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What the political economy literature tells us about blockades and sanctions

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Abstract

Economic sanctions are usually defined as restrictions on customary trade and financial relations imposed by one or more countries against a target country, group, or individual for political and security policy purposes. Most existing studies of the effects of sanctions and blockades, whether bilateral or multilateral, are conducted from the perspective of the initiating or 'sender' country, which is typically a great power, e.g., the United States. However, there is a lack of literature on the possible policies that target nations may develop to prevent compromising their security, especially economic security, as well as neutralize the negative impact of sanctions. Sanctions and blockades disrupt the flow of international trade in goods, services and capital. These have consequences for the composition of output, employment, consumption and investment, and may also exert substantial effects on households, firms and government expenditures in targeted nations. Thus, it is important to understand the effects of blockades and sanctions on economic growth and public expenditure on security, military, health and education. Apart from the long-run growth consequences of sanctions and blockades, many of the macroeconomic effects are likely to be relatively short-lived, decaying over time as the economy adjusts to sanctions. Therefore, econometric techniques applied to investigate the impact of sanctions should be able to capture the simultaneous interplay between economic outcomes, political factors and adjustment processes, as in reality economics and politics are inseparable.

Keywords

Sanctions, blockades, international trade, economic effects, social effects, political effects.

What the political economy literature tells us about blockades and sanctions[1]

1 Introduction

The levying of economic sanctions with political objectives in mind has been an instrument of statecraft since time immemorial, the Athenian economic sanctions against Megara being a prime example dating back to 432 BC. Their use persists to the present day, with sanctions directed against Iran, North Korea and the blockade of Qatar serving as current examples. Indeed, the popularity of sanctions as a foreign policy tool has increased since the end of the Cold War and nearly 800 episodes of sanctions were initiated only within the first 15 years of that period (Morgan et al., 2014).

Economic sanctions are a foreign policy tool used to coerce foreign governments, i.e. sanction targets, into behaviour desired by sanctions' sender (e.g., Baldwin, 2000; Askari et al., 2003). They signal the sender's willingness to interfere in the decision-making process of another sovereign state or impair its capabilities (Early, 2012). Sanctions can be used to either explicitly or implicitly affect regime and structural change in the target country, often motivated by human rights or desire for democratic reforms. Thus, sanctions could be considered as an indicator that, in practice, state sovereignty is no longer inviolable (Weiss, 1999). Askari et al. (2003) argue that economic sanctions aim towards achieving non-economic ends and that they are more preferred than other options, such as military interventions, due to their relatively lower costs on both the sender and the innocent citizens in the targeted country. Probably the most famous sanctions aimed at regime change are the decades-long US sanctions against Cuba. Notably, regime change has been the purpose of more than 50% of post-Cold War sanction episodes (Hufbauer et al., 2007). For example, the blockade of Qatar, which began in 2017 and involves banning Qatari aeroplanes and ships from entering the sender countries' airspace and sea routes, and closing the land crossing with Saudi Arabia, is aimed at pressuring the Qatari authorities to alter a number of their domestic and foreign policies. Another major motivation behind sanctions, but not necessarily directly applicable to the blockade of Qatar, is military impairment. For example, sanctions imposed on North Korea, Iran and, in the past, Iraq, Pakistan, India and South Korea, were aimed at preventing those countries from obtaining nuclear, chemical or biological weapons (Hufbauer et al., 2007).

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Sanctions against Iran have a long history and are probably the most researched. Since its Islamic revolution in 1979, the country has been under harsh rounds of US sanctions which in some periods have been supported by other Western countries. Every new round of sanctions has provoked the Iranian government to apply a series of countermeasures to neutralize their negative impact. The retaliation strategies adopted by Iran have influenced its economic, political and trade relationships with the GCC countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates). Economic diplomacy has become an important tool of Iran's policy as the country has tried to shift its trade away from Europe towards other GCC and Asian countries. Iran has effectively increased the level of trade and investment links with its GCC and other neighbors in order to discourage them from joining the US and EU-imposed sanctions. The difficulties in trading with the major European partners during the sanctions period have motivated Iran to increasingly rely on re-exporting opportunities through its GCC neighbours (Dizaji, 2018). Perhaps for these reasons, the unilateral sanctions imposed by the US have not had a great impact on Iran, as argued by Alikhani (2000) and Cordesman et al., (2014), but instead damaged American interests. For example, after the US had introduced the Iran and Libya Sanctions Act (ILSA), American firms, which once had supported the 1979 sanctions against Iran, intensified pressure to remove sanctions because they had found themselves paying their costs. Consequently, the US decreased sanctions against Iran (Fayazmanesh, 2008).

Iran and Qatar have similar economic structures as their economies and government revenues are heavily reliant on resource rents (Dizaji, 2014): oil and gas exports comprise the biggest part of their exports. Their main import products are capital, industrial and consumer goods as well as machinery, which are mainly obtained from developed countries. Such highly resource-dependent countries may be more vulnerable to sanctions and blockades as their governments rely heavily on revenues from exporting one or several commodities. This makes it is easier for sender countries to obstruct their financial channels (Dizaji, 2019b). However, exports diversification strategies may be applied to reduce their vulnerability to potential sanctions.

As we show in this review paper, most existing studies of the effects of sanctions and blockades, both bilateral or multilateral, are conducted from the perspective of the initiating or sender country, usually a major global power such as the United States (Peksen, 2019b). Previous studies have mainly focused on whether the sanctions were successful in achieving their political aims, such as regime change, or concerned mainly with disruptions to international trade and financial flows. There is a relative scarcity of studies focusing on the effects of sanctions on target economies – the few existing studies focus on how sanctions can be effective in damaging the target economy. However, there is a lack of literature on the possible sanctions coping policies that target nations may develop to prevent compromising their security, especially economic security, as well as neutralize the negative impact of sanctions. Kozhanov (2011) recognised that most definitions of economic sanctions tend to mislead researchers as they usually concentrate on relations between the “sanctioning state/states (the sender) and the sanctioned country (the target)”, which eliminates factors such as the decision of the political elite in the sender country to implement punitive measures, how far is the sanctioned country able to mitigate negative economic effects, the loyalty of the target country’s population, the role of international environment, including behaviour of third countries and international cooperation.

The purpose of this review paper is to consider results of the existing studies on the economic, political and security impacts of sanctions and blockades in a variety of target countries and highlight the remaining research gaps. Moreover, it tries to summarize the factors that are important in determining the success and failure of economic sanctions.

The review is organized as follows: section 2 provides a brief overview of the economic effects of the sanctions. Section 3 reviews the impacts of sanctions on International trade and investment, and section 4 highlights the political and social impacts of sanctions. The methodological challenges regarding the modelling and capturing the impacts of sanctions in previous studies are addressed in section 5. Finally, section 6 provides a concise summary.

2 Economic effects

Turning to the economic effects first, economic sanctions disrupt the flow of international trade in goods, and services as well as the flow of capital. So, in many ways sanctions are akin to quantitative trade policies and restrictions on financial flows. From the viewpoint of standard textbook economics, these are welfare reducing. If the sender country is a major economy, it may remain largely unaffected by trade restrictions as the magnitude of trade disruptions is usually quite small relative to the size of its economy. Its economic inter-dependence with the target nation is likely to be relatively small, or the sanction itself, if directed against a major trade partner may be partial or small in terms of magnitude. Trade sanctions directed towards major trade partners are rarely prohibitive in nature, in other words trade is not eliminated, as is exemplified by the recent US governments trade restrictions on Chinese imports. In contrast, the disruptions may be substantial for the target country that is not a major economy. Hence, the costs of the sanction in economic terms is far greater for the target than for the sender. When sanctions are directed against major (economic and political) powers they tend to be selective. Murshed (2020) presents a theoretical Keynesian (or structural) macroeconomic model of trade and financial sanctions imposed by a country in the global North against a target in the global South. The sanctions can restrict both exports and imports of the target country as well as financial flows to it and unambiguously hurt the targeted nation. In some circumstances the sender can improve its terms of trade. A more neoclassical macro-model can be found in Eyler (2007, chapter 5).

Economic sanctions will have consequences for the composition of output, employment levels, consumption, investment as well as government expenditures (Farzanegan, 2011; Dizaji, 2014). Apart from the long-run growth consequences, many of the macroeconomic effects of sanctions are likely to be short-lived, decaying over time as the economy adjusts to sanctions (Dizaji & van Bergeijk, 2013). There is a paucity of explicit theoretical analyses of the macroeconomic impact of sanctions, however. In addition to the macroeconomic effects, there are effects on households and firms. Households may experience loss of purchasing power which may affect adults and children in terms of malnutrition and adverse health and education outcomes, as was the case in the UN sanctions against Iraq during the 1990s (Ali & Shah, 2000; Popal, 2000; Simons, 2016). In response to increasing concerns on human costs of sanctions, the UN and the Iraqi government reached an agreement and established the 'oil-for-food' program, which enabled the country to export a limited amount of oil in order to import basic foods and medicine. Sanctioned countries may also experience increases in economic inequality and poverty rate, harming the ordinary citizens more than target country's leaders (Afesorgbor & Mahadevan, 2016).

In response to being a target of sanctions, or an increased risk of such an outcome, governments are expected to design plans and strategies aimed atreducing the various adverse effects. Examples of such strategies include the concept of a “resistance economy” which has been frequently highlighted by Iranian anti-Western parties (Babak, 2013; Poorolajal, 2017). It relies on import substitution and favours domestic over foreign investment in order to reduce the target’s reliance on sanctioning economies and strengthen its resilience against international sanctions. The target country may try to develop its political and economic ties with the enemies and political opponents of the sender country to offset the negative impact of sanctions and also to send a political signal to the sender country that the target will not condone the sender’s inimical action. On the other hand, the ongoing political crisis between the sender and the target may lead to “sanctions busting” and motivate third countries to expand their economic ties with the target nation in order to benefit from economic opportunities arising from the sender’s decision to restrict trade with the target. A similar outcome labelled as the “black knight effect” may be driven by political motivations of third countries (Hufbauer et al., 2007; Drury, 1998; Dizaji, 2018). The latter phenomenon is an interesting avenue for research in the context of cooperation between Iran and Qatar. Both countries are suffering from sanctions and, moreover, Iran is the regional political competitor to Saudi Arabia and its regional allies (i.e., UAE, Bahrain and Egypt) who imposed the blockade on Qatar. Such strategies have yet not received much attention from researchers and there is no sufficient evidence on whether, and under what conditions, such efforts could be successful. Providing empirical evidence and innovative recommendations for policies mitigating negative economic and political effects of sanctions should be another priority of the future research.

2.1 Effects on economic growth

The sanctions literature is overwhelmingly dominated by studies of sanctions imposed by the US and a handful of multilateral organizations such as the UN (e.g., Early, 2012; Neuenkirch & Neumeier, 2015). Those studies show evidence of a strong and long-lasting negative impact of UN-imposed sanctions on target country’s economic growth, nonetheless, this effect decreases over time. In the first econometric study of the effect of economic sanctions on economic development of the target country, Neuenkirch and Neumeier (2015) analyse the effect of the US and UN-imposed sanctions on 68 countries over the period from 1976 to 2012. They find that sanctions imposed by UN on average reduce the growth of GDP per capita in a target country by 2.3 – 3.5 percentage points and their effect lasts for a period of 10 years. The impact increases with the severity of sanctions (and embargoes) – severe restrictions that affect nearly all economic activity tend to decrease GDP growth by over 5 percentage points. In comparison, US-only sanctions have a much smaller and shorter lasting impact on the targeted economy, and reduce GDP growth by 0.5 – 0.9 percentage points over a seven-year period. The impact of US sanctions is more heterogeneous across target countries than that of UN sanctions which probably could be explained, at least partly, by US sanctions being relatively easier to circumvent by increasing trade with other countries or negligible economic links with the US in the pre-sanctions period.

Neuenkirch and Neumeier (2015) consider also the detrimental effect of sanctions on target's GDP over time and conclude that it decreases in time. The negative effect on GDP growth is shown to decrease each year since the sanction imposition by 0.32 and 0.17 percentage points for the UN and US sanctions, respectively. They propose two potential explanations for this finding. First, sanctions which manage to inflict serious economic pain to the target may be more effective in achieving their objectives and thus lifted sooner. Second, the longer the target is able to resist the economic and political duress of sanctions the more likely it will find channels to circumvent their impact and restore investors' confidence.

The literature's focus on the UN- and US-imposed sanctions might mean that the existing literature produces a biased picture of the impact of economic sanctions and blockades, which may not be applicable to sanction episodes not involving either of these senders, such as the recent blockade of Qatar. Thus, there is a significant knowledge gap in the area of the effectiveness and effects of sanctions imposed by countries that are not major global powers.

2.2 Public and military spending

Sanctions not only increase international tensions, but often are a prelude to or accompanied by a military intervention (Hufbauer et al., 2007), thus they may lead to increases in the target nation's military spending. Dizaji and Farzanegan (2019) develop a theoretical model to consider the impact of sanctions on military spending. They assume that sanctions have two different effects on the target country: security and income effects. According to the security effect, imposing the sanctions informs the target country that the sender is serious about pursuing its wishes and non-compliance may result in a military attack in the future. This motivates the target country to increase the military spending to resist a possible military intervention. According to the income effect, sanctions reduce the financial resources of the target country and consequently decrease its military expenditures. Therefore, the final impact of sanctions on target's military expenditures depends on the relative size of these two effects. If the income effect is stronger than the security effect, the military spending will decrease, otherwise it will increase. The intensity with which sanctions are applied may also be important for controlling military spending of the target country. Unilateral sanctions did not seem to have a statistically significant impact on Iran's military spending, whereas multilateral sanctions led to significant reductions in Iran's military expenditures. Dizaji (2019a, 2019b) argues that this effect is achieved through influencing political institutions within the target country.

In the study of the impact of sanctions on civil war in Africa, Hultman and Peksen (2017) distinguish between imposed and threatened sanctions, and between arms embargo and economic sanctions. Their findings show that *imposed* arms embargoes are likely to moderate conflict violence. Perversely, economic sanctions, wheater actually imposed or only threatened, and threats of arms embargoes are likely to increase conflict violence. Lektzian and Sprecher (2007) argue that sanctioned countries may increase their military capabilities in order to demonstrate that they are not vulnerable to the external threats. Escribà-Folch (2009) points out that if sanctions manage to reduce external revenues, they may lead to a reduction in the amount of patronage that dictators provide to their supporters through public expenditures.

In a more recent study of more than 40 developing countries over the period 1990-2017, Dizaji and Murshed (2020) demonstrate that while military expenditures decrease in response to arms embargo shocks, the expenditures on education, health and GDP per capita are likely to respond positively to these shocks.

3 Effects on international trade and investment

Sanctions as a foreign policy tool have not been immune to economic globalization: as economies tend to be more open to international trade and international financial systems, they also become more sensitive to economic sanctions. In that respect, sanctions are not very different from other trade policy instruments, such as tariffs, which have been shown to be increasingly used for political objectives under the current Trump administration in the USA (see Forrer & Harrington, 2019). Theoretically, targeted countries may suffer from a slump in exports and/or imports, relative loss of bargaining power in international markets and limited access to financial and capital asset markets or withdrawal of investors (Hufbauer et al., 2009; Evenett, 2002). Nevertheless, that increased openness may offer avenues for minimizing negative impacts of sanctions should they be imposed (e.g., Davis & Engerman, 2003). More open countries may find it easier to find alternative buyers of their products and suppliers of imports (Early, 2012), although one would expect there to be a higher cost a target economy would have to pay for such substitutes due to its diminished bargaining power in international markets (Neuenkirch & Neumeier, 2015). In some cases, sanctions may even spawn lucrative commercial opportunities. As the terms of trade of the target country change, its comparative advantage may shift offering incentives for third parties to step in and fill the trade gap (Kaempfer et al., 1999; Early, 2012). Early (2009) shows that sanctions busting behaviour is observed in 65% of all sanction episodes. An expansion of the informal (shadow) economy may also be observed as economic agents try to evade sanction measures (Heine-Ellison, 2001; Andreas, 2005; Lee, 2014).

Shin et al. (2016) focus on the relationships between sanctions and international trade, foreign direct investment and foreign portfolio investment. Following theoretical considerations of the impact of sanctions on the target economies and a cross-section and time-series econometric analysis of 133 countries between 1970 and 2005, they conclude that, on average, sanctions are not an effective foreign policy tool. Their results suggest that irrespective of the number of sending countries, type of sanctions and magnitude of costs to the senders and the target, on average sanctions fail to cause sufficient economic damages to the target to coerce it to behave in the way desired by the sanctions' senders. They attribute this impotence of sanctions to the efficiency of global markets which ensure the flexibility of capital and trade in commodities. For example, when sanctions are imposed and sender country's businesses leave the target country, a market gap is created which opens opportunities for either target's domestic firms or firms from third countries. The target country can further incentivise businesses to invest and fill that gap by an implementation of appropriate policies such as tax incentives. Additionally, in spite of the sender's wishes, its firms may find it difficult to withdraw their assets from the sanctioned country after having invested in large FDI projects (for more evidence, see Liu, 1997). Shin et al. (2016) show that economic regionalism in the form of trade blocs such as the EU, NAFTA, ASEAN, APEC, or MERCOSUR may further impair the efficacy of economic sanctions by non-member states. In order to avert economic damage, the target country's government may turn to other bloc members for help. The conclusion is that the sender must be able to prevent the target from redirecting its economic relations to other countries or markets for sanctions to achieve their objectives, otherwise sanctions are likely to fail.

Haidar (2017) explores the export deflection mechanisms sparked by the sanctions on Iran. The study shows evidence that approximately two-thirds of Iranian exports which were initially wiped out by export sanctions were eventually deflected to third (non-sanctioning) countries. This shift was accompanied by adjustments at firms' level. Haider (2017) observes that firms which traded only with the third countries prior to the sanctions increased their exports most significantly. In general, larger exporters appeared more adapt at deflecting their trade to alternative destinations and, on average, exporters were more likely to deflect their exports to (non-sanctioning) countries in which they had been present before sanctions were imposed. There was some welfare loss because the value-measured export deflection was achieved through price reduction and increases in traded quantities. Finally, the destinations of export deflection were countries that were more politically sympathetic to Iran. Haider's observations of exporters' behaviour are consistent with findings of other authors, not necessarily in the context of sanctions, who show that exporters tend to adjust to shocks in one market by changing their sales in other markets (Vannoorenberghe, 2012; Blum et al., 2013). Overall, in the case of Iran, Haider (2017) concludes that if the goal of sanctions was to restrict Iranian exports then they have failed due to the export deflection, but if the sanctions were aimed at inflicting considerable pain to domestic firms so that they would press the Iranian government for policy change then sanctions have turned out to be effective.

In the specific context of economic blockades, Habibi (2019) investigates how the 2017 economic and transport blockade of Qatar by the other Gulf States has affected the region's economic relations with Turkey, which opposed the blockade and expressed support for Qatar. Habibi (2019) observes a pronounced rise in bilateral Turkey – Qatar trade and investment flows, which is consistent with the export (import) deflection discussed above, and negative impact on Turkey's economic ties with Saudi Arabia and the United Arab Emirates. Qatar's resilience and efficiency in rapid adaptation when faced with the blockade are emphasised in Bouoiyour and Selmi (2020) who note that Qatar has managed to retain its status as the world's top exporter of liquefied natural gas. This has provided an ongoing cash flow which combined with substantial pre-blockade financial reserves constituted a buffer which allowed the country to accelerate structural reforms in order to ensure its international competitiveness and expansion of domestic food production.

The importance of intensity of imposed sanctions in affecting the sender and target countries' trade flows has also been emphasised in the literature.

Hufbauer and Oegg (2003) divide the sanctions into three categories considering their severity i.e., limited, moderate and extensive. They find that extensive sanctions affect trade flows significantly while, there is more variance regarding the trade impact of moderate and limited sanctions. Caruso (2003) finds that US unilateral extensive sanctions influence bilateral trade between targets and third countries negatively, while limited and moderate sanctions create a weak positive impact on their bilateral trade. Dizaji (2018) finds that, although the unilateral and limited US sanctions against Iran (before 2006) did not influence Iran's exports to third countries significantly, they increased Iran's imports from MENA, East Asia and EU countries. Moreover, he indicates that extensive sanctions imposed multilaterally by US and other Western countries against Iran significantly damaged Iran's imports from third countries and exports to them.

The current debate does not shed sufficient light on underlying processes because it lacks a dynamic dimension (Peksen, 2019b). Although some efforts have been made recently to evaluate the overall effectiveness of sanctions over time (see Dizaji & van Bergeijk, 2013), the current state of the art does not shed much light on the process of adjustment of the targeted economy or sectors to sanctions. In other words, we do not know how readily targets can adapt to foreign-imposed restrictions and we do not have reliable and systematic estimations of elasticities of substitution at country and sector levels (Peksen, 2019b).

The impact of sanctions on trade flows, and the economy as a whole, is likely to materialize at the industry and firm level as they experience disruptions to their trade networks and otherwise profitable commercial activities (van Bergeijk, 1995). Firms may suffer from a loss of reputation, being isolated on the international markets as well as limited access to international credit markets as potential contractors and investors might be concerned about their ability to fulfil contracts (Neuenkirch & Neumeier, 2015). These disruptions are likely to have non-trivial effects on the economy's value chains as firms within the target country face the necessity of seeking out new trading channels and opportunities to replace those lost due to the sanctions (Early, 2012). A good example here is the inflow of US firms wanting to bypass US sanctions against Iran to the United Arab Emirates after the country signed a defence agreement with the United States in 1994 (Swibel, 2004). Nonetheless, finding new buyers, suppliers and negotiating new deals is likely to result in a substantial increase in the firms' transaction costs and lead to non-productive use of resources (Neuenkirch & Neumeier, 2015), which may put a significant burden on firms and the sanction-targeted economy as a whole in the immediate aftermath of the imposition of sanctions. To date, there is little evidence showing how long lasting such effects are likely to be, how long it takes industries and firms to recover and what is the long-run impact on the target economy's competitiveness.

Another issue which has so far been neglected in the literature is the effect that lifting of sanctions has on trade flows and economic relations between target and sender countries. The issue that remains unanswered is the pace at which the two sides reconstruct their trade relationship, if at all. The recovery of trade after lifting of sanctions is not likely to be a mirror image of the changes that followed the imposition of sanctions and significant asymmetries are expected. An episode of sanctions damages the trust between the target and the sender, consequently increasing risks involved in trade and transaction costs of commercial relationships (Morrow et al., 1998; Lektzian & Souva, 2001). The political conditions of the target and sender countries, both internal and external, are important in rebuilding the economic linkages when sanctions are lifted. Non-democratic states have more flexibility to nationalize industries and/or interfere in trade. This leads to quick increases in uncertainty and risk and thus of transaction costs which hurt trade (North, 1990; Eichengreen & Irwin, 2009). In contrast, democratic institutions reduce transaction costs and promote trust and stability between economic actors by legitimizing contracts, protecting private property, among others (Uzzi, 1997; Milner & Kubota, 2005; Aidt & Gassebner, 2010). Overall, better quality of political institutions helps trade to return to its pre-sanctions levels faster (Hardin, 1993; Uzzi, 1997).

4 Social and political effects

On the political side, sanctions might or might not lead to regime change or achievement of other objectives. Empirical studies consistently show that effectiveness of sanctions is questionable as they fail to achieve their aims in 65 – 95% of cases (Hufbauer et al., 2009; Pape, 1998). In order to assess sanctions' effectiveness, one should measure it against the actual goal attached to the issue of sanctions. While doing this, it is important to recognise that sanctions impose costs on both the target and the sender, and both those sides should be considered. The costs suffered by the sender and imposed on her constituents are a strong statement of norms and resolve in achieving desired results – a powerful signal to the target (Bierksteker & van Bergeijk, 2015). Sanctions can destabilize regimes, even if other desired political outcomes do not materialize (Marinov, 2005), and increase political repression in targeted states (e.g., Perksen & Drury, 2009; Browne, 2011; Escribà-Folch, 2012; Lucena Carneiro & Apolinário Jr., 2016). Dizaji and Murshed (2020) find that arms embargoes specifically lead to a reduction in military expenditure, the size of military forces, and involvement of the military in politics. Although this demilitarisation improves the different aspects of democracy in developing countries, the drawback is that these improvements are accompanied by an exacerbation of ethnic tensions and internal conflict.

4.1 Conditions for sanctions' success

The literature on whether economic sanctions succeed in inducing alterations in the target country's behaviour is a matter lacking consensus in the academic literature (see, van Bergeijk, 2019). Schneider and Weber (2019) argue that sanctions or 'economic coercion' met with some success during the immediate post-Cold War period from 1989 to 2016, which they characterize as the 'liberal era'. With regard to credibility, van Marrewijk and van Bergeijk (1995) demonstrate that sanctions may work in the long-run if the target nation gradually learns about the credibility of sanctions, costs to its economy and the sender's determination. Furthermore, there is also a debate about whether unilateral or multilateral sanctions work better in changing behaviour (Bapat & Clifton, 2009), as well as the greater efficacy of sanctions that target individual firms rather than the target's entire economy (Ahn and Ludema, 2019). A remaining theoretical lacunae remains in terms of the credibility of compliance with the sanctions on the part of the target nation: it might very well be that a sanctioned nation feigns compliance with the sender's wishes but secretly reneges on them.

Lektzian and Patterson (2015) theoretically model the success of sanctions based on a factor-based model of political economy and draw conclusions about sanctions' impact on the distribution of political power within the target country, depending on its openness to international markets. In their analysis, they treat sanctions as exogenous shocks which reduce target country's exposure to international trade and finance, and assume that: (i) owners and intensive users of the abundant factor of production hold economic and political power in a country with an open trade regime, whereas (ii) it is the owners and intensive users of scarce factors of production who hold economic and political power in a country which is closed to international trade. These structures matter for the impact of sanctions. If real rates of return to the abundant factors of production are diminished by sanctions, we should expect the owners of those factors to press the government for changes that would result in lifting of the sanctions. Conversely, in a close economy the sanctions should exert negative impact on the owners of the scarce factors of productions so that they use their economic and political power to push for policy changes that would bring an end to sanctions. Another lesson from the Lektzian and Patterson's model is that by applying pressure in certain points, sanctions may cause shifts in the relative wealth and consequently political power distribution and dynamics in the target economy. In particular, government may be more willing to make concessions if sanctions threaten the strength and wealth of governing elites and empower their political challengers.

In the context of the sanctions success, Bierksteker and van Bergeijk (2015) postulate seven conditions which enhance the probability of achieving policy goals attached to the sanctions. First, in order to exert real pressure and inflict economic pain on the target, trade volumes between the target and the sender should constitute a substantial share of the target's economy prior to the imposition of sanctions. Second, the likelihood of sanctions success is the largest in the initial years after the imposition, thus sanctions (or their threat) should 'bite' immediately. Third, the sender should not neglect the importance of the psychological factors associated with expectations, credibility and strategic interaction. They argue that sanctions hurt most when they are not anticipated and that their threat may be more effective than the actual imposition. The risk tolerance of targets should also be considered: the more risk-tolerant the target the less likely sanctions are to be effective. Fourth, the target's political regime matters. More democratic or less authoritarian regimes are more likely to cave in under the pressure of sanctions whereas ideology-driven regimes are difficult to coerce. In some cases, sanctions may strengthen rather than weaken the target government by boosting its popular support through the rally around the flag effect. Fifth, sanctions are more effective when they are multilateral as inclusion of multiple senders reduces the target's chances of sanctions evasion or trade diversification. Sixth, a single type of targeted sanctions should not be imposed in isolation. Simultaneous imposition of three or more different types of targeted sanctions (e.g. import restrictions, export limitations and financial sanctions) enhances the effectiveness of coercion, signalling and constraint. Seventh, comprehensive sanctions lead to substantial collateral damage while targeted sanctions cause less damage but can be as effective as comprehensive sanctions.

4.2 Sanctions' impact on regime and democracy

The effect of sanctions on democracy and state repression is expected to depend on the degree of democracy already present in the targeted nation

(Blad, 2019) as well as the context surrounding the imposition of sanctions. For example, Peksen and Drury (2010) note that sanctions tend to worsen the democratic credentials of targeted countries, assigning this outcome to the rally around the flag effect induced by sanctions. However, Frye (2019) did not find any evidence of such effect in his survey of the Russian public about their attitudes towards the sanctions imposed on the country following the annexation of Crimea. In contrast, he observes that the support for the Russian government actually declined among some groups, suggesting at least partial effectiveness of sanctions, but at the same time the public voiced diminished support for the sender countries. Things appeared to work differently in Qatar following the 2017 blockade. Another survey-based study by Gengler and Al-Khelaifi (2019) shows mobilisation of Qatari citizens behind the country's authorities in an attempt to stave off negative consequences of the blockade. Thus, the evidence here is mixed and the effect of sanctions on the attitudes of the target's public opinion is likely to be non-homogenous and differ from country to country and case to case.

Bierksteker and van Bergeijk (2015) argue that authoritarian regimes are less likely to be coerced by an imposition of sanctions. However, Peksen (2019a) shows that this effect is not homogenous across various types of autocratic regimes. His results show that single-party and military regimes are capable of withstanding foreign coercion and pressure thanks to their enhanced capability for repressive tactics and positive inducements towards citizens, whereas sanctions targeted at "personalist" regimes are likely to be as effective as those imposed on democracies due to "personalist" regimes' lack of strong institutional capacity.

4.3 Humanitarian impact of sanctions

A large part of the literature has only studied the effects of sanctions on major economic relationships, while neglecting the broader costs to society. Research suggests that during sanction episodes there are substantial non-economic impacts on health (Shahabi, 2015; Shahabi et al., 2015; Kheirandish et al., 2015), gender (Drury & Peksen, 2014) and human rights (Browne, 2011). There can be an impact of sanctions on human rights, as regime close ranks and target public goods benefits to a narrower coterie of supporters (Peksen, 2009). Economic sanctions and blockades often lead to substantial suffering by vulnerable groups, as happened in Iraq, former Yugoslavia, and Haiti (Weiss, 1999). Sanctions impose suffering on societies through the limited availability of clean water, food, medicines and healthcare services (Cortright & Lopez, 2000; Garfield, 2002), leading to a pernicious effect on life expectancy and infant mortality in the target country (Ali & Shah, 2000; Daponte & Garfield, 2000). Moreover, they dampen the target's government expenditures on education, health and culture by restricting the government revenues (Farzanegan 2011; Dizaji 2014). Most of the existing studies on such societal and living standard impacts of sanctions are qualitative and based on single-country case studies of sanctions imposed by the US or the UN, thus their findings may not be readily generalized to other target countries or cases of sanctions imposed by other senders. Maloney (2015) had also studied economic hardships and its relationship with policy change, which exists yet not immediately nor in a linear manner. She also addressed the way on how economic sanctions reshape decision making, by studying the case of Iran in light of the US sanctions.

4.4 Impact on international alliances

Economic sanctions may put strain and pressure on international alliances, affecting their reliability, strength and durability. The target country may expect support from its allies or seek it from other third countries (Naylor, 2001; Early, 2012; Shin et al., 2016). Conversely, the target may suffer from a loss of reputation which may it within the international community and deter other countries from tightening political or economic relations, including providing aid and investments (Neuenkirch & Neumeier, 2015). However, regimes respond in various ways to sanction. For instance, the Iranian regime's responses to sanctions have ranged from enthusiasm, to ridicule, and threats of retaliation (Amuzegar, 2014).

Finally, force is the ultimate option if economic sanctions fail to achieve their targeted goals. There are many reasons to resort to force in this case, such as preserving prestige, legitimise their initially imposed sanctions, justify its policy of demonisation towards the target (Gartner and Shahmoradi, 2019).

5 Methodological challenges

Studies of economic sanctions and blockades encounter numerous methodological challenges which appear to be driven by two main issues: the availability and reliability of data, and econometric modelling difficulties caused by the endogenous relationship among social and economic factors (variables).

Van Bergeijk and Siddiquee (2017) demonstrate the importance and implications of the first aforementioned challenge. They scrutinise how changes appearing in the often used and widely cited sanctions database from the Peterson Institute between its second (Hufbauer et al., 1990) and third editions (Hufbauer et al., 2007) influence the empirical results based on those data. They identify considerable differences in case selection and (re)coding between the two versions which are not transparently explained or justified by the datasets' authors but may lead to significant differences in result and policy prescriptions in studies based on the data. For example, the 205 cases that appear in the third edition do not include all 108 cases that were reported in the second edition. Changes were made in the way the dataset measures the success of economic sanctions and the sanction attributes. By conducting multivariate probit regressions, van Bergeijk and Siddiquee (2017) show that these changes on their own make it more likely to find the same episodes of sanctions successful. Overall, the authors show that the changes in the dataset methodology lead to upward bias in assessing the sanctions' contribution to modest policy change, duration, and cost to target country. Downward bias are identified in evaluation of the sanctions' contribution to regime change, military impairment, companion policies, and cost to the sender country. These biases lead to real policy implications. For example, the evidence that sanctions appear less likely to impair target's military capacity and, therefore disrupt its military endeavours, combined with the evidence on the importance of good prior relations for sanctions' success (Hufbauer et al., 2007) provide an argument that success of sanctions could be helped if they are introduced as a "shock therapy" rather than implemented gradually (see also Bierksteker & van Bergeijk, 2015).

Van Bergeijk and Siddiquee (2017) also identify a major shortcoming of currently available data (not only Hufbauer et al.'s) which may cause significant biases in empirical results: the tendency to under-report sanction episodes between countries of no major power status, sanctions imposed in relative secrecy and those without documentation in English. Unfortunately, such skewed samples risk in empirical analysis are likely to lead to unreliable results from which not much can be learned. Another methodological challenge is that sanctions are typically accompanied by other foreign and security policy tools, e.g. incentives and diplomatic pressure, which may further confound their effects (Bierksteker & van Bergeijk, 2015). It is notoriously difficult to reliably measure and consider all those tools, some of which may remain secretive, in applied empirical analysis but their exclusion is likely to result in the omitted variable bias and only a partial understanding of the role sanctions play in shaping foreign policy (Peksen, 2019b).

Nonetheless, even the aspects that can be fairly easily observed and measured are not always correctly captured by researchers. Van Bergeijk and Siddiquee (2017) point out that trade linkages between the target and the sender should be expressed as a share of target's GDP rather than the share of total trade, which is the common practice in the literature, as the former captures better the overall economic pain of sanctions to the target.

The vector autoregressive (VAR) models have been applied in several previous studies to capture the dynamic economic and political impacts of sanctions (e.g., Farzanegan, 2011; Dizaji & Bergeijk, 2013; Dizaji, 2014; Dizaji, 2019a). VAR models are based on the historical responses of macroeconomic and political variables to exogenous shocks, i.e. sanctions in our context. However, there are two weaknesses associated with applying traditional VAR models. Firstly, conventional VAR models are unable to capture nonlinear dynamics of regime-switching and asymmetric responses to shocks. Economic theory suggests that the effects of sanctions are influenced by conditions in the target country. Secondly, models of the international transmission of sanction shocks have only studied the major economic relationships, while neglecting the broader costs to society. This provides a strong argument for broadening the set of variables while the traditional VAR models cannot be used for a large group of variables. To overcome this problem some studies have applied Panel VAR (PVAR) models (Dizaji, 2019b; Dizaji & Murshed 2020). The lack of data is one of the main causes of scarcity of studies addressing macroeconomic fluctuations in sanctioned countries and a major threat to their validity. PVAR enables the observations from several countries to be pooled together, producing more accurate results.

In order to examine the impact of sanctions and blockades on the structure of international trade some studies have extended the standard formulation of gravity model to include sanctions dummy variables (Hufbauer et al.,1997; Hufbauer & Oegg, 2003; Caruso, 2003). The gravity model of international trade is inspired by the principles of Newtonian physics and its basic intuition is that the larger economies of two countries are and the closer is the distance between them, the larger the trade flows between them (Anderson, 1979). According to Kaempfer and Ross (2004) the gravity approach performs better in prolonged sanction episodes because it can dynamically account for other exogenous shocks and changes to countries' economies that may considerably alter their trade profiles, something that time series methods may struggle with.

A way to escape the challenges of data analysis for a wide sample of countries might be offered by the case study methods which are frequently employed within international political economy and international relations, including economic sanctions (e.g., Levy, 1999; Ghodoosi, 2013; Kasprzak & Sterninski, 2017; Han, 2018; Taheri & Guven-Lisaniler, 2018) and blockades (e.g., Lektzian & Ragauskas, 2016). Their appeal lies in the ability to comprehensively document studied processes, preserve and report more case-relevant information than a large-*N* statistical study and, consequently, lead to enhanced confidence in validity of hypotheses for the cases studied (Odell, 2001).

6 Summary

The current state of researchers' knowledge of the effects of sanctions contains several gaps. Studies utilizing rigorous methodological approaches are fairly new and few, and most work to date is based on anecdotal and/or circumstantial evidence. Most of the existing studies consider sanctions from the perspective of a sender country (e.g., Baldwin, 2000; Drenzer, 2000; Early, 2012), thus largely ignoring their impact on many aspects of the target countries' policymaking. Such aspects as target countries' internal economic policies, impact on value chains, economic diversification, including the informal economy, political stability, internal security and existing international alliances are too often ignored. Going further, the literature offers little in terms of the evidence on the impact of blockades imposed on a country by its neighbours, which is a particularly important and interesting avenue of research

Sanctions and blockades disrupt the flow of international trade in goods and services as well as the flow of capital. These will have consequences for the composition of output, employment levels, as well as consumption and investment. There will be impacts on households and firms in targeted nations. Additionally, they will affect also government expenditures. Apart from the long-run growth consequences of sanctions and blockades, many of the macroeconomic effects of sanctions are likely to be short-lived, decaying over time as the economy adjusts to sanctions. It is important to study the adjustment processes of the economy, which this project will address.

Another issue which has so far been neglected in the literature is the effect the lifting of sanctions has on trade flows and economic relations between target and sender countries. The question that remains unanswered is whether the two sides reconstruct their trade relationship immediately following the removal of sanctions, or with a time lag or perhaps not at all. The modified simulation (econometric) techniques based on Vector Autoregressive (VAR) models are suggested to address these asymmetric impacts and differences between the shocks of imposing and lifting the sanctions.

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