

2 *The Puzzle of the Nuclear Nonproliferation Regime*

The nuclear nonproliferation regime appears successful, with broad membership and few violations, but that success is surprising. The regime asks states to give up something potentially of great value – a nuclear weapons capability – in exchange for vague and frequently unfulfilled assurances of peaceful nuclear technology and global disarmament. The regime lacks the features scholars associate with “strong” institutions that are capable of enforcing the compliance of their members, and security imperatives faced by states seem to outweigh the reputational constraints that would tend to encourage members to abide by their commitments. Because nuclear weapons development is generally undertaken in secret, the information-sharing function of the regime is limited, with plenty of room for doubt about whether others are complying in good faith. Unlike institutions in other international domains, such as international trade or human rights, the nonproliferation regime tends not to mobilize domestic constituencies that would hold governments accountable for compliance, and the regime has few of the connections with domestic law that constrain leader behavior in other policy areas. It is perhaps unsurprising, then, that scholars and analysts have long been skeptical of the regime’s prospects. With few exceptions, nonproliferation experts have lamented a regime perpetually on the verge of collapse.¹

Explaining this contradiction – why the regime seems to have succeeded despite its apparent weaknesses – is the task of this book. In this chapter, I focus on the puzzle of the nuclear nonproliferation regime itself. First, I provide a brief history of the nonproliferation regime,

¹ Horowitz (2015) correctly points out that few regime pessimists articulate what they mean by the collapse of the regime. While there is no doubt some variation in how analysts imagine these outcomes, most seem to be envisioning a scenario in which there is rampant noncompliance, and in which the elements of the regime are thus institutions in name only; that is, that the regime no longer has any constraining effect on its members. On zombie institutions, see Gray 2018.

focusing on perceptions of its effectiveness and the sense of its future prospects. Second, I discuss why regime pessimism seems well founded, given the limitations in the regime and the difficulty institutions face in constraining state behavior in matters of international security. Finally, I describe how the regime has exceeded in practice the expectations set by theory.

The Nuclear Nonproliferation Regime: A Brief History

The NPT opened for signature with some fanfare and even optimism on July 1, 1968. In the more than 50 years since, the nonproliferation regime has seen highs and lows. A parade of challenges – new weapons states outside of the regime, the failure of key states to join, the clandestine pursuit of nuclear weapons by member states, North Korea’s withdrawal from the NPT, a perceived lack of progress on disarmament by the nuclear weapons states – have been interspersed with occasional nonproliferation victories, such as the decision by South Africa to give up its nuclear weapons and join the NPT, or the treaty’s indefinite extension without preconditions.

Table 2.1 lists some of the key challenges and triumphs from the history of the nonproliferation regime, with a focus on those that seem most likely to have affected perceptions of regime success or failure. Some of these events were seen at the time as a significant threat to the regime, but, as Lewis Dunn has argued, shocks to the system can be catalysts for productive changes to the regime.² India’s nuclear test in 1974, for example, led to increased efforts to convince abstaining countries – particularly those with some underlying nuclear capability – to join the NPT, and also spurred nuclear supplier states to collectively implement export controls on nuclear technology as part of the NSG. The discovery of a well-developed Iraqi nuclear weapons program after the 1991 Gulf War revealed gaps in the IAEA’s monitoring and verification efforts that led to improvements in nuclear safeguards, including the Additional Protocol.³

² Dunn 1982; Dunn 2012.

³ The Additional Protocol requires additional state reporting of its nuclear activities and allows the IAEA broader access to a state’s nuclear efforts. On the origins of the Additional Protocol, see Findlay 2007.

Table 2.1. Selected events in the history of the nonproliferation regime

Year	Event	Year	Event
1968	NPT opens for signature	2003	Proliferation Security Initiative created
1970	NPT enters into force	2003	US invasion of Iraq amid suspicions of continuing nuclear weapons work
1974	India conducts nuclear test	2003	Libya agrees to eliminate WMD programs
1974	Nuclear Suppliers Group created	2003	North Korea withdraws from NPT
1981	Israel bombs Iraq's Osirak reactor	2004	AQ Khan makes public confession of illegal nuclear trade
1991	South Africa joins NPT after giving up nuclear weapons	2006	North Korea conducts nuclear test
1991	Post-Gulf War revelation of significant Iraqi nuclear weapons effort	2007	Israel bombs Syrian nuclear reactor
1992	France and China join NPT	2008	US and India sign nuclear cooperation agreement
1993–1994	Belarus, Kazakhstan, and Ukraine join NPT after giving up Soviet weapons	2015	Joint Comprehensive Plan of Action signed with Iran
1995	Indefinite extension of the NPT without preconditions	2018	US withdraws from Joint Comprehensive Plan of Action
1998	India and Pakistan conduct nuclear tests	2021	Nuclear Ban Treaty enters into force

Through it all, however, one near constant has been widespread concern among experts about the future efficacy of the regime.⁴ Worry about the credibility of the regime has certainly been warranted, given the array of challenges it has faced, and the alarms sounded by

⁴ For a detailed recounting of regime pessimism over the years, see Horowitz 2015.

scholars and analysts have undoubtedly helped in mobilizing state parties to strengthen the regime at critical points in its history. Still, it may be time to consider the possibility that the regime is fundamentally more resilient than we tend to give it credit for.⁵

NPT Review Conferences

One design feature of the regime plays an important role in generating or moderating international concern: the NPT Review Conference (RevCon).⁶ Article VIII of the NPT calls for a meeting of the state parties every five years with “a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realized.”⁷ Periodically convening member states to examine the functioning of the treaty may accentuate the sense of regime fragility in two complementary ways. First, review conferences ensure that the NPT draws international diplomatic attention every five years, rather than simply fading into the background. Because there is a preparatory conference for each of the three years leading up to a review conference, there is some official convening of NPT parties in four out of five years. This increases the attention paid to the treaty and the wider regime, and particularly to efforts to address potential problems with the functioning of the regime.

Second, the review conferences provide a forum for dissatisfied members to air their views. Because the NPT has no adjudication or dispute settlement mechanism, the review conference has become the preferred way for states to register their displeasure with the regime status quo. Most commonly, nonnuclear weapons states have used the review conferences to point out a perceived lack of progress by the nuclear weapons states in working toward broader nuclear disarmament.

⁵ See Horovitz 2015; Barnum and Lo 2020 for examples of recent scholarship pushing back on the narrative of a failing nonproliferation regime.

⁶ Several other major international accords share this design feature. On review conferences as an enforcement mechanism in international law, see Carnahan 1987.

⁷ United Nations Office of Disarmament Affairs 1968b. Technically, the first review conference was the only one mandated by the treaty, set to occur five years after the NPT entered into force. Future review conferences were to be convened with the support of a majority of parties. A review conference has occurred every five years since 1975, with the exception of 2020, when the conference was postponed due to the COVID-19 pandemic.

At each review conference, the parties have worked to develop a consensus final document that captures the sense of the participants on the matters under discussion. Success at the review conference has frequently been measured by whether or not such a consensus document could be produced; that is, has there been sufficient agreement that all parties can sign on to a final statement.⁸ The presence of a final document is an imperfect measure of success in a variety of ways, not least because it rewards a lowest-common-denominator approach to the review conference and fails to capture progress made by some subset of state parties toward the collective goals of the regime.⁹

Nevertheless, whether or not a review conference is able to produce a consensus has had an outsized influence on perceptions of the success of each conference, and thus on the larger discussion around the credibility of the nonproliferation regime. As Linda Gallini, a former US diplomat who worked on multiple NPT Review Conferences, has explained: “[T]he results – or lack of results – at these meetings played a considerable role in shaping international perceptions of nuclear issues. In no small way RevCons help shape the context in which the world addresses these issues.”¹⁰ The outcome of the review conferences frequently set the agenda for the next meeting of the parties, and for the broader debate over nuclear issues in the intervening years.

The review conferences, for better or for worse, are thus an important part of the regime’s story, sometimes driving the discussion around nuclear nonproliferation and disarmament as much as contemporary events in nuclear policy. The brief history of the regime presented below, then, gives some attention to the outcomes of these meetings, and focuses on the sense of scholars and analysts as to the status of the regime and its prospects for future success or failure.

1970–1980: India’s Test and Control of Nuclear Supply

The signing and entry into force of the NPT were greeted by many observers with optimism. In a nod to the diplomatic achievement, the *Bulletin of the Atomic Scientists* moved the hands of its doomsday

⁸ Einhorn 2016; Stoiber 2003.

⁹ Einhorn 2016; Gallini 2007. Einhorn (2016) calls for abandoning attempts to develop a consensus document in favor of assembling a more complete record of member views.

¹⁰ Gallini 2007.

clock three minutes further from global destruction after the United States ratified the NPT, while acknowledging that “the importance of the treaty is mostly symbolic.”¹¹ Of course, the treaty had a variety of well understood limitations pointed out by analysts at the time, including the refusal by France, China, and many potential nuclear powers to join, the risk that states would make liberal use of the withdrawal clause of the treaty, and the ability of states to make significant advances in nuclear development even while remaining members in good standing.¹² US government views were similarly restrained. Writing for the State Department’s Policy Planning staff in a now-declassified memo, Richard Rosecrance concluded what most were already thinking: “[T]he diffusion of nuclear capabilities is not likely to be halted once and for all by the NPT.”¹³

India’s 1974 test of a nuclear device brought a rapid end to “the optimism of the moment,”¹⁴ making clear to many states the continued risk of nuclear proliferation. A CIA estimate undertaken several months after India’s test concluded that “confidence in the NPT itself as an instrument to prevent nuclear proliferation is diminishing,” pointing to a “general erosion of support” for the treaty.¹⁵ It was not just the nuclear test itself, but the lack of a strong international response that seemed in danger of permanently damaging the credibility of the regime.¹⁶

As the first NPT RevCon convened in May 1975, momentum toward nonproliferation seemed to have stalled. India’s nuclear test and the continued hesitation of many states to join the NPT contributed to a sense of crisis in the run-up to the meeting.¹⁷ In a memorandum written just before the conference, for example, Ireland’s Department of Foreign Affairs judged the NPT thus far had “done little to enhance the status of the treaty or to allay the suspicions of its

¹¹ *Bulletin of the Atomic Scientists* 1969. The doomsday clock is meant to represent humanity’s proximity to destruction via nuclear apocalypse or, more recently, another calamity. See *Bulletin of the Atomic Scientists* 2002.

¹² Coffey 1971; Quester 1967.

¹³ After NPT, What?, May 28, 1968, NSA: EBB 253, doc. 27.

¹⁴ Feld 1968.

¹⁵ Peaceful Explosions and Regional Zones Pose Nuclear Proliferation Problems, August 20, 1974, CIA FOIA Reading Room.

¹⁶ Peaceful Explosions and Regional Zones Pose Nuclear Proliferation Problems, August 20, 1974, CIA FOIA Reading Room.

¹⁷ Bull 1975; Epstein 1975; Halsted 1975.

opponents.” The report concluded that “[t]he Review Conference is bound to be crucial not simply in terms of the continued credibility of the NPT but indeed in terms of its continued existence.”¹⁸ The 1975 RevCon offered the international community its first chance to evaluate the progress of the NPT and correct its trajectory five years after it came into force. By most accounts, the review conference did not go well.¹⁹ Many parties to the treaty declined to attend, and only one signatory – Canada – was represented by a foreign minister.²⁰ Lacking consensus on proposals to strengthen the treaty, the parties ultimately agreed only on a watered-down final declaration.²¹

Participants and outside analysts alike saw this first review conference as a signal that the nonproliferation regime may not be viable over the long run. Alva Myrdal, the Swedish diplomat and future Nobel Peace Prize recipient, wrote in 1976 that “the whole plan to have the non-nuclear-powers accept responsibility for preventing the destruction of mankind by renouncing nuclear arms is in disarray... The impression remaining after the 1975 Review Conference is that a great many nations are giving up hope of stopping further proliferation.”²² An editorial in the pages of the *Bulletin of the Atomic Scientists* lamented that “the disarray of the Non-Proliferation Treaty Review Conference... put an end to whatever slim hopes there might have been that governments would soon find a means of stopping the spread of nuclear weaponry.”²³ The CIA, for its part, assessed that the NPT was ineffective and the system of international safeguards associated with the treaty was weakening, concluding that “there is little that could be done to make either the NPT or [safeguards] more potent instruments of restraint on nuclear proliferation.”²⁴ Other commentators voiced the widely held suspicion that the NPT would soon give way to unfettered proliferation.²⁵

¹⁸ O’Driscoll and Walsh 2014.

¹⁹ For the rare optimistic take, see Pabsch 1975.

²⁰ Halsted 1975; Myrdal 1976, 174.

²¹ Unger 1976.

²² Myrdal 1976.

²³ Day Jr. 1975.

²⁴ Managing Nuclear Proliferation: The Politics of Limited Choice, OPR 408, December 1975, CIA FOIA Reading Room: 14–19.

²⁵ Bloomfield 1975; Epstein 1975; Feld 1975; Halsted 1975; Marwah 1975; Unger 1976.

One important outcome of the Indian nuclear test was the tightening of global nuclear supply. In 1975, seven nuclear supplier states formed what would later be called the NSG, reaching agreement on a list of export controls in 1977.²⁶ Several countries also began working on a bilateral basis to limit nuclear supply that posed some significant proliferation risk. Canadian policymakers reacted with particular anger to the Indian test; the plutonium used in the nuclear explosion had been created in a reactor provided by Canada, albeit with no international safeguards other than India's assurance of its peaceful use. Canada responded with its own significant new restrictions on nuclear supply, suspending its existing supply agreements.²⁷ Some of these nuclear supply arrangements were not resumed until a decade later.²⁸ The Carter administration also took a tougher line on nuclear exports from the United States. New US legal mechanisms, most notably the Nuclear Nonproliferation Act of 1978, placed additional restrictions on recipients of US nuclear material and technology.²⁹ The United States at the same time began actively pressuring other suppliers to limit their own nuclear exports.³⁰

These new restrictions on nuclear supply had conflicting effects on the strength of the nonproliferation regime. They contributed to the credibility of the regime in one sense by enhancing its nonproliferation purpose, making it more difficult for nonnuclear weapons states to acquire nuclear technology for weapons use. But restrictions on supply also seemed to threaten one of the central pillars underlying the NPT – the guarantee of peaceful uses of nuclear technology. Most states outside of the NSG thus did not welcome these changes.³¹

1980–1990: Israel, Iraq, and New Momentum

When the parties to the treaty reconvened in 1980 for the second NPT RevCon, expectations were low: A CIA assessment noted that “almost

²⁶ On the origins and early work of the NSG, see Anstey 2018; Burr 2014; Strulak 1993.

²⁷ Hunt 1977.

²⁸ *Globe and Mail* 1987.

²⁹ On the origins of the Nuclear Nonproliferation Act of 1978, see Squassoni 2008.

³⁰ Sarkar 2019; Tzeng 2013.

³¹ Nye 1981.

all the major West European governments simply want to get through the NPT Review Conference without major damage to the global nonproliferation regime,”³² and analysts worried that the meeting would lead to some states withdrawing from the treaty.³³ Few were surprised, then, when the 1980 conference ended – in the words of a State Department intelligence report – “in discord and disharmony.”³⁴ Gallini recalled that the 1980 RevCon left “a feeling that the nuclear non-proliferation regime, including notably the NPT, was faltering in some ways.”³⁵ With “the fragility of the [treaty]. . . now crystal clear to all,”³⁶ it seemed that perhaps the nonproliferation regime was no longer relevant to the nuclear challenges ahead.³⁷ A 1982 assessment by the US intelligence community concluded that “the global nonproliferation regime clearly is in trouble.”³⁸

The perception of a weakening regime was not helped by the Israeli bombing of Iraq’s Osirak nuclear power reactor in 1981.³⁹ Iraq was a member of the NPT, and Osirak was under IAEA safeguards. Some saw the Israeli strike as undermining the purpose of safeguards, which were meant to give other nations confidence that a state was not using a safeguarded facility to seek weapons, obviating the need for military action. Gallini explained that “[a]t the time the raid on Osirak was seen as an attack both on Iraq and on the safeguards system . . .”⁴⁰ The ensuing outcry led to a controversial vote at the 1982 IAEA General Conference not to recognize the Israeli delegation; the United States

³² West European Perceptions of US Nonproliferation Policy, July 3, 1980, CIA FOIA Reading Room: 5.

³³ Barkenbus 1980.

³⁴ NPT Review Conference Concludes in Disarray – but Treaty Remains Intact, September 10, 1980, CIA FOIA Reading Room. Reassuringly, perhaps, the intelligence report concludes that the “treaty remains intact.”

³⁵ Gallini 2007, 37.

³⁶ Barnaby 1980.

³⁷ Kapur 1980; Simpson 1984.

³⁸ Nuclear Proliferation Trends Through 1987, NIE 4-82, July 27, 1982, Wilson Center History and Public Policy Program Digital Archive: record ID 116894. A later US intelligence assessment blamed this fairly negative estimate on an overreaction to the failure of the 1980 RevCon to reach a consensus (The Dynamics of Nuclear Proliferation: Balance of Incentives and Constraints, NIC M 85-10001, September, 1985, CIA FOIA Reading Room).

³⁹ For a full discussion of the Israeli bombing and its impact on Iraq’s nuclear weapons ambitions, see Braut-Hegghammer 2011; Braut-Hegghammer 2016.

⁴⁰ Gallini 2007, 41.

and its allies walked out in response.⁴¹ While the United States quickly reengaged at the IAEA, US intelligence assessments worried that the incident would drive some of the agenda at the third NPT RevCon.⁴²

Still, by 1985, there was some reason for optimism. A CIA assessment in advance of the review conference pointed out the continued increase in overall NPT membership, less anger among nonnuclear weapons states over nuclear supply issues, and the simple fact that there had been no known new entrants to the nuclear club since the Indian nuclear test a decade earlier.⁴³ The US intelligence community felt comfortable judging that “[o]ver the next five years or so, there is a good chance that today’s relatively favorable nonproliferation regime will not be seriously endangered.” Over the next ten years there was “at least a reasonable chance the nonproliferation regime will survive generally intact.”⁴⁴ The 1985 Review Conference was, indeed, widely seen as a success.⁴⁵ Lewis Dunn, who led the US delegation to the RevCon, wrote triumphantly afterward:

On the broadest plane, the NPT emerged with an aura of success, strengthened, not weakened, by an honest and balanced review. The recognition in all quarters that the NPT is an arms control success underscored the vitality of the treaty ... As a result, the international norm of nonproliferation has been buttressed; it has become politically harder for countries to set out on the path to acquire nuclear explosives.⁴⁶

1990–2000: The Road to Extension

At the fourth NPT RevCon in 1990, member states began to look ahead to the coming debate over extension of the treaty. The original term of the NPT had been set at twenty-five years, with the parties to decide whether to extend the treaty indefinitely or for a fixed term. Despite some progress at the meeting on a variety of issues, attempts to

⁴¹ Miller 1982.

⁴² International: Non-Proliferation Treaty Conference, CPAS NID 85-197JX, August 23, 1985, CIA FOIA Reading Room.

⁴³ The 1985 Non-Proliferation Treaty Review Conference: Looking Ahead, GI 85-10220, August, 1985, CIA FOIA Reading Room.

⁴⁴ The Dynamics of Nuclear Proliferation: Balance of Incentives and Constraints, NIC M 85-10001, September, 1985, CIA FOIA Reading Room: 5–6.

⁴⁵ Dunn 1986; Goldblat 1986.

⁴⁶ Dunn 1985.

achieve a consensus document at the 1990 RevCon were largely derailed by the insistence of some states, led by the Mexican delegation, that progress toward the CTBT – outlawing all nuclear tests – should be a precondition for the NPT’s extension.⁴⁷ This outcome presaged the coming diplomatic battle over NPT extension.

The early 1990s brought a flood of new members to the NPT. South Africa, which had been hinting at its openness to NPT membership for some time, began dismantling its nuclear weapons and in 1991 joined the treaty as a nonnuclear weapons state.⁴⁸ As a clear case of nuclear reversal, the South African decision sent a powerful signal of the regime’s strength, and was helpful in convincing other African holdouts to join the NPT.⁴⁹ A similar signal was sent by three former Soviet republics – Belarus, Kazakhstan, and Ukraine – which found themselves hosting parts of the Soviet nuclear arsenal when they achieved independence. After some encouragement by the international community, all chose to give up those weapons and join the NPT between 1994 and 1996.⁵⁰ France and China, the two remaining holdouts among the five nuclear weapons states recognized by the treaty, finally joined in 1992. Argentina and Brazil, two important nonnuclear weapons states that had previously harbored nuclear weapons ambitions, in 1994 adopted full-scope IAEA safeguards covering all nuclear facilities in the country. Argentina joined the NPT in 1995, with Brazil following in 1998.

The new additions helped make the case for a strong nonproliferation regime in advance of the decision to extend the treaty.⁵¹ The United States, the United Kingdom, and Russia had decided early on

⁴⁷ Van Doren and Bunn 1990.

⁴⁸ On South Africa’s nuclear weapons program, see Purkitt and Burgess 2005; Von Wielligh and Von Wielligh-Steyn 2015. On South Africa’s decision to join the NPT, see Möser 2019; van Wyk and van Wyk 2015.

⁴⁹ South Africa: Ready to Accede to the NPT, February 8, 1990, CIA FOIA Reading Room; Möser 2019.

⁵⁰ On the decision of the former Soviet states to join the NPT, see Budjeryn 2015; Potter 1995.

⁵¹ NPT Depositaries Meeting - September 13, 1991, State 315778, September 24, 1991, U.S. Department of State FOIA Reading Room; Talking Points for NPT Depositaries Meeting, State 218490, July 9, 1992, U.S. Department of State FOIA Reading Room.

to push for indefinite extension of the treaty.⁵² Most experts saw this outcome as something of a longshot.⁵³ The United States, with the assistance of allies, launched a major initiative to win the votes of NPT member states.⁵⁴ US official Gallini recalled “the most extraordinary diplomatic campaign I ever witnessed during my career”:

It was incredibly intense. We did literally thousands of demarches. We identified every decision maker on the planet who had a role in deciding how long to extend the NPT. We mobilized every U.S. ambassador serving in an NPT party. We mobilized the Secretaries of State, Energy and Defense. We called in the Vice President who headed our delegation to the 1995 Conference. President Clinton made it clear that he would involve himself whenever he was needed. It was the most coordinated, comprehensive and responsive diplomatic effort imaginable.⁵⁵

The US State Department’s Director of the Office of Pacific Island Affairs was called on to help get out the vote:

The NPT [extension] ... was our single biggest moment. Our backwater directorate had more votes than any other office at State. Our assignment was to rouse the islander leaders from those crescent-shaped beaches where

⁵² NPT Depositaries Meeting: July 13–14, 1992, State 250053, August 4, 1992, U.S. Department of State FOIA Reading Room. Article X of the NPT provided for a 25-year original term, followed by a decision about further extension of the treaty: “Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods” (United Nations Office of Disarmament Affairs 1968b). This language left state parties with multiple options in 1995. They could extend the treaty indefinitely, decide on a single fixed extension after which the treaty would end, or extend the treaty for successive fixed terms that would continue unless ended by a majority of parties at the end of one of the terms (Bunn 1994). While some states proposed the repetition of the previous treaty terms – a 25-year extension followed by a vote on whether to further extend – US officials judged this approach would require an amendment to the treaty (The Politics of NPT Extension: Countdown to the Conference, November 16, 1994, NSA: EBB 701, doc. 10). For a detailed account of the negotiating history of the extension clause of the NPT, see Bunn and Van Doren 1991.

⁵³ Pilat 1989; Shaker 1992; Harvard-Livermore Conference on NPT, February 14, 1993, U.S. Department of State FOIA Reading Room.

⁵⁴ NPT 1995 – Obtaining Views of NPT Parties on Indefinite Extension, State 277753, September 11, 1993, U.S. Department of State FOIA Reading Room; Preparing for the 1995 NPT Conference, State 093983, March 30, 1993, U.S. Department of State FOIA Reading Room.

⁵⁵ Gallini 2007, 62–63.

waves lap gentle as sighs and fly them to NYC to vote. We developed a starter kit that included round-trip air to New York City, instructions on how to vote and even prepaid hotel assignments. President Clinton penned a note of thank you when it was all over.⁵⁶

Despite some uncertainty about the outcome even in the final week of the conference, the treaty ultimately was extended indefinitely and without precondition.⁵⁷

The successes of the early-to-mid 1990s were tempered somewhat by nuclear weapons efforts in Iraq, the extent of which was discovered after the 1991 Gulf War, and in North Korea. Both cases cast doubt on the ability of the IAEA to detect covert nuclear weapons programs. The Iraqi effort was particularly worrisome for international inspectors, with some of the sensitive nuclear work taking place adjacent to inspected facilities.⁵⁸ Following the Iraq revelations, many analysts worried that the credibility of IAEA safeguards had been irreparably damaged.⁵⁹ James Keeley argued in 1993:

For the NPT, as its 1995 review conference and the decision on its extension approach, the ability of a party to the NPT to successfully develop a large weapons programme and apparently hide it from the treaty's 'nuclear watchdog' raises serious questions about the faith that other states – current or prospective treaty members – can put in the IAEA's assurances . . . The status and strength of the NPT could thus be seriously eroded at a crucial point in its history.⁶⁰

Concerns about the strength of the regime even prompted Russian officials to propose new enforcement mechanisms be adopted as part of the NPT.⁶¹ But the Iraq case was also seen as driving constructive

⁵⁶ Huddle, Jr. 2015.

⁵⁷ Gallini 2007. For a fascinating international perspective on the 1995 NPT Review and Extension Conference by many of those involved, see Onderco and Nuti 2020.

⁵⁸ Findlay 2007.

⁵⁹ The Politics of NPT Extension: Countdown to the Conference, November 16, 1994, NSA: EBB 701, doc. 10; Chauvistré 1992; Keeley 1993.

⁶⁰ Keeley 1993.

⁶¹ February 1992 Board of Governors Meeting Agenda Items: NPT Depositories Meeting, Vienna 00409, March 2, 1992, Department of State FOIA Reading Room; Talking Points for NPT Depositories Meeting, State 218490, July 9, 1992, U.S. Department of State FOIA Reading Room. US and UK diplomats successfully quashed this idea, concerned that opening a discussion of changes to the NPT would jeopardize efforts to win its extension (NPT Depositories

changes in the international monitoring and inspection regime;⁶² it became the impetus for new IAEA safeguards procedures and for the development of the Additional Protocol, which allowed the IAEA greater access to nuclear work in signatory countries.⁶³ The crisis over North Korea seemed, for a time, to have been defused by the 1994 Agreed Framework, to the extent that participants in the 1995 conference felt the North Korea issue played little role in the debate over NPT extension.⁶⁴

More troubling, perhaps, were the 1998 nuclear tests by India and Pakistan and the tepid international reaction that followed. Although there was widespread condemnation of the tests, harsher responses by the international community faded quickly. The United States, for example, initially placed economic sanctions on both countries but had waived nearly all of them by the end of 1998.⁶⁵ For some states, like Japan, the lack of a sustained international response to the tests raised significant questions about the strength of the regime.⁶⁶

2000–2020: North Korea, Iran, and the Nuclear Ban Treaty

Although the highs of the early 1990s and the NPT extension had faded, the 2000 NPT RevCon succeeded in producing a consensus final document that reaffirmed state commitments to the regime.⁶⁷ The sense of triumph for the regime was short-lived, however, as the early 2000s brought a number of new challenges. These included the US invasion of Iraq, justified in part on the basis of Baghdad's suspected nuclear pursuit; North Korea's withdrawal from the NPT in 2003; concern about a potential Iranian nuclear weapons program; US efforts to reach a civil nuclear cooperation agreement with India; and new revelations of black-market nuclear supply networks. The creation of new voluntary structures within the regime, such as the PSI, were also seen by some analysts as indicative of a shift away from, and

Meeting: July 13–14, 1992, State 250053, August 4, 1992, U.S. Department of State FOIA Reading Room).

⁶² Keeley 1993; NPT Depositaries Meeting - September 13, 1991, State 315778, September 24, 1991, U.S. Department of State FOIA Reading Room.

⁶³ Findlay 2007; Keeley 1998.

⁶⁴ Onderco and Nuti 2020.

⁶⁵ Morrow and Carriere 1999.

⁶⁶ Hughes 2007; Mochizuki 2007.

⁶⁷ Wulf 2000.

a potential weakening of, traditional multilateral efforts at nonproliferation.⁶⁸

The aftermath of the 2005 RevCon represented perhaps the low point of nonproliferation regime discourse. The parties to the conference took almost three weeks to agree on procedural issues, leaving little time to address the substance of the state of the treaty.⁶⁹ Reflecting on the outcome of the conference, “the biggest failure in the history of this treaty,”⁷⁰ Müller echoed many observers in concluding that “the NPT is in very bad shape.”⁷¹ North Korea’s 2006 nuclear test further emphasized the pressures facing the regime. The relative silence of the international community following Israel’s bombing of a nuclear reactor in Syria, a marked contrast to the international condemnation of the Osirak bombing two decades earlier, also may have reflected underlying concerns about the weakness of the regime.⁷²

President Obama’s 2009 speech in Prague, laying out a vision for a world without nuclear weapons,⁷³ coupled with the renewed arms control efforts of the New START treaty, set the stage for a more successful 2010 RevCon. While the consensus final document did not break new ground, the fact that a consensus was reached at all was seen as a positive outcome in light of the 2005 experience: “The minimalist result of the New York conference is better than the verbal war of mutual diplomatic destruction which some parties fought in 2005... Nevertheless, the result does not guarantee a sustainable future for the NPT.”⁷⁴ Sri Lankan diplomat Jayantha Dhanapala, who had presided over the 1995 extension conference, was similarly cautious, arguing that “[t]he NPT has survived another challenge, but without further action by the [nuclear weapons states], the nonproliferation regime may well fray.”⁷⁵

⁶⁸ Carranza 2006; Rathbun 2006. Other new measures, such as nuclear security efforts undertaken as part of United Nations Security Council Resolution 1540, met with broader support. On UNSCR 1540 generally, see Early, Nance, and Cottrell 2017; and the contributions to Bosch and van Ham 2007.

⁶⁹ Johnson 2005.

⁷⁰ Müller 2005a.

⁷¹ Müller 2005b. See, among many, Pfaff 2005; Potter 2005b; Simpson and Nielsen 2005; Wesley 2005.

⁷² Spector and Cohen 2008.

⁷³ Obama 2009.

⁷⁴ Müller 2010b.

⁷⁵ Dhanapala 2010, 12.

Progress toward a nuclear deal with Iran in the early 2010s posed both risk and opportunity for the regime. The agreement was seen by some as legitimating the presence of enrichment capabilities in Iran, setting a potentially difficult precedent for the United States as it struggled to limit the spread of enrichment and reprocessing (ENR) capabilities more broadly.⁷⁶ Still, the perception that Iran maintained an active nuclear weapons program had long cast a shadow on the efficacy of the regime; addressing Iran's status would therefore help to resolve lingering questions about the regime's future. The enhanced safeguards measures introduced by the JCPOA also offered some promise of strengthening the regime by serving as a template for future IAEA verification efforts.⁷⁷ The Trump administration's subsequent withdrawal from the JCPOA, however, both diminished the likelihood that these new safeguards would take hold more broadly and highlighted the regime's continuing inability to limit Iran's nuclear development.

A dispute over the process for establishing a Middle East NWFZ received most of the blame for derailing the 2015 RevCon. But the failure to achieve a consensus there also owed something to a shift in the way many states approached the issue of nuclear disarmament.⁷⁸ Spurred by civil society groups, advocates of disarmament had increasingly framed the issue in humanitarian terms, and a successful conference in Vienna in 2014 led to substantial international support for new efforts to eliminate nuclear weapons.⁷⁹ The Vienna conference, and the inability of state parties to effectively address disarmament issues at the 2015 RevCon, generated new momentum behind the Nuclear Ban Treaty.

The TPNW opened for signature in 2017 and, after drawing the requisite fifty member states, entered into force in January 2021. The Ban Treaty prohibits state parties from developing or possessing nuclear weapons or stationing nuclear weapons on their territory. The nuclear weapons states, along with most of their military allies, boycotted negotiation of the treaty at the UN General Assembly and have remained strongly opposed. In a small nod to growing support for the TPNW, the United States has instead proposed multilateral

⁷⁶ Kaplow and Gibbons 2015.

⁷⁷ Kaplow and Gibbons 2015; Kerr 2017.

⁷⁸ Potter 2016.

⁷⁹ Gibbons 2018.

working groups to address roadblocks to progress in nuclear disarmament.⁸⁰

Oponents of the treaty have argued that it undermines the NPT and the existing nuclear nonproliferation regime both as a matter of international law, by allowing legal interpretations that subordinate NPT requirements to new, potentially weaker requirements under the TPNW, and as a matter of international politics. Critics worry, in particular, that the TPNW may shift the focus of multilateral activity away from the monitoring and verification mechanisms required by the NPT.⁸¹ Ban Treaty proponents counter that the TPNW was written with the NPT in mind; the NPT is referenced in the TPNW's preamble, and its obligations are meant to be consistent with existing nonproliferation regime commitments.⁸² Beyond specific treaty language, the divisions between TPNW opponents and supporters threaten to complicate future NPT review conferences, and they pose some risk to the long-term credibility of the nonproliferation regime.⁸³

The Regime's Surprising Success

The pessimism of the early years of the NPT has continued, at least sporadically, to the present day. The looming threats to the future viability of the regime have been many and varied; Pilat enumerates eight major challenges, for example, while Potter's "short list" of challenges to the NPT includes ten external and nine internal factors.⁸⁴ Commonly cited harbingers of the regime's decline include the willingness of the United States to engage in nuclear cooperation with India;⁸⁵ the rise of black markets in nuclear technologies;⁸⁶ the development of nuclear weapons outside the treaty by Israel, India, and Pakistan;⁸⁷ the pursuit of weapons inside the treaty by North Korea, Iran, Libya, and

⁸⁰ Gibbons 2019b.

⁸¹ Hill 2021.

⁸² Hajnoczi 2020.

⁸³ Gibbons 2019a; Gibbons 2019c; Meyer and Sauer 2018.

⁸⁴ Pilat 2020; Potter 2010.

⁸⁵ Carranza 2006; Perkovich 2010; Potter 2005a; Wable 2007; Warburg 2012; Weiss 2007.

⁸⁶ Pilat 2020; Williams and Wolfsthal 2005.

⁸⁷ Asculai 2004; Fahmy 2006.

Iraq;⁸⁸ the withdrawal of North Korea from the treaty and its subsequent acquisition of nuclear weapons;⁸⁹ the perceived failure of the international community to punish these transgressions;⁹⁰ the lack of progress on nuclear disarmament;⁹¹ or, really, all of the above.⁹² Some go so far as to argue that the NPT is not just ineffective, but actually harmful to nonproliferation goals.⁹³ In a description that applies as well to the 1970s and 1980s as it does to the present day, Steven Miller writes:

Today the NPT regime is widely regarded as a system in distress. It is commonly described as troubled, jeopardized, derailed, unraveling – eroding under the pressure of unresolved compliance crises, inadequate enforcement, diplomatic friction and distrust, spreading nuclear technology, and member-state dissatisfaction. There are mounting concerns about the regime's effectiveness as a barrier to the proliferation of nuclear weapons.⁹⁴

But amidst all this well-founded concern about the imminent collapse of the NPT, something surprising happened: The regime seemed to work. Looking back on its record, policymakers, analysts, and scholars credit the nonproliferation regime with helping to limit the spread of nuclear weapons to only a handful of nations since the NPT came into force in 1970, defying the pessimistic predictions of the 1950s and 1960s. Several academic studies have produced evidence of the regime's effectiveness,⁹⁵ and the nonproliferation regime has other trappings of a successful institution. It has enjoyed high levels of compliance; at the regime's weakest point, only six states sought nuclear weapons while members of the NPT. The regime today boasts nearly universal membership. Only South Sudan and nuclear-armed Israel, India, and Pakistan have never joined the NPT. With the exception of North Korea, which withdrew from the treaty in 2003, members have been content to stay within the NPT even when faced with substantial security threats that plausibly meet the criteria for

⁸⁸ Allison 2010; Asculai 2004; Goldschmidt 2006; Grand 2010; Huntley 2006; Huntley 2007; Sauer 2006; Spies 2006.

⁸⁹ Asculai 2004; Grand 2010; Huntley 2006.

⁹⁰ Kittrie 2006.

⁹¹ Dhanapala and Duarte 2015; Kmentt 2013.

⁹² Perkovich 2006.

⁹³ Wesley 2005.

⁹⁴ Miller 2012, 2.

⁹⁵ Coe and Vaynman 2015; Fuhrmann and Lupu 2016; Walsh 2005.

withdrawal laid out in the treaty.⁹⁶ Most member states have willingly allowed for intrusive international inspections of their nuclear facilities. The few violators of the regime have largely faced serious international consequences for their noncompliance. And the regime has shown the ability to adapt to changing international conditions. International verification and monitoring efforts under the NPT, for example, have steadily adopted new strategies and technologies, and key states have mobilized to address perceived weaknesses in the regime. As a consequence, the scope of the regime has dramatically expanded over time, now encompassing dozens of agreements, conventions, protocols, and other international institutions that address various aspects of nuclear proliferation and nuclear supply.

With fifty years to reflect, the nuclear nonproliferation regime appears to have been remarkably effective and resilient. The regime's apparent success is acknowledged by many of the same analysts sounding the alarm at its impending failure. Steven Miller notes the "schizophrenic" nature of the regime:

On the one hand, it has attracted nearly universal membership, its critical importance is routinely acknowledged, it has proven to be durable and resilient across four challenging decades, and it is given at least some credit for helping prevent the widespread proliferation of nuclear weapons. On the other hand, it is chronically troubled, beset by crises and setbacks and possible defections, amidst fears for its future and doubts about its adequacy.⁹⁷

Analysts and scholars have had good reason for their skepticism about the regime's effectiveness. The regime's success is surprising. It lacks most of the characteristics we would expect to see in successful institutions and that are routinely found in international organizations in other substantive areas, such as international trade. The NPT, for example, has no arbitration or adjudication arrangements to resolve disputes and no formal enforcement mechanisms. Uncertainty about the likelihood of enforcement reduces the expected cost of noncompliance, in effect encouraging states to cheat. This problem is compounded by the general lack of information about member state

⁹⁶ Article X of the NPT grants members the right to withdraw from the treaty due to "extraordinary events" that have "jeopardized the supreme interests of its country" (United Nations Office of Disarmament Affairs 1968b).

⁹⁷ Miller 2012, 1.

behavior in the nuclear sphere. Trade barriers are largely public knowledge, but the development of new weapons systems rarely so. If international institutions promote cooperation chiefly by helping to reveal information, as some scholars have argued, then the secrecy associated with nuclear policy makes it more difficult for the nonproliferation regime to function effectively. Even if enforcement were built into the regime, it is not clear that states would know enough to identify and punish noncompliance.

At the same time, the nonproliferation regime requires member states to submit to substantial and costly obligations. For states that would be capable of developing nuclear weapons, foreclosing that possibility may carry a tremendous, even existential cost. The regime carries some cost for less capable states as well, particularly in requiring participation in sometimes intrusive monitoring and verification measures.

The NPT itself provides for no specific verification measures at all, instead obligating states to reach agreement with another international organization, the IAEA, with details left to be negotiated. Normal IAEA procedures allow international inspectors to visit only nuclear sites that a state has declared to the Agency, preventing the IAEA from investigating suspected nuclear facilities under most conditions. In the last twenty years, states have been urged to adopt more stringent verification measures, but doing so is not required by the treaty.

Withdrawal from the NPT and other institutions of the regime incur no automatic cost to the departing state. States may calculate that leaving the treaty will invite additional scrutiny of a state's nuclear efforts, but there is likely to be significant uncertainty about whether leaving the treaty will be punished, and if so about the extent of the punishment. Absent clear consequences, abandoning the treaty might offer an attractive path to nuclear weapons acquisition. If withdrawal seems too risky, states may instead take advantage of a loophole in the NPT and simply designate nuclear material for a military purpose unrelated to nuclear weapons, such as a nuclear-powered submarine or a nuclear reactor on a military base; doing so removes this material from the purview of international monitors.⁹⁸ Tempting as it is, this loophole has never been exercised.

⁹⁸ Kaplow 2015.

In other issue areas, domestic interest groups or civil society organizations frequently mobilize in support of international institutions, helping to mitigate the political cost of treaty membership for leaders. But the nonproliferation regime lacks strong links to these domestic constituencies. Unlike in trade agreements, private interests often have little direct stake in whether their country joins the NPT or not. Nongovernmental organizations that support global efforts to protect human rights or the environment are larger and exert more political influence than their counterparts in the realm of international security. When civil society has engaged with the regime, it has often focused more on the elimination of existing nuclear weapons than on the risk of future proliferation.

This is the puzzle of the nuclear nonproliferation regime. It appears successful – with near-universal membership and high levels of compliance – but lacks the features we would expect to see in a successful regime. It has weathered fifty years of challenges but seems still on the verge of failure. This book sets out to explain the regime's surprising success. Why have states joined the regime in large numbers, and why do states comply? What drives enforcement within the regime? What effect has the regime had on the spread of nuclear technology? In short, how and why does the regime work? I begin to answer these questions in the next chapter, with an examination of why states join the regime.