

Issue Brief

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The Limits of Military Coercion in Halting Iran's Nuclear Weapons Programme

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Abstract

Israel believes that the use of force is essential to stopping Iran from making the nuclear bomb. A vocal section of the strategic affairs community in the United States agrees with the proposition. This brief argues that military means are unlikely to sabotage the nuclear weapons programme of an advanced-stage bomb-seeker like Iran. Moreover, use of force could be counterproductive as it can incentivise Iran's pursuit of the bomb, and it may erode the confidence required for diplomatic negotiations that can possibly help cease the weapons programme. n early April in Vienna, the Biden administration initiated efforts with Iran to reinstate the Joint Comprehensive Plan of Action (JCPOA), more commonly known as the Iran nuclear deal, from which the United States (US) had exited during the tenure of former US President Donald Trump. A week later, an explosion at Iran's Natanz uranium enrichment facility caused a power blackout. Israel, the state most vocally opposed to the JCPOA, is widely believed to have carried out the attack, as it had others on Iranian nuclear facilities.¹ After all, then Israeli Prime Minister Benjamin Netanyahu had called JCPOA a "capitulation" to Iran and "a bad mistake of historic proportions."² In late November 2020, when it was clear that Trump had lost to Joe Biden, Mohsen Fakhrizadeh, a top Iranian nuclear scientist, was killed outside Tehran by a remote-controlled machine gun.³ Earlier in 2020, explosions were recorded at the Natanz facility, a missile production base in Khojir, and in an area of western Tehran that housed a chemical weapons research facility and a military production site.⁴

The Israeli leadership is of the view that diplomacy, in general, and the JCPOA in particular, will fail to constrain the Iranian nuclear weapons programme. The April attack on Natanz, some argue, was Israel's signal to the Biden administration against re-joining the JCPOA without extracting further concessions from Iran.⁵ Earlier, in March, defense minister Benny Gantz had declared that Israel would strike Iranian targets if needed.⁶ "The Iranian nuclear escalation must be stalled," Gantz told the media. "If the world stops them before, it's very much good. But if not, we must stand independently and we must defend ourselves by ourselves." The new leadership in Israel, led by Prime Minister Naftali Bennett and foreign minister Yair Lapid, share similar views on JCPOA and the need to stop Iranian nuclear pursuit by any means possible.⁷ A vocal section in the US, too, believes that military means will be required to stop Iran's bomb pursuit.⁸

This brief argues that military means are unlikely to succeed in sabotaging the weapons programme of an advanced-stage bomb-seeker like Iran. The rest of the brief outlines the challenges of militarily coercing a state to give up its pursuit of nuclear weapons through punishment strategy; explains why using denial strategies using military means are also bound to face problems if the target is in advanced stages of making the bomb; and discusses the empirical record of military attacks in rolling back a nuclear weapons programme.

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srael's sabotage techniques involve small-scale military operations that do not aim to obliterate Iran's entire nuclear pursuit in one attack. Rather, the use of military force is tailored to coerce the Iranian leadership to give up on its nuclear weapons pursuit. This strategy is more about *punishment* than *denial*. The real utility of the attacks is not in their ability to sustainably deny the target's nuclear weapons ambitions, but in enhancing the credibility of the threat to keep inflicting punishment if the target does not comply and rolls back its weapons programme. Political scientists Alexandre Debs and Nuno P. Monteiro have argued that states weaker than their adversary will not be able to make the nuclear bomb unless they have protection from an ally because such states will be vulnerable to preventive attacks.⁹ For Debs and Monteiro, implicit threats would be enough to compel a weaker state without a protective ally to halt its weapons programme. By that argument, with sabotage efforts far exceeding the level of implicit threats, Tehran should not be able to build nuclear weapons. This is precisely what Debs and Monteiro predicted for Iran, a state that counts the US and Israel among its adversaries.¹⁰

However, there are various reasons why such military operations are unlikely to coerce Iran to stop its nuclear weapons pursuit. First, the use of force can only heighten the resolve of a target state towards becoming a nuclear weapons power, as a government that agrees to stop weapons pursuit may suffer domestic political costs for conceding in the face of external coercion.¹¹ Military attacks could unite rival factions towards the common cause of pursuing the bomb, as the external threat increases.¹² The support for hard-line factions may increase, which may then want to pursue the bomb with greater zeal than before the attack.¹³ Second, a weak state which was not *deterred* from pursuing the bomb despite knowing fully well the possibility of preventive attacks by a stronger adversary is unlikely to be *compelled* to roll back its programme after starting it. Compellence, after all, is more difficult than deterrence.¹⁴

Third, the military approach poses an assurance problem. Any coercive threat, Thomas C. Schelling argues, "requires corresponding *assurances*; the object of the threat is to give somebody a choice."¹⁵ The target will see value in complying only if it is assured that compliance will lead to cessation of punishment. However, there is an inherent contradiction in coercing the target to stop making the bomb. The implicit assurance is that the target will not be attacked if it rolls back the nuclear weapons programme. But not pursuing the bomb is exactly the situation in which the target will continue to remain vulnerable to such threats and punishment by the rival. It is to reduce this vulnerability that the target is seeking the bomb in the first place. Therefore, the assurance of no punishment if the proliferator stops and rolls back the weapons programme is not credible.



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Fourth, use of force is also likely to reduce the opportunities for diplomatic solutions like the JCPOA. Yossi Kuperwasser, former head of research of Israel's armed forces, argues that military sabotage operations are part of a comprehensive package that include economic sanctions.¹⁶ Yet, military operations and economic sanctions do not go well together. In the case of Iran, diplomatic negotiations which culminated in [CPOA were preceded by stringent multilateral economic sanctions. Indeed, when coerced by economic sanctions, the target state can either comply or seek relief by finding willing and helpful economic partners or looking for internal sources of economic sustenance. On the other hand, when coerced by military attacks, the target can either comply or seek relief by fighting back or building nuclear weapons which can deter similar attacks in the future. Therefore, the use of force is not exactly complementary to a strategy of using diplomatic negotiations or economic sanctions. Use of force tends to directly incentivise the pursuit of nuclear weapons buildup while economic sanctions and diplomatic negotiations do not. Moreover, military attacks erode the confidence required for parties to enter diplomatic negotiations.

Fifth, the attacker can bomb specific production facilities, but not the *entire* nuclear capability. If the target state has the resolve and the material and human resources, it can set up new facilities to replace those that had been destroyed. During the Second World War, for example, the bombing of German military and industrial production facilities achieved little because Germany was able to repair the damaged facilities and begin production at new ones.¹⁷

Military operations are unlikely to coerce Iran to stop its nuclear weapons programme; use of force can heighten the resolve of a target state to make the bomb.

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nstead of relying on a punishment strategy, the one that is trying to coerce can instead choose a denial strategy. Effectively, this means using force to deliver a fait accompli—that is, wiping out the target's nuclear weapons programme. The foremost challenge is to locate and destroy all the nuclear facilities.¹⁸ An advanced-stage bomb-seeker is likely to be using dispersal, concealment, and hardened shelters to protect its nuclear facilities. For example, the site at Fordow in Iran is protected by mountains, air defense systems, and other physical fortifications.¹⁹ Israel's earth-penetrating munitions may be ineffective in destroying Fordow though they can cause some damage to the centrifuges installed depending on how insulated they are from the shock and blast effects of an explosion.²⁰

The denial strategy could include assassinating key nuclear scientists and thus significantly reducing the target state's chances of successful weapons pursuit. However, a bomb-seeking state in an advanced stage would likely have enough number of scientists capable of steering the weapons project, even if a few of them get eliminated. Experts agree that Iran's nuclear weapons pursuit is sufficiently developed to not rely on a few individuals.²¹ This difficulty in delivering a fait accompli is not surprising: most weak states that are incapable of protecting themselves do not start a nuclear weapons programme, to begin with. States that begin pursuing the bomb are likely to be those which have considered the risk of a preventive attack and prepared for the same. Fait accompli attacks, just like smaller-scale attacks, can enhance the resolve of target state towards becoming a nuclear weapons power.

There is still a scenario in which use of force can lead to successful killing of a state's nuclear weapons programme. This might happen if force is used to deliver a fait accompli and the target is deterred from investing in a fresh start. This scenario is likely to obtain if the target state is in early stages of its bomb pursuit. In early stages, the target state would have only a small number of nuclear facilities, thus making the job of identifying and targeting all the locations relatively easy. Moreover, such early-stage bomb-seekers tend to have clandestine programmes. This helps in lowering domestic audience costs, as the rival political factions and the citizens may not even know that such a project existed, let alone was eliminated.²² Even if the attack becomes public, as long as it is not known that the bomb-making facility was the target, the state might get away with symbolic reprisals without needing to restart the weapons pursuit. Finally, early-stage bomb-seekers do not always have the necessary expertise and resources to build nuclear weapons.²³ They are more likely to view the destroyed facilities as sunk costs and move on, compared to advanced-stage seekers. If they start afresh, they will again be vulnerable to similar attacks — all for the pursuit of a bomb they are not sure they can make.

he empirical record supports the discussion so far. Military attacks on a nuclear weapons programme are not common; this is perhaps because they have little chance of succeeding. As many as 29 states have pursued nuclear weapons programmes at different points in contemporary history but only three were subjected to military attacks: Iran, Iraq, and Syria.²⁴ Only in one case, in Syria's, can a military attack be credited for successfully causing the state to cease its nuclear pursuit. In 2007, Israel's attack on the Syrian al-Kibar reactor in 2007 foreclosed the bomb option for the Bashar al-Assad regime.²⁵ Notably, Syria was an early-stage bomb-seeker at that time, and its programme was covert. The fledgling status of the Syrian programme is evident because then US President George W. Bush wrote in his memoir that prior to the Israeli attack, the Central Intelligence Agency (CIA) had low confidence that the reactor was part of a weapons programme.²⁶ Israel's decision to not publicise the attack allowed the Assad regime to escape any pressure to restart the bomb programme.²⁷

Given the nascent status of Syria's weapons programme in 2007, it is not counted as the most successful of achieving example counterproliferation through the use of force. That distinction is given to the Israeli attack on Iraq's Osirak reactor on 7 June 1981.28 Eight Israeli F-16s attacked the French-built reactor before it went operational. Without the 1981 operation to destroy the Osirak reactor, American analyst Nicholas D. Kristof wrote in 2002, "Iraq would have gained nuclear

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weapons in the 1980's, it might now have a province called Kuwait and a chunk of Iran, and the region might have suffered nuclear devastation."²⁹ However, as political scientist Målfrid Braut-Hegghammer writes, "The design of the Osirak reactor made it suboptimal for the purpose of a weapons program."³⁰ Even if the reactor would produce enough plutonium, a conclusion which experts doubted, its diversion for bomb-making purposes would have been intercepted by the International Atomic Energy Agency (IAEA).³¹ Far from being a success, the attack rejuvenated Iraq's nuclear weapons ambitions by strengthening the pro-bomb lobby in the country and getting a distracted Saddam Hussein to focus on the weapons programme.³² While scholars disagree on how close Iraq was to the bomb before the Gulf War, it is clear that in 1991 it was much farther ahead in its pursuit than in 1981 — owing to the efforts made after the Osirak

Evidence from Past Military Attacks

bombing.³³ Even those who think that the Osirak operation did set back Iraq's weapons plans by possibly four years, also admit that it "increased the Arabs' motivations to accelerate their efforts in the nuclear field."³⁴

While not a conventional military attack, the most effective offensive operation against the Iranian nuclear programme was in cyberspace: the use of a computer worm called Stuxnet to disrupt the functioning of Iranian centrifuges. First launched in June 2009, Stuxnet, dubbed "one of the most sophisticated viruses ever discovered", would be launched in three waves until April 2010 under what was believed to be a joint US-Israel operation.³⁵ Claiming the Stuxnet attack as a "huge success", Ralph Langner, a German expert, said that it was "nearly as effective as a military strike or even better since there are no fatalities and no full-blown war."³⁶ Paul Roberts of Kaspersky Labs claimed that Stuxnet "may have knocked Iran's progress towards a nuclear weapon off by five years or more."³⁷

Other analysts, however, had a different view of the impact of Stuxnet.³⁸ Security studies scholar Ivanka Barzashka found that the damage which Iran suffered was short-lived. Indeed, during the period of the attacks, Iran was able to enhance its uranium-enrichment capacity. Stuxnet also did not affect Tehran's ability to install and operate new centrifuges. Most importantly, the false confidence about the success of Stuxnet operations took away from the urgency of diplomatic negotiations that could have yielded better results. Just like military attacks, cyber attacks too, diminish the potential of succeeding in diplomatic efforts. As Barzashka concludes, "If concerned nations are interested in a diplomatic solution to the Iranian nuclear issue, a cyber-attack is hardly a sign of good faith."³⁹

> The 2009 cyber-attack on Iranian centrifuges diminished the urgency of diplomatic negotiations.

Evidence from Past Military Attacks nabling Conditions for Reversing)gran Weapor C C C

yria (2007) is, therefore, the only example of a military attack that succeeded in halting a nuclear weapons programme. What enabled it, foremost, was that the weapons programme was in its early stage, and therefore small; it also helped that the programme was covert, and the attack itself was, too.

Of 29 countries that have pursued the bomb, only ten (including South Africa that gave up its arsenal in 1991) have gone on to make nuclear weapons. If not military force, what made the other 19 give up their plans? Just like nuclear acquisition, political scientist Scott Sagan argues, nuclear restraint can be explained by three models.⁴⁰ In the *security* model, a state might give up the pursuit of the bomb if it believes that external threats to its security have radically decreased. In the *domestic politics* model, the state ceases its programme when the pro-bomb faction loses internal political power or if the outgoing regime does not trust the incoming government to be a reliable custodian of nuclear weapons. Finally, in the *norms* model, the changing norms—due to the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and other non-proliferation and export control regimes—contribute to nuclear restraint.

Scholar and former diplomat Mitchell Reiss argues that the nuclear taboo and a greater recognition of the costs of nuclear weapons acquisition has led states to drop their pursuit of the bomb.⁴¹ Historian and nuclear expert Francis Gavin writes that the US has used a range of strategies — legal and normative, coercive, and assurance to prevent states from acquiring nuclear weapons.⁴² The US has especially been successful in stopping its allies'

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pursuit of the bomb either by offering security guarantees or by threatening abandonment.⁴³ Political scientist Jacques E.C. Hymans argues that leaders who meddle too much in the work of their nuclear scientists end up damaging their state's chances of making the bomb.⁴⁴ For Braut-Hegghammer, weak states run by "personalist" regimes are uniquely disadvantaged because their leaders cripple the state capacity, and thus the ability to build the bomb, in the process of coup-proofing.⁴⁵ For his part, political scientist Nicholas L. Miller argues that US sanctions compel those states that depend on the US, economically and militarily, to give up their pursuit.⁴⁶ For such states that do not depend on the US, Miller contends, a multilateral sanctions regime is required for successful compellence.

utting a stop to Iran's weapons activities is not an easy task. First of all, Iran is not a weak state run by a personalist regime. Its weapons project is also now in the advanced stage, suggesting that its scientists do not suffer from issues like political meddling.⁴⁷ Facing nuclearweapons states like Israel and the US as adversaries, Iran is definitely not constrained by non-proliferation norms. It does not have a protective ally which can threaten abandonment or a potential ally willing to offer security guarantees.

The best possible route to constraining Iran's nuclear ambitions is a multilateral sanctions regime, like the one which led to the JCPOA. A resumption of JCPOA, or the forging of a new JCPOA-type agreement, could delay Iran's nuclear pursuit.⁴⁸ Such delay can lead to a complete forgoing of nuclear weapons in the long term. This could happen if at the end of JCPOA's term Iran's threat perception declines, or if by then it has developed economic ties with other countries which it would fear losing if it resumes the weapons project.⁴⁹

To be sure, economic sanctions and diplomatic negotiations do not rule out military attacks if Iran refuses to cooperate. Yet, as argued in this brief, the use of military force can eliminate the possibility of diplomatic negotiations. The use of force, in the best-case scenario, achieves the same result as JCPOA did: cause a delay in Iran's nuclear pursuit. It is unlikely to coerce Iran into renouncing the bomb entirely. On the other hand, in the worst-case scenario, use of force might lead to either an accelerated Iranian pursuit for the bomb or a full-fledged war, or both.

The best possible route to constraining Iran's nuclear ambitions is a multilateral sanctions regime.

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Conclusion

Views are personal.



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