



Introduction

Understanding economic sanctions: Interdisciplinary perspectives on theory and evidence



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ABSTRACT

We review a number of developments and trends in the literature on economic sanctions. We discuss salient contributions to the theoretical literature, data collection, and empirical work on the impact, effectiveness and success of sanctions in Economics and Political Science. Our interdisciplinary perspective highlights the existence of a stark contrast in the ways the two disciplines view and analyze sanctions. Taking advantage of this perspective, we identify potential directions for future work. Most importantly, we argue that moving toward a better understanding of the causes and consequences of economic sanctions requires a much tighter integration of concepts from Political Science and Economics and a more extensive interdisciplinary collaboration.

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1. Introduction

If we want to understand the mechanisms that drive decisions to adopt economic sanctions as instruments of foreign policy and the effects of those decisions, we must provide explanations for three complex relationships. First, we must understand how international political goals connect to economic policy decisions. Unlike the use of military force, sanctions do not allow the state to wield direct influence over outcomes; rather, the state must adopt laws and regulations governing the behavior of economic actors. This begs the question: What are the beliefs, political mechanisms, legal regimes, economic realities, and incentives that lead a state to address foreign policy concerns through such laws and mechanisms?¹

Second, we must understand the linkages between economic policy and economic effects and outcomes. At one level, this involves answering a set of direct, and obvious, questions. For example, do trade sanctions lead to a reduction in trade between the sanctioning state (the “sender”) and the sanctioned state (the “target”)? The concern here should be much

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broadly, however. Economic interests in the sender and target might be able to camouflage their trade relationships by working through subsidiaries in other countries or by simply compensating for such a reduction through trade diversion with actors in other states. Moreover, the economic effects of sanctions may change over time. These effects are complex and highly contingent on the economic and political environment, as well as on the specifics of policy design and implementation.

Finally, we must understand how the economic effects of sanctions connect to political outcomes. Partly, this involves determining the degree to which the foreign policy goals that led to the adoption of sanctions are met and how. We should focus on a much broader set of questions, however. At one level, there is always the concern that any policy could produce unintended consequences. At another level, the economic effects of sanctions could lead to a wide range of political outcomes, many of which might not be felt until years later. The economic costs could destabilize governments, in both the target and the sender, they could shift the balance of power among domestic factions in both states, they could lead to changes in the political relationships between either state and other countries. Unless we can explain all of these mechanisms and the connections among them, our understanding of sanctions will be like the three blind men's understanding of an elephant from the famous parable.²

The papers in this issue are the result of a conference that brought together a group of economists and a group of political scientists, all of whom have studied economic sanctions, with the intention of stimulating cross-disciplinary research. Reflecting on the products from that conference has made it clear to us that researchers in the two disciplines are very similar to the blind men in the parable. Economists have focused almost entirely on the connection between economic policy and economic effects, but often without taking into account the political goals that drove policy choices or the political effects that are expected. Political scientists have focused very heavily on identifying the political effects of sanctions and, to a lesser extent, on the factors that lead states to use economic policy in the pursuit of foreign policy goals. They have paid relatively little attention to how economic policy produces economic effects, however, and almost none to improving our understanding of how those economic effects lead to the political outcomes we observe.

One of the things that the conference leading to this issue made abundantly clear is that our theoretical understanding of sanctions processes is woefully underdeveloped. Sanctions scholars have, to a large extent, drawn on theory that was designed to explain other, though perhaps related, phenomena. For example, economists have drawn from trade theory to understand the relationship between trade sanctions and trade levels, and political scientists have tended to draw from theories of military conflict to explain what factors affect the probability that sanctions “work,” in the sense that the sender achieves its political aims.

We contend that, if we are to advance further our understanding of sanctions processes and provide a sound basis for sanctions policy, it is imperative that we produce a more expansive and comprehensive theoretical and empirical research program. Our major goal in this issue is to highlight this problem and to suggest a way forward that involves deeper integration of Political Science and Economics and greater collaboration across the disciplines. We use the excellent selection of papers in this issue (i) to review the major contributions and trends in the literature on economic sanctions, (ii) to highlight the differences in the ways Economics and Political Science treat sanctions, and (iii) to identify the potential benefits from deeper collaboration between the two disciplines. To this end, and with a focus on the papers in this issue, [Section 2](#) discusses the theoretical literature of sanctions. [Section 3](#) summarizes the efforts to develop sanctions datasets and uses some of these datasets to describe notable trends across various sanctions dimensions. [Section 4](#) reviews developments in the empirical literature aiming to evaluate the impact, effectiveness, and success of sanctions. Finally, in [Section 5](#), we conclude with few remarks and suggestions for future work.

2. Theory

Much of the research into sanctions over the past fifty years has been atheoretical. Many scholars have sought to identify empirical regularities in the use and effects of sanctions without testing specific hypotheses derived from a rigorous theory. Others have provided a theoretical basis for the hypotheses they test but their arguments are usually taken directly from theory of other related phenomena. We do not want to be overly critical – in the early stages of any investigation it is quite helpful to know the relevant empirical regularities. However, decades of research have produced numerous findings, and it is probably time that researchers made theoretical sense of it all. Some scholars have developed, and tested, theoretical arguments focused on sanctions processes, but each of these theories has been narrowly focused on only one aspect of several interconnected phenomena. For example, theory developed to account for the economic effects of sanctions does not make the connection between economic effects and the political outcomes sanctions are intended to produce.³ Similarly, theory that is intended to identify the conditions under which sanctions “work” connects sanctions policy to political outcomes directly, without making the connections between sanctions policy and economic effects or between economic effects and political outcomes. In this section, we elaborate on these points.

The earliest research on economic sanctions was based on case studies of prominent cases, such as the U.S. sanctions on Cuba. Given that these cases were “high profile” precisely because they had lasted a long time (which can only happen

² According to the parable, the man feeling the elephant's trunk identified it as a type of snake, the man feeling the elephant's side claimed it was a type of wall, and the man feeling the elephant's leg was certain that it was a type of tree.

³ [Eaton and Engers \(1992, 1999\)](#), which we revisit below, are notable exceptions.

if the target fails to meet the sender's demands) it is perhaps not surprising that a conventional wisdom emerged holding that sanctions "do not work". The rather obvious selection bias led to the collection of a comprehensive large- N data base (e.g., the Hufbauer-Schott-Elliott (HSE) data base) upon which more rigorous analyses could be conducted. The analyses of these data indicated that sanctions senders achieved their objectives "only" around 30 percent of the time (Hufbauer et al. 2007), which strengthened the conventional wisdom that sanctions are ineffective.⁴ Unsurprisingly, the earliest efforts at developing rigorous theory explaining sanctions processes focused on accounting for the observation that sanctions seldom, if ever, work. The best example of this can be found in Wagner (1988). Noting that most justifications for sanctions were based on a simplistic version of bargaining theory to suggest that targets should give in to senders' demands rather than bear the costs of sanctions, he drew on existing formal models of bargaining to show that that conclusion does not follow from theory. He pointed out that if we apply the same theory to explain the international distribution of the gains from trade, we would have to conclude that both parties benefit from the trade relationship and that severing that relationship would be costly to the sender as well as to the target, calling into question the credibility of the sender's actions. Thus, the theory invoked to justify the use of sanctions actually leads to the conclusion that sanctions should rarely, if ever, work.

This early scholarship led to some obvious puzzles. First, if sanctions seldom, if ever, work, and if the prevailing theory leads us to expect that result, why would they continue to be used, let alone be imposed at an increasing rate? Second, how do we reconcile the prevailing theoretical understanding leading us to expect that sanctions do not work as a policy instrument with the observation that they do appear to work almost one-third of the time? Not surprisingly, subsequent theoretical work has tried to provide an understanding of sanctions that could identify the conditions under which sanctions could work and the factors that produce those conditions. Also, unsurprisingly, the vast majority of research accepted the early work as foundational and attempted to build on it. The significant theoretical advances made over the past thirty years were based on, and constrained by, a set of core assumptions adopted in this early work.

First, sanctions are viewed as an instrument of coercive diplomacy. Their use is intended to *persuade* the target that it must either acquiesce to the sender's demands or suffer the consequences. In this view, sanctions function by changing the cost-benefit calculations of the target rather than by affecting directly its ability to take certain actions. This has led researchers to consider factors that influence sanctions processes primarily in terms of how they affect the cost of sanctions. For example, one ongoing debate has centered on the question of whether unilateral or multilateral sanctions are more effective. When empirical work using the early version of the HSE data set suggested, counterintuitively, that unilateral sanctions are more effective than multilateral sanctions, efforts to explain that finding focused on reasons that unilateral sanctions might in fact impose greater costs on targets. Perhaps, as one argument suggested, sanctions imposed multilaterally create a free-rider problem that creates incentives for members of the imposing coalition to avoid participating in enforcement.

Subsequent work using updated HSE or TIES showed that multilateral sanctions are more effective, which can be explained by asserting that multilateral sanctions are more costly. However, the actual linkages between the composition of a sanctioning coalition and sanctions outcomes might be far more complex. This is illustrated quite nicely by the Schneider and Weber contribution in this issue. In their comparison of US and EU sanctions, they show that sanction threats issued by the US are more successful than those issued by the EU, but the EU achieves higher success rates with sanctions that are actually imposed. This cannot be explained simply as a function of costs and illustrates the need for better theory emphasizing 1) the connections linking political goals to economic policy, 2) the economic effects, both anticipated and realized, of complex patterns of economic policy, and 3) the mechanisms by which these economic effects influence political behavior.

Second, and following from the above, sanctions are often asserted to be an alternative to, or substitute for, the use of military force. This has influenced our theoretical development to a considerable extent. Theories of sanctions, both in Economics and in Political Science, have drawn heavily from well-developed and widely accepted theories of militarized conflict. Two significant implications of this are that we have tended to view sanctions as an instrument of bargaining, and we have tended to view the bargaining game as occurring between states. On the one hand, applying well-developed theory has led to a great number of insights. We certainly have a far better understanding of sanctions processes than we did decades ago. On the other hand, this has limited our understanding of sanctions in ways that are becoming increasingly apparent.

Formal theories of sanctions typically have been based explicitly on bargaining models (Smith, 1995; Morgan and Miers, 1999; Lacy and Niou, 2004) similar to those used in the study of militarized conflict (Morgan and Schwebach, 1997 imported such a model whole-cloth). Bargaining models of militarized conflict have treated war in one of two ways. In Schelling's (1966) famous treatment, and those that follow it, war is viewed as part and parcel of the bargaining process—it is how participants manipulate bargaining costs and signal their willingness to bear such costs. In more recent models, war is usually assumed to be the outside option to bargaining (Morgan, 1984; Fearon, 1995; Powell, 1996, others). Interestingly, bargaining models of sanctions have, to our knowledge, all adopted the older practice and view sanctions as a mechanism for manipulating ongoing bargaining costs. This reflects the view that sanctions, unlike war, cannot ultimately force a resolution to a dispute. This point alone should call into question the notion that sanctions are a substitute for the use of military

⁴ It seems that the standard for effectiveness that most adopt holds that an instrument of foreign policy should "work" more than half the time to be considered effective. This strikes us as odd. Getting people to do things they do not want to do is hard and the success rate of doing nothing would be about 0 percent. Measured against that standard, 30 percent is quite good. The question, of course, should be whether sanctions are cost-effective, given those expectations.

force. Our point here is *not* that bargaining theory has little to add to our understanding of sanctions; rather, our point is that we may have been led astray by thinking that bargaining theories of war can be applied directly to economic sanctions.

Eaton and Engers (1992) is a prominent contribution to the literature on coercive sanctions in the tradition of noncooperative bargaining. These authors consider an alternating-move, infinite horizon, complete information model in which the sender is endowed with the ability to commit to implementing a sanctions policy for some time whenever the target fails to comply to a pre-determined (by the sender) threshold of “action.” The sanction (e.g., a trade ban) is costly to both sides and the action (e.g., security policy) affects their payoffs in opposite directions. Focusing on Markov perfect equilibria, Eaton and Engers (1992) show how the timing and effectiveness of sanctions depend on the interacting states’ time preferences and the harm they incur due to sanctions.⁵

In addition to highlighting the impact of sanctions to both senders and targets, two seemingly under-appreciated features of this contribution could prove fertile in future research efforts. The first is related to the manner in which the authors weave non-economic (e.g., political) objectives with economic actions to deliver concrete effects. They use a stripped down but unified game-theoretic setting that, with more specialized structure, could produce valuable insights. The second is related to the credibility of the sender’s ability to commit to implementing a particular sanctions policy, which in this model is exogenous.⁶ As emphasized by Schelling (1966) and others, however, the credibility of such commitments may also depend on possible upfront (and sunk) actions by the contending governments, as well as on the nature of international and domestic institutions, laws, and political regimes which normally shape the environment within which sanctions policies are conceived, implemented and enforced.

To explain the imposition and success (or failure) of sanctions, Drezner (1998) considers a highly stylized model to isolate the importance of agents’ expectations on future conflict. Predictably, such expectations matter; but, they matter in a seemingly “paradoxical” way.⁷ In Drezner’s words, “... a sender will obtain the most favorable distribution of payoffs when it cares the least about its reputation or the distribution of gains.” Drezner, though, is uninterested in addressing the vexing question: How are conflict expectations formed in the first place? We view this as an important research question which, as noted in the previous paragraph, inter-disciplinary research could address meaningfully.

The models noted above help us understand how costs are associated with sanctions outcomes, which, in turn, provides a ready explanation for many observed empirical regularities. Problems arise, however, when we consider other implications of such models. One implication is that participants in sanctions episodes should be paying as much attention to the costs borne by their opponents, the costs their opponents should expect to bear, and the signals their opponents send regarding their willingness to suffer costs as they do to their own costs. Yet, in this issue, Morgan and Kobayashi test a number of such hypotheses derived from a formal model of sanctions bargaining and find virtually no evidence that the disputants were paying attention to each other in the manner the theory leads us to expect.

Another implication pertains to how sanctions end. Sanctions can end either when the targets comply with the senders’ demands or when the senders capitulate and remove sanctions. If sanctions are simply a means of manipulating bargaining costs, we would expect to observe a pattern of terminations that is similar in terms of influential factors and frequency over time for senders and targets. However, Attia et al., in this issue, show that this is not what we observe. The mechanisms that lead to target compliance are quite different from the ones that lead to sender capitulations and the patterns of these outcomes over time are not what we would expect (see also Krustev and Morgan, 2011) if sanctions are just a means of manipulating bargaining costs. This suggests quite strongly that our theoretical understanding of the linkages between sanctions policies and political outcomes is underdeveloped.

As noted above, the dominant theoretical perspective views sanctions as bargaining between *state* actors. That is, they occur when the government of one state curtails economic relations with another state in an attempt to further its foreign policy objectives. This does not mean that we necessarily see states as unitary actors. In fact, some systematically developed theoretical arguments explicitly recognize that countries’ and states’ actions are driven by individuals with varied interests. These theories assume that individuals exert their influence only through the *intrastate* politics that determine state policy. This is certainly at the heart of the theoretical basis of arguments in favor of “smart” sanctions—for sanctions to work, they have to bring costs to bear on those actors that can influence governmental policy—as well as those arguments suggesting that broad-based sanctions are more effective because they induce the population to put political pressure on the government.⁸ Whang and McLean (2014) have provided what is probably the most rigorously developed theory in this regard in

⁵ Eaton and Engers (1999) is a related influential contribution that studies the implications of incomplete information for the duration and effectiveness of sanctions.

⁶ Maggi (2016) also touched on this point in his insightful review of “issue linkage” in trade agreements. He, too, views sanctions as instruments that can substantively alter the bargaining process. In particular, Maggi outlined a simple benchmark model of coercive trade sanctions, which *assumes* the existence of a “commitment technology” that links the target’s non-economic policy to the sender’s tariffs, to argue that the sender could enjoy a higher payoff in negotiations in this alternative environment (due to improved leverage) as compared to negotiations based on the status quo. Maggi did not elaborate, however, on the possible determinants of this commitment technology. Is there a link between the credibility of such technologies and political institutions and norms? Do the types of sanctions used and/or the proclaimed political objectives matter? How?

⁷ The higher the expected frequency of future conflict by senders, the more inclined they are to initiate sanctions now. At the same time, targets with similar expectations are less inclined to acquiesce.

⁸ The fact that the debate between these positions boils down to competing assertions over who can influence governmental policy should be sufficient to demonstrate that our theoretical understanding of the processes by which economic effects translate into political outcomes is, to put it mildly, underdeveloped.

their argument that the competing, primarily political, groups that induce states to impose sanctions are different from the competing, primarily economic, groups that influence state decisions regarding the design of sanctions policy.

Whang and McLean's argument demonstrates why imposed sanctions might not be optimally designed to achieve their stated objectives; but it cannot account for much of what we observe in sanctions cases. In this issue, Besedes et al. show that there are considerable differences in how firms in sender countries adjust to financial sanctions, which influences the economic effects of financial sanctions. Similarly, also in this issue, Crozet et al. show that exporting firms have a number of available strategies for adjusting to sanctions, that there is variation in firms' responses, and that firms with prior relevant experiences are better able to adjust to sanctions. Moreover, Ahn and Ludema, in this issue, show that target states are often able to shield strategic firms from the adverse effects of targeted sanctions. While this might be costly to the target, it clearly demonstrates that targeted firms have available strategies other than putting political pressure on the state to accede to the sender's political demands.

The above findings highlight a significant problem with the dominant theoretical perspective that sanctions are instruments of bargaining between states: non-state actors affected by sanctions policies can deal with the effects of sanctions directly, they are not limited to attempting to influence state policy in competition with other, competing, interests. Clearly, sanctions differ from the use of military force in at least one critically important dimension. Governments can use force by ordering the armed forces under their command into battle. Those same governments cannot directly end economic ties with other countries; rather, they have to pass laws and regulations governing the behavior of economic entities over which they have legal authority or influence. Those economic entities are the actors who can directly implement sanctions policies – or not. As discussed above, existing theory in Economics captures some aspects of this, which helps us understand the connections between sanctions policy and their economic effects. Unfortunately, we have almost no theoretical understanding of how these factors influence the formation of sanctions policy or the connection between the economic effects of sanctions and political outcomes.

As noted earlier, a good portion of the political science literature treats war as a game-ending, outside option (e.g., Fearon, 1995; Powell, 1993, 2006). A laudable objective of this literature has been to explain the emergence of war (which is an inefficient mechanism of redistribution due to destruction), as compared to other options (for example, bargaining and negotiation) that are also available to interacting states. Though not totally void of controversy, we believe that variants of this approach can enrich the theoretical sanctions literature.⁹ Our reading of the Political Science and Economics literatures leads us to believe in the feasibility and usefulness of game-theoretic models able of capturing the connections between arming, military actions and various types of sanctions.¹⁰ We think that such models could potentially explain why policy makers and policy analysis often view economic statecraft (including economic sanctions) as “War by Other Means” (Blackwill and Harris, 2016).

Nonetheless, scholars should be aware of the existence of several hurdles which theory must (and can) overcome. First, in this literature, the opportunity cost of war in each interacting state is assumed to be fixed. Furthermore, contending states do not arm – or, if they do, their arms, too, are assumed to be fixed. Normally, however, these costs (especially the ones associated with arming) are non-contractible and endogenous. They are also strategically determined in the presence of technological, resource, political, and institutional constraints. Second, policy decisions in this (and much of the extant) literature are assumed to take place in partial equilibrium settings; as such, the analysis assigns no importance to the numerous linkages that exist among domestic and international markets. This difficulty is compounded by the fact that the gains from trade (or losses due to, for example, trade sanctions) as well as the international distribution of these gains (or losses), too, are endogenous and highly dependent on the regimes considered. In other words, not just the costs but the “stakes” themselves in a dispute (or, more generally, the size of their “bargaining set”) hinge on policy actions. Finally, although the two-unitary-state-actor paradigm has served the sanctions scholarship well, we ought to recognize that foreign policy decisions take place in a multi-country world and that, as a consequence, these decisions are more involved and nuanced than one might infer from existing theory.¹¹

The “hurdles” described above are in operation, not just in bargaining theory in which war is an outside option, but in any theory of coercive sanctions. For additional insight, consider an anarchic environment in which two states interact

⁹ Valuable lessons could be drawn, for example, from the extant literature in Political Science that regards war as a bargaining failure due to commitment problems (Fearon, 1995; Powell, 2006). In the context of foreign policy, problems of this type may arise because: (i) senders, which typically involve large countries, partners in preferential trading agreements, or countries that experience high rates of growth—like the US, the EU, the UN, China, and Russia—may find it appealing to renege on international commitments or to renegotiate agreements; (ii) the senders may be concerned about large shifts in a target's economic power that might undermine their security in the future; (iii) the leaders of target(s) may feel vulnerable to external and/or internal security crises, especially when their rival counterparts insist that they embrace policies (e.g., nuclear or other types of disarmament) that seriously undermine their existence. Our point here is that, because economic sanctions are mutually costly, valuable insights might be developed if scholars viewed sanctions as inefficient redistributive policies due to bargaining failures based on specific commitment problems.

¹⁰ See, for example, Skaperdas and Syropoulos (2001) and Garfinkel et al. (2020a) for analyzes that explore aspects of the linkages between trade and arming.

¹¹ Noncooperative bargaining with outside options is especially relevant in multi-country settings because two bargainers may wish to abandon negotiation over, say, a bilateral agreement on an economic or political issue based on the status quo in favor of an outside option that involves significant economic ties/relationships with third (outside) states.

noncooperatively in security policies (i.e., arming) but not necessarily in trade policies (i.e., the mode of interaction in trade policies is flexible). Imagine, in particular, that the two states arm to protect their actual or perceived national security interests in the absence of enforcement by a third party and that agreements in arms are ruled out. First, under these circumstances, it is not necessarily true that a bilateral free trade agreement in the current period is welfare-enhancing to one side (Garfinkel et al., 2020b) or in the Pareto sense (Garfinkel and Syropoulos, 2021). Second, it is conceivable that, in multi-period time frames—and depending on the states' relative economic sizes—trade sanctions could be used preemptively by one side in the current period to weaken its rival militarily by eroding its gains from trade and, thereby, undermine that rival's leverage in future trade negotiations. Economic sanctions can be rationalized on the grounds that some issues (e.g., national security) may not be contractible or negotiable. In such settings, the application of sanctions now may also pave the way for trade agreements in the future.

To get a sense of some of the difficulties that arise in general equilibrium models with noncooperative policy interactions, temporarily abstract from coercive sanctions and consider the implications of noncooperative equilibria in tariffs when policymakers use these instruments to improve their respective national welfare levels. Perhaps surprisingly, our general understanding of the linkages and outcomes in two-country settings is limited (Syropoulos, 2002). Interestingly, putting aside analysis based on large scale quantitative models, considerably less is known on the effects of noncooperative trade policy interactions in multi-country settings. Unsurprisingly, our formal understanding of the mechanisms at work when political (or other non-economic) objectives are considered is even more limited.

Now suppose sanctions are possible. A challenging and controversial case in point in this context is the US's threat to impose extraterritorial (i.e., “secondary”) sanctions against third parties (companies and/or persons located anywhere in the world) who do business with Iran, Russia or Venezuela, the countries that the US has targeted with primary sanctions in recent years. Policy analysts have tried to address variants of this issue. Unfortunately, theory has not been of much help—because it does not exist (or, more charitably, because it is at a stage of infancy). One would conjecture that the nature of the direct and indirect effects of these policies will depend on the type of sanction considered (e.g., trade vs. travel vs. financial), the product/activity they target, the importance of the affected industry nationally and/or internationally, and the specific trade and investment links among interacting states. With appropriate adjustments, the approach of Joshi and Mahmud in this issue may shed valuable light on this issue. In a non-trivial extension of the sanctions model of Tsebelis (1990) to a general network of agents, Joshi and Mahmud examine how the frequency of sanctions violations (which serves as a precise measure of the effectiveness of sanctions) is shaped by the presence of: (i) strategic complementarity or substitutability between the actions of the sender/target and the agent “links” to it; and (ii) the nature of externalities associated with the change in the payoff response of the sender/target to changes in the density of its links to third parties. In this environment, the authors also explore the importance of: (iii) the time frame of actions (i.e., short run vs long run); and (iv) whether sanctions are unilateral or multilateral. As expected, the nature of their comparative statics results delicately depends on the particular case one considers. Nonetheless, we think this is a valuable contribution that could serve as a valuable benchmark to research on the effects of sanctions in multi-country settings.

We believe that, if the above issues are addressed successfully, theory will provide enhanced guidance on: the motivation behind the use as well as the nature of linkages among military actions, economic sanctions, and security or social policies; the joint determination of the related decisions and their outcomes under war and peace; and the relative effectiveness of alternative policy menus and options. We also believe that, over the past thirty years, empirical research into sanctions has significantly advanced our understanding. This work has been guided by a theoretical perspective that, while seldom formally developed, has contributed to a set of assumptions that are common, at least implicitly, to many of our explanations for empirical observations. As one should expect, this cumulation of empirical work has revealed weaknesses in this theoretical perspective. The papers in this issue both highlight that point and provide some guidance for the future.

3. Sanctions Data and Datasets

The proliferation of sanctions and the increased interest in them, by politicians and policy analysts alike, has stimulated new academic work in this area. In turn, in order to keep up with the evolving (increasing and more complex) needs for analysis of the impact of sanctions, the traditional and most comprehensive sanctions databases have been extended and also complemented by new datasets. Hufbauer et al. (1985, 1990) introduced the first comprehensive dataset on sanctions (HSE). Morgan et al. (2009) and Morgan et al. (2014) developed and updated the “Threat and Imposition of Sanctions” (TIES), which covered both threatened and imposed sanctions over the period 1945–2005. The increased complexity of sanctions motivated the creation of more specialized sanction databases, such as the “Targeted Sanctions Consortium” (TSC) database, which focuses on the sanctions imposed by the UN Security Council, and the EUSANCT dataset, which covers UN, US, and EU sanctions, with special emphasis on the latter.¹²

In this issue Felbermayr et al., develop the “Global Sanctions Database” (GSDB) which covers all publicly traceable sanctions between 1950 and 2016, with special focus on trade sanctions. In this introductory section, we use the GSDB to sum-

¹² We refer the reader to Felbermayr et al. (2020) in this issue for a summary and comparison of the existing sanction datasets.

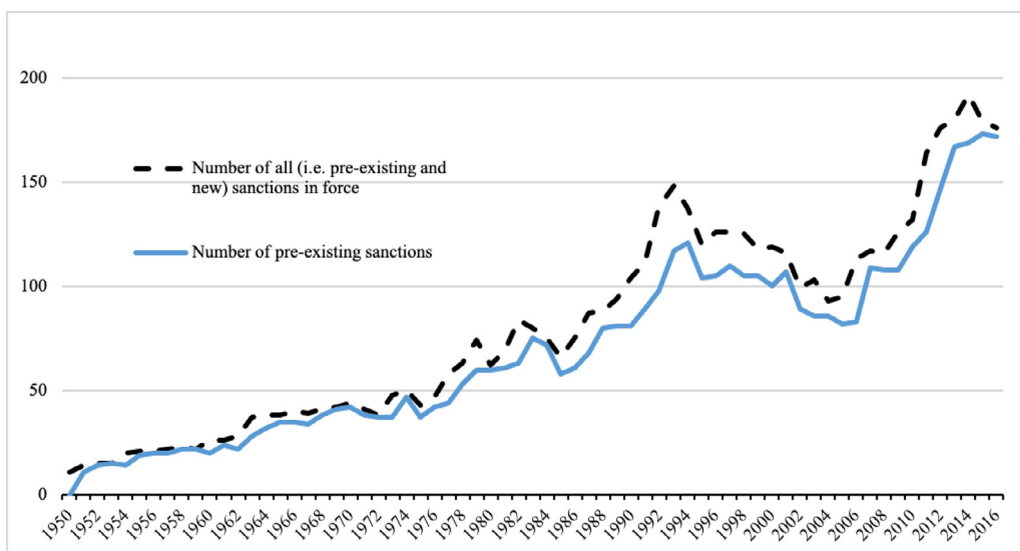


Fig. 1. The Evolution of Sanction Cases, 1950-2016.

Note: This Fig. is from Felbermayr et al., in this issue, and it is produced using the Global Sanctions Database. The Fig. reports the number of sanctions in force inherited from last year, and number of total (inherited plus new) sanctions in force per year over the period 1950-2016. Thus, the Fig. also implicitly reveals the number of net new sanction cases in each year.

marize a number of notable trends in the sanction data, to explain the developments in existing sanction datasets, and to identify possible deficiencies and directions for future data work that may improve our understanding of sanctions.¹³

Based on the GSDB, Fig. 1 depicts the evolution of all identified sanction cases between 1950 and 2016. In addition, the Fig. distinguishes between new and pre-existing cases. Three main findings stand out. First, the total number of sanction cases has been increasing steadily between 1950 and 2016. Second, the number of new cases has been increasing as well. Third, as noted by Felbermayr et al., in this issue, and Felbermayr et al., (2020), the increase in sanction cases has happened in three waves: (i) in the mid-70s; (ii) in the early 90s; and, (iii) most recently, since the Great Recession. As we demonstrate next, the steady increase in sanction impositions shown in Fig. 1 has been accompanied by an increase in the complexity of sanction cases. This appears to mask important heterogeneity in the evolution of sanctions depending on their type.

Fig. 2 complements Fig. 1 by comparing the regional distribution of sanctions between 1950, in panel (a), and 2016, in panel (b).¹⁴ The direction of the arrows in the two chord diagrams is from the sender to the target, and the thickness of the arrows reflects the number of imposed sanctions. The main message from Fig. 2 is that the network of imposed sanctions is significantly more complex in 2016 as compared to 1950, in terms of the number of regions involved, the regional composition of sanctions, and the direction of sanctions.

We believe that a significant fraction of the increased complexity between 1950 and 2016 in Fig. 2 was driven by the fact that many more current sanctions have been imposed by international organizations, specifically by the UN and by the EU. This has implications for data construction, theory, and empirical analysis. With respect to data construction, the proliferation of multilateral sanctions calls for a special treatment. This is consistent with the development of more focused datasets (e.g., TSC and EUSANCT) which cover fewer sanction cases as compared to the more comprehensive datasets (e.g., HSE, TIES, and GSDB), but offer very detailed information about each sanction case covered including very specific objectives and measures of effectiveness.

From a theory perspective, the proliferation of multilateral sanctions has implications for the analysis of their effectiveness, which is of central importance from a political science perspective. As already noted, in this issue, Schneider and Weber develop a theory that implies that, as compared to unilateral sanctions, multilateral sanctions are less credible when threatened but more effective when imposed. The authors use the EUSANCT database to support their theory by comparing EU and US sanctions. As predicted by theory, they find that multilateral EU sanctions are more successful than the unilateral US sanctions. However, the US sanction threats are more credible and successful than those made by the EU.

Finally, the proliferation of multilateral sanctions has implications for the quantification of their economic impact, both on the target but also on the sender countries. For example, even though most/all member states in the UN or EU agree to impose sanctions jointly, the economic impact of those sanctions can be very heterogeneous across the sanctioning states

¹³ The GSDB was recently updated by Kirilakha et al. (2021) to cover a total of 1105 sanction cases over the period 1950-2019. The first GESB update (March 15, 2021) includes 383 previously unrecorded sanction cases, among which 77 emerged during the period 2016-2019.

¹⁴ The figure focuses on trade sanctions. However, the main conclusions remain intact if all sanctions were taken into account. For specific definitions of the regions, we refer the reader to Felbermayr et al. in this issue.

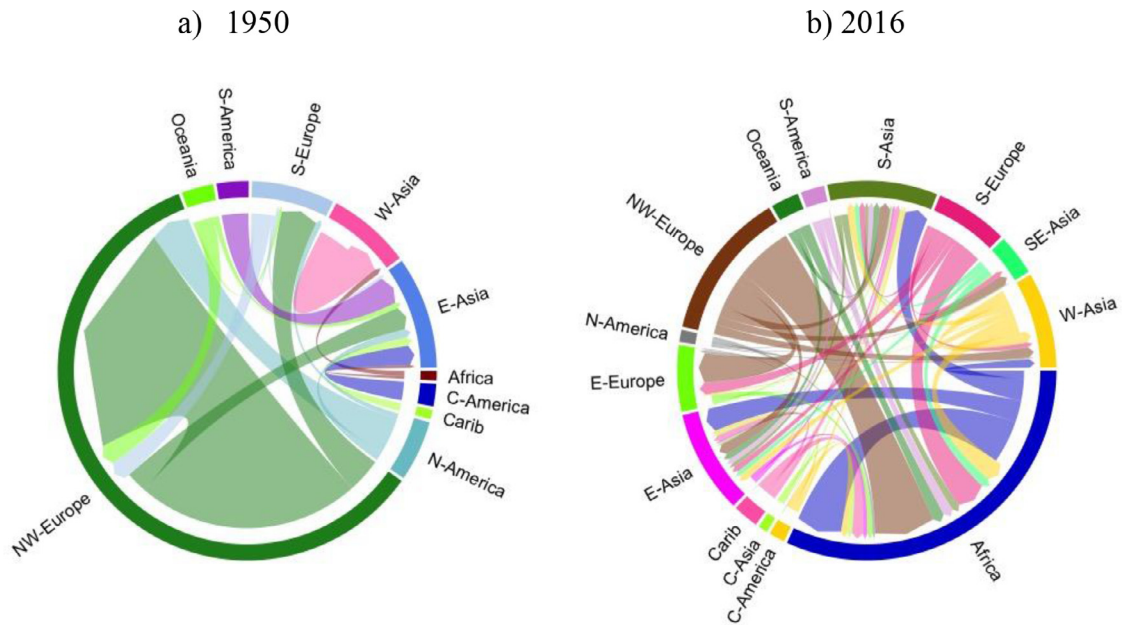


Fig. 2. Who sanctions whom? The Evolution of Sanction Cases, 1950–2015.

Note: This Fig. is produced from the Global Sanctions Database. The Fig. consists of two chord diagrams, which visualize the intensity and direction of trade between different regions in the world for the years 1950 and 2016. Regions are classified according to the UN Geoscheme. See text and Felbermayr et al., in this issue, for further details.

within the same organization. This is consistent with recent evidence from [Felbermayr et al. \(2020\)](#) who demonstrate that the impact of the EU sanction on Iran was widely heterogeneous across the EU members and dependent on the direction of trade flows.

[Fig. 3](#) capitalizes on the fact that the GSDB distinguishes between six different types of sanctions, and presents the evolution of the number of sanctions by type. By construction, [Fig. 3](#) replicates one of the main results from [Fig. 1](#), i.e., that the total number of sanction cases has increased steadily over time. In addition, [Fig. 3](#) reveals that the number of all types of sanctions (except trade sanctions) has increased over time. Most interestingly, [Fig. 3](#) captures two important trends based on the evolution of sanctions across types. Specifically, we observe: (i) a significant increase (in absolute, but more importantly also in relative terms) in the number of travel restrictions, financial sanctions, and arms sanctions; and (ii) a decrease (in relative terms) in the use of trade sanctions.

In combination, financial and travel are often classified together under the wider category of “smart sanctions”, c.f., [Cortright and Lopez \(2002\)](#) and [Drezner \(2011\)](#). Smart sanctions target specific individuals, firms, and institutions within the sanctioning country. The idea behind smart sanctions is that: (i) they can be at least as effective as broad sanctions, but (ii) without hurting (or at least at less cost to) the general population in the sanctioned economy.¹⁵ [Fig. 3](#) reveals that the fraction of smart sanction cases has increased from less than one-third in 1950 to more than one-half in 2016.

The proliferation of “smart sanctions,” which we see in the data and which has attracted the interest of researchers and policymakers, calls for new theories and empirical treatment. This trend is reflected in this issue through two insightful papers that study the effects of “smart sanctions.” In this issue, [Besedes et al.](#) explore the impact of financial sanctions on various outcomes in the sanctioning state. Using detailed German data, and consistent with the motivation for the use of sanctions, these authors conclude that the economic costs of financial sanctions to the sender country are limited. Also in this issue, [Ahn and Ludema](#) build a model of smart sanctions in which the target country can “shield” strategically important firms. Using the 2014 sanctions on Russia, [Ahn and Ludema](#) provide evidence that smart sanctions are effective in hurting their targets. However, they also demonstrate that the firms that are protected strategically outperform those that are not. While the findings of [Ahn and Ludema](#), in this issue, and [Besedes et al.](#), in this issue, are intuitive, each of these studies demonstrates that modeling smart sanctions and their effects requires new data and new methods.

We find the relative decrease in the use of trade sanctions in [Fig. 3](#) quite interesting, especially in light of the intensive globalization trends that took place during the same period. It turns out that simply counting the number of trade sanctions may be a misleading indicator of their importance. To demonstrate this, we rely on [Fig. 4](#), which is constructed from the GSDB and comes from [Larch et al. \(2021\)](#). The Fig. traces the evolution of trade sanctions by zooming in on the

¹⁵ In a recent paper, [Kwon et al. \(2020\)](#) validate this argument by showing that, while trade sanctions hurt economic growth in the target countries both in the short and in the long run, smart sanctions do not hurt short-run growth and may actually stimulate long term growth.

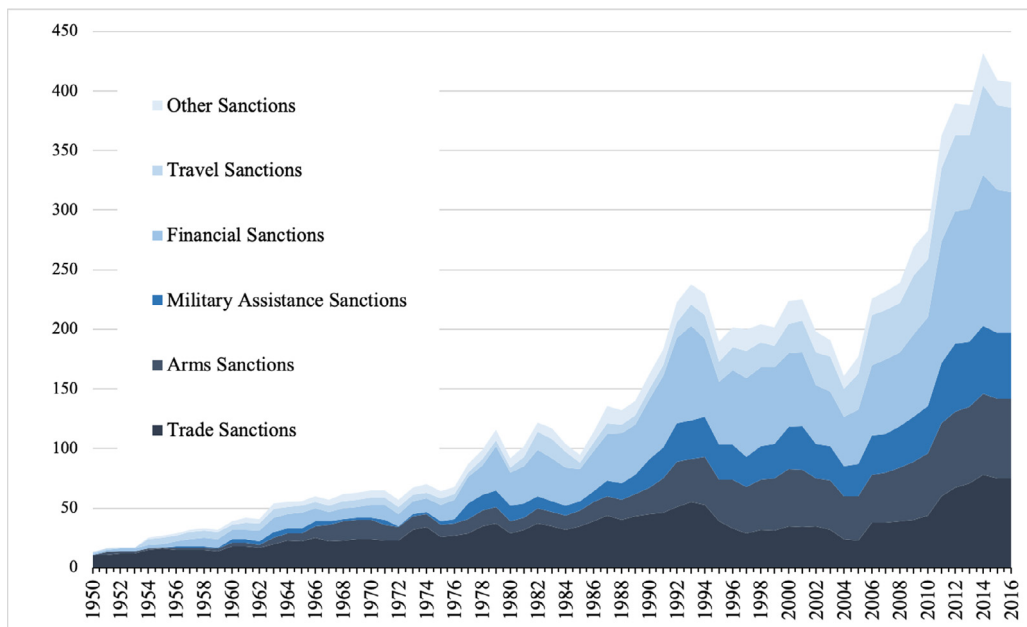


Fig. 3. Evolution of Sanction Cases by Type, 1950-2016.

Note: This Fig. is from Felbermayr et al., in this issue, and it is produced from the Global Sanctions Database. The Fig. reports the total number of sanctions by type (trade sanctions, arms sanctions, military assistance sanctions, financial sanctions, travel sanctions, and other sanctions), which are force in each year between 1950 and 2016. See text for further details.

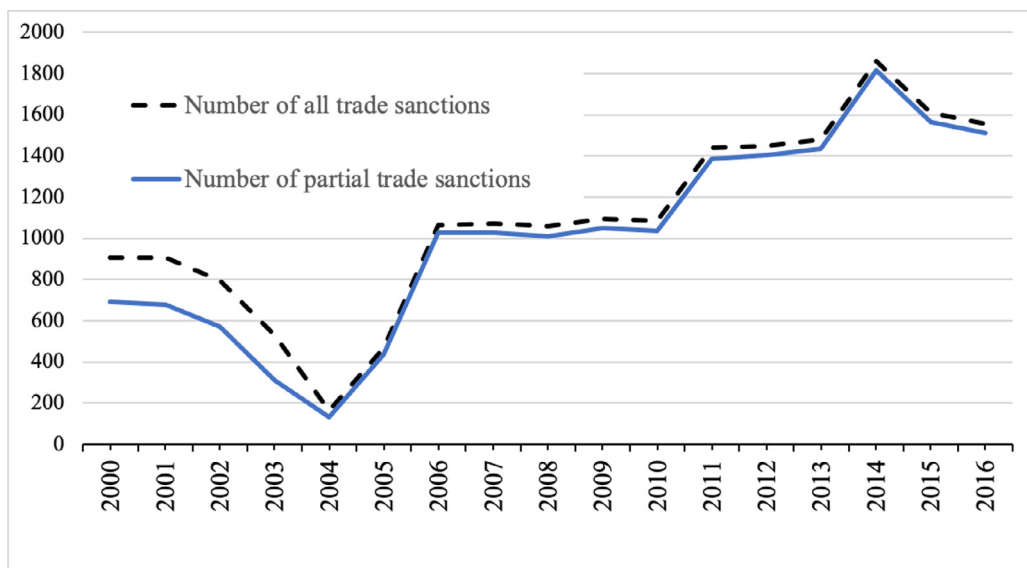


Fig. 4. Evolution of Trade Sanctions, 2000-2016.

Note: This Fig. is from Larch et al. (2021), and it is produced from the Global Sanctions Database. The Fig. reports the number of country-pairs that were affected by trade sanctions during the period 2000-2016. Explicitly plotted are the total number of country pairs that were affected by trade sanctions regardless of type, and the number of country pairs that are affected by partial trade sanctions. By construction, the difference between the two curves represents the number of pairs that were affected by complete trade sanctions.

period 2000-2016 and, instead of counting the number of trade sanctions, it counts the number of country pairs that have been involved in trade sanctions. In addition, Fig. 4 explicitly distinguishes between total and partial trade sanctions, and implicitly accounts for complete trade sanctions, which capture the difference between the partial and the total numbers by construction.

Two important messages stand out from Fig. 4. First, it reveals that even though the number of trade sanctions has been relatively stable during this period (see Fig. 3), the number of affected country-pairs actually increased significantly

(by more than 50 percent!) between 2000 and 2016. The explanation for this result is that many of the sanctions imposed during this period were multilateral sanctions (e.g., the 2006 UN sanctions on Iran or the 2014 EU sanctions on Russia). This reinforces the need for special attention to multilateral sanctions with respect to their effectiveness Schneider and Weber, in this issue, and their heterogeneous economic impact (Felbermayr et al., 2020).

The second message from Fig. 4 is that the composition/nature of trade sanctions has been changing. Specifically, Fig. 4 shows that the number of country-pairs affected by complete trade sanctions fell sharply in 2003 (due to the lifting of the UN sanctions on Iraq) and remained low and steady until 2016. The number of partial trade sanctions, however, almost tripled during the same period. Based on this, Larch et al. (2021) conclude that by targeting specific areas (e.g., specific products or sectors) instead of all trade flows between senders and targets, trade sanctions have become “smarter” too. The implication of this result is that a simple count of sanction cases may be a misleading indicator, and we need better and more detailed data within each type of sanctions to be able to capture the impact of more recent and more complex sanction episodes. A possible direction for improvement is to use textual analysis to extract better information from the official sanction documents.

Overall, our assessment is that the political science and economics professions have gone a long way to develop better, more reliable, and more sophisticated databases which not only account for the number of sanction cases but also focus on specific features and characteristics of sanctions, e.g., threats (in the case of TIES), UN sanctions (in the case of TSC), EU sanctions (in the case of EUSANCT), and trade sanctions (in the case of GSDB). We view the existing sanctions datasets as complementary rather than competing with one another, because each of them offers unique features. Accordingly, we recommend that researchers should get familiar with each of these datasets and use them separately or in combination depending on the research purpose. We feel that, by adding new variables and by expanding the existing sets of objectives, types of sanctions, and measures of success, the sanctions databases have evolved to keep up with theoretical needs and the changing policy landscape.

4. Quantifying the impact of sanctions

Arguably, the most important question in the empirical literature on sanctions is: Are sanctions effective? Interestingly, and perhaps predictably, economists and political scientists define sanction “effectiveness” very differently. This, in turn, has predetermined the two alternative routes that the two disciplines have followed in order to analyze the effects of sanctions, and also has led to two quite different conclusions regarding the effectiveness of sanctions. Specifically, political scientists usually classify sanctions as “effective” if they achieve their declared political objectives; they measure the “impact” of sanctions in terms of political effects; and they seem to pay less attention to the economic impact of sanctions. Since most sanctions actually do not achieve their declared political goals, in the political science literature the general view is that sanctions are mostly ineffective. Economists, on the other hand, think of sanctions “effectiveness” and “impact” in terms of the economic damage that they cause. Most economic studies on sanctions (including the papers in this issue) offer ample evidence for significant economic damage across various economic dimensions and, therefore, economists generally view sanctions as “effective.” Unfortunately, they have not been as concerned as perhaps they should be about whether sanctions do or do not achieve their *political* objectives. The mixture of the thought-provoking papers in this issue is fairly representative of the division across the two disciplines, and our primary objectives in this section is to showcase the strengths of these papers, while highlighting some deficiencies in the literature and pointing to directions for future work within each discipline, as well as to argue that moving forward involves much more integration of Political Science and Economics and more extensive interdisciplinary collaboration.

4.1. On the political success (and failure) of sanctions

The general consensus among political scientists is that sanctions rarely, if ever, work, because they achieve their declared political objectives in only about 30 percent of cases. Fig. 5 is based on data from the GSDB and it reports success rates depending on the sanction objectives over the period 2000–2016. At first glance, this Fig. may leave the impression that there is significant variation in sanction success and effectiveness depending on the declared political objectives, which are listed on the X-axis. A closer look, however, reveals that, apart from two outliers (Democracy and Terrorism), the success rate of sanctions is quite homogeneous across objectives, and that the average success rate based on the GSDB is very similar (about 35 percent) to the accepted value of around 30 percent from the related literature. What determines the political success (or failure) of sanctions is a core question in the political science literature and this issue includes excellent papers that address it from different angles.

Most of the empirical research on sanctions processes in Political Science has focused on determining what variables determine the effectiveness of sanctions as an instrument of foreign policy. These studies have been predominately focused on those variables that are presumed to affect the cost of the sanctions to the target, (Lektzian and Souva, 2007; Bapat, et al, 2013). As a result of this research, we have a better understanding of the factors that determine sanctions effectiveness—in short, target costs *do* matter. We cannot argue, however, that we have accounted for a great deal of the variance in sanctions outcomes. Additional research should be directed at providing a better understanding of the causal processes governing how sanctions episodes unfold, which probably requires that we move beyond looking for simple relationships between costs and outcomes.

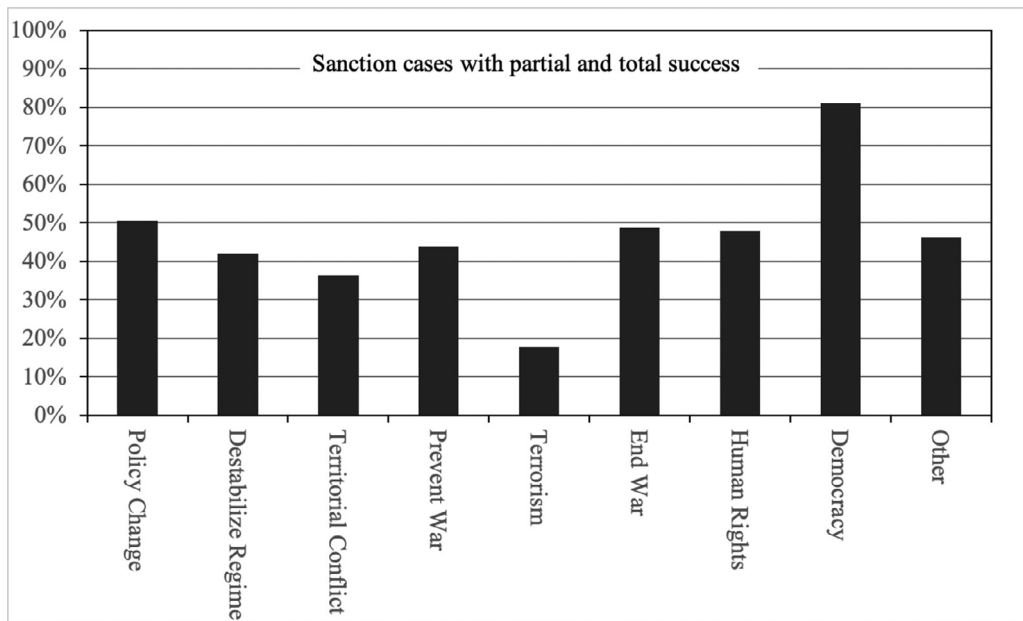


Fig. 5. Sanction Success, 2000-2016.

Note: This Fig. is produced from the Global Sanctions Database. The Fig. depicts the rate of sanctions that were declared successful in achieving their objectives (as listed on the X-axis) during the period 2000 and 2016.

The studies in this issue contribute to that goal. As discussed above, Schneider and Weber consider whether multilateral sanctions are more, or less, effective than are sanctions imposed unilaterally. Multilateral sanctions may work better, because the costs to the target are greater when it faces a coalition. Schneider and Weber compare the sanction regimes of the EU and the US. They distinguish threats from sanction imposition. The institutional structure of the EU makes the imposition of sanctions difficult, which undermines the credibility of their sanction threats, making EU threats less effective than are those from the US. Since those cases in which US sanctions would be effective are selected out at the threat stage, however, sanctions imposed by the EU appear to be more effective than sanctions imposed by the US. This highlights the fact that there is not a simple path from the, expected or realized, costs of sanctions to their effectiveness. Future research should be directed at untangling these complex causal relationships. For example, the fact that unanimity is required for sanctions imposition by the EU might make its threats less credible, but it might also make enforcement of sanctions much stronger, either because sanctions are only imposed when commitment is strong or because information sharing by multiple states makes detecting violations easier (Kobayashi, 2013). That is, the observation that sanctions imposed by the EU are more effective than are those imposed by the US might be because of the selection biases identified by Schneider and Weber or because the US is not as effective at enforcing its sanctions. We view the disentangling of these relationships as an important agenda for future research.

Morgan and Kobayashi, in this issue, also contribute to our understanding of how costs affect sanctions effectiveness. They test directly a number of hypotheses derived from a specific, formal model of sanctions processes (developed by Morgan and Miers, 1999). They explore whether the costs of sanctions to the sender, as well as those to the target, matter and how. The theory they test leads us to expect that targets and senders should condition their behaviors on the costs of sanctions to their opponents as well as on their own costs. They find no evidence that either actor pays much attention to the costs of imposed sanctions suffered by the other. Their results call into question any argument that assumes that sanctions processes are governed by cost manipulation and signaling in state-to-state strategic interactions. Again, this suggests that the relationship between sanction costs and target behavior is more complex than assumed in previous work. Morgan and Kobayashi speculate that the key might rest in a better understanding how sender states enforce sanction laws on their domestic firms and on how target states help their firms adjust to sanctions. Additional empirical work is needed to flesh out this speculation, however, as their results would also be consistent with a number of other explanations—including those that would suggest simply that there are not many systematic patterns of behavior in sanctions cases. To sort that out, we must have a better understanding the processes linking the economic effects of sanctions to the political actions of states.

In this issue, Attia, et al., study sanctions termination. Their analysis distinguishes those cases that end with target compliance from those that end in sender capitulation. They apply a competing risks model and show that the determinants of these outcomes diverge. Poor economic health and high political volatility in the target country make target compliance more likely while the political alignment between the sender and the target and leadership changes in the sender country

increase the chances of sender capitulation. Showing that the target and the sender are paying attention to different factors in their decisions to continue or terminate sanctions also calls into question a simple understanding of sanctions as a competition focusing mainly on the manipulation and endurance of costs. Senders, especially, seem to be affected relatively little by the economic costs they suffer through imposed sanctions (this is also consistent with Morgan and Kobayashi). Again, this suggests we need a great deal of additional research to help us understand how the economic effects of sanctions influence political behavior.

4.2. On the economic impact of sanctions

Overall, the economics literature has paid relatively little attention to sanctions, especially in comparison to the political science literature. In part, this is probably due to technical/conceptual difficulties in modeling sanctions theoretically (Eaton and Engers, 1992 and 1999). Another reason could be that, instead of studying sanctions, most of the international economics literature has focused on the effects of the intensifying globalization in the past half century. In combination, the development of reliable and accessible sanction databases and, especially, the recent surge in the imposition of sanctions (see Fig. 1), have led to a renewed interest in sanctions from the economics profession.

This issue features several excellent papers that capitalize on the latest developments and methods from the economics literature together with novel and detailed datasets that vary in frequency (e.g., monthly and yearly) and aggregation (e.g., individual-level vs. product-level vs. firm-level vs. aggregate data) to study the impact of sanctions. While limited in number, the papers cover a very broad area of the related literature by capturing the recent trends in sanctions, e.g., the rise in “smart” sanctions (Ahn and Ludema, and Besedes et al., both in this issue), and by quantifying the economic impact of sanctions on target countries (Ahn and Ludema), on sender countries (Besedes et al., and Crozet et al., also in this issue), and on the bilateral economic relationships between sender and target countries (Felbermayr et al., in this issue).

The increased popularity of smart/targeted sanctions in recent years (see Fig. 3) is very well-reflected in this special issue, which features two outstanding papers that offer novel perspectives on the impact on smart sanctions. Ahn and Ludema, in this issue, revisit the question of how effective “smart” sanctions are in imposing costs on the target country by building a model in which the sanctioned regime offers protection (“shield”) to the most important of the targeted firms. Using very detailed individual and firm-level data, the authors evaluate the impact of the EU and the US sanctions on Russia due to the Crimean crisis. Consistent with their theoretical hypothesis, Ahn and Ludema find that the sanctions on Russia have had a significant economic impact on the target, especially in sectors that are more tightly connected (through service inputs) to the West. Importantly, the paper offers convincing evidence that the strategic firms systemically outperform nonstrategic firms under sanctions. Ahn and Ludema conclude that shielding strategic firms is costly to the sanctioned country, which adds substantially to the total cost of sanctions. An additional implication, which we believe is also very important, is that Ahn and Ludema offer evidence that target countries can counteract smart sanctions. Even if this is costly, it is probably less costly than counteracting broad economic sanctions.

Besedes et al., focus on the effects of a particular type of “smart” sanctions: financial sanctions. The novel traits in this paper are that the authors: (i) evaluate the effects of sanctions on the sender; (ii) study impact of a particular type of sanctions on the broader economic activity in the sanctioning state; and (iii) use highly disaggregated and high frequency data. Specifically, to perform the analysis, Besedes et al. utilize monthly balance of payments data for non-financial German companies over the period 1999–2014, when sanctions were imposed on 23 countries. Consistent with the existing literature, the authors find that financial sanctions were effective in reducing the German financial activities with sanctioned countries. However, the direct impact on German companies doing business with sanctioned countries was small, due to the fact that these transactions were only a small fraction of the portfolio of these large companies. Besedes et al. offer some evidence that firms affected by the sanctions tend to redirect their activities to non-sanctioned countries. However, their overall conclusion is that the economic costs of financial sanctions to the sender country are limited. This result complements and reinforces the perception that, by targeting specific areas, “smart” sanctions generate less unintended consequences not only with respect to target countries but for senders too.

Crozet et al., in this issue, explore the impact of sanctions on the decisions of firms in sanctioning states to export (i.e., on the extensive margin of trade) to sanctioned countries. Capitalizing on recent econometric developments and detailed monthly data for the universe of French exporters, the authors find that the impact of economic sanctions on the export decisions of French firms to the target countries is significant but heterogeneous, depending on firm characteristics, the type of sanctions imposed, and the prior relationship between the sender and the target. Importantly, Crozet et al. find that the impact of new sanctions on the extensive margin of trade is significant. However, the lifting of sanctions does not lead to full recovery on the extensive margin front. This result complements the finding of Dai et al. (2021), who find that overall trade recovers completely after the removal of sanctions, and it is also consistent with one of the main findings in Besedes et al., in this issue, who argue that most of the transactions between sender and target countries are due to large firms. In combination, these papers imply that, when sanctions are lifted, the action is on the intensive margin of trade, and that large firms make up and even overcompensate for the lost extensive margin links between senders and targets.

In this issue, Felbermayr et al. introduce the new “Global Sanctions Data Base” and use it to quantify the impact of economic sanctions on bilateral trade flows between sanctioned and sanctioning states. With the help of a state-of-the-art empirical gravity model, the authors confirm that the impact of economic sanctions on trade is strong. Moreover, they offer evidence that the effects of sanctions are quite heterogeneous. Specifically, the authors find that, while trade sanctions

reduce trade significantly, other types of sanctions do not affect bilateral trade flows directly. Furthermore, in the context of trade sanctions, they show that complete sanctions are more effective than partial sanctions and that export sanctions are more effective than import sanctions. Closer control over domestic exporters is a possible explanation for the latter result. The wide heterogeneity in the estimates of effects of sanctions calls for improvements both in the theory of sanctions and in the sanction datasets.

A very interesting and important dimension, which is largely missing from the empirical literature on sanctions, is a systematic treatment of the impact of sanctions on third countries, and more specifically of sound methods to quantify the extraterritorial effects of sanctions. Some of the papers in this issue go in this direction. For example, Joshi and Mahmud, offer a theoretical framework that incorporates network externalities and complementarities. On the empirical side, Crozet et al. find evidence for sanction avoidance by exporting indirectly via neighboring countries. Besedes et al. find that firms affected by sanctions expand their activities toward non-sanctioned countries. Extending the analysis of Felbermayr et al., in this issue, [Felbermayr et al. \(2020\)](#) capitalize on the full general equilibrium structure of the gravity model to show that the sanctions on Iran have had a significant impact on the welfare of third countries, which varies intuitively depending on the economic ties between third countries and Iran. These examples indicate that the existing economic and econometric models can capture some of the effects of sanctions on third countries. Still, we believe that sanctions require a special treatment because, unlike free trade agreements (which only affect bilateral trade costs between member countries), sanctions often have extraterritorial effects that are deeper and go beyond observable economic links. This poses new challenges but also opportunities for improvements in our theories, datasets, and empirical analysis.

Another important and understudied question in the empirical sanction literature relates to the potential endogeneity of economic sanctions. This issue is particularly pronounced in the economics literature; however, it is also relevant for political science studies. The idea that sanctions are endogenous is known from the literature on the political economy of trade policy ([Kaempfer and Lowenberg, 2007](#)). Furthermore, there is plenty of anecdotal evidence that the impact of sanctions is often confounded with other effects ([Kwon et al., 2020](#)). Yet, the empirical literature has “ignored” the “potential endogeneity of economic sanctions” (p. 2, [Gutmann et al., 2019](#)), and only recently there have been efforts to formally address this important issue. For example, [Neuenkirch and Neumeier \(2015\)](#) tackle endogeneity by reducing the control sample. [Neuenkirch and Neumeier \(2016\)](#) employ a “nearest neighbor matching approach”, while [Gutmann et al. \(2019\)](#) employ an IV treatment with instruments based on the target country's geographical and genetic distance from the US, as well as its voting alignment with the US in the UN General Assembly (UNGA). Most recently, [Kwon et al. \(2020\)](#) offer a more general treatment of sanction endogeneity by proposing an instrument based on senders' aggressiveness, which can be used to study a wide range of bilateral and unilateral sanction outcomes. In combination, the significant biases in the estimates of the effects of sanctions—when they are endogenous—and the limited attention that has been devoted to this issue point to the need for further work in this area.

5. Concluding remarks

This special issue offers a selection of excellent contributions that address a number of important and timely questions related to sanctions. While limited in number, the papers in the issue cover theory, data, and econometric analysis representative of the current state of the related literature. The interdisciplinary mixture of analysis highlights the divisions between Political Science and Economics and points towards directions for future work. We argue that moving forward requires that we deepen the integration of Political Science and Economics with more extensive interdisciplinary collaboration.

The analysis of the theoretical sanctions literature in [Section 2](#) reveals that our theoretical understanding of sanctions processes is underdeveloped. Sanctions scholars have, to a large extent, drawn on theory that was designed to explain other, though perhaps related, phenomena (e.g., trade and conflict theories). We argue that understanding sanctions processes requires accounting for the connections between political goals and economic policy, between economic policy and economic effects, between economic effects and political outcomes in various areas, both intended and unintended. This is a tall order, and it is unlikely to be filled by scholars focusing solely on narrow questions within their disciplines. Meaningful advances in our theoretical understanding require greater integration of scholarship from Economics, Political Science, Law, Sociology and other disciplines.

Despite the significant progress that has been made already by political scientists and economists to develop more comprehensive, more reliable, and more sophisticated databases, we see some directions for improvement. For example, the developers of datasets should take advantage of new textual analysis technologies in order to fully utilize the information from the various sources from which sanctions data are drawn. We also believe that future data needs should be guided by improved theory—especially theory that better captures the political processes that connect economic effects to political behavior. This calls for greater collaboration across disciplines in deciding what data are needed.

Finally, from an empirical and evaluation perspectives, the papers in this issue confirm and reinforce our views that political scientists have focused on the success of sanctions in terms of achieving their declared political objectives and their assessment is that sanctions do not work, while economists have found strong evidence on the economic impact of sanctions across various dimensions of economic activity and, based on this, conclude that sanctions are effective and impactful. This raises the question of whether and, if so, what can be learned from linking the methods and findings from the two disciplines.

We view this as an important and understudied area. How do the economic effects of sanctions connect to political outcomes and the likelihood of sanction success? Partly, the answer involves determining the degree to which the foreign policy goals that led to the adoption of sanctions are met and how. Furthermore, the economic effects of sanctions are likely complex and highly contingent on the specifics of policy design and implementation. We should focus on a much broader set of questions. At one level, there is always the concern that any policy could produce unintended consequences. At another level, the economic effects of sanctions could lead to a wide range of political outcomes, many of which might not be felt until years later. These economic costs could destabilize governments, in both the target and the sender, they could shift the balance of power among domestic factions in both states, and they could lead to changes in the political relationships between either state and third countries. Unless we can explain all of these mechanisms and the connections among them, our understanding of sanctions will be like the three blind men's understanding of an elephant from the famous parable. We contend that we have to produce a more expansive, comprehensive, and interdisciplinary theoretical and empirical research program if we are to further advance our understanding of sanctions processes and to provide a sound basis for sanctions policy.

References

- Bapat, Navin, Heinrich, Tobias, Kobayashi, Yoshiharu, Morgan, T.Clifton, 2013. Determinants of sanctions effectiveness: sensitivity analysis using new data., *Int. Interact.* 39 (1), 79–98.
- Blackwill, Robert D., Harris, Jennifer M., 2016. *War by Other Means: Geoeconomics and Statecraft*. Harvard University Press.
- Cortright, David, Lopez, George, 2002. Smart sanctions: targeting economic statecraft. *Ethics Int. Affairs* 16 (2).
- Dai, Mian, Felbermayr, Gabriel, Kirilakha, Aleksandra, Syropoulos, Constantinos, Yalcin, Erdal, Yotov, Yoto V., 2021. Timing the impact of sanctions on trade. School Econ. Working Paper Ser. 2021–2027.
- Drezner, Daniel W., 1998. Conflict expectations and the paradox of economic coercion. *Int. Stud. Q.* 42 (4), 709–731.
- Drezner, Daniel W., 2011. Sanctions sometimes smart: targeted sanctions in theory and practice. *Int. Stud. Rev.* 13 (1), 96–108.
- Eaton, Jonathan, Engers, Maxim, 1992. Sanctions. *J. Polit. Econ.* 100 (5), 899–928.
- Eaton, Jonathan, Engers, Maxim, 1999. Sanctions: some simple analytics. *Am. Econ. Rev.* 89 (2), 409–414.
- Fearon, James D., 1995. Rationalist explanations for war. *Int. Org.* 49 (3), 379–414.
- Felbermayr, Gabriel, Syropoulos, Constantinos, Yalcin, Erdal, Yotov, Yoto, 2020. On the heterogeneous effects of sanctions on trade and welfare: evidence from the sanctions on Iran and a new database. In: School of Economics Working Paper Series. LeBow College of Business, Drexel University, pp. 2020–2024.
- Garfinkel, Michelle R., Syropoulos, Constantinos, Yotov, Yoto V., 2020a. Arming in the global economy: the importance of trade with enemies and friends. *J. Int. Econ.* 123.
- Garfinkel, Michelle R., Syropoulos, Constantinos, Zylkin, Thomas, 2020b. Prudence versus Predation and the Gains from Trade. Drexel University Manuscript.
- Garfinkel, Michelle R., Syropoulos, Constantinos, 2021. Costly disputes and Pareto-inferior trade in the presence of insecure property rights. Drexel University Manuscript.
- Gutmann, J., Neuenkirch, Matthias, Neumeier, Florian, 2019. Precision-guided or blunt? The effects of US economic sanctions on human rights. *Public Choice* 1–22.
- Hufbauer, Gary, Oegg, Barbara, 2007. Economic Sanctions for Foreign Policy Purposes: A Survey of the Twentieth Century, in: William A. Kerr and James D. Gaisford (ed.), *Handbook on International Trade Policy*, chapter 47, Edward Elgar Publishing.
- Hufbauer, Gary C., Schott, Jeffrey J., Elliott, Kimberly A., 1985. *Economic Sanctions Reconsidered: History and Current Policy*. Institute for International Economics, Washington, D.C..
- Hufbauer, Gary C., Schott, Jeffrey J., Elliott, Kimberly A., 1990. *Economic Sanctions Reconsidered: History and Current Policy*. Peterson Institute.
- Kaempfer, William, Lowenberg, Anton D., 2007. The political economy of economic sanctions. *Handbook Def. Econ.* 2, 867–911.
- Kirilakha, Aleksandra, Felbermayr, Gabriel, Syropoulos, Constantinos, Yalcin, Erdal, Yotov, Yoto V., 2021. The Global Sanctions Data Base: An update that includes the years of the Trump presidency. School of Economics Working Paper Series. LeBow College of Business, Drexel University 2021–10.
- Kobayashi, Yoshiharu, 2013. *Implementation of Economic Sanctions*. Rice University.
- Krustev, Valentin, Morgan, T.Clifton, 2011. Ending economic coercion: Domestic politics and international bargaining. *Conflict Manag. Peace Sci.* 28 (4), 351–376.
- Kwon, Ohyun, Syropoulos, Constantinos, Yotov, Yoto V., 2020. Pain and gain: the short- and long-run effects of economic sanctions on growth. Manuscript. Drexel University.
- Lacy, Dean, Niou, Emerson MS, 2004. A theory of economic sanctions and issue linkage: the roles of preferences, information, and threats. *J. Politics* 66 (1), 25–42.
- Larch, Mario, Shikher, Serge, Syropoulos, Constantinos, Yotov, Yoto V., 2021. Quantifying the impact of economic sanctions on international trade in the energy and mining sectors. School of Economics Working Paper Series. LeBow College of Business, Drexel University 2021–9.
- Lektzian, David, Souva, Mark, 2007. An institutional theory of sanctions onset and success. *J. Conflict Resol.* 51 (6), 848–871.
- Maggi, Giovanni, 2016. Issue linkage. *The Handbook of Commercial Policy*. Elsevier edited by Kyle Bagwell and Robert W. Staiger.
- Morgan, T.Clifton, 1984. A spatial model of crisis bargaining. *Int. Stud. Q.* 28 (4), 407–426.
- Morgan, T.Clifton., Bapat, Navin, Kobayashi, Yoshiharu, 2014. Threat and imposition of economic sanctions 1945–2005: Updating the TIES dataset. *Conflict Manag. Peace Sci.* 31 (5), 541–558.
- Morgan, T.Clifton., Bapat, Navin, Krustev, Valentin, 2009. The threat and imposition of sanctions 1971–2000. *Conflict Manag. Peace Sci.* 26 (1), 92–110.
- Morgan, T.Clifton, Miers, Anne C., 1999. When threats succeed: A formal model of the threat and use of economic sanctions. Paper presented at the Annual Meeting of the American Political Science Association. American Political Science Association.
- Morgan, T.Clifton, Schwebach, Valerie L., 1997. Fools suffer gladly: The use of economic sanctions in international crises. *Int. Stud. Q.* 41 (1), 27–50.
- Whang, Taehee, McLean, Elena V., Whang, Taehee, 2014. Designing foreign policy: voters, special interest groups and economic sanctions. *J. Peace Res.* 51 (5), 589–602.
- Neuenkirch, Matthias, and Florian Neumeier, (2015), “The Impact of UN and US economic sanctions on GDP growth,” FIW Working Paper series, FIW, 138.
- Neuenkirch, Matthias, Neumeier, Florian, 2016. The impact of US sanctions on poverty. *J. Devel. Econ.* 121, 110–119.
- Powell, Robert, 1993. Guns, butter, and anarchy. *Am. Politic. Sci. Rev.* 87 (1), 115–132.
- Powell, Robert, 1996. Bargaining in the shadow of power. *Games Econ. Behav.* 15 (2), 255–289.
- Powell, Robert, 2006. War as a commitment problem. *Int. Org.* 60 (1), 169–203.
- Schelling, Thomas C., “Arms and influence,” Yale University Press, 1966.
- Skaperdas, Stergios, Syropoulos, Constantinos, 2001. Guns, butter and openness: on the relationship between security and trade. *Am. Econ. Rev.* 91 (2), 353–357.

- Smith, Alastair, 1995. The success and use of economic sanctions. *Int. Interact.* 21 (3), 229–245.
- Syropoulos, Constantinos, 2002. Optimum tariffs and retaliation revisited: how country size matters. *Rev. Econ. Stud.* 69 (3), 707–727.
- Tsebelis, George, 1990. Are sanctions effective? A game-theoretic analysis. *J. Conflict Resol.* 34 (1), 3–28.
- Wagner, R.Harrison, 1988. Economic interdependence, bargaining power, and political influence. *Int. Org.* 42 (3), 461–483.