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T.V. PAUL

Strengthening the non-proliferation regime: the role of coercive sanctions

Proposals for sanctions as a tool to prevent the spread of nuclear weapons have been in vogue since the early days of the nuclear age. The 1946 Baruch Plan contained recommendations for punishing violators of the universal non-nuclear regime which was expected to emerge after the plan was adopted.¹ Sanctions have been an implicit option in the nuclear non-proliferation regime, although the text of the Non-Proliferation Treaty (NPT), which was signed in 1968 and entered into force in 1970, contains no reference to them. At the bilateral level, especially since the 1970s, sanctions have been imposed by supplier countries on states suspected of developing nuclear weapons or on violators of some aspects of the non-proliferation norm.²

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- 1 The plan envisaged removing national control over atomic energy and entrusting it to an international authority. Violations of the regime rules would have been stigmatized as international crimes, and punishment would not have been subjected to veto in the United Nations Security Council. William Epstein, *The Last Chance: Nuclear Proliferation and Arms Control* (New York: Free Press 1976), 10.
- 2 A study published in 1990 lists nine major cases of economic sanctions by nuclear supplier countries against states that did not agree to full-scope safeguards or that were presumed to be developing nuclear weapons. Gary Clyde Hufbauer, Jeffrey J. Schott, and Kimberly Ann Elliott, eds, *Economic Sanctions Reconsidered. 2: Supplemental Case Histories* (2nd ed; Washington DC: Institute for International Economics 1990).

The International Atomic Energy Agency (IAEA), which conducts safeguard inspections of nuclear facilities in various countries, has the authority to report to the United Nations Security Council any violations of the safeguards agreements, but it has been reluctant to do so because of considerations of state sovereignty.³ The various export control mechanisms in the nuclear and technological arena – most prominently the London Nuclear Suppliers Group guidelines, the missile technology control regime (MTCR), and the Coordinating Committee on Export Controls (COCOM) – contain elements of sanctions against target states. In the 1990s, the failure of the non-proliferation regime to stop signatories of NPT, such as Iraq and North Korea, from launching nuclear weapons programmes impelled a new interest in coercive sanctions to achieve more vigorous adherence to the treaty. The NPT renewal conference in April/May 1995 briefly addressed the issue of tightening the rules of compliance but left the IAEA responsible for working out concrete measures.

Immediately after the end of the Cold War, analysts of different ideological persuasions began to argue that coercive policy instruments were essential for curbing horizontal proliferation. A former United States secretary of defense, Robert McNamara, suggested a global ban on non-nuclear states to prevent them from developing nuclear, chemical, and biological weapons. The United Nations Security Council would be given the power to impose 'collective, coercive action' on any country that disregarded the ban. Violators would be subjected to strict economic sanctions, and, 'if the sanctions had no effect, a UN military force would be given a mandate to eliminate the production capability and destroy any stocks produced or bought.'⁴ From the right of the political spectrum, Charles Krauthammer argued in favour of a more active coercive United States strategy

3 Lawrence Scheinman, *The International Atomic Energy Agency and World Nuclear Order* (Washington DC: Resources for the Future 1987) 234-5.

4 Robert S. McNamara, 'Nobody needs nukes,' *New York Times*, 23 February 1993, A 21.

of 'confronting, deterring, and, if necessary, disarming states that brandish and use weapons of mass destruction.'⁵

At the government level, Bill Clinton's administration adopted a counter-proliferation policy which included coercive strategies. Although the policy emphasizes such traditional approaches to non-proliferation as diplomacy, arms control, economic and security assistance, and export controls, a new element has been added: an increased Pentagon capacity to detect, disable, and dismantle nuclear weapons and incapacitate research facilities which produce weapons of mass destruction in proliferating states.⁶ The Pentagon would be given a role in devising measures to destroy or deter nuclear weapons not only at an advanced stage but also during the early phases of development. The Department of Defense recommended that in addition to the prevention and rollback of proliferators' nuclear capabilities, priority should be given to destroying hard underground targets where weapons are stored in order to disarm proliferators if necessary.⁷ By raising the profile of proliferation in defence policy and force posture, the Clinton administration has elevated the role of coercive sanctions beyond that of any of its predecessors.

The interest in coercive measures in the 1990s is partly a result of the success of United States attacks on Iraq's nuclear and chemical installations during the 1990-1 Persian Gulf War and continued United Nations efforts to search and demolish the remaining Iraqi capability. In 1991, a major change in national and international attitudes toward coercive measures was evident in the reaction to coalition attacks on the Iraqi

5 Charles Krauthammer, 'The unipolar moment,' *Foreign Affairs* 70(no 1, 1990-1), 23-33. John Deutch argues that the United States should maintain sufficient military forces to make credible threats on nations with nuclear ambitions. 'The new nuclear threat,' *ibid* 71 (autumn 1992) 133.

6 Joseph F. Pilat and Walter L. Kirchner, 'The technological promise of counterproliferation,' *Washington Quarterly* 18(winter 1995), 153-66.

7 Paul R.S. Gebhard, 'Not by diplomacy or defense alone: the role of regional security strategies in US proliferation policy,' *ibid*, 167-79.

nuclear facilities. They were received with approval or silence by the international community, whereas the limited raid by Israel in 1981 on Iraq's Osiraq reactor met with near universal condemnation.

Although the problem of proliferation existed throughout the Cold War, the end of East-West rivalry has raised the issue to a higher salience in the policy objectives of the United States. The new strategic environment poses challenges to the existing international order because states traditionally perceived as weak and underdeveloped could, over time, acquire nuclear capability and delivery systems which can strike distant targets.⁸ Analysts debate the need for maintaining United States primacy in the next century even by such means as active external intervention. Arresting nuclear proliferation has been viewed as an essential step in forestalling the rise of new great-power challengers.⁹

Moreover, loopholes in the nuclear non-proliferation regime made it possible for some signatories of the NPT, such as Iraq, North Korea, Iran, and Libya, to pursue clandestine nuclear weapons programmes, even as they remained parties to the treaty. Giving coercive powers to the Security Council would give IAEA safeguards more credibility and violations of NPT responsibilities a strong legal basis for coercive action.

This article evaluates the strategy of strengthening the nuclear non-proliferation regime through coercive means. It looks at two types of coercion, economic and military, and analyzes the conditions under which each might succeed or fail in light of the lessons learned from coercive policies against Iraq and North Korea. It also examines the likely long-term implications of sanctions for the non-proliferation regime.

8 As Krauthammer put it: 'in a shrunken world the divide between regional superpowers and great powers is radically narrowed ... Missiles shrink distance. Nuclear ... devices multiply power.' 'The unipolar moment,' 30.

9 Christopher Layne, 'The unipolar illusion: why new great powers will rise,' *International Security* 17 (spring 1993), 5-51.

COERCIVE POLICY INSTRUMENTS

Although various types of coercive policy mechanisms are available to decision-makers in strong states for use against smaller target states, in the non-proliferation arena the two most relevant options are economic sanctions and military threat-based strategies, including coercive diplomacy, compellence, and preventive strikes.¹⁰ Blockades could also be a part of sanctions. The rationale and assumptions for including nuclear spread as a legitimate reason for coercive intervention are manifold. First, proliferation constitutes a threat to international peace and security. Notwithstanding the dispute over whether the spread of nuclear weapons to other states can be a stabilizing factor, those who advocate coercive approaches assume that nuclear proliferation is an inherently dangerous process. If war broke out among nuclear-armed regional adversaries, it could escalate into an atomic exchange which would result not only in incalculable death and destruction of the belligerents, but also in nuclear contamination of the environment of other countries. The state that engages in nuclear acquisition, especially if it is a member of the NPT, is, therefore, seen as violating the widely accepted norm of international conduct that nuclear weapons should not spread to other countries.

A second rationale could be that the target state is acquiring nuclear weapons not because of security threats, since a significant nuclear challenge is remote in most cases, but because of narrow objectives, such as domestic power calculations or regional power ambitions. Even when security concerns are genuine, nuclear acquisitions would pose an even greater threat to international and regional stability and to the maintenance of the non-proliferation regime. In other words, protecting inter-

10 Anticipation of hostile response by allies and adversaries, arms transfers, security guarantees, arms control measures, fuel supply assurances, strengthened safeguards, and export controls are traditionally viewed as significant influences on a country's choice to refrain from nuclear acquisition. William C. Potter, *Nuclear Power and Non-Proliferation: An Interdisciplinary Perspective* (Cambridge MA: Oelgeschlager, Gunn & Hain 1982), chap. 6.

national non-proliferation norms embodied in the NPT and the IAEA safeguards system, however unequal they may be, takes precedence over national considerations of military security.

Third, it is assumed that a state's behaviour can be altered by the coercing power, which has the advantage of balance of forces and, in some cases, balance of resolve and balance of interests. The proliferating state is likely to back down in the face of economic hardship or the potential destruction of its nuclear facilities by military attack. Also, its incentive structure could be altered if the economic and political costs and technical difficulties of renewing its nuclear weapons programme outweigh the benefits. Therefore, the leaders of at least some target states would prudently refrain from such actions.

Fourth, the possession of technology and fissile materials is the driving force behind the incentives for nuclear weapons acquisition. Therefore, if existing capabilities can be destroyed or thoroughly safeguarded and if new technology to restart the nuclear programme is denied, the state with nuclear ambitions would not find the enterprise worthwhile and would likely give up the nuclear weapons option eventually.

Fifth, coercive instruments, especially technological and material sanctions and preventive strikes, could prolong the period required for nuclear acquisition. During that period, political or diplomatic conditions could change which would make nuclear abstinence a possibility.¹¹ A regime change could occur, and the new leadership might decide to abandon the nuclear weapons programme. Coercive actions could convince suppliers to provide no further materials or to cease collaborating in any way for fear of further retaliatory actions. For example, after the Israeli attack on Osiraq, Iraqi negotiations with Italy for a heavy water reactor and a reprocessing facility came

11 For instance, Israel justified its strike on Iraq's Osiraq reactor on the grounds that it would provide time for the peace process to make major strides before Arab countries gained nuclear weapons and for Israel to take sufficient counter-measures. It would also give Arab leaders time to consider the consequences of the nuclear arms race. Shai Feldman, 'The bombing of Osiraq - revisited,' *International Security* 7 (autumn 1982), 114-42.

to a halt because of Italian fears of further preventive attacks by Israel.¹²

Finally, successful military or economic sanctions could deter potential proliferators from launching nuclear weapons programmes. Signatories of the NPT would be the most likely targets for economic sanctions if they violated their treaty obligations. There is a higher legal justification for imposing sanctions in these cases, although a state can withdraw from the NPT if its supreme national interests demand that it do so.

Economic sanctions

Economic sanctions include supply-side approaches – cutting off the transfer of nuclear materials by suppliers, citing violations of the IAEA safeguards agreement, blocking aid and investment to and trade with the nuclearizing nation. Export controls currently in place in several supplier states could also be seen as sanction-based because a select group of potential proliferators are usually the targets. Such sanctions are meant to prevent prospective proliferators from eroding the effectiveness of the safeguards system and ‘to reinforce international political norms against proliferation.’¹³

Economic sanctions are especially attractive against states which depend on the international market for exports or imports or whose primary source of revenue is foreign trade. In the aftermath of the Iraqi invasion of Kuwait, an economic embargo was imposed on Iraq which still continues. After four

12 Anthony Cordesman, *Weapons of Mass Destruction in the Middle East* (London: Brassey's 1991), 97.

13 John W. Harned, ‘Nuclear sanctions: potential and limitations,’ *Atlantic Community Quarterly* 15 (winter 1977-8), 467. The purposes of economic sanctions here are varied. They might be used to punish violations of the non-proliferation norm or regime principle. They might compel a state to rescind its nuclear programme and follow the norms fully. And they might be used to reduce the economic, technical, and military capabilities of the target state. David Leyton-Brown, ‘Lessons and policy considerations about economic sanctions,’ in Leyton-Brown, ed, *The Utility of International Economic Sanctions* (London: Croom Helm 1987), 301-10; Kim Richard Nossal, ‘International sanctions as international punishment,’ *International Organization* 43 (spring 1989), 301-22.

years of sanctions, Iraq reportedly complied fully in 1995 with the United Nations resolution by destroying all nuclear weapons facilities and by allowing United Nations inspectors to install monitoring devices to detect any resumption of its nuclear weapons programme.

The threat of economic sanctions was raised during 1993-4 when North Korea's plans for a nuclear weapons programme began to unravel following its threat to withdraw from the NPT in March 1993. In June 1994, when North Korea refused to allow the IAEA to inspect its nuclear facilities, the United States proposed a plan for sanctions to the United Nations Security Council, the first stage of which would be to halt trading in arms with North Korea and to ban all cargo flights to and from the country.¹⁴ If Pyongyang did not comply and decided to withdraw from the NPT, all financial transactions would have been cut off, a step that would have cost the country its main foreign exchange source, about \$1.8 billion remitted by North Korean expatriates living in Japan. But the sanctions came to naught when North Korea declared that they would be seen as an act of war and threatened military invasion of South Korea and destruction of Seoul in a 'sea of fire.'¹⁵

The differences between the Iraqi and North Korean cases are striking. Economic sanctions had a clear-cut effect on the Iraqi nuclear programme only after Iraq had been decisively defeated in the Gulf War and after four years of intensive application. Iraqi compliance was largely the result of the conditions that the allied forces imposed upon it when it surrendered. In the North Korean case, uncertainty about Pyongyang's behaviour and the harm it could do to the industrially prosperous South resulted in caution on the part of the United States and its allies. Regional endorsement, especially from North Korea's

¹⁴ Other proposed actions included cutting off the United Nations aid programme, reducing the size of Pyongyang's diplomatic missions abroad, cancelling assistance for an industrial project, and curtailing all cultural and scientific exchanges.

¹⁵ For the United States resolutions, see *New York Times*, 16 June 1994, A1.

key trading partner, China, was not forthcoming, whereas in Iraq, overwhelming regional support helped to cap effectively the flow of Iraqi oil to the outside world.

North Korea demonstrates that a determined state can extract concessions from the international community before complying fully with the NPT. The United States-North Korean Accord of 21 October 1994 clearly addressed a number of issues of long-standing concern. North Korea agreed to comply with the IAEA safeguards in return for United States agreement to provide light water reactor power plants financed by an international consortium. The United States would supply heavy oil in return for a North Korean freeze on its graphite moderated power reactor. The United States agreed to normalize relations with Pyongyang and reduce barriers to trade and investment, while liaison offices would be established in each other's capital as a prelude to full diplomatic relations. Most significantly, the United States signalled a major change in policy when it formally assured North Korea that it would not threaten or use nuclear weapons against it.¹⁶

This case demonstrates that carrots are more attractive than sticks to some proliferating states, especially if those states are isolated but possess sufficient military capacity to hurt their neighbours. North Korea's siege mentality, derived from continuous post-Korean War hostility towards the South and the United States, became more apparent with the end of the Cold War when it lost its major allies, the Soviet Union and other east European states.¹⁷ Economic or military sanctions would have increased the alienation with unpredictable consequences for war or peace in the Korean peninsula.

At the bilateral level, economic and technological sanctions have been used since the 1970s to achieve non-proliferation objectives. The nuclear safeguards issue resulted in economic

¹⁶ For a full text of the agreement, see *Arms Control Today* 24(December 1994), 19.

¹⁷ The death of Kim Il Sung in July 1994 also helped to intensify North Korea's sense of insecurity. Selig Harrison, 'The North Korean nuclear crisis: from stalemate to breakthrough,' *Arms Control Today* 24(November 1994), 18-20.

sanctions in eleven cases between 1974 and 1990. They were: Canada vs India (1974-6), Canada vs Pakistan (1974-6), United States and Canada vs South Korea (1975-6), United States vs South Africa (1975-82), United States vs Taiwan (1976-7), Canada vs Japan and the European Community (1977-8), United States vs Brazil (1978-81), United States vs Argentina (1978-81), United States vs India (1978-82), United States vs Pakistan (1979-80), and Australia vs France (1983-). The threat of sanctions was successful in only two cases (South Korea and Taiwan). A third case, Canada vs Japan and the EC, was moderately successful. The other cases were not very successful in changing the policies of the target states, especially in forcing them to accept full-scope safeguards. The three successful cases involved allies of the sanctioning state while the non-successful cases involved non-allies. In addition, both Taiwan and South Korea were under the security umbrella of the United States.¹⁸ Five of these states were non-signatories of the NPT.

Both the United States and Canada imposed export controls on India after its 1974 nuclear test. Indeed, the Indian test was the catalyst for a number of sanction-related activities by supplier countries, most notably the passage by the United States Congress of the 1978 Nuclear Non-Proliferation Act and the strengthening of the Nuclear Suppliers Group. Subsequently, the United States abrogated its 1963 nuclear co-operation agreement with India to supply uranium to the Tarapur power plant near Bombay, although Washington allowed France to supply the materials for another decade or so. The Canadian response was even more stringent; it cut off all nuclear co-operation with India. These sanctions have had a somewhat adverse effect on, but did not stop, India's civilian nuclear programme. The difficulty in getting components seemed to slow down India's space and missile programmes as well but again were not effective in capping the programmes. In 1993 the United States used the threat of sanctions to block a Russian deal to supply cryogenic rocket engines to India. Yet the Indian test-

¹⁸ Hufbauer et al, eds, *Economic Sanctions Reconsidered*, 353-486.

launching of Prithvi, a short-range surface-to-surface ballistic missile, and of Agni, an intermediate-range ballistic missile, went ahead, although snags in deployment have occurred.

The United States twice used sanctions to force Pakistan to forgo its nuclear weapons programme. In April 1979, the administration of President Jimmy Carter terminated aid to Pakistan as mandated by the Glenn and Symington amendments to the Foreign Assistance Act and successfully pressured France to cancel an agreement to sell a reprocessing plant to Islamabad. Nonetheless, Pakistan refused to place all its nuclear facilities under international safeguards, a condition for lifting the sanctions. The Soviet invasion of Afghanistan dramatically altered the United States-Pakistani relationship after Islamabad agreed to provide a base for the United States-supported guerrilla war being waged by the Mujahidin against the Soviet occupying forces. The administration of Ronald Reagan made little effort to link aid to United States non-proliferation objectives vis-à-vis Islamabad.

However, pressure from Congress in October 1987 led the United States to suspend aid to Pakistan as a punishment for reprocessing plutonium at a level of enrichment which indicated that it was to be used for nuclear weapons. When the Soviet Union pulled out of Afghanistan in 1989, Pakistan lost its strategic value to the United States. In October 1990, the administration of George Bush refused to certify that Pakistan did not possess nuclear weapons. The result was the suspension of arms and economic aid worth \$600 million in 1991-2, as mandated by the Pressler amendment to the Foreign Assistance Act. Nonetheless, the evidence that sanctions did not result in a change of policy is to be found in Pakistan's continuing development of a nuclear weapons programme.¹⁹

19 For United States sanctions against Pakistan, see T.V. Paul, 'Influence through arms transfers: lessons from the US-Pakistani relationship,' *Asian Survey* 32 (December 1992), 1078-92. In 1995, the Clinton administration tried to lift some sanctions so that they could supply 28 F-16 aircraft and other military equipment, which Pakistan had already paid for. The administration finally succeeded in persuading a reluctant Congress to allow a one-time waiver of the Pressler amendment.

Military threat-based strategies

The most extreme form of threat-based strategy is a preventive attack against a state believed to be acquiring a nuclear weapons capability. A pre-emptive strike, on the other hand, is an attack by a potential target on the nuclear facilities of the state that is presumed to be planning an attack. The intention is to forestall the use of nuclear weapons in a future war.²⁰ All forms of coercive policies require commitment on the part of the coercer, as well as a certain level of communication to the adversary of that commitment. An attempt of this nature is seen as a success if the adversary behaves 'in the way one desires as a result of the communication';²¹ in this instance, by abandoning its nuclear weapons programme.

Coercive diplomacy could involve a range of foreign policy instruments available to superior powers. The first step is often to signal an intent to cause behaviour modification and then, if necessary, to threaten to use force, along with diplomatic efforts, to induce co-operation. The threat to use force is regarded as giving teeth to diplomatic efforts aimed at altering a particular behaviour. Compellence threatens to use military force until the target accepts the wishes of the state that initiates the strategy and could include 'both coercive diplomacy and blackmail.'²²

Although coercive instruments are generally applied in the context of military action by an adversary, they may well be expanded to include non-military objectives, such as the implementation of particular norms of behaviour, in this case those related to nuclear non-proliferation. In the nuclear non-proliferation realm, coercive policies can take the form of a threat of attack to remove a safeguarded nuclear facility to which the

20 For the distinction between prevention and pre-emption, see Kenneth Waltz, 'The spread of nuclear weapons: more may be better,' *Adelphi Papers*, no 171 (autumn 1981).

21 Glenn H. Snyder and Paul Diesing, *Conflict Among Nations: Bargaining, Decision Making and System Structure in International Crises* (Princeton NJ: Princeton University Press 1977), 211.

22 *Ibid.*, 5; on compellence, see Robert J. Art, 'To what ends military power?' *International Security* 4 (spring 1980), 3-35.

target state is diverting nuclear materials for weapons programmes, or a threat of attack on a country's nuclear facilities, safeguarded or not, to put an end to its efforts to acquire nuclear weapons. Such policies can include carrots as well as sticks: co-operation may be induced through promises of aid if the target state modifies its behaviour.²³

At the bilateral level, states that engage in coercive tactics could invoke international law, on the basis of 'anticipatory self-defence,' by arguing that the weapons that are being developed by the adversary will eventually be used against it or its allies.²⁴ Article 51 of the United Nations Charter gives states the right to resort to individual or collective self-defence in the event of an armed attack against a member state, the intention being that the Security Council will eventually undertake measures necessary for the maintenance of peace and security. However, nations could resort to anticipatory self-defence by contending that since 'nuclear, chemical and biological weapons are capable of sudden and mass destruction, states must not only wonder whether the Security Council will act on their behalf, but whether such assistance, if offered at all, will arrive too late.' Therefore, national leaders could resort to pre-emptive and preventive attacks if they 'perceive a significant threat to their national security' from an adversary attempting to acquire nuclear weapons.²⁵ Israel invoked the principle to justify its attack on Iraq's Osiraq reactor in June 1981. Prime Minister

23 Along with withdrawal from Kuwait, United States policy towards Iraq prior to the Gulf War contained compelling threats to force Iraq to destroy its weapons of mass destruction. This strategy continued after the war: the United States threatened force on several occasions when Iraq refused to comply with United Nations resolutions concerning weapons of mass destruction, especially its non-co-operation with the United Nations inspection team.

24 For a similar debate in the Reagan administration on the legality of attacking Libya's chemical weapons plant at Rabta during 1988-9, see Marshall Silverberg, 'International law and the use of force: may the United States attack the chemical weapons plant at Rabta?' *Boston College International and Comparative Law Review* 13 (no 1, 1990), 53-89.

25 *Ibid*, 56-8.

Menachem Begin argued that 'Iraq intended to use the nuclear reactor to produce atomic bombs that would ultimately be exploded in Israel.'²⁶

It should be noted that the NPT regime is ambiguous about using coercive strategies to arrest nuclear proliferation. The IAEA could, however, refer the matter to the Security Council if and when an NPT state is found to be engaged in clandestine activities. That the IAEA favours multilateral over unilateral action is evident in its adverse reaction to the Israeli raid on the Osiraq facility.

How do sanctions affect nuclear choices?

Two critical cases in which sanctions were imposed to obtain compliance with non-proliferation regime principles and norms were Iraq and North Korea. Both are instructive about the conditions under which sanctions will or will not work. Lessons from the experience of sanctions imposed against other NPT signatories and non-signatories have already been discussed. In general, economic sanctions are more likely to succeed if a state is heavily dependent on international trade for its survival. According to a key study of 116 cases between 1914 and 1990, sanctions were successful in 34 per cent of the cases. Efforts to affect the military potential of an adversary were only modestly successful. Economic sanctions were most effective against friends and close trading partners.²⁷ Other political variables affecting the outcome were supplementary policies to support sanctions, the length of the sanction period, international co-operation, and the political and economic health of the country. Economic variables included the cost imposed on the target country in terms of per capita income and gross national prod-

26 *New York Times*, 10 June 1981, A 1. A problem with 'anticipatory self-defence' in the nuclear proliferation realm is determining how imminent a threat of attack is. Nor is it easy to compute the odds of a nuclear attack by a newly nuclearized state on a country that already possesses nuclear weapons and its capability to launch a massive and instantaneous retaliation.

27 Hufbauer et al, *Economic Sanctions Reconsidered*, 92-3, 99.

uct, the flow of two-way trade as a percentage of total trade, the relative economic size of the country, and the type of sanctions and their cost to the coercive state.²⁸ It should be noted that only eleven of the cases in this study dealt with non-proliferation issues and in a majority sanctions were not particularly effective.

Selective sanctions can hurt key aspects of a country's nuclear energy programme. However, if perceived and actual security challenges are overwhelming, the country may pursue its nuclear option regardless. Economic sanctions against trade in arms have not forced Pakistan to abandon its nuclear acquisition efforts. India is perceived as such an enormous security threat that the Pakistani élite acquired all the components necessary for a nuclear weapons programme through clandestine means. Nor is there any substantive evidence that sanctions imposed on India after its 1974 nuclear explosion did anything to reduce the determination of India's leaders to acquire nuclear capability in the face of a perceived overwhelming security threat from China and Pakistan. It is, however, possible that the fear of economic sanctions contributed to India's decision to conduct no further tests or to declare openly its nuclear weapons activities. The sanctions imposed on South Africa did not have a major effect during the apartheid regime, when a 'total onslaught' mentality pervaded the South African élite's security perceptions – hence their clandestine nuclear weapons programme. Only with the demise of apartheid did the NPT become acceptable to South Africa. However, positive assurances, coupled with active diplomacy, have produced results in other cases. United States diplomacy vis-à-vis North Korea was somewhat successful, but only after an economic and security incentive package was offered.

While it is possible that sanctions might have a long-term impact, it is difficult to prove that they are the reason for non-acquisition of nuclear weapons because so many factors affect national choices. However, if one begins with a benign security

²⁸ *Ibid.*, 40.

environment, the impact of the threat of sanctions is easier to assess. It could be argued that Brazil and Argentina gave up nuclear weapons programmes largely for economic reasons. Both countries are in a low-conflict zone with no major compelling security reasons to acquire nuclear weapons other than prestige and domestic politics. The civilian regimes of both countries saw the removal of the nuclear irritant as necessary to attract foreign investment and to increase foreign trade. However, sanctions against a potential proliferator in a protracted conflict zone without a nuclear ally are unlikely to succeed, particularly if the proliferator is an isolated state. In the case of fence-sitters, the threat of sanctions might deter them from pursuing an all-out nuclear programme. The successful application of sanctions could also increase international and institutionalized co-operation in this area.²⁹

One important implication of coercive sanctions is the tendency among new proliferators to pursue an opaque strategy. Those who pursue nuclear opacity do not follow the sequence through which declared nuclear states acquired their capability. Such states – India, Israel, and Pakistan – seem to believe that if they do not engage in open nuclear testing, they can avoid possible sanctions. Thus they deny possession; make no direct nuclear threats; espouse no military doctrines; avoid open deployment or open debate; and insulate their nuclear weapons programmes.³⁰

Limits of economic and military sanctions

Problems with coercive approaches abound. First, as a strategy for obtaining nuclear non-proliferation they do not take into account the incentives that encouraged attempts at nuclear acquisition in the first place. Economic sanctions and coercive

²⁹ For a discussion of how institutions affect co-operation in multilateral sanctions, see Lisa Martin, *Coercive Cooperation: Explaining Multilateral Economic Sanctions* (Princeton NJ: Princeton University Press 1992).

³⁰ Avner Cohen and Benjamin Frankel, 'Opaque nuclear proliferation,' *Journal of Strategic Studies* 13 (September 1990), 14-44.

attacks do not remove the security challenges the proliferating state may confront, especially if its perceived threat is from an existing nuclear weapon state or one in the process of developing nuclear weapons. Nor does it remove an incentive structure based on prestige or influence in regional and international affairs.³¹

On the contrary, an attack or threat of attack on nuclear installations would increase a country's insecurity and strengthen its determination to acquire nuclear weapons as a deterrent against threats from stronger adversaries. States rarely abandon a course that they perceive is vital to their intrinsic or strategic interests. If a country's leadership views nuclear acquisition as a matter of national survival, coercion would not necessarily alter that policy,³² especially in the case of an NPT signatory attempting to acquire nuclear weapons. Treaty violation has its costs in reputation and the likely harsh response from other adherents, especially the violator's neighbours. An NPT signatory opting for this route is probably willing to take a greater risk than a non-signatory state attempting to acquire nuclear weapons.

An overwhelming majority of those who signed the NPT did so after being convinced that nuclear weapons would not make them more secure. Many small states have no hope of acquiring a nuclear weapons capability. For them, nuclear proliferation could result in adverse counter-measures by their neighbours and by major powers. For such states, the threat of sanctions is not as relevant as it is for middle ranking NPT signatory states with the potential to violate the treaty.

And then there is the problem of attacking nuclear facilities. A one-shot attack may not be sufficient to force a proliferator to back down from its nuclear-building activities. A single, par-

31 Richard K. Betts, 'Paranoids, pygmies, pariahs and nonproliferation,' *Foreign Policy*, no 26 (spring 1977), 157-83.

32 For the limitations of coercive diplomacy and compellence, see T.V. Paul, *Asymmetric Conflicts: War Initiation by Weaker Powers* (Cambridge: Cambridge University Press 1994), chap. 9.

tial effort would lead to greater determination on the part of the target state. It might build smaller, tightly protected, underground facilities that could withstand air attacks. In other words, limited attacks or threats of attack would not be sufficient to alter the behaviour of a state determined to acquire nuclear weapons. Such a state might have to be decisively defeated and conquered before its nuclear policy could be successfully transformed. (To some degree, both Japan and Germany may have accepted nuclear abstinence as a result of being decisively defeated in the Second World War.)

One need look no further than Iraqi behaviour after the Israeli attack on the Osiraq reactor. The raid did not reduce Iraq's desire for nuclear weapons, although it may have prolonged the time it would take to acquire a weapons capability.³³ It is difficult to prove whether or not the Gulf War altered Iraqi incentives for nuclear acquisition permanently, although it did destroy many Iraqi facilities. The extent of Iraq's attempts to conceal its nuclear weapons programme from the United Nations inspectors for over four years came to light only when Hussein Kamal Hassan, the head of the programme and a son-in-law of President Saddam Hussein, defected to Jordan in 1995 and threatened to reveal the details.³⁴

During the years of economic sanctions, Iraq engaged in a cat and mouse game with the United Nations inspection team. It tried to hide 40 kilograms of enriched uranium by storing it away from the nuclear reactor facilities. In 1992, the detection of unsafeguarded highly enriched uranium, laboratory scale production of plutonium, and a bid to build a camouflaged reactor capable of producing weapons-grade plutonium led the

33 According to Iraqi sources, after Osiraq, Iraq began an internal review and eventually opted to stay in the NPT even as they were launching a major nuclear weapons programme. Instead of a highly visible nuclear reactor, Iraq pursued a large-scale nuclear programme at different unmarked sites. David A. Kay, 'Denial and deception practices of WMD proliferators: Iraq and beyond,' *Washington Quarterly* 18(winter 1995), 85-105.

34 'Iraq gives U.N. fuller details on its germ warfare program,' *New York Times*, 23 August 1995, A1, A7.

inspection team to fear that significant parts of Iraq's weapons programme were still hidden. They also found a large calutron programme 'based on electromagnetic enrichment technology developed by the US during the Manhattan Project to produce the highly enriched uranium for the Hiroshima bomb.'³⁵

Revelations in August 1995 showed that Iraq had undertaken a crash programme to make nuclear weapons immediately after its attack on Kuwait in August 1990 and that it was only three months away from producing a nuclear weapons system. It also had a centrifuge enrichment facility housed in a Baghdad suburb.³⁶ Although the inspection team claimed in August 1994 that Iraq no longer posed a nuclear threat to its neighbours, it is possible that, once international sanctions are lifted, Iraq may revert to covert acquisition of materials from the world nuclear market, especially if the current regime remains in power.

In the case of Iraq, the implementation of the threatened punishment was possible partly because of a configuration of factors unlikely to be repeated with another potential nuclear weapons state. Iraq launched a military offensive against Kuwait, engaged in aggressive behaviour towards its neighbours by deploying troops in an offensive mode, made threats to use nuclear capabilities, and had a history of using chemical weapons on the battlefield. It was still at the threshold stage, a phase before it achieved retaliatory nuclear strike capability. Its occupation of oil-rich Kuwait paved the way for a rare international and domestic consensus on the need for punishment. Even an outright offensive action involving a potential nuclear proliferator need not result in such an international coalition – Kuwait's strategic significance as an oil producer is not likely to be replicated in most other scenarios.

35 Paul L. Leventhal, 'Plugging the leaks in nuclear export controls: why bother?' *Orbis* 36(spring 1992), 167-80.

36 'Saddam came close to testing N-bomb,' *Observer* (London), 20 August 1995. 1; 'Crash nuclear program by Iraq is disclosed,' *New York Times*, 26 August 1995, 3.

The destruction of Iraq's capabilities may have taught important lessons to other countries with nuclear ambitions. Saddam might have achieved his regional ambitions if he had waited until he had a credible nuclear capability. According to one United States nuclear expert, 'if he had waited he'd have had everything, including the delivery system.'³⁷

If Iraq had possessed sufficient nuclear capability and delivery systems to hit the cities of Israel and Saudi Arabia as well as the United States forces stationed in the Persian Gulf area, the United States probably would not have launched a counter-attack as quickly as it did. Although superior air power and reconnaissance capability would have allowed the United States to detect and destroy many of Iraq's nuclear delivery systems, one or more of them could have remained hidden. Thus a limited retaliatory threat would be credible while the costs of a coalition attack would have been significantly higher because of the level of uncertainty. However crude the bomb, Iraq would have retained a destructive capability sufficient to create panic in the population centres of its chief enemies in the Middle East. Former United States Defense Secretary Les Aspin suggested that Congress would not have approved war against Saddam nor would the United States have been able to put together a coalition if Iraq had possessed nuclear weapons in 1990.³⁸

From this perspective, the effects of the attack on Iraq's nuclear facilities seem to be of short-term value for arresting the spread of nuclear weapons. Iraq may not be able to pursue its nuclear course for some time, but other candidates – Iran for instance – no doubt learned important lessons from the Gulf War and its aftermath and perhaps have already decided to build nuclear weapons clandestinely. Acquisition of even a crude nuclear capability would probably prevent potential

³⁷ 'Saddam's nuclear secrets,' *Newsweek*, 7 October 1991, 34.

³⁸ Aspin to the Paul Nitze School of Advanced International Studies, *Federal News Service*, 18 February 1992, cited in Igor Levin, 'Where have all the weapons gone?' *New York University Journal of International Law and Politics* 24(winter 1992) 961.

attacks by an adversary in a situation similar to that which confronted Iraq in 1991. The possible radioactive fall-out could be disastrous for crowded cities where most of the plants in the threshold states are situated. One estimate suggests that a moderate release from an 880 Mwe reactor could contaminate five hundred square miles while a major release could contaminate 3,000 to 5,000 square miles and the effects could last for decades.³⁹ The assumption that the target state would be sensitive to the possibility of nuclear contamination is problem-ridden. A regime with limited concern for public opinion might not view the threat of radiation as sufficient grounds for giving up its nuclear ambitions.

Several historical instances point toward the propensity of states to endure major casualties and the destruction of their economic and military capabilities in the face of a perceived attack on a core interest. Despite the possibility of preventive attacks, both the USSR and China developed nuclear weapons as a way of deterring and catching up with the increasingly powerful American nuclear forces. Similarly, threats of attacks by Egypt and India did not deter Israel and Pakistan, respectively, from developing nuclear weapons of their own.

Because it had not succeeded in assembling a workable bomb at the time of the preventive strikes against it, Iraq was a relatively easy target. But it is highly unlikely that coercive tactics would succeed against a country that already possessed one or more hidden nuclear weapons. Coercive tactics against such a country would lack credibility.⁴⁰ Threats of attack would not be easy to put into practice if the target state already possessed nuclear weapons because its response to attack would be highly unpredictable and the danger of escalation would be great. For

39 Cited in Bennett Ramberg, *Nuclear Energy in war: The Implications of Israel's Reactor Strike*, ACIS Working Paper, no 34, University of California, Los Angeles, Center for International and Strategic Affairs, August 1982, 3. See also Ramberg, *Destruction of Nuclear Energy Facilities in War* (Lexington MA: Lexington Books 1980).

40 George Quester, 'Reducing the incentives to proliferation,' *Annals of the American Academy of Political and Social Sciences*, no 430 (March 1977), 70-81.

example, a preventive strike on North Korean nuclear facilities could result in a conventional attack by the North against South Korea. This would carry with it a high probability of United States involvement and possible escalation into nuclear war.

Coercive tactics are also unlikely to be effective against more powerful regional states, such as Israel or India, whose defensive capabilities might be strong enough to thwart limited attacks on their facilities. They might escalate the conflict by counter-attacking countries that supported the action. More importantly, coercive strategies against large countries would serve merely to push them further toward open nuclear acquisition because they would see a strong nuclear weapons capability as the only deterrent. China is a case in point. United States nuclear threats and coercive behaviour in the 1950s, especially during the Korean War, provided a major incentive for China to build a nuclear bomb. The use of nuclear threats by the administration of Dwight D. Eisenhower to end the Korean War in 1953, the threats of massive retaliation by Secretary of State John Foster Dulles in Indochina in 1954, and the introduction of Matador tactical nuclear missiles into Taiwan in 1957 all had a powerful impact on the Chinese decision to acquire nuclear weapons.⁴¹

In the aftermath of the Chinese nuclear test, a *People's Daily* editorial declared: 'It was the nuclear blackmail and nuclear threat of United States imperialism that compelled the Chinese people to rely on themselves and work hard to turn their country into a mighty power ... They have finally gained the means of resisting U.S. nuclear threat.'⁴² In the case of India, some analysts argue that United States coercive efforts during the Bangladesh War in 1971, especially sending the Seventh Fleet to the Bay of Bengal, contributed to Prime Minister Indira Gan-

41 Jonathan D. Pollack, 'China as a nuclear power,' in William Overholt, ed, *Asia's Nuclear Future* (Boulder CO: Westview 1977), 38; John Wilson Lewis and Xue Litai, *China Builds the Bomb* (Stanford: Stanford University Press 1988), esp. chap. 2.

42 Cited in Pollack, 'China as a nuclear power,' 38.

dhi's decision to go ahead with a nuclear test in the Rajasthan desert in 1974.⁴³

The United Nations

Investing the United Nations Security Council with sanctioning power against violators of the non-proliferation regime seems to have many advantages over unilateral action. It could give international legitimacy to a sanctions policy and make it harder for neighbouring states to provide economic or military support to the state under sanctions. Still, there are a number of problems with this approach. Although the collective security provisions of the Charter could be broadened to incorporate contingencies involving new nuclear states, the United Nations has yet to develop the requisite military capacity or political will to impose a non-discriminatory nuclear ban. Any country that acquires nuclear weapons could be a threat to the security of its neighbours, as well as to world peace. Thus, it should be prevented from possessing such weapons. Because the threat or use of force falls within the mandate of the United Nations, especially under its collective security responsibilities, it could be argued that non-proliferation is a United Nations responsibility. However, with a number of peacekeeping operations in existence, especially since the end of the Cold War, the United Nations is stretched to its limits. Developing effective forces for nuclear non-proliferation purposes would put further heavy demands on that world body.

43 According to one analyst, if India had possessed nuclear weapons in 1971, the United States would not have sent the *USS Enterprise* to the Bay of Bengal 'in what appeared from New Delhi to constitute atomic gunboat diplomacy.' K. Subrahmanyam, 'India: keeping the option open,' in Robert M. Lawrence and Joel Larus, ed, *Nuclear Proliferation Phase II* (Lawrence: University Press of Kansas 1974), 122. The desire to preclude similar actions in the future by acquiring an independent nuclear capability has been pronounced in the Indian nuclear weapons debate. For these strategic and political considerations, see T.V. Paul, *Reaching for the Bomb: The Indo-Pak Nuclear Scenario* (New Delhi: Dialogue Publications 1984), 28-33; Onkar Marwah, 'The non-proliferation policies of non-nuclear weapon states,' in David B. Dewitt, ed, *Nuclear Non-proliferation and Global Security* (London: Croom Helm 1987), 105-18.

Second, any attempt by the United Nations to focus on a few small and vulnerable countries, while ignoring a number of others, including the present five nuclear powers and the opaque states, would be tantamount to a new kind of 'atomic colonialism.' Any discriminatory order contains the seeds of its own destruction. Norms sustained over a long period often have to be non-discriminatory in application and beneficial to a large number of participants in some form or another.

Third, since the United Nations does not have the military force to implement a selective ban on nuclear acquisition, it might have to seek the help of one or more of the present nuclear powers, most likely the United States. A United Nations force drawn largely from the United States would result in further unfairness because Washington would have no incentive to employ coercive diplomacy against its allies or states with which it wanted to maintain friendly relations.

Fourth, the NPT contains a provision which allows states to withdraw from it if their supreme national interests dictate that they do so. Thus, in a strictly legal sense, any state can threaten to withdraw under this provision. North Korea is a case in point.⁴⁴

CONCLUSIONS

By the mid-1990s, nuclear proliferation was confined to a small group of middle ranking states engaged in protracted conflicts or on-going rivalries with their neighbours. If they fear that their conventional capability does not provide the necessary deterrent, nuclear weapons could be an option. If they also fear that they could become targets of future interventions from outside powers, nuclear weapons could become attractive. Regimes that value nuclear arms for their own survival will not be easily deterred by economic sanctions.

44 One reason for North Korea's decision was the renewal of the 'Team Spirit' exercise between the United States and South Korea, which Pyongyang claimed was a 'nuclear war rehearsal threatening the DPRK.' Letter from North Korea's minister of foreign affairs to the president of the United Nations Security Council, reproduced in *Arms Control Today*, April 1993, 22.

Nonetheless, the threat of sanctions could raise the threshold of conditions necessary for a state to embrace a nuclear weapons programme. If security challenges are not intense, the benefits of nuclear acquisition would be minimal compared to the economic and political costs and the potential damage to reputations. Sustained sanctions could also undermine the legitimacy of a state's nuclear weapons programme. International efforts since the 1970s have made it difficult for countries to declare their nuclear weapons programmes openly.

In fact, non-proliferation has been slowly emerging as an area of international consensus, largely because of a tacit agreement among the major powers that violators of the NPT are a challenge to their dominance of the international system. All great powers, including China and France, have joined hands to maintain their systemic monopoly which satisfies one condition of success for the regime, at least in the near term. Nonetheless, the overwhelming regional interests of one or more major powers could prevent a sanctions-based regime from emerging. China's refusal to join in sanctions against North Korea or to stop supplying nuclear materials and missiles to Pakistan, despite the threat of United States sanctions, is a prominent example. The difficulty in achieving consensus on punishing violations and obtaining compliance with NPT norms is evident in the failure of various NPT review conferences to deal with this issue.

Despite their political appeal, coercive policies have serious limitations as a credible universal option to nuclear non-proliferation. They are highly context-dependent instruments, if and when they succeed. In the nuclear realm, coercion may be applied only to a state that has not yet assembled nuclear weapons. Even if such strategies, especially preventive attacks, work in the short run, in the long term they may increase the target state's determination to acquire nuclear weapons. State choices are heavily dependent on perceived security threats. If these considerations outweigh any potential benefits of compliance, states would pursue the nuclear route even after a preventive

attack takes place. Those who renounce the nuclear option because of such factors as 'nuclear allergy' would do so without coercive threats. Limited coercive tactics may backfire and push a country further along the road to nuclear acquisition. Moreover, until a non-discriminatory and universal regime can be devised, sanctions will remain political and economic tools in the hands of powerful states and would thus be imposed only selectively upon those states that are not allies. A non-discriminatory non-proliferation regime, based on universal membership and strong standards of compliance, could change this. Major and minor states would then have an equal interest in preventing the emergence of a nuclear renegade state, and both economic and military sanctions would become more effective.