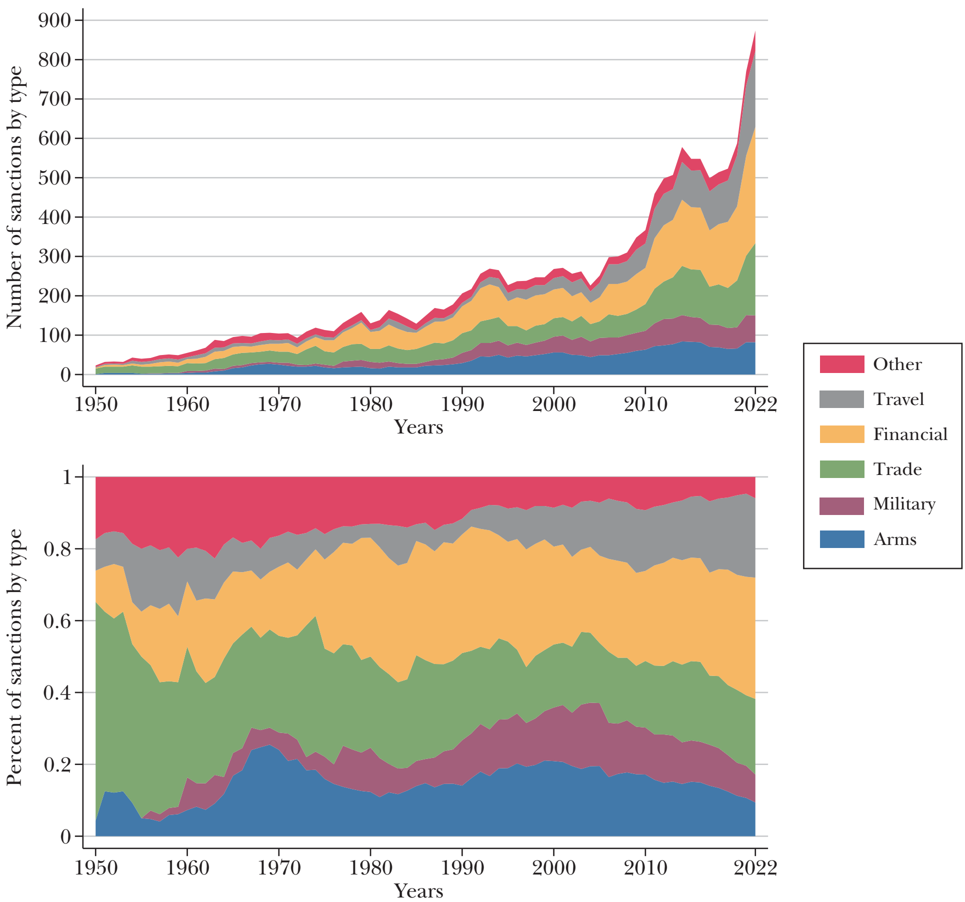
In the aftermath of World War I, there was broad interest in the use of economic sanctions as an alternative to war. However, the two best-known examples of sanctions from this time had questionable results as well. In one example, the League of Nations imposed sanctions on Italy in 1935 in response to its invasion of the Abyssinia region of Ethiopia. At that time, however, Italy was viewed as a counterweight for Nazi expansionism in Germany, which made countries like Great Britain and France unwilling to administer such sanctions. Ultimately, these sanctions are deemed to have been a colossal failure that undermined the standing of the League. In the second example, the United States imposed severe trade restrictions on Japan to discourage Japanese military conquests in East Asia. Instead, these sanctions contributed to the Japanese decision to widen the war by attacking Pearl Harbor in 1941 (Boudreau 1997; Hosoya 1968; Russett 1967)—another case of sanctions preceding military conflict, rather than being substituted for it.

The dramatic increase in the use of sanctions in recent decades is the result of a steady acceleration that began after World War II. There have also been significant changes in the purposes to which sanctions have been applied, in the types of sanctions used, and in the international actors who have imposed sanctions. Here, we outline some of these changes and associate them with significant events in the international political and economic system. To organize the discussion, we identify four eras, but this taxonomy is largely for convenience. We do not intend to imply that there were precise dates and sharp changes in sanctions usage.

Early Cold War: 1950–1975

During this period, close to one-third of the implemented sanctions were imposed by the United States acting unilaterally. Because the United States also played a key role in many of the sanctions imposed by the United Nations and by ad hoc multilateral coalitions, it was, by far, the most prolific sanctioner and thus largely responsible for the expansion in the use of sanctions. Figure 2, which shows the type of sanctions imposed, and Figure 3, which displays the purpose of sanctions, guide our discussion of the evolution of sanctions. About 60 percent of the sanctions in the early 1950s were trade and arms embargoes. These sanctions were most commonly applied to destabilize political regimes or to influence the

Figure 2
Evolution of Sanctions by Type, 1950–2022

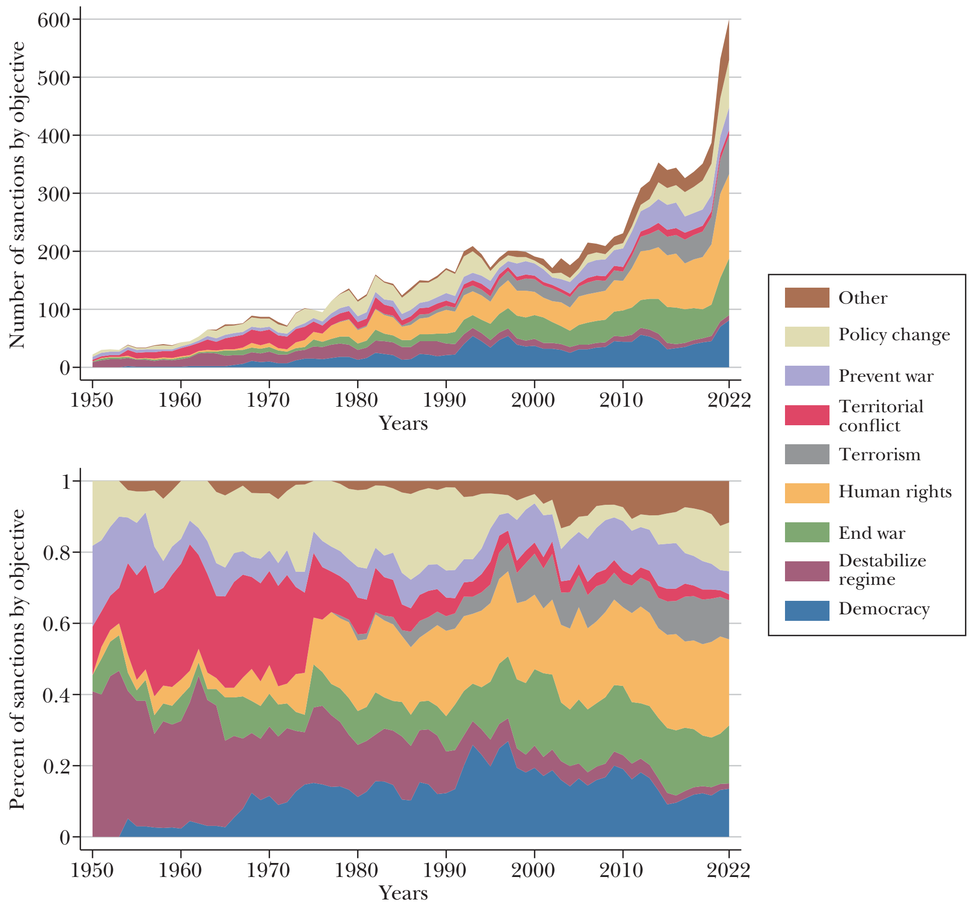


Source: The figure is produced by the authors with the full sample from the third release of the Global Sanctions Data Base.
Note: This figure displays the evolution of sanctions depending on their type over the period 1950–2022. The coverage stops before the middle of 2022. The top panel depicts the evolution of the number of sanctions in levels, while the bottom panel presents the same relationship as percentage shares. The range on the y-axis of this figure is longer as compared to the range in Figure 1 because some sanction cases include more than one type of sanction. We refer the reader to Felbermayr et al. (2020) and Syropoulos et al. (2022) for definitions and examples for the alternative types of sanctions.

direction of military conflict (either by pressuring combatants to end fighting or in support of senders' territorial claims).

During this period, the recent experience of World War II reinforced the desire for an alternative to military force. Hirschman's seminal *National Power and the Structure of International Trade* (1945) provided the theoretical basis for believing sanctions could provide that alternative. Hirschman argued that trade significantly

Figure 3
Evolution of Sanctions by Objective, 1950–2022



Source: The figure is produced by the authors with the full sample from the third release of the Global Sanctions Data Base.
Note: This figure helps visualize the evolution of sanctions depending on their objective over the period 1950–2022. The coverage stops before the middle of 2022. The top panel depicts the evolution of the number of sanctions in levels, while the bottom panel presents the same relationship as percentage shares. The range on the y-axis of this figure is longer as compared to the range in Figure 1 because some sanction cases include more than one objective. We refer the reader to Felbermayr et al. (2020) and Syropoulos et al. (2022) for definitions and examples for the different sanction objectives.

improves economic well-being for all, but that it also creates asymmetrical power relationships; that is, when states are interdependent through commerce, the less dependent nation may use restrictive trade policies to enhance its power by gaining leverage in disputes over other issues. Many high-income nations had a substantial share of their productive capacity destroyed by World War II, with the US economy being a notable exception. In addition, soon after the end of World War II, the Cold War between the Soviet Union and the United States became the defining feature of international politics, and the United States frequently used sanctions in support of its Cold War policies (Barber 1979).

Considering these factors, it is not surprising that sanctions in this period were largely a tool used by the United States, that trade sanctions and arms sanctions remained the "weapons" of choice, and that sanctions were often used in efforts to bring about regime change. The US sanctions on Cuba, in effect to this day, are a prominent example. The United States also frequently imposed sanctions on the Soviet bloc countries of Eastern Europe; it resisted allowing China to integrate into the global economy; and it often sanctioned countries that it perceived to be "going communist."

Late Cold War: 1975–1990

By the early 1970s, Western Europe and Japan had largely recovered from World War II and began to challenge the economic hegemony of the United States (Blum 2003; Mastanduno 2019). What was then called the European Economic Community (EEC) was beginning to realize its promise of allowing its members to act with a single voice. Although the United States remained the single largest economy in the global system, a number of economic "shocks" (such as the unilateral decision by President Richard Nixon to allow the exchange rate of the US dollar to float and the OPEC oil embargo of 1974–1975, which led to higher oil prices that buttressed Soviet power and likely to increased aggressiveness elsewhere in the world) highlighted the United States's growing vulnerabilities. Politically, the United States was weakened by its long and unsuccessful war in Vietnam. The US public was less willing to use military force and the United States had lost some of its standing as a proponent of democratic values and human rights (Eichenberg 2005; Jentleson and Britton 1998). In much of the world, coercive dictatorships and military juntas had replaced earlier colonial governments and fledgling democracies. During this time, the Cold War was in a period of détente between the United States and the Soviet Union, the most notable exception being in the aftermath of the Soviet invasion of Afghanistan—which was met with significant economic sanctions. Furthermore, a number of guerrilla organizations (such as the Baader-Meinhof gang in West Germany, the Red Brigades in Italy, and the Symbionese Liberation Army in the United States) began using terrorist tactics.

The effect of these factors can be seen in the changing patterns of sanctions use in Figures 2 and 3. The acceleration in the use of sanctions continued, and the United States remained the single most frequent sender. Notably, the International Emergency Economic Powers Act of 1977 provided the US president with broad authority to regulate a variety of economic transactions following a declaration of national emergency. Indeed, this law became the "all-purpose" statute for US sanctions, and the frequent use of economic sanctions by the United States was at odds with customary international law at the time (Hufbauer 1998).

However, the Europeans also began to emerge during this period as coordinated sanctioners.

Throughout the period, trade sanctions continued to be used consistently, but this became a smaller proportion of the overall total—a steady increase in the use of financial and military types of sanctions had already begun. While the use of sanctions for regime destabilization continued at a fairly constant rate, there were the beginnings of a dramatic increase in the use of sanctions for the purpose of protecting human rights. By the end of the period, sanctions were being used extensively to combat international terrorism (see also Elliott and Hufbauer 1999; Hufbauer and Moll 2007; Choi and Luo 2013; Zanchetta 2016).

Post-Cold War: 1990–2000

In the 1990s, a great hope emerged that the global polity was on the brink of a "New World Order" in which democracy and liberal economic relationships would spread, interstate war would be (largely) a thing of the past, and international organizations would manage conflict and structure cooperation (Barnett 1997). In the early 1990s, the Cold War came to an abrupt end with the collapse of the Soviet Union, and a wave of democratization swept much of the globe. Iraq's invasion of Kuwait in August 1990 was met by an unprecedented level of international cooperation, which increased the esteem and strengthened the position of multilateralism, especially through international organizations such as the United Nations. The United States adopted the policy of fully incorporating China in the international economic system (Jacobson and Oksenberg 1990). On the economic side, the 1992 Treaty of Maastricht, which created the European Union, set Europe on the path of even greater economic coordination. In 1995, the World Trade Organization superseded the 1947 General Agreement on Tariffs and Trade (GATT), regularizing trade relationships even further, but also making it more difficult to apply trade sanctions (Charnovitz 2001; Mitchell 2017).

Of course, narratives are never this simple. In retrospect, seeds of opposition were also planted. International terrorist organizations, notably Al Qaeda, began to gather strength. At the same time, there was backlash and protests against globalization. These forces would become especially prominent after 2000.

During the 1990s, the frequency with which sanctions were used remained fairly constant at historically high levels and the 1990s became known as the "sanctions decade" (Cortright and Lopez 2000), although they were but a hint of what was to come. Some changes can be noted, however. Most obviously, there was no expansion (and perhaps a contraction) in the overall use of trade sanctions. However, there was an increased use of financial sanctions and, especially, sanctions involving arms transfers. In terms of the issues over which sanctions were imposed, this period saw a significant reduction in the use of sanctions to bring about regime change and significant increases in the use of sanctions to promote democracy and human rights. Most notably, while many sanctions were still imposed unilaterally, the proportion of sanctions imposed multilaterally increased substantially, with the United Nations and the European Union greatly expanding their use.

Post-9/11: 2001–Present

The terrorist attacks of September 11, 2001, in the United States unleashed two decades of war. This period also witnessed a turn away from democratization and a turn toward nationalism. More recently, the world has also experienced major economic upheaval following the financial crisis of 2008 and the global pandemic. Once again, we are experiencing an interstate war in Europe, which has triggered the most substantial sanctions ever imposed on a relatively strong economic power.

As shown in Figure 1, the increase in the use of sanctions for a decade or so after 2001 was unprecedented.[2] This increase has been largely in the form of financial, travel, and other sanctions targeting specific individuals and enterprises. While the use of sanctions to promote human rights has continued to rise, their use to promote democracy has leveled off. Sanctions have rarely been used to bring about regime change in this period, but their use to combat international terrorism has increased substantially.

Several factors have been instrumental in fostering these changes. First, the increased reliance on targeted sanctions followed on the heels of theoretical advances suggesting they should be more effective (Cortright and Lopez 2002; McGillivray and Stam 2004; Bapat et al. 2013; Peksen 2019). Second, the United States enacted a number of changes to its laws that make it much easier to impose and enforce financial sanctions (Hufbauer and Moll 2007). In its effort to undermine the activities of terrorist organizations, the United States now requires financial institutions to track and report financial transactions. This has induced the United States to target sanctions at specific firms and individuals and to push much of the enforcement of these sanctions onto financial institutions. The United States has also asserted extraterritorial jurisdiction over foreign entities that conduct business in US dollars and/or route payments through US financial institutions (Hufbauer and Jung 2020). Additionally, the United States has imposed secondary extraterritorial sanctions; that is, sanctions on enterprises, including foreign companies, for doing business with entities on its sanctions list. Third, the extraordinary advances in information technology have made it possible to process information on the vast number of financial transactions that occur on a daily basis. While we have theoretical reasons to believe these changes in sanctions design should make sanctions more effective and reduce the harm on innocent civilians, as we discuss in the next section, we do not yet have the ability to assess systematically whether this promise is being realized.

[2] We note that the data suggest there has been a sharp increase in sanctions during the past three years. It is too soon for us to draw conclusions about, or from, this. In addition to the many sanctions normally imposed by the European Union and the United States, a large number of the recent cases involve Great Britain (acting as an individual sender due to its separation from the European Union), and Russia and Belarus (as targets due to the use of military force in Ukraine).

The Economic Impact and Political Success of Sanctions

Almost all of the research on sanctions has focused on questions regarding their effectiveness as an instrument of foreign policy.[3] However, economists have tended to interpret "effectiveness" in terms of the economic damage that sanctions cause, while political scientists have considered sanctions "effective" only if they achieve their declared political objectives. The dividing line between sanction "effectiveness," "success," and "impact" is further blurred by the possibility that some issues are "fake"—in the sense that the overt political demands are intended only to provide cover for another agenda (Hufbauer and Jung 2020). In addition, it is difficult to determine "success" when political objectives shift over time. In a recent example, sanctions were first imposed on Russia to dissuade it from invading Ukraine in 2022. But when sanctions failed to achieve that purpose, new purposes emerged: to punish Russia for its invasion; to provide indirect support to Ukraine to fight back against the invasion and induce Russia to end the war; and, in the words of US Secretary of Defense Lloyd Austin, to weaken Russia "to the degree that it can't do the kinds of things that it has done in invading Ukraine" (as reported by Ryan and Timsit 2022).

To minimize ambiguity, we maintain the following distinction in terminology: (1) "economic impact" (or just "impact") will refer to the economic damage and costs of sanctions, and (2) "political success" (or just "success") will refer to sanctions' capability to achieve their announced political objectives. At the most basic level, our understanding of sanctions processes suggests that these notions of effectiveness are connected and that both are important: sanctions are intended to impose economic costs on the target who is supposed to be persuaded to alter its behavior in order to avoid paying those costs. However, it seems unwise to presume either that significant impact leads to success or that lack of success implies little previous impact. Furthermore, advances in our understanding of sanctions processes require that we account for the interconnections between these disciplinary differences.

Economic Impact of Sanctions

Broadly speaking, economists have concluded that sanctions produce significant economic impacts. These sanction effects can arise directly through their impact on the target country. They can also arise indirectly through reciprocal sanctions aimed back at the primary sanctioner, as well as through third party nations. We now consider each of these three main actors in turn.

The primary focus of most of the empirical literature on sanctions has been on how sanctions affect target states. To quantify these effects, scholars have used different datasets and a variety of econometric methods. Four general conclusions

[3] Interestingly, almost none of the research on the use of military force has addressed the question of whether states that use military force actually achieve their objectives. Instead, researchers in this area have been more interested in determining the conditions that lead to the deployment of force.

have emerged in the related literature.[4] First, the impact of sanctions on various economic agents (firms and individuals), sectors, and specific activities in target states has been negative and significant. Second, economic sanctions have had strong negative effects on the overall performance of the sanctioned states—including trade, foreign direct investment, growth, poverty, and political stability. Third, the effects of sanctions on economic development, trade flows, foreign direct investment, and growth are long-lasting and often persist even after sanctions are lifted. Fourth, the effects of sanctions can be very heterogeneous depending on their type (for example, trade versus financial sanctions or complete versus partial sanctions), on whether they are imposed unilaterally or multilaterally (for example, UN versus US sanctions), and on the specifics of individual cases. Thus, models that impose common sanction effects across the various sanction dimensions noted earlier often mask the presence of very significant heterogeneity.

Often, to mitigate the adverse effects of sanctions, sanctioned states take actions to redirect their international trade and investment flows toward third countries, "shield" certain economic agents (often large firms perceived as "vital" to national interests), form alliances with "friendly" third countries and, as is the case with Russia in 2022, retaliate against their sanctioners. It is difficult to identify, based on official documents, whether certain sanctions are retaliatory. However, an inspection of the Global Sanctions Data Base reveals that the number of retaliatory sanctions is very small: often, they are best regarded as symbolic statements.

From a methodological perspective, many studies aiming to estimate the impact of sanctions on target states face problems of endogeneity in the following sense: events that instigate the sanctioning of target countries—for example, civil or interstate conflicts or violations of human rights—may also shape the economic effects we observe. Surprisingly, much of the extant literature has bypassed this issue. Gutmann, Neuenkirch, and Neumeier (2020) and Kwon, Syropoulos, and Yotov (2022a) are recent exceptions. Capitalizing on certain dimensions of sanctions, these studies have addressed the issue of endogeneity; for example, by considering flexible instruments related to laws and regulations in sanctioning states that are independent of events in sanctioned states. It is important for future studies of the effects of sanctions to recognize the endogeneity problem and tackle it directly, either with existing methods or with new strategies.

So far, interest among academics in the impact of economic sanctions on *senders* has been limited, perhaps because this impact tends to be relatively small. A possible explanation for relative disinterest may rest in the fact that the economies of most sanctioning states are considerably larger than the economies of the targeted states, which tends to weaken *bilateral* economic dependence. Moreover, in most cases, senders that are threatened with reciprocal countersanctions can divert economic activity toward third, nonsanctioned states. In addition, senders may design and/or

[4] We refer the reader to Felbermayr et al. (2021) and van Bergeijk (2021) for a review and a compilation of recent applied work on the economic impact of sanctions, respectively. For a more extensive set of references, see Morgan, Syropoulos, and Yotov (2022).

implement sanctions with a view toward minimizing, or at least mitigating, the possibly adverse impact of sanctions on their constituencies. The current sanctions on Russia are a prominent example: some countries decided not to impose sanctions on it, and others failed to enforce their declared sanctions fully. Naturally, sender efforts to minimize their own costs raise deep questions about the effectiveness, enforcement, and credibility of their sanctions policies (Lektzian and Sprecher 2007).

Despite the eagerness and ability of senders to minimize the negative impact of sanctions on their own economies, recent quantitative analyses provide some evidence for the presence of such negative effects due to significantly decreased economic activities between senders and targets (Besedeš, Goldbach, and Nitsch 2021). Nonetheless, these effects do not translate into a significant impact on senders due to several factors, including the intensified economic relationships among sanctioning and nonsanctioned countries (often called "trade diversion"), the disproportionate size between the primary sanctioners and targeted states, and the possible backsliding by some sender countries in a sanctioning coalition. Thus, consistent with the earlier literature (for example, Farmer 2000), recent evidence suggests that the impact of sanctions on sender states tends to be small and short-lived. However, this does not necessarily imply that the costs of sanctions to senders would be small if the targets are economically large and powerful.

Notwithstanding the limited impact of sanctions on senders, we see several promising directions for future work in this area. First, from a methodological perspective, the ability of senders to select an optimal mix of sanction tools and to design sanctions in a way that maximizes the economic damage on targets while minimizing the cost on the senders should be a key feature of theoretical models on sanctions. A second direction that may be interesting to explore, both theoretically and empirically, is related to the possibility that senders may issue "fake" sanctions based on political pronouncements aiming to camouflage their economic motives. Thus, the imposition of sanctions may be intended to provide gains for the sender rather than to fulfill the declared political objectives of sanctioning. This story is also consistent with the notion that sanctions may be issued to serve the interests of specific interest groups (Kaempfer and Lowenberg 2007). Third, the cost of sanctions among members in coalitions of senders may be shared disproportionately. This suggests a role for the adoption of reliable redistributional mechanisms within sender coalitions aimed at sharing the burden of sanctions, with implications for improvements in the design, implementation, and effectiveness of multilateral sanctions.

In addition to affecting senders and targets, sanctions may also affect third countries. Although these effects have been examined by policymakers and covered extensively in the media, they have attracted relatively little attention in the academic literature. One can identify two distinct and opposing channels through which sanctions may affect third countries: (1) the "extraterritorial" channel, which is a direct channel that normally transmits an adverse effect on third countries; and (2) the "general equilibrium" channel, which is an indirect channel through which sanctions generate (usually) positive effects on third countries.

The intuition behind the general equilibrium effects of sanctions and their impact on third countries is familiar and easy to understand. Economic activities that are disrupted by sanctions can intensify commercial, financial, and other relationships with third countries that serve as a substitute for forgone business opportunities. For example, after the imposition of sanctions on Russia in 2022, imports of Russian oil by India and China soared. These effects can be quantified, because the economics literature has developed tools to capture such general equilibrium effects (Haidar 2017; Besedeš, Goldbach, and Nitsch 2021).

Usually, the general equilibrium effects of sanctions on individual third countries are small because the diverted activity is distributed among numerous nonsanctioned states. Some suspect, however, that the general equilibrium impact on a target could be large if it accumulates across all nonsanctioned states, thereby mitigating the intended sanction costs from the primary sanction effects. This is one of the main motives for "extraterritorial" sanctions, to which we now turn.

We define "extraterritorial" (or "secondary") sanctions broadly as penalties on individuals, companies, organizations, and other entities from nonsanctioned countries due to their engagement in activities like trade, investment, or other business activities with a sanctioned state.[5] Prominent recent examples of such sanctions are the US threats and actions toward the German companies that were involved in the construction of the Nord Stream 2 natural gas pipeline running from Russia to Germany. Extraterritorial sanctions and their effects have been addressed in the popular press and in policy reports. Ample anecdotal evidence suggests that these effects exert a direct negative impact on nonsanctioned countries, which often view these actions as "forced" and/or "illegal" (Meyer 2009; European Commission 2021).

Despite the attention paid to the extraterritorial effects of sanctions by the media and policy analysts, the related academic literature is relatively scarce. Moreover, most of the existing studies are descriptive and offer limited qualitative evidence for the extraterritorial sanction effects (Gordon 2016). Several recent theoretical and quantitative studies offer evidence that extraterritorial sanctions cause significant additional economic damage to targeted countries, thereby contributing to the political success of sanctions (Han 2021; Kwon, Syropoulos, and Yotov 2022b). Nevertheless, in light of the importance of extraterritorial sanctions to sound policymaking and their role as a salient determinant of sanctions success (Early 2021), more work is needed to quantify their effects.

Overall, economists have concluded that economic sanctions can have significant, predictable, and often long-lasting effects on targets. Given our general

[5] In the popular media, "secondary sanctions" is often used as a synonym for "extraterritorial sanctions." However, there are important differences between these terms: "secondary" sanctions are aimed at entities that are not directly related to the sanctioning states, while "extraterritorial" sanctions are aimed at entities that are affiliated with the sanctioners but operate in nonsanctioned countries. In practice, the line between these terms is often blurred. To simplify exposition, we use the term "extraterritorial" sanctions in a broad sense to include sanctions on sender entities that operate abroad as well as sanctions on nonsender entities.

intuition regarding sanctions processes, this might lead us to expect sanctions to be an effective instrument of policy. Yet that is not what political scientists have generally concluded.

Political Success of Sanctions

Political scientists have long debated on whether sanctions "work" in the sense of achieving their stated goals. Early research was largely focused on prominent cases, such as the US sanctions on Cuba or the League of Nations sanctions on Italy mentioned earlier, and generally came to the conclusion that sanctions do not bring about significant changes in target state policies (Galtung 1967; Hoffmann 1967; Doxey 1972). However, it was quickly recognized that this work suffered from a severe selection bias—the reason that the cases under study were "prominent" was precisely because they failed. Early statistical analyses based on the well-known Hufbauer, Schott, and Elliott (1990) dataset indicated that sanctions achieve their political objectives in about one-fourth to one-third of the cases.

Much of the research into sanctions conducted by political scientists has focused on a puzzle: if sanctions seldom "work," then why do they continue to be applied, and at an increasing rate? Several broad approaches have been taken to address this puzzle. First, some argued that although sanctions seem ineffective at achieving their stated objectives, they may be relatively effective in achieving their "true" objectives. For example, some sanctions may aim to support domestic interests (Kaempfer and Lowenberg 2007), while others may aim to serve symbolic (Lindsay 1986) or signaling (Schwebach 2000) purposes.

Second, several theoretical arguments suggest that sanctions should not be expected to achieve their objectives except under very specific conditions (Morgan and Schwebach 1997). For example, Wagner (1988) posited that if we applied bargaining theory to the agreements that produced the economic exchanges that sanctions disrupt, we would conclude that sanctions should, in most cases, harm the sender as much as they harm the target. In other words, the leverage provided by sanctions cuts both ways. Morgan, Bapat, and Kobayashi (2021) offer evidence suggesting that sanctions often "work" at the threat stage; consequently, successful sanctions might not actually be imposed.[6]

Third, even in their worst light, sanctions have been shown to be effective in a modest fraction of cases. Even a 25 percent success rate for sanctions may be considerably higher than doing nothing, and the costs may be substantially lower than other alternatives, like overt military interventions. Perhaps the "sanctions glass" should be viewed as one-quarter full, not three-quarters empty.

Finally, it may be possible to identify specific factors that lead to increases in the costs that sanctions impose on targets and thus to determine when sanctions have been ineffective and how to make them more likely to be effective. For example,

[6] This argument led to the development of the Threat and Imposition of Economic Sanctions (TIES) data set. For data and details on the imposition of sanction threats, we refer the reader to Morgan, Bapat, and Krustev (2009) and Morgan, Bapat, and Kobayashi (2014; 2021).

Attia, Grauvogel, and von Soest (2020) suggest that poor economic health and high political volatility in targets are important determinants of sanctions success. Others have found that the extent of the interrupted economic relationship is a significant factor in sanctions success (Bapat et al. 2013). Moreover, the availability of sanctions busters, or "Black Knights," can enable targets to avoid significant costs (Early 2011). Relatedly, multilateral sanctions, especially when imposed under the auspices of an international organization, increase target costs relatively more than unilateral sanctions (Martin 1992; Bapat and Morgan 2009; Early 2021). Finally, sanctions are more likely to be effective when imposed on democracies than when imposed on autocracies, because democratic governments are more susceptible to costs felt by their populaces (Allen 2008; Lektzian and Souva 2007).

However, all of the above findings appear quite sensitive to model specification (Bapat et al. 2013). Indeed, given alternative models and specifications, the weight of the evidence might even turn against these findings (Demena et al. 2021).

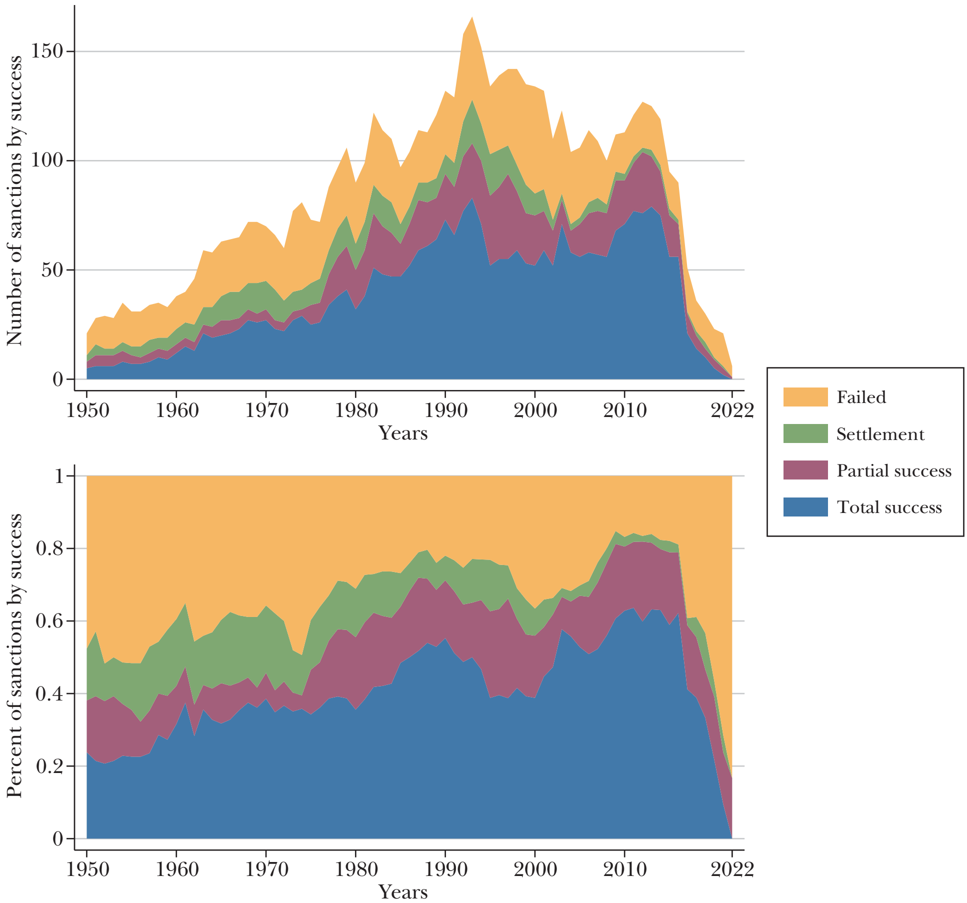
One important issue is that studies of the success of sanctions face endogeneity problems, just like studies of their economic impact. For example, senders control aspects of the design of sanctions including what sanctions are imposed (say, trade bans, asset freezes, and retraction of foreign aid) and the issues or demands to be met for lifting the sanctions (for example, ending war or improving human rights). Given that these choices are intertwined, it might be difficult to separate the effect of sanctions from the intractability of the underlying issues. Some studies suggest that endogeneity effects are serious in this body of work. For example, Morgan (1995) showed with multinational data over several decades that a threat of minor sanctions could be more effective than a threat of major sanctions if the accompanying demands were properly scaled. Similarly, Biersteker and van Bergeijk (2015) confirm that the success rate is higher for sanctions with narrowly defined goals and for sanctions that are accompanied by additional policy instruments.

Simple analysis based on the Global Sanctions Data Base provides additional insight. This data recognizes that sanctioners often have multiple goals and assigns a separate success score (varying from "total success" to "partial success," "settlement," and "failure") to each sanction objective.[7] This classification is based on information from official government statements or indirect confirmations in international press announcements, which indicate whether sanction objectives have been achieved.[8] The top panel of Figure 4 traces the evolution over time of the number of sanctions by success, while the bottom panel transforms these same numbers to percentage terms. Since some sanctions include more than one

[7] The Global Sanctions Data Base classifies an outcome as "settlement" when the sanctioning and sanctioned parties agree to settle a conflict with negotiations. The final success of the initial policy objective remained unclear, however, after sanctions were lifted. We refer the reader to Felbermayr et al. (2020) for detailed definitions and examples of the different success categories.

[8] Admittedly, there is still an element of subjectivity, especially for the two middle categories. Hufbauer and Schott (1985), Hufbauer, Schott, and Elliott (1990), and Hufbauer et al. (2007) offer more detailed classifications of sanction success for a small fraction of the cases included in the Global Sanctions Data Base.

Figure 4
Evolution of Sanctions by Success, 1950–2022



Source: The figure is produced by the authors with data from the third release of the Global Sanctions Data Base.
Notes: This figure illustrates the evolution of sanctions depending on the success of reaching their individual political objectives, 1950–2022. The coverage stops before the middle of 2022. Since some sanctions include more than one objective, success is defined for each individual objective. Ongoing sanctions are not included in the data used to construct these figures. The top panel depicts the evolution of the number of sanctions in levels, while the bottom panel presents the same relationship as percentage shares.

objective, success is defined for each individual objective. Several patterns emerge from this figure.

First, in the top panel of Figure 4, we see that the number of sanctions whose objectives are defined as "successfully met" increased steadily until the early 1990s, when it reached a peak. It reached another peak around 2013 and has fallen since then. It seems that the drop in the number of successful sanctions is particularly pronounced during harder economic times (like the recessions in the early and late 2000s or the recent COVID period). Second, consistent with the earlier literature that argued sanctions do not work (Galtung 1967; Pape 1997; Hufbauer et al. 2007), the bottom panel of the figure reveals that the share of "successful" sanctions is relatively small—about 42 percent on average. Third, despite some slowdowns (for example, during the late 1990s and early 2000s), the share of successful sanctions has increased continuously over time, until 2016, suggesting that sanctions have become more effective in recent years. One possible explanation is that the effectiveness of sanctions has improved due to significant learning effects in their application (Early 2021). Finally, the share of sanctions that successfully reached their objectives decreased dramatically in recent years, a period coinciding with the Trump presidency and COVID.

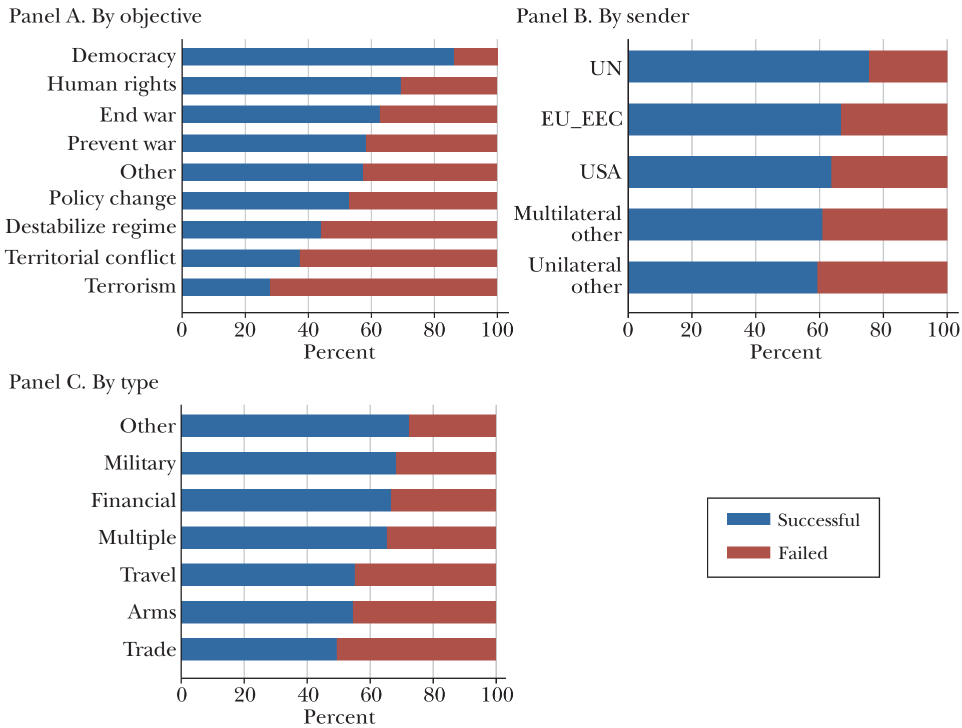
Figure 5 depicts the success of sanctions across three dimensions—objective, sender identity, and type—and suggests three lessons. To simplify the analysis of sanctions success by objective, we transform the four success categories into a bilateral success index, which is defined as "success" if the corresponding success category in the Global Sanctions Data Base is "total success" or "partial success," and as "failure" if the corresponding success category is "settlement" or "failure." The top panel of Figure 5 suggests that the most successful sanctions are those that aim to improve democracy and human rights, while the least successful are those aiming at regime change, territorial disputes, and terrorism. The category "Other," which includes objectives that are not prominent enough to form a separate group, is also among the relatively successful categories. The explanation for their seeming success is that sanctions in the "Other" category most often aim to achieve very specific and tangible objectives (like ending drug trafficking, releasing imprisoned citizens, and fighting corruption).

As noted earlier, the Global Sanctions Data Base assigns a unique success category to each sanction objective. However, because some sanctions include more than one objective, it is not possible to assign unique success categories by sanction case, sender, or type of sanction. Therefore, to analyze sanction success by sender and by type of sanction, we construct a simple composite success score index. Specifically, we first assign values ranging from one to four to the original categories of failure, settlement, partial success, and total success, respectively. Then, for each sender or sanction type, we take the average across the corresponding success scores.[9]

To obtain the results in panel B of Figure 5, we distinguish between multilateral and unilateral sanctions based on whether there are one or more senders involved in a particular case. Moreover, given their prominence as sanctioners, we isolate US sanctions from other unilateral sanctions, EU sanctions, UN sanctions, and other

[9] The vast majority of sanction cases in the Global Sanctions Data Base (95 percent) only have one or two objectives. Moreover, in cases with two objectives, only a small subset of them (less than 10 percent) has success categories running in opposite directions; for example, partial success for one, but failure for the other. The results we present remain qualitatively intact if we drop all cases with success categories in the opposite direction.

Figure 5
The Determinants of Sanction Success



Source: The figure is produced by the authors with data from the Global Sanctions Data Base.
Notes: This figure displays the relationship between sanction success and various sanction characteristics. Panel A depicts the success of sanctions depending on their objectives and relies on a binary success score measure as described in the main text. Panels B and C describe sanction success by sender and by type of sanction, respectively. See text for further details on the success score indexes used in panels B and C.

multilateral sanctions. Panel B unveils several intuitive findings. Sanctions imposed multilaterally are more likely to be successful than sanctions imposed unilaterally, especially when an international organization is involved.[10] Moreover, sanctions

[10]The importance of multilateral organizations in the success of sanctions has been recognized in the literature. Drezner (2000, p. 75) notes: "International organizations can turn fragile agreements to cooperate into a robust coalition by enforcing a previously agreed-on equilibrium . . . by acting as a coordinating mechanism for reassurance and information, enabling governments to resist domestic pressures, and providing side payments to increase the value of continued cooperation." Bapat and Morgan (2009, p. 1975) subject the most prominent arguments against the multilateral approach to empirical scrutiny and conclude that ". . . multilateral sanctions do appear to work more frequently than do unilateral sanctions [depending] . . . on whether an international institution is involved." The result that EU sanctions are less successful than UN sanctions is consistent with Besedeš, Goldbach, and Nitsch

imposed by the United States have been more successful than other unilateral sanctions.

Turning to the success of sanctions by sanction type, which are presented in panel C of Figure 5, we see that smart/targeted sanctions (like financial and travel sanctions) are more likely to succeed than trade sanctions.[11] Recall from our discussion above that the more successful types have become more frequently used over time, while the less successful types have become less so. This shift could account for much of the increased overall success rate of sanctions (and would be consistent with an explanation based on learning effects).

Overall, the lessons that emerge from the analysis in this section do not seem altogether consistent. Sanctions do seem to cause significant economic damage to the targets across various dimensions. However, although it seems intuitively clear that economic damage and costs to the target states should be key factors affecting the probability for sanctions success, there is no robust evidence for a clear causal link between economic costs and the political success of sanctions. Moreover, while recent trends suggest the presence of an improvement in sanction effectiveness, overall sanctions are still not perceived as particularly successful policy tools.

Of course, we can suggest some possible hypotheses for the apparent inconsistency in these conclusions. For example, perhaps sanctions do cause economic harm, but often this harm may not be sufficiently strong to lead to political success. In addition, sanctions enforcement is often lax, to put it mildly (Morgan and Bapat 2003; Bapat and Kwon 2015). Comprehensive or secondary sanctions can impose significant costs on countries that wish to avoid those costs; indeed, many individual states do not have the infrastructure or capacity to detect, investigate, or prosecute sophisticated economic activities aimed at circumventing sanctions. Moreover, efforts to act through the United Nations and improve enforcement can be blocked by adversely affected actors. These issues might be addressed by improved design of sanctions and by more widespread international cooperation on enforcement, but the political obstacles to these steps should not be underestimated.

It might also be the case that we should judge the effectiveness of a sanctions policy in its totality, rather than the effectiveness of specific impositions of sanctions one at a time. We know that some targets back down when threatened, but senders must be willing to implement sanctions to maintain the credibility of their threats (Morgan, Bapat, and Krustev 2009; Bapat et al. 2013). In this scenario, the imposition of unsuccessful sanctions in some cases might be the price to achieving success by threats of sanctions in other cases. Moreover, we cannot know exactly how often human rights have *not* been violated or how many nuclear weapons have *not* been

(2017), while the finding that EU sanctions are more successful than US sanctions is consistent with Weber and Schneider (2020).

[11] The category "Other," which appears on the top of panel C, includes a small number of sanctions (see also Figure 2). Usually, these are diplomatic sanctions. Often diplomacy is restored in a relatively short time and once the main objective is achieved, at least to some extent. For example, diplomacy related sanctions are commonly imposed on African countries by other African countries due to civil wars or military coups. Diplomacy stops during coups, but is restored soon after.

tested because of implicit sanction threats. We clearly need better tools to test for the presence of links between the economic impact and political success of sanctions as well as improved methods to tackle the complexity in the evaluation of the sanction effects.

Future Questions and Challenges

The sanctions imposed on Russia in response to its invasion of Ukraine in 2022 are unprecedented in their scope and impact. This is the first time a large number of members of the World Trade Organization have imposed expansive and substantial punitive economic measures against another member.[12] For example, Russia's "most favored nation" treatment was revoked on the basis of a rule within the treaty (General Aggreement on Tariffs and Trade Article XXI) that permits members of the World Trade Organization to use trade restrictions to protect their "essential security" interests. Additionally, the sanctions on Russia aim to undermine its access to credit and debt, to limit the mobility of influential Russians and their assets, and to curtail exports to Russia of luxury goods and dual-use technologies/products of potential use to the military. Given the possibilities of evasion by private interests, "backsliding" by coalition partners, and "backfilling" by potential "spoilers" (such as China and India, whose impact, given their sizes and prominence in global affairs, may be significant), the United States also took steps to discourage misbehavior within and outside the coalition—for example, with threats of secondary sanctions for violators and promises to help alleviate the economic stress on allies facing limited supplies and rising costs of energy.

Will these sanctions significantly harm the Russian economy? Will they induce Russia to end its military actions against Ukraine? Will they discourage Russia (and, more broadly, other countries) from using military means to pursue geo-economic objectives in the future? Experience suggests that the sanctions will likely produce high and long-lasting economic costs on Russia, the sanctioning states, and several third countries. Moreover, the magnitude of future costs due to these sanctions is highly uncertain and potentially very large. However, these costs are unlikely to induce Russia to end its invasion, at least directly—although, to the extent that they inhibit Russia from resupplying its military, it is conceivable that sanctions may contribute to a battlefield success on the part of Ukrainian military forces.

We wish to end by raising several broader questions about the modern application of sanctions that are illustrated by the Russia-Ukraine experience, but which also arise more generally from the continued evolution of sanctions. The single

[12] While there is a certain similarity between Iraq's invasion of Kuwait in 1990 and Russia's invasion of Ukraine, as well as in the Western economic response in both cases, there are important differences. First, the size of Iraq's territory, military, and geo-economic power pale in comparison to Russia's. Moreover, Iraq was not a WTO member while Russia is, which complicates the West's economic response in the current case. In the end, the extraordinarily comprehensive sanctions of the United Nations failed to curb Saddam Hussein's aggression and military intervention was deemed necessary.

biggest trend in sanctions in recent decades is the extent to which essentially all countries in the world have become involved in imposing sanctions—given that members of the United Nations can be viewed as participating in sanctions. As the use of sanctions has become more widespread and sanctions have been imposed by various coalitions (such as the United Nations, the European Union, the African Union, and so on), a group of states that are targeted extensively by nearly all other states has emerged. This group, which in recent years included North Korea, Iraq, Afghanistan, and Iran, must now be amended to include another, more powerful nation: Russia. This situation raises questions that are likely to significantly shape future research on sanctions.

As a starting point, is the expanding use of sanctions creating security/defense threats as significant as those generated by increases in the destructive power of military weaponry? US Secretary of the Treasury Janet Yellen (2022) recently warned: "Going forward, it will be increasingly difficult to separate economic issues from broader considerations of national interest, including national security." To improve our understanding of sanctions and their effects, it is imperative that we develop models that account for the interconnections between military and economic security concerns. Analysis based on such models could seek to capture Hirschmann's (1945) insight, for example, that trade can serve as an instrument of power and may provide a workable foundation for developing valuable insights on the relationship between sanctions, military strength, and geopolitical objectives.

A nascent research effort along these lines is currently underway. The existing literature suggests that contest-based models may be fruitfully employed for this problem. Important contributions to this literature include Powell (1993), who builds a "guns-versus-butter" model to study the emergence of peace as a Markov perfect equilibrium, and Skaperdas (1992), Hirshleifer (1995), and Grossman and Kim (1995), who highlight the importance of incomplete property rights and operationalize conflict in general-equilibrium settings. Emphasizing the links between trade and security, Garfinkel, Skaperdas, and Syropoulos (2015) explore the importance of interstate competition over insecure resources (like territory) and show how trade, through its impact on product and factor prices, may affect the intensity of conflict and welfare. In similar spirit, Garfinkel, Syropoulos, and Yotov (2020) study how international trade among "large" trading partners and their political affiliates ("enemies" or "friends") condition their incentives to arm. Even more recently, motivated by Hirschmann's (1945) contribution, Garfinkel, Syropoulos, and Zylkin (2022) construct a dynamic model that captures the link between the gains from trade—which can be directed into arming and saving—to show how insecurity, conflict expectations, and the distribution of resources affect power and the expected gains from trade. A noteworthy insight of this work is that larger economies tend to experience an erosion of their security because their gains from trade (and thus their relative incentives to arm) tend to be relatively small. In a similar vein, Camacho et al. (2022) construct a general equilibrium model that explains how national security considerations may undermine countries' willingness to share or adopt military, dual-use, and civilian-use technologies. By shedding light on the links between economic and geopolitical interests, studies of this type may also help bridge the gap between the political science and economics scholarship on sanctions.

The rising importance of sanctions, with both economic and security consequences, also underscores the importance of understanding how targets respond to them. As a vivid example of the issues ultimately involved here, when the United States and Western Europe imposed sanctions on Russia in response to its annexation of Crimea in 2014, Russia responded with costly countersanctions which led many nations in the West to either remove their own sanctions or to undermine the coalition's sanctions through lax enforcement (Bapat and Kwon 2015). It is distinctly possible that Russian President Vladimir Putin expected a similar outcome prior to invading Ukraine in 2022. This scenario emphasizes a broader point: just as senders are experimenting with how to impose sanctions more effectively, targets are experimenting with how to respond.

Finally, as states seek to reduce their vulnerability to sanctions, what ramifications may arise for the international economic and political system? For example, when members of the World Trade Organization mix trade and security policies, as has been the case in the Russia-Ukraine crisis, the survival of WTO and the rules-based approach to policymaking may be at risk. Comments from prominent officials suggest that the United States and the European Union may already be moving away from global multilateralism toward cooperation with limited circles of friends. In Janet Yellen's (2022) words:

> [W]e need to modernize the multilateral approach we have used to build trade integration. Our objective should be to achieve free but secure trade. We cannot allow countries to use their market position in key raw materials, technologies, or products to have the power to disrupt our economy or exercise unwanted geopolitical leverage. So let's build on and deepen economic integration . . . And let's do it with the countries we know we can count on. Favoring the friend-shoring of supply chains to a large number of trusted countries . . . will lower the risks to our economy as well as to our trusted trade partners.

In similar spirit, Christine Lagarde (2022), President of the European Central Bank, remarked:

> Russia's unprovoked aggression has triggered a fundamental reassessment of economic relations and dependencies in our globalised economy . . . Today, rising geopolitical tensions mean our global economy is changing . . . [O]ne can already see the emergence of three distinct shifts in global trade. These are the shifts from dependence to diversification, from efficiency to security, and from globalisation to regionalisation.

Competitor states, such as Russia and China, as well as "friendly" but nonallied states, such as India, have also begun looking for ways to disentangle their economies from the current, American-dominated international financial system. One example of this has been Russia's insistence that payments for its natural gas exports be made in rubles (Hetzner 2022). Another example is China's efforts to establish the renminbi as a primary currency in cross-border transactions. If these countries transition to conducting business without having to rely on US institutions or the dollar, the economic power of the United States will diminish, and the effectiveness of its sanctions policies will be undermined.

Aggressive efforts to enhance the potency of sanctions—especially the expanded use of secondary trade sanctions and the US practice of asserting extraterritorial jurisdiction in sanctions—is also straining international relationships, even among longtime allies. European countries have expressed displeasure at the United States for enforcing its sanction and financial reporting laws on European firms, especially for business conducted with non-US enterprises.

While sanctions are more effective when imposed multilaterally, efforts to "coerce" allies to cooperate with sanctions policies can undermine the foundation of alliances. Ironically, efforts by the United States to leverage its economic strength in support of its sanctions policies may very well damage both its military and economic alliances—including the solidarity of the NATO alliance and the cohesion of the World Trade Organization—that have served as prominent anchors of its privileged position in world affairs. These relationships are enormously complex and interconnected; in contrast, the models at the core of our existing understanding of sanctions are typically assumed to view sanctions as dyadic, with one sender and one target. Yet even when we recognize that the sender may be a coalition of states, we generally assume, at least implicitly, that coalitional dynamics are exogenous to, and worked out before, bargaining occurs with the target (for a notable exception, see Miers and Morgan 2002). Further developments in our understanding of sanctions are likely to require the development of models that can account for the complexities in the formation of international coalitions and multilateral bargaining.[13]

After decades of experience with sanctions, both policymakers and researchers are still grappling with the basic question of whether sanctions are an effective tool of foreign policy. This makes the questions we have raised here all the more daunting. To understand sanctions processes more fully, we have to recognize their complexity. We also have to work to improve our understanding of the connections between economics and politics, the intricacies of multilateral bargaining, the degree to which instruments of policy (including the use of military force and sanctions) are substitutable or complementary, how behaviors and outcomes in one sanction incidence can affect expectations in future cases, and the dynamics of sanctions as cases unfold. Furthering our understanding of sanctions will be

[13] Eaton and Engers (1992) and Maggi (2016) contain numerous valuable ideas on the relationship between sanctions, issue linkage and bargaining. See also Anbarci, Skaperdas, and Syropoulos (2002) for an effort to capture the value of arming and bargaining protocols in negotiations conducted in the shadow of conflict.

challenging, but the recent sanctions on Russia have made it abundantly clear why we should make the effort.

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