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DISCUSSION PAPER SERIES

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ABSTRACT

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Sanctions have a long history dating several centuries. There has been a significant increase of sanctions after World War II. Those against Iran and Russia are at present in focus for the discussion of sanctions, but also other countries as Cuba and North Korea are sanctioned. There are several different forms of sanctions as for example those on trade, financial and travel and there are also sanctions directed on individuals. The sanctions imposed multilaterally have most effects and have increased significantly. Sanctions have several effects for the countries being sanctioned. There are for example effects of sanctions on economic development, foreign investments, trade flows, employment, wages and emigration (brain drain).

JEL Classification: F22, F51, F53, J61

Keywords: international sanctions, emigration, employment, Iran, Russia, North Korea

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Sanctions and their effects on the labor market and the economy

Afsaneh Zareei and Eskil Wadensjö

1. Motives for introducing sanctions

Sanctions have a long history dating several centuries.[1] They were frequent during World War I, and after the war the League of Nations introduced rules for international sanctions. Sanctions or threat of sanctions were implemented in some cases and were effective in some of them but not in other (Mulder, 2022). There has been a dramatic increase in the use of sanctions in recent decades after a steady acceleration that began after World War II. There have also been significant changes in the purposes of sanctions, the types of sanctions, and the international actors imposing sanctions (Morgan, Syropoulos and Yotov, 2023).

In recent years, a wide range of economic sanctions has been used to promote a variety of international policy goals. Sanctions have become one of the most popular tools of coercive diplomacy in foreign policy. There are nine sanctions objectives, including changing policies, destabilizing regimes, resolving territorial disputes, combating terrorism, preventing war, ending war, restoring and promoting human rights, restoring and promoting democracy, and other objectives (Morgan, Syropoulos and Yotov, 2023). However, democracy and human rights are the main objectives of these sanctions. Kirilakha et al (2021) and Syropoulos et al (2022) show that the increase in the number of sanctions has been accompanied by an increase in the number of target countries and, most importantly, an increase in the number of source countries. The most frequently defined policy aims of sanctions have been "improvement in human rights" and "restoration of democracy", followed by the objectives to "end wars" and to "change policies" in target countries. Also, there was a relative increase in the sanctions that aim to address "terrorism" and "policy change".

According to several experts and politicians, sanctions will continue to be tightened. Cuba, Iran, North Korea, Syria and Russia are currently some of the targets of economic sanctions. Those against Iran and Russia are at present in focus for the discussion of sanctions. Since the 1990s, the use of sanctions for regime change has decreased and the use of sanctions for the promotion of democracy and human rights has increased. Many sanctions are still imposed unilaterally. However, the proportion of sanctions imposed multilaterally has increased significantly.

Iran's oil nationalization in 1951, the Iranian revolution in 1979 and Iran's nuclear capabilities are some of the political reasons for sanctions against Iran. Sanctions in 1980–81 were aimed at negotiating a release of US hostages, and sanctions in 1987 were aimed at ending hostilities in Persian Gulf and ending war with Iraq (Laudati and Pesaran, 2021). The UN Security Council imposed various sanctions to respond to threatening trends in developing Iran's nuclear capabilities.

[1] A measure similar to international sanctions are international boycotts (often a form of consumer activism). See Ndiaye (2024). We will not deal with international boycotts in this paper.

Regarding Russia, many sanctions have been applied by foreign and supranational entities against targeted individuals, goods and companies from 2014 and especially from 2022. Russia is now the most sanctioned country in the world following its invasion of Ukraine.

North Korea was sanctioned from the early 1950s, when North Korea attacked South Korea. In 2006, sanctions were implemented as a response when North Korea tested nuclear missiles. The sanctions were focusing on nuclear weapons and a military nuclear program (Carbaugh and Ghosh, 2019) in response to a manifest threat to international peace and security posed by nuclear proliferation (Chen, 2017). The North Korea sanctions is one of only three instances of the United Nations Security Council's practice of proliferation control through sanctions. Before deciding to target North Korea, it had only been imposed proliferation-related sanctions on two other occasions: against Iraq following the Kuwait War in 1991, and against Iran shortly after sanctions were imposed on North Korea (Steban and Portela, 2021).

In the context of South Africa, apartheid was the cause of sanctions. Apartheid outraged the world, leading most developed countries to impose an arms embargo in the early 1960s and heavy trade sanctions on South Africa in the 1970s, and these were only lifted when apartheid ended (Rubini, 2020, Levy, 1999).

The cases of the US sanctions against Cuba and Iraq show that economic restrictions can remain in place for decades if the target country resists compliance. However, in Russia's case, certain complications are worth highlighting, such as the legalization of sanctions against Russia, the introduction of a new type of sectoral sanctions, which have rarely been applied in practice, and imprecise conditions for lifting sanctions (Panibratov, 2021). The US uses the same strategy against Russia as those against Iran.

All in all, a review of the most important countries under sanctions in recent decades shows that, even though sanctions have been imposed on countries for various reasons, the most important reasons are political issues with an emphasis on ending war and nuclear problems.

2. Different forms of sanctions

For foreign and security policy, sanctions usually lead to a country's withdrawal from normal trade and financial relations. They can also be used by countries to punish nation-states, institutions or individuals who are not in compliance with the rules or agreements between nations (Lin, 2016). Sanctions cases are classified according to six sanction types: trade, financial, travel, arms, military assistance, and 'other', which do not fall into any of the main categories (Morgan, Syropoulos and Yotov, 2023), and individuals (Bayramov, Rustamli and Abbas, 2020). During the 1990s there was no expansion (and perhaps a contraction) in the overall use of trade sanctions. However, there has been an increase in the use of financial sanctions and, in particular, sanctions about arms transfers. Sanctions in the form of financial, travel, and other sanctions targeting specific individuals and companies have increased much since 2001. Sanctions may be divided into two categories: sanctions against individuals and entities and sectoral sanctions (Milutina, 2018).

Individuals and entities

Individual sanctions are a special type of sanction, most often used in the "fight against violations and acts of adventure and terrorism". Different persons and entities in different countries fall under this type of sanction, in particular. More than 1 900 individuals and entities have been sanctioned by the European Union in this regard. This includes Russian leaders, senior officials, military personnel, Wagner Group commanders, prominent businessmen and oligarchs, pro-Kremlin and anti-Ukrainian propagandists, etc., with all accounts in EU banks frozen, travel banned anywhere in the EU, and no EU assets or funds provided to them (European Commission, 2024). Russia has not only had a travel ban in place for individuals prior to 2022, but it has also been extended to a travel ban for all 351 members of the Russian State Duma (Alexakis, 2024). In 2017, sectoral sanctions against the railway, metallurgical, and mining sectors were imposed by the Countering America's Adversaries Through Sanctions Act.

Iran is another example of individual sanctions such as sanctions on individuals and arms, travel restrictions and assets freeze of people related to human rights violations, assets freeze of persons and entities involved with abuses, and sanctions on entities and individuals helping Iran's energy and petrochemical sectors maintenance and expansions (Zareei et al, 2024). The restrictions on immigration in 2020 affected people who wanted to travel to the US.

Trade sanctions

Sectoral sanctions are another type of sanctions in which trade and financial sanctions are more common. The common feature of economic sanctions is a comprehensive trade embargo. However, the objective pursued and the results obtained are different in each case (Panibratov, 2021), such as goods exports and imports or the energy sector. For example, the energy sector was targeted through bans on technology exports to Russian companies in the sector, bans on technology exports to Russian defense and security industries, and several energy import bans.

South Africa is one of the first examples of countries with trade sanctions, Rubini (2020). The trade sanctions began in 1946 in South Africa imposed by India on all trade. Trade sanctions were followed in the following years by other countries in different forms, such as the non-binding resolution of several measures against South Africa, including a trade boycott, a ban on all new US trade and investment in South Africa, and similar sanctions by countries in Europe and Japan in 1962. In 1979, Sweden banned the import of Krugerrands (a South African gold coin). In 1985, the United States and several European countries banned new investment and imports of iron, steel, gold and coins, and in 1986, they banned the import of minted gold, arms and any item produced or manufactured by a South African parastatal organization. It also banned the export of most computers, software or technology and the import of several other goods, such as sugar, syrups, molasses, agricultural products, articles fit for human consumption, iron and steel.

Sanctions have blocked North Korean overseas labor and restricted cooperation with North Korean institutions (Kelly, 2022). Emphasizing trade and financial sanctions, these restrictive economic limitations have included banning the export of textiles, minerals, coal, wood, electrical equipment, food, and agricultural products to North Korea, banning imports of certain luxury goods and natural gas from North Korea, banning trade of armaments, industrial machinery and metals, and transport vehicles with North Korea, restrictions on North Korean labor exports and fishing rights and restrictions on oil and refined petroleum products exported to North Korea (Albert, 2018).

Trade sanctions on Russia was before 2022, mainly on import and export of arms and related materials from and to Russia, but was after 2022 extended to import ban on goods from non-government-controlled areas, restrictions on trade, prohibition to supply tourism services, export ban for certain goods and technologies. Also, export ban on goods and technologies in oil refining, and a ban on the sale of all aircraft, spare parts and equipment to Russian airlines (Alexakis, 2024).

Iran has faced many different types of trade sanctions since 1979. The United Nations Security Council imposed various arms, technology, and trade sanctions in response to threatening trends in the development of Iran's nuclear capabilities in 2006. The US also expanded its sectoral sanctions in 2007–2008 (Batmanghelidj, 2022). These sanctions were extended to different types on different sectors between 2011 to 2022 such as an extended mandate of the panel of experts that supports the Iran sanctions committee, wide expansions of the Scope of import/export restrictions, sanctions on foreign institutions involved in deals with Iran’s energy and petrochemical sectors products, ban on trade and financial assistance to buy natural gas, a range of manufacturing and software products for ballistic missiles, and ship-building, sanctions on iron, steel, aluminum, and copper sectors of Iran, sanctions related to the trade and financial support arms trade, sanctions on companies supporting: metal, steel, petroleum, and petrochemical sectors, targeting a sanctions evasion network supporting Iranian petrochemical sales and so on (Zareei et al, 2024).

In North Korea, import ban 'highlights' include dual-use technologies (those with civilian and military applications), machinery, metals, luxury goods, and oil and gas. Export ban include coal, seafood, wood, stone, and agriculture. The coal and fish restrictions are especially punishing as these are two of North Korea's few genuinely competitive exports (Kelly, 2022).

Financial sanctions

Financial sanctions are another type of embargo that has been common over the last decade. Iran has been the test case for developing a new kind of sanctions program, one that would draw much of its power from the use of financial sanctions. While the international community began imposing multilateral sanctions on Iran in earnest in 2008, it was the Obama administration’s 2012 imposition of strict financial sanctions on Iran, that effectively cut off Iranian banks from the global financial system and sought to cut the country’s oil exports, that served as a major exogenous shock to the Iranian economy (Batmanghelidj, 2022). The European Union froze Iran’s central bank’s assets and denied the Iranian financial sector access to the SWIFT messaging service in March 2012, thus cutting off Iran’s access to a secure international payment system. It followed several US sanctions that were imposed in late 2011 and aimed to cut the Iranian financial sector’s connections to the US and the world financial system, forcing foreign banks and companies to choose between doing business with Iran or the US (Kelishomi and Nisticò, 2022). Also, US companies are prohibited from investing in Iranian oil and gas and freeze the assets of individuals and companies, tighter financial curbs and expanded arms sanctions, and sanctions on Iran's central bank for its oil export profits are some of the financial sanctions (Devarajan and Mottaghi, 2015).

Sanctions imposed against the Russian financial sector had the purpose of isolating Russia financially by cutting the Bank of Russia's access to foreign reserves, limiting its credit institutions' access to external financing and international payment systems, restricting financial transactions with Russian state-owned enterprises that support war operations, and reducing financial flows originating from Russia. Before 2022, Russia faced restrictions on assets freeze and no more providing loans to five major Russian state-owned banks. After 2022 they were extended to a prohibition to finance the Russian Federation, its government and Central Bank, a SWIFT ban for seven Russian banks, a ban on investing in future projects co-financed by the Russian Direct Investment (Alexakis, 2024).

Financial asset freezes for individuals participating in North Korea’s nuclear program and financial sanctions against banks that carry out business with North Korea are some of the financial sanctions regarding this country (Albert, 2018).

3. Some countries that have been sanctioned

The most discussed examples of economic sanctions include those implemented against South Africa in 1960, Cuba in 1960, Iran in 1979, 2003, 2012, and 2018, Iraq in 1990, North Korea in 2006, Russia in 2014 and 2022, and Venezuela in 2018. These countries have faced different sanctions in number and type, but totally, most of them have faced multilateral sanctions for many years. Here are some examples of the most sanctioned countries in the world.

South Africa

Economic sanctions began to take shape slowly in the late 1940s, the first being India’s comprehensive trade embargo against South Africa in 1946, which was followed by increasing diplomatic isolation in the 1950s and 1960s. In the early 1960s, the South African government was becoming increasingly isolated, and the United States, the United Kingdom, and France argued on successive occasions against broad or mandatory economic sanctions against South Africa. Sanctions were not only undertaken by national governments and international organizations, but were also imposed by municipalities, small businesses, religious organizations, universities, international financial institutions, unions, and multinational corporations (Crawford and Klotz, 1999).

Some countries began to restrict their sales of armaments to South Africa during the 1960s (Evenett, 2002). As a consequence, international trade fell sharply from the 1970s to the mid-90s, but increased quickly thereafter. Manufacturing productivity followed a similar pattern. Disagreements over the merits of economic sanctions against Pretoria continued into the 1970s. Restrictions on overseas investments in South Africa were first enacted by Sweden in 1979. In October 1985 the United States imposed a ban on the importation of krugerrands, and, in the same month, five Nordic countries (Denmark, Finland, Iceland, Norway, and Sweden) imposed broader restrictions on imports from South Africa than the US (Hufbauer et al, 2002). The momentum behind trade sanctions against South Africa reached its apogee in 1986 when six members of the Commonwealth Group of Nations, the members of the European Community, and the United States all imposed measures that would reduce their imports from South Africa. This was followed by a comprehensive trade and investment ban by Norway and Sweden in

1987, but, finally, the release of Nelson Mandela from prison acted as a trigger for the removal of economic sanctions in 1991 by Japan and the United States, in 1992 by the European Community, and in 1993 by Norway (Evenett, 2002).

Iran

The history of imposing sanctions on Iran dates back to Iran's oil nationalization in 1951 when the Iranian government nationalized the oil industry, kicking out the Anglo-Persian oil Company and setting up the National Iranian Oil Company (Popova and Rasoulinezhad, 2016). However, most sanctions have been imposed since the Islamic Revolution. Iran was the target of over 3853 sanction resolutions between 1979 and 2012, ranking Iran as the second most sanctioned country worldwide (Sajadi et al, 2023). Since 2005 when the International Atomic Energy Agency (IAEA) reviewed Iran's atomic program, sanctions have changed in form and intensity. The UN declared new sanctions for Iran's uranium enrichment program (Setayesh and Mackey, 2016). Between 2006 and 2010 sanctions were imposed against Iran for its nuclear program, and these sanctions aimed to ban the supply of heavy weaponry and nuclear-related technology to the country by blocking its arms imports and freezing assets of key individuals and companies. In June 2010, the United Nations Security Council (UNSC) approved new sanctions against Iran (UNSC Resolution 1929), In January 2011, the European Union (EU) while referencing UNSC Resolution 1929 announced an important phase of sanctions on supply or transfer to Iran of further key equipment and technology (which could be used in key sectors in the oil and natural gas industry or in the petrochemical industry). The EU energy sanctions on Iran came into force in July 2012. In January 2012, the United States imposed sanctions against the Iranian central bank. Another round of sanctions came into force in July 2012 with the EU ban on the import, purchase, and transport of Iranian crude oil (Farzanegan, 2013).

In 2015, the Joint Comprehensive Plan of Action (JCPOA) was signed to relieve some of the sanctions. However, new US-issued sanctions have been imposed since 2018 (Danaei et al, 2019). Overall, sanctions against Iran are mostly related to the military industry, the Islamic Revolutionary Guard Corps, the nuclear industry, the energy/petroleum industry, banking, the shipping industry, and international trade insurance (Aloosh, Salavati and Aloosh, 2019; Kokabisaghi, 2018).

Russia

Sanctions were imposed on Russa in multiple rounds from March and April 2014 to July and September 2014 and again in September and October 2017 (Bayramov, Rustamli, and Abbas, 2020). There have been additions and subtractions to the list up to the current day, and a new round of more restrictive sanctions came into effect after the Russian invasion of Ukraine in February 2022. Russia faced 2965 sanctions before the invasion, but 18472 more since the invasion (Castellum, 2024). In response to the Ukraine conflict, sanctions were imposed by the EU and the US, supported by Australia, New Zealand, Canada, and Japan. EU imposed a first round of sanctions on 17 March 2014 on Russia (Teichmann and Falker, 2020). In the wake of its invasion, Russia is now the most-sanctioned country in the world, with 16,077 sanctions on Russian individuals and entities currently in place, nearly six times the amount compared to before it announced the Luhansk and Donetsk regions as independent states on February 22, 2022.

According to the Peterson Institute for International Economics, more than 120 financial sanctions were imposed against the Russian Federation between February 2022 and October 2022 (PIIE, 2022). Leading the current round of sanctions against Russia are the United States, Canada, Switzerland and the United Kingdom with 3551, 2765, 2225 and 1749 restrictions, respectively. The majority of those sanctions target individuals (16037), while companies have 9286 and institutions 3249 sanctions from February 2022 to January 2024 (Statista, 2024). The introduction of the current economic sanctions against Russia is comparable to other comprehensive sanctions programs, e.g., as in the cases of Iran and Cuba, although certain complexities should be emphasized in the case of Russia, for instance, turning sanctions against Russia into law, introducing a new type of sectoral sanctions that were not frequently used before, and stating unclear conditions for lifting the sanctions.

North Korea

The United States has enacted sanctions against North Korea since the early 1950s when North Korea attacked South Korea. Since North Korea first tested nuclear missiles in 2006, the United Nations Security Council, consisting of 15 member countries, has unanimously enacted nine rounds of sanctions against North Korea (Carbaugh and Ghosh, 2019). The toughest sanctions placed on North Korea occurred in December 2017, when North Korea tested its most advanced nuclear missile that could hit targets in the United States. At this time, the United Nations Security Council issued sanctions that cut North Korea’s oil imports by 89%. Also, about 100,000 North Koreans, who are employed as guest workers in other countries, are to be expelled within two years (Carbaugh and Ghosh, 2019). Nations are encouraged to block ship-to-ship transfers of crude oil, which North Korea has used to dodge sanctions (Gladstone and Sanger, 2017).

4. Effects of sanctions

Since the 1950s, more and more sanctions have been classified as partially or fully successful, possibly suggesting that over time sanctions have become more effective in achieving their goals. The widespread application of sanctions often overlooks their profound effects on societies and individuals, leading to humanitarian crises including food shortages, healthcare system breakdowns, and the lack of essential medicines, causing widespread fatalities. These sanctions also affect the opportunities for professionals and students, altering the aspirations of affected populations and leading to long-term issues such as brain drain (Bajoghli et al, 2024). The effect of sanctions can be analyzed at the global (country), organizational (firm) and individual (people) levels. The major studies devoted to the analysis of sanctions’ effects are conducted at the global and macroeconomics level. Additionally, the major focus of the economic sanctions of the previous decades was on global measures. In this regard, we can divide the effects of sanctions into three different effects such as economic development, individual effects, and emigration with focus on the four most sanctioned countries. We will also shortly discuss effects on the countries that are implementing sanctions.

Economic Development: BNP, export, import

Sanctions led to a strong negative effect on individuals and entities of the Russian economy. Many analysts initially believed sanctions against Russia were ineffective, sparking ongoing debates in Europe, but the immediate consequences for Russia's financial sector included market turmoil and the depreciation of the rouble, with GDP projections showing an 8–10% decline (Oxenstierna, and Wannheden, 2022).

Sanctions hit the target's trade and financial sectors, significantly hurting their economic performance (Caruso, 2003; Yang et al, 2009; Haggard and Noland, 2023). U.S. sanctions on Russia notably undermined investor confidence, causing foreign capital flight, a fiscal deficit, and a drop in foreign exchange reserves, putting pressure on Russia's currency. The financial sector has been particularly vulnerable (Arapova and Balakhonova, 2023). The impact of sanctions on the financial performance of Russian firms varies with time. In the short term, we observe a performance decline, but this effect diminishes over time. There are also important industry-level variations in how sanctions impact Russian firms over time (Gaur, 2023). Financial sanctions reduced the capital market access of Russian banks and, subsequently, led to greater involvement of the Russian government in the banking industry (Pak and Kretzschmar, 2016). The most severe effects of the sanctions on the economy are the exclusion of Russian banks from the SWIFT system, the limited access to international currency markets, and the prohibition of exports of high-tech goods to the Russian Federation (Astrov et al, 2022). After the imposition of EU financial sanctions, almost 70% of the major Russian state-owned companies and banks are unable to access funds on the EU capital market (European Commission, 2022).

The effects of sanctions may not be the same for all firms as firms differ in their capacity to respond to institutional pressures, some firms, such as state-owned enterprises face greater pressure. Private enterprises, on the other hand, may be able to respond to the pressures of the external environment without a significant loss of local legitimacy (Gaur, Settles and Väätänen, 2023). Also, similar to the role of the state, the nature of specific industries may also impact how sanctions impact firms (Oxenstierna and Wannheden, 2020). It can be found that international sanctions may harm the Iranian economy like war would and cause significant collateral damage to its business environment and economic welfare (Cheratian, Goltabar, and Farzanegan, 2023). Small foreign firms are exiting Russia, whereas major international companies are reducing activities but trying to adjust (Arapova and Balakhonova, 2023). Reducing marketing, fixed/overhead, and R&D costs, and increased investment in information technology increase the persistence of firms under sanctions, and micro-firms are more resistant to the negative effects of the sanctions (Cheratian, Goltabar and Farzanegan, 2023). One-fifth of the 100 largest sanctioned firms in Russia already lost on average about a quarter of their operating revenues, more than half of their asset values, and about a third of their employees compared to their non-sanctioned counterparts (Ahn and Ludema, 2020; Stout, 2017). Sanctioned firms in Russia experience significant limitations in access to suppliers, financial resources, customers, and technologies. Companies that operate in foreign markets are expected to have fewer difficulties in overcoming the obstacles stated above and, therefore, experience fewer negative effects from the sanctions compared to companies operating only in the domestic market. Companies are trying to mitigate the negative effect of the sanctions on alliancing capacity via indirect exports through the nearest neighboring countries (Crozet et al, 2021). But, although partnerships can become a reliable alternative to a deteriorated business relationship and bring high potential gains, Russian firms face additional costs and risks. The economic sanctions limited the access of Russian firms to foreign technologies. The adverse effects of the sanctions were stronger for firms in non-strategic sectors, while the impact on firms and subsidiaries in strategic industries was weaker (Ahn and Ludema, 2020).

The sanctions on Iran have caused or contributed to a wide range of negative macroeconomic outcomes including rapid currency devaluation, severe trade and fiscal deficits, elevated inflation, and rising poverty rates (Farzanegan and Batmanghelidj, 2024). According to the International Monetary Fund, Iran's economy contracted 7.4 percent for 2012 sanctions—its first recession since 1994. When the Trump administration reimposed sanctions on Iran in 2018, Iran's economy was once again thrust into crisis, with the economy shrinking 6.0 percent (Batmanghelidj, 2022). Since 2018–2019, the rial has lost around 80 percent of its value against the US dollar as oil exports have fallen by $80 billion (Fardoust 2020).

Inflation was the intended goal of the financial sanctions imposed in 2012 as sanctions that aim to increase inflation de facto aim to increase costs to average citizens (Nephew, 2018). General prices in Iran rose 85 percent in the two years beginning 22 November 2018, food prices doubled in the same period, while the price of healthcare rose 67 percent (Batmanghelidj, 2022). There is some anecdotal evidence suggesting a reduction of capital inflows to Russia due to restrictions that were placed on major Russian companies and state banks (Gaur, Settles and Väätänen, 2023). The sanctions limit access to foreign capital for designated Russian companies, restrict the import of high technologies in the oil exploration and production sectors, and, impose on the export of certain military and dual-use goods to Russia (Panibratov, 2021). The economic sanctions imposed by the EU and the U.S. against Russia in 2014 negatively affected trade, FDI, and the country's overall economic development, however, FDI is more sensitive to anti-Russian EU and U.S. economic sanctions than trade in goods (Belozyorov and Sokolovska, 2020).

The negative effect of economic sanctions on trade depends on the level of involvement of countries as a whole (Caruso, 2005). Besides the economic indicators, the sanctions have reduced Iran's oil exports to their lowest level since 2011, dealing a major blow to the Iranian economy (Zareei et al, 2024). Oil sanctions were applied unilaterally, sanctions have been effective at cutting Iran's oil exports by around half, and under sanctions the Iranian oil and gas sector tends to shrink by between 30–50 percent (Batmanghelidj, 2022). In one year, Iran's oil exports declined from 2.8 mb/d in July 2011 to below 1 mb/d in July 2012, and, half of the reduction in oil exports was from European companies' boycott of Iran's oil (Devarajan and Mottaghi, 2015).

Sanctions had a significant negative effect on Iran–EU bilateral trade (by an average of 46.9%), while it has a positive impact on trade between Iran and the Asian countries (by an average of 85.2%) (Popova and Rasoulinezhad, 2016). Sanctions notably reduce Russia's oil product exports, cutting export value by about 37% (Nguyen and Do, 2021). The EU's sanctions on Russian energy will directly cause a massive gap in the energy supply, leading to a rapid rise in energy prices and production costs of energy-intensive industries (Chen et al, 2023). Several studies even claim that the negative impact of low oil prices on the Russian economy is three times greater than the effect of sanctions (Stout, 2017; Korhonen, 2019; Kholodilin and Netsunajev, 2019).

The distortionary effects of sanctions on the currency market and the devaluing of a target country's local currency significantly increases the costs of importing medical good and instruments (Farzanegan and Batmanghelidj, 2024). Bastani et al (2022) examine the impact of sanctions on supply chains in Iran's pharmaceutical sector. They find that although "medicines are exempted from sanctions, pharmaceutical companies have encountered many difficulties importing raw materials and medicines after the sanctions due to foreign exchange restrictions." Tourism is another important sector which is affected by sanctions. Seyfi and Hall (2020) argue that a country under sanctions is forced to prioritize development of domestic tourism following the reduction in international mobility. Seyfi, Hall and Vo-Thanh (2022), by using interviews and a purposeful snowball sampling technique, examine the gendered effects of economic sanctions on Iranian women's empowerment in the country's tourism and hospitality industry.

Multilateral sanctions have a significant negative impact on military spending of Iran, over the entire 2013–2015 period, per capita military spending was reduced by approximately 54% of the 2012 baseline level. In 2015, per capita military spending in the synthetic Iran is estimated to be about 69% higher than in the actual Iran (Farzanegan, 2019).

The sanctions against North Korea have contributed to slow growth rates of its economy, especially since China has finally put the clamps down on its neighbor. North Korea's real gross domestic product increased by less than 1% per year from 2013 to 2016 and in 2017, North Korea's real gross domestic product fell by about 2%. Moreover, the country has an unemployment rate of over 25% (Carbaugh and Ghosh, 2019).

Effects on wages, unemployment, welfare

In 2019, per capita expenditure in Iran was 17.7% lower than in 2010, a return to 2002 levels. Between 2012 and 2019, the number of poor people in Iran almost doubled, from 6.4% to 12.1% (Salehi-Isfahani, 2020). It is estimated that 60 percent of Iranian workers live in poverty because their wages (around $7000 a year) do not cover more than a third of their living costs (Batmanghelidj, 2022). Sanctions imposed between 2007 and 2015 resulted in a decrease in income across all income groups in Iran, with a particular impact on the top-income groups (Oryoie, 2023). The sanctions asymmetrically affect Iranian industries with different level of exposure to international trade, thus leading to significant re allocation effects in employment. The sanctions had an overall negative effect on employment, and most of this effect is driven by industries characterized by high imported inputs intensity (Kelishomi and Nisticò, 2022). The sanctions had an overall negative effect on employment. Due to the sanctions, the employment growth rate in Iran in the manufacturing sector declined by 16.4 percent in 2012–2014. The effect was mostly driven by industries characterized by high imported inputs intensity (Kelishomi and Nisticò, 2022). In Iran, the size of middle class as a percentage of the total population increased gradually in the decades up to 2012, but has declined since 2012 as a result of the sanctions implemented that year (Farzanegan and Habibi, 2024).

Through the decomposition of changes in the welfare of residents, the most critical factor affecting the decline in the welfare of Russian residents is the change in the terms of trade, which contributed more than 70% of the negative impact (Chen et al, 2023). It also significantly reduced the purchasing power of the population (Christie, 2015). After Russia suffered energy sanctions, the welfare of residents dropped significantly, especially when crude oil and crude oil products were sanctioned, which had a significant negative impact on the welfare of residents in Russia (Chen et al, 2023). The energy business is also directly affected by sanctions that restrict access to crucial technology for deep sea drilling and shale oil extraction, by delaying the modernization of Russia's oil industry (Bond, Odendahl and Rankin, 2015). However, Russia's health system has remained relatively stable despite the imposition of sanctions due to the country's high level of self-sufficiency in producing essential medicines and medical equipment (Dyer, 2022). Also, sanctions targeting North Korean elites are mostly turned to the suffering of the ordinary people (Chen, 2017).

Effects on emigration

The UN and Western multilateral sanctions have a significant effect on migration. Emigration flows increased, on average, by 17–18% under UN sanctions and by 23–24% under Western multilateral sanctions. Western multilateral sanctions led to a gradual increase in emigration over the course of a sanction episode with a peak effect of 80–86% for long-lasting sanctions (relative to the final year before sanctions were imposed). The impact of UN sanctions on international migration was smaller, with a peak effect of 30–31%, and was less persistent (Gutmann Langer and Neuenkirch, 2024). The results are driven by countries with fewer political rights and civil liberties. People are making a choice of exit instead of voice.

The economic sanctions on Iran, increase the desire to emigrate by worsening economic conditions in Iran. While shocks to nonoil exports, oil exports, imports of consumer goods, and imports of intermediate goods all raise the decision to migrate, their impacts are not equal. In fact, the greatest effect is due to nonoil export shocks (Zareei et al, 2024). The economic hardship and social unrest caused by such sanctions may have lasting impacts on the country and its people. The level of employment also plays a very important role in emigration during sanctions, as do emigration costs and real wages in Iran, especially the difference between wages in Iran and those in other countries. In addition, the sanctions may act as a motive for emigration, especially for people with higher education, given that a high proportion of people in Iranian society have higher education. The tightening of economic sanctions against countries such as Iran may lead to a deterioration in the labor market and employment conditions, thus increasing emigration, in contrast to the attractive employment conditions in developed countries. It should be noted that sanctions are not only detrimental to the sender country's economy, they can also trigger waves of international migration that may cause additional economic and political costs for the sender.

Effects for the countries implementing sanctions

The issue of main interest are the effects on the countries that are sanctioned. But there are of course also effects for the countries that are making sanctions. We will here only mention some forms of effects of sanctions for countries that sanction. One effect may be higher prices for products that have been imported from countries being sanctioned as products have to bought from other countries. One example is higher oil prices when oil producing countries oil export is sanctioned. Sanctions against exporting some products may have negative effects for firms and those working in the firms producing such products. There may also be effects on the labor market in the countries that are sanctioning if the size and composition of the immigration are influenced by the sanctions.

5. Conclusions

Sanctions always have become a standard non-military instrument in coercive foreign diplomacy. Examining the historical trend of sanctions shows that international sanctions have been used as a deterrent against some countries since more than 100 years ago. The first sanctions applied after WW2 goes back to 1950 and were against North Korea. Iran then faced its first embargo in 1951 due to the nationalization of the oil industry. Sanctions continued in the 1960s against apartheid in South Africa. The reasons for sanctions became different and the nuclear program of North Korea after 2006 and Iran after 2013 became important factors for the imposition and continuation of sanctions for these countries. Before 2014, these countries were among the most important countries facing many sanctions. Since 2014, Russia was added to the sanctioned countries due to its attack on Ukraine in 2014, and the invasion of Ukraine in 2022 led to that Russia is the most sanctioned country.

Sanctions are generally trade restrictions on a targeted state. They are largely a twentieth-century phenomenon and turn on the rising interdependence of the world economy (Drezner, Farrell and Newman, 2021). As most states import from and export to other states, they are vulnerable to a constriction of those ties, including the financial transactions facilitating exchange. Ideally, threats to those links, both import and export, plus financial create leverage over the target state's political choices. Sanctions seek to compel the target to change. A common criticism, especially from the humanitarian and nongovernmental organization (NGO) community, is that the sanctions are inhumane. They punish the weak inside North Korea, while the elite does not feel their weight due to the smuggling and criminal operations it uses import goods for itself (Kelly, 2022).

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

The efficacy of sanctions as a foreign policy tool is open to question. Many have died under humanitarian catastrophes that have followed in the wake of comprehensive sanctions in different countries: food shortages, the breakdown of medical systems, and the unavailability of critical medicines have all contributed to the human toll. It also leads to compounded crises that span generations: interrupted social reproduction, brain drain, and declining quality of education. It is important to continue study the effects of sanctions on policy changes but also the effects on the conditions of those who live in sanctioned countries.

References

Ahn, D. P., and Ludema, R. D. (2020). “The sword and the shield: The economics of targeted sanctions”. *European Economic Review*, 130(November), 103587.

Albert, E. (2018). *What to know about the sanctions on North Korea*. New York, NY: Council on Foreign Relations.

Aloosh M., Salavati A., and Aloosh, A. (2019). “Economic sanctions threaten population health: the case of Iran”. *Public Health*,169 (April), 10–13. https://doi.org/10.1016/j.puhe.2019.01.006.

Arapova, E. Y. and Balakhonova, S. I. (2023). ”Foreign companies’ behavior in the Russian market under sanctions: speculation and reality”. *Russia in Global Affairs*, 21(4), 47–64.

Astrov, V., Grieveson, R., Kochnev, A., Landesmann, M., and Pindyuk, O. (2022), “Possible Russian Invasion of Ukraine, Scenarios for Sanctions, and Likely Economic Impact on Russia, Ukraine, and the EU”, Policy Notes No. 55, The Vienna Institute for International Economic Studies.

Azadi, P., Mirramezani, M., and Mesgaran, M. (2020). Migration and Brain Drain from Iran”, Stanford Iran 2040 Project, Working paper No. 9, April 2020.

Bajoghli, N., Nasr, V., Salehi-Isfahani, D., and Vaez, A. (2024). *How Sanctions Work: Iran and the Impact of Economic Warfare*, Stanford University Press.

Bastani, P., Dehghan, Z., Kashfi, S. M., Dorosti, H., Mohammadpour, M., and Mehralian, G. (2022). “Challenge of Politico-Economic Sanctions on Pharmaceutical Procurement in Iran: A Qualitative Study.” *Iranian Journal of Medical Sciences*, 47(2), 152–61.

Batmanghelidj, E. (2022). “The Inflation Weapon: How American Sanctions Harm Iranian Households”. *Fourth Freedom Forum*.

Bayramov, V., Rustamli, N., and Abbas, G. (2020). “Collateral damage: The Western sanctions on Russia and the evaluation of implications for Russia’s post-communist neighbourhood”. *International Economics*, 162(August), 92–109.

Belozyorov, S. A. and Sokolovska, O. (2020). ”Economic Sanctions against Russia: Assessing the Policies to Overcome their Impact”. *Ekonomika regiona* [Economy of regions], 16(4), 1115–1131, https://doi.org/10.17059/ekon. reg.2020-4-8.

Bond, I., Odendahl, C., and Rankin, J. (2015). ”Frozen: The politics and economics of sanctions against Russia”. Centre for European Reform.

Carbaugh, B., and Ghosh, K. (2019). “Economic Sanctions and North Korea”. *The American Economist*, 64(1), 131–141.

Caruso, R. (2005). “The impact of international economic sanctions on trade: Empirical evidence over the period 1960–2000”. *Rivista Internazionale Di Scienze Sociali*, 113(1), 41–66.

Castellum, A. I. (2024). “Russia sanctions dashboard”. https://www.castellum.ai/russia-sanctions-dashboard.

Chen, J. (2017). “Why Economic Sanctions on North Korea Fail to Work?”. *China Quarterly of International Strategic Studies*, 3(04), 513–534.

Chen, Y., Jiang, J., Wang, L., and Wang, R. (2023). “Impact assessment of energy sanctions in geo-conflict: Russian–Ukrainian war”. *Energy Reports*, 9, 3082–3095.

Cheratian, I., Goltabar, S., and Farzanegan, M. R. (2023). “Firms persistence under sanctions: Micro-level evidence from Iran”. *The World Economy*, 46(8), 2408–2431.

Christie, E. H. (2015). “Sanctions after Crimea: Have they worked?”, *NATO Review Magazine*. July, 13.https://www.nato.int/DOCU/review/2015/Russia/sanctions-after-crimea-have-they-worked/EN/index.htm.

Crawford, N.C., and Klotz, A. (1999). *How sanctions work, lessons from South Africa*. Palgrave.

Crozet, M., Hinz, J., Stammann, A. and Wanner, J. (2021). “Worth the pain? Firms’ exporting behaviour to countries under sanctions”. *European Economic Review*, 134(May), 103683.

Danaei, G., Farzadfar, F., Kelishadi, R., et al (2019). “Iran in transition”. *Lancet*, 393(10184):1984-2005. https://doi.org/10.1016/s0140-6736(18)33197-0.

Devarajan, S. and Mottaghi, L. (2015). “Economic Implications of Lifting Sanctions on Iran”. *Middle East and North Africa Quarterly Economic Brief*, (July), World Bank, Washington, DC.

Drezner, D., Farrell, H. and Newman, A. eds. (2021). *Uses and Abuses of Weaponized Interdependence*. Washington, D.C.: Brookings Institute.

Dyer, O. (2022). *Essential Medicines Keep Flowing to Russia, but Sanctions Could Severely Effect Health*. British Medical Journal Publishing Group.

Esteban, M. and Portela, C. (2021). “EU sanctions against North Korea: Making a stringent UN sanctions regime even tougher”. In *The Routledge Handbook of Europe-Korea Relations* (pp. 382–395). Routledge.

European Commission (2022), "Sanctions adopted following Russia's military aggression against Ukraine". Available at: https://finance.ec.europa.eu/eu-and-world/sanctions-restrictive - measures/sanctionsadopted-following-russias-military-aression-against-ukraine en (Accessed: 20 June 2023).

Evenett, S. J. (2002). “The impact of economic sanctions on South African exports”. *Scottish Journal of Political Economy*, 49(5), 557–73.

Fardoust, S. H. (2020*). Iran under Sanction, Macroeconomic Impacts of US Sanctions (2017–2019) on Iran*. Johns Hopkins, School of Advances International Studies.

Farzanegan, M. R. (2013). “Effects of international financial and energy sanctions on Iran's informal economy”. *The SAIS Review of International Affairs*, 33(1), 13–36.

Farzanegan, M. R. (2019). “The effects of international sanctions on military spending of Iran: A synthetic control analysis”. cesifo Working Papers, 7937, November 2019.

Farzanegan, M. R. and Batmanghelidj, E. (2024). “Understanding economic sanctions on Iran: A survey”. *The Economists’ Voice*, 20(2), 197–226.

Farzanegan, M. R. and Habibi, N. (2024). “The effect of international sanctions on the size of the middle class in Iran”. cesifo Working Papers, 11175, June 2024.

Gaur, A., Settles, A. and Väätänen, J. (2023). “Do Economic Sanctions Work? Evidence from the Russia-Ukraine Conflict”. *Journal of Management Studies*, 60(6), 1391–1414.

Gladstone, R. and Sanger, D. (2017). ”Security council tightens economic vise on North Korea, blocking fuel, ships and workers.” *The New York Times*, 22 December.

Gutmann, J., Langer, P. and Neuenkirch, M. (2024). ”International Sanctions and Emigration”. cesifo Working Papers, 10882, January 2024.

Hufbauer, G. C., Schott, J. and Elliott, K. A. (2002). “Case 62–2 and Case 85–1. Notes on sanctions against South Africa in the post-war era”. Mimeo. Institute for International Economics: Washington, DC.

Kelishomi, A. M. and Nisticò, R. (2022). “Employment effects of economic sanctions in Iran”. *World Development*, 151(March), 105760.

Kelly, R. (2022). “In Defense of North Korea Sanctions”. *Korea Observer*, 53(2), 247–276. https://doi.org/10.29152/KOIKS.2022.53.2.247.

Kim, J., Kim, K., Park, S. and Sun, C. (2023). “The Economic Costs of Trade Sanctions: Evidence from North Korea”. cesifo Working Papers, 10630, August 2023.

Kholodilin, K. A. and Netsunajev, A. (2019). “Crimea and punishment: The impact of sanctions on Russian economy and economies of the Euro area”. *Baltic Journal of Economics*, 19(1), 39–51.

Kirilakha, A., Felbermayr, G. J., Syropoulos, C., Yalcin, E. and Yotov, Y. V. (2021). “The Global Sanctions Data Base (GSDB): an update that includes the years of the Trump presidency”. In *Research handbook on economic sanctions* (pp. 62–106). Edward Elgar Publishing.

Kokabisaghi, F. (2018). “Assessment of the effects of economic sanctions on Iranians' right to health by using human rights impact assessment tool: a systematic review”. *International Journal of Health Policy Management*. 7(5), 374–393. https://doi.org/10.15171/ijhpm.2017.147.

Korhonen, I. (2019). “Sanctions and counter-sanctions: What are their economic effects in Russia and elsewhere?” BOFIT Policy Brief No. 2/2019.

Laudati, D. and Pesaran, M. H. (2021). ”Identifying the Effects of Sanctions on the Iranian Economy using Newspaper Coverage”. cesifo Working Paper, 9217, July 2021.

Levy, P. I. (1999). “Sanctions on South Africa: What did they do?” *American Economic Review*, 89(2), 415–420.

Lin, T. C. W. (2016). “Financial weapons of war”. *Minnesota Law Review*, 100(4), 1377–1440.

Morgan, T. C., Syropoulos, C. and Yotov, Y. V. (2023). “Economic sanctions: Evolution, consequences, and challenges”. *Journal of Economic Perspectives*, 37(1), 3–29.

Mulder, N. (2022). *The Economic Weapon. The rise of sanctions as a tool of modern war*. Yale University Press, New Haven and London.

Ndiaye, A. (2024). “A theory of international boycotts”. cesifo Working Papers, 11267, August 2024.

Nephew, R. (2018). *The Art of Sanctions: A View from the Field*. New York: Columbia University Press.

Nguyen, T. T. and Do, M. H. (2021). “Impact of economic sanctions and counter-sanctions on the Russian Federation’s trade”. *Economic Analysis and Policy*, 71(C), 267–278.

Oryoie, A. R. (2023). “Intragenerational Income Mobility between 1999 and 2020 in Iran”. *Iranian Economic Review*, 27(3), 1135–1153. DOI: https://doi.org/10.22059/ier.2023.93700.

Oxenstierna, S. and Wannheden, E. (2022). “The Russian economy and military expenditure in light of the war in Ukraine and economic sanctions”. FOI Memo 8023.

Pak, O. and Kretzschmar, G. L. (2016). “Western sanctions: Only half the challenge to Russia’s economic union”. *Research in International Business and Finance*, 38(September), 577–92.

Panibratov, A. (2021). “Sanctions, cooperation, and innovation: Insights into Russian economy and implications for Russian firms”. *BRICS Journal of Economics*, 2(3), 4–26.

PIIE, (2022), "Russia’s war on Ukraine: A sanctions timeline". Available at: https://www.piie.com/blogs/realtime-economics/russias-war-ukrainesanctions- timeline (Accessed: 20 June 2023).

Popova, L. and Rasoulinezhad, E. (2016). “Have sanctions modified Iran’s trade policy? An evidence of Asianization and De-Europeanization through the gravity model”. *Economies*, 4(24).

Rubini, L. (2020). “International trade and productivity after apartheid”. *The B.E. Journal of Macroeconomics*, 20(2), 20190154.

Sajadi, H. S., Yahyaei, F., Ehsani-Chimeh, E. and Majdzadeh, R. (2023). “The human cost of economic sanctions and strategies for building health system resilience: A scoping review of studies in Iran”. *The International Journal of Health Planning and Management*, 38(5), 1142–1160.

Salehi-Isfahani, D. (2020). “Impact of sanctions on household welfare and employment”. The SAIS Initiative for Research on Contemporary Iran, John Hopkins University.

Setayesh, S. and Mackey, T. K. (2016). “Addressing the impact of economic sanctions on Iranian drug shortages in the joint comprehensive plan of action: promoting access to medicines and health diplomacy”. *Global Health.* 12(1):1-14. https://doi. org/10.1186/s12992-016-0168-6.

Seyfi, S. and Hall, C. M. (2020). “Sanctions and Tourism: Conceptualisation and Implications for Destination Marketing and Management.” *Journal of Destination Marketing & Management* 15(March), 100381.

Seyfi, S., Hall, C. M. and Vo-Tanh, T. (2022). “The Gendered Effects of Statecraft on Women in Tourism: Economic Sanctions, Women’s Disempowerment and Sustainability?” *Journal of Sustainable Tourism*, 30(7), 1736–53.

Statista (2024). “Total number of list-based sanctions imposed on Russia by territories and organizations worldwide”. https://www.statista.com/statistics/1293531/western-sanctions-imposed-on-russia-by-target/.

Stout, B. (2017). “Sanctioned to survive: How foreign firms perform when economic sanctions affect their business relationships — a study of contemporary economic sanction actions and their impact”. *Perspectives on Global Development and Technology*, 16(5), 501–38.

Syropoulos, C., Felbermayr, G., Kivilakha, A., Yalcin, E., and Yotov, Y. V. (2022). “The global sanctions data base – Release 3: Covid-19, Russia, and multilateral sanctions”, *Review of International Economics*. 32(1), 12–48.

Teichmann, F. and Falker, M. C. (2020). “Sanctions against Russia: implications, prospects and circumvention”. *SEER Journal for Labour and Social Affairs in Eastern Europe*, 23(1), 109–126.

Yang, J., Askari, H., Forrer, J. and Zhu, L. (2009). ”How do US economic sanctions affect EU’s trade with target countries?”. *The World Economy*, 32(8), 1135–1268.

Zareei, A., Falahi, M. A., Wadensjö, E. and Sadati, S. M. (2024). "International Sanctions and Labor Emigration: A Case Study of Iran", Institute of Labor Economics, IZA DP 17062.