

Controlling the trade of strategic goods

SANCTIONS
AND PENALTIES

ESU
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Political and economic effects of sanctions on targeted States

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1. INTRODUCTION

The use of non-coersive foreign policy tools to get States to alter their behaviour has become a common feature of contemporary international politics.¹⁷⁵ These non-coersive tools have mainly taken the form of sanctions unilaterally or multilaterally applied to the targeted State(s). Recent cases of the deployment of sanctions include those employed by the United States and the European Union against Russia following its annexation of Crimea and United Nations sanctions against Iran and North Korea over their nuclear weapons programmes. Despite their prominence in contemporary international politics, the effect of these sanctions on the behaviour of States remains contested.

Despite their perceived advantage as being a less violent means of facilitating state behaviour change, comprehensive sanctions have been criticized for their ineffectiveness. Tostensen and Bull argue that these sanctions tend to not attain their stated goal while heightening humanitarian suffering.¹⁷⁶ Others including Brzoska, Torbat, Lopez and Cortright, and Hufbauer, Schott, and Elliott find a limited number of conventional sanctions cases that could be

175 Drezner, Daniel W. "Sanctions sometimes smart: targeted sanctions in theory and practice." *International Studies Review* 13.1 (2011): 96-108.

176 Tostensen, Arne, and Beate Bull. "Are smart sanctions feasible?." *World politics* 54.03 (2002): 373-403.

deemed “successful”.¹⁷⁷ These observations of the ineffectiveness of comprehensive sanctions triggered the emergence of smart sanctions as a supposedly more precise and efficient tool targeting specific actors and/or sectors and not an entire state.

Smart sanctions seek to address the main pitfalls of conventional sanctions. These sanctions focus on specific aspects of the political leadership and/or economy of the targeted states, unlike comprehensive sanctions that tended to have negative consequences on the target’s population.¹⁷⁸ Despite this “smart” turn, the effectiveness of this type of sanctions also remains debateable. Von Soest and Wahman for instance find that democracy sanctions—sanctions imposed to facilitate popular participation in politics—tend to increase the level of democracy in targeted autocratic states.¹⁷⁹ Shagabutdinova and Berejikian also find smart financial sanctions to be more effective in their objective of altering targeted state’s policy while having no adverse effect on the human rights record of targeted states.¹⁸⁰ Conversely, Gordon observes that smart sanctions like arms embargoes suffer from poor coordination among the sanctioning states that render these smart sanctions ineffective.¹⁸¹ Corroborating this observation, a 2013 report from the Targeted Sanctions Consortium concluded that smart sanctions are effective only in about 22% of all cases examined.¹⁸²

177 Brzoska, Michael. “From Dumb to Smart-Recent Reforms of UN Sanctions.” *Global Governance* 9 (2003): 519; Lopez, George A., and David Cortright. “Economic sanctions and human rights: Part of the problem or part of the solution?” *The International Journal of Human Rights* 1.2 (1997): 1-25; Hufbauer, Gary Clyde, Jeffrey J. Schott, and Kimberly Ann Elliott. *Economic sanctions reconsidered: History and current policy*. Vol. 1. Peterson Institute, 1990.

178 Shagabutdinova, Ella, and Jeffrey Berejikian. “Deploying Sanctions while Protecting Human Rights: Are Humanitarian “Smart” Sanctions Effective?.” *Journal of Human Rights* 6.1 (2007): 59-74.

179 Von Soest, Christian, and Michael Wahman. “Are democratic sanctions really counterproductive?” *Democratization* 22.6 (2015): 957-980.

180 Shagabutdinova and Berejikian, 2007.

181 Gordon, Joy. “Smart sanctions revisited.” *Ethics & International Affairs* 25.03 (2011): 315-335.

182 Biersteker, T., et al. “The Effectiveness of United Nations Targeted Sanctions, Findings from the Targeted Sanctions Consortium.” *Graduate Institute for International Studies, Geneva* (2013).

Non-proliferation sanctions including those dealing with nuclear security issues have become the most common smart sanction tool the international community uses to control the proliferation of weapons of mass destruction. The International Atomic Energy Agency defines nuclear security as “the prevention and detection of, and response to, theft, sabotage, unauthorised access, illegal transfer or other malicious acts involving nuclear material, other radioactive substances or their associated facilities”.¹⁸³ According to Boreston and Ogilvie-White the global nuclear security regime includes such binding arrangements like the UN Security Council resolutions 1373 and 1540 and technical assistance arrangements like the Global Initiative to Combat Nuclear Terrorism and the Proliferation Security Initiative all of which seek to advance global non-proliferation norms.¹⁸⁴

Non-proliferation sanctions are imposed with the explicit goal like that of other sanctions being behavior change. In a report prepared for the US Office of the Secretary of Defence by the RAND Corporation and the National Defence Research Institute, Speier, Chow, and Starr write the aim of non-proliferation sanctions is “usually to stop specific programmes for NBC [(nuclear, biological, and chemical)] weapons or missiles and, most frequently, to stop international transfers that contribute to such programmes”.¹⁸⁵ Examples of cases where non-proliferation sanctions were imposed include those against Iran, Iraq, Libya, and North Korea. With the increasing global acceptance of nuclear non-proliferation and security as a means to prevent weapons of mass destruction from falling into the wrong hands, states have put up multilateral strategic trade controls and a nuclear security and non-proliferation regime. The UN Security Council has been the main multilateral framework used to

183 IAEA. “Concepts and terms.” <http://www-ns.iaea.org/standards/concepts-terms.asp>. (2016).

184 Boureston, Jack, and Tanya Ogilvie-White. “Expanding the IAEA’s nuclear security mandate.” *Bulletin of the Atomic Scientists* 66.5 (2010): 55-64.

185 Speier, Richard, Brian G. Chow, and S. Rae Starr. *Nonproliferation sanctions*. Rand, 2001.

impose non-proliferation sanctions. For example, it was through the efforts of the UN Security Council resolutions 1718 (2006) and 1737 (2006) that sanctions were imposed against North Korea and Iran respectively against their alleged nuclear weapons programmes.¹⁸⁶ In both cases, the UNSC cited multilateral frameworks such as the Nuclear Non-Proliferation Treaty and the International Atomic Energy Agency's safeguards agreements. In a majority of cases however, non-proliferation sanctions have been imposed unilaterally, mainly by the United States in concert with its allies.

In this essay, I provide an overview of the effects of nuclear non-proliferation and security sanctions on the targeted states. Specifically, I evaluate the extent to which these sanctions attained their political objective of behavior change and the potential economic consequences of these sanctions on the targeted states. In providing this evaluation, I make use of the Economic Sanctions Reconsidered, 3rd Edition Database developed by Hufbauer, Schott, Elliott, and Oegg (HSEO hereafter).¹⁸⁷ These data are not the only available collection of sanctions cases. The Threats and Imposition of Sanctions (TIES) dataset that Morgan, Bapat, and Kobayashi developed also covers a wide array of sanctions cases.¹⁸⁸ However, the Hufbauer et al data explicitly identifies cases of nuclear security sanctions that are of interest in this essay. This evaluation is not the first of its kind in the literature on non-proliferation sanctions. Brzoska reviews cases of US-imposed sanctions.¹⁸⁹ Dreyer

186 Arms Control Association. "Chronology of US-North Korean Nuclear and Missile Diplomacy." <https://www.armscontrol.org/factsheets/dprkchron> (2016a); Arms Control Association, "Timeline of Nuclear Diplomacy with Iran." <https://www.armscontrol.org/factsheet/Timeline-of-Nuclear-Diplomacy-With-Iran> (2016b).

187 Hufbauer, Gary C., Jeffrey J. Schott, Kimberly A. Elliott, and Barbara Oegg. "Economic Sanctions Reconsidered (Washington, DC: Peterson Institute for International Economics)." (2007).

188 Morgan, T. Clifton, Navin Bapat, and Yoshiharu Kobayashi. "Threat and imposition of economic sanctions 1945–2005: Updating the TIES dataset." *Conflict Management and Peace Science* (2014): 0738894213520379. The TIES data include two broad categories of issues precipitating the imposition of non-proliferation sanctions: denial of strategic materials and terminating weapons/materials proliferation.

189 Brzoska, Michael. "From Dumb to Smart-Recent Reforms of UN Sanctions." *Global Governance* 9 (2003): 519.

and Luego-Cabrera on the other hand edited a report on European Union sanctions, although the report does not focus exclusively on non-proliferation sanctions.¹⁹⁰ This essay however offers a broader evaluation that captures nuclear non-proliferation and security sanctions episodes covered in the HSEO database. This essay therefore complements the specific studies of non-proliferation and arrives at conclusions similar to those in these previous assessments.

2. THE EFFECTS OF NON-PROLIFERATION SANCTIONS

The HSEO database is one of the most comprehensive datasets of economic sanctions states have imposed against other states. The HSEO database defines economic sanctions as “deliberate, government inspired withdrawal, or threat of withdrawal, of customary trade or financial relations”.¹⁹¹ This definition is similar to that alluded to by the UN Security Council where sanctions the Security Council has threatened and/or imposed “have ranged from comprehensive economic and trade sanctions to more targeted measures such as arms embargoes, travel bans, and financial or commodity restrictions”.¹⁹² A unique aspect of this database is its qualitative case studies of each of the cases in the database. The database identifies 204 cases of economic sanctions imposed between the years 1914 and

190 Dreyer, Iana and José Luengo-Cabrera. “On target? EU sanctions as security policy tools.” *Issue Report* no. 25, September (2015).

191 Hafbauer, et al (2007).

192 Security Council Report, “UN Sanctions.” Special Research Report no. 3 (November) (2013). Although not explicit, the UN Charter references the use of economic restrictions as means of obliging behavior change in Article 41: “The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions, and it may call upon the Members of the United Nations to apply such measures. These may include complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations.”

2006.¹⁹³ In each case study and in the full dataset, the HSEO database includes information on the target(s) and sender(s) of sanctions and their duration, goals of the sender, the reactions of the target and third-party states, international organization involvement, the economic and political impacts of the sanctions, and specific political and economic indicators on the target state such as regime type, its trade levels, gross national product.

The goal of sanctions constitutes the foreign policy objective of the sender state that motivates the threat and imposition of sanctions against the target state. In the HSEO database, four goals are of interest: nuclear policy, nuclear non-proliferation, nuclear safeguards, and nuclear testing. These four get plausibly close to issues pertaining to nuclear security and non-proliferation. For instance, Canada imposed sanctions against India in the form of suspension of nuclear cooperation and threatened to withhold non-food aid following India's explosion of a nuclear device.¹⁹⁴ The qualitative assessment of this sanctions episode summarizes the goals of Canada succinctly as one that was motivated by Canada's concerns regarding the spread of nuclear weapons.¹⁹⁵ The qualitative assessment of US sanctions against Pakistan also highlights this goal: the US sought to limit the ability of Pakistan to import goods and material that could be used to make a nuclear weapon through sanctions that would motivate Pakistan not to develop such weapons.¹⁹⁶

In addition to the goals of sanctions, the HSEO also gives an account of the salience of these goals. Five categories are noted in the dataset itself. These include modest policy changes (1), regime change and democratization (2), disruption of military adventures (3), military impairment (4), and other major policy changes (5). For the four nuclear security related issues motivating sanctions, the goal of

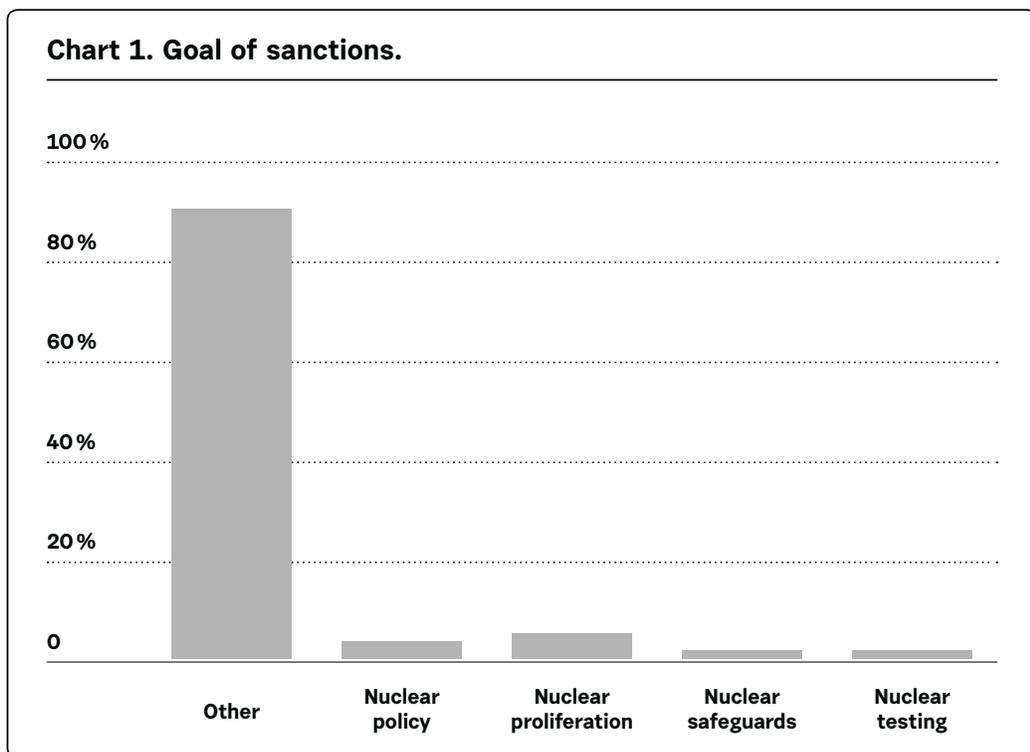
193 These data have yet to be updated till the year 2015. The other large-N sanctions database, the Threat and Imposition of Sanctions (TIES) dataset (Morgan et al 2014) includes observations between 1945 and 2005.

194 Hafbauer et al 2007.

195 *Ibid.*

196 *Ibid.*

sender states has mainly been military impairment. The Iran case in the HSEO data epitomizes this category. Following its investigations on Iran’s nuclear programme, the IAEA referred Iran to the UN Security Council over concerns that it was trying to develop nuclear weapons.¹⁹⁷ The US authorities have justified sanctions as a means of ensuring Iran abandon its nuclear weapons ambitions.¹⁹⁸ The 2015 Joint Comprehensive Plan of Action between the P5+Germany and Iran suggests that the sanctions the US and UNSC had imposed may have served to militarily impair Iran through it giving up its nuclear weapons programme and making its nuclear programme more transparent in exchange of sanctions relief.¹⁹⁹



Sanctions motivated by nuclear security issues have been limited during the period covered in the HSEO dataset. Chart 1 graphs the percentages of goals of sanctions, concentrating on those related

197 *Ibid.*

198 *Ibid.*

199 Arms Control Association 2016b.

to nuclear non-proliferation and security issues. The most significant observation from this chart is the few cases of nuclear issues as precipitators of sanction imposition. As depicted in Chart 1, only 10,3% (21 out of 204) of the cases during the duration in the dataset involved sanctions imposed because of nuclear security (nuclear policy at 3,4%, nuclear proliferation at 4,41%, and nuclear safeguards and testing at 0,98% each).

2.1. Types of Nuclear Non-Proliferation and Security Sanctions

Despite their limited instances, nuclear non-proliferation and security goals have resulted in the threat and imposition of specific sanctions against targeted states. These sanctions aim to cause damage to the economy of the targeted states. HSEO database identifies the following sanctions type: interruption of commercial finance, aid, and other official finance, interruption of exports from the sender to the target, and interruption of imports by the sender from the target. Chart 2 summarizes these types of sanctions imposed to attain nuclear security goals.

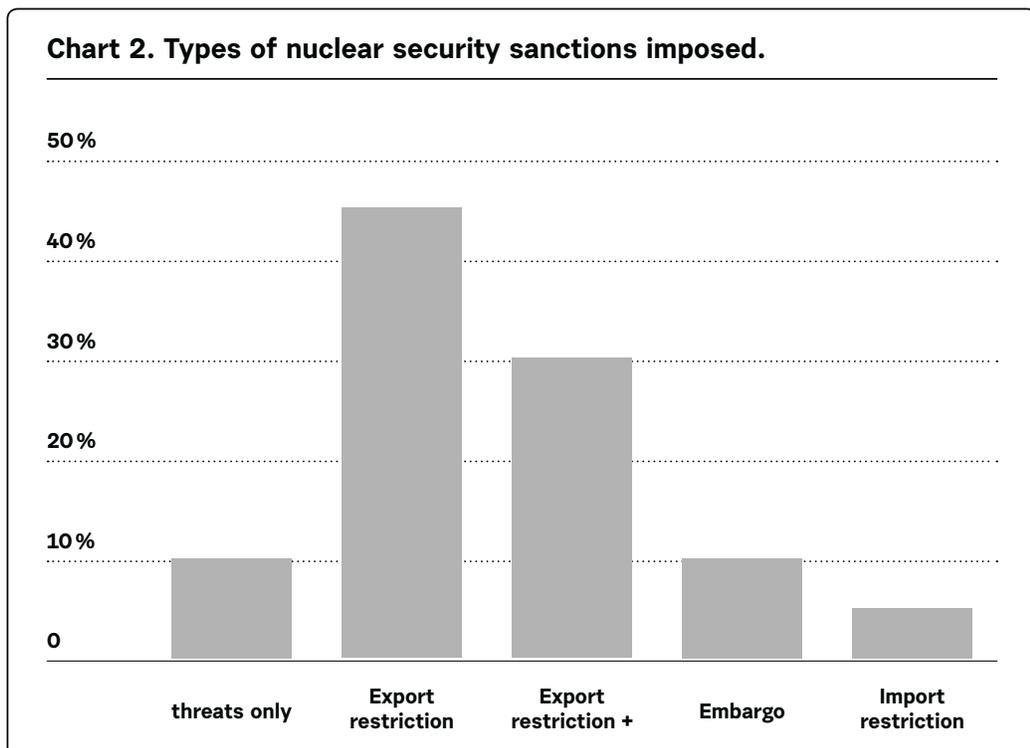


Chart 2 provides a summary of these specific types of nuclear security sanctions that were eventually imposed as recorded in the HSEO dataset. The first category includes cases where only threats, but no sanctions were imposed while the rest of the categories detail economic sanctions imposed. The third category, “export restriction +,” are cases where export restrictions along with restrictions of “commercial finance, aid, and other official finance” were the sanctions imposed.²⁰⁰ The fourth category, embargoes, are cases where import and exports were restricted along with restrictions of “commercial finance, aid, and other official finance” were the sanctions imposed.²⁰¹

Chart 2 reveals that export restrictions and halting the other financial flows are the most common sanctions deployed to achieve nuclear security and non-proliferation goals. For instance, restrictions in financial flows has been a common type of sanction the UN Security Council has imposed against North Korea as documented in UNSC resolutions 1695 (2006), 1874 (2009), 2094 (2013), and 2270 (2016).²⁰² Indeed, the observations in Chart 2 are not surprising given the obligations outlined in multilateral nuclear non-proliferation arrangements. The Nuclear Non-Proliferation Treaty’s Article III for example obliges its signatories not to provide non-nuclear weapons states with nuclear materials unless there are strict safeguards in place.²⁰³ The UN Security Council Resolution 1540’s Article 3 on the other hand calls on states to set up national export controls systems so as to mitigate the proliferation of dual-use goods include nuclear material.²⁰⁴ One mechanism of punishing violators of these nuclear security and non-proliferation norms that

200 Hafbauer et al 2007.

201 *Ibid.*

202 Arms Control Association 2016a.

203 United Nations Office for Disarmament Affairs. Treaty on Non-Proliferation of Nuclear Weapons. <http://disarmament.un.org/treaties/t/npt/text>.

204 United Nations Security Council. Resolution 1540. [http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1540%20\(2004\)](http://www.un.org/en/ga/search/view_doc.asp?symbol=S/RES/1540%20(2004)) 2004.

the UN Security Council relies upon has been “complete or partial interruption of economic relations” as recommended in Article 41 of the UN Charter that empowers the Security Council to employ such measures.²⁰⁵

2.2. Primary Sanctions Senders and Targets

The non-proliferation sanctions identified in Chart 2 are both unilateral and multilateral. The HSEO data also identifies the actors that threatened to impose sanctions and the targets of these sanctions. These are both states and international organizations. Table 1 reveals a comprehensive list of all nuclear security and non-proliferation sanctions cases in the HSEO database. As depicted in Table 1, the most prominent state, primary sender that threatens and/or imposes sanctions, is the United States. The US has been the primary actor in 15 of the 21 cases of nuclear sanctions. In two of these 15 cases, sanctions against North Korea, the US has acted in concert with the United Nations. Along with the US, Canada has been the primary sanctioner in four cases, two of which were the result of nuclear safeguards disagreements, while in one case it has coordinated with the United States (sanction threats against South Korea). Australia has sanctioned in two cases both of which were the result of nuclear testing concerns.

Table 1 also reveals the issue that precipitated the threat or imposition of sanctions and the targets of these sanctions. In 15 cases, sanctions were threatened and/or imposed due to the senders’ concerns regarding the target state violating various aspects of nuclear non-proliferation. The targets of these sanctions are a diverse group of states, unlike the sender states and include some that have been successful at acquiring nuclear weapons technology such as India and Pakistan and some that were deterred from pursuing nuclear weapons technology like Argentina, Brazil, South Africa,

205 United Nations. Charter of the United Nations. <http://www.un.org/en/charterunited-nations/>.

and South Korea. Table 1 also highlights that sanctions against Iran have been on going since 1984, although the UN's imposition did not commence until the mid 2000s.

Table 1. Senders and Targets of Nuclear Security Sanctions

Target	Sender	Duration	Goal	Sanction
France	Australia	1983-1986	Testing	Export restriction
France	Australia	1995-1996	Testing	Import restriction
EC ^c ; Japan	Canada	1977-1978	Safeguards	Export restriction
India	Canada	1974-1976	Proliferation	Export restriction+
Japan; EC ^c	Canada	1977-1978	Safeguards	Export restriction
Pakistan	Canada	1974-1976	Proliferation	Export restriction
Argentina	United States	1978-1982	Policy	Export restriction
Brazil	United States	1978-1981	Policy	Export restriction
China	United States	1991-	Proliferation	Export restriction+
India	United States	1998-2001	Proliferation	Export restriction+
India	United States	1978-1982	Policy	Export restriction
Iran	United States	1984-	Proliferation	Embargo
Iraq	United States	1980-2003	Proliferation	Export restriction
Libya	United States	1978-2004	Proliferation	Embargo
N. Korea	United States	2002-2006	Proliferation	Export restriction+
N. Korea	United States	1993-1994	Proliferation	Threat
Pakistan	United States	1998-2001	Policy	Export restriction+
Pakistan	United States	1979-1997	Policy	Export restriction+
South Africa	United States	1975-1982	Policy	Export restriction
S. Korea	United States	1975-1976	Proliferation	Threat
Taiwan	United States	1976-1977	Policy	Export restriction

^a denotes the United Nations was secondary sender;

^b denotes Canada was secondary sender;

^c denotes the European Community. Source: Haufbauer et al (2007)

Other sanction cases identified in Table 1 however are those against States for violating nuclear safeguards and not non-pro-

liferation. Two cases stand out and are briefly summarized here. In 1977 Canada suspended shipment of uranium to Japan and the European Community because of disagreements on the nuclear safeguards arrangements, specifically uranium reprocessing in these two targets.²⁰⁶ In this particular case, Canada was negotiating directly with the European Community given that the EC was composed of key Canadian uranium importers such as the United Kingdom, Germany, and France.²⁰⁷ The embargo on shipments was only lifted after the European Community and Japan reached an agreement with Canada on strengthening their respective nuclear safeguards.²⁰⁸ Sanctions against France for nuclear testing in Mururoa atoll in the South Pacific in 1983 and 1995 resulted in Australia banning the export of uranium to France and restrictions on procuring defence goods from France.²⁰⁹ It was only after France signed the Treaty of Rarotonga that made the South Pacific a nuclear-free zone, the French signing of the Comprehensive Test Ban Treaty, and France halting any nuclear tests that Australia normalized its relations with France through the elimination of the previously imposed sanctions.²¹⁰

Finally, Table 1 also identifies the type of sanction imposed in each specific case. As noted on Chart 1, export restrictions are the most common type of sanction imposed along with halting financial flows. Embargoes, or sanctions restricting imports and exports along with financial flows were only imposed in two cases: Iran and Libya.

2.3. Economic and Political Effects of Nuclear Security Sanctions

The economic and political effects of nuclear security sanctions vary to a great extent. Politically, these sanctions may have been

206 Jennekens, Jon. "Canadian Involvement in International Nuclear Cooperation." Atomic Energy Control Board, Ottawa, Canada (1981).

207 Jennekens 1981.

208 Hafbauer et al 2007.

209 *Ibid.*

210 *Ibid.*

responsible for behavior change in the cases of Argentina, Brazil, South Africa, and South Korea, as noted above. Yet these sanctions did not have any effect on India, Pakistan, and North Korea.

The HSEO database includes estimates of the economic cost of sanctions on target states. For example, following US imposition of export restrictions against Brazil's access to low-enriched uranium, Brazil suffered an economic loss valued at US dollars 5 million.²¹¹ In per capita terms, this economic loss amounted to US dollars 0,04.²¹² These economic costs of nuclear security sanctions vary between negligible in cases where sanctions were threatened but not imposed such as US sanctions threats towards North Korea in the 1993-1994 period to US dollars 678 million as a result of US sanctions against India in 1998-2001 period.

The political effects of nuclear security sanctions also exhibit a similar variation. HSEO database identifies four categories of policy outcomes: failed outcome (1) where the sender's goal was not attained, unclear but positive outcome (2), positive outcome (3), and successful outcome where the policy goals of the sender were attained (4).²¹³ Given that policy goals of senders might be attained via other means and not exclusively through the threat and/or imposition of sanctions, the HSEO data also evaluates the extent to which sanctions were responsible for the policy outcomes. The four categories of interest here include negative contribution (1), minor contribution (2), substantial contribution (3), and decisive contribution (4). These two indicators are then used to evaluate the successfulness of sanctions or the extent to which the policy goal obtained was the result of sanctions.

211 *Ibid.*

212 *Ibid.*

213 The HSEO database codebook (Hafbauer et al 2007) elaborates on these indices further. A failed outcome (1) includes instances where despite sanction threat and/or imposition, the target did not alter its behavior. An unclear but possibly positive outcome (2) encompasses those cases where sanctions were not decisive on their own in getting the target to alter its behavior. A positive outcome (3) constitutes cases where "the sender's goals were partially realized." A successful outcome (4) includes cases where "the sender's goals were largely or entirely realized."

Table 2 provides a summary of these political and economic effects. Two cases have been excluded owing to lack of data on their economic effects: North Korea in 1993-1994 and South Korea in 1975-1976 when the US threatened but did not impose sanctions. Additionally, Table 2 identifies the status of the target State, that is, whether the target State is recognized in the Non-Proliferation Treaty as a nuclear weapon State (NW State), a non-nuclear weapon state (NNW State), or those that are not signatories of the NPT. Table 2 not only reveals the previously noted observation that economic costs have varied, but also the limited variation in policy outcomes. In 10 of the 19 cases being displayed, the policy outcomes of nuclear security and non-proliferation sanctions were unclear, albeit positive and only successful in two cases: Taiwan and Libya. In most cases, these sanctions appeared to have tangentially contributed to the policy outcomes the HSEO database identifies. Sanctions contributed decisively in the policy goal of the sender in one case, Taiwan. In one non-proliferation case, Libya, sanctions contributed substantially to the policy goal of the sender. To reiterate, the Taiwan and Libya are the only instances in the HSEO database deemed to have resulted in the policy outcome sought by the target. In two cases, North Korea (2002-2006) and Pakistan (1979-1997) sanctions contributed negatively leading to no behavior change. Finally, sanctions seem to have contributed substantially in the nuclear safeguards disagreement cases between Canada and the EC and Japan and only tangentially in nuclear testing disagreements between France and Australia. The statistics depicted in Table 2 lead to one conclusion that others have previously reported on the effect of non-proliferation sanctions: their direct effect has tended to be insignificant.

Additionally Table 2 also leads one to the following question: what can explain the variation in the success of nuclear security sanctions? To answer this empirical question, I outline a brief argu-

ment and test it on the 19 cases of nuclear security sanctions.²¹⁴ One argument may be that the extent of economic costs can help to explain whether sanctions would be effective in attaining their objective or not. As more societal actors are adversely affected by the economic limitations that sanctions represent, decisionmakers in the target state may find it in their interest to alter their behavior towards that which the sanctions senders desire. In other words, nuclear security sanctions would be more successful in instances where they are economically costly to the target state.

I test this argument by estimating a linear regression using the HSEO data. The dependent variable is *success*, which is the interaction between policy outcome and sanction contribution. As noted earlier, this interaction evaluates the extent to which sanctions contributed to the policy outcome the sanctions sender wanted. This variable ranges between 1 and 16: a value of 1 indicates that the policy outcome desired was not achieved and sanctions contributed negatively to this outcome while a value of 16 is indicative of instances where the policy outcome desired was successfully achieved and sanctions contributed to this outcome decisively.

214 Only 19 cases are estimated because two cases, South Korea (1975-1976) and North Korea (1993-1994), were only instance of sanctions threats and no decipherable economic impact could be noted.

Table 2. Summary of Economic and Political Effects of Sanctions

Target	NPT Status	Cost	Cost/ capita	Policy Outcome	Sanction contribution
France	NW State	0.001	0.001	Failed	Minor
France	NW State	0.001	0.001	Unclear	Minor
EC; Japan	Various	40	0.15	Positive	Substantial
India	N/A	33	0.06	Unclear	Minor
Japan; EC	Various	75	0.66	Positive	Substantial
Pakistan	N/A	13	0.18	Unclear	Minor
Argentina	NNW State	0.2	0.001	Unclear	Minor
Brazil	NW State	5	0.04	Unclear	Minor
China	NW State	54	0.05	Unclear	Minor
India	N/A	678	0.72	Failed	Minor
India	N/A	12	0.02	Unclear	Minor
Iran	NNW State	545	7.27	Unclear	Minor
Iraq	NNW State	22	1.71	Unclear	Minor
Libya	NNW State	309	114.4	Success	Substantial
N. Korea	N/A	127.6	5.67	Failed	Negative
Pakistan	N/A	456	4.06	Unclear	Minor
Pakistan	N/A	456	4.06	Failed	Negative
S. Africa	N/A	2	0.08	Unclear	Minor
Taiwan	N/A	17	1.01	Success	Decisive

Target costs are in millions of US Dollars while Cost/capita are in US Dollars.
Data source: Hufbauer, et al (2007).

The variable of interest is *cost/capita* that captures the monetary value of the losses as a result of the economic sanctions on the target per capita. Additionally, I control for potential factors contributing to the success of sanctions. These include the *duration* of the sanctions in number of years, whether the sanctions were unilaterally imposed by the United States (*US sanctions*), the extent of international cooperation in the imposition of sanctions

(*international cooperation*), and the nature of political and trade ties between the sender and the target (*prior ties* and *trade links*).²¹⁵ The estimates of the linear regression are presented in Table 3.

Table 3. Determinants of Sanctions Success

Variable	Estimates	
Cost/ Capita	0.1**	(0.026)
Duration	-0.263	(0.185)
US Sanctions	2.084	(2.619)
International cooperation	-1.733	(1.541)
Prior Ties	0.805	(2.755)
Trade Links	0.003	(0.04)
R-squared	0.519	
Root MSE	3.246	
N	19	
Notes: Robust standard errors in parenthesis. ** denotes statistical significance at 95% confidence interval. Data source: Hufbauer, et al (2007).		

The results reveal some support for the hypothesis that high economic effect of sanctions on the target is positively associated with sanction success. Indeed, this is the only covariate in Table 3 that returns a statistically significant estimate. These results should be interpreted with some caution given the limited number of nuclear security sanctions in the HSEO data (only 19 cases in the data). The recent cases of UN, US, and EU sanctions against Iran are not included in the data. Additionally, Cold War era cases of US sanctions against the Soviet Union and China to limit their access to strategic dual-use goods are also not included in the cases esti-

215 There are four levels of *international cooperation*: no cooperation (1); minor cooperation (2); modest cooperation (3); significant cooperation (4). *Prior ties* includes the following categories: antagonistic (1); neutral (2); cordial (3). *Trade links* “equals the average of presanction target-country exports to the sender country as a percentage of total target-country exports and imports from the sender country as a percentage of total target-country imports” (HSEO database).

mated in Table 3. However, the results presented in Table 3 can be seen as pointing at the duality of the economic and political effects of sanctions: where economic effects are high such as for instance in the recent case of Iran, there is a likelihood that the sanctions imposing such economic costs can yield the policy outcome the sanctions senders seek.

3. CONCLUSION

In this essay, I sought to provide an evaluation of the economic and political effects of nuclear non-proliferation and security sanctions on target states. Nuclear security represents non-proliferation efforts that states have taken unilaterally and multilaterally. Sanctions imposed with the goal of advancing nuclear non-proliferation and security have tended to be smart and targeting the economic welfare of the suspected violators of nuclear security norms.

Using a database that Hufbauer, Schott, Elliott, and Oegg developed, this essay has showed that sanctions specifically applied to advance nuclear security have been limited.²¹⁶ There were only 20 out of 204 cases of threats and imposition of nuclear security sanctions during the time period covered in this database.²¹⁷ These sanctions have usually sought to impose economic costs on the target states in the form of restrictions in trade and other financial flows. Additionally, the United States appears to be the main sender of sanctions, only going through multilateral channels in a few cases. Finally, the HSEO database reveals that the economic and political effects of these sanctions have been minor to negligible. In the 19 cases where sanctions were imposed, only two resulted in the policy outcome the senders sought. Finally, I provided preliminary statistical evidence to suggest that high economic costs of sanctions

216 Hafbauer et al 2007.

217 Although these data commence in 1916, years relevant for this study are those after WWII to 2006 when nuclear non-proliferation became an important global issue.

are positively associated with the success of nuclear security sanctions. This finding would appear to be in line with the implication of sanctions against Iran: the Iranian policymakers may have been moved to make certain concessions in exchange for an easing of the sanctions that the UN (specifically the P5 + Germany) had imposed as outlined in the Joint Comprehensive Plan of Action.

As previously noted, HSEO data are not the only source of sanctions information. Those in the Threat and Imposition of Sanctions (TIES) data that Morgan, Bapat, and Kobayashi (2014) are also notable in the sanctions literature.²¹⁸ The TIES data covers the period between 1945 and 2005.²¹⁹ These data identify two categories of sanctions that get at non-proliferation issues: strategic good acquisition and weapons/material proliferation.²²⁰ An examination of sanctions that result from these two issues appear to suggest that they have been few compared to other issues motivating sanctions, corroborating this essay's findings.²²¹ Additionally, the TIES data reports that the US has been the most active sender and the economic and political effects of these sanctions are suspect.²²² However, these two categories also encompass other attempts at gaining strategic goods beyond nuclear and WMD technology and also include the proliferation of weapons other than nuclear, biological, and chemical weapons.²²³ Put differently, these two non-proliferation categories do not ascertain beyond a reasonable doubt that it was in fact WMD issues that inspired the threat or imposition of sanctions.

218 Morgan et al 2014.

219 *Ibid.*

220 *Ibid.*

221 *Ibid.*

222 *Ibid.*

223 *Ibid.*

Finally, the observation that nuclear security sanctions have had a negligible effect on targeted states should not suggest that non-proliferation efforts have not worked. The few cases of nuclear security sanctions in the HSEO database implies that there have been few cases of nuclear proliferation that attract international attention. Crucially, the emergence of numerous multilateral arrangements like the Nuclear Non-Proliferation Treaty, the Chemical Weapons Convention, the Biological Weapons Convention, and the UN Security Council Resolution 1540 have resulted in the emergence, spread, and internalization of non-proliferation norms globally. Table 4 summarizes the coverage of these multilateral frameworks. These norms have in turn influenced states not to pursue developing or acquiring WMD technology. Put differently, the potential for UNSC and unilateral sanctions for violating these global norms enshrined in these multilateral frameworks can be argued to influence states not targeted with sanctions indirectly not to pursue or facilitate the development and proliferation of WMD technology.