CENTRE FOR LAND WARFARE STUDIES

ISSUE BRIEF

No. 161 December 2018

The INF Treaty and Future Portents

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On October 20, the US President Donald J. Trump announced that the USA would be withdrawing from the 1987 Reagan-Gorbachev era "Treaty on the Elimination of Intermediate-Range & Shorter-Range Missiles" (INF Treaty). On October 23, the US national security adviser John Bolton formally delivered this message to the Russian President Vladimir Putin. This Treaty, between the USA and USSR/Russia, had prohibited the deployment of ground-launched ballistic and cruise missiles with intermediate ranges (i.e., between 500 to 5,500 km) that could carry conventional or nuclear warheads, and had finally led to the destruction of 2,692 short-, medium-, and intermediate-range missiles by the treaty's implementation deadline of June 1, 1991.[1] It also paved the way for slowing the strategic arms race between the USA and USSR. Under Article XV of this Treaty, a six-month notice is required for withdrawal. Hence, unless a new understanding emerges, this Treaty will lapse by April 2019. The INF Treaty is the second nuclear weapons limitation agreement, after the Iran nuclear deal, which the Trump administration is terminating, and the third that the US is abandoning—earlier, in 2002, the US had terminated the 1972 Anti-Ballistic Missile

Key Points

1. The USA is withdrawing from the 1987 Cold War-era "Treaty on the Elimination of Intermediate-Range and Shorter-Range Missiles" (INF Treaty).
2. This Treaty, which had prohibited the deployment of ground-launched ballistic and cruise missiles with intermediate ranges (between 500 and 5,500 km), also paved the way for slowing the strategic arms race between the USA and the former USSR.
3. Although the USA has accused Russia of violating the INF Treaty, the US withdrawal appears aimed primarily at forcing China into strategic arms limitation negotiations.
4. China is not part of any arms limitation treaty, and thus unconstrained, has built up a massive arsenal of land-based, short- and intermediate-range ballistic and cruise missiles as part of its military modernisation.
5. The lapse of this Treaty is expected to lead to an escalation in the strategic arms race including in our immediate neighbourhood, and will impinge on the global nuclear posture and strategic stability.

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The INF Treaty ...

(ABM) Treaty it had signed with the USSR, saying that "we were living ... at a much different time, in a vastly different world."

This development, however, was expected for some time. Astride the mid-2000s, Russia had expressed its concern about the INF Treaty, stating that a number of countries (including China, India and Pakistan) were developing missiles covered by the INF Treaty and therefore, it wanted to withdraw from the INF Treaty.[2] In October 2007, it had threatened to withdraw from the Treaty if the US pursued its plans to deploy missile defence interceptors in Poland and radar in the Czech Republic.[3] In July 2014, the USA formally accused Russia of violating the INF Treaty. Russia rejected the US accusation and counter-charged the USA with violating the Treaty. The USA's December 2017 National Security Strategy argued that "… [as] China and Russia challenge American power, influence, and interests, attempting to erode American security and prosperity," the US should demonstrate primacy through a nuclear arms race. The USA's Nuclear Posture Review–2018 had stated intentions to commence development of intermediate-range missiles to counter those of Russia. Some months ago, the US Army outlined plans for developing and eventually fielding ground-launched missiles with ranges in excess of a 1000 km. On October 19, *The New York Times* published a report about the US military's plans to deploy a ground-launched version of the "Tomahawk" cruise missile in Asia to counter the Chinese military.

There are however indicators that the key driver behind the US decision to withdraw from this Treaty is not Russia but China. The latter is not part of any arms limitation treaty, and thus unconstrained, it has built up a massive arsenal of land-based, short- and intermediate-range ballistic and cruise missiles as part of its military modernisation. China now is also the third largest nuclear power (280 operational warheads) [after Russia (4,300 operational warheads) and the USA (4,000 operational warheads).[4] It is therefore well possible that the US withdrawal is aimed at forcing China into strategic arms limitation negotiations.

Strategist Thomas Schelling had critically observed (1960) that arms control was "designed to preserve a nuclear striking power." In other words, arms control crises are not rare—but are prone to a periodic outbreak as the protagonists, with evolution in their political and technological environment, and conventional military symmetries, seek strategic advantage, fewer or more limits on nuclear arms, etc. Nevertheless, the US withdrawal is expected to have wider ramifications.

Genesis: Strategic Arms Control Treaties

Contrary to popular belief, the Cold War did not commence just after the World War II. In fact, the contours of an emerging Cold War had already started to unfold by the time of the Normandy invasion (June 1944). At this juncture, Britain was exhausted by the protracted fighting, and France, overrun by Germany, was virtually already out of the fight. Considering the overall balance of forces and the fact that the US military was being sustained from Continental US (CONUS), and that the USSR had the advantage of theatre proximity (operating closer to home), it was evident that (i) there could be no invasion of Continental Europe without the US; (ii) but there were limits to how far the US could advance into Europe; and (iii) importantly, that parts of Europe would fall to the Soviet military and come under Soviet occupation.

The third assessment particularly had raised serious concerns in the US strategic community—if the Soviets were able to occupy large parts of Europe, then by co-opting the latter's technology (particularly that of Germany) and manpower, an enlarged Soviet Union (the USSR plus large parts of Europe) would pose a very substantial strategic challenge to the USA. On their part, the Europeans were petrified of being ruled by the Soviet Union and worried that the USSR would not rebuild their war-ravaged countries. This concern had, inter alia, led to the Bretton Woods agreement. In July 1944, the US gathered representatives from 44 different countries at Bretton Woods, New Hampshire, USA. Here, the gathered countries agreed to be the core of the new global economic system, in which the US would be their most favoured trading partner and get near-tariff-free access to US markets. In turn, the US

agreed to rebuild these countries, who also deferred all politico-military matters to the US. This was the beginning of NATO. The Bretton Woods agreement thus not only allowed the US to trade better, but also enabled it to legally source technologies from Europe, spread the R&D effort/costs amongst its allies, and importantly, take on the defence of these countries against the USSR.

During the early era of the Cold War, the West apprehended that the Warsaw Pact, with its massive conventional military numbers, had the potential to overrun Germany and other parts of Europe. The NATO lacked numbers. Consequently, the US made nuclear weapons central to its military plans for deterring Soviet aggression against the US and its allies. To that end, it maintained its "strategic" weapons (i.e., long-range land-based missiles, submarine-based missiles, and long-range bombers) at bases in the USA, but had deployed thousands of shorter-range nuclear weapons with US forces based in Europe as part of the NATO's "flexible response" strategy.

The USA (as part of NATO) and USSR (heading the Warsaw pact) had also begun to amass considerable nuclear warhead inventories and credible delivery means. The USSR operationalised its first nuclear weapon in 1949—by then, the USA, which had a head start, possessed 170. The US nuclear warhead arsenal peaked in 1967 at 31,255 (the USSR had 8,400 weapons at that time). The Soviet numbers peaked in 1986 at 40,159.[5] These gigantic stockpiles, mated to formidable ground-launched, air-delivered, and submarine-launched delivery means, particularly ensured that both sides retained the ability for both a "first strike," and more importantly, a massive "second-strike." This dynamic eventually led to the concept of "Mutually Assured Destruction" (MAD).

To end this debilitating arms race and achieve some semblance of strategic stability, the USA/NATO and USSR/Warsaw Pact entered into Strategic Arms Limitations Talks (SALT). One of the first efforts to check this mindless expansion of nuclear arsenals was the US' proposal in 1964 at the Geneva-based Eighteen-Nation Disarmament Committee (ENDC) to freeze strategic delivery vehicles. The USSR declined to accept this proposal mainly on grounds that the US nuclear arsenal far exceeded that of the Soviets and was also more sophisticated. The next attempt at strategic stability was in 1966 and 1967, when the USA suggested that both nations abstain from developing Anti-Ballistic Missile (ABM) systems (ABM systems are really de-stabilising—as they tend to encourage nuclear adventurism). The USSR sought inclusion of strategic offensive weapons and, finally, at the signing of the Nuclear Non-Proliferation Treaty (NPT) (July 1, 1968), the US President announced that both nations had "reached an agreement to negotiate limitations and reductions of strategic systems."

After much dithering and haggling about ABM systems, the USA's Forward Based Systems (FBS) and the USSR's short- and intermediate-range strategic arsenal, US President Nixon and Soviet Premier Brezhnev signed (May 26, 1972) two basic SALT documents:

- **An Interim Agreement Limiting Strategic Offensive Weapons:** In broad terms, this Agreement:
  - Constrained both the US and USSR from adding any fixed (in a silo) land-based Intercontinental Ballistic Missile (ICBM) launchers after July 1, 1972.
  - Limited the numbers of Submarine-Launched Ballistic Missile (SLBM) and modern nuclear-powered-submarines-equipped-with-nuclear-warhead-tipped-ballistic-missiles (SSBN[6]) to those operational and under construction on the date of signature of the Agreement.
  - Limited the numbers of SLBM launchers with the US to 710 on 44 modern SSBNs, and with USSR to 950 SLBM launchers on 62 submarines.
  - Allowed both sides to modernise and replace strategic offensive ballistic missiles and launchers covered by the Agreement.
- **The ABM Treaty:** Under this Treaty, both sides agreed not to deploy ABM systems for the defence

of their countries or an individual region except at two sites, i.e., one around the national capital with no more than 100 ABM launchers and no more than 100 ABM interceptor missiles; and the other around ICBM silo launchers with no more than 100 ABM launchers and no more than 100 ABM interceptor missiles. Added was the requirement that the two sites must be separated by no less than 1,300 km. The Treaty further prohibited development, testing or deployment of all types of sea-based, air-based, space-based, or mobile land-based ABM systems or components. Both Parties also undertook not to deploy any ABM systems/components outside their national territories or proliferate to other nations. The USA formally withdrew from this Treaty on June 13, 2002.

The SALT also led to the following other treaties:

- **The 1987 INF Treaty**.
- **The 1990 Treaty on Conventional Armed Forces in Europe (CFE Treaty):** This limited the number of conventional heavy weapons deployed between the Atlantic and the Urals by both NATO and the Warsaw Pact to equal numbers.
- **The 1991 Treaty on the Reduction and Limitation of Strategic Offensive Arms (START-I):** This reduced the number of strategic nuclear weapons. In 2002 and 2010, additional cuts were made to the original numbers.
- **The 1991 Presidential Nuclear Initiatives (PNIs):** Under these, the USSR and the USA eliminated many short-range tactical nuclear weapons.
- **The 2002 Strategic Offensive Reductions Treaty (SORT Treaty):** *Under this, both sides undertook to* reduce and limit strategic nuclear warheads by December 31, 2012 to 1,700-2,200 for each Party.
- **2010 Treaty on Measures for the Further Reduction and Limitation of Strategic Offensive Arms (New START):** This had capped both countries' strategic nuclear arsenals at 1,550 deployed warheads and 700 bombers and missiles equipped to carry them. The treaty will expire in 2021—unless Presidents Trump and Putin agree to extend it by five years, as allowed for in Article XIV of the agreement. Without renewal of the New START, there would be no legally binding constraints on the world's two largest nuclear arsenals for the first time since 1972.

Genesis: The 1987 INF Treaty

Reference Para 7 above. The US/NATO's "flexible response" strategy was designed to complicate any Soviet military adventure. However, there were questions about the credibility of this extended deterrence based on forward-deployed, short- and intermediate-range nuclear weapons deployed by the USA—if used against attacking Soviet forces, they would devastate the very parts of Europe which the US was seeking to protect. This led many military experts to argue that the US/NATO should deploy longer-range systems that could reach targets deeper inside Soviet territory. In turn, this argument led to concerns that an attack on the Soviet Union may lead to the latter responding with attacks on targets inside the US. Such an attack implied rapid escalation to a full-scale nuclear war—and concerns on whether the USA would actually "trade New York for Bonn" grew particularly after the Soviet Union began to deploy SS-20 intermediate-range ballistic missiles (IRBMs). These three-warhead missiles, which replaced the older SS-4 and SS-5 missiles, had a range of 4,000 km.

This dynamic led to a realisation that although NATO's security would be best served by eliminating the USSR's ability to target entire Europe with SS-20 missiles, Moscow was unlikely to remove those missiles as along as it faced a similar threat from US/NATO owned intermediate-range systems based in Western Europe. All these apprehensions finally led to the "Dual-Track Decision" of December 1979, under which the US/NATO decided to (i) deploy new US intermediate-range ballistic and cruise missiles in Europe (i.e., replace between 1983 and 1986 the ageing, medium-range Pershing-I ballistic missiles with 108 more accurate and longer-range Pershing-II (P-II) missiles (in erstwhile West Germany), and 464 ground-launched cruise missiles (in erstwhile West Germany, the UK, Italy, the Netherlands, and Belgium) (all with single nuclear warheads); and (ii) to spur US efforts to

negotiate with the Soviet Union to limit intermediate range missiles. The announcement of these planned deployments led to massive public protests across Europe and the USA. These protests, which began in 1980, escalated through to 1985. The governments in some of the nations that had accepted deployment of the new missiles (e.g., the Netherlands, Belgium) also faced political opposition to the weapons.

The USA and USSR opened negotiations on this issue towards end-1980, with the US seeking equal limits on both sides' intermediate-range missiles, namely, the USSR's SS-4, SS-5, and SS-20 missiles, and the USA's Pershing-II and ground-launched cruise missiles. The USSR in turn suggested that the two sides merely freeze the numbers of medium-range systems in Europe. Neither side found the other's proposal acceptable. Hence, in November 1981, the Reagan Administration presented the "zero-option"—this sought the total elimination of Soviet SS-20, SS-4, and SS-5 missiles in return for the cancellation of NATO's fresh deployment plans. The USSR counter-proposed that the two sides agree to a phased reduction of all nuclear weapons with a range of 1,000 km deployed in Europe or waters adjacent to Europe, or intended for use in Europe. Once again, the talks stalemated. In late-1983, the USA commenced its new deployments in Europe and the USSR withdrew from the negotiations. The negotiations resumed in March 1985 and gathered traction in 1986, and after protracted negotiations, former General Secretary Gorbachev agreed (July 22, 1987) to a "double global zero" Treaty to eliminate intermediate-range and shorter-range missiles. On December 8, 1987, the USA and USSR signed the INF Treaty, which entered into force on June 1, 1988.

After the dissolution of the Soviet Union (December 25, 1991), the US had sought multi-lateralisation and continuation of the INF Treaty regime with the twelve former Soviet republics. Of these, six (Belarus, Kazakhstan, Russia, Turkmenistan, Ukraine, and Uzbekistan) have inspectable INF facilities on their territory. Of these six, four (Belarus, Kazakhstan, Russia, and Ukraine) are active participants in implementing the Treaty.[7]

It is important to note that the INF Treaty had two unique features:

- **One:** while most prior treaties had imposed near-equal cuts on each side, the INF Treaty entailed asymmetrical reductions—the USSR had to destroy 1,846 missiles (including 654 SS-20s, each with three warheads) while the USA had to eliminate 846 missiles (each with a single warhead).
- **Two:** it was the first US/NATO–USSR treaty to entail intrusive monitoring mechanisms in its verification regime (earlier treaties had relied on national technical means (NTM) for verification). The Treaty allowed on-site inspections of selected missile assembly facilities, storage centres, deployment zones, and technical support facilities. The Treaty also established the Special Verification Commission (SVC) to "resolve questions relating to compliance."

Loopholes in the INF Treaty

As ballistic missiles and cruise missiles have different flight profiles, Article VII describes how their range would be determined for the purposes of the Treaty:

- **Ground Launched Cruise Missile (GLCM):** Article VII states that the GLCM's range would be "the maximum distance which can be covered by the missile in its standard design mode flying until fuel exhaustion, determined by projecting its flight path onto the earth's sphere from the point of launch to the point of impact."
- **Ground-Launched Ballistic Missile:** It stipulates that the range capability "shall be considered to be the *maximum range* to which it has *been tested*." This meant that if a ballistic missile was flown to a range of 500 to 5,500 km during flight tests, then it was to be considered in the INF Treaty. If the demonstrated range was more than 5,500 km, then it would be counted as a strategic ballistic missile. It is for this precise reason that in 1988, the US Senate had expressed concerns that the Treaty provided a path for the Soviet Union to sidestep the INF Treaty. Importantly, Ambassador Maynard Glitman, the lead negotiator for the INF Treaty, had

in his testimony before the Senate Armed Services Committee, stated that a Soviet missile tested even once to a range greater than 5,500 km would be deemed to be a strategic missile and would not be covered by the INF Treaty even if it flew to less than 5,500 km in subsequent tests.[8]

The second loophole relates to the fact that the INF Treaty constrains just the USA and Russia, while allowing all other countries to develop and deploy ground-launched intermediate-range missiles. Presently, nearly 30 countries have such missiles in their arsenals.[9] It is on account of this dynamic that in 2007, Russia had tried to submit a proposal to the United Nations that would convert the INF Treaty into a multilateral treaty and would require all nations to sign it. The USA had issued a joint statement with Russia supporting this effort but the proposal did not find favour with anyone else.

US' Rationale for Withdrawal from the INF Treaty

There are four primary reasons for the US' unhappiness with the INF Treaty.

First: Russia withdrew from the Conventional Forces Europe Treaty (CFE Treaty) in 2015, arguing that the "equal cap" on conventional forces was no longer fair because five former Warsaw Treaty Organization nations had joined NATO. Signed in November 1990, the CFE Treaty was referred to as the "cornerstone of European security" as it had eliminated the Soviet Union's overwhelming numerical advantage in conventional weapons in Europe by setting equal limits on the number of tanks, armoured combat vehicles, heavy artillery, combat aircraft, and attack helicopters that NATO and the Warsaw Pact could deploy between the Atlantic Ocean and the Ural Mountains. The CFE Treaty was designed to prevent both NATO and Warsaw Pact from amassing forces for a swift offensive, which in turn could have triggered the use of nuclear weapons.[10]

Second: The US perceives that Russia has violated the INF Treaty by developing and deploying intermediate-range missiles. Concerns that Russia was not complying with the INF Treaty were first raised by the Obama Administration in 2013.[11] Beginning July 2014,[12] the USA has formally blamed Russia each year for breaching the Treaty by developing a ground-launched cruise missile (the 9M729/SSC-X-8 "Iskander K" system) with a range of more than 500 km. Russia rejected the US accusation and denied violating the INF Treaty. Two meetings of the Special Verification Commission (established by the INF Treaty to address compliance concerns) in October 2016 and December 2017 failed to make any progress. Russia further argued that if the USA had wanted to discuss "alleged non-compliance by Russia," then it should have used the treaty's Special Verification Commission; it added that the Commission has not met between 2003 and November 2016, despite the fact that the US had detailed its allegations in 2014. Moscow also counter-charged Washington with violating the Treaty in three ways, (i) by developing, and then using intermediate-range missiles banned under this Treaty for target practice; (ii) by deploying some drones that can also be used as cruise missiles; and (iii) by taking a ship-based missile defence system (the "Aegis") and deploying it on land ("Aegis Ashore")—and whose missile launch tubes could be used for intermediate-range missiles (the Tomahawk cruise missile). The US expectedly rejected these counter-allegations. The fact is that the US does possess and operate several types of Unmanned Aerial Vehicles (a.k.a. "drones") for ISR[13] and strike missions, and some of them fly/deliver weapons to ranges between 500 and 5,500 km. Moscow argues that such drones fall in a category defined as "ground-launched cruise missiles" and thus violate the INF Treaty. The US refutes this definition. Insofar as the Aegis system is concerned, the US maintains that although the MK-41 Vertical Launch System (VLS) to be based in Romania and Poland is the same VLS as used on the Aegis-equipped warships, the former will be able to fire only the SM-3 missile defence interceptor and does not have the capability to launch the "Tomahawk" cruise missiles.[14] On December 8, 2017, the 30th anniversary of the date of the signing of the INF Treaty, the Trump Administration announced, after a review, that it had identified an "integrated strategy"[15] to respond to Russia's violation of the INF Treaty; it also noted that the US will continue "to seek a diplomatic resolution through all viable channels, including the INF Treaty's

Special Verification Commission (SVC)." Just prior to the October 2018 NATO meeting of Defence Ministers, the US Secretary of Defence Mattis told the press that Russia's violation of the INF Treaty was "untenable" and unless Russia changed course, the USA would need "to match Moscow's capabilities to protect US and NATO interests."[16]

Three: China is not party to any INF Treaty kind of agreement. Unconstrained, it has been able to build up a huge inventory of short-range ballistic missiles (SRBM) and intermediate-range ballistic missiles (IRBM) as part of its military modernisation. These missiles can carry either a conventional or a nuclear warhead. The PLA particularly intends to use conventional warhead-tipped SRBMs and IRBMs for implementing its Anti-Access/Area Denial (A2/AD) strategy. This, among other factors, strengthens the PLA's warfighting posture in the Western Pacific, and allows it to challenge the US military and its allies particularly in the seas around China. President Trump had recently expressed his wish for Beijing to join the INF regime—but China has not responded.[17]

Lastly: Unlike China, the USA, on account of its various treaties with USSR/Russia, has no road/rail mobile Inter-Continental Ballistic Missiles (ICBMs). It has 450 ICBM silos in which 400 ground-based Minuteman-III ICBMs (each with 1-3 warheads) are housed (50 silos are kept "warm" for loading missiles if required). These fixed, silo-based ICBM sites are vulnerable to a "first strike." That said, it needs to be noted that the US has a very formidable "second-strike" capability, which is largely based around its 14 Ohio-class SSBNs (12 in operation; at least two undergoing repairs/turnaround). Although each of these SSBNs can carry 24 Trident-II/D-5 SLBMs, the number stands reduced to 20 on account of the New START. Besides, the number of these submarines is expected to decline. Insofar as heavy strategic bombers are concerned, just 66 (i.e., 42 B-2s and 18 B-52s) are considered deployable. Therefore, there is a view in the US that its strategic concept—"the ICBM force provides responsiveness, the SLBM force provides survivability, and bombers provide flexibility and recall capability"[18]—has the potential to get imperilled as China builds more survivable, agile and less-easily targetable medium-range and intercontinental ballistic missiles, as well as cruise missiles. It is perhaps on account of this dynamic that the Trump Administration's 2018 Nuclear Posture Review incorporated some significant departures from the 2010 Review—it espouses plans to stop reducing the number of nuclear weapons, iterates the role of nuclear weapons in the US' military strategy, and recommends the adoption of a more aggressive nuclear posture.

Implications

The US NSA John Bolton has reportedly rebuffed Moscow's appeals to remain in this Treaty. A US withdrawal from this Treaty is likely to set in motion a wide range of adverse dynamics, ranging from the US, Russia and China entering into a frenetic arms race, to lowering of strategic stability levels. In addition would be the effect on Europe, and perhaps even Pakistan.

Russia

By the end of World War II, the Soviet Union had acquired a massive amount of territory including parts of Europe and swathes of Eurasia. This had provided Russia with immense strategic depth with Moscow being over 1,600 km from NATO's front lines. The INF Treaty had therefore focused on missiles that the USSR had deployed in Belarus, Czechoslovakia (now split) and Ukraine to threaten Western Europe, and those that the USA had based in Belgium, Italy and Germany to counter-threaten the USSR. After the break-up of the USSR (1991), Soviet territory contracted to the current borders of Russia. The Soviet military, which had started to deteriorate much prior to the 1991 break-up on account of economic travails, began to atrophy further. Post-break-up, Russia, by then a weak conventional military power, nevertheless continued to pose as a "global power" by posturing substantial nuclear weapons capability.

Although Russia has since improved its conventional forces significantly, they still do not have wide, expeditionary capabilities. The recent report on global military spending by Stockholm International Peace Research Institute (SIPRI) has highlighted a 20 percent drop in Russian defence spending between 2016 and

2017 on account of economic issues. Additionally, the INF Treaty had constrained Russia from developing long-range conventional strike capabilities. In contrast, the US' large arsenal of air- and sea-launched long-range land-attack missiles give it a capability to conduct deep strikes inside Russian territory. Besides, China's increasing military capabilities are also a cause of concern for the Russian military which lacks similar missiles.

While Russia would likely benefit from a high moral ground ("responsible global power") by not being the first to terminate the Treaty, it does seem that Moscow may not be really averse to ending this Treaty. A post-treaty build-up of intermediate-range missiles would allow Russia to (i) legally produce and deploy in large numbers the missiles that are currently deemed illegal under the INF Treaty; this would increase the threat to US allies in Europe at a time of aggravated US-Europe tensions; (ii) officially address its considerable airpower asymmetry versus the USA/NATO; (iii) threaten NATO air bases across Europe with such missiles; and (iv) boost its defensive capability against an increasingly powerful Chinese military in its Far-East. Such a build-up of missiles would be a more cost-effective option as compared to developing conventional armed forces that can stand up to the US-led NATO. It could also lead to Russia reiterating its strategic doctrine of "De-escalation."

Russia's Strategic Military Doctrine: As the USSR was breaking up, the Russian leaders saw how the US-led coalition defeated (1991) the Soviet-equipped/ Soviet-trained Iraqi forces of Saddam Hussein in just a few days. In November 1993, the nascent Russian government under Boris Yeltsin outlined the "Main Provisions of the Military Doctrine." This advocated use of nuclear weapons only in a global war. Then, between 1997 and 1999, Moscow saw the NATO wage an intelligence-led precision military campaign in Yugoslavia. By then, the Russian armed forces were a pale shadow of its predecessor, the Soviet war machine. It was thus evident to Moscow that the conventional forces capabilities of the US and its allies were far beyond Russia's own capacities at that juncture. And since the fundamental causes of the Kosovo conflict seemed quite identical to the core issues for the Chechen conflict, the Russian leadership apprehended that the US may interfere in Chechnya, where a second war was building up. The Russian government hence commenced work on a new military doctrine under Vladimir Putin, then Secretary of Russia's National Security Council (March 1999-August 1999). This doctrine, signed in April 2000 by Acting President Vladimir Putin, replaced the November 1993 document. The new doctrine propounded that if Russia was faced with a large-scale conventional attack that exceeded its capacity for defence, it may respond with a limited nuclear strike, which would then act as a motivation for the adversary to "De-escalate" the conflict. In October 2004, President Putin unveiled the "Immediate Tasks of Development of the Armed Forces of the Russian Federation." This report formally developed the 2000 Military Doctrine and postulated two missions for Russia's nuclear weapons, that is, (i) deterrence of a large-scale attack against Russia; and (ii) "De-escalation" of a limited conflict in case deterrence fails.

Concept: "De-escalation": There were clear differences between this new doctrine and the Soviet nuclear deterrence strategy during the Cold War. The latter threatened inflicting unacceptable damage on an enemy and "MAD" (Mutually Assured Destruction); under such conditions, the use of nuclear weapons was unthinkable as it entailed "rapid escalation to the exchange of massive nuclear strikes." The new doctrine of "de-escalation" however, held out the threat of "tailored damage" and was aimed at making an aggressor weigh the cost he will suffer versus the strategic benefit he may derive from that conflict. The unstated rationale was that while the US may like to interfere in Chechnya and assist the rebels, the strategic gains that would accrue to the US should make the latter consider whether such a venture was worth risking a nuclear exchange with Russia because for Moscow, retaining territorial control over Chechnya was of core national interest.

USA

Although the INF Treaty constrains the USA from developing and deploying land-based intermediate-range missiles, it does not cover sea- or air-based missiles. Consequently, the US already has some serious means of responding to Russia and China. Its Ohio-class SSBNs, each capable of carrying 20 Trident-II SLBMs/154 Tomahawk SLCMs, its Seawolf-class SSN armed with 2,500-km range Tomahawk SLCMs, and B-52 and B-2 bombers armed with nuclear-tipped cruise missiles, can easily target East Asia from various US territories. They also provide the US with a substantial second-strike capability.

However, land-based missile launch systems are far cheaper to develop and deploy than air-launched and sea-based systems (launchers on ships or submarines). Further, every aircraft or submarine that one utilises for such tasks is a diversion from other tasks. Besides, land-based arsenals can be deployed in much larger numbers—they require a ground-based canister or a vehicle. Hence, once free from the INF treaty, the US would certainly like to ramp up its land-based intermediate-range missile capabilities (numbers; quality) versus China, particularly in the Asia-Pacific region. This is because in a conflict with the US military, the Chinese PLA, operating from/close to homeland, currently enjoys a considerable theatre advantage, with the numerous bases helping offset some of the technological shortcomings. Some reports suggest that the US is already looking at developing a "road-mobile, land-based variant" of the US Navy's MK-41 vertical launch system so that it could launch offensive missiles from land, if needed.[19] All this could easily spur an arms race.

However, developing ground-based intermediate-range missiles and launchers is the easy part—as all land-based launchers would have to be emplaced in the territory of a US ally located near China or Russia. This is easier said than done.

- **Against China:** The US could deploy these missiles at Guam (US territory)—but a single site raises a systems survivability requirement—as the PLA would surely have plans to target Guam. In SE Asia, one plausible location for such missiles is Okinawa (Japan)—but the local population there has been long opposing US military presence. Notably, Yoshihide Suga, the Japanese chief cabinet secretary, has called the US treaty withdrawal "undesirable."[20] But more importantly, there are indications that Japan is seeking closer ties with China. The Trump Administration's economic and trade policies are not only ramping up economic pressure on China, but are also affecting Japan. Both are export-oriented economies and need globalisation to sustain them. Additionally, the US is striving to shift the dynamics in the Korean Peninsula. Thus, Japan and China are currently trying to find common cause—both nations had benefited from a liberal global economic order and both face the prospect of being sidelined by the US' Korean policy. In end-October 2018, Japanese Prime Minister Shinzo Abe made a landmark trip to China—the first Japanese state visit to China since 2011. It therefore remains to be seen if countries like Japan would approve of such deployments as it will also make them targets of Chinese military attack. It would be recalled that after the US announced plans to normalise relations with China in 1971, Japan had adroitly begun improving diplomatic relations with China, switched commitment from Taiwan to China (1972) and eventually signed a friendship treaty (1978). Thereafter, as China began its "Reform and Economic Opening" under Deng Xiaoping, it was Japanese assistance and aid that had powered China's economic growth. Japan's main objective in providing such developmental assistance was to modernise China and incentivise it to cooperate with Japan and the US during the Cold War. If China had been isolated, it could perhaps have sought to reconcile with the USSR; importantly, a hostile China would have placed Japan in a strategically disadvantageous position.
- **Against Russia:** Although the US' NATO allies had cautiously endorsed the US' stance of the INF Treaty in the July 2018 Summit Declaration, most European countries are averse to any fresh deployment of such missiles—on October 22, 2018,

the European Union asked[21] the USA to "consider the consequences of its possible withdrawal from the INF on its own security, on the security of its allies and of the whole world." The German Foreign Minister Heiko Maas also criticised the US withdrawal announcement. Besides, President Vladimir Putin has issued a stern warning to the USA and its European allies, adding that Russia would be constrained to attack any nation that agrees to house and launch intermediate-range missiles on behalf of the US.

Costs: Developing and deploying a land-based based intermediate-range missile arsenal will add to the already considerable nuclear and missile modernisation costs. In 2017, the US Congressional Budget Office had estimated that the cost to sustain and replace the US' nuclear systems over the next 30 years would reach $1.7 trillion after including the effects of inflation—and this estimate does not include the additionalities that the Trump Administration has proposed in the Nuclear Posture Review–2018. These costs would be in addition to those incurred on wars and operation in the wake of the "9/11" attacks (Operation Enduring Freedom; Operation Iraqi Freedom, Operation Noble Eagle; Operation New Dawn; and on the Dept. of Homeland Security).[22] The decision to withdraw from the Treaty has therefore come under criticism[23]—Senate Foreign Relations Committee ranking member Robert Menendez (D-NJ) noted that "bipartisan support for nuclear modernization is tied to maintaining an arms control process that controls and seeks to reduce Russian nuclear forces … We're not interested in writing blank checks for a nuclear arms race with Russia."

China

Abrogation of this Treaty by the US (and Russia) is likely to lead to China further augmenting its missile capabilities (and armed forces) to challenge new US deployments. Importantly, it may also result in China manufacturing more nuclear warheads. Currently, China has about 280 operational nuclear warheads, although its land-based strategic capabilities (with road/rail mobile ICBMs) are superior to that of the US' similar land-based capabilities (see Para 23 above). That said, it needs to be noted that the US military enjoys a strategic overmatch on account of its sea-based capabilities and that no part of China or its nuclear deployment is out of reach of US missiles.

Could China Join an INF/Similar Treaty? If China opts to join a similar treaty, then about 95 percent of China's ground-launched missiles are likely to be banned—and this is the same arsenal that is impacting the US military advantage in the Asia-Pacific region. It is perhaps for this reason that China has not responded to calls to join the INF regime. As stated above, the PLA is relying on its SRBMs and IRBMs for implementing its A2/AD strategy. Without such missiles—which include missiles like the DF-21D ASBM to keep the US Carrier Strike Group(s) at bay—the PLA faces an even more daunting task. In sum: China is unlikely to join an INF treaty unless it is mated to broader, US-China military non-targeting and non-aggression agreement.

Pakistan

China has traditionally utilised Pakistan to keep India's operational and strategic attention orientated westwards. Consequently, it has selectively augmented Pakistan's conventional military as well as strategic capabilities. Hence, it is possible that with some of India's interests aligning with those of Japan and the USA, an under-pressure China may, in a post-INF Treaty world, seek to further augment Pakistan's strategic capabilities. On its part, Pakistan may be further emboldened to take arms limitations for granted. Rajesh Basrur, a professor of International Relations at Singapore-based Nanyang Technological University, recently noted that "Arms racing is a cascading phenomenon", and "When China competes with the US, it arouses insecurity and a competitive drive in India, … [and] in turn … in Pakistan."

Europe

Europe could, once again, become a potential theatre for conventional and nuclear war between the USA and Russia. The US may seek to deploy land-based short- and intermediate-range missiles in the territories of its European allies. While countries like Germany

may oppose any new US deployment of such missiles, nations such as Poland and Romania may be more willing, given their threat perception versus Russia. The stern warning by President Vladimir Putin to the USA's European allies merits reiteration.

Effect on Strategic Stability

Till now, strategic stability between the two largest nuclear-armed powers was largely contingent on these verifiable treaties. If the INF Treaty is terminated, the US would lose its ability to formally verify what Russia is doing and deploying. Besides, the US withdrawal from the INF Treaty could provide motivation to the Trump Administration to renounce the New START Treaty too (due to expiry/renewal in 2021).

Ramping up of land-based short- and intermediate-range missile numbers by Russia, and of other systems and platforms by China, Pakistan, Iran, etc., would also see enhanced investments in missile defence. The US has already deployed a spectrum of Ballistic Missile Defence (BMD) platforms [the ship-based "Aegis" Ballistic Missile Defence (BMD); the Aegis Ashore; the Ground-based Mid-course Defense (GMD); Terminal High-Altitude Area Defense (THAAD); and the Patriot Advanced Capability-3 (PAC-3)]. If Russia ramps up production of intermediate-range missiles, the US may be forced to pump in more resources[24] into its BMD programmes—as BMD is more effective against shorter-range weapons. India's recent purchase of the Russian S-400 system is another example. Overall, the proliferation of missiles, of BMD systems, combined with the development of hypersonic weapons, is likely to encourage adventurism and severely undermine strategic stability.

Effect on Terrorism

An increased reliance on nuclear weapons—as espoused in the US Nuclear Posture Review–2018—also means that a few powerful nations may become even more aggressive and hegemonistic. If that happens, there could an increase in irregular warfare and also terrorism—threatened with nuclear weapons and not having the capacity to fight back in a conventional manner with conventional weapons, weaker nations would tend to "fight with what they have"—and may increasingly resort to "irregular warfare." It needs to be noted that contrary to popular belief, terrorism has been an enduring, historical reality as a mode of warfare, and apart from being a pejorative word, is also a descriptor of a specific type of battle-zone activity.

Notes

1. Under the treaty, the USA committed to eliminate its Pershing II, Pershing IA, and Pershing IB ballistic missiles, and BGM-109G cruise missiles. The Soviet Union had to destroy its SS-20, SS-4, SS-5, SS-12, and SS-23 ballistic missiles and SSC-X-4 cruise missiles.
2. Robert M. Gates, "Duty: Memoirs of A Secretary at War" (2014). The former US Secretary of Defence Robert Gates recorded in his memoirs that Sergei Ivanov, former Russian Minister of Defence, had stated thus to him in 2007.
3. "Putin Threatens Withdrawal from Cold War Nuclear Treaty," *The Guardian*, October 12, 2007.
4. *Bulletin of the Atomic Scientists*.
5. *Bulletin of the Atomic Scientists*, "Global nuclear weapons inventories, 1945–2013," November 2015.
6. Ship Submersible Ballistic Nuclear.
7. https://www.state.gov/t/avc/trty/102360.htm
8. US Congress, Senate Committee on Armed Services, NATO Defense and the INF Treaty, Hearing, 100th Cong., 2nd sess., February 1988, S.Hrg.100-493 (Washington: GPO, 1988).
9. Petr Topychkanov, "Is Russia Afraid of Chinese and Indian Missiles?" Carnegie Moscow Center, Moscow, November 3, 2014, http://carnegie.ru/commentary/?fa=57100
10. https://www.armscontrol.org/factsheet/cfe
11. Congressional Research Service Report, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty" (October 2018).
12. Congressional Research Service Report, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty" (October 2018): The US State Department, in the 2014, 2015, 2016, 2017, and 2018 editions of its report Adherence to and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments, stated that the USA has determined that

"the Russian Federation is in violation of its obligations under the [1987 Intermediate-range Nuclear Forces] INF Treaty not to possess, produce, or flight-test a ground-launched cruise missile (GLCM) with a range capability of 500 km to 5,500 km, or to possess or produce launchers of such missiles."

13. Intelligence, Surveillance, and Reconnaissance.
14. US Congress, House Committee on Foreign Affairs, Subcommittee on Terrorism, Nonproliferation, and Trade, and House Committee on Armed Services, Subcommittee on Strategic Forces, Joint Hearing on Russian Arms Control Cheating and the Administration's Responses, Hearing, 113th Cong., 2nd sess., December 10, 2014, Prepared Statement of Honourable Brian P. McKeon, Principal Deputy Under Secretary of Defense.
15. Congressional Research Service Report, "Russian Compliance with the Intermediate Range Nuclear Forces (INF) Treaty" (October 2018).
16. Idrees Ali and Robin Emmott, "U.S. Defense Secretary says Russian violation of arms control treaty 'untenable,'" Reuters, October 5, 2018, https://www.reuters.com/article/us-usa-nuclear-russia/pentagon-chief-says-russian-violation-of-key-arms-control-treaty-untenable-idUSKCN1ME1JV
17. https://www.cnbc.com/2018/10/31/us-pullout-from-nuclear-pact-with-russia-may-heighten-tensions-in-asia.html
18. Admiral James Ellis, former Commander of US Strategic Command, in "The Future Missile Force," October 2005.
19. US Congress, House Committee on Armed Services, Subcommittee on Strategic Forces, Russian Violations of the Intermediate-Range Nuclear Forces Treaty, Hearing, 113th Cong., 2nd sess., July 17, 2014. Prepared statement of Jim Thomas, Vice President of the Center for Strategic and Budgetary Assessments.
20. https://www.armscontrol.org/act/2018-11/news/trump-withdraw-us-inf-treaty
21. Statement on the Treaty on Intermediate-Range Nuclear Forces in Europe dated October 22, 2018. https://eeas.europa.eu/headquarters/headquarters-homepage/52520/statement-treaty-intermediate-range-nuclear-forces-europe_en?ust=1541084760000000&usg=AFQjCNHtGlI97XJfODq5amfX_GPztidrTA&hl=en&source=gmail
22. Estimated to be around US$ 4.8 trillion through FY 2017, plus over $7.9 trillion in cumulative interest on past appropriations (total: US$12.7 trillion). https://www.csis.org/analysis/us-military-spending-cost-wars
23. https://www.washingtonpost.com/politics/gop-lawmakers-criticize-trumps-decision-to-withdraw-from-nuclear-arms-treaty/2018/10/21/20e4d726-d53d-11e8-83a2-d1c3da28d6b6_story.html?noredirect=on&utm_term=.41d40b5107c9
24. The US Missile Defense Agency has already spent $123 billion BMD—and plans to spend another $37 billion through 2021. https://www.gao.gov/products/GAO-17-381

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