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Strategic Stability and the Global Race for Technology Leadership

by Christopher A. Ford¹

This edition of the ACIS Papers series looks at the challenges involved in preserving strategic stability in a modern environment of technology-fueled great power competition, arguing the importance of meeting these challenges through a mix of traditional nuclear arms control, the enforcement of norms of responsible behavior in new conflict domains such as cyberspace and outer space, and the development and implementation of effective, coordinated approaches to technology competition among the “likeminded” states of the non-authoritarian world.

The concept of “strategic stability” is one that many policymakers feel that they understand, but which is, in fact, sometimes surprisingly difficult to define. It can, in fact, be interpreted in various ways, to the extent that [a book on the topic to which I once had the honor of contributing](#) seemed to contain as many different definitions as it had contributing authors.

Some, for instance, prefer to interpret “strategic stability” primarily through a nuclear lens, as it pertains to nuclear weapons use incentives and crisis stability factors. I have always, however, seen it more broadly, as relating to the incentives or disincentives that the major powers feel about the prospect of using *any kind* of military coercion directly against each other – that is, of trying to change the geopolitical *status quo* (whatever it may be) by force of arms. In this respect, as I outlined as a contribution to the aforementioned book, I have tended to view “strategic stability” as being

“loosely analogous to a military ‘Nash Equilibrium’ between the principal players in the international environment (*i.e.*, the ‘great powers’) as it pertains to the possibility of their using force against each other. [This view] defines strategic stability as being a situation in which no power has any significant incentive to try to adjust its relative standing vis-à-vis any other power by unilateral means involving the direct application of armed force against it. General war, in other words, is precluded as a means of settling differences or advancing any particular power’s substantive agenda. The environment is thus strategically stable if no player feels itself able to alter its position by the direct use of military force against another player without this resulting in a less optimal outcome than the alternative of a continued military

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stalemate and the pursuit of national objectives by at least somewhat less aggressive means.”

This definition offers an important window on the role of *technology competition* in the modern geopolitical environment – and thereby also into the critical importance of [technology transfer diplomacy](#) and controls in preserving international peace and security in our world today.

I. Strategic Stability: Costs and Benefits

As a preliminary matter, while most discussions begin with the assumption that strategic stability is desirable, it can also entail costs. To some degree, for instance, strategic stability can perhaps have costs if it leads one country to feel that it has leeway to engage in aggressive behavior *below* the strategic level, on the assumption that a higher-level standoff will ensure that low-level provocations cannot be decisively countered. (I will address this problem in more detail below.) Strategic stability might also help “immunize” a tyrannical regime against well-deserved foreign efforts to replace it or press it to change its abusive internal behavior if that regime is – or is closely allied to – one of the great powers existing in a strategically stable balance. Strategic stability among the great powers might also perhaps facilitate aggression by a great power against a smaller one, at least to the degree that such violence could take place without implicating alliance structures that might pull in another of the larger states. Strategic stability is thus a descriptive term rather than a normative term: it is less *per se* good than something that is good or bad, desirable or undesirable, depending upon the circumstances and upon the values that one prizes.

Nevertheless, in an environment of great power competition in which several powers possess nuclear weaponry capable of rapidly killing many millions of people in a nuclear war, it is not hard to see strategic stability as highly desirable, insofar as it means a reduced likelihood of direct military engagement between those powers and thus a lessened risk of escalation to a nuclear exchange. Notwithstanding strategic stability’s potential costs, therefore, U.S. policy has long taken its maintenance to be a very important objective. Most nuclear powers understandably share this perspective.

But there is a vital wrinkle. For a state that seeks fundamental change in the strategic environment – a state dedicated, in a sense, to *instability* in the broader, existing balance of power – strategic stability is likely to be unwelcome, for it imposes sharp limits on whether and how such self-aggrandizing systemic change may be sought. Significantly, it is this very possibility that points us to the challenges to international peace and security that are presented by great power competition for mastery of militarily relevant areas of cutting-edge 21st Century technology. As we will see, moreover, this realization also points us in turn to the need for improved multilateral coordination and cooperation among “likeminded” non-authoritarian states in meeting technology-transfer and technology-diversion threats.

Even though most “strategic stability” discussions focus upon nuclear weaponry and its impact upon power balances and crisis stability, it is important to realize that – under contemporary circumstances, at any rate – “technology control” questions are likely to be at least as important for strategic stability over time as traditional approaches to arms control. It is thus one of the most important national security challenges of our time to see the importance both of arms control and of technology control, to understand their complex relationship, and to find ways effectively to advance both of them in order to preserve strategic stability and prevent global war.

The difficulty of this task is heightened by the fact that “arms control” approaches – if one thinks of them merely in stereotypical Cold War ways that relate to defining a type of “weapon” as being potentially problematic and then seeking to impose limits on its possession – are quite poorly suited to mitigating the security challenges presented by emerging technologies, especially (but not exclusively) in non-traditional domains such as cyberspace and outer space. So with a gap thus existing between the strategic stability risks inherent in high-technology geopolitical competition and our ability to mitigate those risks through traditional rule-prohibitive formulae, we must find new approaches to thinking about what risk-reduction and the preservation of strategic stability require in a high-technology mid-21st Century environment. The following pages will explore these dynamics a bit further.

II. Technology and Strategic Stability

To begin with, it is becoming increasingly clear that the global race for technology leadership – or at least for leadership in whatever sectors of the technological arena can be leveraged into general military and indeed geopolitical power – may be at least as important for the future of strategic stability as are developments in the better-understood arena of nuclear weapons competition. Especially at a time in which new and potentially disruptive technologies emerging at a dizzying pace, we ignore this at our peril.

As the [2017 U.S. National Security Strategy](#) (NSS) made clear, after being dismissed for too long as a phenomenon of an earlier century, great power competition has – unfortunately, but unavoidably – returned to the center of modern geopolitics. Moreover, as the NSS indicated, this competition has powerful technological valences, raising “strategic” issues irrespective of any connection to nuclear weaponry:

“The spread of accurate and inexpensive weapons and the use of cyber tools have allowed state and non-state competitors to harm the United States across various domains. Such capabilities contest what was until recently U.S. dominance across the land, air, maritime, space, and cyberspace domains.”

As was also made clear in the Defense Department’s [2018 Nuclear Posture Review](#) (NPR), building upon this insight, we have begun to extend nuclear deterrence to such realms. While our declaratory policy emphasizes that the United States would only consider the employment of nuclear weapons in “extreme circumstances to defend the virtual interests of the United States, its allies, and partners,” for example, those circumstances “could include significant non-nuclear strategic attacks,” which

“include, but are not limited to, attacks on the U.S., allied, or partner civilian population or infrastructure, and attacks on U.S. or allied nuclear forces, their command and control, or warning and attack assessment capabilities.”

The strategic stability challenge, however, goes far beyond the degree to which specifically *nuclear* deterrence can be applied in responding to technologically facilitated *non-nuclear* threats. In the

current environment, we must cope more broadly with the many ramifications of high-technology military progress on strategic stability more generally. In an era of great power competition, the dynamics of *technological* competition – and its military ramifications – are, for better or worse, ever more important in the preservation of international peace and security.

This is, certainly, what *Chinese* strategic planners believe. As I have repeatedly detailed in this [ACIS Papers](#) series and in various [speeches](#) and [public engagements](#), officials in the People’s Republic of China (PRC) clearly concluded, long ago, that the development or acquisition of cutting-edge technology – and Beijing’s strategy to ensure its incorporation into systems and weapons for the People’s Liberation Army and the Chinese security services – are central to the Chinese Communist Party’s (CCP’s) [revisionist geopolitical agenda](#) of bringing about China’s “national rejuvenation” in ways that position the PRC at the hegemonic apex of the international food chain. The CCP has, in fact, built an entire nationwide bureaucratic structure around achieving this, with the strategy of “[Military-Civil Fusion](#)” (MCF) dedicating itself over the last decade to systematically breaking down barriers between China’s civilian and military sectors, en route to an ultimate end state in which there remains no distinction between them whatsoever – a totalitarian vision in which all applications of technology are devoted, one way or the other, to the greater glory and power of the Party-State.

As PRC planners have made all too clear, they see geopolitical outcomes as being powerfully determined by the military aspects of technological application. Various states throughout history have ridden to global prominence and power by positioning themselves at the leading edge of successive “[Revolutions in Military Affairs](#)” (RMAs) that have disruptively transformed the prevailing balance of power – with each such state often only thereafter, in time, losing that primacy as some other state seizes the reins of the *next* RMA.

For strategists in Beijing, China’s own late-imperial history provides a painful example of this historical dialectic. The Qing Dynasty rode to power at least in part on the basis of its ability to muster the then-advanced technologies of gunpowder and cannon. But after a few hundred years of East Asian hegemony, the Qing ran headlong into the self-aggrandizing dynamism of a British Empire then full of a power and exuberance born of its position, by that point, at the forefront of the Industrial

Revolution. Technologically based economic weight and (then) cutting-edge military power had created a new reality – one in which the tiny British Isles had become far more effectively powerful than the once-mighty Qing Empire – and regional hierarchies and broader geopolitics adjusted accordingly, giving London a globe-spanning empire and the ability for some time to lead the imposition upon China of a series of “unequal treaties” that Chinese nationalists have neither forgotten nor forgiven in all the years since.

Simply put, therefore, the PRC’s MCF strategy is designed to marshal the forces of modern-day technological change to place *China* in an economic and military position in the mid-21st Century not entirely unlike the one in which Britain found itself in the mid-19th. The development in the PRC – or the purchase or theft abroad – of advanced technology capabilities in areas such as Artificial Intelligence (AI) and machine learning, quantum computing, aerospace engineering, semiconductor manufacturing, “Big Data” analytics, civil-nuclear technology, and biotechnology, all of which the MCF strategy expressly targets, is central to this vision.

This all matters for strategic stability. If the PRC hopes for world-beating, RMA-empowered capabilities in the 21st Century environment analogous to those Britain enjoyed in the 19th, it would seem that Beijing envisions the United States filling in for the Qing – that is, in being upended and defeated by a rising power that disrupts the global power structure and reshapes international affairs around itself. Such a vision of strategic succession is inconsistent with strategic stability, for at the core of this strategy is the aspiration to use military power to *upend* the existing order of things and *displace* the dominant power of the era. It is possible that PRC strategists imagine that they can accomplish such strategic disruption by overawing potential opponents and using coercive suasion short of actually employing force. Yet there is no escaping the fundamental incompatibility of this geopolitical ambition with anything that could genuinely be described as “strategic stability.” This is why dynamics of technology competition – and hence questions both of [technology cultivation \(for oneself\) and technology denial \(for adversaries\)](#) – lie near the core of the problem of great power competition in the modern era, and why getting one’s policies right on *these points* is critical for the maintenance of international peace and security.

III. Deterrence and Disruption

One might wonder, of course, what these dynamics have to do with more traditional “strategic stability” issues involving nuclear weapons. And, in truth, any answer to that question can still only be speculative, inasmuch as the relationship between traditional deterrence and emerging technologies in new “battlespace” domains such as cyberspace and outer space, the potential “strategic” application of non-nuclear capabilities, and the aggregate impact of modern technological advancement upon overall geopolitical power are all essentially matters of first impression for global leaders. Nevertheless, one can perhaps discern a few points.

The first relates to the degree of strategic stability traditionally provided by nuclear weapons – that is, both (a) the fact that all other things being equal, nuclear weapons-possessing states have some incentive not to war against each other precisely by virtue of their reciprocal possession of the ability to inflict incalculable harm upon the other, and (b) the fact that even a state with a preponderance of conventional military power may have to think twice before attacking a weaker, nuclear-armed or -protected adversary. This is the phenomenon of nuclear deterrence and extended deterrence. However imperfect and potentially fallible it is – and whatever the degree that other factors may impinge upon its effectiveness in preventing conflict between nuclear weapons possessors (*e.g.*, accident, inadvertent escalation, miscalculation, irrationality, or indeed rational and deliberate choices made *in extremis*) – the logic of such deterrence is compelling.

Yet the interplay between technology competition and strategic stability also suggests the possibility that nuclear-based stability could have structural limitations. To begin with, the nuclear standoff of a dyadic deterrent relationship can still allow a fair amount of “warring” to occur between its participants, even if this conflict is not of a direct and maximalist sort. During the Cold War, for instance, the U.S. and Soviet alliance systems had fairly stable geographic frontiers when it came to their actual armed forces facing off against each other in Central Europe and East Asia. Nonetheless, a great deal of bellicose rivalry was “displaced” to other areas of the world in *indirect* conflicts such as the Korean War and the Vietnam War, proxy struggles pitting Communist-backed guerrillas and terrorist groups against Western-friendly

governments, and warfare between Third World states and factions each backed by opposing sides.

Perhaps analogously, in South Asia today, the existence of a nuclear weapons standoff and arms race between India and Pakistan has not precluded a degree of low level, simmering conflict between them, involving cross-border terrorist groups operating out of Pakistan against India and – most recently – a limited exchange of air strikes. Even this past summer, moreover, nuclear-armed rivals China and India engaged in fatal border skirmishes in their competition for territory in the high Himalayan peaks between Ladakh and Aksai Chin. As the Korean War, the Yom Kippur War between Egypt and Israel in 1973, and the February 2019 India-Pakistan crisis all illustrate, even geographically displaced or “merely” low-level engagements can run grave risks of escalation to war between nuclear-armed principals. And even if such horror is avoided, “strategic stability” is hardly always peaceful; the very higher-level “stability” it creates between its main protagonists can create seemingly safe “space” for lower-level coercive self-aggrandizement that nonetheless can give rise to dangerous escalatory pressures.

Moreover, the “space” created by a “strategically stable” relationship can also breed trouble to the extent that this very stability creates opportunities for subsequent strategic disruption. An aggressive rising state has reason to dislike strategic stability, precisely to the degree that it *is* strategically stable, and to seek to undermine that stability in ways that conduce to its advantage. In the right circumstances, however, such a revisionist might be able to rely upon strategic stability to protect it from the power of *others* while it marshals its strength, preparing for a future military (or militarily-facilitated) challenge to the global order.

This points to the fact that strategic stability is not a static but rather a dynamic concept, as well as to the ways in which matters of technology competition can potentially have a powerful disruptive effect upon a supposedly “stable” system. It thus directs us back to the importance of technological competition, and the threats presented by the PRC’s MCF strategy. Readers who are familiar with Deng Xiaoping’s comment that China should “bide its time and hide its capabilities” – a strategic maxim from the years after Mao Zedong’s death when the PRC began to turn outward to the world again, building its economy through initially export-led growth and seeking

to modernize through the import of Western technology and know-how on a massive scale – ought to be able to see the potential problem, especially now that the dictatorship of Xi Jinping has decided to stop “biding and hiding” and is more inclined aggressively to flex its muscles and flaunt the capabilities Beijing built while the rest of the world dreamed complacently of a neoliberal, democratic end of history.

So in this context, what might be the impact of a hypothesized future RMA-style disruptive transformation in the currency of global power, especially were it to arrive on top of the already challenging developments in potential “strategic” applications of non-nuclear tools that we noted in the U.S. National Security Strategy? At the very least, one might imagine that despite whatever stabilizing effect nuclear weapons may have, the “Nash equilibrium” sort of strategic stability I have described above can be undermined by dynamics of technology competition even in non-nuclear arenas.

The degree of any such erosion, however, would presumably vary. In extreme circumstances of eventual military-technological disparity, it is at least conceivable that even nuclear deterrence itself, as between major weapons possessing powers, could at some point be called into question. This dialectic is already well recognized. The history of military technological evolution makes clear that it is hardly impossible for one era’s war-winning superweapon to be rendered ineffective by the subsequent development of new capabilities. Within a human lifetime from the point at which steam-driven ironclads made deathtraps out of the greatest wooden ships of the line from the “age of sail,” for instance, those dreadnoughts themselves ceased eliciting awe and fear once it became clear what aircraft and submarines could do to a battleship. In more modern strategic terms, a rogue regime’s small, “entry level” nuclear arsenal – itself perhaps having been intended to provide a deterring riposte to conventional military mismatch and to create “space” in which lower-level non-nuclear provocations could be indulged – can in theory already be all but obviated by sophisticated missile defenses. And even with the largest and most impressive of nuclear stockpiles, such an arsenal might be of radically diminished value if, in the face of sufficiently effective cyber, space, and strategic precision conventional attack, its possessor lost the ability to rely upon the national command, control, and communications (NC3) capabilities required in order actually to employ nuclear weapons in a conflict.

Less dramatically, but still importantly, a major shift in the non-nuclear military-technological balance could increase instability and escalation risks by tempting its beneficiary into increasingly aggressive moves in the “space” that lies “below” an assumed threshold of nuclear deterrence. Significantly, this threat to strategic stability from non-nuclear technological development would likely be most dramatic if it occurred in the context of changes in the nuclear balance as well.

And this is why the PRC’s current strategic trajectory – coupled with its baldly revisionist geopolitical ambitions – is so alarming. It is not merely that Beijing, as we have seen, is seeking to position itself atop the commanding heights of the mid-21st Century RMA its strategists believe will arrive with the incorporation of artificial intelligence, quantum computing, and other evolving technologies into what the People’s Liberation Army somewhat awkwardly terms “intelligent warfare.” It is also that the PRC is at the same time rapidly expanding both the size and the diversity of its nuclear arsenal.

This PRC nuclear buildup is especially worrying on account of its objective needlessness. To the degree that in the modern era Beijing ever actually worried about direct U.S. military attack, the PRC seems clearly to have quite successfully “deterred” such attack for all the years since China’s first nuclear weapons test in 1964. Any actual threat to the PRC directly from United States nuclear weapons, moreover, has been plummeting since the end of the Cold War, with the U.S. arsenal having been cut by at least two-thirds since China joined the Nuclear Nonproliferation Treaty in 1992. For a country that purports (as the PRC does) to have a “no first use” nuclear posture – that is, to believe that the “sole purpose” of nuclear weapons is to deter the use of *other* nuclear weapons, and to proclaim that it would not use such weapons unless others did so – one might have imagined that this massive reduction in the U.S. nuclear arsenal would allow China to cap or even reduce its own arsenal.

Despite this huge reduction in the U.S. nuclear threat that Beijing claims to fear, however, the PRC has embarked upon a huge nuclear buildup. As summarized in the most recent U.S. Defense Department report on

[*Military and Security Developments Involving the People’s Republic of China*](#), “[o]ver the next decade, China’s nuclear warhead stockpile ... is projected to at least double in size as China expands and modernizes its nuclear forces.” China has steadfastly refused to agree to a policy moratorium on additional production of fissile material for nuclear weapons, but even without such production it probably already has “enough nuclear materials to at least double its warhead stockpile without new fissile material production.” It’s anybody’s guess where this relentless expansion stops, but ostensibly unofficial but government-controlled press outlets in the PRC have frequently talked about a supposed need for China to have a much larger nuclear arsenal.² Despite a dramatic diminution in the nuclear threat facing it, therefore, the PRC is engaged in a *huge* expansion of its nuclear capabilities.

None of this bodes well for strategic stability. This grim conjunction signals that the authoritarian Chinese Communist Party regime may be trying to procure a sort of geopolitical “hunting license” for itself: the ability to engage with relative impunity in predatory acts of international intimidation, coercion, and aggression using new, RMA-facilitated military capabilities, to be carried out under a sort of *offensive* “nuclear umbrella” created by Beijing’s wantonly ballooning nuclear arsenal.

These dangerous dynamics thus highlight the imperative of finding both an adequate response to the technology competition challenges created by the PRC’s strategy and a way to [ensure that Beijing is brought, for the first time, into some kind of nuclear arms control framework](#). Doing exactly this, in both respects, is today a key priority for the United States, and much hinges upon whether we are successful. For the United States and the democracies of the world to *fail* in finding answers to the challenges presented in these regards by PRC revisionism could usher in a gravely dangerous new era of strategic instability, potential great power conflict, and risk of escalation to nuclear warfare.

² See, e.g., “China Cannot Hesitate on Nuclear Buildup,” *Global Times* (December 23, 2016); “Editorial: DF-41 Reportedly Deployed, China Will Gain More Respect,” *Global Times* (January 24, 2017); “Editorial: Both China’s Defense Spending and Nuclear Strategic Capabilities are Not Enough,” *Global Times* (December 14, 2016); Hu Xijin, “China Needs to Increase its Nuclear Warheads to 1,000,” *Global Times* (May 8, 2020). *Global Times* is owned by the People’s Daily, the official newspaper of the Chinese Communist Party.

IV. The Limits of Traditional Arms Control – and What Can Yet Be Done

With nuclear and technology-competition threats having pointed us to the critical importance of arms control with China, however, we face a special challenge in the contemporary world from the fact that traditional legal-regulatory approaches to arms control – while they thankfully remain viable and indeed indispensable in the nuclear weapons arena – are notoriously ill-suited to meeting the security threats presented by the destabilizing technology-facilitated geopolitical revisionism of the PRC and the Russian Federation. This is an argument that I have made in more detail [elsewhere](#), especially in connection with novel potential “battlespace” domains such as [cyberspace](#) and [outer space](#), as well as with regard to fast-moving emerging technologies such as that of [lethal autonomous weapon systems](#), so I will not belabor the point here.

In arenas characterized by rapidly evolving and ubiquitous dual-use technologies and operational concepts, traditional rule-prohibitive arms control approaches are indeed today falling short. These approaches are unable to come up with intelligible and administrable definitions of what is to be banned – at least not without being [damagingly over-inclusive, dangerously under-inclusive, or both](#). They are, moreover, largely unable to verify and enforce compliance with any such prohibition even if one *could* be developed.

This is not to suggest that it is impossible to make progress in mitigating security threats in such evolving, high-technology domains. It is merely to point out that the “arms control” reflexes that many members of the policy community bring to the table are often not helpful, and can conceivably be dangerous – such as when, for instance, they tempt policymakers to indulge purported solutions, such as [recent Sino-Russian outer space initiatives, that look like arms control but in fact excuse or mask destabilizing behaviors on the part of their proponents](#). While we continue to pursue arms control measures wherever they are likely to be effective, to be verifiable, and to be complied with by other parties – [including, in particular, with Russia and China with regard to nuclear weapons](#) – we must also acknowledge the

limitations of traditional arms control approaches as applied in many emerging technology arenas.

We need different answers. The United States has been at the forefront of developing other approaches to mitigating risks and meeting security challenges in such domains, such as bringing states together to [articulate and defend norms of responsible behavior](#),³ and to [establish more effective frameworks for deterring irresponsible behavior](#). With respect to the security challenges of high-technology competition across the board, moreover – in which self-aggrandizing destabilizers such as Beijing are unlikely to agree to negotiated limits or upon effective codes of conduct – the best available answer may be a policy of cautious restriction, and where necessary denial, by the collective technology possessors of the non-Chinese world.

To this end, the United States has been leading in developing, implementing, and evangelizing for appropriate responses that help address the [technology-diversion problems presented by the PRC’s MCF strategy](#), including by building “[coalitions of caution](#)” against technology transfer threats and working with partners to improve “best practices” in national security export control policy, [visa screening](#), and other such areas. At the same time, we have been working to [catalyze more technological innovation within the United States itself](#), to [onshore critical capabilities such as semiconductor manufacturing](#), and to build consortia of trusted partners from across the democratic world to provide competitive, cutting-edge technology opportunities and solutions vis-à-vis the state-subsidized or state-owned “national champions” of our authoritarian competitors.

V. Conclusion: Diplomacy “Across” and “Against”

Meeting contemporary challenges of strategic stability requires a mix of both traditional and nontraditional approaches, and must involve a broader range of participants and stakeholders than is usually envisioned in discussions of strategic stability. Yes, traditional rule-prohibitive nuclear arms control remains essential, negotiated between the major players in order both to

³ As merely one example – beyond the [principles of responsible behavior in cyberspace that I have discussed elsewhere](#), and the [outer space norms](#) we also seek to develop – the United States participated in a Group of Governmental Experts in 2019 that by consensus articulated 11 “[guiding principles](#)” for helping address the challenges presented by LAWS.

prevent the escalating spiral of a new arms race and to help prevent the PRC's dramatic nuclear buildup from creating a nuclear "overhang" under which Beijing would feel increasingly tempted to engage in provocative regional behaviors and predatory acts using its conventional forces – acts which, of course, would trend to create regional conflicts and create terrible nuclear escalation risks.

Even though traditional arms control unfortunately still lacks effective tools and concepts for addressing great power competitive dynamics in new, rapidly evolving high-technology domains such as cyberspace and outer space, moreover, we can also do more to reinforce strategic stability by developing and promoting understandings and expectations of responsible behavior there. Both of these tasks – traditional arms control and norm development – will require effective multi-party diplomacy across the fault lines of contemporary competitive geopolitics, and are high priorities for the United States.

At the same time, however, meeting today's challenges of strategic stability will require more effective measures, both on a unilateral basis and on one of ["likeminded" Western democracies acting in concert, against the dangerous agendas of the authoritarian revisionists](#). Expectations of behavior in novel domains, for instance, must be "enforced" by resolute steps taken by coalitions of responsible states to penalize irresponsible behavior, thereby establishing what are in essence [deterrence frameworks that disincentivize destabilizing provocations](#). To prevent (or delay) the emergence of technological asymmetries that could imperil strategic stability – such as by changes that facilitate any one power's conflict-engendering use of RMA-fueled military coercion to upend the existing international order and restructure that order around

itself as a new regional or global hegemon – the likeminded non-authoritarian countries of the world must focus intensively on three critical tasks that derive from a clear understanding of the importance of technology competition in modern-day competitive geopolitics:

- 1) building significantly more prudent, cautious, and restrictive approaches to technology control and/or denial vis-à-vis great power competitors;
- 2) developing and implementing more effective and collaborative measures to preclude national infrastructures being "colonized," captured, and manipulated for coercive advantage by entities that report to authoritarian masters in Beijing and Moscow; and
- 3) taking successful steps to stimulate innovation and unleash more creative dynamism in the Free World's own technology sectors.

In sum, a full appreciation for the relationship between technology competition and strategic stability compels attention not just to traditional arms control, but also both to the *limits* of such arms control *and* to the important steps that can yet be taken by the free nations of the world to preserve international peace and stability – notwithstanding the challenging environment of great power competition we face today – through less traditional approaches that involve the admixture of norm development and enforcement with coordinated approaches to technology management. Strategic stability faces new and perhaps unprecedented challenges in the modern world. Nevertheless, its preservation, and the prevention of conflict between the great powers, is far from hopeless if we can bring steady, clear-eyed determination to the task. In the United States, we remain firmly devoted to doing so.



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