



# The Impacts and Effectiveness of UN Nonproliferation Sanctions: A Provisional Report

Iran and North Korea

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# THE IMPACTS AND EFFECTIVENESS OF UN NONPROLIFERATION SANCTIONS:

## A Provisional Report on the Targeted Sanctions on Iran and North Korea

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## PREFACE

The International Security Research and Outreach Programme (ISROP) is located within the Defence and Security Relations Division of the International Security and Intelligence Bureau. ISROP's mandate is to provide the Department of Foreign Affairs and International Trade Canada (DFAIT) with timely, high quality policy relevant research that will inform and support the development of Canada's international security policy in the areas of North American, regional and multilateral security and defence cooperation, non-proliferation, arms control and disarmament. The current ISROP research themes can be found at:

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ISROP regularly commissions research to support the development of Canadian foreign policy by drawing on think-tank and academic networks in Canada and abroad. The following report, **The Impacts and Effectiveness of UN Nonproliferation Sanctions: A Provisional Report on the Targeted Sanctions on Iran and North Korea**, is an example of such contract research.

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## PRÉAMBULE

Le Programme de recherche et d'information dans le domaine de la sécurité internationale (PRISI) fait partie de la Direction des relations de sécurité et de défense, qui relève elle-même de la Direction générale internationale de la sécurité et du renseignement. Ce programme a pour mandat de fournir au Ministère des Affaires étrangères et du Commerce international (MAÉCI), en temps utile, des études stratégiques pertinentes et de haute qualité qui permettent d'orienter et de soutenir l'élaboration de la politique canadienne en matière de sécurité internationale concernant la coopération nord-américaine, régionale et multilatérale en matière de sécurité et de défense, ainsi que la non-prolifération, le contrôle des armements et le désarmement. Les thèmes de recherches actuels du PRISI figurent à l'adresse suivante :

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Le PRISI commande régulièrement des études à des groupes de réflexion et à des réseaux d'universitaires au Canada et à l'étranger afin d'appuyer l'élaboration de la politique étrangère canadienne. Le rapport sommaire suivant, intitulé, **Répercussions et efficacité des sanctions de l'ONU en matière de non prolifération : Rapport provisoire sur les sanctions ciblées contre l'Iran et la Corée du Nord**, est un exemple de ce type d'étude.

Déni de responsabilité : Les vues et opinions exprimées dans le présent rapport sont exclusivement celles de l'auteur, et ne reflètent pas nécessairement la position du Ministère des Affaires étrangères et du Commerce international, ou celle du gouvernement du Canada. Le rapport est présenté dans la langue de rédaction.

## **Overview and postscript**

The Targeted Sanctions Consortium is unique in its combination of established and younger sanctions scholars, along with practitioners from the UN and national governments. From the outset, the project's objective has been to develop a sound empirical basis upon which practical products and tools may be derived.

Since the completion of this provisional report on Iran and North Korea case studies, in June 2011, the research teams met in London UK with a group of practitioners to discuss the then-fourteen cases of UN targeted sanctions on a thematic basis, facilitating a comparative analysis. Subsequently, research teams completed initial case templates, elaborating the purposes, direct and indirect impacts, unintended consequences, evasion as well as design, coordination, and implementation challenges in order to facilitate the development of a comparable, quantitative data set.

In April 2012, initial coding for all of the (now) sixteen UN sanctions regimes in the study were completed. Updates to the initial assessment of effectiveness, have also benefited from recent meetings with the Panels of Experts for the Libya and Iran Committees.

The Practitioner's Guide was launched at Canada's Permanent Mission to the United Nations in New York on 27 April 2012, and will be followed by sessions with officials and experts in Geneva and elsewhere in spring or early summer 2012. The data set and related material will also provide the basis for an edited book, with chapters written by members of the research teams.

The following report is based on the research consortium's analysis as of March 2011.

## Executive Summary

The international research consortium studying UN targeted sanctions – directed from the Graduate Institute, Geneva and the Watson Institute at Brown University – consists of more than fifty scholars and policy practitioners from around the world working on a multi-year, multi-disciplinary, and comprehensive study of the impacts and effectiveness of UN targeted sanctions. There are fourteen research teams working on different UN targeted sanctions regimes, two of which are the UN's nonproliferation sanctions against Iran and North Korea. Each of the teams is utilizing a common research framework to enable systematic comparisons of the impacts and effectiveness of different combinations of targeted sanctions measures in different contexts and settings. The leaders of the Iran and North Korea research teams joined the two project co-coordinators in drafting this provisional briefing paper, a preliminary version of which was discussed at meetings and an academic roundtable in Ottawa, Canada, on 18 March 2011.

Targeted UN sanctions have particular advantages over comprehensive sanctions. Targeted sanctions minimize harm to civilian populations, inhibit the “rally-around-the-flag” effect, can usefully complement broader negotiation strategies, and are easier to calibrate than comprehensive measures. This all helps to build and sustain political support for their use by the UN. At the same time, however, they can be more difficult to design and implement, as well as easier for some parties to evade. They are also sometimes perceived as “weaker” than comprehensive measures, because they intentionally have less impact on traditional macro-economic indicators of sanctions effectiveness.

Targeted sanctions tend to be most effective when they are well-designed, well-coordinated with other diplomatic initiatives, and consistently implemented by major trading and commercial partners over an extended period of time. International political resolve (“political will”) is also critically important to their success. The design of UN targeted sanctions tends to be a highly politicized process that often inhibits rational or optimal design. Coordination with diplomatic initiatives tends to be a reflection of political will, and consistent implementation is often inhibited by limited capacity at the national level.

Although sanctions tend to be evaluated solely in terms of their ability to coerce a party to change its behavior, they simultaneously can be used to constrain proscribed activities and/or send a powerful signal to the targeted party and the larger international community. The international research consortium is evaluating the effectiveness of targeted sanctions in terms of all three types of sanctions objectives – to coerce, constrain, and signal – and tracing their dynamic developments over time within discrete episodes of each sanctions regime.

Targeted sanctions never work in isolation from other policy instruments – be they ongoing negotiations, unilateral or regional sanctions measures, independent activities of international organizations, or the activities of other UN agencies. As a result, it is difficult, but not impossible, to distinguish their independent effects. Our provisional findings on the impacts and effectiveness of UN targeted sanctions against Iran and North Korea, presented below,

should be considered tentative. As mentioned above, we are still in the process of primary research on the two cases.

In the case of Iran, there is no conclusive evidence that UN targeted sanctions have succeeded in coercing Iran into compliance with the demands of a series of increasingly more extensive UN Security Council targeted sanctions resolutions, that it cooperate with the IAEA and forego its development of nuclear capabilities that could lead eventually to a weapons capability. There is, however, some evidence that the indirect economic impacts of the targeted measures (in combination with more extensive unilateral measures from a number of key players that are legitimized by UN actions) may be creating a schism within the country between the government (that denies any impact of the sanctions) and the internal opposition to the regime that is beginning to blame the regime, and its unwillingness to compromise, for the impacts of the sanctions.

There is a good deal more evidence, however, that UN targeted sanctions have contributed to constraining the ability of the Iranian regime to pursue its nuclear ambitions. The limits on financing, equipment, materials, and technology for its WMD programs have clearly raised the costs for Iran and contributed to slowing its progress with uranium enrichment.

UN targeted sanctions have been most effective with regard to signaling and isolating Iran. There has been a relatively strong international consensus on the broad nonproliferation goals of the measures, if not always on the particular means employed to achieve them. Iran has become more isolated over time, both politically and economically. Its international stigmatization, in combination with the general economic impacts of the targeted sanctions, appears to have contributed to the opposition blaming the regime for placing the country in this situation.

In the case of the effectiveness of UN targeted sanctions against North Korea, there is again no conclusive evidence of the country being coerced into compliance with the two UN Security Council resolutions demanding the reversal of the program to weaponize nuclear material. To the contrary, the country has taken elaborate evasive actions to circumvent the sanctions and continue the program. The North Korea case is qualitatively different from Iran, since it has already conducted a nuclear explosion.

With regard to constraint, however, there are again some indications that sanctions have limited North Korea's access to resources needed for the program. Possibly the most significant measure is contained in UNSCR 1874, which called for Member States to refrain from making new grants, providing financial assistance, or concessional loans to North Korea.

Arguably, the use of targeted sanctions to signal to North Korea has been less effective than in the Iran case, due to the nature of the regime and its suppression of all forms of public dissent. Due to its deliberate and intentional self-isolation, it is not even clear that the regime has either clearly understood the message being sent (via sanctions) or, if it did, how it would be affected by international stigmatization.

To date, the use of UN targeted sanctions for nonproliferation goals has been more effective in constraining and signaling than in coercing behavioral change in Iran and North Korea. It helps that the coordination between the sanctions and the broader negotiations in both cases (the P5+ 1 and the Six-Party Talks) have been strong and direct, even though there have been challenges in maintaining P5 consensus on successive UNSCRs, and the general recognition that China plays a very special role with regard to North Korea.



## **Aperçu et post-scriptum**

Le consortium de recherche sur les sanctions ciblées est unique en son genre, puisqu'il regroupe des chercheurs de divers niveaux d'expérience qui étudient les sanctions ainsi que des praticiens de l'ONU et de gouvernements nationaux qui sont spécialistes dans ce domaine. Le but initial de ce projet était d'élaborer une base empirique solide à partir de laquelle des produits et outils pratiques pourraient être dérivés.

Depuis l'achèvement de ce rapport provisoire sur les études de cas des sanctions imposées à l'Iran et à la Corée du Nord, en juin 2011, les équipes de recherche se sont réunies à Londres (R.-U.) avec un groupe des praticiens pour discuter des quatorze (à l'époque) régimes de sanctions imposées par l'ONU en fonction d'une base thématique pour en arriver à une analyse comparative. Par la suite, les équipes de recherche ont mis au point les modèles de cas initiaux, dans lesquels sont définis les buts, les répercussions directes et indirectes, les conséquences imprévues, les aspects liés au non-respect des sanctions et à l'intention, la coordination, et les obstacles à la mise en œuvre, et cela afin de faciliter l'établissement d'un ensemble comparable de données quantitatives.

En avril 2012, le codage initial des seize régimes de sanctions (maintenant) de l'ONU faisant l'objet de l'étude était terminé. L'évaluation initiale de l'efficacité a pu également être mise à jour à la suite des récentes réunions qui ont eu lieu avec les groupes d'experts des comités des sanctions sur la Libye et l'Iran.

Le « Guide du praticien », dont le lancement a eu lieu à la Mission permanente du Canada auprès des Nations Unies, à New York, le 27 avril 2012, sera suivi de sessions avec des hauts fonctionnaires et des experts qui se tiendront à Genève et ailleurs, au printemps ou au début de l'été 2012. L'ensemble de données et les documents connexes serviront de base pour la publication d'un livre dont les chapitres seront rédigés par des membres des équipes de recherche.

Le présent rapport est fondé sur l'analyse du consortium de recherche en date de mars 2011.

## Résumé

Le consortium de recherche international qui étudie les sanctions ciblées de l'ONU (dirigé à partir de l'Institut universitaire des hautes études internationales de Genève et de l'Institut Watson de l'Université Brown) compte plus de cinquante chercheurs et praticiens de partout dans le monde, qui collaborent à une étude pluriannuelle, multidisciplinaire et exhaustive sur les répercussions et l'efficacité des sanctions ciblées imposées par l'ONU. Quatorze équipes de recherche mènent des projets portant sur divers régimes de sanctions ciblées de l'ONU; deux de ces projets traitent des sanctions de l'ONU en matière de non-prolifération imposées contre l'Iran et la Corée du Nord. Chaque équipe utilise un cadre de recherche commun qui permet d'établir des comparaisons systématiques sur les répercussions et l'efficacité de différentes combinaisons de sanctions ciblées dans divers contextes ou selon divers paramètres. Les chefs des équipes de recherche sur l'Iran et la Corée du Nord se sont joints aux deux coordonnateurs de projet afin de rédiger le présent rapport d'information provisoire, un document préliminaire qui a été abordé lors de réunions et d'une table ronde avec des universitaires qui ont été tenues à Ottawa (Canada), le 18 mars 2011.

Les sanctions ciblées de l'ONU offrent certains avantages que les sanctions générales n'offrent pas. Par exemple, elles permettent de diminuer le tort causé aux populations civiles, d'atténuer l'effet de « ralliement au drapeau », de compléter efficacement les stratégies de négociation globales, en plus d'être plus faciles à calibrer que des sanctions générales. Cela aide à renforcer et à maintenir le soutien politique nécessaire pour leur utilisation par l'ONU. Toutefois, ces sanctions peuvent aussi être plus difficiles à élaborer et à mettre en œuvre, et plus faciles à contourner pour certaines parties. En outre, elles sont parfois perçues comme plus faibles, car elles sont conçues pour avoir une moins grande incidence sur les indicateurs macroéconomiques traditionnels qui permettent de mesurer l'efficacité des sanctions.

Les sanctions ciblées sont généralement plus efficaces lorsqu'elles sont bien élaborées, bien coordonnées avec d'autres initiatives diplomatiques et mises en œuvre de façon uniforme par les principaux partenaires commerciaux pendant une longue période de temps. En outre, il est essentiel que la communauté internationale fasse preuve de « volonté politique » afin de garantir la réussite de ces sanctions. En général, l'élaboration des sanctions ciblées de l'ONU est un processus hautement influencé par des facteurs politiques qui peuvent nuire à la prise de décisions rationnelles et optimales. La coordination des sanctions avec les initiatives diplomatiques reflète souvent la volonté politique de chaque pays, et leur mise en œuvre uniforme est souvent compromise par le manque de capacités à l'échelle nationale.

Bien que les sanctions soient généralement évaluées uniquement en fonction de leur capacité d'amener un pays à modifier son comportement, elles peuvent également servir à entraver les activités interdites ou à envoyer un message très clair à la partie concernée et à la communauté internationale. Le consortium de recherche international évalue actuellement l'efficacité des sanctions ciblées selon les trois types d'objectifs que doivent atteindre les sanctions (forcer la modification du comportement, entraver les activités interdites et envoyer un message) et fait

un suivi des grands changements qu'elles apporteront au fil du temps en étudiant les événements propres à chaque régime de sanctions.

Les sanctions ciblées ne sont jamais isolées des autres instruments politiques, qu'il s'agisse de négociations en cours, de sanctions unilatérales ou régionales, d'activités indépendantes menées par des organisations internationales, ou des activités des autres organismes de l'ONU. C'est pourquoi il est difficile, mais pas impossible, d'étudier leurs répercussions distinctes. Nos conclusions provisoires concernant les répercussions et l'efficacité des sanctions ciblées de l'ONU contre l'Iran et la Corée du Nord, présentées ci-dessous, doivent être considérées comme préliminaires. Comme nous l'avons mentionné plus tôt, nous en sommes toujours à l'étape de recherche primaire sur les deux régimes.

Dans le cas de l'Iran, rien ne démontre de façon concluante que les sanctions ciblées contre le régime l'ont amené à se conformer aux exigences d'une série de résolutions du Conseil de sécurité de l'ONU appuyant des sanctions ciblées d'une portée de plus en plus générale. Rien ne montre non plus que cela amène l'Iran à coopérer avec l'AIEA et à renoncer au développement de capacités nucléaires lui permettant de se doter d'armes nucléaires. Certaines preuves démontrent cependant que les répercussions indirectes des sanctions ciblées sur l'économie (combinées à des mesures unilatérales plus générales mises en œuvre par d'importants intervenants et légitimes en fonction des actions de l'ONU) pourraient créer un schisme au sein du pays entre le gouvernement (qui nie toute répercussion engendrée par les sanctions) et l'opposition interne au régime, qui commence à accuser le régime et dénonce son refus de négocier des compromis pour atténuer les répercussions négatives des sanctions.

Des preuves plus nombreuses permettent toutefois de conclure que les sanctions ciblées de l'ONU ont contribué à entraver la capacité du régime iranien de réaliser ses ambitions nucléaires. Les restrictions imposées sur le financement, l'équipement, les matériaux et la technologie employés dans le cadre de ses programmes d'ADM ont manifestement augmenté les coûts pour l'Iran et ont aidé à ralentir ses progrès quant à l'enrichissement de l'uranium.

L'objectif le mieux rempli par les sanctions ciblées de l'ONU dans le cas de l'Iran a été l'envoi d'un message clair et l'isolement de ce pays. Il existe un consensus relativement solide à l'échelle internationale en ce qui concerne les objectifs généraux de non-prolifération sur lesquels se fondent les sanctions (même si tous ne s'entendent pas nécessairement sur les façons de réaliser ces objectifs). L'Iran s'est de plus en plus isolé au fil du temps, tant sur le plan politique qu'économique. Sa stigmatisation à l'échelle internationale, combinée aux répercussions économiques néfastes générales engendrées par les sanctions ciblées, semble avoir alimenté les accusations portées par l'opposition, qui accuse le régime d'avoir mis le pays dans cette situation.

Quant à l'efficacité des sanctions ciblées de l'ONU contre la Corée du Nord, rien ne démontre non plus de façon concluante qu'elles ont amené le pays à se conformer aux deux résolutions du Conseil de sécurité de l'ONU exigeant qu'il abolisse son programme visant à utiliser des matières nucléaires pour fabriquer des armes. Au contraire, le pays a pris des mesures évasives complexes pour contourner les sanctions et poursuivre son programme. Le cas de la

Corée du Nord diffère sur le plan qualitatif de celui de l'Iran, puisqu'elle a déjà procédé à une explosion nucléaire.

Pour ce qui est d'entraver les activités de la Corée du Nord, cependant, certaines preuves démontrent que les sanctions ont restreint l'accès de ce pays aux ressources dont il a besoin pour son programme nucléaire. La résolution du Conseil de sécurité de l'ONU 1874 contient probablement la mesure ayant la plus grande incidence à cet égard, c'est-à-dire un appel aux États membres à ne pas octroyer de nouvelles subventions ou offrir de l'aide financière ou des prêts concessionnels à la Corée du Nord.

On peut soutenir que l'imposition de sanctions ciblées dans le but d'envoyer un message clair à la Corée du Nord s'est révélée moins efficace qu'en Iran, en raison de la nature du régime et de la répression de toute forme d'opposition publique. En raison de l'isolement délibéré de ce régime, il n'est même pas certain qu'il ait compris clairement le message que représentent les sanctions ciblées ou, dans le cas contraire, dans quelle mesure il serait affecté par la stigmatisation dont le pays ferait l'objet de la part de la communauté internationale.

Jusqu'à maintenant, les sanctions ciblées de l'ONU visant des objectifs de non-prolifération ont été davantage efficaces pour entraver les activités interdites et envoyer des messages clairs aux autorités iraniennes et nord-coréennes que pour forcer celles-ci à changer leur comportement. Il ne faudrait pas négliger le fait que la coordination entre les sanctions et les négociations générales dans les deux cas (le P5 + 1 et les Pourparlers à six) a été efficace et directe, même si certaines difficultés se sont présentées pour maintenir le consensus des pays du P5 au sujet des résolutions successives du Conseil de sécurité de l'ONU, et pour reconnaître que la Chine joue un rôle très spécial à l'égard de la Corée du Nord.

## Introduction

This report was originally prepared for the 18 March 2011 meeting and academic roundtable at Carleton University's Canadian Centre for Treaty Compliance (CCTC) in Ottawa, Canada, and represented the results of research to assess the impacts and effectiveness of UN sanctions on Iran and North Korea (also known as the Democratic Peoples' Republic of Korea or "DPRK"). The results were provisional, because the research on which they were based were conducted as part of a larger international research consortium on UN Targeted Sanctions, which was still ongoing.

We gratefully acknowledge the useful suggestions and constructive feedback we received from the Ottawa meetings and subsequent discussions.

### *Targeted versus Comprehensive sanctions: advantages and disadvantages*

Targeted sanctions have a number of advantages over comprehensive sanctions. First, and foremost, they aim to minimize harm to civilian populations and focus on the leaders and entities responsible for the nuclear programs in both Iran and North Korea. Although they can have consequences on the population in general (e.g., contributing to a deteriorating economic situation), UN targeted measures are designed to avoid the indiscriminate, broad-based humanitarian effects associated with comprehensive sanctions. This, in turn, helps in building and sustaining broad support for sanctions among UN Security Council members. Targeted sanctions also can inhibit the "rally-round-the-flag" effect often associated with comprehensive measures. In Iran, although sanctions are increasingly having an economic impact, the opposition appears to be blaming the effects of sanctions on the regime and its unwillingness to compromise or adjust its behavior in areas declared outside international norms.

Second, targeted sanctions are a useful complement to broader negotiation strategies of the P5+1 and the Six-Party Talks. They are part of a coercive bargaining strategy that can be more easily calibrated, depending on the target's response, to the measures than comprehensive sanctions, which have proved relatively inflexible in practice. Targeted sanctions against both countries have been ratcheted up incrementally through successive UN Security Council resolutions, and the relaxation of measures can be tied to specific acts of cooperation, making it less likely they will be interpreted by the targets as a lack of resolve on the part of the Security Council members.

That being said, targeted sanctions against Iran and North Korea are more difficult to implement than comprehensive measures. Member States need to have legal authority and administrative mechanisms on the national level to freeze assets, prohibit exports, screen travel, and ban arms exports. Selective or targeted sanctions may also be relatively more difficult to enforce because permissible transactions can be used as cover for illicit trade or financial flows. In addition, the networks for illicit goods and their financing are well developed in the nuclear arena as the Khan network and its fractured successors have proven. The 'capturing contraband' and 'increasing the cost of illicit activities' side of

sanctions does exist in each case, but generally the criminal networks in these goods remain a step ahead of the reach of targeted sanctions.

In addition, targeted sanctions have been perceived as “weaker” by some because they are less coercive and by design, have less impact on the macro economy of the targeted country. It may be that the political, psychological, or economic effects of targeted sanctions are insufficient to induce potential proliferators to change their behavior, but that could also be true of comprehensive sanctions. Targeted sanctions may still be useful to signal disapproval of the target’s behavior and support for international norms, and do so at far lower cost to senders than comprehensive sanctions.

Comprehensive sanctions are dramatic and powerful symbols of multilateral resolve. Woodrow Wilson originally envisaged them as the functional equivalent of war, entailing the total isolation of states committing aggression against members of the League of Nations. If the goal is a change in important policies by, or the behavior of, the target regime, broad or comprehensive sanctions may be more likely to produce desired political effects, but the evidence is not conclusive on this issue.

Some of the negative aspects of comprehensive sanctions have already been mentioned, including their non-discriminatory bluntness, humanitarian consequences, and potential for rally- round-the-flag effects. They also can leave a legacy of criminality lasting decades after the cessation of a conflict, as evinced in Yugoslavia and Iraq. In the aftermath of sanctions against Iraq in the 1990s, it is difficult to conceive of circumstances under which comprehensive sanctions would be imposed by the UNSC in the foreseeable future. Beyond difficulties in gaining sufficient political support and putting in place the necessary implementation and enforcement mechanisms to make them even potentially effective, comprehensive sanctions are likely to impose substantial costs to the target’s economy, raising the sensitive issue of humanitarian impact.

#### *Utility and effectiveness of targeted sanctions: building consensus*

This depends on the type of targeted sanctions measures adopted, the broad purposes of the sanctions, and the amount of consensus or political will behind them, which has significant implications for implementation and tenacity of the sanctioners (i.e., whether the measures can be kept in place for a long period of time).

The political will of the five permanent members of the UN Security Council appears to be strongest in the case of targeted measures for counterterrorism (1267 regime). They are generally weakest in cases of human rights violations and democracy promotion, though some have suggested that the most recent targeted sanctions measures against Libya (UNSCRs 1970 and 1973) might indicate a shift. Targeted sanctions to support nonproliferation goals in Iran and North Korea tend to fall in between counterterrorism and democracy promotion goals, but appear to be closer to the former than the latter in degree of consensus and resolve.

Coordination with other processes and the cooperation of important players (particularly the Six-Party Talks in the case of North Korea and the P-5 +1 in the case of Iran) is important to the success of targeted sanctions measures. Problems emerge when key actors have divergent goals, which are often papered over in the texts of UNSCRs. The US, for example, has been more aggressive in its sanctions goals vis-a vis Iran than other P-5 Members, essentially using extensive unilateral measures to expand sanctions to be more comprehensive in scope. This is best illustrated by what the New York Times termed “Stuart Levey’s War,” or the use of pressure on non-US financial institutions in Europe to limit their financial dealings with Iran “voluntarily.” China tends to be more skeptical of sanctions in general and also differs from other UNSC members in the priority it attaches to various goals sought by the UNSC. For example, it turns pressure on and off North Korea, to send signals to its close neighbor and sometime ally to remind it that it is still very much in China’s sphere of influence. This was evinced by Chinese displeasure about not being informed in advance of North Korea’s explosion of a nuclear device. At the same time, there are also numerous complaints, particularly from the United States, that China is not enforcing the UNSC sanctions as vigorously as it might.

Clearly targeted sanctions are more politically palatable and easier to achieve political consensus for than comprehensive measures. Moreover, they play an important role in constraining or slowing the proliferation-related activities of Iran and North Korea, essentially making them more difficult and costly because of the need for evasion. UN sanctions also stigmatize the actions of individuals involved in WMD programs, isolate the regimes as international outliers violating non-proliferation norms, and signal to third parties which may be tempted to violate norms in the future that there will be a cost associated with doing so. Whether targeted sanctions can be effective in changing the behaviour of Iran and North Korea with regard to their nuclear programs remains an open question, but there is more to sanctions than this single objective.

Generally, targeted sanctions (like comprehensive measures) tend to be most effective when they are well-designed, coordinated with other measures (like multi-party talks), and consistently enforced for as long as necessary. They cannot be purely punitive, but must be combined with diplomatic dialogue aimed at engagement with the target, economic incentives, and possibly the threat of force to be effective in inducing changed behavior. It is unrealistic to expect sanctions, even targeted measures, to be effective in all cases. Past experience demonstrates that sanctions alone are unlikely to be successful in preventing a determined country from crossing the nuclear threshold. Nonetheless, sanctions can slow proliferation progress by disrupting product and financial networks, and thus ‘buy time’ before a full-fledged nuclear programme emerges. During this time delay, other factors may lead a regime to change its strategic calculations regarding the utility of a nuclear weapons capability, as in Libya, South Africa, and other cases.

It is also essential to note, as has developed in the case of North Korea sanctions, that the evolving (and at times, erratic) behavior of the target of sanctions – especially when such behavior is hostile and involving force – can place the sanctioners in a difficult position. For example, the militant actions of North Korea in 2010, which included the sinking of the

Cheonan and a military clash on a South Korean island community near their disputed sea border, brought a new dilemma to the substance and signaling dimension of the 1718/1874 sanctions. These measures are meant to end the North Korean nuclear programme, mostly by forcing that government back to the Six-Party Talks. But this direct linkage becomes interrupted by the security crisis of military action which pushes the nuclear and sanctions issues to second place behind the imperative to achieve conventional security goals and peaceful dialogue between ROK and North Korea in light of events. Thus, it is important to be realistic in what targeted sanctions can achieve and not oversell them, especially in dramatically changing political conditions.

#### *Methodology to assess impacts and effectiveness of sanctions*

Each sanctions regime is broken down into separate “episodes” that enable the consortium’s researchers to examine the impact of targeted sanctions as they change over time. Discrete episodes are defined by significant modifications of the sanctions regime, including expansion of targets or lists of proscribed items, the addition of new sanctions, or introduction of monitoring or enforcement measures. For analytical purposes, therefore, the Iran case has been divided into four episodes, and the North Korea case into two, roughly corresponding to the progression of UN Security Council resolutions.

Within each episode, direct and indirect impacts are analyzed, and unintended consequences identified. All of these factors contribute to the overall *effectiveness* of targeted sanctions, which directly relates to the multiple objectives of sanctions. The three general objectives<sup>1</sup> of sanctions (inferred from the sanctions design) are:

- *To coerce or change* target’s behavior to comply with international norms
- *To constrain* proscribed activities and limit access to essential resources (finance, proliferation-related technologies, other dual use goods)
- *To stigmatize/isolate* targets and activities violating international norms, *and signal* targets, third parties, and the international community that there are costs associated with violating international norms.

Thus we assess effectiveness not only in terms of changing target behavior, but also in terms of the ability of targeted sanctions to constrain target activities and to send powerful signals. The public and many policymakers tend to focus on changing behavior as the exclusive goal of sanctions, and by this criterion alone, most sanctions would be viewed as ineffective (especially if effectiveness is defined by the literal terms spelled out in UNSCRs). Effectiveness is not a binary determination, therefore, but a multi-faceted and conditional one.

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<sup>1</sup> Based on typology of three primary objectives by Francesco Giunelli, "Understanding the Effectiveness of Targeted Sanctions: The UN and the EU Experiences Since 1992," Paper presented at the annual meeting of the International Studies Association, New York, February 2009.



### *Qualifications regarding Impact Assessments*

Just because a UN resolution mandates freezing certain assets or blocking particular trade flows, it cannot be assumed that all, or most assets are actually frozen or trade interrupted. In most sanctions cases, targets will attempt to evade the intended impact by openly rearranging trade and financial relationships, where possible, and through deceptive practices where it is not. In addition to striving to integrate the effects of evasion, the research turned up several additional factors complicating the impact assessments.

While some impacts can be documented, many are anecdotal. It is extremely difficult to find reliable data, in some cases because there are few solid measures, for example of the psychological or other effects of travel bans (particularly without access to the targets), and in other cases because concrete metrics, such as the value of assets frozen or the number or importance of interdictions, are not reported or collected on a systematic basis. In the Iran case, the sanctions with the greatest economic impact were adopted by the UN Security Council only nine months ago (June 2010), with implementing measures not promulgated until late in 2010 (some still are not implemented). The effects are therefore too recent for many data to be available. Even when data is available, it is difficult to differentiate the impact of sanctions from the impact of the global economic crisis. In the case of North Korea, while more rigorous UN sanctions (under UNSCR 1874) have been in place for a longer period of time, it is extraordinarily difficult to obtain data on North Korea, given the secretive and closed nature of the country.

Furthermore, a fundamental challenge exists in attempting to disaggregate the impact of the expansive US unilateral sanctions from the more targeted UN measures. Multiple and overlapping sets of sanctions now exist against Iran and North Korea – by US, US/EU/other like-minded states, and by the United Nations. Attributing specific impacts to one or the other set of sanctions is very difficult. It is important to note that only the United States maintains a virtual ban on general trade with Iran and North Korea (which it has for decades), making the impact of UN sanctions minimal within the US (there have been virtually no assets frozen in the US since the advent of UN targeted sanctions in the two cases).

Likewise, it is nearly impossible to assess the stigmatizing or psychological impacts on designated individuals without interviewing affected persons – a task that has proven impossible in the cases of Iran and North Korea. Finally, without access to classified information, it is impossible to determine the degree to which sanctions are slowing or impeding Iran and North Korea's nuclear program. Even so, whether or not the sanctions are constraining access to essential materials for advanced centrifuges (maraging steel, carbon fiber, etc), they do raise the costs of these programs and make further nuclear advancements more difficult.

## Sanctions against Iran

The UN has adopted four sets of sanctions against Iran since 2006, (UNSCRs 1737, 1747, 1803 and 1929) consisting of asset freezes, travel bans, and financial restrictions on individuals and entities involved in Iran's WMD-related activities, as well as an arms embargo on most major combat systems. The sanctions target entities which are involved in Iran's nuclear and ballistic missile activities, including those associated with Iran's Islamic Revolutionary Guards Corps (IRGC) and the Islamic Republic of Iran Shipping Lines (IRISL). Beyond the mandatory restrictions on specific Iranian entities, the resolutions include a number of provisions calling for additional actions ("appropriate measures," "extreme vigilance") against Iranian entities suspected of contributing to proliferation activities. The latter language opens the door for UN members to adopt more expansive measures than those specifically mandated in the resolutions. Progressively tightened with each successive resolution, the sanctions are intended to gain Iran's cooperation with the International Atomic Energy Agency (IAEA) and to stop Iran from acquiring materials that could be diverted for WMD use, while minimizing harm to the Iranian civilian population and/or economy.

Of particular note, UNSCR 1929 focuses on enforcement of sanctions by establishing a Panel of Experts to monitor implementation and mechanisms for states to inspect suspicious cargo going to and from Iran, or transported by IRISL and Iran Air Cargo. States are further required to withhold bunkering services, such as refueling, from Iranian-owned or -contracted vessels if they suspect illicit cargoes are involved. Moreover, the resolution notes that such inspections could occur on the high seas by request and with the permission of the vessel's flag state.

Following adoption of UNSCR 1929, a number of countries imposed additional restrictions on financial dealings with Iranian entities and individuals allegedly involved in WMD programs, and on investments in Iran's oil and gas sectors. Since July 2010, the US, the European Union, Australia, Canada, Japan, Norway, and the Republic of Korea (ROK), commonly known as South Korea, have prohibited financial institutions from dealing with designated banks and other entities and individuals in Iran ("...a cascade of measures, frankly, starting with the UN Security Council Resolution, with EU sanctions, sanctions by other governments around the world, which have put a great deal more pressure on Iran, than I think Iran anticipated."<sup>2</sup>) UN sanctions provide the legal basis and legitimacy for Member States, individually or on a regional basis, to impose more far reaching sanctions.

Beyond the pressure of sanctions, it appears that foreign intelligence agencies have also targeted Iran's nuclear activities with a variety of methods, including cyber attacks (specifically the Stuxnet malware which affected the gas centrifuges at the Natanz plant in 2009), sabotaging equipment Iran has acquired from abroad, covert infiltration and disruption of Iran's smuggling networks, and the assassination of nuclear experts. The

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<sup>2</sup> Stuart Levey, Interview with CNBC, 7 December 2010, at: <http://www.treasury.gov/connect/blog/Pages/under-secretary-levey-on-cnbc.aspx>

threat of military action, probably in the form of targeted air strikes either by Israel or the United States, remains in the background.

### *Indications of Impact*

According to U.S. officials, sanctions against Iran are making the acquisition of key technologies more difficult, which has the effect of slowing the advancement of Iran's nuclear program.<sup>3</sup> The expanding set of trade and financial sanctions appears to be delaying the Iranian program, buying time for negotiated solutions and isolating Iran internationally<sup>4</sup>:

These various sanctions are clearly registering with Iran's leaders. We can see it clearly from the very active efforts Iran has mounted around the world to circumvent the sanctions. While the high price of oil has at least temporarily cushioned Iran from some of the effects of sanctions, the sanctions are already taking a significant toll and the impact will only increase over time. But while Iran's leaders are feeling the pressure, the sanctions have not yet produced a change in Iran's strategic thinking about its nuclear program.<sup>5</sup>

In particular, the financial sanctions appear to be having discernable impacts on the Iranian economy, even though this is not their primary intent. Foreign direct investment in Iran is down, the government has been forced to change or abandon plans to develop new oil and gas fields or improve output from existing fields, domestic prices are rising, perhaps, in part, because of the rising costs of trade finance, and Iranian shippers are having difficulty getting insurance. The regime is increasingly turning to IRGC to complete or run projects abandoned by foreign investors, increasing the group's role in the economy and the opportunity for more sanctions impact.<sup>6</sup> Concern has been expressed by Iranian leaders that the declining economy and the reduction in domestic subsidies could cause popular unrest. Publicity about Iran's evasion efforts reportedly contributes to increased sanctions impact, because foreign businesses are also cutting ties with unsanctioned Iranian entities since they cannot be certain who are really behind transactions and/or whether they are acting on behalf of sanctioned entities.

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<sup>3</sup> Secretary Hillary Clinton: "Iran has had technological problems that have made it slow down its timetable... The sanctions are working... Their program from our best estimate has been slowed down." Mark Landler, "U.S. Says Sanctions Hurt Iran Nuclear Program", New York Times, 10 January 2011. Secretary of Defense Gates referring to ways to prevent Iran from becoming a nuclear power, said that the "political, economic approach that we are taking is in fact having an impact in Iran." David Sanger, "Harder Push to Stop Iran From Making Nuclear Fuel." New York Times, 11 December 11, 2010. Defense Intelligence Agency (DIA) Director Ronald Burgess said that despite UN sanctions, Iran has not demonstrated a willingness to abandon its nuclear program (Statement before the Senate Armed Services Committee, 10 March 2011, at <http://armedservices.senate.gov/statemnt/2011/03%20March/Burgess%2003-10-11.pdf>).

<sup>4</sup> "Engagement, Coercion, and Iran's Nuclear Challenge, Report by the Stimson Center and USIP, 18 November 2010, at [http://www.stimson.org/images/uploads/Engagement\\_Coercion\\_and%20Irans\\_Nuclear\\_Challenge\\_FULL.pdf](http://www.stimson.org/images/uploads/Engagement_Coercion_and%20Irans_Nuclear_Challenge_FULL.pdf)

<sup>5</sup> Comments by Robert Einhorn, at Arms Control Association briefing, The Impact of Sanctions on Iran's Nuclear Program, 9 March 2011, at: <http://www.armscontrol.org/events/RoleSanctionsIranNuclear>

<sup>6</sup> Levey testimony, 1 December 2010 at

Moreover, sanctions have had an important stigmatizing effect from a psychological and political standpoint. Iranians do not like being international pariahs like the Sudanese or the Libyans. Being singled out as international malefactors is at variance with their view of themselves and their place in the world. Sanctions have reinforced the Green Movement's message that the regime is responsible for bringing this isolation down upon them.<sup>7</sup>

One report estimates that Iranian import costs have increased as much as 30 percent because of the need for evasion measures and that oil production has dropped 15 percent since 2005 because of difficulties getting spare parts.<sup>8</sup>

### *Impact on Nuclear Development*

Whether sanctions have, in and of themselves, created problems for Iran's nuclear efforts by making it difficult for Iran to import needed materials or skills, is unclear for a number of reasons. According to former IAEA Deputy Director Olli Heinonen "the centrifuges are not operating well, and some of them are failing. They have a lot of problems, and they are not there yet....The flaws in the centrifuges derive from two interconnected reasons: lack of sufficient knowledge, and difficulty obtaining high-quality material."<sup>9</sup> At the same time, IAEA reports show that Iran's stockpile of low enriched uranium continues to grow and that it increased its monthly production of low enriched uranium, raising questions about the significance of any sanctions impact.<sup>10</sup> But Iran has also had a high failure rate (about 10% per year) with some of its centrifuges and there are reports that the rate of failure increased in 2009 and 2010. Thus, there is conflicting evidence on Iran's progress, as well as competing explanations for any problems that the program may be confronting.

The Stuxnet malware, and possibly other covert sabotage activities, may play a large role in the increase in centrifuge breakage at Natanz. But there are also reports, such as the one cited above from the IAEA, that sanctions-induced shortages of domestically-produced, high quality centrifuge parts are also contributing to Iran's problems with centrifuge manufacturing and assembly.<sup>11</sup>

Sanctions do appear to have made Iranian nuclear weapons development more difficult, time-consuming, and costly. Of course, the Nuclear Suppliers' Group members were scrutinizing Iran's imports of nuclear-related technologies and limiting items of potential proliferation concern even before the UNSC resolutions. But those resolutions expanded the list, restricted financial activities of entities involved in procurement, further raising the cost and difficulties in acquiring restricted materials. The UN provisions for interdiction

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<sup>7</sup> Comments by Kenneth Katzman at Arms Control Association briefing, *The Impact of Sanctions on Iran's Nuclear Program*, 9 March 2011, at: <http://www.armscontrol.org/events/RoleSanctionsIranNuclear>

<sup>8</sup> Stokes, *National Journal*, 7/31/2010, pp. 45-46

<sup>9</sup> Laura Rozen, "Ex-IAEAwatchdog: Iran's centrifuge problem," Politico, 22 October 2010 at [http://www.politico.com/blogs/laurarozen/1010/ExIAEA\\_](http://www.politico.com/blogs/laurarozen/1010/ExIAEA_)

<sup>10</sup> See Institute for Strategic and International Studies report at [http://www.isis-online.org/uploads/isis-reports/documents/Iran\\_report-nov23.pdf](http://www.isis-online.org/uploads/isis-reports/documents/Iran_report-nov23.pdf).

<sup>11</sup> Ibid

and inspection of suspect shipments are also stronger than the nationally-based enforcement measures in the NSG guidelines.

Unfortunately, international trade data is not detailed enough to identify flows of specifically sanctioned materials under either set of restrictions. In addition, the exemptions for materials related to declared light-water reactor facilities make it difficult to detect any trends in aggregate data. Thus, data on the overall category including nuclear reactors, fuel and parts show no particular trend related to timing of UNSC resolutions, though exports to Iran did drop sharply after the 2002 revelation of undeclared Natanz and Arak facilities (see table 3 below where the nuclear data are combined with arms sales data). They increased sharply, however, in 2007 and 2008, which could be evidence of stockpiling by Iran in anticipation of tighter sanctions. Or, it could simply be due to unrelated developments in the allowed, safeguarded program. In 2009 and 2010, various reports suggest Iran tried to procure uranium or invest in mining operations, with one saying that a deal to import uranium from Kazakhstan “would be significant because Tehran appears to be running out of that material, which it needs to feed its uranium enrichment program.” Based on figures in the article, it appears that Tehran was offering to pay nearly three times the world price.<sup>12</sup> Officials also indicate that Iran was exploring prospects for mining uranium in Bolivia.

Ali Asghar Soltanieh, Iran's chief IAEA envoy, has repeatedly defended Tehran's determination to continue enriching, telling reporters: "Neither the sanctions nor resolutions nor the threat of attack, nothing could stop this (peaceful) enrichment." At this point, Washington officials contend that Iran is still seeking to have the option of building a nuclear weapon but does not appear to have made the political decision to build one and that the country is not yet close to "breakout," or the ability to construct one in a short time.

### *Impact on Energy Sector*

According to the Energy Information Administration of the US Department of Energy, the oil sector accounts for roughly half of Iran's total government revenue and more than 80% of total exports.<sup>13</sup> While the US sanctions specifically target Iran's energy sector, the UN financial sanctions contribute to making it more difficult and costly to do business in Iran, and there are indicators that sanctions overall are making it more difficult for Iran to maintain production levels. US officials testified that Iran is increasingly unable to secure needed foreign investment, financing and technology to modernize its aging energy infrastructure. Major European and Asian firms, such as Shell, Eni, Total and Inpex, have decided to end all of their dealings with Iran. As a result, Iran may be losing as much as \$50

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<sup>12</sup>See <http://www.wise-uranium.org/upasi.html>, which reports an Iranian offer of \$450 million for 1350 tons of purified uranium, which would represent nearly three times the world price in Dec '09 of \$61/lb. [http://www.cameco.com/investors/uranium\\_prices\\_and\\_spot\\_price/longterm\\_5yr\\_history/](http://www.cameco.com/investors/uranium_prices_and_spot_price/longterm_5yr_history/). See also, La República (Uruguay) Sep. 2, 2010. at <http://www.wise-uranium.org/upsam.html>.

<sup>12</sup><http://www.washingtonpost.com/wp-dyn/content/article/2010/07/22/AR2010072203933.html>.

<sup>13</sup> <http://ei-01.eia.doe.gov/emeu/cabs/Iran/Full.html>

to \$60 billion in potential energy investments. This threatens Iran's oil and gas production and export capacity over the long term, which is a serious problem for a country that relies so heavily on oil and gas revenues for its government expenditures.

US Congressional action to ratchet up the threat of sanctions against firms investing in Iranian energy projects in July 2010 (Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 {CISADA}, P.L. 111-195) appear to be discouraging investments in key energy projects, such as the large South Pars gas field, a priority for Iran for at least 10 years.<sup>14</sup> Concerns exist that Western disinvestment might be replaced, at least in part, by Chinese firms, but author interviews with US officials suggest there is little evidence of this to date. Moreover, the Chinese or other companies that might pick up these investment opportunities are not as technically capable as those that have withdrawn from Iran.<sup>15</sup> As a result of U.S. and European sanctions, major foreign companies are winding down their operations in Iran. In addition, as a result of other CISADA sanctions, major energy traders like Lukoil, Reliance, Vitol, Glencore, IPG, Tüpra and Trafigura have stopped sales of refined petroleum products to Iran and agreed not to make new investments.<sup>16</sup> There has been a significant drop in gasoline sales to Iran (75-80 %) (Einhorn op cit). Partly in response to the sanctions, the Iranian government removed most subsidies for gasoline, and consumption has fallen since.

According to the International Energy Agency, Oil Market Reports, “[T]he worsening crisis with Iran over its nuclear ambitions and new sanctions imposed since our last update, have prompted a downgrade in the country's oil outlook. Our assumed Iranian production decline has been intensified since June, with capacity now expected to fall by 810 kb/d, to 3.1 mb/d by 2015. Sanctions have largely stymied participation by IOCs in new projects but, equally, our outlook has also been downgraded on expectations of higher decline rates as the country struggles to secure needed technology and equipment.”<sup>17</sup>

Ultimately, however, higher oil prices as a result of instability and political unrest in the Middle East offset the impact of sanctions in the short run. For a given level of production, higher oil prices raise Iranian government and foreign exchange revenues and allow the regime to also mitigate any broader effects of sanctions.

### *Impact on Arms and Proliferation-related Items*

The Arms Control Association notes; “One of the most significant aspects of the latest round of UN Security Council sanctions against Iran has received the least attention – the ban on major weapons deliveries. Yet the weapons embargo is likely to have the most consequential impact of all on Iran's national power and prestige by promising to

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<sup>14</sup>Iran's Revolutionary Guard Corp's main construction affiliate, Khatemol-Anbiya, withdrew from developing Phases 15 and 16 of South Pars—a project worth \$2 billion, because US and UN sanctions target IRGC and affiliates, making it highly unlikely that Iran will attract the \$145 billion in new investment over the next 10 years that Iran's deputy Oil Minister said in November 2008 that Iran needs

<sup>15</sup><http://www.csmonitor.com/World/Middle-East/2010/0727/Q-A-Will-new-Iran-sanctions-dent-Iran-s-oil-industry>

<sup>16</sup> Robert Einhorn, statement 29 July 2010, at:

<sup>17</sup> International Energy Agency, Oil Market Reports, 10 December 2010, page 23 at: <http://omrpublic.iea.org/>

significantly reduce Iran's military capability in the months and years ahead.” In addition, UNSCR 1747 bans Iranian exports of arms because of concerns that some are being transferred to Hezbollah or other organizations deemed as terrorist by the US. With the exception of tanks and armored fighting vehicles, Iranian exports of arms and munitions were distinctly lower in the latter years of the 2000s as compared to earlier in the decade (see table 1). SIPRI data suggests of countries exporting arms to Iran, Russia showed more restraint than China, with overall sales dropping sharply and only sales of anti-tank missiles reported after 2007.<sup>18</sup> Table 2 shows the overall trend in arms sales from China and Russia, which accounted for the vast majority in this period.<sup>19</sup>

| <b>Table 1 Iranian Exports of Arms to the World, (US dollars)</b>   |                             |           |             |
|---|-----------------------------|-----------|-------------|
|   | Iranian Exports by HTS Code |           |             |
| Year  | 8710                        | 8906      | 93          |
| 2000  | 301,085                     |           | 4,469,156   |
| 2001  |                             |           | 4,227,029   |
| 2002  | 14,007                      |           | 2,482,193   |
| 2003  | 25,098                      |           | 19,243,704  |
| 2004  | 154,257                     |           | 60,489,767* |
| 2005  | 988,081                     | 2,500,000 | 1,313,688   |
| 2006  | 2,888,477                   | 1,634     | 3,675,296   |
| 2007  |                             | 25,049    | 1,279,872   |
| 2008  | 2,255,383                   |           | 2,174,995   |
| 2009  |                             |           | 931,777     |
| Blanks indicate no data.  |                             |           |             |
| * Mostly Bangladesh.  |                             |           |             |
| NB:<br>8710 = tanks, other armored fighting vehicles<br>8906 = warships, lifeboats<br>93 = arms and munitions, including missiles and parts |                             |           |             |
| <i>Source:</i> UN Comtrade online database.   |                             |           |             |

<sup>18</sup> A report from the Arms Control Association notes, “After providing significant numbers of fighter aircraft, armor, artillery, and three modern diesel submarines, Russian transfers have tapered off in recent years. Russia was active through most of the past decade in selling air defense systems and in 1998 had licensed Iranian construction of 2,000 anti-tank missiles over a ten-year period. The last direct transfer of equipment from Russia to Iran was the 2006-2007 delivery of 750 SA-15 Gauntlet short-medium range surface-air missiles and 29 more advanced SA-15s (Tor-M1s). Russia's 2007 deal to supply the sophisticated and longer-range S-300 air defense system has not been carried out [as of June 2010].

<sup>19</sup> Information on specific transactions may also be found on the SIPRI website at

<http://www.sipri.org/databases/armstransfers>

**Table 2 Trend Indicator Values of Arms Exports to Iran, 1999-2009**

|               | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | Total |
|---------------|------|------|------|------|------|------|------|------|------|------|------|-------|
| <b>China</b>  | 58   | 63   | 83   | 111  | 88   | 90   | 63   | 81   | 77   | 77   | 77   | 868   |
| <b>Russia</b> | 263  | 343  | 296  | 95   | 86   | 14   | 14   | 389  | 267  | 14   | 14   | 1794  |

Source: SIPRI Arms Transfers Database; [http://www.sipri.org/contents/armstrad/output\\_types\\_TIV.html](http://www.sipri.org/contents/armstrad/output_types_TIV.html).

As discussed, international trade data is not detailed enough to identify flows of specifically sanctioned materials, and the exemptions for small arms and for surface-to-air missiles make it difficult to indicate any trends in aggregate data. The last column of Table 3 does provide some support for evidence of restraint in exports to Iran of larger munitions and missiles.

**Table 3 World Exports of potentially sanctioned items to Iran (US dollars)**

| Total Exports to Iran by HTS Code  |            |           |             |            |            |           |
|--|------------|-----------|-------------|------------|------------|-----------|
| Year   | 8401       | 8710      | 88          | 8906       | 93         | 9306      |
| 2000   | 7,550      | 4,608,134 | 114,380,685 | 1,050,000  | 6,555,983  | 5,857,057 |
| 2001   | 40,034,168 | 1,030,192 | 188,291,172 | 67,827     | 3,859,486  | 1,071,545 |
| 2002   | 36,013,352 | --        | 128,974,819 | 3,851,670  | 1,435,229  | 619,479   |
| 2003   | 10,194,914 | --        | 106,203,584 | 151,340    | 4,617,983  | 1,362,822 |
| 2004   | 19,635,166 | --        | 103,948,186 | 804,981    | 5,374,298  | 1,238,927 |
| 2005   | 9,498,448  | --        | 127,605,851 | 4,784,027  | 3,744,787  | 1,106,209 |
| 2006   | 2,320,451  | --        | 41,841,449  | 17,214,706 | 3,262,109  | 1,937,735 |
| 2007   | 16,309,621 | 4,084     | 184,743,785 | 4,969,641  | 2,702,407  | 633,207   |
| 2008   | 57,176,007 | 26,255    | 156,851,621 | 5,764,529  | 3,455,065  | 421,799   |
| 2009   | 422,695    |           | 88,522,033  | 1,012,795  | 15,971,992 | 430,317   |
| -- = negligible; blanks indicate no data.<br><br>HTS Codes:<br>8401 = Nuclear reactors, fuel, and parts<br>8710 = tanks, other armored fighting vehicles<br>88 = aircraft (military aircraft identified at 10-digit level, not available in Comtrade)<br>8906 = warships, lifeboats<br>93 = arms and munitions, including missiles and parts<br>9306 = bombs, mines, other munitions, missiles<br><br>NB: No reports of exports of helicopters since 2007 in Comtrade.<br>Source: UN Comtrade online database. |            |           |             |            |            |           |

### *Impact on Shipping/Infrastructure*

One demonstrable impact of international sanctions against Iran has been in the area of shipping. UNSCR 1803 called on Member States to inspect cargoes carried by the Islamic



Republic of Iran Shipping Lines (IRISL), if there was reason to think they might be in violation of UN resolutions, and three IRISL affiliates were designated to have their assets frozen under UNSCR 1929. Large shipping companies like Hong Kong-based NYK are withdrawing from the Iranian market, and reputable insurers and reinsurers such as Lloyd's of London no longer provides insurance for Iranian shipping. As a result of mounting sanctions by the UN, US, EU, Japan, South Korea and others, IRISL has been unable to maintain adequate hull and protection and indemnity (P&I), as well as having difficulty repaying loans and maintaining insurance coverage, leading to the detention of at least seven IRISL-owned ships. The company has attempted to mask its commercial activities and disguise ownership, renaming at least 80 of the 123 vessels in its fleet, often dropping "Iran." Major shipbuilding companies are refusing to build ships for IRISL, and IRISL is finding that it is no longer welcome in the world's major ports, especially in Europe.

In addition, jet fuel providers for IranAir have also been affected by US CISADA sanctions. Six major fuel providers have terminated some or all of its IranAir contracts, effectively reducing servicing points and routes available to IranAir. The U.K. and the Netherlands are just two among several countries where Iran can no longer refuel its aircraft.

### *Impact on Financial Sector*

Beyond energy and shipping, the other sector witnessing the greatest impact of sanctions is the financial sector. Iran is increasingly isolated from the international financial system, with limited access to financial services from reputable banks. Major banks like HSBC and Deutsche Bank have pulled out, deciding that the reputational risk of involvement with Iran is too great. Without access to financial services, Iran has found that it more difficult to conduct a wide range of international commercial transactions.<sup>20</sup>

According to one report, "One of the biggest blows to Iran is the decision of the UAE, a long-time trading partner, neighbor and largest source of Iranian imports ahead of China, to enforce the UN sanctions voted in June 2010. Business activity at Iranian banks and shops in Dubai has come to a halt because traders are unable to get letters of credit and other sources of financing."<sup>21</sup> This report continues, "Goods purchased by Iranian firms often move through Dubai ports for re-export to Iran, with trade valued at more than \$600 million a month until recently...the unusually harsh steps in the UAE brought complaints from the Iranian business community in Dubai and led to a rare appeal directly to the city-state's rulers in November to loosen the banking restrictions. The president of the Iranian Chamber of Commerce, Mohammad Nahavandian, acknowledged in October that sanctions were driving up the costs of imports by 15 to 30 percent."<sup>22</sup>

According to another report, "Industry sources in India said that it was the private banks, wary of upsetting their US investors, which declined to open letters of credit from Iran. 'But government banks do open L/Cs. The currency is euro or yen instead of the US dollar,' a

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<sup>20</sup> Jonathan Paris, "Prospects for Iran," Legatum Institute report, January 2011, p. 27.

<sup>21</sup> Brian Murphy, "Iran's gateway in Dubai highlights sanctions' bite," *Washington Post*, 1 February 2011

<sup>22</sup> Ibid.

source close to India's IG Petrochemicals that imports orthoxylene cargoes from Iran said. Importing Iranian cargoes has become difficult but it is not impossible, he added.”<sup>23</sup>

Some reports indicate that Iranian traders are increasingly turning to informal value transfer systems (hawala) to finance trade because of increased difficult gaining access to other financial channels. The *Financial Times* reports that since the US and the United Nations started curtailing Iran's access to the international financial system, the use of hawala in Iran has rocketed.<sup>24</sup>

UNSCRs 1747 and 1803 also called for restrictions with respect to the provision of new commitments for publicly-supported finance for Iran. About the time of 1747 in March 2007, there was a reversal in “other official flows,” from DAC countries to Iran, and a sharp drop in export credits one year later after 1803 specifically mentioned the need to exercise vigilance (table 4).

| <b>Table 4 Trends in Official Development Assistance and Other Official Flows to Iran (million US dollars)</b>  |       |      |      |      |      |      |
|---|-------|------|------|------|------|------|
|   | 2004  | 2005 | 2006 | 2007 | 2008 | 2009 |
| OOF   | 1,636 | 831  | 229  | -269 | -45  | -383 |
| Net Export credits  | 298   | 449  | 248  | 129  | 325  | -146 |
| Net Other Long-term loans   | 1,336 | 381  | -18  | -400 | -372 | -240 |
| Net ODA receipts  | 190   | 109  | 116  | 102  | 98   | 93   |
| <p>NB: Other Official Flows (OOF): transactions by the official sector whose main objective is other than development-motivated, or, if development-motivated, whose grant element is below the 25 per cent threshold which would make them eligible to be recorded as official development assistance (ODA). The main classes of transactions included here are official export credits, official sector equity and portfolio investment, and debt reorganization undertaken by the official sector at non-concessional terms (irrespective of the nature or the identity of the original creditor).</p> <p><i>Source:</i> OECD, Development Database on Aid from DAC Members: DAC Online.</p> |       |      |      |      |      |      |

*Frozen Assets:* While there is no source at the UN or elsewhere that systematically documents the value of frozen assets, and Member States have not included this information in their reports to the sanctions committee, the *Wall Street Journal* reported that only a minor amount of assets have been frozen outside of the UK, where about \$1.5 billion were found. In the US, less than \$43 million as of end of 2009 was reported; Germany doesn't track assets, but a spokeswoman described the total as 'not a high

<sup>23</sup><http://www.platts.com/RSSFeedDetailedNews/RSSFeed/Petrochemicals/7375332>

<sup>24</sup>Anna Fifield, “No problem’: How money brokers help Iranians to sidestep sanctions,” *Financial Times*, April 15, 2008, P9; available at [http://www.thefinancialexpress-bd.com/search\\_index.php?news\\_id=33063&page=detail\\_news](http://www.thefinancialexpress-bd.com/search_index.php?news_id=33063&page=detail_news)

number;' in the Netherlands, a person familiar with the matter indicated that the total is roughly \$1.4 million; French officials did not respond.<sup>25</sup>

In Switzerland, "The assets and economic resources of 40 Iranian businesses and entities have been frozen, as well as those of one person. Currently SFr1.5 million (\$1.4 million) has been frozen as a result of the sanctions against Iran."<sup>26</sup>

### *General Economic Impacts*

Former Treasury Under Secretary Levey on September 20, 2010 elaborated on how international firms have become unwilling to risk their position in the U.S. market to do business with Iran as a result of CISADA sanctions. Over time and with the departure of foreign expertise, the efficiency and output of Iran's economy will decline with purchases from less capable foreign companies. Small and large merchants are reported to have trouble obtaining trade financing, insurance, and shipping availability, which is driving up their costs by an estimated 40%, if the merchants can complete desired transactions at all. In late September 2010, the value of Iran's currency, the rial, fell by about 15% when the UAE began restricting transactions with Iranian banks sanctioned by UN resolutions and by the United States.<sup>27</sup> Precise estimates on how Iran's GDP might be affected by sanctions, or the pullout of international financial and energy firms, however, is not available.

Levey also noted the effects of Iranian economic mismanagement, separate from sanctions. For example, Iran's banks have a high percentage (20%) of loans that are non-performing because of practices of lending to well-connected Iranians rather than judging them on their creditworthiness (Levey op cit.). But the pressure of sanctions might also force the Iranian regime to improve its management of the economy. For example, long-delayed plans to phase out state subsidies on staple goods such as gasoline and some foods over the next five years started on December 19, 2010—after CISADA went to effect and gasoline imports dropped. Successful implementation of reforms could strengthen the economy, increase private savings and investment, and reduce smuggling and other black market activities. Politically, the reform program may also help preserve the regime's hold on power by insulating it from the coercive force of comprehensive international sanctions, even though the regime claimed that the reform program was not a response to international sanctions. Most important in limiting the general economic impact of sanctions and mismanagement, however, are rising oil prices. Oil revenues spiked further when oil prices rose sharply as a result of the political unrest in Libya, Egypt, and Bahrain.

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<sup>25</sup> Steve Stecklow, "Iran Sanctions Yield Little: Asset Freezes Net Only Small Sums as U.N. Weighs New Ones to Fight Nuclear Program," *Wall Street Journal*, 5 April 2010

<sup>26</sup> <http://www.simsi.com/Liabilities-and-Claims/NonUSEUSanctions0910.htm>

<sup>27</sup> Stuart Levey, "Can Sanctions on Iran Create the Leverage We Need?," Center for Strategic and International Studies, 20 September 2010.

## *Political Impact of Sanctions*

Notwithstanding consistent Iranian statements that sanctions are not having a significant impact, there are indications that the increasing economic difficulties are widening divisions in Iran's leadership. In September 2010, a senior leader, Ali Akbar Hashemi Rafsanjani, criticized President Ahmadinejad for dismissing the effect of the sanctions on Iran's economy. The opposition Green movement has reenergized protests in 2011, and generally appear to blame the government for the isolation associated with sanctions. Contrary to what many analysts had feared, sanctions have not generated a rally-round-the-flag scenario for the Ahmadinejad administration. The opposition may also be taking comfort from the signal of support sent when the UN Human Rights Council, for the first time since it was created five years ago, appointed a special rapporteur to look into human rights abuses in Iran.<sup>28</sup>

Still, some analysts are skeptical that sanctions will change the regime's behavior, except under extreme circumstances: "The reality is that even if the economy is hurting, it has a very small place in the calculus of Khamenei and Ahmadinejad. Unless the severity of the sanctions dramatically escalate, it is unlikely that Iranian leaders will see the sanctions as a domestic threat to their survival in power. Enormous pressure is required to lead them to compromise on the nuclear programme...If the regime can cope with the current sanctions and believes it is unlikely the international community will maintain its unity against Iran in the future, then they will likely not feel enough pressure to compromise, unless they are convinced that the US will attack."<sup>29</sup>

Similarly: "[A]s oil prices remain relatively high, sanctions and increased Iraqi production are not likely to produce significant changes in Iran, says Dr. Suzanne Maloney. 'It's important to recognize that this is a country that has endured gigantic economic hard-ships in the past and has found a way around it,' says Maloney. 'What is going to change Iran is the internal dynamics.'"<sup>30</sup>

## **Effectiveness of Iran Sanctions**

With regard to the objective of *coercion* and efforts to persuade Iran to change its behavior, there is no evidence (yet) of Iranian willingness to comply with the demands in the UNSC resolutions to cooperate with the IAEA and forego its development of nuclear capabilities that could eventually lead to a weapons capability. However, there is growing (anecdotal) evidence that economic implications of sanctions could contribute to rising public opposition to the regime and possibly to changes in policies in the future. So far, the

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<sup>28</sup> <http://www.un.org/apps/news/story.asp?NewsID=37887&Cr=Iran&Cr1=>

<sup>29</sup> Legatum report, p. 9

<sup>29</sup> <http://www.csmonitor.com/World/Middle-East/2010/0727/Q-A-Will-new-Iran-sanctions-dent-Iran-s-oil-industry>

<sup>30</sup> Suzanne Maloney, "The Economics of Influencing Iran," March 2010, at [http://www.brookings.edu/~media/Files/rc/reports/2010/03\\_economic\\_pressure\\_iran\\_maloney/201003\\_economic\\_pressure\\_iran\\_maloney.pdf](http://www.brookings.edu/~media/Files/rc/reports/2010/03_economic_pressure_iran_maloney/201003_economic_pressure_iran_maloney.pdf)

Iranian regime is denying that the sanctions are having an impact, and therefore, has not been able to blame them for poor economic performance. The opposition, however, appears to be using the effects of sanctions to blame the regime and its unwillingness to compromise.

**Containing** Iran's nuclear activities by limiting its access to key resources through measures to limit financing and equipment, materials and technology for its WMD programs, has clearly raised the cost to Iran of its nuclear activities. IAEA reports discuss technical problems that have slowed Iran's progress in uranium enrichment and there are anecdotal reports of difficulties in obtaining parts and materials. But it is difficult to distinguish between impediments or delays caused by sanctions from the impact of the Stuxnet computer virus or other covert activities. Moreover, IAEA and ISIS reports show a fairly steady pace of enrichment even with these obstacles.

UN sanctions' role to **signal/isolate** Iran have been mostly successful. The first three UNSC resolutions were all passed unanimously, with Indonesia abstaining on 1803, not because of any disagreement over the UN's goals but rather because of their stance on the further use of sanctions as a tool. Brazil and Turkey voted against UNSCR 1929, but, again, this arguably reflected a difference over means not ends. More recently, the UN has also signaled disapproval over human rights abuses in Iran, with the General Assembly passing a resolution calling for improvements in human rights in Iran and, as noted, the UN Human Rights Council appointing a special rapporteur for Iran. Overall, with the steady expansion and tightening of sanctions by the UNSC, Iran is becoming more isolated politically and economically. This international stigmatization, along with the economic effects, seems to be contributing to further isolation of the regime within Iran, as the opposition blames Ahmadinejad's no-compromise posture for getting the country into this situation.

In addition to the signals to various parties within Iran, UNSCR 1929, at least implicitly, was a signal to the US Congress about the seriousness with which the Security Council views the Iranian situation. The signal was, apparently, received as the Obama administration was able to use the resolution to avoid even more stringent unilateral sanctions being imposed through legislation. That, in turn, was helpful in bolstering the legitimacy of the sanctions against Iran and in maintaining a strong coalition seeking to isolate Iran and elicit its cooperation with the IAEA and compliance with the resolutions' demands.

Looking across all three dimensions of effectiveness, the Iranian case supports the conclusion that targeted sanctions tend to be most effective when they are well-designed, coordinated with other measures, and consistently enforced for as long as necessary. The targeted measures against Iran have been carefully designed to target individuals and behaviors that most of the international community can agree are in violation of important norms, and to target specific flows—arms, nuclear and missile-related technologies and items, services, and finances—that could contribute to illicit activities. Over time, the implementation and enforcement of the sanctions has also been strengthened as Iran's intransigence continues. These measures specifically detailed in the UN resolutions are also

reinforced and strengthened by the implementation of other sanctions by the US, EU, Canada, and other like-minded states that are based on the resolutions, but interpret them more broadly than some other members.

In addition to the UNSC, the UN General Assembly and Human Rights Council have added to Iran's stigmatization by expressing concern over human rights abuses, and the IAEA has played a crucial role in monitoring and reporting on Iran's lack of cooperation and compliance. Finally, at the same time that the UNSC has signaled that it will do what it can to prevent, or at least slow, proliferation-sensitive activities and that Iran will pay a price until it complies with its international obligations, it has also shown Iran the path out of isolation.

The resolutions explicitly outline not only what Iran has to do to get the sanctions lifted, but also what the international community would be willing to do to help Iran develop legitimate, peaceful nuclear energy.

## **Sanctions against North Korea**

Sanctions against North Korea were adopted by the UN in 2006 in response to missile launches in May and its nuclear test in October of that year. UNSCR 1718 required all Member States to prohibit sales of conventional weapons, WMD and missile-related goods, and luxury goods, as well as a travel ban and assets freeze on designated individuals. Sanctions were intended to induce North Korea to forego further development of its nuclear programmes and return to the Six-Party Talks. But implementation of the measures was limited at the outset because no list of targets was identified, no expert group appointed, and the definition of luxury goods was explicitly left to national discretion, with no committee guidance.<sup>31</sup> Sanctions were largely ineffective in terms of coercing a change of North Korean behavior, even while signaling the international community's condemnation of the country's violation of proliferation norms.<sup>32</sup>

Following a second nuclear test in May 2009, UNSCR 1874 tightened sanctions on arms transfers and WMD and missile-related goods, called on states to deny financial assistance, including credit and loans for trade, freezing of assets, and training that could contribute to North Korea's proliferation activities. The resolution specified new measures for the inspection of North Korean cargo vessels and airplanes suspected of carrying nuclear or military material, marking an important development in the enforcement of Security Council sanctions.<sup>33</sup> UNSCR 1874 resulted in the designation of individuals and entities

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<sup>31</sup> Conversations with US officials indicated that there was no common understanding of what constituted luxury goods among Security Council members at the time, and in fact, the US developed its initial list based on a google search of luxuries sought by Kim Jong Il that included jet skis, liquor, I-pods, wrist-watches, and caviar.

<sup>32</sup> See Marcus Noland, "The (Non) Impact of UN Sanctions on North Korea," Peterson Institute for International Economics Working Paper 08-12, December 2008.

<sup>33</sup> "This regime creates an unprecedented, detailed set of expectations and obligations regarding the inspection of suspect cargo believed to be carrying goods prohibited under Resolution 1718 and this draft current resolution. It

directly involved in North Korea's nuclear programmes, as well as goods subject to sanctions, and the creation of a panel of experts to monitor implementation. More aggressive sanctions implementation followed with the interdiction of several North Korean ships with suspicious cargo.<sup>34</sup>

### *The "China Factor"*

Without question, China plays a decisive role in determining the impact of sanctions on North Korea. For historical and geographic reasons, China is concerned about the collapse of the North Korean economy and any resulting influx of refugees, which the country considers to be likely. To stabilize the border region and lessen pressure of North Korean migration, Chinese companies have made major investments aimed at developing mineral resources located in the northern region of North Korea.<sup>35</sup>

China provides for many of North Korea's needs, in terms of fuel and food, likely undercutting the impact of sanctions if not violating them.<sup>36</sup> "North Korea has been quite good at begging and blackmailing the outside world into providing aid. While aid was initially provided by South Korea and the US, it now comes almost exclusively from China."<sup>37</sup>

A Chinese firm has signed a letter of intent to invest \$2 billion in a North Korean industrial zone, representing one of the largest potential investments in Kim Jong Il's authoritarian state and a challenge to U.S. policy in the region. The proposed investment is the strongest evidence yet of China's strategy of using direct investment rather than political pressure to push for change in North Korea. Chinese experts say that after North Korea's first nuclear test in 2006, China tried to make improved bilateral relations dependent on Pyongyang dismantling its nuclear program. But after a second test in 2009, China changed tack.<sup>38</sup>

### *Indications of Impact*

Reliable information on North Korea, let alone statistics on its economy or the potential impact of UN sanctions, is extremely limited, greatly handicapping credible assessments of impact. The regime's economic policy in 2009-2010 is likely to have done as much damage as sanctions.

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would make it very clear that states are expected to inspect suspected contraband cargo on their territory, in their land, air, or sea." Remarks of Ambassador Susan E. Rice, US Permanent Representative to the United Nations, Security Stakeout, 10 June 2009, at <http://usun.state.gov/briefing/statements/2009/125980.htm>.

<sup>34</sup> Lydia Polgreen, "N. Korean Ship Searched for Radioactive Material," *New York Times*, 10 August 2009 at <http://www.nytimes.com/2009/08/11/world/asia/11korea.html>; "UAE seized North Korean ship with weapons," United Press International, 28 August 2009 at [http://www.upi.com/Top\\_News/2009/08/28/UAE-seized-North-Korean-ship-with-weapons/UPI-85811251509800/](http://www.upi.com/Top_News/2009/08/28/UAE-seized-North-Korean-ship-with-weapons/UPI-85811251509800/).

<sup>35</sup> Dick K. Nanto, "China-North Korea Relations, CRS Report R41043, 28 December 2010, at <http://www.fas.org/sgp/crs/row/R41043.pdf>.

<sup>36</sup> Einhorn, op cit.

<sup>37</sup> <http://www.eastasiaforum.org/2011/02/08/the-north-korean-economy-between-myths-and-facts/>

<sup>38</sup> <http://online.wsj.com/article/SB10001424052748704678004576090270026745368.html>.

Until 1874, sanctions were implemented by few countries and had little effect. According to a 2008 analysis by Marcus Noland entitled, *The (Non) Impact of UN Sanctions on North Korea*:

Based on a visual inspection of the data and statistical models, this study finds that, although the UN Security Council imposed economic sanctions against the export of heavy arms and luxury goods to North Korea within one week of Pyongyang's nuclear test, the imposition of these sanctions has had no perceptible effect on North Korea's trade with the country's two largest partners, China and South Korea.<sup>39</sup>

Since they were targeted sanctions, however, it is not clear that Noland's indicator – aggregate trade – is the most appropriate way to measure their impact. US officials attribute increasing difficulties for North Korea's commercial activities and limited access to international financial centers to the impact of sanctions, and a number of shipments of conventional arms exports have been interdicted since 2009.<sup>40</sup> Despite these interdictions and a possible drop in conventional arms exports, however, North Korea continues to circumvent sanctions and route trade and financial transactions through friendly countries, most notably China.<sup>41</sup> According to a report prepared for US Senator Richard Lugar (R-IN):

UN sanctions clearly have raised the level of risk—and presumably the cost of doing business with the DPRK, both legitimate and illicit....The financial sanctions appear to be creating a ripple effect, increasing wariness by banks and companies with respect to doing business with North Korean enterprises. There is, however, no broad agreement about the definition of luxury goods which are banned under the resolution; China is clearly not enforcing sanctions on luxury goods.<sup>42</sup>

The UN Panel of Experts concluded that while there are gaps in enforcement, UN sanctions are “having the intended impact” and have “significantly constrained” North Korea's arms sales.”<sup>43</sup>

### *Proliferation and Arms Exports*

Perhaps the most daunting task is assessing the impact of sanctions on North Korea's pursuit of WMD programs. Other than the UN Panel of Experts report, there is little reporting on the status of North Korea's nuclear program and other proliferation activities. Their report is worth quoting at length:

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<sup>39</sup> Noland

<sup>40</sup> Comments of Robert Einhorn at Arms Controls Association briefing, 9 March 2011, at: <http://www.armscontrol.org/events/RoleSanctionsIranNuclear>.

<sup>41</sup> Memo to Senator Richard Lugar from Mary Beth Nikitin et al, Congressional Research Service, “Implementation of UN Security Council Resolution 1874, 8 November 2010 at:

<http://lugar.senate.gov/issues/foreign/reports/NKoreaCRSReport.pdf>.

<sup>42</sup> Ibid.

<sup>43</sup> Report of the Panel of Experts, <http://www.un.org/sc/committees/1718/panelofexperts.shtml>.



The Democratic People's Republic of Korea withholds statistical information concerning its arms exports and few recipient countries report such imports. Historical data compiled by the United Nations Commodity Trade Statistics Database (COMTRADE) from those few countries reporting such trade prior to its being banned shows that the Democratic People's Republic of Korea had been exporting arms and related materiel for more than three decades. Reported transactions involving such exports amounted to only some US\$ 22.9 million from 2000 to 2009. According to government and other experts, actual arms and missile exports of the Democratic People's Republic of Korea is believed to be US\$ 100 million or more per year.

North Korean trade in small arms and ammunition is relatively insignificant. The small arms export ban, therefore, is not likely to have a large effect on the economy, but it could affect the ability of certain military-owned factories in North Korea to buy needed raw materials and technology.

The North Koreans now apparently have an industrial-scale uranium enrichment capability. We must assume that they can produce significant quantities of highly enriched, bomb-quality uranium if they choose to do so. That means within a few of years they could have enough highly enriched uranium to double their existing, still small nuclear arsenal.<sup>44</sup>

The report goes on to state that North Korea 'has established a highly sophisticated international network for the acquisition, marketing and sale of arms and military equipment, and arms exports have become one of the country's principal sources for obtaining foreign exchange.'"<sup>45</sup>

#### *Luxury Goods*

The ban on luxury goods is a key sanction, yet its definition is left to national discretion. As a result, there are potential gaps in the definition and the application of these sanctions that are amplified by the fact that few countries exercise any control over the re-export of such goods from third countries. In its 2010 report, the Panel of Experts elaborated principles and factors that should be taken into account, yet implementation varies widely.<sup>46</sup>

The November 2010 CRS memorandum, *Implementation of UN Security Council Resolution 1874*, highlights China's exports of luxury goods to North Korea, noting spikes in Chinese exports of luxury goods in December of each year based on a close analysis of Chinese customs data. China's exports of \$136.1 million in luxury goods to North Korea in 2009 constituted almost two-thirds of total reported trade in luxury goods to North Korea based on U.S. and U.K. definitions of luxury goods. Although the CRS report reports an apparent

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<sup>44</sup> Report of the Panel of Experts, <http://www.un.org/sc/committees/1718/panelofexperts.shtml>.

<sup>45</sup> From CNN (Nov. 12, 2010), <http://edition.cnn.com/2010/WORLD/asiapcf/11/11/un.north.korea/?hpt=T2>.

<sup>46</sup> Panel of Experts Report

drop in exports from early 2010, it also notes an apparent recovery of such exports to an average of \$8.6 million/month by mid-year.<sup>47</sup>

### *Economic Impact*

Several recent reports indicate that North Korea's economy continues to suffer from chronic difficulties including growing trade deficits, the lack of foreign currency reserves and food shortages. On 6 October 2010, the World Food Program (WFP) and the Food and Agriculture Organization of the United Nations (FAO) declared that North Korea was one of 22 countries facing "long lasting hunger crisis". The WFP considers that the country is facing protracted crisis due to a combination of factors, including poor soil management, outdated economic, transport, and information infrastructure. According to WFP analysis, the currency reform of December 2009 disrupted market trade and led to further economic constraints. The government also temporarily barred people from using foreign currency, closed down markets where produce was traded and prohibited small-plot farming. In addition, it was reported that North Korea was put under hardship from torrential rains and floods which rolled across the Korean Peninsula in early September of 2010. In October 2010, the Red Cross of the Republic of Korea provided about US \$8.6 million worth of emergency food relief, including 5,000 tons of rice and 10,000 tons of cement to North Korea.

In an important independent study of economic impacts, Haggard and Noland conclude:

"Despite the recent anti-reformist turn and the constraints of the second nuclear crisis, North Korea has in fact become more economically open. However, the geographic composition of North Korea's trade has shifted quite significantly. Trade with Japan has virtually collapsed after Tokyo implemented an embargo. Trade with Europe stagnated following the onset of the nuclear crisis, while trade, investment, and particularly aid from South Korea fell following the inauguration of Lee Myung-bak and especially in 2009. At the same time, North Korea's dependence on China has grown dramatically in both absolute and relative terms. In addition, North Korea has sought out other partners that do not pose sanctions risks or with whom North Korea's nuclear and missile interests are aligned, most notably Iran, Syria, and potentially Egypt.

These shifts in trade patterns have important implications for the recent UN sanctions effort and any complementary actions that the United States or other countries might choose to take in the aftermath of the May nuclear test. North Korea's changing trade patterns make it much more difficult, although not impossible; to pursue an effective sanctions strategy. In the absence of robust cooperation from China, policy would have to target North Korea's international

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<sup>47</sup> CRS Memorandum to Senator Lugar.

financial ties or even employ the direct interdiction of trade by sea or air; UNSCR 1874 takes important, but by no means decisive, steps in this direction.”<sup>48</sup>

According to another source, “Trade between North Korea and China reached US\$3.06 billion in the first 11 months of last year (2009), which marked a rise of 9.6 percent from the 2008 annual volume of \$2.7 billion. Mineral resources like coals and iron ores account for over 30 percent of the North's exports to China.”<sup>49</sup>

North Korea remains especially vulnerable to financial measures. It is a poor country and loss of access to relatively small amounts of funds can cause distress. By engaging in illicit activities, North Korea becomes the subject of international law enforcement investigations that can leverage open otherwise protected financial information and put a crimp in illicit earnings.

Finally, North Korea has isolated itself from the international financial community and must either courier cash or draw upon balances held in bank accounts abroad to pay for imports of goods and services.<sup>50</sup>

## Sectoral Impact

### *Financial and banking*

In the summer of 2010 Han Sung-joo, who has served as South Korea's foreign minister and ambassador to the US, made two strong claims about the financial sanctions imposed by UNSCR 1874. The first was that in enforcing these new measures Member States, “can trace their [DPRK] financial transactions more rigorously.” And regarding the North Korean economy he claimed, “they’re going to be hurt by going after financial transactions.”

Regarding the effects of UNSC financial actions alone, however, this has proven to be a rather qualified impact when matched against the claims. As with other dimensions of 1718 and 1874, the full impact of the targeted sanctions is intertwined with actions of Member States with sufficient power to go beyond implementation and move to their own layer of restrictions and designations. Thus, US and EU designations of financial institutions have probably taken a bigger toll over the long term on North Korea’s financial abilities internationally than the UNSC actions.

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<sup>48</sup>Stephan Haggard and Marcus Noland, *Sanctioning North Korea: The Political Economy of Denuclearization and Proliferation*, July 2009, Peterson Institute for International Economics, at: <http://www.ncnk.org/resources/publications/Sanctioning%20North%20Korea-%20The%20Political%20Denuclearization%20and%20Proliferation.pdf>.

<sup>49</sup> Yonhap News Agency (February 6, 2011)

<http://english.yonhapnews.co.kr/northkorea/2011/02/06/34/0401000000AEN20110206001800315F.HTML>.

<sup>50</sup><http://www.csmonitor.com/World/Asia-Pacific/2010/0802/Fresh-North-Korea-sanctions-aim-to-cripple-regime-s-arms-sales-profits> (From CS Monitor- Aug 2, 2010)

At the same time, economic development aid provided in real assistance but also in trade and investment from private actors and the government of the People's Republic of China have likely had the effect of propping up the North Korean financial sector, or at least created a safety net which limits negative impacts or intended costs arising from targeted sanctions.

Moreover, as another validation that national sanctions were more determinative of North Korea's financial sector woes, we must recall that nothing seems to have shocked – and for a brief period devastated – the cash flow of the North Korean leadership circle as much as the US Treasury Department assault in September 2005 on Banco Delta Asia of the Chinese gambling enclave of Macao. BDA held and processed a substantial amount of real and counterfeit North Korean monies and these were locked down by US actions.

As Marcus Noland of the Peterson Institute stated about this action, in perhaps the single most knowledgeable analysis of the North Korean economy, “Not only did North Korea lose access to this particular financial institution but other financial institutions began severing their ties with North Korea, not wanting to risk entanglement in North Korean illicit activities and possible expulsion from U.S. financial markets.”<sup>51</sup>

Possibly the most significant UN targeted measure in this sector came with UNSCR 1874 because these sanctions called on Member States to refrain from making new grants, financial assistance, or concessional loans to North Korea. The data indicate that this significantly influenced the thinking and withholding of the kinds of economic aid that regularly flowed into the North, from South, Korea and the European Union. Some countries, such as Japan, interpreted the scope and spirit of the resolution even more broadly and ended many trade-aid packages. This action may have been the strongest example of signaling via sanctions that exists in this case.

### *Energy*

The energy sector is arguably the most complicated sector to assess, with respect to the impact of targeted sanctions. This is due to [1] the practices of the North Koreans themselves in revealing virtually no data; and [2] the non-proliferation nature of the sanctions.

As the recent controversy regarding the revelations of Dr. Hecker of Stanford University illustrates, when it decides to employ the argument, the leadership of North Korea will claim that the reason the sanctions are [a] so fundamentally unfair to them; and [b] so devastating to their quality of life, is because the government needs to build light water reactors to meet their stifled energy needs. Thus, proceeds the claim, because of sanctions, North Korea suffers from underdevelopment in the energy sector, forced on them by the

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<sup>51</sup>*New York Times*, 18 January 2007) <http://www.nytimes.com/2007/01/18/world/asia/18iht-north.4255039.html>

Western embargoes, which has also crippled basic electricity service to the citizenry (exacting a heavy negative humanitarian impact) and hampered any serious industrialization of the nation.

A vintage statement echoing this theme appeared as the meaning of the “Hecker observations” were still being debated in the West:

North Korea tried Wednesday to justify its newly unveiled uranium enrichment activities, saying its nuclear deadlock with the United States would not have turned "complicated" had Washington followed through with its 1994 pledge to build light-water reactors for Pyongyang. The *Rodong Sinmun*, the newspaper of the North's ruling Workers' Party, said the nuclear situation on the Korean Peninsula "would not have been as complicated as it is now had the U.S. completed the construction and handed over the key" for the reactors.<sup>52</sup>

Of course experts in the security realm maintain that North Korean leadership has always had two primary goals in the development of an uranium enrichment program of which light water reactors have been a part: to provide security to the regime from the US, and to serve as a bargaining chip in negotiations including those on economic assistance. This reminds us that targeted sanctions not only send a signal to the entity that has been sanctioned by the Security Council, but that the target may have its own signaling in mind to send to sanctioners and the wider world.

### *Agricultural*

In December 2010, the North Korean leadership instructed its diplomats abroad to inquire about the disposition of states and organizations to supply large amounts of food aid in the coming year. Chronic food shortages have always complicated North Korea's relationship with the UN and with the West. The causal dynamic in such shortages has been a debate of growing significance and divide among experts. As with other areas, the obscurity of the data prevents the depth of analysis any serious study would seek and makes many conclusions tentative.

Weather data would indicate that rain patterns since 2009 have wreaked havoc on food growing and availability. Other analysts suggest that the decision of the government to crack down on farmers' and open-air markets is a significant indication that substantially more food may be available in certain locales in the country than has been documented. Yet the decision of the government to force closures of these in recent months has damaged the distribution system that worked for segments of the population which were reliant on these venues for basic food needs.

In contrast to these claims, there are isolated reports from non-government organizations that sanctions are negatively affecting North Korea's new-found emphasis on sustainable

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<sup>52</sup> From Yonhap News Agency, 29 December 2010, at:  
<http://english.yonhapnews.co.kr/northkorea/2010/12/29/3/0401000000AEN20101229003100315F.HTML>

agriculture. As one aid worker stated, sanctions have hit the North Korean agricultural sector and caused fears of a worsening of the food situation because North Korean agriculture is highly industrialized and heavily dependent on imported farm machinery and chemical fertilizers. Most of these materials came from South Korea, which has now ended aid and trade in these items.<sup>53</sup>

### *Infrastructure*

Here again, important data – in this case on hospitals, roads, schools, railroads and canal building – are all unavailable, save in anecdotal form. What is clear is that the significant aid and development program sponsored by China in 2009, which has supported mineral and natural resource development, also is directed towards the goal of stemming the flow of border refugees and better integrating Chinese and North Korean border ‘industries’. It is too soon to tell what the impact of this investment injection will be, and how successful they will be in reaching the intended objectives. .

There are a few studies and discussions regarding housing and community development. The Institute for Far Eastern Studies noted one year ago that, “The construction sector has focused efforts on Pyongyang, and in particular on efforts to improve the lifestyles of its residents. Housing (averaging 20,000 family dwellings per year), restaurants, waterworks, roads, and other construction and repair projects have been aggressively undertaken.<sup>54</sup>

### *Sanctions Evasion*

North Korea is getting around U.N.-imposed sanctions and is masking financial transactions by the use of "overseas entities, shell companies, informal transfer mechanisms, cash couriers and barter arrangements." The UN Panel of Experts report stated that North Korea 'has established a highly sophisticated international network for the acquisition, marketing and sale of arms and military equipment, and arms exports have become one of the country's principal sources for obtaining foreign exchange.

According to the Panel report,

“The Democratic People’s Republic of Korea relies heavily for its foreign exchange earnings on a very limited range of exports, including rice, pig iron, rolled steel, cement, and machinery of various types, chemicals, magnetite (iron ore), textiles, armaments and gold. The military sector has also been given a prominent export role and concentrates on developing overseas markets for its locally produced military arms and equipment. However, these exports are now subject to Security Council measures that prohibit Member States from importing or exporting such items to or from the Democratic People’s Republic of Korea. To supplement its

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<sup>53</sup> The Times of India, 20 April 2010) <http://timesofindia.indiatimes.com/world/china/Economic-sanctions-strengthen-North-Koreas-dictatorship-says-German-NGO/articleshow/5835443.cms>

<sup>54</sup> North Korea Economy Watch, 2 February 2009, at: <http://www.nkeconwatch.com/2009/02/02/assessment-of-the-2008-dprk-economy-outlook-for-2009/>

foreign earnings, the Democratic People's Republic of Korea has long also been engaged in illicit and questionable international transactions. These transactions are reported to include the surreptitious transfer of nuclear-related and ballistic missile-related equipment, know-how and technology, illicit drug and cigarette smuggling, and counterfeiting of currencies and cigarettes. A number of these surreptitious procurement and transfer techniques are now being used also to circumvent the Security Council-mandated controls placed on the country's exports and imports.<sup>55</sup>

North Korea is believed to use air cargo to handle highly-valued and sensitive arms exports. Such cargo can be sent by direct air cargo from North Korea to the destination country. Some modern cargo planes, for example, can fly non-stop from North Korea to Iran, when routed directly through neighboring air space. In addition, a technique now being used by North Korea to conceal its arms exports is to ship components for the assembly of arms overseas in the form of "knock-down kits" which can be delivered to foreign assembly plants, the report says. In some cases, this is a turn-key operation with the participation of North Korean scientists, technicians and specialists.

## Effectiveness of North Korea sanctions

North Korea has taken elaborate actions to avoid UN sanctions, revealing in November 2010 to Dr. Hecker of Stanford University the beginnings of a Light Water Reactor construction project and what appeared to be a newly constructed state-of-the-art P-2 centrifuge facility. While analysts are still attempting to assess the viable working status of the latter, the ability to construct such a site, and the willingness of North Korea to do so in clear violation of UNSCRs 1718 and 1874, reflect little effectiveness regarding the ability to *coerce* and change North Korean behavior.

With regard to *constraint*, there are some indications that sanctions have limited North Korea's access to resources. As discussed, possibly the most significant UN measure came with UNSCR 1874's call for Member States to refrain from making new grants, financial assistance, or concessional loans to North Korea. This appears to have significantly influenced the thinking of key countries and led to the withholding of the kinds of economic aid that regularly flowed into North Korea, from South Korea and the European Union. Some countries, such as Japan, interpreted the scope and spirit of the resolution even more broadly and ended many trade-aid packages.

Finally, if the objectives of sanctions are to *signal* the international community's condemnation of North Korea's violation of non-proliferation norms, then the sanctions have been somewhat effective, although the degree to which the target has received the message is unknown. In terms of isolating North Korea, it is difficult to gauge the effect of stigmatization on a country so deliberately and intentionally self-isolated.

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<sup>55</sup> Panel of Experts Report

When the UN targeted sanctions have had any identifiable impact, they have resulted from the combination of UN and Member State actions. Especially after UNSCR 1874, it is fair to claim that this combination has meant that North Korea has encountered increasing difficulty in executing international financial transactions and creating new bank havens. Drawing on the theory or axiom of “the-straw-that-breaks-the-camel’s-back,” UNSC measures have contributed to North Korea’s financial crisis in 2009 up to the present, which in turn sparked some disastrous currency actions by the North, including the debacle of currency revaluation. Yet the worse the economy becomes, partly due to sanctions, there appears to be no corresponding or resulting compromise by North Korea on its nuclear programs.

UNSCRs 1718 (2006) and 1874 (2009) were formulated as targeted measures across an array of non-proliferation, missile development, financial and luxury goods areas. Using these tools, the Security Council aimed to constrain further nuclear development by North Korea and interdict its movement of such materials through illicit networks and partner states. A medium-term goal considered essential for realizing the larger concern of non-proliferation has been that the targeted sanctions would push the North Korean leadership back to serious engagement in the Six-Party Talks.

Have the sanctions been effective? Certainly they have not yet achieved their political goals. And there are ways in which the military aggressiveness of North Korea during this time of increased sanctions may, or may not, be seen to be related to the North Korean leadership’s calculations about their implications. Within their particular targeted areas, the sanctions seem to have achieved a range of impacts – from small to significant. But some serious cautions emerge in this assessment, prompting the need for further study of this case over time.

The first is that judgments regarding sanctions always are subject to the dilemma of new facts, which seem to unfold all the time. This is especially the case when assessing sanctions impact on a government which has shrouded itself and its society in secrecy. Two ‘facts’ illustrate the dangers of sanctions assessment in any definitive manner.

The first set of facts which has wreaked havoc on the prospects for UN sanctions to lead North Korea to the bargaining table has been the sinking of the Cheonan ROK in March 2010 and the November 2010 clash on Yeonpyeong island. The result is that the diplomatic momentum and discussions aimed at denuclearization have stalled, even as the sanctions ‘work’ economically. Now the sanctions’ potential political impact is subject to a different issue: the ability of South and North to reach some kind of rapprochement.

The second fact set has occurred over the past few months. In October 2010 there seemed to be strong evidence that the sanctions had restrained further development of North Korea’s nuclear abilities. Then came the Hecker observations, which significantly undercut such a claim and forced analysts and decision-makers to examine the adequacy of sanctions at every level and product associated with nuclear programs.



To re-cap, when the UN targeted sanctions have had any identifiable impact, they have resulted from the combination of UN and Member State actions. After UNSCR 1874, it is fair to claim that this combination has meant that North Korea has encountered increasing difficulty executing international financial transactions and creating new bank havens.

The UNSC measures have contributed to North Korea's financial crisis of 2009 to the present, which in turn sparked some disastrous currency actions by the North including the debacle of currency revaluation. Yet, the worse the economy becomes, at least in part due to sanctions, the stronger the intervention of the Chinese to buffer the adverse effects of these developments. Some of this may be a function of China's booming economy itself and the drive to take advantage of low labor costs, untapped resources and favorable investment conditions for private entrepreneurs. But surely a level of political calculation about state investment and corresponding political goals also come into play.

Ultimately, then, it appears that since the first sanctions were imposed, there has been no corresponding or resultant compromise by North Korea on its nuclear programs.

## **Provisional Lessons from Nonproliferation Sanctions**

The two nonproliferation cases represent a mixed bag, at best, for evaluating the effectiveness of targeted sanctions to achieve nonproliferation goals. In both the Iran and North Korea cases, there was little significant impact from sanctions before the UN strengthened measures to focus on implementation and enforcement. The designation of specific individuals, entities and goods, as well as enhanced monitoring of Member States' implementation by a Panel of Experts illustrated how the UN Security Council was getting serious about implementation.

In the case of Iran, additional national measures (US, EU, etc.) combined with UN sanctions to have a greater impact than UN measures taken alone. It is difficult to determine or identify what is the cause of this more successful outcome, or to weigh the relative success of unilateral/coordinated multilateral or UN measures, but the reinforcing effect is significant. Importantly, UN measures provided the legitimacy and legal basis for Member States to take national measures. It remains to be seen whether or not this approach of the UN to establish a basis/framework for sanctions - upon which individual, or groups of, Member States can build and expand - will continue and become a trend. Russia and China have repeatedly emphasized in public statements that measures going beyond what the Security Council has agreed to are inappropriate, and that there should be no expansion of the scope of sanctions.<sup>56</sup>

With regard to the typology of three primary objectives of UN sanctions - to *coerce*, to *constrain*, and to *signal/isolate* - it appears that nonproliferation sanctions are most

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<sup>56</sup> See Security Council meeting S/PV.6442, 10 December 2010 at: <http://www.un.org/Depts/dhl/resguide/scact2010.htm>, at which the Russian representative stated, "All members of the international community must strictly abide by Security Council resolutions and the sanctions regime with respect to Iran and not to go beyond those boundaries."

effective in signaling the international community' resolve to isolate Iran and North Korea for violating international norms and obligations. There is evidence that constraining proscribed activities and resources is somewhat effective, depending on vigorous implementation and enforcement of sanctions.

As to changing Iran and North Korea's behavior or the success of sanctions in coercing adherence to IAEA commitments, UN sanctions have not yet been shown to be effective. However, this study finds that this criterion should not be the sole gauge of the effectiveness of targeted sanctions measures, in view of the various other ways in which well-designed, coordinated and enforceable sanctions can change the internal and external (economic/financial, societal/political, military/strategic) operating environments of targeted individuals, sectors and ultimately of countries and regimes.