ASIA-PACIFIC REGIONAL SECURITY ASSESSMENT 2022

Key developments and trends

The Asia-Pacific Regional Security Assessment examines key regional security issues relevant to the policy-focused discussions of the IISS Shangri-La Dialogue, Asia’s premier defence summit convened by the International Institute for Strategic Studies. It is published each year in association with the Dialogue and the issues analysed within its covers are central to discussions at the event.

This ninth edition of the Asia-Pacific Regional Security Assessment focuses particularly on developments in US-China relations, including heightened tensions over Taiwan, increased air and naval operations in maritime East Asia, and nuclear-weapons and technological competition. It also examines the regional security roles of middle powers (India, Japan and Europe). As this volume goes to press, the war in Ukraine overshadows the international security landscape and many chapters in this volume touch on the conflict’s ramifications for security in the Asia-Pacific.

This edition contains 12 detailed empirically based chapters that investigate important dimensions of the regional security environment, supported by maps, graphs, charts and tables. Topics include:

- US Indo-Pacific strategy, alliances and security partnerships;
- Chinese perspectives on regional security;
- Taiwan’s security and the possibility of conflict;
- the continuing challenges posed by North Korea’s nuclear and missile programmes;
- the nuclear dynamics of Sino-American security relations;
- air and naval operations in the Asia-Pacific;
- Sino-American technology competition;
- Japan’s competition and cooperation with China;
- India’s role in the Quadrilateral Security Dialogue (Quad);
- the evolving regional security engagement of European states and the European Union;
- China’s role as an upstream state in the Mekong sub-region; and
- the climate crisis and Asia-Pacific security.

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The IISS, founded in 1958, is an independent centre for research, information and debate on the problems of conflict, however caused, that have, or potentially have, an important military content.

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<tr>
<td>ASEAN</td>
<td>Association of Southeast Asian Nations</td>
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<tr>
<td>ASW</td>
<td>anti-submarine warfare</td>
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<tr>
<td>BRI</td>
<td>Belt and Road Initiative</td>
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<td>CCG</td>
<td>China Coast Guard</td>
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<td>CCP</td>
<td>Chinese Communist Party</td>
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<tr>
<td>CFUIS</td>
<td>Committee on Foreign Investment in the US</td>
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<tr>
<td>CPTPP</td>
<td>Comprehensive and Progressive Agreement for Trans-Pacific Partnership</td>
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<td>DMZ</td>
<td>Demilitarized Zone</td>
</tr>
<tr>
<td>DPRK</td>
<td>Democratic People’s Republic of Korea (North Korea)</td>
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<tr>
<td>EAS</td>
<td>East Asia Summit</td>
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<tr>
<td>EEZ</td>
<td>exclusive economic zone</td>
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<tr>
<td>FOIP</td>
<td>Free and Open Indo-Pacific</td>
</tr>
<tr>
<td>FPDA</td>
<td>Five Power Defence Arrangements</td>
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<tr>
<td>HGV</td>
<td>hypersonic glide vehicle</td>
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<tr>
<td>ICBM</td>
<td>intercontinental ballistic missile</td>
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### Common Abbreviations

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>IRBM</td>
<td>intermediate-range ballistic missile</td>
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<tr>
<td>JSDF</td>
<td>Japan Self-Defense Forces</td>
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<tr>
<td>MRBM</td>
<td>medium-range ballistic missile</td>
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<tr>
<td>MRC</td>
<td>Mekong River Commission</td>
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<tr>
<td>PAFMM</td>
<td>People’s Armed Forces Maritime Militia</td>
</tr>
<tr>
<td>PLA</td>
<td>(Chinese) People’s Liberation Army</td>
</tr>
<tr>
<td>PLAAF</td>
<td>PLA Air Force</td>
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<tr>
<td>PLAN</td>
<td>PLA Navy</td>
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<tr>
<td>Quad</td>
<td>Quadrilateral Security Dialogue</td>
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<tr>
<td>ROK</td>
<td>Republic of Korea (South Korea)</td>
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<tr>
<td>SMIC</td>
<td>Semiconductor Manufacturing International Corporation</td>
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<tr>
<td>SRBM</td>
<td>short-range ballistic missile</td>
</tr>
<tr>
<td>THAAD</td>
<td>Terminal High-Altitude Area Defense</td>
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<tr>
<td>TSMC</td>
<td>Taiwan Semiconductor Manufacturing Company</td>
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INTRODUCTION

At the time this edition of the Asia-Pacific Regional Security Assessment goes to print, the war in Ukraine overshadows international security, even in the world beyond Europe. It is the most intense conflict on the continent since the end of the Second World War; regardless of how long it lasts or how it ends, it is sure to have important consequences for the Asia-Pacific. Some of these ramifications are already emerging. Simultaneously, however, many of the same international-security concerns that have bedevilled the Asia-Pacific since the beginning of the IISS Shangri-La Dialogue process 20 years ago remain salient, if in modified form.

This ninth edition of the annual Asia-Pacific Regional Security Assessment presents detailed discussion and analysis of a wide range of these enduring Asia-Pacific security concerns. Prominent among them are questions about relations between the region’s major powers, as well as between them and the Asia-Pacific’s middle powers and small states. The impact of US policy on the region’s security is an important focus, particularly in terms of Washington’s evolving Indo-Pacific alliances and partnerships; the Biden administration’s posture towards Taiwan; air and naval operations in the region; and the nuclear-weapons and technological dynamics of US–China competition. China’s increasingly significant geopolitical role looms large in many chapters, which highlight, among other things, the challenge it poses to Taiwan’s security and the impact of its upstream activities along the Mekong River on mainland Southeast Asia. Importantly, there is also a chapter that seeks to promote a better understanding of China’s perspective on Asia-Pacific security.

While many of the chapters are concerned primarily with aspects of Chinese and US regional security policies and with Sino-American competition, this edition also discusses Japan’s attempts to sustain competition with China ‘without spiralling into catastrophe’, India’s emergence as a major power in the region (and its engagement with the Quadrilateral Security Dialogue, or Quad) and the potential for Europe to become a more important security actor in the Asia-Pacific. The concluding two chapters assess respectively...
environmental security as an aspect of relations between China and Southeast Asia and the increasingly important effects that climate change promises to have on a range of existing regional security problems, in the medium term and beyond.

**THE US, CHINA AND REGIONAL SECURITY**

In the opening chapter, Ashley Townshend and James Crabtree argue that for more than a decade the US has ‘struggled to prioritise’ the region, enhance its military posture and modernise its network of alliances and partnerships in order to advance a necessary ‘collective approach to regional defence strategy’. They write that the Biden administration has shown strategic discipline in extricating the US from Afghanistan and managing the war in Ukraine while simultaneously trying to prioritise its avowed objective of competing strategically with China. However, these steps have been insufficient to advance the United States’ standing as the region’s leading power. Efforts to strengthen the US regional military posture have been mainly incremental and defence-spending plans are inadequate. The new AUKUS partnership and other alliance reforms ‘will take years to pay dividends’. The authors conclude that Washington will need to intensify its ‘prioritisation, posture and partnerships’ efforts if it is ‘to have any hope of upholding a favourable Indo-Pacific balance of power’.

As US-based analyst Yun Sun highlights in her chapter, from Beijing’s perspective the United States’ regional military presence, alliances and partnerships – now including AUKUS as well as the Quad – constitute significant security challenges to China’s national-security objectives. While China has become a stronger and increasingly active player in its own region, its leadership calculates that the country cannot be secure while the US works to enhance its own regional security role. The regional strategic outlooks of the two great powers are, in Sun’s words, ‘increasingly antagonistic’. Taiwan has emerged as the potential flashpoint where China and the US are most likely to clash militarily, although
Russia’s invasion of Ukraine has almost certainly complicated Beijing’s reported plans to use force against the island.

In his chapter on enhancing Taiwan’s security and reducing the likelihood of conflict across the Taiwan Strait, Brendan Taylor argues that China is unlikely to attempt to annex Taiwan by force ‘until at least the end of this decade’. He notes that the war in Ukraine has highlighted the importance of not overlooking the challenges faced by attackers and the strengths of defenders. In the meantime, the most serious risk to peace will be an accidental Taiwan conflict resulting from ‘misadventure, miscalculation or misperception’, highlighting the need for ‘more robust crisis-management and -avoidance mechanisms’. However, over time and despite efforts by Taiwan, the US and US allies to strengthen their deterrence of an attack, the military balance may begin to move decisively in favour of China, still a rising superpower. According to Taylor, this shift could reduce the credibility of the US security guarantee, with a potentially dramatic effect on the dynamics of this possible flashpoint.

Another prominent potential flashpoint in the region is the Korean Peninsula. Returning to questions about North Korea’s nuclear-weapons and missile programmes that he has addressed in previous editions of the Asia-Pacific Regional Security Assessment, Aidan Foster-Carter argues that ‘global policy on the DPRK has comprehensively failed’. North Korea’s weapons programmes continue, with Pyongyang testing an intercontinental ballistic missile in March 2022 – ending a four-year pause in such tests. At the same time, Beijing’s influence has grown as a result of North Korea’s economic dependence on China. Foster-Carter concludes that although North Korea will ‘never agree to denuclearise completely’, if the US and its allies want to challenge Beijing’s sway over Pyongyang and exert some control over the latter’s nuclear-weapons and missile programmes, they may need to offer ‘stronger incentives since punishments have proved ineffectual’.

North Korea is not the only nuclear challenge in the region. As Jeffrey G. Lewis highlights in his chapter, there is intensifying competition between US and Chinese efforts to develop their respective strategic nuclear forces. However, each side evidently has limited understanding of the other’s nuclear motives. It is notably unclear whether China is seeking to restore its deterrent’s credibility or, more ambitiously, attempting to develop a coercive nuclear capability. Nevertheless, as Lewis argues, the two major powers ‘share an interest in avoiding nuclear war’ and this could provide the basis for them to explore how they might stabilise their bilateral nuclear dynamics. A starting point might be a joint statement on strategic stability in which the US could disown any interest in negating China’s nuclear deterrent, while China for its part ‘might reject an interest in numerical parity while also making clear that it does not seek to undermine the extended deterrence that the US provides for its regional allies’.

Peter A. Dutton focuses on another dimension of Sino-American military competition: their air and naval operations in maritime East Asia. He notes the dramatic increase in Chinese probing flights near Taiwan since 2010; extensive Chinese naval, coastguard and maritime-militia operations in the East China and South China seas; and US freedom-of-navigation operations, particularly in the South China Sea, in response to Chinese actions and based on the international law of the sea. Dutton argues that Chinese and US military operations in the region, which are taking place in proximity to each other, are ‘the daily
tactical instruments of a broader struggle for power’. There is a ‘very real’ risk of a ‘tactical crisis’ and, as Taylor argues in his chapter, Dutton proposes that mechanisms to maintain stability should be expanded, with increased dialogue at all official levels, as well as ‘semi-official and non-governmental dialogues’.

Sino-American rivalry is by no means restricted to the military domain. Rather, it is multidimensional: as Paul Triolo recognises, US technology competition with China – conducted through Washington’s policy decisions and regulatory actions – has intensified since 2015, when a US journalist first used the term ‘technological cold war’. Triolo argues that growing pressure from technology competition on semiconductor supply chains, combined with the ‘decoupling in emerging-technology sectors’, such as artificial intelligence and quantum computing, could pose increasing risks to Asia-Pacific security. A particular danger is that China could be ‘pushed into a corner’ over Taiwan’s role in advanced semiconductor manufacturing by tightened US export controls and Washington’s more expansive use of the Foreign Direct Product Rule. Triolo argues that in a worst-case scenario, if Taiwan no longer has importance for China as a semiconductor-manufacturing base, military action might become more likely.

**ROLES OF JAPAN, INDIA AND EUROPE**

Whereas contemporary Sino-American relations might be characterised as increasingly confrontational in all their dimensions, many US allies and partners have attempted to maintain relationships with Beijing in which significant cooperation remains possible. Michael Green and Nicholas Szechenyi argue that this is certainly true for Japan. Having encouraged, over the last decade, the US and other ‘like-minded’ countries to develop a counterbalancing strategy towards China based on their visions for a ‘free and open Indo-Pacific’, protecting sensitive technologies and intensifying cooperation through the Quad, Tokyo is now attempting to define ‘how to compete with China without catastrophe’ – in other words, how to maintain beneficial economic and diplomatic links while at the same time strengthening Japan’s own military capabilities and developing a network of friendly countries ‘committed to shaping a regional environment free from coercion and favouring a rules-based order’. The authors argue that Japan’s ‘search for balance’ in its relations with Beijing could once again ‘be an important shaper of future American strategy’.

In contrast to Japan’s close alliance with the US, India has long emphasised its ‘strategic autonomy’. However, as Tanvi Madan explains in ‘India and the Quad’, the country’s ‘changing perception of China’ – particularly influenced by its growing concerns over the challenge from China along their disputed Himalayan border – inspired New Delhi’s decision to re-engage in the Quad format with Australia, Japan and the US from 2017–19 and then to intensify its involvement in 2020–21. Madan explains the ‘multiple purposes’ of the Quad for India but also points to potential impediments to New Delhi’s involvement, including the continuing appeal of strategic autonomy, a possible urge to seek ‘stability’ with China and sensitivity to other Quad members’ levels of enthusiasm. While acknowledging that it is too soon to assess the implications of the war in Ukraine for the Quad, Madan points to reasons for thinking that the European conflict might increase the grouping’s ‘utility and necessity’.
In ‘Europe and the Indo-Pacific: Evolving Security Engagement’, Sheryn Lee and Ben Schreer draw attention to the increased involvement by several European countries (most notably France and the United Kingdom, but also Germany and the Netherlands), as well as the European Union and NATO, in the region’s security affairs. Their greater engagement is a response to the perceived challenge from China’s growing power and efforts to reshape the regional and international order in ways that contradict European interests. Strategic cooperation between Beijing and Moscow has become even more apparent since the war in Ukraine began, a development that has probably ‘further hardened the mood’ in Europe with regard to the Chinese challenge. However, the new European focus on Asian security has been essentially tentative as well as largely uncoordinated among the various European actors. The authors argue for a ‘geopolitical approach’ in which those actors work more closely with the US and major regional actors.

ENVIRONMENTAL-SECURITY CHALLENGES
Military power is playing an increasingly important role in the regional security equation and is the focus of most chapters in this volume. However, not all the important security questions that Asia-Pacific countries face are military in nature. Brian Eyler, writing in ‘China as an Upstream Riparian State: Implications for Southeast Asia’, focuses on how China’s large-scale programme of dam-building on its upstream part of the Mekong River, driven by Beijing’s drive for ‘clean energy’ and emissions-reduction goals, has changed the river system’s hydrology, causing ecological crises and water- and food-security challenges for downstream Southeast Asian states. China has modified its activities since 2018 but insufficiently to reduce significantly the threat posed by damming. Managing this challenge more effectively, Eyler writes, requires closer collaboration between China, downstream countries and their development partners. Attempts to make downstream countries ‘take sides’ geopolitically could undermine such efforts.

In the final chapter, Jeffrey Mazo provides a comprehensive assessment of the growing impact of the climate crisis on Asia-Pacific security, emphasising that the region is highly exposed and vulnerable to climate changes produced by the global warming anticipated over the rest of this century. These changes are likely to slow economic growth and contribute to food, water and energy insecurity, with significant potential effects on important elements of the regional strategic picture. In China’s case, slowing growth could delay the anticipated shift in the regional balance of power in its favour. Mazo writes that North Korea stands out as the most likely place in the region for ‘an acute climate-change-related event’, which could ‘spark a major crisis or outbreak of armed conflict’. Climate change may also increase the likelihood of a crisis in the Indus basin, alter risk calculations in the South China Sea and affect the viability of military bases in the Pacific and Indian oceans.
WAR IN UKRAINE AND ASIA-PACIFIC SECURITY

Several of this volume’s chapters were updated shortly before publication to reflect various immediate impacts of the war in Ukraine on the dimensions of Asia-Pacific security addressed by the authors. It is possible to imagine other consequences of the war for regional security. One concerns its potential impact on the regional balance of power, notably in terms of whether the conflict will ultimately strengthen or weaken the alignment of strategic objectives and policy coordination between China and Russia; whether those regional countries that depend on Russian arms might recalibrate their relations with Moscow; whether it might distract the US from its Indo-Pacific security commitments; and how it could affect burgeoning European interests in Asian security.

At the operational and tactical level, the course of the war has almost certainly surprised Asian observers as much as it has those in Europe, the US and elsewhere. Many governments and armed forces in the region may now need to reassess whether they genuinely possess the military capabilities they have previously claimed. A more specific question – and one that is linked to the war’s potential impact on the likelihood of conflict across the Taiwan Strait, a topic addressed by several authors in this volume – concerns the capability and readiness of China’s People’s Liberation Army to mount major offensive operations. However, these are all merely early reflections: a more comprehensive assessment of this theme will only become possible as the conflict in Ukraine unfolds during the course of 2022.

However the war in Ukraine progresses, the outbreak of large-scale inter-state conflict is a stark reminder of what can happen if diplomacy and deterrence fail. It highlights the significant responsibility carried by governments in the Asia-Pacific to ensure that peace and security are maintained. Security problems in the region remain as great and as pressing as ever, and complacency regarding the danger of war – and potential miscalculation in applying the military instrument – entails major risks and potentially great cost. In this context, the relaunch of the IISS Shangri-La Dialogue in 2022 is significant, presenting ministers, policymakers and experts with superlative opportunities to engage in public and private debate on the full spectrum of regional defence and security challenges. We hope that the analyses provided in this edition of the Asia-Pacific Regional Security Assessment will contribute to important, timely and policy-relevant discussions at the Dialogue and more widely.

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The authors would like to thank Tom Corben and Alice Nason for their invaluable research assistance and contributions to this chapter.
For more than a decade, successive administrations in the United States have struggled to prioritise the Indo-Pacific. Although President Joe Biden’s Indo-Pacific Strategy has placed the region at the top of Washington’s global priorities, US rhetoric has been matched only partially with the actions and resources required to transform its regional strategic position following years of underinvestment. Washington must intensify its efforts on all three elements of US regional defence strategy – prioritisation, posture and partnerships – if it is to have any hope of upholding a favourable Indo-Pacific balance of power amid China’s growing capabilities and assertiveness.

TOWARDS A STRATEGY OF COLLECTIVE DEFENCE

The US can no longer guarantee a favourable regional balance of power by itself. There is a growing consensus in Washington that a collective approach to Indo-Pacific defence strategy is required – one that strengthens US regional capacity for high-end deterrence and war fighting and actively empowers and leverages allies and partners.

THE INDO-PACIFIC AND COMPETING PRIORITIES

It is one thing to outline Indo-Pacific ambitions and another to deliver them amid competing priorities. In 2021 and early 2022, the Biden administration has had to navigate this trade-off in the face of two major crises: its messy departure from Afghanistan and Russia’s invasion of Ukraine. Balancing simultaneous competition with Russia and China will remain a considerable challenge, complicating plans to deploy resources and attention to the Indo-Pacific.

EMPOWERING AND INTEGRATING ALLIES AND PARTNERS

The Biden administration has sought to accelerate efforts to strengthen the military capabilities of allies and partners as part of a framework for collective defence, which it dubs ‘integrated deterrence’. It has also embraced multilateral efforts to deepen ties, while fostering collective resolve for a potential Taiwan Strait crisis. However, given mounting concern that China will be able to challenge the prevailing regional order by force in the second half of this decade, it is unclear whether current efforts to strengthen and integrate alliances and partnerships will come to fruition in time to reinforce deterrence and improve the balance of power in the United States’ favour.
For more than a decade, the United States has struggled to prioritise the Indo-Pacific, improve its military posture in the region and modernise its network of alliances and partnerships to advance a collective approach to regional defence strategy. In 2011, then US president Barack Obama announced the now famous ‘rebalance’ to Asia amid a draw-down of US troops in Iraq and Afghanistan. However, the defence-policy aims of the rebalance were never properly realised, undermined as they were by budget cuts, resurgent conflict in the Middle East, Russia’s 2014 invasion of Ukraine and Washington’s complicated ties with Indo-Pacific allies.

While former president Donald Trump dropped the term rebalance and adopted a more abrasive stance towards allies and partners, his administration similarly sought to bolster US regional posture and defence partnerships as part of an explicit focus on ‘great power competition’ with China. Yet this approach also failed to make much headway, waylaid by US military build-ups against the Islamic State (ISIS) and Iran, ongoing defence-budget shortfalls and the president’s own corrosive effect on alliance management. Although both administrations presided over some improvements in the United States’ military position, a combination of strategic distraction, inadequate resources and incremental alliance reform stymied the timely development of efforts to balance China’s rising military power.

President Joe Biden has continued these attempts to prioritise the Indo-Pacific, vowing to pursue ‘extreme competition’ with China, ‘modernize’ US military capabilities and ‘revitalize’ US alliances and partnerships. Biden’s Indo-Pacific Strategy, released in February 2022, placed the region at the top of Washington’s global priorities, promising to deliver ‘intensifying American focus’. However, this rhetoric has been matched only partially with the actions and resources required to transform the United States’ regional strategic position following years of underinvestment.

Three aspects of US defence strategy highlight the administration’s mixed success in advancing a more robust and collective approach in the Indo-Pacific. Firstly, Biden has displayed commendable strategic discipline in extricating the US from 20 years of conflict in Afghanistan and, so far, in managing a complex war in Ukraine while also trying to prioritise competition with China. Yet Biden’s policies on these issues have only served to remove impediments to a future US rebalance to Asia. They have not advanced the United States’ standing as the Indo-Pacific’s leading power and, in the case of Ukraine, will require ongoing restraint. Secondly, in common with its predecessors, the Biden administration’s efforts to strengthen US military posture in the Indo-Pacific have been largely incremental and have not been accompanied by a defence-spending plan commensurate with the aims of US strategy. This will limit progress on reinforcing deterrence vis-à-vis China for the rest of this decade. Finally, Biden’s team initiated important changes to the way Washington
works with close allies on collective-defence objectives. Its support for the new defence-industrial partnership between Australia, the United Kingdom and the US (the AUKUS agreement), which will furnish Canberra with a fleet of nuclear-powered attack submarines (SSNs), is the most consequential example of this agenda. But AUKUS and other alliance reforms will take years to pay dividends for the Indo-Pacific balance of power. They are also no substitute for robust US investment in the capabilities and posture required for regional defence. The result is ongoing uncertainty about the United States’ long-promised rebalance and the sustainability of its strategic position in the Indo-Pacific.

TOWARDS A STRATEGY OF COLLECTIVE DEFENCE

After nearly 75 years as the region’s pre-eminent military power, the US can no longer guarantee a favourable balance of power in the Indo-Pacific by itself. Many US strategists have been slow to appreciate this geopolitical reality. But there is now a growing consensus in Washington that a collective approach to Indo-Pacific defence strategy is required – one that strengthens US regional capacity for high-end deterrence and war fighting and actively leverages the military capabilities of its allies and partners.

Two trends have brought US defence strategy to this point. Firstly, China’s sustained military modernisation has transformed the People’s Liberation Army (PLA) into a highly capable joint force, thereby eroding the foundations of US military dominance. In addition to fielding the world’s largest navy and air force, the PLA’s formidable anti-access/area-denial capabilities now pose unprecedented challenges to the United States’ ability to project power into and within the Western Pacific. Moreover, as the PLA is postured primarily for Indo-Pacific contingencies, whereas the US military remains globally dispersed in support of a multi-region grand strategy, Beijing’s home-field advantage is further tilting the US–China regional balance. These developments are driving a fundamental rethink of US military strategy, with new approaches set to require significantly greater involvement by Washington’s regional allies and partners.

Secondly, the misalignment between US strategy and available defence resources has prevented the Pentagon from responding quickly to China’s military rise. For much of the last two decades, Washington’s focus on the Middle East has reduced military readiness, distorted force-structure priorities and, until recently, left the joint force ill-equipped and unable to prepare adequately for high-end military competition with a peer adversary. Years of budget austerity and unpredictable defence funding have compounded this problem, while Washington’s extensive global commitments have distracted successive administrations from investing sufficiently in efforts to balance China’s power.
By 2018, the gap between US capabilities and the great-power threats posed by China and Russia had become so wide that the bipartisan National Defense Strategy Commission, mandated by Congress, warned that ‘the U.S. military could lose the next state-versus-state war it fights’. In 2022, this warning is as relevant as ever.

Although these trends have gathered momentum for over 20 years, Washington has been slow to articulate the case for a more robust and collective approach to Indo-Pacific defence strategy. The first signs of this thinking emerged in the early days of George W. Bush’s presidency, when planners of a nascent Asia-focused ‘reorientation strategy’ quietly emphasised the need to bolster US regional posture and develop a ‘federated network’ of allies and partners to check China’s rise. However, these objectives were over-taken by the 11 September 2001 terrorist attacks and the subsequent war on terror, despite some initial progress on realigning global force posture, improving inter-operability with Asian allies and nurturing closer US–India strategic ties.

The push for a collective regional defence strategy re-emerged more prominently in the lead-up to Obama’s rebalance, with the Pentagon’s 2010 Quadrennial Defense Review contending that Asia’s ‘emerging security landscape requires a more widely distributed and adaptive U.S. presence … that relies on and better leverages the capabilities of our regional allies and partners’. Over the next six years, the Obama administration made the shift from a ‘hub-and-spokes’ model to a ‘networked’ model of Indo-Pacific alliances and partnerships a defining feature of the rebalance. Speaking at the 2014 IISS Shangri-La Dialogue, then US secretary of defense Chuck Hagel explained that this strategy involved ‘modernizing our alliances, helping allies and partners develop new and advanced capabilities, and encouraging them to work more closely together’, including by ‘enhancing their joint capabilities … and encouraging them to become security providers themselves’.

Yet it was not until the Trump administration that the US underscored explicitly the need for a collective approach to uphold a favourable balance of power in the Indo-Pacific. Based on a stark assessment of the United States’ ‘eroding’ military advantage vis-à-vis China, the 2018 National Defense Strategy refocused the joint force on high-end war fighting and on transforming US ‘alliances and partnerships into an extended network capable of deterring or decisively acting to meet the shared challenges of our time’. This marked a step change in the Pentagon’s thinking – one that advocated a truly integrated approach in which key allies and partners would assume a far more ‘active’ and ‘equal’ role in balancing Chinese power. While appealing to Trump’s preoccupation with ‘burden-sharing’, the strategy was founded on its authors’ appreciation of the ‘asymmetric strategic advantage’ provided by allies and partners, including as a ‘supplement [to] U.S. military strength’.

This applied, in particular, to Australia, Japan and India, which were seen as
integral to offsetting shortfalls in US military power and more willing to contribute to a collective balance of power (see Figure 1.1).\textsuperscript{17} In 2017, the revitalisation of the Quadrilateral Security Dialogue (or Quad) between these four powers underlined this approach. Although Trump’s transactional approach to allies and partners prevented the US from making significant progress on implementing a collective framework, the administration’s vision for a coalition defence strategy was broadly welcomed in Canberra, New Delhi and Tokyo and took root in US defence-policy circles.

Biden has embraced this collective approach and committed to empowering allies and partners to play a larger and more integrated role in US strategy. His administration’s vision for a ‘free and open Indo-Pacific’ is, like its predecessor, based on a sober assessment of the limits of US power and the imperative of increasing burden-sharing.\textsuperscript{18} The White House’s 2022 Indo-Pacific Strategy underlined the need for a collective approach as part of a larger effort to prevent a Chinese ‘sphere of influence’ in the region, noting:

Changing strategic circumstances and historic challenges require unprecedented cooperation with those who share in this vision. … We will support and empower allies and partners as they take on regional leadership roles themselves, and we will work in flexible groupings that pool our collective strength to face up to the defining issues of our time, particularly through the Quad.\textsuperscript{19}

On regional defence policy, the strategy is equally clear about the growing role for allies and partners, explaining:

We will more tightly integrate our efforts across warfighting domains and the spectrum of conflict to ensure that the United States, alongside our allies and partners, can dissuade or defeat aggression in any form or domain … [in addition to] finding new opportunities to link our defense industrial bases, integrating our defense supply chains, and co-producing key technologies that will shore up our collective military advantages.\textsuperscript{20}

Three lines of effort in US strategy are therefore clear: ‘prioritizing the PRC challenge in the Indo-Pacific’; modernising the United States’ own ‘defence presence’ and ‘capabilities’; and strengthening collective action with allies and partners.\textsuperscript{21} Although the Biden administration has made some progress on aspects of this strategy, more effort is needed on all three elements — prioritisation, posture and partnerships — to bolster the United States’ regional strategic position and preserve a favourable balance of power.
THE INDO-PACIFIC AND COMPETING PRIORITIES

The Biden administration has stated consistently that its primary security priorities lie in the Indo-Pacific. At his confirmation hearing in January 2021, Secretary of Defense Lloyd Austin underlined this focus, stating: ‘Globally, I understand that Asia must be the focus of our effort. And I see China, in particular, as the pacing challenge.’ Similar messages run through the administration’s major policy documents, including its summary of the 2022 National Defense Strategy, released in March 2022, which labelled China as ‘our most consequential strategic competitor’. These high-level statements are important not just as leading indicators of resource allocation but also for strengthening US credibility in the eyes of regional allies and partners. Yet it is one thing to outline Indo-Pacific ambitions and another to deliver them amid competing priorities. In 2021 and early 2022, the Biden administration has had to navigate this trade-off in the face of two major crises with the capacity to distract the US from its Indo-Pacific focus, namely the United States’ messy departure from Afghanistan and Russia’s invasion of Ukraine.

Entering office with a promise to ‘end the forever wars’, Biden announced the US withdrawal from Afghanistan in April 2021 and moved swiftly to complete it four months later. Justifying his actions, Biden claimed the 20-year campaign had successfully reduced the risk of terrorist attacks against the US from Afghan soil, declaring ‘the fundamental obligation of a President … is to defend and protect America – not against threats of 2001, but against the threats of 2021 and tomorrow’. The administration also framed the drawdown as an attempt to deliver long-delayed rebalance objectives. In July 2021, Kurt Campbell, the US Indo-Pacific coordinator at the National Security Council, described this transition as ‘painful’ but necessary, forecasting: ‘We’ll see some real challenges in places like Afghanistan, but a much greater focus on the Indo-Pacific.’ In this sense, the drawdown embodied a persuasive strategic logic, welcomed in most Indo-Pacific capitals, by which extensive US military and diplomatic resources tied up in Afghanistan could be redeployed to regional priorities.

This logic, however, was marred by poor execution. Beyond the chaotic scenes at Kabul airport, US credibility was dented by failures of intelligence and capacity-building, which led the Afghan government to fall rapidly to Taliban forces. Unlike European allies, who were highly critical of the decision to leave and alarmed by the ensuing humanitarian crisis, the United States’ Indo-Pacific friends adopted largely pragmatic views. At a tactical level the drawdown sent mixed signals about Washington’s ability to manage simultaneous challenges – embodied by its decision to redeploy to the Middle East the USS Ronald Reagan, its only aircraft carrier in Asia, to help with the evacuation. There was also extensive public debate in allied and partner countries about the implications of the withdrawal for Washington’s Indo-Pacific
commitments – and its willingness to endure military costs in a future crisis with China.\textsuperscript{28} These arguments had little traction in official circles where, on balance, the withdrawal was well received by regional allies and partners – India being the prominent exception, owing to its interests in Central Asia.\textsuperscript{29} For close allies like Australia and Japan, Biden’s decision was taken as a sign of Washington’s belated willingness to reduce military commitments in a secondary theatre and curb the risks of strategic overstretch.\textsuperscript{30} In this sense, Biden’s Afghanistan policy advanced US credibility in the Indo-Pacific.

Russia’s invasion of Ukraine in February 2022 presented a more significant challenge for Biden’s Indo-Pacific agenda – and one that cuts to the heart of the United States’ identity as a superpower that can manage ‘two-front’ global commitments.\textsuperscript{31} Faced with overwhelming domestic and European pressure, the administration felt compelled to respond forcefully to an aggressive act that threatened to upend Europe’s strategic order and undermine US standing as the guarantor of global security. At the same time, the administration’s own strategic priorities demanded that it support Ukraine in ways that did not excessively shift attention or resources away from the Indo-Pacific or raise the risks of escalation or entrenchment. Indeed, the crisis provided a textbook example of the difficult choices Washington will continue to face as it seeks to prioritise the China challenge.

Biden’s initial approach was reasonably well calibrated from an Indo-Pacific standpoint. Washington supported Ukraine with extensive military and economic assistance while ruling out direct involvement in hostilities. It deployed a small number of troops to NATO frontlines to reassure European allies and fostered global solidarity for sanctions designed to punish Russia and cripple its economy. Importantly, it consistently signalled, in the words of US National Security Advisor Jake Sullivan, that US policies towards Ukraine and Taiwan, Asia’s premier flashpoint, ‘are not the same’.\textsuperscript{32} In short, the administration displayed strategic restraint under difficult circumstances. Washington’s principal Indo-Pacific allies have been broadly, albeit cautiously, supportive of its handling of the crisis.

But risks of US overextension persist in both the Middle East and Ukraine. Notwithstanding the withdrawal from Afghanistan and the end of combat operations in Iraq, the United States’ troop presence in the Middle East remains considerable (see Figure 1.2) and Iran still looms large in US threat assessments. Nor has there been a linear eastward shift in US defence resources, though some high-end capabilities – such as advanced fighter aircraft and air- and missile-defence systems – have finally exited the Middle Eastern theatre. The situation in Ukraine is more concerning, where a protracted conflict appears certain. Despite the administration’s attempts to stay focused on Asia, the Ukraine crisis has already led to a delay in the launch of the 2022 National Defense Strategy to give the Pentagon time...
to reconsider the implications of an ‘acute’ Russia threat for US defence planning.\textsuperscript{33} This bodes ill for a sharp prioritisation of the Indo-Pacific. Of greater immediate concern is the extent to which Washington’s support for the Ukrainian resistance is taking a toll on US defence resources. Beyond the US$3.4 billion in military assistance already committed, at the time of writing Congress is considering an administration request for an additional US$33bn in wide-ranging support for Ukraine.\textsuperscript{34} Reports also suggest that the Pentagon may need to delay the delivery of military hardware to Taiwan as a result of extensive transfers to Ukraine.\textsuperscript{35} Balancing simultaneous competition with Russia and China will therefore remain a considerable challenge, complicating plans to deploy resources and attention to the Indo-Pacific.

**SLOW EVOLUTION OF US REGIONAL POSTURE**

The Biden administration’s rhetoric about prioritising the Indo-Pacific has delivered only modest improvements in regional posture to date. The Pentagon’s Global Posture Review, concluded in late 2021, failed to initiate a decisive shift in regional focus or to better align resources with regional priorities. Instead, the review largely summarised Indo-Pacific posture shifts already under way, while restoring European posture to its pre-Trump status quo and shelving plans for further Middle East drawdowns.\textsuperscript{36} Reported revisions to internal ‘posture decision-making processes’ hinted at the possibility of bolder moves in future but showed little urgency to push forward with resource reallocations in the near term.\textsuperscript{37} As such, the review heightened concerns among US allies and partners that the administration may be unwilling or unable to invest quickly in a more robust forward military position and strategy of ‘deterrence by denial’ – an approach supported by Australia and Japan.\textsuperscript{38}
Nevertheless, Washington began some important Indo-Pacific posture improvements in 2021 and early 2022. Most prominently, at the Australia–US Ministerial Consultations (AUSMIN) in September 2021, Canberra and Washington unveiled the most significant enhancements to bilateral force-posture initiatives in a generation. With the aim of strengthening Australia’s position as a forward operating hub, these included plans for a ‘combined logistics, sustainment, and maintenance enterprise to support high-end warfighting and combined military operations in the region’, complementing ongoing upgrades to combined fuel stockpiles and logistics enablers in the country. The two sides also agreed to increase the rotational presence of US air, land and sea capabilities at Australian facilities, to expand integrated military exercises and to deepen maritime logistics cooperation. These measures will see ‘aircraft of all types’ – code for nuclear-capable bombers – deploy to Australian airfields, as well as more frequent visits by US surface vessels and submarines. While there is no timeline for the delivery of these initiatives, they can be expected to make a meaningful if modest contribution to sustaining US military presence over the next five to ten years.

Beyond Australia, efforts to augment US regional posture have been more piecemeal (see Figure 1.3). Slow-moving upgrades to deployments and facilities on Guam and its surrounding islands have continued, reinforcing the island’s role as the primary hub for US military operations in the second island chain. These include new air and naval military construction projects on Andersen Air Force Base and long-awaited plans to increase the number of SSNs home-ported in Guam from two to five. Elsewhere, the administration has simply restored or reaffirmed prior posture arrangements. The decision to permanently station helicopter and artillery divisions in South Korea, for instance, marks a formalisation of existing rotations rather than a new initiative. Similarly, the
# Selected developments in US posture in the Indo-Pacific

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>Nov 2011</td>
<td>Then US president Barack Obama and then Australian prime minister Julia Gillard announce establishment of a 2,500-strong US Marine Rotational Force—Darwin (MRF–D) over five years and a bilateral Enhanced Air Cooperation (EAC) initiative between the Royal Australian Air Force (RAAF) and the US Air Force (USAF)</td>
<td></td>
</tr>
<tr>
<td>Apr 2012</td>
<td>First rotational deployment of 200 US marines arrive at the Robertson Barracks in Darwin, Northern Territory, Australia</td>
<td></td>
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<tr>
<td>Nov 2013</td>
<td>Statement of Principles Concerning the Implementation of the Force Posture Initiatives in Australia agreed</td>
<td></td>
</tr>
<tr>
<td>Apr 2014</td>
<td>Third rotational deployment to Darwin reaches the milestone of 1,000 US marines</td>
<td></td>
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<tr>
<td>Aug 2014</td>
<td>Bilateral Force Posture Agreement signed</td>
<td></td>
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<tr>
<td>May 2015</td>
<td>US confirms additional USAF B-1 bombers and surveillance aircraft to be placed in Australia</td>
<td></td>
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<tr>
<td>Oct 2016</td>
<td>Cost-sharing negotiations concluded in principle for US$1.52 billion infrastructure investment and other costs supporting MRF–D</td>
<td></td>
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<tr>
<td>Feb 2017</td>
<td>EAC initiatives commenced</td>
<td></td>
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<tr>
<td>Jul 2019</td>
<td>Goal of 2,500 marines in Darwin reached two years later than expected</td>
<td></td>
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<tr>
<td>May 2020</td>
<td>Bilateral Force Posture Working Group re-established to develop recommendations advancing cooperation</td>
<td></td>
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<tr>
<td>Apr 2021</td>
<td>Australian Prime Minister Scott Morrison announces US$368m in upgrades to four key training areas and ranges in the Northern Territory to enhance joint training exercises</td>
<td></td>
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<tr>
<td>Sep 2021</td>
<td>Enhancements to bilateral force posture initiatives, including the rotational deployment of US aircraft and more complex and integrated land exercises, announced at Australia–US Ministerial Consultations (AUSMIN)</td>
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<tr>
<td>Nov 2021</td>
<td>Two USAF B-1B Lancer bombers join RAAF for training</td>
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<tr>
<td></td>
<td>US Department of Defense completes 2021 Global Posture Review confirming infrastructure enhancements and rotational aircraft deployments announced at AUSMIN</td>
<td></td>
</tr>
<tr>
<td>Feb 2022</td>
<td>US delegation visits bases and facilities in Australia and discusses the establishment of cooperative logistics, sustainment, and maintenance enterprises</td>
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**Australia**

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<tr>
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<th>Event</th>
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<tbody>
<tr>
<td>Nov 2021</td>
<td>Then Japanese prime minister Hatoyama Yukio postpones decision on relocating US Marine Corps base until May 2010</td>
<td></td>
</tr>
<tr>
<td>Apr 2012</td>
<td>The 2012 Security Consultative Committee agrees to realign 9,000 US marines from Japan, promoting a more geographically distributed and operationally resilient US posture</td>
<td></td>
</tr>
<tr>
<td>Apr 2013</td>
<td>Okinawa Consolidation Plan released, outlining the incremental return of Futenma to Japanese control by 2022, contingent upon completion of Henoko and Guam facilities</td>
<td></td>
</tr>
<tr>
<td>Oct 2015</td>
<td>Then-governor of Okinawa Prefecture Onaga Takeshi revokes reclamation approval for land off the coast of Henoko, sparking protracted legal battle with Tokyo</td>
<td></td>
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<tr>
<td>Dec 2016</td>
<td>Japan’s Supreme Court rules that construction work at Henoko can legally commence</td>
<td></td>
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<tr>
<td>Apr 2017</td>
<td>Initial construction work commenced at Henoko</td>
<td></td>
</tr>
<tr>
<td>Dec 2019</td>
<td>Japan’s Ministry of Defense says relocation of US Marine Corps base will cost US$88bn and take 12 years, adding more than a decade to already-delayed plan</td>
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<tr>
<td>Apr 2020</td>
<td>Japan’s government formally submits alterations to its Henoko construction plans to address seated instability discovered after work began</td>
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</tr>
<tr>
<td>Nov 2021</td>
<td>Okinawa governor rejects the central government’s proposed changes to the design of military facilities at Henoko</td>
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<tr>
<td>Dec 2021</td>
<td>Landfill reclamation work at Henoko that had commenced in December 2018 reaches 30% completion</td>
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**Japan**

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<tr>
<td>May 2006</td>
<td>Roadmap for Realignment Implementation signed, setting out conditions for the relocation of Futenma Base and the realignment of 8,000 US marines to Guam to consolidate US capabilities by 2014</td>
<td></td>
</tr>
<tr>
<td>Dec 2009</td>
<td>Then Japanese prime minister Hatoyama Yukio postpones decision on relocating US Marine Corps base until May 2010</td>
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**Philippines**

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<tbody>
<tr>
<td>Nov 2015</td>
<td>Philippines Senate passes resolution asking the Supreme Court to compel the executive branch to submit EDCA to the upper chamber</td>
<td></td>
</tr>
<tr>
<td>Mar 2016</td>
<td>Philippines and the US agree on five initial Philippine military bases to construct facilities, position equipment, and rotate forces under EDCA</td>
<td></td>
</tr>
<tr>
<td>Jun 2016</td>
<td>Philippines President Rodrigo Duterte inaugurated; criticizes but pledges to uphold EDCA</td>
<td></td>
</tr>
<tr>
<td>Sep 2016</td>
<td>President Duterte instructs US forces to leave Mindanao and terminates joint patrols with the US Navy in the Philippines’ exclusive economic zone</td>
<td></td>
</tr>
<tr>
<td>Oct 2016</td>
<td>President Duterte threatens to stop the implementation of EDCA, pledging to announce a new policy for Philippines–US ties</td>
<td></td>
</tr>
<tr>
<td>Dec 2016</td>
<td>President Duterte makes first threats to terminate the 1959 Visiting Forces Agreement (VFA)</td>
<td></td>
</tr>
<tr>
<td>Nov 2017</td>
<td>President Duterte and then US president Donald Trump reaffirm commitment to the Mutual Defense Treaty and EDCA during bilateral meeting</td>
<td></td>
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<tr>
<td>Jan 2019</td>
<td>Ribbon cut on completed construction of humanitarian assistance and disaster relief (HADR) warehouse - the first major project under EDCA</td>
<td></td>
</tr>
<tr>
<td>Feb 2020</td>
<td>President Duterte abrogates VFA, rendering EDCA inoperative</td>
<td></td>
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<tr>
<td>Jul 2020</td>
<td>President Duterte suspends abrogation of the VFA</td>
<td></td>
</tr>
<tr>
<td>Nov 2020</td>
<td>Abrogation of the VFA suspended for another six months</td>
<td></td>
</tr>
<tr>
<td>Jul 2021</td>
<td>Abrogation of the VFA reversed, enabling EDCA implementation</td>
<td></td>
</tr>
<tr>
<td>Sep 2021</td>
<td>Philippines Secretary of National Defense Delfin Lorenzana and US Secretary of Defense Lloyd Austin commit to resume previously approved projects under EDCA</td>
<td></td>
</tr>
</tbody>
</table>
### Selected facilities used by the US military

**GUAM**
- Naval Base Guam
- Futenma Base
- Henoko Base
- Joint Region Marianas
- Andersen Air Force Base
- Naval Base Guam

**SINGAPORE**
- COMLOG Westpac Navy Base
- Changi Naval Base

**AUSTRALIA**
- RAAF Base Darwin
- Defence Establishment Berrimah
- Robertson Barracks Close Training Area
- Kangaroo Flats Training Area
- Mount Bundey Training Area
- RAAF Base Tindal
- Bradshaw Field Training Area

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**Table: Selected events in Guam and Singapore**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dec 2000</td>
<td>US begins building up forward-deployed forces in Guam to increase operational presence, deterrence and power projection in Second Island Chain</td>
<td>✔️</td>
</tr>
<tr>
<td>May 2006</td>
<td>US Indo-Pacific Command (INDOPACOM) publishes the Guam Integrated Military Development Plan</td>
<td>✔️</td>
</tr>
<tr>
<td>May 2008</td>
<td>US reiterates that planning efforts for the proposed build-up in Guam remain in their initial stages, with many key decisions and challenges yet to be addressed</td>
<td>✔️</td>
</tr>
<tr>
<td>Aug 2012</td>
<td>House Armed Services Committee recommends the stationing of additional attack submarines, the construction of a fuel pipeline and investment in civilian infrastructure in Guam</td>
<td>✔️</td>
</tr>
<tr>
<td>Feb 2020</td>
<td>Department of Defense (DoD) Inspector General audit reveals that Guam build-up efforts are 13 years and five months behind schedule and more than US$37.5 million over budget</td>
<td>✔️</td>
</tr>
<tr>
<td>Oct 2020</td>
<td>US marines activate first new base since 1993 – Camp Blaz – in Guam, where 1,300 marines will be permanently stationed and 3,700 will rotate as part of Okinawa relocation</td>
<td>✔️</td>
</tr>
<tr>
<td>Nov 2021</td>
<td>US Navy unveils plans to increase the number of nuclear-powered attack submarines homeported in Guam from two to five</td>
<td>✔️</td>
</tr>
<tr>
<td>Dec 2021</td>
<td>US$1bn committed in DoD funding for military construction projects in Guam over the next five years</td>
<td>✔️</td>
</tr>
</tbody>
</table>

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**Table: Strategic Framework Agreement signed, giving the US access to Singaporean facilities on a rotational basis**

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul 2005</td>
<td>Strategic Framework Agreement signed, giving the US access to Singaporean facilities on a rotational basis</td>
<td>✔️</td>
</tr>
<tr>
<td>2007</td>
<td>US Navy Region Center Singapore officially established to manage shore support facilities</td>
<td>✔️</td>
</tr>
<tr>
<td>Jun 2011</td>
<td>Then US defense secretary Robert Gates announces that the US is exploring options for deploying US Littoral Combat Ships (LCS) to Singapore within the context of the Strategic Framework Agreement</td>
<td>✔️</td>
</tr>
<tr>
<td>Apr 2012</td>
<td>Singapore’s Minister for Defence Ng Eng Hen says that the rotational deployment of two US Navy LCSs has been approved</td>
<td>✔️</td>
</tr>
<tr>
<td>Jun 2012</td>
<td>Agreement reached to rotate four LCSs through Singapore; Singapore had previously only approved rotations for two ships</td>
<td>✔️</td>
</tr>
<tr>
<td>Apr 2013</td>
<td>First US LCS, USS Freedom, arrives at Changi Naval Base to begin maiden overseas deployment</td>
<td>✔️</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Enhanced Defence Cooperation Agreement announced; in statement, a third LCS deployment to Singapore is confirmed for 2016, as part of a plan to host four vessels before 2018</td>
<td>✔️</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Singapore approves inaugural operations of US Navy P-8A maritime-patrol aircraft out of its airbases to patrol South China Sea</td>
<td>✔️</td>
</tr>
<tr>
<td>2018</td>
<td>Plans to deploy two LCSs to Singapore simultaneously in 2018 never come to fruition, with no deployment happening that year</td>
<td>✔️</td>
</tr>
<tr>
<td>Sep 2019</td>
<td>Singapore renews 1990 military-bases pact with the United States, granting US forces access to Singapore’s bases until 2035</td>
<td>✔️</td>
</tr>
<tr>
<td>Aug 2021</td>
<td>Agreement to continue rotational deployments of US P-8 aircraft and LCSs to Singapore</td>
<td>✔️</td>
</tr>
</tbody>
</table>
US–Singapore recommitment to sustaining rotational deployments of P-8 maritime-patrol aircraft and littoral combat ships is not expected to lead to increased presence.\(^4\) Although Secretary of Defense Austin made important headway in the Philippines in June 2021 – convincing President Rodrigo Duterte to reinstate the Visiting Forces Agreement and paving the way for long-delayed military construction under the 2014 Enhanced Defense Cooperation Agreement – even this was a return to the status quo ante.\(^4\) Taken together, these efforts have only nudged US posture in the direction of rebalance objectives.

The Biden administration’s belated progress on implementing the Pacific Deterrence Initiative (PDI) provides some grounds for cautious optimism. Conceived in 2017 and formalised in 2020, the PDI was developed by US lawmakers and US Indo-Pacific Command (INDOPACOM) as a way of directing the Pentagon to allocate more funds to strengthening the United States’ regional military position.\(^5\) Focused on pressing war-fighting needs west of Hawaii, it is intended to support a more resilient and distributed military posture in a range of areas – including munitions stocks, fuel, logistics, air defences and radars – while also supporting enhanced exercises with frontline allies and partners.\(^6\) While Biden’s first budget request, for the fiscal year (FY) 2022, overlooked PDI priorities in favour of investments in military platforms, Congress subsequently intervened to push resources into initiatives like the Guam Defense System, a critical air- and missile-defence project, and planning activities to support other ‘shovel-ready’ posture enhancements.\(^7\) The resulting compromise was far from perfect, with some experts estimating that 80% of the US$7.1bn fund was spent on ‘stuff the services were already doing’.\(^8\) However, it has led to a more focused US$6.1bn PDI request for FY2023. Although considerable daylight persists between the Pentagon and INDOPACOM, this is a positive development.\(^9\) The PDI’s progress will continue to be watched carefully by US allies and partners, who regard its implementation as a barometer of the administration’s willingness to invest seriously in a military strategy to deter China.

Developments in US regional posture also need to be viewed in the broader context of Biden’s defence budget and strategy. The administration’s budget allocations to date suggest it is following a ‘shrink to modernise’ approach of investing in emerging technol-
ologies and high-end war-fighting capabilities to prepare for a China threat in the 2030s at the expense of additional capacity and capability to deter conflict in the 2020s. There may be a logic to this approach in view of US resource constraints. But it means substantial Indo-Pacific posture investments will be even more important for reducing military risk in the near term. It also means Biden, like Trump, is failing to meet the target of 3–5% real annual defence-budget growth often cited by leading defence figures as necessary to sustain US strategy in an era of great-power competition (see Figure 1.4). These shortfalls alarm US planners, particularly with respect to prospects for a future war over Taiwan. As INDOPACOM Commander Admiral John Aquilino warned in March 2021 during his confirmation hearing before the Senate Armed Services Committee, ‘this problem is much closer to us than most think … . We ought to be prepared today.’ In lieu of additional US resources, the Biden administration is turning to allies and partners to pick up some of this slack.

**EMPOWERING AND INTEGRATING ALLIES AND PARTNERS**

Consistent with its recognition that the US cannot deter China or maintain a favourable regional balance of power alone, the Biden administration has sought to accelerate efforts to strengthen the military capabilities of allies and partners as part of a framework for collective defence, which it dubs ‘integrated deterrence’. At its core, it is a push for greater burden-sharing. While Trump’s pursuit of this goal often appeared transactional, the Biden administration argues that its aim is to ‘incorporate ally and partner perspectives, competencies, and advantages at every stage of defense planning’. This approach has led to important upgrades in strategic policy and defence cooperation with Australia and Japan and, to a lesser extent, South Korea and India. The administration has also embraced minilateral efforts to deepen ties among allies and partners, while fostering collective resolve for a potential Taiwan Strait crisis.

This agenda is not without its difficulties. In common with earlier efforts to modernise US regional ties, many of these initiatives will take years, and in some cases decades, to deliver (see Table 1.1). Most will require difficult reforms to the outdated processes by which Washington has previously worked with regional allies and partners, such as export controls, technology- and data-transfer rules, so-called ‘Buy American’ provisions and the sharing of classified information. Furthermore, although Canberra, New Delhi, Seoul and Tokyo are broadly supportive of Washington’s collective-defence agenda, all still harbour concerns, albeit to varying degrees, about the costs and benefits of integration across force structure, strategic policy and defence-industrial arenas. Set against mounting evidence that China will be capable of challenging the prevailing regional order by force in the

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*Figure 1.4: US defence budgets compared to a 3–5% annual growth target, 2018–21*

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual growth from previous year’s budget</th>
<th>Target growth range</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>-6.03%</td>
<td>0.80%</td>
</tr>
<tr>
<td>2019</td>
<td>2.62%</td>
<td></td>
</tr>
<tr>
<td>2020</td>
<td>-6.03%</td>
<td></td>
</tr>
<tr>
<td>2021</td>
<td>-6.03%</td>
<td></td>
</tr>
</tbody>
</table>

Source: IISS, Military Balance+, milbalplus.iiss.org
## Table 1.1: Progress and challenges in US defence-industrial integration with selected regional allies and partners

<table>
<thead>
<tr>
<th>Date</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>US–AUSTRALIA</strong></td>
<td></td>
</tr>
<tr>
<td>Sep 2007</td>
<td>Defense Trade Cooperation Treaty signed, intended to facilitate Australia’s earlier and easier access to US technology and technical data</td>
</tr>
<tr>
<td>May 2013</td>
<td>Defense Trade Cooperation Treaty enters into force</td>
</tr>
<tr>
<td>Dec 2016</td>
<td>The FY17 National Defense Authorization Act adds Australia and the United Kingdom to the US National Technology and Industrial Base (NTIB)</td>
</tr>
<tr>
<td>Apr 2019</td>
<td>Major Atlantic Council report warns that failure to reform export controls and advance NTIB expansion would disincentivise allies from technology sharing and integrating industrial bases with the US</td>
</tr>
<tr>
<td>Nov 2019</td>
<td>In pointed remarks in Washington DC, Australia’s then-defence minister Linda Reynolds states that deeper collaboration through the NTIB is required to generate the ‘potent combined effect we [the US and Australia] will need for deterrence purposes’</td>
</tr>
<tr>
<td>Apr 2020</td>
<td>The Pentagon awards preliminary design and engineering contracts to Australian rare-earth mining company Lynus to build a processing facility in Texas, a development which effectively amounts to a pilot project for ‘genuine NTIB implementation’</td>
</tr>
<tr>
<td>Jul 2020</td>
<td>The NTIB mentioned in the AUSMIN Joint Communiqué for the first time; Principals committed to work to reduce barriers to industrial-base integration</td>
</tr>
<tr>
<td>Feb 2021</td>
<td>The Pentagon awards Lynus a contract for a rare-earths processing facility in the US and agrees to contribute to half of its development costs, but without any financial support for corresponding infrastructure in Australia</td>
</tr>
<tr>
<td>Mar 2021</td>
<td>Australia announces intention to establish a sovereign Guided Weapons and Explosive Ordnance (GWEO) capability for which it will seek US assistance on issues such as technology transfer</td>
</tr>
<tr>
<td>Aug 2021</td>
<td>Australia joins US-led Precision Strike Missile co-development program, contributing US$70 million of the US$907m programme cost, though without any clear guarantee of domestic manufacture, maintenance, or repair rights in future</td>
</tr>
<tr>
<td>Sep 2021</td>
<td>Australian Minister for Defence Peter Dutton in a speech to the American Chamber of Commerce states that giving greater practical effect’ to Australia’s inclusion in NTIB is essential to achieve shared ‘force posture and defense capability objectives’</td>
</tr>
<tr>
<td></td>
<td>AUSMIN Joint Communiqué pledges to expand practical engagement and integration . . . to streamline export controls, and to facilitate technology transfer and protection, as well as to collaborate on establishing GWEO</td>
</tr>
<tr>
<td></td>
<td>New defence-industry and technology partnership between Australia, the UK and the US (AUKUS) announced, with an initial focus on facilitating Australian access to submarine nuclear-propulsion technology</td>
</tr>
<tr>
<td>Nov 2021</td>
<td>Officials from Australia, the UK and the US sign the Exchange of Naval Nuclear Propulsion Information Agreement</td>
</tr>
<tr>
<td><strong>US–INDIA</strong></td>
<td></td>
</tr>
<tr>
<td>Jun 2005</td>
<td>New Framework for the India–US Defense Relationship issued to increase opportunities for technology transfer, collaboration, co-production, and research and development</td>
</tr>
<tr>
<td>Jun 2012</td>
<td>US–India Defense Trade and Technology Initiative (DTTI) established to facilitate the co-production and co-development of military systems</td>
</tr>
<tr>
<td>Sep 2013</td>
<td>US–India Joint Declaration on Defense Cooperation elevates the two sides to ‘closest of partners’ status for the purposes of defence technology transfer, trade, research, co-development, and co-production</td>
</tr>
<tr>
<td>Jun 2015</td>
<td>Updated Framework for the US–India Defense Relationship aims to achieve greater interaction and cooperation between their armed forces, and to build greater understanding between defense establishments</td>
</tr>
<tr>
<td>Oct 2015</td>
<td>India lodges a formal request for the purchase of five S-400 air-defence systems from Russia</td>
</tr>
<tr>
<td>Jun 2016</td>
<td>US designates India a Major Defense Partner to facilitate India’s ‘license-free access to a wide range of dual-use technologies’</td>
</tr>
<tr>
<td>Aug 2016</td>
<td>Logistics Exchange Memorandum of Association (LEMOA) signed</td>
</tr>
<tr>
<td>Oct 2016</td>
<td>India and Russia sign an intergovernmental agreement for the sale of five S-400 air-defence systems</td>
</tr>
<tr>
<td>Aug 2017</td>
<td>Countering America’s Adversaries Through Sanctions Act (CAATSA) signed into US law, to dissuade allies and partners from purchasing advanced Russian military systems</td>
</tr>
<tr>
<td>Sep 2018</td>
<td>Indian and US defence and foreign ministers hold their first 2+2 meeting and sign the Communications Compatibility and Security Agreement</td>
</tr>
<tr>
<td>Dec 2019</td>
<td>Industry-to-Industry framework signed to accelerate DTTI projects; Industrial Security Annex added to the 2002 GSOMIA; facilitating closer cooperation between US and Indian defense firms</td>
</tr>
<tr>
<td>Oct 2020</td>
<td>Basic Exchange and Cooperation Agreement signed to facilitate India’s real-time access to US geospatial intelligence US Navy P-8A Poseidon refuels at an Indian facility in the Andaman and Nicobar Islands, the first time since the signing of LEMOA in 2016</td>
</tr>
<tr>
<td>Mar 2021</td>
<td>US Secretary of Defense Lloyd Austin suggests that India’s S-400 purchase could trigger CAATSA sanctions, but only if it took delivery of the systems</td>
</tr>
<tr>
<td>Sep 2021</td>
<td>Approval of first joint project (air-launched UAVs) under the DTTI</td>
</tr>
<tr>
<td>Nov 2021</td>
<td>India begins accepting delivery of S-400 systems</td>
</tr>
</tbody>
</table>
## US–Japan

<table>
<thead>
<tr>
<th>Date</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>May 1980</td>
<td>Agreement on Cooperation in Research and Development in Science and Technology signed, establishing the Systems and Technology Forum – the first formal mechanism for exploring joint defence R&amp;D projects</td>
</tr>
<tr>
<td>Apr 2014</td>
<td>Japan officially relaxes its defence export regime, making it easier for Tokyo to join multinational defence-system development projects such as the F-35A programme</td>
</tr>
<tr>
<td>May 2014</td>
<td>Japanese firm Mitsubishi Heavy Industries supplies American company Raytheon with radar technology for US-assembled Patriot missile systems, the first export under 2011 revisions to Japan's defence export regime</td>
</tr>
<tr>
<td>Jun 2016</td>
<td>Reciprocal Defense Procurement Memorandum of Understanding signed to promote rationalization, standardization, and interoperability of conventional defense equipment and to provide a framework for ongoing communication regarding market access and procurement matters that enhance effective defense cooperation</td>
</tr>
<tr>
<td>Sep 2016</td>
<td>Amendments made to the Acquisition and Cross-Servicing Agreement allowing Japan to supply US forces with ammunition</td>
</tr>
<tr>
<td>Dec 2017</td>
<td>Japan announces plans to acquire two Aegis Ashore batteries for an estimated US$2.15 billion to supplement its destroyers in its ballistic-missile-defense network</td>
</tr>
<tr>
<td>Aug 2018</td>
<td>Ruling-party defence panel chair Nakatani Gen states that '[the FMS [Foreign Military Sales] program is like a black box,' and questions the appropriateness of programme prices</td>
</tr>
<tr>
<td>Apr 2019</td>
<td>US reportedly considers sharing F-35 source code with Japan to incentivise selection of US firms in Japan's next-gen fighter project, and is prepared to integrate Japanese components into the fighter's mission and engine systems</td>
</tr>
<tr>
<td>Jun 2019</td>
<td>The US rejects Japan's request for full membership in the F-35 programme's first-tier industrial enterprise</td>
</tr>
<tr>
<td>Oct 2019</td>
<td>The Standard Missile-3 Block IIA, the first US–Japan cooperative defence-technology project, cleared for production after 13 years in development</td>
</tr>
<tr>
<td></td>
<td>Japan's Board of Audit finds that delivery delays of up to nine years on key FMS programs had undercut Japan Self-Defense Forces maintenance and key modernisation programs</td>
</tr>
<tr>
<td>Mar 2020</td>
<td>Japan and ten other countries (including Australia and South Korea) lodge complaints with the US regarding cost overruns and delivery delays associated with the FMS programme</td>
</tr>
<tr>
<td>Jun 2020</td>
<td>Japan scraps its Aegis Ashore procurement in part due to technical shortcomings and a more than doubling of the programme's costs</td>
</tr>
<tr>
<td>Aug 2020</td>
<td>Japan considers cancelling purchases of Global Hawk UAVs via US FMS due to programme cost concerns, though eventually proceeds fearing reprisals from then US president Trump</td>
</tr>
<tr>
<td>Oct 2020</td>
<td>Japan's Ministry of Defense makes a formal request to the US Department of Defense for greater collaboration on defence research and development projects</td>
</tr>
<tr>
<td>Jan 2022</td>
<td>Japan and the US announce a new agreement deepening defence capability and technology collaboration with an initial focus on counter-hypersonic capabilities</td>
</tr>
</tbody>
</table>

## US–South Korea

<table>
<thead>
<tr>
<th>Date</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1979</td>
<td>US–South Korea ballistic-missile guidelines established, limiting South Korea's missiles to 180 km in range and a 500 kg warhead payload</td>
</tr>
<tr>
<td>Jan 2001</td>
<td>Revisions to the 1979 US–South Korea ballistic-missile guidelines extend the permissible range of South Korean ballistic missiles from 180 km to 300 km, in exchange for Seoul's accession to the Missile Technology Control Regime</td>
</tr>
<tr>
<td>Oct 2012</td>
<td>Revisions to the 1979 US–South Korea ballistic-missile guidelines extend the permissible range of South Korean ballistic missiles from 300 km to 800 km</td>
</tr>
<tr>
<td>Oct 2013</td>
<td>US officials express concern that South Korean companies are exploiting US technologies in the development of anti-ship missiles, electronic warfare equipment, torpedoes, rocket launcher systems, and Aegis destroyers</td>
</tr>
<tr>
<td>Apr 2015</td>
<td>The US blocks the transfer of four out of 25 fighter-jet technologies requested by the South Korean government, setting back South Korea's KF-X fighter programme in cost and delivery schedule</td>
</tr>
<tr>
<td>Jul 2016</td>
<td>First meeting of the Defense Technology Strategy and Cooperation Group, intended to advance policy and discussion on technology security and defence technology cooperation</td>
</tr>
<tr>
<td>Nov 2016</td>
<td>Head of South Korea's Defense Acquisition Program Administration (DAPA) says the technology gap between the US and South Korea is undermining joint projects and that US export bans on fighter techs are hurting South Korean modernisation programmes</td>
</tr>
<tr>
<td>Nov 2017</td>
<td>Then US and South Korean presidents Donald Trump and Moon Jae-in agree to remove warhead payload limits on South Korean ballistic missiles</td>
</tr>
<tr>
<td>Mar 2018</td>
<td>Integrated Defense Dialogue directs officials to 'strengthen cooperation on defense industry, defense science and technology, and the protection of defense technologies'</td>
</tr>
<tr>
<td>Oct 2018</td>
<td>The US and South Korea agree to review the 'planning, coordination, and execution' of joint defense technology activities to facilitate more efficient cooperation</td>
</tr>
<tr>
<td>Aug 2020</td>
<td>South Korea develops a prototype of the advanced active electronically scanned array (AESA), one of four technologies denied for export from the US in 2015</td>
</tr>
<tr>
<td>Apr 2021</td>
<td>South Korea unveils the first prototype of its KF-X fighter (KF-21), featuring indigenous alternatives to all four technologies denied for transfer by the US in 2015</td>
</tr>
<tr>
<td>May 2021</td>
<td>US President Joe Biden and Moon announce the termination of the US–South Korea ballistic-missile guidelines, removing caps on the range and payload of South Korean long-range missiles</td>
</tr>
<tr>
<td>Feb 2022</td>
<td>Head of South Korea's DAPA identifies a need for the mutually beneficial development of cooperation in the defense industry sector between the US and South Korea</td>
</tr>
</tbody>
</table>

second half of this decade, it is far from clear whether current efforts to strengthen and integrate alliances and partnerships can overcome these hurdles in time to reinforce deterrence and restore a favourable balance of power vis-à-vis China.

Australia is at the forefront of this collective-defence agenda. Beyond the expansion of US–Australia force-posture initiatives, Washington and Canberra have embarked on a long list of military sales and defence-industrial projects to support Australia as it seeks to create a ‘more potent, capable and agile Australian Defence Force’ able to play a more active role in defending the regional order. In 2021 and early 2022, this has involved efforts to ‘grow’ Australia’s ‘self-reliant ability to deliver deterrent effects’ through long-range strike capabilities, including US BGM-109 Tomahawk land-attack cruise missiles for the navy and extended-range AGM-158B joint air-to-surface stand-off missiles (JASSM-ER) and AGM-158C long-range anti-ship missiles (LRASM) for the air force. Washington has also agreed to support Canberra’s aim to produce strike capabilities domestically through the sovereign Guided Weapons and Explosive Ordnance Enterprise, though this initiative hinges on future US decisions to waive export restrictions and share sensitive intellectual property with Australia – discussions which have so far moved very slowly.

The launch of the AUKUS agreement in September 2021 is now a focal point for defence-industrial integration. Promising to revolutionise Australia’s high-end military capabilities and ‘foster deeper integration of defence-related science, technology, industrial bases and supply chains’, AUKUS is the clearest example of Washington’s willingness to pursue major alliance reforms. Its flagship initiative to provide Australia with conventionally armed SSNs marks the first time Washington has entrusted an ally with the US Navy’s nuclear-propulsion secrets since 1958, when it reached a similar agreement with London. SSNs will provide a stealthy, survivable and lethal capability that can deploy to distant locations, like the South China Sea and Northeast Asia, for long periods. From Washington’s perspective, it also guarantees that Canberra has cutting-edge capabilities to contribute to a future high-end fight. These capabilities, however, will not be available soon. While the AUKUS partners will sign off on an SSN design by March 2023, even a ‘mature design’ – like the British Astute class or US Virginia class – is unlikely to yield an Australian SSN capability before 2035. The complex technical, bureaucratic and nuclear-stewardship challenges associated with operating SSNs means that Australia’s future submarines will not contribute to the military balance for 15–20 years.

Of greater near-term value is AUKUS’s parallel effort to develop ‘joint advanced military capabilities’. With a dual focus on fielding new capabilities this decade and co-developing cutting-edge technologies for the future, this effort involves a growing list of plans for cooperation in areas ranging from autonomous undersea capabilities and quantum technologies to hypersonic- and counter-hypersonic-missile capabilities. Officials expect trials and experimentation in some of these areas to begin within three years, with autonomous underwater vehicles and quantum technologies at the front of the queue. This is a potentially positive signal. Indeed, it is only by pooling the research, innovation and defence-industrial sectors of trusted allies that the US can hope to maintain its eroding capability edge vis-à-vis China. If AUKUS is to succeed where previous efforts to bring Australia and the UK into the US National Technological and Industrial Base have failed,
however, Washington will need to address the legislative, commercial and export-control barriers that have prevented a trilateral ‘defence free-trade area’ in the past.64

In Northeast Asia, Japan is the focal point of the Biden administration’s push to integrate regional alliances via new force posture, contingency planning and defence-technology initiatives. In January 2022, the two sides agreed to ‘strengthen joint capabilities by fully aligning strategies’, highlighting plans to jointly stockpile munitions and increase shared use of US and Japanese facilities.65 Coupled with a new Special Measures Agreement that reorients Tokyo’s financial support for US Forces Japan towards joint facilities and combined military exercises, these developments foreshadow wider changes in Tokyo’s self-defence arrangements.66 Impending revisions to Japan’s National Security Strategy and other policy documents are expected to articulate a more active security role for its Self Defense Forces, including through developing ‘counterstrike capabilities’ to target ‘enemy base[s]’.67 The establishment of a new US-Japan framework for advanced defence and technology cooperation – with ‘counter-hypersonic technology’ as its initial priority – is likely to support this agenda.68 While defence-technology cooperation has historically moved slowly, in this case Washington acted on Tokyo’s request in less than four months, signalling greater urgency.69 Implementing reforms, however, is another matter. Although Japan’s ruling party has indicated its support for a more integrated alliance, Japanese and US views may diverge on priorities when it comes to discussing revising alliance roles and missions, making changes to the 2015 Guidelines for Japan-US Defense Cooperation difficult to achieve.70

The Biden administration has also sought new ways to help South Korea contribute to the United States’ collective-defence aims in Northeast Asia. In May 2021, Washington and Seoul agreed to scrap 40-year-old guidelines limiting South Korea’s ballistic-missile programme,71 allowing the latter to produce and field longer-range strike systems and enhance its capacity for space-based surveillance.72 This paved the way for expanded alliance cooperation on space and counter-space projects, with Washington and Seoul signing their first space-policy research agreement in April 2022.73 Yet closer defence-industrial and -technology integration is largely missing from the alliance agenda. Although South Korean officials have called for ‘mutually beneficial’ collaboration on defence-industry matters since the establishment of a high-level bilateral mechanism in 2016, this has produced little tangible progress, limiting both countries’ ability to pool their defence-industrial sectors.74

The administration is also working hard to advance defence integration with India, including through enhanced information-sharing, maritime cooperation and defence trade.75 Washington and New Delhi announced their first project under the 2012 Defense Technology and Trade Initiative

Russian President Vladimir Putin and Indian Prime Minister Narendra Modi meet in New Delhi to agree on India acquiring Russian S-400 air-defence systems, 5 October 2018
(DTTI) in July 2021, providing a test bed for deepening defence-industrial cooperation. In April 2022, the two sides flagged the potential for cooperation on ‘underwater domain awareness’ and for Indian shipyards to support US Maritime Sealift Command vessels. Despite this, efforts to deepen the US–India partnership remain slow given the rapidly deteriorating balance of power. Such efforts are also becoming more challenging to implement in the wake of Russia’s invasion of Ukraine, which, from a US perspective, has cast New Delhi’s defence ties with Moscow as a growing liability. Although the Biden administration has tried to protect US–India defence ties from domestic criticism – for instance, it has so far declined to sanction India for acquiring Russian S-400 air-defence systems despite the Countering America’s Adversaries Through Sanctions Act, which mandates sanctions against countries engaging in significant transactions with certain countries, including Russia – substantive progress is unlikely to be rapid.

More broadly, the Biden administration has accelerated Washington’s embrace of minilateral strategic-policy initiatives to deepen what Jake Sullivan calls a new ‘lattice-work’ of alliance and partner relations. Most prominently, Biden’s elevation of the Quad to the leader level in March 2021 injected new momentum into the grouping, with progress on vaccines, public health, critical technologies, infrastructure and other priorities. This is important in the competition for influence with China. Far less progress has been made in advancing the Quad’s potential as a military-balancing coalition, with action on building blocks like information-sharing and maritime-domain awareness still largely confined to the bilateral level. The Biden administration has also invested significant time in reviving trilateral cooperation with South Korea and Japan, convening at least 18 cabinet-level or senior officials’ meetings since taking office. While animosities between Seoul and Tokyo continue to limit progress, the talks secured a commitment to deepen cooperation on North Korea and regional stability more broadly.

Washington has enjoyed some success in building international support for Taiwan. The administration secured references to the importance of ‘peace and stability’ across the Taiwan Strait in joint statements with the leaders of Japan in April 2021 and the leaders of South Korea in May 2021. The statement following the US–South Korea–Japan trilateral in February 2022 echoed these words. In each of these cases, the reference was unprecedented. Similarly, the 2021 AUSMIN communiqué by Canberra and Washington emphasised ‘Taiwan’s important role in the Indo-Pacific region’ and both sides’ intent to strengthen ties with Taipei. This consensus has also been reflected in high-level expressions of support for Taiwan by US allies and in various joint statements between Australian, British, French and Japanese officials. Coupled with the administration’s ongoing efforts to bolster Taiwan’s military capabilities, this ‘minilateralisation’ of concerns about Taiwanese security marks a critical part of Washington’s strategy to forge collective resolve on this potential flashpoint. It also complements an uptick in
major combined military exercises, such as INDOPACOM’s theatre-level Large Scale Global Exercise in August 2021, which are working to operationalise deeper integration among key US allies in preparation for potential high-end war-fighting needs in the future.88

CONCLUSION
A year is not a long time in the sweep of ongoing US efforts to chart a more robust and collective-defence strategy for the Indo-Pacific. While Biden’s stewardship of this agenda has been far from perfect, the administration deserves credit for advancing important lines of effort and working to prioritise the region under difficult geopolitical circumstances. On this score, its withdrawal from Afghanistan, initial restraint in Ukraine, incremental posture investments and support for the ground-breaking AUKUS partnership represent signature achievements. The administration’s restoration of productive relations with regional allies and partners has also been critical to operationalising its embrace of a collective-defence framework. More can be expected on this front in the forthcoming 2022 National Defense Strategy and 2022 National Security Strategy.

However, Washington will have to intensify its efforts on all three elements of US strategy – prioritisation, posture and partnerships – if it is to have any hope of upholding a favourable Indo-Pacific balance of power amid China’s growing capabilities and assertiveness. This will require far more significant investments in US capabilities and forward military presence, as well as sustained strategic discipline – particularly in Europe – as calls for greater US attention and resources mount in response to grinding hostilities in Ukraine. Above all, the US will need to do more to empower and integrate allies and partners, in particular by providing incentives to these countries to play a larger role in collectively defending the regional order. This means allaying lingering doubts about Washington’s ability and willingness to invest in the military rebalance and deliver a credible deterrence strategy. While the Biden administration has made valuable down payments on a more effective strategy, time is not on its side to accelerate this collective agenda.

NOTES
5 White House, ‘FACT SHEET: Implementation


13 Remarks delivered by then US secretary of defense Chuck Hagel at the 2014 IISS Shangri-La Dialogue, 31 May 2014. A transcript is available via ProQuest: https://www.proquest.com/docview/1531468767?accountid=14775&parentSessionId=FqS4L1y3d1Kjh%2F%2F%2FbmDrSWObhvwpcGydfsENoU271xQ%3D&pq-origsite=primedforcedol=true.


23 US, Department of Defense, ‘Fact Sheet: 2022


41 Australia, Department of Foreign Affairs and Trade, ‘Joint Statement Australia–US Ministerial Consultations (AUSMIN) 2021’.


Colin Clark, ‘Aussies to Pick “Mature”


US, Department of State, ‘Fourth Annual US–


86 Australia, Department of Foreign Affairs and Trade, ‘Joint Statement Australia–US Ministerial Consultations (AUSMIN) 2021’.


Beijing regards the United States as the most significant threat to China’s national security in the Asia-Pacific region, the key battleground of US–China competition for global influence. It considers the US the primary obstacle to the most important item on its national-security agenda – unification with Taiwan. Moreover, a growing China, flexing its muscles, inevitably runs into the US alliance system spanning the first and second island chains. The rise of great-power competition in the Asia-Pacific has key implications for China’s regional security policy.

**DRIVERS AND INFLUENCERS OF CHINA’S REGIONAL SECURITY POLICY**

Beijing wishes to be more capable of protecting its interests within its borders and in the region. A strong military is considered essential to secure China’s sea lanes of communication, including trade routes. Domestically, there is a strong conviction that an assertive security policy serves President Xi Jinping’s power consolidation. Following the coronavirus pandemic, China has emerged more confident of its ‘destiny’ to displace the US in the Asia-Pacific.

**CHINA’S SECURITY OBJECTIVES: COUNTERING THE US PRESENCE**

Beijing seeks to check the US military presence and security alliances to become safer and more secure. Countering the US Indo-Pacific strategy, regional frameworks – such as the Quad – and military cooperation plans – such as AUKUS – have emerged as significant challenges.

**CHINESE PERCEPTIONS OF THE US ALLIANCE SYSTEM**

Key to China’s broader Asia-Pacific security outlook is countering the AUKUS agreement and its implications for new-found coalition-building by the US and its allies. For Chinese strategic thinkers, the real danger is how AUKUS (and the United States’ coalition-building) will contribute to the regional arms race.

**POTENTIAL FLASHPOINT: TAIWAN**

Short of war, China considers itself unable to prevent growing US–Taiwan ties. It can only escalate its show of force, hoping that Washington and Taipei will be compelled to show restraint. Although the prevailing sense in the Chinese policy community is that peaceful unification is becoming less likely, few anticipate that Xi will attack Taiwan in the immediate future. The fragile peace could nonetheless be affected by an accidental conflict or escalation.
China’s regional security outlook has evolved significantly in recent years, with the vast theatre to China’s west receiving more attention as a result of the introduction of the Belt and Road Initiative (BRI, leading into Central Asia, the Middle East and eventually Europe) and the escalating competition with India in South Asia. However, the immediate area to the east of China’s coastal lines – the Western Pacific – is the theatre that dominates China’s national-security strategy. In this sense, for China not all sub-regions in the Asia-Pacific are created equal.

In the Western Pacific, China has identified four primary theatres that harbour or constitute security threats that could pose critical challenges to its national security. From north to south, these theatres are the Korean Peninsula, the East China Sea, Taiwan and the South China Sea. Since the end of the Cold War, China’s Asia-Pacific security policy has evolved in response to threats emanating from these theatres and they have alternated as the most pressing security challenge at different historical junctures. For example, during the first year of the Trump administration in the United States, China was most concerned about a North Korea contingency. Beijing’s focus shifted towards Taiwan and the South China Sea during the last year of Donald Trump’s presidency. In the first year of the Biden administration, Taiwan was China’s highest priority given what Beijing perceived to be mounting US support for the island in the context of great-power competition. While this development does not necessarily mean that China anticipates a war over the Taiwan Strait in the immediate future, it does suggest that Beijing’s security-policy planning has to prioritise national unification, or at least the prevention of ‘Taiwan independence’, over competing agendas. None of these four theatres will see the swift resolution of China’s security concerns in the foreseeable future; they will remain the first priorities of Beijing’s Asia-Pacific security policy for years, if not decades, to come.

China’s Asia-Pacific security policy is US-centric. The US is perceived as the most significant threat to China’s national security. As China’s immediate neighbourhood, the Asia-Pacific is the key battleground of US–China competition for global influence, leadership and dominance. This is not only because the US is perceived to be the main obstacle to the most important item on China’s national-security agenda – unification with Taiwan – but also because a growing China, flexing its muscles and reaching out, inevitably runs into the US and its alliance system, which spans the first and second island chains (see Map 2.1). This last point is increasingly relevant as China develops its blue-water navy and reaches further into the maritime domain.

Since 2017, the most significant change in Asia-Pacific regional affairs has been the rise of great-power competition between the US and China. The competitive theme has overtaken previous narratives of ‘engagement’, ‘containment’ or ‘co-petition’ (cooperation and competition), saturating all aspects of US–China relations. This tectonic change has key implications for all aspects of China’s security policy towards the Asia-Pacific. These aspects include the drivers and influencers of China’s regional security policy; its evolving security objectives in the region; its assessment of the US and, specifically, its regional security framework; potential flashpoints; and Beijing’s military preparation for potential conflict.
Map 2.1: Island chains of defence in the Pacific Ocean as conceived by Chinese strategists

Source: PLA Navy Headquarters ‘Zhongguo haijun junren shouce’ [Handbook of PLA Navy Personnel], (Beijing: Haichao chubanshe, 2012) ©IISS
DRIVERS AND INFLUENCERS OF CHINA’S REGIONAL SECURITY POLICY

China’s regional security policy aims to enhance ‘security’ as Beijing understands the term. This understanding has been evolving and expanding in recent years. Simply put, China wishes to grow more capable of protecting its interests not only within its borders but also in the region. As China has become more capable and feels less vulnerable at home, the scope of its security has expanded outwards, first onto its periphery. China has sought to increase its security through addressing the security challenges posed by the US, its allies and other security actors in the region. Beijing perceives the US alliance system that encompasses Japan, the Philippines, South Korea and Taiwan as the primary threat to China’s national-security interests. The territorial and maritime disputes between China and US allies and partners are simply one manifestation of the conflict between China’s expanding influence and the United States’ traditional regional security arrangements.

The security dilemma, however, is that the enhancement of security by a state – in this case China – inevitably prompts other states to react. This in turn decreases the original state’s (China’s) security. Furthermore, the zero-sum nature of certain issues, such as national unification or territorial and maritime disputes, means that ‘win–win’ scenarios are unlikely to emerge. China’s efforts to mitigate its own vulnerability and fulfill its core national agenda – which includes sovereignty, unification with Taiwan and territorial integrity – are the most important drivers of Beijing’s regional security policymaking.

China’s regional security policy is also driven by economic interests. According to a Chinese white paper published in 2017, ‘China’s Asia-Pacific Security Cooperation Policy’, increasing economic integration is an important foundation for relations among nations and the ‘master key’ to solving security issues. While economic cooperation – and the complex interdependencies that result from it – helps to stabilise security relations, China’s security policy is also actively driven and motivated by its economic interests. For example, a strong military (especially a strong navy) is believed to be essential to securing China’s sea lanes of communication, including its trade routes through the South China Sea, the Strait of Malacca and the Indian Ocean. With a Taiwan contingency becoming an increasingly probable event, countering a potential US-led blockade of China’s trade routes – especially its energy transportation (see Map 2.2) – has become a key challenge that China’s national-security apparatus is pressed to address. The same concern extends to China’s economic assets, now widely disbursed throughout the region, from oil and gas pipelines through Myanmar to fisheries and other assets in the South China Sea.

Security policies are inevitably driven by political goals. Speculation about China’s political agenda under President Xi Jinping is abundant. Domestically, there is a strong conviction that an assertive foreign and security policy serves Xi’s power consolidation by boosting his foreign-policy credentials and image as a strong leader. The reasoning goes that if Xi can advance China’s security and geopolitical interests in a highly contested Asia-Pacific, it will improve his chances of succeeding in a domestic power struggle to secure his vision of a leadership tenure beyond the traditional ten-year limit.

In terms of China’s political goals in the Asia-Pacific, security policies constitute the foundation of China’s bid for a regional-leadership role and are an integral component of the ‘rejuvenation of the great Chinese nation’ and China’s return to its self-perceived
As an authoritarian state, China’s foreign policy and security policy are inevitably imbued with its political convictions and heavily influenced by its political agenda. This link is reflected in both the defensive and offensive contexts. In terms of the defensive context, China’s security policy is driven by the desire to protect its ideological interests, manifested mainly through the one-party authoritarian system dominated by the Chinese Communist Party (CCP). This relationship can be seen in the Chinese response to the Trump administration’s delegitimisation campaign against the CCP and its party-state. Brookings Institution scholar Cheng Li notes that the Trump administration’s campaign had three objectives: the rhetorical separation of the Chinese state from the CCP; calls for overthrowing the CCP regime; and containment of China’s rise through treating the country as
a ‘whole-of-society threat’? These objectives poked at the CCP’s sensitivities over regime legitimacy and confirmed for Beijing that the US objective was indeed regime change in China. Consequently, China’s security policy was steered to counter potential US plans to create instability both regionally and domestically to undermine CCP legitimacy. This has been evident in China’s heavy-handed security response to the political turmoil in Hong Kong since 2019, as well as its active preparation for a military conflict in the Taiwan Strait and South China Sea in 2020.

The influence of ideology over China’s Asia-Pacific security policy is also reflected in Beijing’s security relations with undemocratic, authoritarian states in the region. For decades, China has propped up and supported North Korea through arms sales and security cooperation. Although Beijing’s and Pyongyang’s views differ significantly on North Korea’s nuclear-weapons programme, their interests closely align on the need to prevent regime change and maintain solidarity between the two authoritarian regimes. This need is a fundamental motive informing People’s Liberation Army (PLA) contingency planning on North Korea, which aims to preserve the North Korean state and regime even in the event of a military conflict.

Similar examples are more abundant in mainland Southeast Asia, where China’s security ties with and policy towards authoritarian states keep these regimes on critical life support. At a minimum, these would include China’s arms sales to the Thai military government, the maintenance of security ties with Myanmar’s military government and arms sales and military assistance to Cambodia’s Hun Sen government. These security ties and policies are not only aimed at competing with the US for influence and partners in the region but also play a genuine and practical role in propping up the authoritarian regimes in question. While China’s moral criteria regarding regime legitimacy are much more flexible than those of the West, protecting and shielding these authoritarian regimes from international intervention and influence is an indisputable Chinese goal.

The experience of the coronavirus pandemic has led to changes in China’s security outlook and policy towards the region. In absolute terms, China has faced tremendous difficulties in its domestic economy and foreign relations as a result of COVID-19. Internationally, much of the BRI was halted, and while China’s aggressive ‘wolf-warrior diplomacy’ might have shut down foreign complaints temporarily, Beijing hardly won
hearts or minds across the globe. In this sense, the pandemic has weakened China’s comprehensive national power and tarnished its international image. However, although China’s experience of COVID-19 has been difficult, Beijing assesses that the US and its allies – or the West in general – have been more adversely affected in terms of domestic-crisis management, disease control and economic performance. After an initial period following the coronavirus pandemic in which there was growing confidence that the global power equilibrium was changing in China’s favour, China’s positive outlook has been dampened in 2022 by the war in Ukraine and the lockdowns in Shanghai and other cities in China due to the spread of COVID-19. These events have triggered a perceived strategic low tide in the view of many Chinese strategists.

The absolute and relative impact of COVID-19 will jointly determine China’s grand strategy in the post-coronavirus world. There is no doubt that China has emerged more confident about its status and its ‘destiny’ to displace the US after the pandemic. The pandemic is thus regarded by Chinese leaders as a historic opportunity for China to improve its strategic position and expand its influence in Asia and beyond. This judgement has had a tremendous impact on China’s security objectives and policies.

**CHINA’S SECURITY OBJECTIVES: COUNTERING THE US PRESENCE**

China’s security objectives in the Asia-Pacific have been expanding in terms of both their content and their geographical scope. Two decades ago, its security objectives were primarily limited to the homeland. Prominent Chinese strategists now define the region adjacent to the country’s borders as ‘relevant areas of China’s security interest’. What this means is that the US security presence – especially its deployment of military forces and advanced weapons systems to China’s immediate periphery – is perceived as a major threat to national security. The logic continues that in order for China to become safer and more secure, it must check the United States’ military presence and security alliances.

Beijing aims to dispel and displace the US security presence in China’s immediate neighbourhood and in the Asia-Pacific more generally. This goal is evident in its response to the US deployment of the Terminal High-Altitude Area Defense system (THAAD) to South Korea in 2016. The deployment was a response to North Korea’s fourth nuclear test, conducted in January 2016. From Seoul’s perspective, it was a decision of last resort because – despite the warming of China–South Korea relations under the latter’s president Park Geun-hye – China had rejected a South Korean request for a coordinated response. In fact, following North Korea’s nuclear test on 6 January, President Xi refused to answer phone calls from president Park until 5 February. However, in July 2016, when
South Korea announced the decision to deploy the THAAD system to better detect and defend against the North Korean threat, Beijing voiced its opposition vehemently, citing the potential application of the radar to detect and monitor China’s missile activities. As punishment, China imposed ‘unofficial’ economic sanctions on South Korea, the lingering effects of which are still felt today.

Chinese efforts to displace the US can also be identified in Southeast Asia, particularly in the South China Sea. China had been concerned with US military reconnaissance and surveillance in the South China Sea for decades before US–China disputes in the South China Sea intensified. Chinese strategists recall the EP-3 incident of 2001, which involved a mid-air collision of a US Navy aircraft and a Chinese fighter aircraft near Hainan Island. Beijing’s construction and militarisation of artificial islands aims to increase Chinese deterrence vis-à-vis the US military presence and surveillance activities in the South China Sea. Chinese experts anticipate that the artificial islands may be insufficient to completely deter US military activities and that there could be more of such activities in the future as Washington tries to offset their impact. However, as one Chinese expert stated, in the long run these islands will ‘inevitably form a barrier, a deterrence, and another layer of considerations in the US military decision-making and activities in the South China Sea, pushing such activities further away from China’s coastline’.

China capitalised on the Trump administration’s ‘America First’ moment to undermine the US alliance system in the Western Pacific. Beijing cheered Philippines President Rodrigo Duterte’s repeated threats to end the Visiting Forces Agreement with the US. China sought to provide military assistance, including light weapons, drones and counter-terrorism equipment, to Manila during the Trump years to increase the appeal of alignment with China and to promote its image as an alternative security provider. Similarly, Beijing also
intensified efforts to increase South Korea's neutrality between the US and China by undermining Seoul's confidence in Washington's commitment, citing US attempts to measure the alliance's merits in dollar terms and its demands that allies increase their cost-sharing contributions. As Brookings Institution expert Jung H. Pak maintains, China's primary approach to South Korea is to 'try to loosen the linchpin' of the US security alliance in East Asia.¹¹

China’s security objectives are focused therefore on countering and undermining the US security presence in the region – especially its military presence. Countering the US Indo-Pacific strategy, regional frameworks – such as the Quad – and specific military-cooperation plans – such as the AUKUS agreement – have emerged as key challenges to China’s security objectives in the Asia-Pacific.

**CHINESE PERCEPTIONS OF THE US ALLIANCE SYSTEM**

One of the Biden administration’s most significant strategic initiatives aims to strengthen US alliances and partnerships to leverage the collective power of like-minded countries to counter the challenges posed by China. Biden organised the first virtual Quad Leaders’ Summit in March 2021 and the first in-person summit in September 2021, attended by Indian Prime Minister Narendra Modi, Australian Prime Minister Scott Morrison and Japanese prime minister Suga Yoshihide. Diversifying away from the regional security focus of the Quad under president Trump, the summits in 2021 focused on ‘21st-century challenges’, including the financing, production and distribution of vaccines to address the coronavirus pandemic; promoting high-standard infrastructure; combatting the climate crisis; working together on emerging technologies, space and cyber security; and generating ‘next-generation talent’ in Quad countries.¹² Hard military security no longer appears to be a focus of the Quad.

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¹¹ Source: ISS, Military Balance+, milbalplus.iiss.org
The AUKUS agreement

Key to China’s broader Asia-Pacific security outlook is countering AUKUS and its implications for new-found coalition-building by the US and its allies. China’s reactions to and strategic view of AUKUS are still developing, given the grouping’s wide scope and extended time frame to implement its provisions. Nevertheless, since AUKUS was announced, China has sought to undermine its geopolitical legitimacy by calling into question the trilateral agreement’s motivations. As with its criticism of the Western pushback against Russia’s invasion of Ukraine in February 2022, Beijing has accused AUKUS of fomenting a ‘Cold War mentality’. In Beijing’s view, this mentality inherently threatens China’s national security and is synonymous with military blocs and ‘group confrontation’. Some Chinese thinkers have equated AUKUS with an ‘Asian NATO’, which elevates the importance of countermeasures in the Chinese mindset.

On AUKUS’s goal of supplying nuclear-powered submarines to Australia, China is hopeful that the new Australian fleet will be built from scratch rather than retrofitted from retired US vessels, therefore providing China additional time to modernise its own fleet. The Chinese also hope that domestic politics and leadership changes in Australia will disrupt the rollout of the strategic assets. They would have observed that previously high-ranking Australian politicians have wavered in their view of AUKUS, casting doubt on the robustness and longevity of the agreement.

China’s long-term strategic concern lies in the agreement’s impact on the ongoing arms race in Asia. Although aware of the steady increase in regional military expenditures (see Figure 2.1) and the almost inevitable ‘second nuclear age’, the Chinese perceive AUKUS as a step towards there being a greater number of countries that pose a security challenge to China, as well as an expanded number that are augmenting their tactical capabilities. China expects that, beyond the addition of nuclear-powered submarines to Australia, other US-aligned countries will seek newer and more advanced weapons systems, which the US will deliver. This scenario adds substance to the notion of an anti-China coalition in the Asia-Pacific and puts an essential question before Beijing: should China engage in the arms race? Or should it follow its own pace? Chinese strategic thinkers recall how Soviet efforts to keep up with the US in military spending led to economic mismanagement and, ultimately, the Soviet Union’s demise. However, the unprecedented security challenges China faces in the twenty-first century may cause Beijing to believe it has no option but to engage.

Impact on a potential Taiwan contingency

A key Chinese concern regarding AUKUS (and also the Quad) is directly related to the issue of a Taiwan contingency. The deal is one indicator of what China sees as the growing likelihood of a regional reaction to its use of force to achieve national unification. As Beijing prepares for a military takeover of Taiwan, an issue that has complicated its military
planning is the increased likelihood of coordinated action by regional players, especially the Quad countries, to deter or counter China's plans. Beijing used to believe that with the exception of the US, regional states were unlikely to become involved in the event of a military conflict across the Taiwan Strait.

However, recent developments have increasingly pointed in a different direction. Despite internal debates over whether to respond to Chinese aggression against Taiwan,17 Japan is faced with a real possibility that China will strike Japanese territory in the event of a Taiwan contingency if the US uses its military bases in Japan to plan and conduct a counterstrike against China. The Taiwan Strait featured in a number of key joint statements between the US and Japan in 2021, including one released following the Biden–Suga summit of April 2021.18 There have also been a series of high-level pronouncements in Japan regarding Taiwan.19 In late 2021, it was reported that the US and Japan were drawing up plans for a Taiwan emergency. The plan involved the US Marine Corps establishing temporary bases on Japan’s Nansei Island at the initial stage of a Taiwan emergency and deploying troops.20

In 2020, during the peak of the Ladakh crisis with India, China worried about a two-front war – with India in the west over their disputed territory and with the US in the east over Taiwan.21 In a Taiwan contingency, China will have to be prepared for the real possibility of an Indian blockade of Chinese vessels in the Indian Ocean. Last but not least, for some time (and before the US commitment to provide nuclear-powered submarines to Australia) Washington has consulted with Canberra on strategic planning for a Taiwan contingency.22 In short, Beijing faces a significant chance that its military actions against Taiwan will be met with a collective reaction from the region.

Impact on proliferation
Since AUKUS was announced, Beijing has objected to the deal on the basis of its potential impact on non-proliferation norms. In September 2021, the Chinese permanent representative to the United Nations in Vienna made reference to AUKUS’s ‘undisguised nuclear proliferation activities’ and demanded that the International Atomic Energy Agency (IAEA) take action. Although AUKUS does not violate the Non-Proliferation Treaty (NPT), as the IAEA Safeguarding Glossary excludes nuclear-powered submarines, China still argues that AUKUS violates the NPT’s mission and spirit. One Chinese arms-control expert asserted that AUKUS violates the mission of the NPT by contributing to changing the norms that define and serve as the foundation of the international non-proliferation regime.23 He also echoed the fear that AUKUS could lead to a regional arms race.

POTENTIAL FLASHPOINT: TAIWAN
There is much concern in the Asia-Pacific regarding the potential flashpoints between China and the US (and its allies). During the United States’ presidential-election season in 2020, Chinese leaders genuinely believed that president Trump would seek military conflict with China in an effort to enhance the United States’ security, prompting Beijing to prepare for this eventuality. Among US and Chinese leaders, the theatres speculated to be most likely to host such a conflict were Taiwan and the South China Sea. Since Biden’s inauguration the Chinese have observed the continuation of US efforts to support Taiwan.
These efforts have included senior-level visits, support for Taiwan’s international participation and public acknowledgement of the deployment of US troops to the island (see Figure 2.2), which China sees as highly provocative.\(^{24}\)

Although the US policy community is vigorously debating whether Washington should abandon its policy of strategic ambiguity vis-à-vis Taiwan, the Biden administration is adamant on maintaining it as a core foundation of US Taiwan policy.\(^{25}\) More importantly, Washington still adheres to its ‘One China’ policy, which acknowledges Beijing’s position that Taiwan is a part of the People’s Republic of China (PRC) without acknowledging that Taiwan is indeed a part of the PRC (an assertion that China’s One-China Principle does make).\(^{26}\) However, in an era of great-power competition, Taiwan inevitably factors into the United States’ broader foreign policy. Moreover, Washington’s enhanced support for Taiwan has elevated China’s anxieties over the future of the island. For China, the saying goes that ‘the (desired) peaceful unification has no hope, and the unification has no chance’.\(^{27}\) In these circumstances, it is perceived that the only policy option remaining is a campaign of intimidation and coercion to force Taiwan in the direction of unification.

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**Figure 2.2: Timeline of growing US support for Taiwan, 2021**

01. US State Department lifts self-imposed restrictions on contacts between US and Taiwanese officials 9.1.2021
02. Taiwan’s representative to the US Hsiao Bi-khim invited to attend Joe Biden’s presidential inauguration 20.1.2021
03. US State Department issues statement supporting Taiwan against China’s incursions into Taiwan’s Air Defence Identification Zone 23.1.2021
04. Taiwan Invasion Prevention Act introduced to the US Senate 22.2.2021
05. US and Taiwan sign agreement to strengthen maritime cooperation by establishing the Coast Guard Working Group 25.3.2021
06. US Ambassador to Palau John Hennessey-Niland visits Taiwan as part of Palauan President Surangel Whipps Jr’s delegation, becoming the first sitting US ambassador to visit Taiwan in an official capacity in 42 years 28.3.2021
07. Bipartisan US Senate delegation visits Taiwan and announces a donation of 750,000 doses of COVID-19 vaccines 6.6.2021
08. G7 Summit communique mentions Taiwan for the first time 13.6.2021
09. US State Department issues statement warning China against military activities across the Taiwan Strait 3.10.2021
10. President Biden says at a CNN ‘town hall’ meeting that US has a commitment to defend Taiwan against any attack by China 22.10.2021
11. US State Department issues statement in support of Taiwan’s participation in United Nations forums 26.10.2021

Source: The Stimson Center, www.stimson.org
In 2021, there was an unprecedented number of PLA air incursions into the Taiwanese Air Defence Identification Zone (ADIZ) (see Map 2.3). In four days during the first week of October there were 149 incursions, including 38 on 1 October, 39 on 2 October, 16 on 3 October and a record 56 incursions on 4 October (the largest one-day sortie to date). By comparison, there were 380 incursions in total in 2020.

A tactical explanation for the incursions would argue that China felt a need to demonstrate its military power in light of the joint training being conducted by aircraft carriers USS Carl Vinson, USS Ronald Reagan, HMS Queen Elizabeth and vessels from Canada, Japan, the Netherlands and New Zealand in the Philippine Sea in early October. According to Chinese analysts, the Chinese drew a link between the US aircraft carriers passing through the Bashi Channel (located between Taiwan and the Philippines) and PLA aircraft’s incursions around Taiwan. The fact that the first week of October also saw China’s National Day holiday, while Taiwanese President Tsai Ing-wen was scheduled to deliver remarks for Taiwan’s own National Day on 10 October, likely further incentivised China to carry out the incursions. The PLA’s movements are regarded as both a show of force to boost morale domestically and to deter any calls for Taiwanese independence.

Beijing’s tactics, however, do not disguise mainland China’s sense of powerlessness at the strategic level regarding Taiwan. Short of a war, China assesses that it lacks the ability to stop growing US–Taiwan ties, which have occurred through small, incremental steps, such as arms sales and troop deployments. Beijing can only escalate the frequency, intensity and scale of its show of force in the hope that Washington and Tsai’s Democratic Progressive Party (DPP) will be compelled to ‘pull back from the precipice’. However, behind the escalation is an accumulating frustration and sense of powerlessness.

<table>
<thead>
<tr>
<th>Month(s)</th>
<th>Number of sorties</th>
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<tr>
<td>Sep–Dec 2020</td>
<td>149</td>
</tr>
<tr>
<td>Jan 2021</td>
<td>81</td>
</tr>
<tr>
<td>Feb 2021</td>
<td>38</td>
</tr>
<tr>
<td>Mar 2021</td>
<td>54</td>
</tr>
<tr>
<td>Apr 2021</td>
<td>106</td>
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<td>May 2021</td>
<td>29</td>
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<tr>
<td>Jun 2021</td>
<td>43</td>
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<td>Jul 2021</td>
<td>17</td>
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<tr>
<td>Aug 2021</td>
<td>34</td>
</tr>
</tbody>
</table>

Note: Taiwan’s defence ministry reported a total of 551 PLA sorties in the indicated area and time period. There are slight discrepancies between the ministry’s National Defense Report 2021 and its day-by-day Twitter updates since January 2021 – the National Defense Report adds two more sorties in February and one more in April 2021, for a total of 554 – but the lower figures compiled from Twitter have been preferred for this graph.

China on Taiwan: peace or war?
Interestingly, soon after the PLA’s incursions into Taiwan’s ADIZ in October 2021, Xi delivered important remarks on Taiwan at an event marking the 110th anniversary of the Xinhai Revolution, which overthrew the Qing Dynasty and founded the Republic of China. Xi stated that China continues to seek peaceful unification with Taiwan as its preferred and primary approach and that the resolution of the Taiwan question will only occur as the natural result of China’s ‘rejuvenation’. According to his remarks, China has not abandoned the peaceful-unification formula but understands unification to be predicated on the continued growth of China’s comprehensive national power, which will eventually make the cost of the United States’ defence of Taiwan so high that it becomes prohibitive. While there is no guarantee that the peaceful formula is not a feint, as it stands, China’s stated national agenda – expressed in its ‘Outline of the Vision for 2035’ – does not show national unification as the priority.

That said, the challenge for China is the innate tension between ‘preventing independence’ (反独) and ‘promoting unification’ (促统). Theoretically, these two agendas should be mutually complementary if Taiwanese public opinion were neutral. However, because the Taiwanese people do not desire unification with China under the control of the CCP and would prefer independence if cost-free, China feels it has to employ intimidation and coercion lest Taiwan slide towards independence. Beijing might scare the Taiwanese away from independence but its approach is also removing any desire in Taiwan to be unified with (i.e., absorbed by) China.

The fundamental reason why China has not yet resorted to force is that it cannot guarantee a victory. Losing is not an option for the CCP. Even if Beijing could abandon its ‘no-first-use’ policy and threaten nuclear war, this would just increase the risks and uncertainty involved. Mutually assured destruction with the US over Taiwan is apparently not in the CCP’s interest either. The PLA is strengthening its military preparedness for a war but most observers do not believe it will launch an offensive attack without being provoked. China has been intentionally vague about what constitutes a provocation. In the 2005 Anti-Secession Law, the three triggers for the use of force are defined as Taiwan’s secession; major events that will lead to Taiwan’s secession; and the complete loss of the possibility of peaceful unification. According to private conversations with mainland officials, the last condition is deliberately vague to maximise Beijing’s flexibility.

The prevailing sense in the Chinese policy community is that peaceful unification is becoming less likely. However, few anticipate that Xi will attack Taiwan soon: with a Party Congress scheduled for late 2022 and Xi due to begin his third term as general secretary in 2023, he is likely to focus on maintaining stability. The election of Eric Chu as chairman of
the Kuomintang has also reignited Beijing’s hope that a pro-unification voice could prevail in Taiwan by the island’s next presidential election, no matter how unrealistic this hope might be. Xi sent a letter of congratulations to Chu almost immediately after his election. Chu’s response, which emphasised that the peoples on both sides of the Taiwan Strait were all descendants of Yanhuang (an ancient ethnic Chinese people that inhabited the Yellow River basin), is viewed by Beijing with great hope.

The fragile peace and stability across the Taiwan Strait could nonetheless be disturbed by two scenarios. The first is an accidental conflict or escalation of tensions driven by events on the ground. Presumably, if Beijing and Washington are interested in keeping the escalation under control, they would resort to their hotline for communications and de-escalation. However, there is no guarantee that this will happen. The second is China’s vigorous acceleration of its nuclear-arsenal expansion. At current assessments, China may not be aiming for the use of nuclear weapons, but it is prioritising building a sufficient number to deter the US from intervening militarily in the event of a Taiwan contingency.

THE UKRAINE CRISIS AND CHINA’S REGIONAL SECURITY OUTLOOK

A black-swan event, the Ukraine crisis has generated tremendous uncertainty regarding the future of the global order and the security outlook in the Asia-Pacific. Aside from causing damage to the rules and norms of the post-Second World War order, the conflict is likely to have a direct impact on the power balance in and future trajectory of the Asia-Pacific. At the time of writing the war is ongoing, making it difficult to assess its effects. However, the Ukraine crisis is already affecting the Chinese regional security outlook in at least three ways.

Firstly, the crisis has raised questions about US priorities. The Biden administration released its Indo-Pacific strategy days before the war in Ukraine broke out. With a significant security crisis erupting in Europe, it remains unclear how Washington will divide its attention and resources between the traditional European theatre and the Asia-Pacific. Many Chinese policy analysts are hopeful that the US will be weakened in the Asia-Pacific by trying to look in two directions at once. In refusing to condemn Russia, China also calculates that Russia may help to counterbalance and check the US in the future.

Secondly, if the US is indeed distracted by Europe – or if it has to divide its attention and resources between China and Russia – this is not all good news for China. If countries in the Asia-Pacific are less assured about the US security presence – and if US allies have less confidence in the US security guarantee – they will have to develop their own capabilities to boost their national defence. Former Japanese prime minister Abe Shinzo
openly called for Japan to consider NATO-like nuclear-weapons sharing the day after Russia launched its invasion of Ukraine. South Korea is also considering strengthening its defence capabilities in light of the Ukraine crisis, particularly considering the incoming government’s North Korea policy and the ongoing North Korean provocations. Such developments would inevitably heighten the regional arms race, which would not work in China’s interests.

Thirdly, the Ukraine crisis also directly complicates China’s future plans relating to the use of force against Taiwan. Although the war in Ukraine may not expedite China’s plan to achieve unification by force, it has in fact raised many questions and scenarios for which China will need to study and prepare. The Ukraine war has made a Chinese attack on Taiwan extremely unlikely in the near term. If Beijing were planning to invade Taiwan in the near term (and many do not believe that it has such plans), such a plan would likely have been complicated and postponed by what China has learned from the war in Ukraine. In many ways, the war is seen by Chinese policy experts as a rehearsal for a possible Chinese invasion of Taiwan – less in the sense of battlefield operations than with regard to how certain aspects would likely play out, such as local resistance, external assistance, modern warfare and international reactions. According to Chinese interlocutors and internal discussions, because of the similarities between China and Russia as primary strategic threats to the US and because of the similarities between Taiwan and Ukraine as the targets (both are democracies claimed by a larger authoritarian state, both enjoy Western support, and both suffer from a vast power imbalance with China and Russia respectively), the Russian experience in Ukraine offers multiple revelations and lessons for the Chinese.

China is studying the conflict in Ukraine closely to understand the ramifications for its own possible military campaign to take over Taiwan. It is a rehearsal for China in that Beijing can observe the consequences and prepare accordingly. However, the biggest problem for China is that if and when China does invade Taiwan, the world would already have had the experience of dealing with Russia’s invasion of Ukraine, and it will apply its experiences and lessons to combat Chinese actions more effectively. For China, that is a critical strategic loss.

CONCLUSION

In a context of escalating great-power competition between the US and China, the latter’s Asia-Pacific security policy is increasingly tilting towards a US-centric threat perception and strategic planning. This is the case for Chinese policy on the four contentious areas of the Western Pacific: the Korean Peninsula, the East China Sea, Taiwan and the South China Sea. The US and China have conflicting visions for the Asia-Pacific’s security framework, making their relationship increasingly antagonistic. China is watching with concern as the US works to ramp up its security alliances and partnerships in the region, while Beijing’s greatest concern is the risk of an arms race in the Asia-Pacific. In the near future, Taiwan appears to be the most contentious, dangerous and consequential flashpoint between the US and China. How to manage the intense competition between Washington and Beijing in the Asia-Pacific will be the most pressing task for all regional actors for years to come.
NOTES


7 Author’s interview with Chinese experts, Beijing, June 2015.

8 Ibid.


14 China, Ministry of Foreign Affairs, ‘Vice Foreign Minister Le Yucheng Attends and Addresses the Fourth International Forum on


Hetongwuwang, wutongmeixi" and thus unfounded. The (desired) peaceful unification has no hope, and the unification has no chance.


30 Author’s interview with Chinese official.

31 Guotaiban Xinwen Fabuhui Jilu [Taiwan Affairs Office Press Conference], Taiwan Affairs Office of the State Council, 13 October 2021, http://www.gwytb.gov.cn/m/speech/202110/t20211013_12384221.htm. Full quote: ‘Tangruo Minjindang dangji zhimibuwu, buzhihuxuanyalema, zhihua Taiwan tuixiang gengjia weixian jingdi’ [If the DPP is too stubborn to pull back from the precipice, it will push Taiwan into a more dangerous situation].

32 See, for example, ‘Taiwan minyidiaoacha xianhi; Taiwanren rentong chuaxingqiao, dan weichixianzhuang rengshi zhuliuminyi’ [Taiwan民意调查显示：台湾人认同创新高 但维持现状仍是主流民意], Taiwan Affairs Office Press Conference, 13 October 2021, http://www.gwytb.gov.cn/m/speech/202110/t20211013_12384221.htm. Full quote: ‘Tangruo Minjindang dangji zhimibuwu, buzhihuxuanyalema, zhihua Taiwan tuixiang gengjia weixian jingdi’ [If the DPP is too stubborn to pull back from the precipice, it will push Taiwan into a more dangerous situation].
CHAPTER 3

ENHANCING TAIWAN’S SECURITY AND REDUCING THE POSSIBILITY OF CONFLICT

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Taiwan has become Asia’s most dangerous flashpoint.

The Russian invasion of Ukraine in February has further raised concerns about a potential conflict over the island.

For the remainder of the 2020s, however, a Taiwan conflict is more likely to erupt by accident than design, highlighting the need for more robust crisis-management and -avoidance mechanisms. Towards the end of the decade, Beijing’s confidence in its capacity to prevail in a conflict over Taiwan will start to grow as key military balances begin tilting in China’s favour, undermining the United States’ ability to credibly commit to Taiwan’s defence, with dire implications for the island’s security prospects.

CRUMBLING CONSENSUS

The cross-strait status quo, which has traditionally prevented tensions over Taiwan spilling into conflict, is under strain as the main parties to this flashpoint – most notably China – adopt more assertive postures.

WINDOWS FOR WAR

Contrary to mounting speculation, China is unlikely to attempt to annex Taiwan until such time as Beijing can be more confident of military victory. The dynamics of this flashpoint will dramatically shift when that tipping point is reached – most likely towards the end of the decade – when key aspects of the military balance could tilt decisively in China’s favour.

US CREDIBILITY

Successful deterrence will require that Washington convince Beijing of its ability and willingness to come to Taiwan’s defence. To do so, some commentators assert that the US must avoid commitments elsewhere and assemble a strong coalition of Asian allies and partners. However, focusing on a single theatre runs counter to America’s identity as a superpower and holding together such a coalition will be difficult given economic dependencies upon China and deeply ingrained non-aligned traditions.

TAIWANESE DETERRENCE

Taiwan has sought to augment its military capabilities but the widening gap between its defence spending and that of the mainland severely limits its ability to deter Beijing.
In May 2021, *The Economist* – a publication generally not prone to hyperbole – characterised Taiwan as ‘the most dangerous place on Earth’. Russia’s February 2022 invasion of Ukraine has heightened this sense of trepidation. While visiting Australia in March, Commander of US Indo-Pacific Command Admiral John Aquilino observed with reference to Taiwan: ‘I don’t think anyone five months ago would have predicted an invasion of the Ukraine. So I think the number one lesson is: “Hey, this could really happen” … . Number two, don’t be complacent … . We have to be prepared at all times.’

Given the horrendous economic and social costs that would be involved in any war over Taiwan, however, conflict is still far more likely to occur by accident than design. ‘Accidental conflict’ – resulting from military misadventure, miscalculation or misperception – will remain the greatest threat to peace for the rest of this decade, highlighting the need for robust crisis-management and avoidance mechanisms (‘guardrails’, in the vernacular of the Biden administration). Yet as the Taiwan flashpoint’s key military balances continue to shift almost inexorably in China’s favour (see Table 3.1), and as Beijing’s confidence in its ability to prevail in a military conflict increases, the medium- to long-term durability of efforts to bolster the island’s security through enhanced deterrence are increasingly in doubt.

**CRUMBLING CONSENSUS**

Since the normalisation of Sino-American relations in the 1970s, a series of tacit commitments made by Beijing, Taipei and Washington – often referred to as the cross-strait status quo – have prevented tensions over Taiwan from spilling into full-blown conflict. Beijing was resigned to its inability to forcibly seize Taiwan; Taipei committed to accepting a political status short of formal statehood; and Washington maintained this uneasy equilibrium by deterring Chinese military action and dissuading a Taiwanese declaration of independence.

The cross-strait status quo was always vague. Beijing, Taipei and Washington offered differing interpretations, and these evolved over time. During the past decade, however, the status quo has begun to unravel as each of the three main parties to this flashpoint have adopted more assertive postures.

Beijing has been more aggressive in its treatment of Taiwan, a development consistent with China’s increasingly assertive foreign policy elsewhere – in the South and East China seas, along its disputed land border with India, and towards Australia. China’s President Xi Jinping signalled his intent early in his tenure, breaking with his predecessors’ approach in October 2013 when, ahead of the Asia-Pacific Economic Cooperation (APEC) summit in Bali, he warned Taiwanese representative Vincent C. Siew (a former premier and vice-president) that the dispute ‘cannot be passed on from generation to generation’.

This message has been a mainstay of the Xi era. Indeed, Xi regards the so-called ‘reunification’ of Taiwan with the mainland as central to the ‘China Dream’ – his vision to make the Middle Kingdom wealthy and powerful again. In January 2019, Xi gave an address marking the 40th anniversary of Deng Xiaoping’s famous ‘Letter to Compatriots in Taiwan’. He asserted that ‘China must be, will be reunified’. He continued: ‘It is a historical conclusion drawn over the 70 years of the development of cross-strait relations, and a must for the great rejuvenation of the Chinese nation in the new era.’

More recently, in a major address delivered in October 2021, Xi reiterated that ‘the historical task of the complete reunification of the motherland must be fulfilled, and will definitely be fulfilled’. While maintaining that Beijing’s preference is for ‘peaceful reunification’, Xi has refused to rule out the use of force. This position is consistent with his predecessors’ approach. In March 2005, during the Hu Jintao administration, Beijing passed the Anti-Secession Law. The legislation requires that China use non-peaceful means ‘to protect China’s sovereignty and territorial integrity’ in the event that

the ‘Taiwan independence’ secessionist forces should act under any name or by any means to cause the fact of Taiwan’s secession from China, or that major incidents entailing Taiwan’s secession from China should occur, or that possibilities for a peaceful reunification should be completely exhausted.

Threats of a forceful solution to Beijing’s so-called ‘Taiwan problem’ have intensified during the Xi era. For example, in an address to the 2019 IISS Shangri-La Dialogue, Chinese Minister of National Defense Wei Fenghe warned that ‘if anyone dares to split Taiwan from China, the Chinese military has no choice but to fight at all costs for national unity’. In another break with tradition, Chinese Premier Li Keqiang omitted the word ‘peaceful’ when referring to ‘reunification’ with Taiwan in his May 2020 state-of-the-nation work report. Moreover, during a virtual meeting with US President Joe Biden in November 2021, Xi reportedly likened American support for Taiwanese independence to pyromania. ‘Whoever plays with fire will get burnt’, Xi cautioned. He continued that ‘should the separatist forces for Taiwan independence provoke us, force our hands or even cross the red line, we will be compelled to take resolute measures’.

Xi has backed words with deeds. He has further squeezed the island’s so-called ‘international space’ since Tsai Ing-wen’s January 2016 election as Taiwan’s first female president, convincing more governments to sever diplomatic ties (see Figure 3.1). As a result, a mere 13 countries (and the Holy See) have full diplomatic relations with Taiwan. Chinese coercion of Taiwan has intensified even in the context of the coronavirus pandemic. Beijing continues to block Taiwanese participation as an observer at the World Health Assembly, a status previously afforded to the island from 2009–15 during the tenure of its China-friendly Ma Ying-jeou administration. Furthermore, reports surfaced in March 2021 suggesting that Chinese intermediaries had offered pandemic-hit Paraguay millions of vaccine doses to switch diplomatic recognition from Taipei to Beijing.

Chinese military coercion has also stepped up. One notable pressure tactic has been the growing number of military aircraft flying close to Taiwan. These flights have taken three forms. The first is ‘circumnavigation patrols’ of the island. These flights began in November 2016 and involve H-6 strategic bombers flying around the island – sometimes
operating alone, sometimes in combination with fighter and electronic-warfare aircraft. The second type – taking place since March 2019 – has seen Chinese aircraft breach the Taiwan Strait’s median line, which served as an unofficial air and maritime boundary for the previous two decades. In September 2020, a Chinese Foreign Ministry spokesperson denied the median line’s existence. Lastly, Chinese incursions into Taiwan’s so-called Air Defence Identification Zone (ADIZ) have also increased. From September 2020 to September 2021, People’s Liberation Army (PLA) aircraft entered Taiwan’s ADIZ on nearly 250 days. Significantly, over a four-day period in October 2021 coinciding with the People’s Republic of China (PRC) National Day celebrations, 149 PLA aircraft flew into the southwestern portion of Taiwan’s ADIZ.

Taipei has stood resolute in the face of Chinese intimidation. Immediately following Beijing’s March 2019 median-line violation, Tsai promised a ‘forceful expulsion’ of any future such incursions. In September 2020, Taiwan’s air force made good on this pledge when two Taiwanese F-16 fighters reportedly drove a PLA Sukhoi Su-30 away.

Figure 3.1: Countries that have switched diplomatic recognition from Taiwan to China, 2016–21

13 countries (and the Holy See) have full diplomatic relations with Taiwan:

- BELIZE
- ESWATINI
- GUATEMALA
- HAITI
- HONDURAS
- MARSHALL ISLANDS
- NAURU
- PALAU
- PARAGUAY
- SAINT KITTS AND NEVIS
- SAINT LUCIA
- SAINT VINCENT AND THE GRENADINES
- TUVALU

Source: ISS
forthright in an October 2021 National Day address, asserting that

there should be absolutely no illusions that the Taiwanese people will bow to pressure. We will continue to bolster our national defense and demonstrate our determination to defend ourselves in order to ensure that nobody can force Taiwan to take the path China has laid out for us.¹⁸

In a similar vein, in April 2021 Taipei warned that Chinese uninhabited aerial vehicles operating near the Taiwanese-controlled Pratas Islands in the South China Sea could be shot down if they entered the islands’ ‘restricted waters and airspace’, while Minister of Foreign Affairs Joseph Wu publicly declared Taiwan’s willingness to ‘fight the war if we need to fight the war’ and to ‘defend ourselves to the very last day’.¹⁹

Nevertheless, Taipei’s stated policy is to avoid such a conflict through maintaining the cross-strait ‘status quo’.²⁰ Taiwanese public opinion appears to support this stance. According to a January 2022 poll conducted by Taiwan’s National Chengchi University (NCCU), an overwhelming 86.8% of respondents favoured maintaining some form of the cross-strait status quo. Yet precisely what the status quo means is increasingly contested among the key parties to this flashpoint, not least Taiwan. Whereas Taipei has traditionally accepted a status short of formal statehood as the necessary price for avoiding conflict, the Tsai administration has pushed this tacit understanding to its limit. For example, following her landslide victory in the January 2020 election, Tsai called upon Beijing to ‘face reality’, observing that ‘we don’t need to declare ourselves an independent state … . We are an independent country already and we call ourselves the Republic of China (Taiwan).’²¹

These remarks notwithstanding, Tsai has rightly earned a reputation as a prudent and pragmatic decision-maker. Nonetheless, she must manage an influential pro-independence (or so-called ‘deep green’) faction within her own Democratic Progressive Party (DPP). Moreover, voters across the political spectrum overwhelmingly oppose unification – in 2021, a mere 1.4% of the population supported unification as soon as possible²² – while an increasing share of the electorate support formal independence. The January 2022 NCCU poll revealed that 25.1% of Taiwanese supported maintaining the status quo but moving towards independence, marking a threefold increase in such sentiment since NCCU polling on this issue commenced in the mid-1990s.²³

The US has traditionally played an important stabilising role in cross-strait relations by simultaneously deterring a Chinese attack and dissuading Taipei from declaring independence. However, in the past five years Washington has taken various pro-Taiwan steps – although its official position on Taiwan remains unchanged, reflected most recently
in its February 2022 Indo-Pacific Strategy, which states that the US approach ‘remains consistent with our One China policy and our longstanding commitments under the Taiwan Relations Act, the Three Joint Communiqués, and the Six Assurances’.  

The pro-Taiwan shift began at the start of the Trump administration, as the president-elect became the first US leader since Sino-American normalisation to speak directly with his Taiwanese counterpart when he took a congratulatory phone call from Tsai. Trump subsequently approved the transfer of a record US$18 billion-worth of US weaponry to the island during his turbulent term in office. From October 2018 onwards, US Navy vessels transited the Taiwan Strait on a monthly basis. During the administration’s dying days, even as pro-Trump protesters stormed the US Capitol building in Washington DC, then-secretary of state Mike Pompeo abruptly lifted decades-old diplomatic protocols limiting interactions between US officials and their Taiwanese counterparts. Washington further challenged the cross-strait status quo with references that may be regarded as supporting Taiwan’s independence. In its June 2019 ‘Indo-Pacific Strategy Report’, the US Department of Defense took the unprecedented step of characterising Taiwan as a country.  

Contrary to speculation that Biden would adopt a more moderate approach to Taiwan policy, the new administration has largely maintained Trump’s trajectory. Secretary of State Antony Blinken has twice referred to Taiwan as a ‘country’, including during congressional testimony in September 2021. In statements issued in January and October 2021 in response to Chinese coercion of Taiwan, the US State Department characterised its commitment to the island as ‘rock solid’. Likewise, during congressional testimony in December 2021, Assistant Secretary of Defense Ely Ratner described Taiwan as a ‘beacon of democratic values and ideals’, juxtaposed against ‘deepening authoritarianism and oppression in the PRC’. In terms reminiscent of those used by then-vice president Mike Pence in his October 2018 address to the Hudson Institute – a speech some commentators have likened to Winston Churchill’s famous ‘iron curtain’ address at the beginning of the Cold War – Ratner went on to observe that ‘Taiwan has proven the possibilities of an alternative path to that of the Chinese Communist Party’. In the week following Russia’s invasion of Ukraine, the US sent a guided-missile destroyer through the Taiwan Strait and a delegation of former senior defence and security officials to Taiwan as a sign of support for the island.  

Biden’s (mis)statements of US Taiwan policy have attracted considerable attention. During an August 2021 interview on ABC News, Biden likened the United States’ obligations to Taiwan to its ‘sacred commitment’ to NATO allies. Again in October, this time during a CNN ‘town hall’ broadcast, Biden spoke of the United States’ ‘commitment’
to protect Taiwan in the event of a Chinese attack.\textsuperscript{34} On each occasion, the White House promptly walked back the president’s comments, maintaining that there had been no change in US Taiwan policy.\textsuperscript{35} Biden reiterated this message in his November 2021 meeting with Xi, stating America’s continued commitment to its traditional ‘one China’ policy.\textsuperscript{36} However, in response to media questioning regarding Taiwan immediately following the meeting, Biden cast doubt on this commitment: ‘We have made very clear we support the Taiwan Act, and that’s it. It’s independent. It makes its own decisions.’\textsuperscript{37}

**WINDOWS FOR WAR**

Following Xi’s 2013 assertion that the Taiwan issue could not be shelved indefinitely, commentators wondered whether he had a schedule for ‘reunification’ in mind. The centenary of the PRC’s founding in 2049, which Xi has set as the deadline for realising the China Dream, has often been floated as one possible time frame.\textsuperscript{38} However, as tensions over Taiwan have burgeoned, projections for when Xi might seek to annex the island have become increasingly ominous. Testifying before the US Senate Armed Services Committee in March 2021, the outgoing commander of US Indo-Pacific Command, Admiral Philip Davidson, suggested that China could seek to take control of Taiwan ‘in the next six years’.\textsuperscript{39} In early October 2021, following the PLA Air Force’s record-setting sorties into the island’s ADIZ, Taiwan’s Minister of National Defense Chiu Kuo-cheng suggested that a Chinese annexation could occur even sooner, estimating that Beijing would possess the capability to execute such an attack by 2025.\textsuperscript{40}

Other analysts believe that Xi will instead pursue a more traditional Chinese approach of ‘winning without fighting’, employing so-called ‘grey-zone’ tactics that fall below the threshold of conflict. Such tactics would be designed to further undermine the status quo and to create, over time, new ‘facts on the ground’. Xi has successfully employed such tactics elsewhere in Asia, most notably in the South China Sea.\textsuperscript{41} Long-time China watcher
Linda Jakobson argues that China will use ‘all means short of war’ as part of a campaign to force Taipei to the negotiating table on Beijing’s terms. This effort, according to Jakobson, might involve a combination of economic pressure, an embargo, cyber attacks, covert action or subversion, and even political assassinations.

Although Xi may indeed prefer a non-military solution, for the time being it may also be his only credible option. Unless he is completely backed into a corner, for example by a formal Taiwanese declaration of independence following a referendum, Xi is unlikely to move to annex Taiwan until he can be relatively confident of military victory. This is due to the potentially negative ramifications of a defeat or humiliating backdown on his own credibility as leader and, potentially, the very legitimacy of the Chinese Communist Party.

The prospect of US military intervention in a Taiwan conflict must weigh heavily on Xi’s mind. He cannot be confident of victory unless and until China can either deny the US the option of coming to Taiwan’s defence or dissuade it from doing so given the costs and risks involved. China’s continuing development of so-called anti-access/area-denial (or A2/AD) capabilities is central to this effort. So too are Beijing’s rapid augmentation of its nuclear forces and the more robust second-strike capability these will provide.

To be sure, Beijing enjoys considerable geographical advantages over Washington in relation to Taiwan. Taiwan is 11,000 kilometres away from the continental US, but a mere 128 km from the mainland at its closest point. China can concentrate its forces in theatre, unlike the US, meaning they are more readily available in the event of conflict. Yet China remains up to a decade behind the US in several key areas of military capability. According to a recent IISS assessment of states’ cyber power – an area that many analysts regard as increasingly central to military capability – China is still at least ten years behind the US. Moreover, its six Type-094 Jin-class nuclear-powered ballistic-missile submarines (SSBNs) are considerably ‘noisier’
than their US and Russian counterparts, while their JL-2 (CH-SS-N-14) submarine-launched ballistic missiles (SLBMs) would not reach the continental US if fired from Chinese coastal waters given their 7,200 km range. China’s nuclear arsenal of an estimated 350 warheads is also currently only a fifth of the size of the approximately 1,800 deployed US warheads.

China is nevertheless catching up with the US. Beijing places a high priority on modernising its submarine fleet, with work on its next-generation SSBN (the Type-096) already under way. It is anticipated that the Type-096 will be significantly quieter than its predecessor and that it will incorporate technology present on US and Russian SSBNs, such as teardrop hulls, which enhance submerged performance. They will also be armed with a new SLBM (the JL-3) capable of being equipped with multiple independently targetable re-entry vehicles (MIRVs). The JL-3 is expected to have sufficient range to reach the continental US. In mid-2021, three fields of under-construction missile silos were discovered at separate locations in northern and western China (Yumen, Hami and Ordos), suggesting a shift away from Beijing’s traditional posture of minimum nuclear deterrence. Consistent with this, the Pentagon’s most recent annual report on Chinese military power assesses that Beijing could expand the size of its nuclear arsenal to 700 warheads by 2027 and to 1,000 by 2030. Additionally, in July 2021 China reportedly tested a new Fractional Orbital Bombardment System (FOBS) that incorporated a glide body with the potential to evade US missile defences. US Chairman of the Joint Chiefs of Staff General Mark Milley controversially described the development as a ‘Sputnik moment’ in reference to the Soviet Union’s October 1957 launch of a satellite into space.

Despite the impressive pace and scale of China’s military modernisation, its new capabilities will take time to become operational. If it is to be relatively confident of military victory, Beijing will need to carry on augmenting those capabilities of most direct relevance.
to a Taiwan contingency. This will require continuing to bring more capable combat aircraft (J-20, J-16 and J-10C fighters, for example) into service together with improved armaments such as the PL-15 air-to-air missile; better intelligence, surveillance and reconnaissance (ISR) capabilities, including in space; more realistic training; better integration of services; and more exercises for multi-domain operations. Most importantly, having witnessed the difficulties encountered by Russian forces invading Ukraine in early 2022 against opposing armed forces that, on paper, looked significantly weaker, Beijing will need to continue augmenting its amphibious-assault capabilities in case these are ultimately required for an invasion of Taiwan.

Some observers remain perplexed that the PLA has not developed more urgently the amphibious-transport capacity needed to ferry the estimated 1–2 million troops that would be needed for an invasion. According to one school of thought, that is because China is instead relying upon support from civilian vessels as part of its larger programme of ‘military–civil fusion’. While there is certainly evidence of civilian shipping being integrated into PLA exercises and even into auxiliary military units, more extensive training will be required to overcome the significant coordination challenges that would be involved in sending a large, motley armada comprising both military and commercial vessels across the turbulent waters of the Taiwan Strait, especially during battle.52

In the meantime, the risk of a Taiwan conflict cannot be discounted completely. While it is virtually impossible to anticipate precisely how such a conflict would play out, its outcomes would most likely be devastating. Modelling produced by the RAND Corporation suggests that a hypothetical year-long conflict between China and the US in 2025 would likely see both sides experiencing ‘very heavy’ military losses. Chinese trade would drop sharply, causing China’s GDP to plummet by 25–35%. Chinese cyber attacks on the US could inflict damage in the range of US$70bn–900bn. Nor is this a worst-case scenario: RAND presupposes that the fighting would be confined to East Asia, that China would not target the US homeland except via cyber attacks, and that conflict would not cross the nuclear threshold – none of which can be assumed.53

However, assuming Beijing recognises the dangers implicit in launching a major attack on Taiwan in circumstances where it cannot prevent US military intervention, in the short to medium term a Taiwan conflict is far more likely to occur by accident than by design. Indeed, as Chinese coercion of Taiwan intensifies, the risk of inadvertent escalation is rising. While Beijing’s likely ‘red lines’ concerning Taiwan are often contemplated, much less attention is given to Taipei’s thresholds. If PLA aircraft begin flying into Taiwan’s sovereign airspace – as opposed to its self-declared ADIZ, which ultimately has little legal standing – or should they begin routine overflights of the island, Taiwan’s air force has reportedly been instructed to either intercept the intruding aircraft or force them to land.54 Were China to start routine overflights of Taiwan-controlled offshore features, such as the Pratas Islands or Itu Aba in the South China Sea, with a view to challenging Taipei’s territorial claims, there would also be a heightened risk of close military encounters. A collision between Chinese and Taiwanese fighters or, perhaps worse still, between US and Chinese ships or aircraft operating in close proximity, could prove difficult to manage and contain, especially in this era of deepening Sino-American rivalry.
US CREDIBILITY

During their November 2021 virtual meeting, Biden and Xi discussed the need for as-yet-unspecifed ‘guardrails’ to reduce the risk of inadvertent escalation and to maintain clear communication in the event of major crisis or conflict. Yet many commentators doubt the utility of such mechanisms, querying Beijing’s commitment to using them during a crisis and pointing to the risk that these measures might ultimately encourage Chinese military adventurism and undermine US deterrence. As US analysts Jacob Stokes and Zack Cooper have observed,

although crisis management mechanisms might seem to be a classic opportunity for ‘win-win cooperation’, this is not always the case. Counterintuitively, crisis management mechanisms might sometimes encourage risk-taking. This logic was best explained by Thomas Schelling, who described how brinksmanship (including deterrence) often relies on the ‘threat that leaves something to chance’.

For much of the modern history of the Taiwan flashpoint, the United States’ ability to deter a Chinese attack was rarely in question. Despite having one of the largest armies in the world, for the most part China’s air and naval forces have been weak and antiquated
relative to those of the US. At the time of the Taiwan Strait Crisis of 1995–96, Beijing had few if any missiles capable of striking even nearby US bases in Guam and Okinawa. Modelling conducted by RAND on how a US–China conflict over Taiwan would have played out during the mid-1990s suggested that the US would have prevailed quickly and relatively easily. For instance, RAND estimates suggested that it would have taken less than a single wing of 72 US fighter aircraft as little as a week to achieve air superiority over the Taiwan Strait.57

However, the 1995–96 crisis forced a step change in China’s strategic mindset. Building upon a quarter-century of impressive economic growth, Beijing initiated a massive military-modernisation programme. As US strategic analysts quickly recognised, of particular significance to the Taiwan flashpoint was its development of A2/AD capabilities designed to substantially increase the costs and risks for Washington of coming to Taiwan’s defence.58

China’s now formidable A2/AD capabilities include powerful anti-ship missiles – such as the dual-capable (i.e., nuclear and conventional) DF-26 (CH-SS-18) intermediate-range ballistic missile, which has an estimated range of 4,000 km (see Map 3.1) and is sometimes referred to as a ‘carrier killer’ given its ability to strike both land and sea targets, including aircraft carriers.59 Beijing has also developed an array of platforms to deliver its new suite of anti-ship missiles – mobile land-based launchers, fast and stealthy short-range surface ships, quiet diesel-powered submarines, as well as fighter aircraft and bombers – along with significantly improved radar, sonar and satellite capabilities to improve targeting.

US defeat in a Taiwan contingency, which was for a long time considered unthinkable, is becoming increasingly conceivable due to Chinese military advances. Since at least 2018, the Pentagon and prominent US think tanks, including RAND and the Center for a New American Security, have regularly run war games that end in US defeat.60 It is important not to read too much into such exercises, which are generally designed to test participants playing the part of a US ‘blue team’ confronting a hypothetical ‘red team’ Chinese opponent. However, it is a sobering fact that US forces have reportedly even struggled in scenarios set a decade into the future where they have been given access to military technologies still under development.61

As Washington’s long-standing ability to deter a Chinese attack is increasingly questioned, calls have grown louder for the US to abandon its purposefully ambiguous posture in favour of a clearer defence commitment to the island. Richard Haass and David Sacks of the Council on Foreign Relations argue that US deterrence could be reinforced by a new policy of ‘strategic clarity’ that explicitly states Washington’s intent to respond to any Chinese use of force against Taiwan. They argue that greater strategic clarity need not necessarily entail an abandonment of America’s traditional ‘one-China policy’ and could ultimately benefit US–China relations by reducing the risk of miscalculation.62 Interestingly, public support for
this shift is seemingly building – with a record 46% of 2,086 respondents favouring such a commitment in an August 2021 poll of the US public conducted by the Chicago Council on Global Affairs. The United States’ chaotic withdrawal from Afghanistan in September 2021 and its failure to deter Russia’s February 2022 invasion of Ukraine have raised some doubts regarding Washington’s willingness to commit its armed forces to defend Taiwan and, indeed, its other Asian allies, in the event of a conflict with China. However, the utility of such inferences is questionable as far as Taiwan is concerned; a strong case can also be made that the American withdrawal from Afghanistan and Washington’s unwillingness to become directly involved in the war in Ukraine might ultimately enable the US to direct greater resources and attention to the Asian theatre. Taiwan, moreover, is considered more strategically important to the US than Ukraine.

An important book by former senior US defence official and lead author of the 2018 National Defense Strategy Elbridge Colby argues that successful deterrence ultimately requires that Washington convince Beijing not only of its willingness to come to Taiwan’s defence, but also of its ability to do so. According to Colby, for US deterrence vis-à-vis Taiwan to be credible, the US must do two things. Firstly, given the scale of the Chinese challenge and the importance of denying Beijing hegemony over Asia, the US should ‘avoid, reduce, or eliminate costly or demanding commitments in other parts of the world, including the Middle East, so that it can concentrate on the most demanding theater’. Secondly, the US must also assemble and lead a coalition of allies (Australia, Japan, the Philippines and South Korea) and partners (India, Indonesia, Malaysia and Singapore), including Taiwan. This coalition’s combined military power should outweigh that of China and therefore be able to deny it dominance over the critically important Asian region (see Figure 3.2 for a comparison of China’s defence budget against that of the US and its allies and partners). While elegant in theory, this prescription will be hard to implement. As highlighted by the war in Ukraine, focusing so intently upon a single theatre runs counter to the United States’ identity as a superpower with the capacity to project military power to all corners of the globe. Perhaps more importantly, holding together such a coalition would be demanding, if not impossible, across the diverse and highly variegated Asian region, where many countries remain economically dependent upon China and continue to cleave tightly to deeply ingrained non-aligned traditions.
TAIWANESE DETERRENCE

Many commentators, Colby included, maintain that Taiwan must also contribute significantly more towards buttressing cross-strait deterrence by augmenting its own military capabilities. Indeed, successive US administrations from Barack Obama onwards have called upon US allies and partners to assume a much greater share of the burden for security in the Asia-Pacific region.68 Ostensibly at least, Taipei has responded positively to these calls. Under Tsai’s leadership, the island’s defence budget has grown steadily (see Figure 3.3), both in absolute terms and as a proportion of total government spending, following a quarter of a century of stagnation and decline as successive governments responded to domestic pressures for increased social spending.69 In November 2020, Taiwan announced a new Indigenous Defense Submarine (IDS) programme, which will see eight diesel-powered submarines designed and built locally over the next decade at an estimated cost of US$16bn.70 In October 2021, Taipei allocated a further US$9bn to defence spending – on top of its regular defence budget – which will be spent over the next five years.71

Taipei has also started investing in some of the asymmetric capabilities long advocated by US strategists. In 2008, US Naval War College Professor William Murray famously prescribed a ‘porcupine’ strategy for Taiwan, wherein the island would completely rethink and redesign its force posture to ‘emphasiz[e] the asymmetrical advantage of being the defender’ and seek ‘to deny the People’s Republic its strategic objectives rather than ... to destroy its weapons systems’.72 In 2017, Taiwan quietly introduced its own version of the ‘porcupine strategy’, known officially as the Overall Defense Concept (ODC).73 Some subsequent acquisitions appeared to reflect a shift towards a more asymmetric approach favouring large numbers of smaller, cheaper capabilities and geared towards denying a Chinese amphibious assault – at least until such time as US assistance arrived. In August 2020, for example, Taiwan launched the first of four locally built fast mine-laying ships.74

However, Taiwan’s new asymmetric strategy has not been universally embraced by the senior ranks of the island’s military, Tsai’s public endorsement of the ODC notwithstanding. Service chiefs continue to advocate for large, prestigious (and expensive) platforms, including the navy’s IDS programme, the army’s M1A2T Abrams tanks (which the US approved for transfer to Taiwan in July 2019) and the air force’s F-16C/D (Block 70) aircraft (which the US approved for transfer in August 2019). The latter two transfers, valued at an estimated US$2bn and US$8bn respectively (see Table 3.2), are seen as having the added benefit of signalling US commitment to Taiwan’s defence, thereby arguably reinforcing cross-strait deterrence.75
Interestingly, internal contestation regarding the merits of a more asymmetric approach appears to have led to the ODC being omitted altogether from Taiwan’s most recent defence-policy documents: the March 2021 Quadrennial Defense Review and the November 2021 National Defense Report. Likewise, in August 2021, Taipei abandoned a US$1.1bn project to build 60 small assault vessels that were originally intended to support the ODC. There are also hints that the island may now be shifting away from the ‘deterrence by denial’ approach envisaged in the ODC towards a ‘deterrence by punishment’ strategy, relying partly upon the threat of devastating counter-strikes on the mainland to dissuade Beijing from initiating military action. For instance, in March 2021, Minister of National Defense Chiu revealed that the island had begun series production of a new long-range ground-launched missile – and is presently working on three other long-range-missile designs – capable of striking targets deep inside China. That said, the example of

Table 3.2: Selected US approvals of possible arms sales to Taiwan, 2010–21

<table>
<thead>
<tr>
<th>Date of approval</th>
<th>Equipment Type</th>
<th>Equipment Type</th>
<th>Maximum quantity</th>
<th>Value (US$)</th>
<th>Notional prime contractor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 2010</td>
<td>Osprey-class Coastal minehunter</td>
<td>2</td>
<td>105m</td>
<td>US Navy stocks</td>
<td></td>
</tr>
<tr>
<td>Jan 2010</td>
<td>UH-60M Black Hawk Medium transport helicopter</td>
<td>60</td>
<td>3.1bn</td>
<td>Sikorsky</td>
<td></td>
</tr>
<tr>
<td>Dec 2015</td>
<td>AAV-7A1 Amphibious assault vehicle</td>
<td>36</td>
<td>300m</td>
<td>BAE Systems Land &amp; Armaments</td>
<td></td>
</tr>
<tr>
<td>Dec 2015</td>
<td>FGM-148 Javelin Man-portable anti-tank missiles (MANPATS)</td>
<td>208</td>
<td>57m</td>
<td>Lockheed Martin and Raytheon</td>
<td></td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Mk 15 Phalanx Close-in weapons system</td>
<td>13</td>
<td>416m</td>
<td>Raytheon</td>
<td></td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Oliver Hazard Perry-class Frigate</td>
<td>2</td>
<td>190m</td>
<td>US Navy stocks</td>
<td></td>
</tr>
<tr>
<td>Jun 2017</td>
<td>AGM-154C JSOW Inertial/satellite-guided bombs</td>
<td>56</td>
<td>185.5m</td>
<td>Raytheon</td>
<td></td>
</tr>
<tr>
<td>Jun 2017</td>
<td>AGM-88B HARM Anti-radiation missile</td>
<td>50</td>
<td>147.5m</td>
<td>Raytheon</td>
<td></td>
</tr>
<tr>
<td>Jul 2019</td>
<td>FIM-92 Stinger Point-defence surface-to-air missiles</td>
<td>254</td>
<td>223.6m</td>
<td>Raytheon</td>
<td></td>
</tr>
<tr>
<td>Jul 2019</td>
<td>M1A2T Abrams Main battle tank</td>
<td>108</td>
<td>2bn</td>
<td>General Dynamics Land Systems</td>
<td></td>
</tr>
<tr>
<td>Aug 2019</td>
<td>F-16C/D (Block 70) Fighting Falcon Fighter ground-attack aircraft</td>
<td>66</td>
<td>8bn</td>
<td>Lockheed Martin</td>
<td></td>
</tr>
<tr>
<td>May 2020</td>
<td>Mk 48 Heavyweight torpedo</td>
<td>18</td>
<td>180m</td>
<td>US Navy stocks</td>
<td></td>
</tr>
<tr>
<td>Jul 2020</td>
<td>PAC-3 Long-range surface-to-air missile life-extension</td>
<td>n.k.</td>
<td>620m</td>
<td>Lockheed Martin</td>
<td></td>
</tr>
<tr>
<td>Oct 2020</td>
<td>RGM-84L Harpoon II Land-based anti-ship missile launcher</td>
<td>100</td>
<td>2.4bn</td>
<td>Boeing</td>
<td></td>
</tr>
<tr>
<td>Oct 2020</td>
<td>AGM-84H SLAM-ER Air-to-surface missile</td>
<td>135</td>
<td>1.0bn</td>
<td>Boeing</td>
<td></td>
</tr>
<tr>
<td>Nov 2020</td>
<td>MQ-9B Sky Guardian Combat intelligence, surveillance and reconnaissance uninhabited aerial vehicle (ISR UAV)</td>
<td>4</td>
<td>600m</td>
<td>General Atomics Aeronautical Systems (GA-ASI)</td>
<td></td>
</tr>
<tr>
<td>Aug 2021</td>
<td>M109A6 155mm self-propelled howitzer</td>
<td>40</td>
<td>750m</td>
<td>BAE Systems Land &amp; Armaments</td>
<td></td>
</tr>
</tbody>
</table>

Ukraine’s all-volunteer ‘Territorial Defense Force’ has also prompted speculation that conscription could be reinstated and the island’s four-month period of compulsory military service extended to two years.79

Regardless of the strategy to which Taiwan ultimately commits, the widening gulf between its defence spending and that of the mainland severely limits Taipei’s ability to deter Beijing. China’s estimated 2021 defence budget of US$207bn was almost 13 times larger than Taiwan’s US$16.2bn allocation. Moreover, even the increase in the mainland’s military budget from 2020 to 2021, from US$189bn to US$207bn, exceeded Taiwan’s entire US$13.9bn defence budget for 2020 and its US$16.2bn defence budget for 2021.80 Time is also not on Taiwan’s side. For example, the first of Taiwan’s new submarines will not arrive until 2024 at the earliest assuming it arrives on time, which appears increasingly unlikely. Likewise, the last of the Abrams main battle tanks that Taiwan ordered from the US in 2019 will not arrive until 2027.81

CONCLUSION

Contrary to mounting speculation, China is unlikely to attempt to annex Taiwan until at least the end of this decade. During this period, the potential risks of failure will remain too great for President Xi due to persistent – albeit narrowing – asymmetries between China and the US in key areas of military capability. During this window, the greatest risk to peace will be ‘accidental conflict’ as a product of military misadventure, miscalculation or misperception that spirals out of control. To avoid this, Washington should continue urging Beijing to establish new ‘guardrails’ to improve crisis communication and avoid inadvertent escalation. Other Asian capitals should support and actively encourage this endeavour.

The medium- to long-term outlook for this democratic Asian bastion appears more bleak. To be sure, as the Ukraine conflict has highlighted, it is critical not to overlook the great challenges that an attacker faces or to underestimate a defender’s strengths. Yet it is equally important not to overdraw similarities between these two quite different cases. Despite efforts to modernise its military over the past decade,82 Russia is ultimately a great power in decline whereas China is a rising superpower. Russia’s defence budget is less than one-third of the size of China’s, for instance, while its economy and population are only a tenth as large. Meanwhile, Ukraine’s population is nearly double that of Taiwan.83 Despite continuing efforts by Taiwan, the US and its allies (especially Australia and Japan) to reinforce cross-strait deterrence, the US–China military balance in this flashpoint may begin to tilt decisively in Beijing’s favour towards the end of this decade, barring some as-yet-unanticipated military-technological breakthrough. This development could lead to the US commitment to defend the island gradually losing credibility. If US credibility is eroded beyond a certain but unknowable point, the dynamics of the Taiwan flashpoint could be dramatically altered.
NOTES


12. For further reading, see Derek Grossman et al., China’s Long-range Bomber Flights: Drivers and Implications (Santa Monica, CA: RAND Corporation, 2018), pp. 20–5.


20. See, for example, Office of the President, Republic of China (Taiwan), ‘President Tsai Delivers 2021 National Day Address’.


23 Ibid.
37 Amy Mackinnon and Anna Weber, ‘Biden


41 For further reading, see Michael J. Green et al., Countering Coercion in Maritime Asia: The Theory and Practice of Gray Zone Deterrence (Washington DC: Center for Strategic and International Studies, 2017).


48 Ibid., p. 91.


53 See David C. Gompert, Astrid Stuth Cevallos and Cristina L. Garafola, War with China: Thinking Through the Unthinkable (Santa Monica, CA: RAND Corporation, 2016).

55 White House, ‘Readout of President Biden’s Virtual Meeting with President Xi Jinping of the People’s Republic of China’.


59 The Pentagon’s 2021 report on Chinese military power estimates that the DF-26 has a maximum range of 4,000 km. See US, Department of Defense, ‘Military and Security Developments Involving the People’s Republic of China 2021’, pp. 61–2.


65 See, for example, Walt, ‘Afghanistan Hasn’t Damaged US Credibility’.


67 Ibid., pp. 246–53.

68 For further reading, see Mira Rapp-Hooper, Shields of the Republic: The Triumph and Peril of America’s Alliances (Cambridge, MA: Harvard University Press, 2020).


73 For further reading, see Drew Thompson, ‘Winning the Fight Taiwan Cannot Afford to Lose’, Strategic Forum, no. 310, October 2021, https://www.ndu.edu/News/Article-View/Article/283332/winning-the-fight-taiwan-cannot-afford-to-lose/.


CHAPTER 4

NORTH KOREA: OPTIONS AND PROSPECTS

AIDAN FOSTER-CARTER

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It is clear that global policy on the Democratic People's Republic of Korea (DPRK) has comprehensively failed. If the US and South Korea wish to challenge China's hegemony over the DPRK, they must be more flexible in engaging Pyongyang, offering stronger incentives since punishments have proved ineffectual.

ENGAGING PYONGYANG: TWO PROCESSES, NO LASTING PROGRESS

In 2022, the separate efforts to curb the DPRK’s nuclear ambitions and to improve inter-Korean relations lie in ruins. There is no longer any pretence of nominal unity in the UN on tackling Pyongyang’s nuclear and missile activities. Meanwhile, following the change of government in Seoul in May, South Korea’s DPRK policies may now become more grounded in reality.

KIM JONG-UN: CONTINUITY, NOT CHANGE

Early hopes that a new, young and foreign-educated leader would bring change to North Korean policies have been dashed. Despite claiming to prioritise the economy, WMD programmes have continued unabated (and accelerated) and the reforms essential to revive the economy are lacking.

BIGGER, BETTER AND MORE DIVERSE MISSILES

In March 2022, North Korea tested an intercontinental ballistic missile (ICBM), ending a more than four-year pause on nuclear and ICBM testing. Pyongyang’s missile programme now includes ICBMs deemed capable of striking anywhere in the continental US, as well as newer weapons that challenge existing missile defences.

PROSPECTS FOR KIM’S SECOND DECADE AND BEYOND

Pyongyang will benefit from growing US–China tensions (and indeed now US–Russia tensions), which will increasingly threaten the post-Cold War geopolitical and economic order. The collapse of superpower unity on North Korea can only enhance its freedom of manoeuvre. US President Joe Biden will be less likely to engage Pyongyang if the Democrats lose the upcoming mid-term elections, while Seoul too will be less likely to engage given how Kim treated former president Moon Jae-in. Depending on China will carry risks for North Korea; the question now is in what future circumstances Beijing might use its power.
Like many other countries, North Korea celebrates the new year with fireworks. In 2022 it did so in two senses. The usual brief televised show in Pyongyang, for local consumption, was just the warm-up for a much larger and more impressive display targeting a global audience.

The Democratic People’s Republic of Korea (DPRK) launched more missiles in January 2022 than in any previous month. A range of different projectiles were fired, including short- and intermediate-range ballistic missiles (SRBMs and IRBMs) and claimed hypersonic missiles fitted with manoeuvrable re-entry vehicles. One test launched a missile from a train. Some of these systems, or variants of them, had been tested in 2019 or in a smaller flurry of launches in late 2021. Many of these systems have the potential to pose an additional challenge to existing missile-defence systems.

Apparenty, none of the tests in January failed. What did fail was the international response. Following North Korea’s first nuclear test in 2006, the United Nations Security Council (UNSC) banned all ballistic-missile activity by the DPRK.?
Pyongyang wholly ignored this and a similar ban on nuclear testing, so repeated UNSC censure and sanctions duly followed. This was not the case in January 2022. The UNSC met three times but issued no resolution, or even a Presidential Statement (Norway held the presidency that month). Instead, the United States organised what might be called ‘statements of the willing’, who turned out to be few (see Figure 4.1). The first mustered just six signatories, including Japan (not a current UNSC member). The second added two more, while Norway belatedly joined for the third. For whatever reason, almost half the UNSC members were reluctant to formally condemn Pyongyang’s latest flagrant violations of multiple UNSC resolutions. The third joint statement chided the non-signers:

The cost of the Council’s ongoing silence is too high. It will embolden the DPRK to further defy the international community; to normalize its violations of Security Council resolutions; to further destabilize the region; and to continue to threaten international peace and security. This is an outcome that we should not accept.

Such unprecedented invertebracy on the part of the UNSC could just be a blip. In choosing his moment to fire, North Korean leader Kim Jong-un knew that the world was fixated on the risk that Russia might invade Ukraine. China and Russia, both increasingly at odds with the US, might have vetoed any fresh resolution – just as they blocked a US bid to impose UN measures against six named North Koreans, whom Washington sanctioned in January as key figures involved in the DPRK’s efforts to procure weapons of mass destruction (WMD) equipment.

Alternatively (and more probably), the UNSC’s silence marks a turning point and the end of an era. Even two years ago, this publication noted that while ‘the North Korean challenge has deepened across multiple domains, international and regional responses to it have … dissipated’. Beijing and Moscow have their own reasons, but what made the other five non-signers hesitate is unclear (all are broadly pro-Western, so they were surely asked).

One reason for their hesitation may be tacit recognition that passing endless resolutions has not worked. North Korea’s menacing armoury has only grown and new thinking is urgently needed. Yet quiescence risks being taken for acquiescence. As a former British ambassador in Pyongyang and ex-member of the UN Panel of Experts (PoE) on North Korea put it, the UNSC is now ‘effectively de-fanged’ and the joint statements ‘are own goals’. Indeed, the statements serve only to show Pyongyang how little backing there is for resolute action – or even active resolutions – against it. In light of what may be a major policy watershed, it is an apt time to stand back and take stock.

**ENGAGING PYONGYANG: TWO PROCESSES, NO LASTING PROGRESS**

In 2010, the *Guardian* newspaper ran a front-page story headlined: ‘Wikileaks cables reveal China “ready to abandon North Korea”’. The sub-heading explained: ‘Leaked dispatches show Beijing is frustrated with military actions of “spoiled child” and increasingly favours reunified Korea’. That was perhaps the high-water mark of a once powerful strand of wishful thinking: what many in Seoul, Tokyo and Washington believed and hoped would
happen. In this script, the Kim regime’s menace and intransigence would eventually unite all interlocutors – including China – against it. The DPRK would (somehow) leave history’s stage and South Korea – the Republic of Korea (ROK) – would absorb it, broadly along the lines of German reunification in 1990.

In the real world this sequence of events was never plausible. To understand why requires not only jettisoning pipe dreams, but also distinguishing two different strands of engagement with the DPRK: one global, the other local. On the Korean Peninsula, for 50 years Seoul and Pyongyang have made fitful efforts, almost all initiated by the former, to improve their relations. In a separate but often practically intertwined endeavour, since the 1980s the US has led attempts to curb North Korea’s nuclear and other WMD ambitions.14 In 2022, both these lines of effort lie in ruins. There is no functioning inter-Korean relationship and Kim Jong-un’s arsenal is stronger than ever.

The nuclear issue: from AF to 6PT and beyond

The nuclear issue has seen two main bouts of substantial engagement.15 The first centred on the 1994 US–DPRK Agreed Framework (AF). This was negotiated after a crisis when then US president Bill Clinton had considered a military strike and former president Jimmy Carter flew to Pyongyang to reduce tensions. Nominally bilateral, in fact the AF had wider input (especially financial), mainly from South Korea and Japan via the Korean Peninsula Energy Development Organization (KEDO) consortium.16 Neither China nor Russia participated. By contrast, the avowedly multilateral Six-Party Talks (6PT) were hosted by Beijing and included Russia.

The AF had elements unthinkable in 2022. In essence, the DPRK’s foes collaborated to build it nuclear power plants. This bold plan rested on a fiction and a bet: that Pyongyang’s nuclear goals were peaceful (to generate electricity); and (sotto voce) that plutonium previously illicitly diverted for military purposes need not be addressed since the DPRK would soon collapse. In the event, it was the AF that collapsed when it emerged that North Korea was covertly enriching uranium as an alternative route to the bomb.

As US president from 2001–09, George W. Bush never liked the AF. Fatefully – and against the advice of his secretary of state Colin Powell – he also ended new bilateral talks on missiles, which Clinton had begun, despite Pyongyang’s hints that it might be bought off.17 On the nuclear front, Bush eventually accepted a need for dialogue, this time fully multilateral, beginning the second phase of substantial engagement. While they lasted (2003–09), the 6PT offered a tantalising glimpse of what a Northeast Asian security architecture might look like. Despite persuading the DPRK to re-join the Nuclear Non-Proliferation Treaty (NPT), with resumed inspections by the International Atomic Energy Agency (IAEA), this process also fell apart: North Korea withdrew after the UNSC condemned its launch in April 2009 of a Taepodong missile.

Both the AF and 6PT illustrate the obstacles democracies face in pursuing foreign-policy aims over time. One obstacle is the separation of powers. Hostile to the AF, a Republican-controlled US Congress delayed energy aid promised to Pyongyang. Another is the risk of mixed messaging if different parts of an administration pursue conflicting policies. For example, George W. Bush’s Treasury Department froze DPRK accounts in Macao’s Banco
Delta Asia but then embarrassingly had to back off and return the money when Pyongyang threatened to withdraw from nuclear talks in the 6PT. 18

A third problem is regime change – the democratic kind – when a new leader changes course, as with Bush after Clinton or in the case of several successions in Seoul. Fourthly, mismatches can also arise between countries – even close allies like the US and South Korea – if the government of the day in each holds different views on how to tackle North Korea. No two states ever see wholly eye to eye, nor are their priorities identical. Japan, for instance, still stresses the historical abductions issue above all else. 19

Between democracies as within them, no bipartisan policy consensus exists on how to handle North Korea. To oversimplify only slightly, hawks and doves tend to clash over policy, dispensing various admixtures of stick and carrot. In relation to North Korea, this lack of consensus has prevented the US, South Korea and others from maintaining a united or consistent approach over time. Seen from Pyongyang, such interlocutors are inherently untrustworthy: tomorrow a new leader may reverse what was previously agreed.

Even in better times, it proved impossible for Western allies to devise a coherent North Korea policy – one that they could assure Pyongyang would be fully and smoothly delivered. This problem will only get worse. In a global order that is becoming more Hobbesian, assertive nationalism threatens to outweigh the importance of maintaining alliances. When he was US president, Donald Trump's contempt for allies like South Korea did real damage to the US–ROK alliance, barely papered over by his and South Korean president Moon Jae-in’s shared desire to court Kim. 20

However, the most significant (and possibly fatal) problem is that efforts to tackle the DPRK can hardly be monopolised by Pyongyang's foes. The AF was unusual in that regard – perhaps a small quid pro quo for the comprehensive new relations Seoul was forging with Pyongyang's traditional allies. By contrast, the 6PT were fully multilateral, a trend that continued after the 6PT collapsed. The third phase (2009–17) saw more sticks than carrots: scant engagement but ever-stronger UNSC sanctions against Pyongyang's continued WMD provocations.

Those sanctions remain in place despite a fourth period (2018–21) that raised hopes for peace and progress but ultimately proved to be a mere pause of Pyongyang's nuclear and intercontinental ballistic missile (ICBM) tests. Having conducted no such tests since late 2017, in January 2022 the DPRK threatened to end that moratorium. On 25 March, it launched an ICBM. 21 Kim's summitry in 2018, dramatic at the time, produced no lasting peace process.

A new phase, the bleakest yet, began in 2022. As developments in January highlighted, there is no longer any pretence of nominal unity in the UN on tackling the DPRK. In any case, drafting successive (and, crucially, unanimous) UNSC resolutions against North Korean WMD tests had always entailed hard bargaining behind the scenes: the US usually tried to strengthen wording and sanctions, while China sought to water down both. Now Beijing and Moscow may no longer cooperate at all.

In September 2021, media accounts claimed that Beijing was obstructing a related UN function: the PoE tasked with reporting regularly on enforcement (or lack thereof) of UNSC sanctions against the DPRK. 22 Its eight members are supposedly independent but here too Washington’s zeal to pin down and name violators has met ever-stronger
Chinese resistance, almost to the point of sabotage. Although Beijing denies obstruction, it is unclear how much longer the PoE’s revealing, if depressing, catalogues of how North Korea evades sanctions will continue to be issued under the UN’s imprimatur.\textsuperscript{23}

Looking back, these varied efforts by the world’s great powers were no match for a small but determined and cunning adversary. North Korea consistently pursued a viable nuclear-weapons capacity: initially dissembling, yielding tactically if need be but never deflecting for long nor changing its underlying goal, which it has now triumphantly achieved.\textsuperscript{24}

\textbf{Inter-Korean relations}

According to the ancient Greek philosopher Heraclitus, nobody ‘ever steps in the same river twice’. Half a century of fitful inter-Korean dialogue suggests otherwise. Repeated fresh starts, most recently in 2018, have made no cumulative progress. Like the DPRK’s denuclearisation, North–South reconciliation – let alone reunification – looks more remote than ever in 2022.\textsuperscript{25}

New leaders in Seoul often start afresh without acknowledging or learning from their predecessors’ experiences. Here again there is no bipartisan consensus on how to deal with North Korea, so a successor leader or administration may reverse prior policy to Pyongyang’s chagrin – as when Lee Myung-bak (the South Korean president from 2008–13) failed to implement the joint economic projects agreed by his predecessor, Roh Moo-hyun, at the second North–South summit in 2007. Had these gone ahead, each side (but especially North Korea) would have had material reasons not to let political quarrels harm mutually beneficial cooperation.\textsuperscript{26}

However, as on the nuclear front, missteps by the parties trying to engage Pyongyang are not the primary obstacle. On both issues, far more often it has been North Korea that has broken off talks and reneged on accords. After 50 years of false dawns, the ineluctable lesson is that ultimately North Korea is no keener for better ties with South Korea than it is on denuclearisation. Otherwise, ways could have been found to maintain some contact across the Demilitarized Zone. Family reunions are an obvious example. Even during the ‘sunshine’ decade (1998–2007), when the Korean Peninsula did seem to have turned a new page, progress was slow and uneven. Importantly, security issues remained almost wholly unaddressed.

Moreover, any assumption that the two processes (inter-Korean and denuclearisation) have proceeded in tandem is dubious. Sometimes they have hindered each other. Roh Tae-woo (ROK president, 1988–93) was the architect of wider South Korean rapprochement with the major communist powers; having successfully forged relations with the Soviet Union and China, he then negotiated a wide-ranging inter-Korean agreement on cooperation and a nuclear accord.\textsuperscript{27} Signed in 1991, neither was implemented. As the IAEA and US began to press harder regarding its nuclear intentions, Pyongyang walked away.

\textbf{Evaluating the Moon era}

In mid-2022, as a new South Korean president begins his five-year term, it is timely to assess his predecessor’s performance. Moon Jae-in was dedicated to engaging North Korea. In 2018 his dream briefly came true: he held three summits with Kim and signed three seem-
ingly substantial accords. However, bilateral relations soured soon afterwards, rendering Moon’s ultimate achievement questionable.

One problem was Moon’s failure to admit failure. Right to the end, he carried on as if a peace process was still possible and just needed resuscitating. In reality, the peace process died in February 2019 at the second Kim-Trump summit in Hanoi, if not earlier. The 2022 Work Plan of the Ministry of Unification, its last under Moon, is largely fiction: full of lofty aspiration unrelated to realities on the ground. Fantasy thus substituted for admitting that dialogue was dead and reflecting on why this was the case. The unpalatable truth was surely that Kim had merely used Moon to secure access to Trump and then discarded him – especially after the US did not ease sanctions as Kim and Moon had hoped.

A second issue was the equally misguided effort of Moon’s government – following the Hanoi summit – to find potential inter-Korean projects that could circumvent sanctions. The prime case was ‘individual tourism’. This was a complete non-starter and drew specific criticism from Kim. All that such pointless ploys achieved was to irritate Washington and Pyongyang in equal measure, to no good purpose.

Thirdly, another idea – more serious, but equally flawed – was Moon’s pursuit during his final year as president of an end-of-war declaration on the Korean Peninsula. With the US lukewarm and Pyongyang calling it premature (only China was keen) this endeavour also failed to make any progress. Amid deep mutual mistrust, critics saw no realistic grounds to expect that a peace declaration – not to be confused with a full peace treaty, which would replace the 1953 Armistice – would solve anything or bring denuclearisation closer. Yet Moon insisted to the last that it was the way forward, even suggesting the deal was almost done, which generated some misleading headlines.

**Seoul veers to the right**

In March 2022, South Korea’s presidential election produced a significant change of government: Yoon Suk-yeol of the conservative opposition People Power Party (PPP) narrowly defeated Lee Jae-myung of the hitherto ruling liberal Democratic Party of Korea (DPK). A margin of under 1% is hardly a mandate for change and the DPK’s control of the National Assembly until at least April 2024 threatens to block PPP legislation. However, in foreign policy, where South Korean presidents exercise considerable autonomy, policy and especially tone are likely to harden significantly.

Yoon is a former prosecutor-general, new to politics and somewhat gaffe-prone. In January he drew attention by seeming to advocate a pre-emptive strike on North Korea’s hypersonic missiles. Yet he also says he is open to dialogue with Pyongyang. Ambiguity aside, North Korea is evidently not a priority for Yoon: unusually, his transition team
included no inter-Korean portfolio. What is unambiguous is his enthusiasm for the US alliance. While South Korea must tread carefully with China given their close bilateral economic ties, there will be no more rhetoric about balancing between Washington and Beijing. Yoon will also try to improve relations with Japan, which would strengthen tripartite allied cooperation against North Korea’s growing threats.

South Korea’s policies towards the DPRK will now become less idealistic and more grounded in reality. Otherwise, as North Korea becomes ever more of a global threat, Washington and others may no longer defer to Seoul’s claimed special role vis-à-vis Pyongyang, especially if Seoul’s policies keep changing. Korea’s division was a tragedy but after almost eight decades it is a solid fact. Besides, as a global economic power, South Korea today faces increasingly outwards. Its northern backyard need no longer be a priority, except for deterrence. Moon’s experience shows that political capital invested in the North is wasted.

In sum, the separate efforts to curb the DPRK’s nuclear ambitions and to improve inter-Korean relations may converge after all – in shared irrelevance. Looking to the future, China holds all the cards. South Korea and the US alike risk becoming marginalised as interlocutors, while North Korea’s future is increasingly shaped by Beijing.

**KIM JONG-UN: CONTINUITY, NOT CHANGE**

In December 2021, Kim Jong-un completed his first decade in power. Still only 38 years old, he may have many years left as the DPRK’s leader: in all probability, he is the North Korea the world will face for the foreseeable future. It is therefore vital to understand him, his motives and his system.

Despite a very short apprenticeship, the third Kim seems firmly in charge. Securing power meant eliminating rivals, such as his powerful uncle Jang Song-thaek, executed in 2013, and his older half-brother Kim Jong-nam, brazenly killed with a nerve agent at Kuala Lumpur International Airport in 2017. Kim Jong-un rules via a resuscitated Workers’ Party of Korea (WPK) rather than the generals favoured under his father Kim Jong-il. A hallmark of Kim Jong-un’s rule are frequent large formal meetings, often with lengthy speeches where he sets tasks: admitting some problems but mostly haranguing. The style deliberately recalls his grandfather, North Korea’s founding leader Kim Il-sung.

Early hopes that a new, young and foreign-educated leader would bring change to North Korean policies have been dashed. WMD programmes have continued and accelerated, while the reforms essential to revive the economy are lacking (indeed, the word ‘reform’ remains forbidden). Some 40 years after China and Vietnam began to explore how adding market elements to their economies could yield fast growth while
preserving party rule, the DPRK remains in denial. Though the DPRK no longer has a fully centrally planned system since famine in the 1990s forced the regime to tacitly permit de facto market activities, the latter are chronically insecure. Unlike the slogan associated with China’s former leader Deng Xiaoping, no Kim has ever proclaimed that ‘to get rich is glorious’. Since 2021 even small steps towards change have been rolled back, with Kim re-establishing state control. None of this works, nor ever can. In 2022, amid an acknowledged food crisis, the declared priority is agriculture. Yet collective farms remain in place, with only limited and unclear incentives for ‘sub-work teams’ (code for families). This situation cannot possibly yield transformative results.

Two further factors exacerbate North Korea’s systemic economic problems. One is regular flooding and other damage caused by summer typhoons; 2020 was an especially bad year in these respects. The other is COVID-19, or rather the regime’s draconian response. In January 2020 the DPRK closed its land borders, even to goods. Trade, already limited, all but ceased. In early 2022 North Korea still claimed to have no coronavirus cases, though some reports challenged this, and the regime’s public-health measures suggest a state combating an extant threat rather than keeping it at bay. It is also one of only two countries (Eritrea is the other) not to have administered any vaccines. While the exact medical situation is unclear, the economic impact is undoubted. In early 2022 – for the first time in two years – goods trains crossed the Yalu River between Sinuiju in North Korea and Dandong in China. It remains to be seen how soon full-scale trade will resume and how far this will go towards improving living conditions.

In his first public speech as leader in April 2012, Kim pledged that his people would ‘not tighten their belts again’. That statement was a hostage to fortune. Two subsequent five-year plans proclaimed in 2016 and 2021 remain unpublished. Kim has admitted that the former failed. Reports in October 2021 claimed that citizens are now being told to tighten their belts until 2025. The government blames these privations on natural disasters, the coronavirus pandemic and international sanctions. Sanctions have certainly compounded suffering in North Korea, but its root cause is a failed political and economic system.

BIGGER, BETTER AND MORE DIVERSE MISSILES

Kim’s signal and fateful achievement has been to fulfil the WMD ambitions begun by his grandfather and continued by his father. In particular, he has transformed a previously abstract nuclear threat that allowed complacency – ‘they have the bomb but can’t deliver it’ (and therefore no great cause for alarm) – into a clear and present danger by hugely advancing the DPRK’s missile programme. This now includes ICBMs deemed capable of striking anywhere in the continental US, as well as newer weapons that challenge existing missile defences.

Four of North Korea’s six nuclear tests to date have taken place under Kim Jong-un: the first in 2013 and the rest during 2016–17. The latter two years saw intense missile testing too, revealing an ICBM capability for the first time. Also tested was a new US president, who riposted with rhetorical volleys of his own. The insults they traded – ‘dotard’, ‘little rocket man’ – were puerile but the tension was real. In November 2017 Kim declared a moratorium on ICBM and nuclear tests that lasted until March 2022. However, testing never
stopped for short-range missiles and other weapons, such as multiple rocket launchers, raising concern in Seoul and Tokyo if not in Trump’s self-centred Washington.

A fresh phase of launches began in September 2021. These included two ballistic missiles launched in one event from a train-mobile system and, in October, a new submarine-launched ballistic missile (SLBM) (see Table 4.1).52 The pace quickened in January 2022 and continued in March after a brief pause during the Beijing Winter Olympic Games.

In March 2022 the focus shifted to ICBMs. Following two launches officially described as space-related but which US official statements assessed to be partial initial tests of the Hwasong-17 ICBM, an unreported but widely witnessed explosion near Pyongyang airport on 16 March53 may have been a failed launch of a Hwasong-17. On 24 March Pyongyang announced a successful Hwasong-17 launch the previous day and issued an unusual movie-style video.54 Outside analysts believe that glitzy edits to the video covered up the fact that the launch did not really involve a Hwasong-17 but rather a disguised and previously tested Hwasong-15; Kim could not take the chance of a second failure.55 If that is so, more tests of a real Hwasong-17 ICBM can be expected. It was claimed that the missile reached an altitude of 6,248.5 kilometres and had a lateral range of 1,090 km.56

Much of North Korea’s new missile arsenal was foreshadowed in Kim’s speech at the Eighth Party Congress in January 2021,57 which laid out plans for future weapons development. Belying hopes that this was an abstract or long-term wish list, several kinds of projectile mentioned by Kim have since been unveiled, including hypersonic, cruise and submarine-launched missiles. The fear is that other items Kim specified may also be in the works; these include a nuclear-powered submarine, ‘solid-fuel engine-propelled intercontinental underwater and ground ballistic rockets’, a military reconnaissance satellite ‘in the near future’, reconnaissance drones and (ominously) both ‘super-sized’ and smaller tactical nuclear warheads.58
Multiple targets

Decoding Pyongyang’s purposes requires precision. ‘Attention-seeking’ – the verdict of US Secretary of State Antony Blinken⁵⁹ – is insufficiently exact. US National Intelligence Officer for North Korea Sydney Seiler has suggested that such missile launches serve goals relating to development and demonstration, as well as diplomatic and domestic goals.⁶⁰ The challenge is to assess the balance among these goals at any given juncture. They may also interact.

Development and demonstration are linked. Pyongyang must test to ensure its missiles work – and let its enemies see that they do. In September 2021, analysts wondered how these new missiles enhanced the DPRK’s existing deterrent.⁶¹ By January 2022, consensus had grown that some new weapons were indeed game changers.⁶²

Another aim is to demonstrate operational readiness. The two launches from train-mobile systems in January were carried out at short notice.⁶³ While some interpreted this as a swift riposte to US sanctions imposed two days earlier, it is just as plausible that January’s entire schedule was pre-planned to test a variety of weapons and situations.

Demonstration also links to diplomacy, in ways more subtle than the frequent presumption that everything North Korea does aims to get Washington’s attention. Pyongyang’s propaganda is often big on menace and bluster; on this occasion, it was not. Most official reporting was factual and professional, portraying a responsible state doing nothing untoward. That was especially so for the IRBM launch on 30 January. Earlier Hwasong-12 tests, for example in 2017 at the height of ‘fire and fury’, overflew Japan.⁶⁴ Pyongyang also threatened to target waters near Guam.⁶⁵ In January 2022, the rocket was lofted vertically out of ‘consideration [for] neighbouring countries’ and sent images back from space in what was billed as a routine evaluation test.⁶⁶

Seiler’s ‘domestic’ category is also relevant. In October 2021, many recently tested systems – and others hitherto undisclosed – were displayed in Pyongyang at the so-called ‘Defense Development Exhibition Self-Defense 2021’. Unlike South Korea’s simultaneous International
Aerospace and Defence Exhibition (ADEX), which is a regular biennial arms fair, no foreigners were invited and no business transacted. (UNSC sanctions have long banned all DPRK weapons sales.) Although this unprecedented show was intended for domestic consumption, it was also reported on and pictured in detail for an international audience.

Fostering pride was one aim of the defence exhibition. Kim praised ‘the military hardware displayed in fine array . . . . The more we stroked them and the more we see them, the greater dignity and pride we feel and the more valuable we feel they are; they are ours.’ Pride has a price. A closing speech on 22 October by Kim’s close aide Pak Jong-chon called achievements so far a mere ‘springboard’ to the second stage of

### Table 4.1: North Korean ballistic-missile launches, 2021–22

<table>
<thead>
<tr>
<th>Year</th>
<th>Date (local)</th>
<th>Type</th>
<th>Classification</th>
<th>Distance (km)</th>
<th>Altitude (km)</th>
<th>Outcome</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>2022</td>
<td>7 May</td>
<td>KN-23 (Mod 2) (Suspected)</td>
<td>SLBM (SRBM)</td>
<td>600</td>
<td>60</td>
<td>Success</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4 May</td>
<td>Hwasong-17 (Suspected)</td>
<td>Unconfirmed</td>
<td>470</td>
<td>780</td>
<td>Unconfirmed</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16 Apr</td>
<td>Unnamed SRBM</td>
<td>SRBM</td>
<td>110</td>
<td>25</td>
<td>Success</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>24 Mar</td>
<td>Hwasong-15 (reported)</td>
<td>ICBM</td>
<td>&gt;1,000</td>
<td>&gt;6,200</td>
<td>Success</td>
<td>Claimed to be Hwasong-17</td>
</tr>
<tr>
<td></td>
<td>16 Mar</td>
<td>Hwasong-17 (suspected)</td>
<td>ICBM</td>
<td>-</td>
<td>20</td>
<td>Failure</td>
<td></td>
</tr>
<tr>
<td></td>
<td>04 Mar</td>
<td>Hwasong-17 (reported)</td>
<td>ICBM</td>
<td>270</td>
<td>560</td>
<td>Success</td>
<td>Claimed reconnaissance satellite test</td>
</tr>
<tr>
<td></td>
<td>26 Feb</td>
<td>Hwasong-17 (reported)</td>
<td>ICBM</td>
<td>300</td>
<td>620</td>
<td>Success</td>
<td>Claimed reconnaissance satellite test</td>
</tr>
<tr>
<td></td>
<td>30 Jan</td>
<td>Hwasong-12</td>
<td>IRBM</td>
<td>800</td>
<td>2,000</td>
<td>Success</td>
<td></td>
</tr>
<tr>
<td></td>
<td>27 Jan</td>
<td>KN-23</td>
<td>SRBM</td>
<td>190</td>
<td>20</td>
<td>Success</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>17 Jan</td>
<td>KN-24</td>
<td>SRBM</td>
<td>370</td>
<td>42</td>
<td>Success</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>14 Jan</td>
<td>KN-23</td>
<td>SRBM</td>
<td>430</td>
<td>36</td>
<td>Success</td>
<td>Rail mobile</td>
</tr>
<tr>
<td></td>
<td>11 Jan</td>
<td>Unnamed MaRV</td>
<td>Unconfirmed</td>
<td>1,000</td>
<td>60</td>
<td>Success</td>
<td>Claimed HGV</td>
</tr>
<tr>
<td></td>
<td>05 Jan</td>
<td>Unnamed MaRV</td>
<td>Unconfirmed</td>
<td>&gt;700</td>
<td>50</td>
<td>Success</td>
<td>Claimed HGV</td>
</tr>
<tr>
<td></td>
<td>2021</td>
<td>19 Oct</td>
<td>KN-23 (Mod 2)</td>
<td>SLBM (SRBM)</td>
<td>590</td>
<td>60</td>
<td>Unconfirmed</td>
</tr>
<tr>
<td></td>
<td>28 Sep</td>
<td>Hwasong-8 with HGV</td>
<td>Unconfirmed</td>
<td>&lt;200</td>
<td>60</td>
<td>Unconfirmed</td>
<td>Claimed HGV</td>
</tr>
<tr>
<td></td>
<td>15 Sep</td>
<td>KN-23 (mod)</td>
<td>SRBM</td>
<td>800</td>
<td>60</td>
<td>Success</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>25 Mar</td>
<td>KN-23 (mod)</td>
<td>SRBM</td>
<td>600</td>
<td>50</td>
<td>Success</td>
<td>Success</td>
</tr>
</tbody>
</table>

**KEY:** SRBM: short-range ballistic missile; ICBM: intercontinental ballistic missile; IRBM: intermediate-range ballistic missile; SLBM: submarine-launched ballistic missile; HGV: hypersonic glide vehicle; MaRV: manoeuvrable re-entry vehicle.

*Source: IISS*
what Kim described as the ‘do-or-die revolution in the defence industry’. Both stressed the sacrifices required; Pak even termed this the ‘start of a new forced march’. That is bad news not only for ordinary North Koreans but also for anyone who believed Kim’s comment following November 2017’s ICBM test that the DPRK had ‘finally realized the great historic cause of completing the state nuclear force’. Far from it: there is much more to come.

The flurry of tests in January 2022 also suggests a fifth goal: distraction. The timing seemed odd given harsh winter conditions and the fact that the US was focused on the Ukraine crisis. Yet perhaps testing in these circumstances was actually the point, demonstrating that freezing conditions were no obstacle to seizing an opportunity while Washington was distracted by events elsewhere. Kim may not expect much from US President Joe Biden. The UNSC’s silence, a bonus he might not have anticipated, was diplomatic victory enough. Moreover, in the current climate it is possible that neither China nor Russia minds Kim staging a sideshow that creates fresh headaches for the US.

A final goal is deterrence. Though more often seen as the object of deterrence, for North Korea itself to feel threatened and cite self-defence is not wholly specious. Moon Jae-in talked of peace but he also increased the ROK’s defence spending faster than his conservative predecessors. He had several motives, the DPRK threat being but one. In September 2021 South Korea conducted its own mini-flurry of missile tests, coinciding with the Seoul ADEX. Though Pyongyang mocked Seoul’s efforts and equipment, such as its SLBM, it must worry about its far richer sibling, which vastly outspends it and is allied to the mightiest country on Earth. Some analysts see the Korean Peninsula’s burgeoning arms race as not wholly driven by the DPRK, despite Seoul’s assertions that its procurement and defence spending are focused on self-defence.

It remains unclear what precisely Kim wants from Washington. During Trump’s presidency the DPRK was notably reluctant to move from vague pledges to the detailed working-level talks that constitute serious negotiation. The Biden administration has said it is open to talks while offering no specific innovative proposals. Facing numerous foreign-policy challenges elsewhere, in practice this stance begins to resemble Barack Obama’s ‘strategic patience’, which was seen by critics as tantamount to inaction. If Biden was galvanised into giving Pyongyang higher priority, the US would need to work out what Kim seeks, what form any talks should take and at what level they should be held, and how some common ground might be found.

STATE CRIMINALITY UPDATED: THE DPRK CYBER THREAT

The DPRK’s unrelenting pursuit of WMD, going far beyond any defensive needs, contradicts Kim’s disingenuous claim that ‘our arch-enemy is … war itself, not south Korea, the United States or any other specific state or forces’. (He had just called South Korea ‘avaricious … double-dealing, illogical and brigandish’.) If Pyongyang’s record did not already disprove such hollow assurances, they are further undermined by a fresh threat: cyber crime.

In February 2021, the US Department of Justice indicted three North Koreans for multiple cyber crimes, including the 2014 hack of Sony Pictures and the 2017 WannaCry
### Table 4.2: US official reporting of North Korea’s criminal cyber activities, 2017–22

<table>
<thead>
<tr>
<th>Date</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 Apr 2022</td>
<td>The US Cybersecurity and Infrastructure Security Agency (CISA), the FBI and the US Treasury Department report cryptocurrency thefts and tactics used by North Korean state-sponsored advanced persistent threat (APT) Lazarus Group against various entities in the blockchain-technology and cryptocurrency industries</td>
</tr>
<tr>
<td>17 Feb 2021</td>
<td>CISA, the FBI and the US Treasury report that APT Lazarus Group or the North Korean government targeted individuals and companies, including cryptocurrency exchanges and financial-service companies, in over 30 countries during 2020</td>
</tr>
<tr>
<td>27 Oct 2020</td>
<td>CISA, the FBI and the US Cyber Command Cyber National Mission Force release a report detailing global intelligence-gathering activity by North Korean APT ‘Komsuxy’ against targets such as individual experts, think tanks and South Korean government entities</td>
</tr>
<tr>
<td>26 Aug 2020</td>
<td>CISA, the FBI, the US Treasury and US Cyber Command publish a technical alert detailing a North Korean cash-out scheme using automated teller machines (ATM) and remote access tools</td>
</tr>
<tr>
<td>19 Aug 2020</td>
<td>CISA and the FBI identify a new malware variant – used by a threat group associated with the North Korean government – targeting US government contractors for intelligence relating to key military and energy technologies</td>
</tr>
<tr>
<td>12 May 2020</td>
<td>CISA, the FBI and the Department of Defense (DoD) publish three reports detailing three malware variants used by the North Korean government – one of which is used to target cryptocurrency exchanges and related entities</td>
</tr>
<tr>
<td>15 Apr 2020</td>
<td>The State Department, Treasury Department, Department of Homeland Security (DHS) and the FBI issue a comprehensive advisory detailing the North Korean government’s reliance on global cyber crime – especially targeting financial institutions worldwide – to fund its ballistic-missile and nuclear programmes</td>
</tr>
<tr>
<td>14 Feb 2020</td>
<td>CISA, the FBI and the DoD identify seven malware variants used by the North Korean government</td>
</tr>
<tr>
<td>9 Sep 2019</td>
<td>CISA, the FBI and the DoD identify two malware variants used by the North Korean government</td>
</tr>
<tr>
<td>2 Oct 2018</td>
<td>CISA, the DHS, the US Treasury Department and the FBI publish a technical alert detailing a North Korean ATM cash-out scheme active since at least late 2016 against banks in Africa and Asia. In one incident in 2017, state-sponsored actors could draw cash from over 30 countries</td>
</tr>
<tr>
<td>9 Aug 2018</td>
<td>The DHS and the FBI identify a Trojan malware variant used by the North Korean government</td>
</tr>
<tr>
<td>14 Jun 2018</td>
<td>The DHS and the FBI identify a Trojan malware variant used by the North Korean government</td>
</tr>
<tr>
<td>29 May 2018</td>
<td>The DHS and the FBI publish a technical alert detailing two families of malware used by the North Korean government since at least 2009 to target entities worldwide – including in the US – in media and the aerospace, financial and other critical-infrastructure sectors</td>
</tr>
<tr>
<td>28 Mar 2018</td>
<td>The DHS and the FBI identify a Trojan malware variant used by the North Korean government</td>
</tr>
<tr>
<td>13 Feb 2018</td>
<td>The DHS and the FBI identify a Trojan malware variant used by the North Korean government</td>
</tr>
<tr>
<td>21 Dec 2017</td>
<td>The DHS and the FBI identify a Trojan malware variant used by the North Korean government</td>
</tr>
<tr>
<td>14 Nov 2017</td>
<td>The DHS and the FBI publish a technical alert identifying a malware used by the North Korean government since 2016 to target the aerospace, telecommunications and finance industries; another malware identified is reported to have been used by North Korean actors since 2013 to target the US government and the financial, automotive and media industries</td>
</tr>
<tr>
<td>23 Aug 2017</td>
<td>The DHS releases a report detailing a malware variant used to manage North Korea’s distributed denial-of-service botnet infrastructure</td>
</tr>
<tr>
<td>13 Jun 2017</td>
<td>The DHS and the FBI report on tools and infrastructure used by North Korean government actors to target media, aerospace, financial and critical-infrastructure sectors globally, including in the US</td>
</tr>
<tr>
<td>12 May 2017</td>
<td>The DHS, the National Cybersecurity and Communications Integration Centre and the FBI release a joint alert regarding WannaCry ransomware</td>
</tr>
</tbody>
</table>

Source: US Cybersecurity and Infrastructure Agency, cisa.gov
ransomware attacks. In February 2021, the US assistant attorney general for national security, John Demers, bluntly called North Korea ‘the world’s leading 21st-century nation-state bank robbers’. As that characterisation suggests, North Korean cyber crime goes far beyond using cyber attacks as a weapon for political purposes. The devastating assault on Sony was widely seen as revenge for The Interview: a comedy caper in which Kim Jong-un is assassinated. Many states engage in unacknowledged ‘black ops’, whose toolkit includes cyber weapons. Yet most DPRK cyber crime has no such direct political dimension; it is sheer theft (see Table 4.2). Besides ransomware, Demers cited heists from banks on four continents, targeting over US$1.2 billion, ‘using keyboards rather than guns, stealing digital wallets of cryptocurrency instead of sacks of cash’. In his judgement, this ‘regime has become a criminal syndicate with a flag’. More recently, in April 2022 the US attributed a single cryptocurrency heist worth US$615 million to DPRK state actors.

Demers’s phrasing ‘has become’ implies something new. To be sure, the means are novel, using technology unavailable in the past. Yet Pyongyang’s wider criminal proclivities stretch back more than four decades and have included smuggling (alcohol, ivory and much else), trafficking drugs including heroin and methamphetamines, counterfeiting (pharmaceuticals, cigarettes, even US$100 bills) and insurance fraud. Most of these activities have ceased in the past decade as cyberspace offers richer pickings and greater convenience with much lower risk.

This persistent pattern of criminality, unique for a nation-state, is oddly underacknowledged. Many prefer to de-emphasise or even deny it. North Korea’s WMD programmes and its human-rights abuses have long commanded more policy attention than its criminality. In 2022, such neglect looks mistaken on two counts. The first is expressed in a 2021 Foreign Policy headline: ‘While North Korean Missiles Sit in Storage, Their Hackers Go Rampant.’ Pyongyang’s WMD threat is ghastly but hypothetical; its cyber menace is real and active. The second is related to a wider, pessimistic lesson. How can a regime that engages in bare-faced criminality be trusted to negotiate seriously over WMD, much less give them up? If dialogue with the DPRK is to be worthwhile, cyber crime must go on the agenda with a view to stopping it. South Korea, the DPRK’s original and primary target, is a case in point. The DPRK’s cyber attacks, relentless for two decades, continued even during 2018’s thaw in relations. That year’s accords did not mention the cyber domain. Worse, local cyber-security firms felt reluctant to publicise the continuing onslaught ‘considering Seoul’s latest push for peaceful reconciliation’.

There are two reasons why interlocutors are loath to raise this issue. The first is that some of them conduct their own covert cyber activities and are mindful that Pyongyang (which of course pleads innocence) could point its finger in return. Secondly, the multiple concerns relating to North Korea have to be prioritised and sequenced. Hitherto the nuclear realm loomed largest for obvious reasons, causing other issues – notably human rights – to be de-emphasised. However, the cyber menace from Pyongyang provides a compelling reason to rethink the full extent of the North Korean threat holistically, considering how its various elements interact. Some linkages are possibly direct: for example, proceeds from cyber theft may be funding WMD programmes.
MOTIVATION: HOW FAR WOULD KIM GO?

Why does North Korea behave as it does? And how far might Kim go? These questions cannot be answered definitively: a spectrum of theories exists. At one end, the view that the DPRK is unjustly demonised remains surprisingly persistent but is hardly convincing. Another relatively optimistic view posits self-defence as the regime’s main goal. If that were true then in principle international concerns could be addressed. Yet Kim’s weapons-development plans, steadily being realised, go far beyond what defending his realm requires.

At the opposite extreme, tabloid clichés portray Kim as a sinister James Bond villain, plotting global domination by devising mighty weapons to blackmail the world. This perspective exaggerates the DPRK’s power and reach: it is a poor country impoverishing itself further by prioritising WMD. A more plausible concern is local rather than global: does Pyongyang still dream of taking over South Korea? Some observers believe so, arguing variously that fidelity to the aims of Kim Il-sung, ideological imperatives or ethno-nationalism render this an abiding and seriously pursued goal.

Between these extremes, most observers see a regime bent on self-preservation rather than driven by ideology – cognisant that it cannot swallow South Korea, much less digest it – but with a blinkered vision of what futures are possible. Taking autonomy to extremes, the DPRK chooses to operate on the fringes of the international system and sometimes outside the law. Long ago, Kim Il-sung prioritised guns over butter. Kim Jong-il continued this approach and Kim Jong-un is taking it to alarming new heights. All three Kims have shared a propensity to do whatever they can get away with. Therefore, the deterrence that has kept an uneasy peace on the Korean Peninsula since 1953 will remain vital. The challenge for interlocutors is to combine upholding deterrence with incentives for Pyongyang to seek a better path. Such incentives will not be easy to devise.

PROSPECTS FOR KIM’S SECOND DECADE AND BEYOND

Predicting North Korea’s future is fraught with complexity. One safe comment is that, for Kim, the current international situation is excellent and will only get better. Instead of the DPRK being the odd one out and under pressure to adapt to global norms, if anything the rest of the world is becoming more like North Korea. Chinese President Xi Jinping’s undoing of past domestic reforms so he can rule for life is one example.

Such trends well suit a loner regime, long suspicious of multilateralism. As US–China tensions grow and increasingly threaten the post-Cold War geopolitical order and the geo-economic structures (such as supply chains) forged by globalisation, the prospect of ‘a prolonged period of strategic contestation’ – as an IISS study forecasts – suits Pyongyang very well. In particular, the collapse of any semblance of superpower unity on North Korea can only enhance Kim’s freedom of manoeuvre.

It is possible to imagine darker scenarios. Should a major conflict break out elsewhere – in the Taiwan Strait for instance – Kim might take advantage of this development and consequent US distraction to escalate his own provocations. In recent years these have been mainly symbolic but it would be in character for the DPRK to seek to test US ‘red lines’ and, indeed, those of the new South Korean administration. Possibilities include a
resumption of nuclear testing, or missile launches too close for comfort to the US. The ICBM test on 24 March was a warning, albeit in that case the missile was lofted vertically so as not even to overfly Japan (unlike in 2017). Future North Korean ICBM launches may appear more threatening. The risk of overreach and miscalculation is ever-present, though mercifully avoided so far. Rising tensions in 2017 prompted a leading nuclear expert to pen a ‘speculative novel’ warning how these developments could potentially precipitate an actual nuclear war between the US and the DPRK, with apocalyptic consequences for both countries.

Meanwhile, electoral cycles have changed the guard in Seoul. In 2024, they may do so in Washington. All new South Korean presidents attempt some form of outreach to the North, and Yoon Suk-yeol is unlikely to be an exception. However, having seen how Kim treated Moon, no future ROK leader will commit much political capital to Pyongyang. More ominously, were the DPRK to try anything like 2010's sinking of the ROK Navy corvette Cheonan, South Korean opinion might demand a counterstrike, which Washington may be unable to prevent. In increasingly febrile times and with old alliances strained, it cannot be guaranteed that cool heads and caution will prevail.

It remains to be seen whether the latest DPRK missile volleys will elicit a reaction from Washington and, if so, what form this will take. In any case, if the Democrats lose the mid-term elections in November 2022, which seems likely, Biden will be even less inclined to engage Pyongyang. A Republican-controlled Congress would surely oppose further engagement. (How it would react if a second-term Donald Trump did the same is another matter.) The potential return of Trump in 2025 is a wild card for the Korean Peninsula. During his presidency, he expanded the boundaries of what was
deemed possible or desirable in the realms of rhetoric and policy in two opposite directions: mocking ‘little rocket man’ and threatening ‘fire and fury’ in 2017 when North Korea launched its largest ICBMs, before abruptly changing gear in 2018 to become the first serving US president to meet a DPRK leader – with whom he developed an odd ‘bromance’.\textsuperscript{103} It is difficult to predict how Trump’s approach would evolve if he is re-elected. Threatening fire and fury would be even more perilous in the current climate. A new Trump–Kim summit (their fourth) could create possibilities provided Trump does not waste them, as he did on previous occasions by lurching in contrary directions.

Though humiliated when Trump walked out of their talks in Hanoi, months later Kim accepted Trump’s invitation to meet briefly at Panmunjom. By 2025 the North Korean leader may be ready for something more substantial: the DPRK’s economic woes will not improve and Kim could use a counterweight to China. So far he has departed from his father and grandfather’s practice of playing off powers against each other. Kim Il-sung manoeuvred skilfully in the Sino-Soviet dispute, while Kim Jong-il encouraged South Korean president Kim Dae-jung’s ‘sunshine’ policy (for a time, inter-Korean trade rivalled China–DPRK trade volumes).\textsuperscript{104} It is puzzling and perhaps a misstep that Kim Jong-un did not use Moon’s deep reservoirs of goodwill to offer Seoul at least some small concession: family reunions would have sufficed. It could be that Kim was counting on success in his meeting with Trump in Hanoi and had no alternative plan if that failed.

The DPRK has become overwhelmingly reliant economically on China. Russian diplomatic support is not matched by financial aid; only in 2012 did Russia agree to write off US$10bn in debts dating from the Soviet era.\textsuperscript{105} Then again, Moscow now has surplus oil and gas and might choose to reward one of its very few remaining allies.\textsuperscript{106} The DPRK’s dependence on China might be a deliberate choice. With Chinese power and Sino-American tensions both rising, Kim may deem Beijing his best bet. Indeed, China exerts no pressure on human rights; tolerates North Korea’s WMD and missile tests, as long as these are not too destabilising; and, above all, offers the implicit reassurance that Xi will not allow Kim’s regime to collapse. By contrast, engaging with the West brings tiresome conditionalities and challenges.

Yet depending so completely on China carries risk for North Korea. It gives Xi instruments that could be used to squeeze Pyongyang, especially economically. (At least once in the past China has briefly cut off oil supplies to show its disapproval of DPRK behaviour.)\textsuperscript{107} The question now is in what future circumstances Beijing might use its power. One way might be to set a WMD ‘red line’ – for example, missile tests are tolerable but nuclear tests less so, since they alarm the Chinese public (tremors can be felt in border areas) and strengthen those in Seoul and Tokyo who want South Korea and Japan, respectively, to have their own nuclear deterrents. When Kim decides he needs a seventh nuclear test, China may bridle – privately rather than publicly, if he is lucky.

In addition, China may not prop up North Korea indefinitely, even if it can afford to do so. Evolving China–DPRK trade patterns over time illustrate Beijing’s efforts, briefly successful, to transform one-sided mendicancy into mutual benefit by expanding North Korean mineral exports.\textsuperscript{108} And Xi will not have forgotten that Kim had Jang Song-thaek, who oversaw this positive period, executed (Kim blamed him for selling off national assets
to ‘a foreign country’. For almost four decades, North Korea’s perverse refusal to be economically sensible has riled successive Chinese leaders from Deng Xiaoping onwards. China’s bullet trains and motorways now reach the border at Dandong, where a Chinese-built and -financed bridge across the Yalu River, costing US$350m, was finished in 2014 yet still stands unused. Until 2019 it ended in a field on the DPRK side near Sinuiju. Even now, the road from Sinuiju to Pyongyang is not fully paved.

It is hard to imagine China tolerating such recalcitrance forever. Beijing may also worry about an impoverished North Korean population growing restive, risking instability. Hence Xi is likely to press Kim to modernise North Korea’s economy so that it becomes more like China’s. If Kim remains reluctant, others in Pyongyang may prove more receptive. Either way, North Korea is now China’s problem: no other power wields any effective influence. That stark message is unpalatable, especially in Seoul, but the question is whether any alternative future can still be engineered.

It might just be possible. There is no love lost between North Korea and China. If Kim jibs at the prospect of indefinite de facto vassalage – embarrassingly akin to imperial China’s traditional hegemony over the Korean Peninsula – in principle he still has the option of reaching out to other powers. In practice, after a long litany of deceptions and disappointments, the question is whether Kim can offer any credible basis for fresh negotiations. Arms-reduction talks are one possibility, in theory. However, the problem is that the DPRK will never agree to denuclearise completely; Western interlocutors still refuse to acknowledge this reality.

Eventually, however, reality must be acknowledged, as with the three other non-NPT nuclear powers (India, Israel and Pakistan). In a more Hobbesian world, even democratic countries may pursue their goals with less heed to alliances or international law. If Japan, South Korea or the US sees a chance to loosen China’s grip on Pyongyang, they may take it, in concert or individually. This need not mean a retreat on WMD. One potential opening is the recent suggestion that it advances US national interest to offer North Korea coronavirus vaccines because an unvaccinated country poses a health risk to others as a potential breeding ground for new variants. It is conceivable that such an offer could be made, given sufficient imagination in Washington. However, any future progress on developing links with Pyongyang – and thereby reducing China’s influence there – may mean tacitly accepting the DPRK nuclear fait accompli.

The dilemma is most acute for South Korea. Since the ROK’s constitution claims sovereignty over the entire Korean Peninsula, seeing the DPRK fall under Chinese sway is challenging in many ways. Hence despite the unpromising history of North-South ties, future leaders in Seoul may still attempt outreach to Pyongyang. Meanwhile, they will certainly also boost their own state’s deterrent posture. Most South Koreans have long supported the ROK having its own nuclear weapons; the DPRK’s latest missile tests and Russia’s invasion of non-nuclear Ukraine have reanimated debate on this topic.

KIM JONG-UN’S HEALTH AS A RISK FACTOR

A further, quite different factor potentially affecting North Korea’s future is the health of its leader. Though young, Kim is morbidly obese and, contrary to DPRK law, smokes in public.
His father and grandfather both died of heart conditions, albeit aged 69 and 82 respectively. In 2014 Kim reappeared walking with a cane after five weeks’ unexplained absence.\footnote{116} Another temporary disappearance in 2020 may have been for a heart procedure, though the facts are unclear.\footnote{117}

These matters are more than tabloid fodder. The DPRK has set the bar very high for who may legitimately lead it. Having abandoned bureaucratic selection in favour of hereditary succession, the ‘Mount Paektu bloodline’ – biological descent from Kim Il-sung – is now a prerequisite. This narrows the field. Should anything befall Kim, it is unclear who would succeed him: he has children but they are very young. With the potential for power struggles, North Korea’s next succession could be a dangerous moment for the Korean Peninsula and beyond.

Such topics are taboo inside North Korea, yet there are signs the regime recognises the risk. In 2021 Kim visibly lost weight.\footnote{118} Also of note is the increasing prominence of his sister Kim Yo-jong; since 2019 she has become a spokesperson on relations with the US and South Korea and attended key national events, including missile launches.\footnote{119} Yet gender prejudice pervades the DPRK and a female leader may be hard for some to swallow.

No doubt Japan, South Korea, the US and others maintain contingency plans – updated since the 1990s, when the DPRK’s collapse was widely expected – for sudden discontinuities in North Korea.\footnote{120} In particular, the issue of securing its nuclear weapons would become urgent if the power structure in Pyongyang became uncertain or contested.

One complication is that China too has a legitimate interest in such matters. Unfortunately, even in better times there is no evidence that US–China or ROK–China relations were ever such that this eventuality could be discussed, much less a joint plan of action agreed. Absent such a plan, the dangers and uncertainties of discontinuity in Pyongyang would be compounded by the alarming prospect of China and the US confronting each other militarily on the Korean Peninsula – as they did 70 years ago, when their respective strengths were very different.

For some North Koreans, Kim’s death or incapacitation might seem an unprecedented opportunity. The DPRK has accomplished two outwardly smooth successions – no mean feat – but the next will be far harder. Not only is there no obvious successor, but a long-suffering and more knowing population, sick of privation and oppression and aware that people in other countries nearby live much better, may at last find its voice.\footnote{121} Though anticipation that North Korea might ‘collapse’ was premature in its 1990s heyday, the alienation and popular cynicism that ultimately rendered Eastern European communist regimes brittle is also likely to take root in the DPRK if nothing improves.\footnote{122} Tellingly, the regime sees young people as a problem, berating and punishing them for adopting South Korean slang and hairstyles. Moreover, pirated ROK media must still be finding their way
into the DPRK, despite draconian penalties – reportedly including execution – for those involved in their circulation.\textsuperscript{123}

As for the DPRK elite, despite the striking invisibility of overt factions it is not hard to imagine the contours of future debate in Pyongyang – which may have already begun behind closed doors – about how a North Korea genuinely seeking prosperity should proceed, and in particular how it should align itself regionally and internationally. North Korea’s situation today partially resembles the twilight of Korea’s Joseon dynasty in the late nineteenth century, when China, Japan and Russia had their partisans at court. Today neither Japan nor Russia has any significant influence on the Korean Peninsula; the main question for North Korea would be whether to cleave to China or South Korea, with the latter option not necessarily entailing immediate unification. (A decade ago, one fictional scenario posited a future where Seoul called the shots behind the scenes in a still separate North.\textsuperscript{124})

Quite possibly none of these scenarios will occur. Kim may live until 2050 or longer, with his son eventually succeeding him. However, by then China may have used its economic leverage to ensure that the DPRK reforms, thereby generating modest prosperity and a degree of personal (but not political) freedom. Beijing might also find some way to tackle and neutralise the North’s WMD. None of this will be easy, but Kim may see that he has no other realistic choice, for his country’s future and indeed his own (fearing that otherwise China might seek a more pliable alternative leader for North Korea).

CONCLUSION

In 2022, candour on North Korea is long overdue. Global policy on the DPRK has comprehensively failed. Neither intermittent negotiations nor ever-tighter sanctions have stopped Pyongyang from first getting the bomb, then continuously building its nuclear and missile arsenal. Nor have outside policies helped ordinary North Koreans to become more prosperous or freer. Meanwhile, the capacity of South Korea, the US and their allies and partners to influence North Korea has declined, while China’s sway there has grown.

If the US and South Korea wish to challenge China’s hegemony over the DPRK, they must be more flexible in engaging Pyongyang, offering stronger incentives since punishments have proved ineffectual. This approach might be unpalatable and risk moral hazard. Yet the old cycle of WMD tests provoking censure and sanctions, which in turn beget more WMD tests, achieved little or nothing and has now broken down. Alternatives need to be found if the West and other concerned powers wish to have any influence on North Korea’s future.

NOTES

3 For a summary analysis, see Tianran Xu,


11 Puzzlingly, one of them, India, days later joined its fellow ‘Quad’ members (Australia, Japan and the US) in condemning ‘North Korea’s destabilising ballistic missile launches in violation of UN Security Council resolutions’ and reaffirming ‘our commitment to the complete denuclearisation of North Korea’. See India, Ministry of External Affairs, ‘Joint Statement by the Foreign Ministers of Australia, India and Japan and the Secretary of State of the United States Following the 4th Quad Foreign Ministers’ Meeting’, 11 February 2022, https://www.mea.gov.in/bilateral-documents.htm?dtl/34854/joint+statement+by+the+foreign+ministers+of+australia+india+and+india+and+the+secretary+of+state+of+the+unit ed+states+following+the+4th+quad+foreign+ministers+meeting.


17 See Arms Control Association, ‘Bush’s Deferral of Missile Negotiations with North Korea:


23 From 2010 through 2021 the PoE issued 15 reports; another is expected in spring 2022. These are all listed and accessible at UNSC, ‘Reports’, https://www.un.org/securitycouncil/sanctions/1718/panel_experts/reports. Other efforts to track DPRK sanctions violations include the Royal United Services Institute’s (RUSI) Project Sandstone. See RUSI, ‘Project Sandstone’, https://rusi.org/explore-our-research/projects/project-sandstone.

24 True, hypothetical counterfactuals can be adduced. What if Donald Trump had rejected his national security advisor John Bolton’s advice to walk out, and instead accepted Kim Jong-un’s offer – made in Hanoi at their second summit in February 2019 – to give up the main nuclear site at Yongbyon in return for comprehensive sanctions relief? This approach would have led to a better place than the current situation, especially for ordinary North Koreans whose privations – exacerbated by sanctions – would have eased. Inter-Korean projects would have continued rather than stopping dead. However, two caveats must be made. Closing Yongbyon would have meant grueling ‘salami-slicing’ over each individual facility, while highly enriched uranium and other WMD programmes continued unabated at other, unknown locations. And with hindsight, just a year later the start of the coronavirus pandemic would have given Kim Jong-un a perfect excuse to end inspections of North Korean facilities.

25 The website ‘North Korea in the World’ presents detailed data on inter-Korean relations over time in tabular form: https://www.northkoreaintheworld.org/inter-korean/inter-korean-dialogue. For the present century, since 2001 this writer has surveyed ROK–DPRK relations three to four times a year, with chronologies. See ‘North Korea – South Korea’, Comparative Connections, https://cc.pacificforum.org/research/north-korea-south-korea/.

26 The implicit model here was how China and Taiwan had managed to forge pragmatic business relations. Seen from 2022, however, such ties do not necessarily soften political enmity or reduce the risk of conflict, as was hoped. See Aidan Foster-Carter, ‘Scrapping the Second Summit: Lee Myung Bak’s Fateful Misstep’, 38North, 20 January 2011, https://www.38north.org/2011/01/lee-myung-bak-fateful-misstep/.


28 The Panmunjom Declaration for Peace, Prosperity and Unification of the Korean Peninsula (27 April 2018), the Pyongyang Joint Declaration (19 September 2018) and a military annex (also 19 September 2018).

29 Kim Deok-hyun, ‘Moon Pledges to Pursue


Christian Davies, ‘South Korea Forges Ahead with End-of-war Declaration Despite US Reservations’, Financial Times, 5 January 2022, https://www.ft.com/content/8f00d054-d66a-409c-9a8e-cd6b0a1012f4.


As argued in ‘South Korea’s Foreign Policy: Local or Global?’, in ISS, Strategic Survey 2021: The Annual Assessment of Geopolitics (Abingdon: Routledge for the ISS, 2021), pp. 152–61.


56 Ibid. These claimed official figures are broadly confirmed by Japanese and ROK observation.


58 Ibid.


60 See ‘Korea Chair “The Capital Cable #34” with Sydney Seiler’, Center for Strategic and International Studies, 29 September 2021, https://www.youtube.com/watch?v=1Wr-5tH5SzzE&t=3s.


71 Ibid.


On human rights, two major resources are the many reports by the (US) Committee for Human Rights in North Korea (HRNK): https://www.hrnk.org/publications/hrnk-publications.php; and the White Papers compiled annually since 1996 by the Korean Institute for National Unification (KINU), an ROK government think tank: https://www.kinu.or.kr/www/jsp/prg/api/dllE.jsp?menuId=648&category=74&thisPage=1&researchField=researchText.


(As the actual figure given for 2020 is higher: 1.58tn.)


As shown by Hy-Sang Lee, North Korea: A Strange Socialist Fortress (Westport, CT: Praeger, 2001).


‘Traitor Jang Song Thaek Executed’.


121 On North Koreans’ struggle to make sense of their suffering in the famine of the 1990s, see Sandra Fahy, Marching through Suffering: Loss and Survival in North Korea (New York: Columbia University Press, 2015). Today’s generation, by contrast, know more and have fewer illusions.

122 For a nuanced account of the interplay between marketisation, social groups and the regime, see Andrew Yeo, State, Society and Markets in North Korea (Cambridge: Cambridge University Press, 2021).


124 See James Church, The Man With The Baltic Stare (New York: Macmillan, 2011). Written by a former US intelligence officer, this and the other ‘Inspector O’ novels convey the feel of North Korea very atmospherically.
CHAPTER 5

SINO-AMERICAN SECURITY RELATIONS: THE NUCLEAR DYNAMICS

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China and the United States increasingly view their relationship as one of strategic competition. In 2021, public disclosures about the construction of new missile silos in China and the test of an orbital bombardment system focused attention on the possibility that strategic competition between the two powers might intensify to include a nuclear arms race.

**CHINA’S GROWING NUCLEAR-WEAPON AND MISSILE CAPABILITIES**

China’s changing society, economy and political structure are reshaping its nuclear forces in important ways. Significant developments include an expansion of the number of intercontinental-range ballistic missiles, as well as the development of new submarine- and air-launched ballistic missiles.

**IMPLICATIONS FOR STABILITY AT STRATEGIC AND THEATRE LEVELS**

China’s evolving nuclear forces give rise to fundamental questions about their strategic purpose: are they intended simply to deter the US? Or are they intended to undermine Washington’s ability to extend deterrence to its allies? China’s new nuclear forces prompt further concerns about crisis stability and particularly control of escalation. If the US and China are to maintain a stable nuclear dynamic, each side must do far more to understand how the other thinks about nuclear weapons.

**POTENTIAL FOR ARMS CONTROL**

A useful first step towards bilateral strategic-arms control would be for Washington and Beijing to devise and issue a joint statement on strategic stability. This could provide a clear definition of the status quo against which stability could be understood. In the longer term, real stability would require negotiated and verifiable limitations on both countries’ offensive and defensive strategic forces.
No nuclear arsenal in the world is changing as dramatically as that of China. While important developments have been under way for several years, they only entered the public consciousness in a significant way in 2021. In June of that year, open-source analysts discovered more than 100 missile silos under construction in western China, raising the possibility that Beijing was expanding its arsenal of intercontinental-range ballistic missiles (ICBMs). It was the first of what would turn out to be three such sites under construction. Weeks later, China tested a hypersonic glider capable of delivering a nuclear weapon. It entered orbit, travelled around the Earth and re-entered the atmosphere, missing its target by several kilometres. The United States’ top defence official compared the test to the Soviet Union’s launch of a satellite for the first time in 1957. ‘I don’t know if it’s quite a Sputnik moment’, explained Chairman of the Joint Chiefs of Staff General Mark Milley, ‘but I think it’s very close to that. It has all of our attention.’¹ Another US defence official compared the US reaction to the days following the 11 September 2001 terrorist attacks, when Americans felt surprised, vulnerable and unsure how to respond.²

Observers have noted the deteriorating China–US relationship for several years. By late 2020, it had become so strained that the US intelligence community observed an ‘entire body’ of intelligence suggesting that Chinese leaders believed the US might launch an attack on their country. There are many reasons for the tensions in the Sino-American security relationship: trade disputes, China’s territorial claims, human-rights issues and, most importantly, the status and security of Taiwan. In 2021, these tensions were joined by a fast-changing nuclear dynamic that resembled the beginning of a nuclear arms race, as both countries faced the prospect that they increasingly needed to consider and prepare for the possibility of nuclear war.

**CHINA’S GROWING NUCLEAR-WEAPON AND MISSILE CAPABILITIES**

China’s nuclear forces have changed significantly since the late 1990s, although some threads connect the present to the past. Beijing first decided to develop nuclear weapons in the mid-1950s, expecting significant Soviet assistance. Following the suspension of aid from Moscow in 1959, it was decided to continue the nuclear programme without foreign support. China chose to do so despite the high costs because it believed that other nuclear powers (primarily the US, but potentially also the Soviet Union) would continue to use nuclear superiority to coerce Beijing – something Chinese leaders referred to as ‘nuclear blackmail’.
China’s early nuclear forces were organised around the primary goal of acquiring ICBMs and thermonuclear weapons to retaliate against a US nuclear attack – what one Chinese leader called ‘the minimum means of reprisal’. Today, most experts call this capacity ‘assured retaliation’: the idea that ‘a small number of survivable weapons would be enough to accomplish deterrence by threatening retaliation and, thus, unacceptable damage on an adversary’.

A notable feature of China’s approach was an unconditional pledge that it ‘would never at any time or under any circumstances be the first to use nuclear weapons’. This pledge was used initially as a diplomatic stratagem to deflect pressure from the developing world: China needed to conduct atmospheric tests and could not support proposals for a test ban popular among non-aligned states. However, it also encapsulated some important Maoist ideas about the role of nuclear weapons and suited the bureaucratic proponents of China’s nuclear-weapons and missile programmes. Notable among those proponents was People’s Liberation Army (PLA) marshal Nie Rongzhen, head of China’s National Defense Science and Technology Commission, which had responsibility for these programmes. In this period China had a nuclear policy – no first use – but lacked both operational concepts for its nuclear arsenal and any nuclear strategy that might connect the policy to those concepts. This did not change substantially until the 1980s, when China first began to deploy nuclear-armed ICBMs that could threaten the US.

Chinese leaders were at that time content to live with an almost unbelievably small and vulnerable nuclear force. At the end of the 1980s, the arsenal comprised fewer than 100 liquid-propellant land-based ballistic missiles stored unfuelled in fixed sites. Their warheads were stored separately some tens of kilometres away. However, these circumstances did not mean that Chinese leaders did not think about survivability or worry about technological developments in the US and the Soviet Union. Particularly during the 1970s, China made significant efforts to reduce the launch time of its missile forces. It explored different basing modes for its missiles and developed prototypes of advanced systems that it would never deploy, including a ballistic-missile submarine, an enhanced-radiation warhead, an anti-ballistic-missile interceptor and even a fractional orbital bombardment system (FOBS). Most importantly, China planned eventually to replace its liquid-fuelled missiles with solid-fuelled counterparts.

At the same time, Chinese leaders evaluated the international environment in highly politicised terms, with those supporting ‘reform and opening’ in the 1980s arguing that the international situation was becoming less tense. Therefore, while leaders may not have wanted to fall behind in military technology, they were also uninterested in turning research-and-development projects into large-scale...
procurement programmes, preferring to use the former to jump-start the civilian economy.

Today, China faces far fewer resource constraints (Figure 5.1 highlights the growth of China’s defence budget since 2000). Its GDP is the second largest globally and the largest when adjusted for purchasing-power parity. Unlike in the 1980s, China’s political system appears to be tightening rather than opening. While previous leaders may have argued that a more benign international environment allowed for their preferred domestic reforms, contemporary Chinese leaders have depicted the external context as increasingly hostile to justify their continued narrowing of the domestic political space. China’s nuclear forces have always been influenced more by domestic political dynamics than by strategic considerations. It remains the case today, as China’s changing society, economy and political structure reshape its nuclear forces in important ways.

The PLA Rocket Force

Although it is no longer the exclusive operator, China’s nuclear forces are primarily managed by the PLA Rocket Force (PLARF), which was known as the Second Artillery Corps until 2016. Established in 1966, the Second Artillery was initially a small organisation and never possessed the status of a service like the navy or air force. In its early years, the Second Artillery had little role in determining the missiles or nuclear weapons in its charge and was not allowed to develop operational concepts to implement the no-first-use policy imposed from above. Xiang Shouzhi, the first commander of the Second Artillery, was purged twice during periods of turbulent domestic politics, on the second occasion being placed under house arrest at a farm where he tended pigs. He was offered a chance to return for a third stint as commander in 1980 but declined, saying he preferred the pigs.7

Today, no military officer would prefer pigs to the PLARF. As well as the service being autonomous, with a status equal to the other services, it is also influential. Two of the seven members of the Central Military Commission (CMC) have Rocket Force backgrounds, a distinction shared only by the PLA Army (traditionally China’s premier military service).
However, the rise of the PLARF has not been synonymous with a growing emphasis on nuclear weapons, but rather the opposite. After China finished developing its first generation of liquid-fuelled ballistic missiles, attention turned to developing replacements for those systems using solid propellant. Solid-propellant missiles offer significant operational advantages, including simplified launch preparations and lighter logistical requirements. Chinese leaders initially imagined solid-propellant missiles as nothing more than replacements for liquid-fuelled ones, but some leaders of the Second Artillery had other ideas.

Beginning in the 1990s, the Second Artillery acquired short-range, solid-propellant missiles originally designed for export and transformed itself into a force organised around conventional-missile operations, amassing hundreds of short- and medium-range missile launchers. Conventional missiles offered the Second Artillery a much-expanded role,

### Table 5.1: China’s nuclear-capable missile systems

<table>
<thead>
<tr>
<th>Chinese name</th>
<th>US designation</th>
<th>Deployment mode</th>
<th>Type</th>
<th>No. of stages</th>
<th>Propellant</th>
<th>No. of warheads</th>
<th>Range (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DF-21A/E CH-SS-5 Mod 2/6</td>
<td>Road-mobile</td>
<td>Medium-range ballistic missile</td>
<td>2</td>
<td>Solid</td>
<td>1</td>
<td>1,750+</td>
<td></td>
</tr>
<tr>
<td>DF-26 CH-SS-18</td>
<td>Road-mobile</td>
<td>Intermediate-range ballistic missile</td>
<td>2</td>
<td>Solid</td>
<td>1</td>
<td>4,000</td>
<td></td>
</tr>
<tr>
<td>DF-4 CH-SS-3</td>
<td>Transportable</td>
<td>Intercontinental ballistic missile (ICBM)</td>
<td>2</td>
<td>Liquid</td>
<td>1</td>
<td>5,500+</td>
<td></td>
</tr>
<tr>
<td>DF-5A CH-SS-4 Mod 2</td>
<td>Silo</td>
<td>ICBM</td>
<td>2</td>
<td>Liquid</td>
<td>1</td>
<td>12,000+</td>
<td></td>
</tr>
<tr>
<td>DF-5B CH-SS-4 Mod 3</td>
<td>Silo</td>
<td>ICBM</td>
<td>2 plus post-boost vehicle (PBV)</td>
<td>Liquid</td>
<td>4</td>
<td>12,000+</td>
<td></td>
</tr>
<tr>
<td>DF-31 CH-SS-10 Mod 1</td>
<td>Road-mobile</td>
<td>ICBM</td>
<td>3</td>
<td>Solid</td>
<td>1</td>
<td>7,000+</td>
<td></td>
</tr>
<tr>
<td>DF-31A CH-SS-10 Mod 2</td>
<td>Road-mobile</td>
<td>ICBM</td>
<td>3</td>
<td>Solid</td>
<td>1</td>
<td>11,000+</td>
<td></td>
</tr>
<tr>
<td>DF-31AG</td>
<td>Road-mobile</td>
<td>ICBM</td>
<td>3</td>
<td>Solid</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
</tr>
<tr>
<td>DF-41 CH-SS-20</td>
<td>Silo and road-mobile</td>
<td>ICBM</td>
<td>3+PBV</td>
<td>Solid</td>
<td>multiple</td>
<td>12,000+</td>
<td></td>
</tr>
<tr>
<td>JL-2 CH-SS-N-14</td>
<td>Jin-class nuclear-powered ballistic-missile submarine (SSBN)</td>
<td>Submarine-launched ballistic missile (SLBM)</td>
<td>3</td>
<td>Solid</td>
<td>1</td>
<td>7,000</td>
<td></td>
</tr>
<tr>
<td>JL-3</td>
<td>Type-096 SSBN SLBM</td>
<td>3</td>
<td>Solid</td>
<td>multiple</td>
<td>10,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CH-AS-X-13 H-6N bomber</td>
<td>Air-launched ballistic missile</td>
<td>2</td>
<td>Solid</td>
<td>1</td>
<td>3,000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: IISS
allowing it to contribute to a range of military scenarios beyond the single, unlikely possibility of nuclear retaliation. Missile tests in 1995, which China conducted to coerce Taiwan before its first democratic presidential election, appear to have been an important turning point. The growth of China’s arsenal of conventionally armed missiles coincided with the Second Artillery’s rising status, which culminated in its redesignation as the PLARF in 2016.

Today, the Rocket Force has far more personnel dedicated to conventional-missile operations than to nuclear ones. Moreover, there appear to be clear internal preferences for conventional missiles. One study found not only that there is some personnel separation between nuclear and conventional forces, but also that ‘senior leaders are more likely to have served in the Rocket Force’s premier conventionally-armed missile base’. With conventional-missile operations offering the service a path towards greater autonomy and prestige, its internal priorities appear to have adjusted accordingly.

While the PLARF’s role as the organisation responsible for conventional-missile operations is hugely important, it retains control of the bulk of China’s nuclear deterrent, which comprises more than 100 intercontinental-range, nuclear-armed ballistic missiles. These include:

- **DF-4 (CH-SS-3)**: A large liquid-propellant ballistic missile with a multi-megaton warhead, originally deployed in the late 1970s. It has a range of around 5,500 kilometres, making it a limited-range ICBM. China retains about a dozen of these missiles, which are stored in ‘roll-out to launch’ sites.

- **DF-5 (CH-SS-4)**: A large liquid-propellant ballistic missile originally deployed in the 1980s with a multi-megaton warhead. It is deployed in silos due to the missile’s large size. China deployed two modernised variants of this missile, the DF-5A (CH-SS-5 Mod 2), in the mid-2000s, armed with a single warhead, followed by the DF-5B (CH-SS-4 Mod 3), which can be armed with up to four smaller warheads (originally developed for the DF-31). There are 18 known DF-5 silos, although the PLARF is reportedly building additional silos.

- **DF-31 (CH-SS-10)**: A road-mobile missile capable of carrying a single warhead, first tested in the late 1990s. In 2007 China displayed publicly a new variant, the DF-31A, which may be able to carry multiple warheads. Commercial satellite imagery suggests that China is converting some of its existing DF-31A brigades to this new variant.

- **DF-41 (CH-SS-20)**: A solid-propellant ICBM able to carry multiple warheads. One press report indicated that the US intelligence community believes the DF-41 could carry between three and six warheads, although it has only ever been tested with two. The system was originally developed to be road-mobile, but some reports indicate that China has explored rail-basing the system and, in 2021, open-source researchers observed the construction of several hundred new missile silos believed to be for the DF-41.10
Map 5.2: PLA Rocket Force missile bases and brigades

1. Brigade 611 (MUCD 96711)
   12 launchers for DF-21A missiles

2. Brigade 612 (MUCD 96712)
   12 launchers for DF-21A missiles

3. Brigade 613 (MUCD 96713)
   ~27–36 launchers for DF-15 missiles

4. Brigade 614 (MUCD 96714)
   ~27–36 launchers for DF-17 missiles

5. Brigade 615 (MUCD 96715)
   ~27–36 launchers for DF-11A missiles

6. Brigade 616 (MUCD 96716)
   ~27–36 launchers for DF-15 missiles

7. Brigade 617 (MUCD 96717)
   ~27–36 launchers for DF-16A/B missiles

8. Brigade 621 (MUCD 96721)
   12 launchers for unknown mobile ICBM

9. Brigade 622 (MUCD 96722)
   12 launchers for DF-31A missiles

10. Brigade 623 (MUCD 96723)
    ~27–38 launchers for CJ-10 missiles

11. Brigade 624 (MUCD 96724)
    12 launchers for DF-21D missiles

12. Brigade 625 (MUCD 96725)
    18 launchers for DF-26 missiles

13. Brigade 626 (MUCD 96726)
    18 launchers for DF-26 missiles

14. Brigade 627 (MUCD 96727)
    Unknown number of launchers for DF-17 missiles

15. Brigade 631 (MUCD 96731)
    6 launchers for DF-5 missiles

16. Brigade 632 (MUCD 96732)
    12 launchers for DF-31AG missiles

17. Brigade 633 (MUCD 96733)
    6 launchers for DF-5 missiles

18. Brigade 634 (MUCD 96734)
    1 missile silo under construction

19. Brigade 635 (MUCD 96735)
    ~27–36 launchers for CJ-10A missiles

20. Brigade 636 (MUCD 96736)
    ~27–36 launchers for DF-16 missiles

21. Brigade 637 (MUCD 96737)
    4 missile silos under construction

22. Brigade 641 (MUCD 96741)
    Under construction

23. Brigade 642 (MUCD 96742)
    8 launchers for DF-31AG missiles

24. Brigade 643 (MUCD 96743)
    12 launchers for DF-31AG missiles

25. Brigade 644 (MUCD 96744)
    12 launchers for DF-41 missiles

26. Brigade 645 (MUCD 96745)
    Under construction

27. Brigade 646 (MUCD 96746)
    18 launchers for DF-26 missiles

28. Brigade 647 (MUCD 96747)
    18 launchers for DF-26 missiles

29. Brigade 651 (MUCD 96751)
    Under construction

30. Brigade 652 (MUCD 96752)
    Under construction

(New location unknown)

31. Brigade 653 (MUCD 96753)
    12 launchers for DF-21D missiles

32. Brigade 654 (MUCD 96754)
    18 launchers for DF-26 missiles

33. Brigade 655 (MUCD 96755)
    Under construction

34. Brigade 656 (MUCD 96756)
    ~27–36 launchers for CJ-100 missiles

35. Brigade 661 (MUCD 96761)
    6 launchers for DF-5 missiles

36. Brigade 662 (MUCD 96762)
    4 missile silos under construction

37. Brigade 663 (MUCD 96763)
    12 launchers for DF-31A missiles

38. Brigade 664 (MUCD 96764)
    8 launchers for DF-31AG missiles

39. Brigade 665 (MUCD 96765)
    Under construction

40. Brigade 666 (MUCD 96766)
    18 launchers for DF-26 missiles

Note: MUCD = Military Unit Cover Designator

Source: Decker Eveth
The construction of around 260 new missile silos near Yumen (120 silos), Hami (110 silos) and Ordos (29) begs the question of how many DF-41 ICBMs China will ultimately deploy. (Some silos may be intended for other missile types, such as the DF-31 and DF-5.) A US State Department spokesperson has said that the US intelligence community believes China will fill every silo with a missile. However, some non-governmental experts believe that the unusual pattern of roads at the Yumen and Hami sites suggests that China might deploy a relatively small number of missiles hidden among a considerably larger number of silos, emulating the ‘shell game’ that the Carter administration in the US originally planned for the Peacekeeper ICBM in the late 1970s. They point to historical accounts showing that in the early 1980s China closely studied the shell game and admired it as a basing mode.11

Assumptions about the number of warheads and missiles can produce radically different estimates. A small number of missiles hidden among the silos, each with only two warheads, would result in fewer than 100 new nuclear warheads. By contrast, if China places a missile in every silo and arms each missile with six warheads, the resulting increase is more than 1,500 new nuclear warheads. These very different possibilities are open to very different interpretations. As the Commander of US Strategic Command Admiral Charles Richard has observed:

I think the point is to start with an assumption that you’re probably not going to know for sure. Are some of them going to be filled? Are some of them not? … Are some of them filled now and some of them are going to be filled later, and so all that adds up to is you got to be humble in your ability to predict this.12

The silo construction raises a second question, which relates to a growing body of evidence that China will place some of its ICBM force on alert, able to launch on warning of an attack. China’s first generation of land-based strategic missiles were stored unfuelled with their warheads kept separately several kilometres away, owing both to the technological limitations of liquid-fuelled ballistic missiles and to China’s poor early-warning radar capabilities. As early as the 1970s, however, Chinese leaders considered the possibility of placing some missiles on alert and urged the Second Artillery to reduce launch times. Since 2016, senior military officers have spoken openly about the need to put at least some ICBMs
on alert, something that would reduce the vulnerability of the silo-based ICBMs now being deployed. China has established a new generation of ground-based early-warning radars and operates at least one early-warning satellite in orbit, which could give President Xi Jinping or a future Chinese leader the same option available to US and Russian leaders: to order the launch of silo-based missiles on warning of a missile attack.

Very little is known about China’s nuclear command-and-control system. Official statements make clear that the decision to use nuclear weapons rests with the CMC but it is unclear how this body would communicate a launch order to missile units. Routine communications are believed to run through the Joint Staff Department to the Rocket Force headquarters and then down through the PLARF system of bases, brigades and finally to launch units. It is possible that this structure could be contracted in a crisis. Moreover, there are numerous questions about the command and control of submarine-launched ballistic missiles and China’s nascent air-launched ballistic missiles (ALBMs).

China is also developing ‘an intercontinental-range hypersonic glide vehicle – similar to Russia’s Avangard – which is designed to fly at high speeds and low altitudes, complicating [the United States’] ability to provide precise warning’. This system is reportedly called the DF-ZF, which is likely a Chinese abbreviation for Dong Feng Re-entry Vehicle. According to the US National Air and Space Intelligence Center, this system is ‘associated with [China’s] nuclear deterrent forces’. It is likely the same gliding re-entry vehicle that China tested in July 2021 as a FOBS capable of defeating US missile defences (see Map 5.3).
(This system would likely be different from the glider on China’s DF-17 medium-range ballistic missile, which is likely optimised for a less punishing gliding environment.)

In addition to ICBMs, China maintains a significant number of short- and medium-range ballistic and cruise missiles. This force numbers some 800 launchers and more than 2,000 missiles.¹⁸ Most of these missiles are conventionally armed but a small number have nuclear missions.¹⁹ The medium-range DF-21 (CH-SS-5) is a solid-propellant ballistic missile that China has deployed in both nuclear and conventional variants. China maintains about 50 nuclear-armed DF-21 launchers and another 30 or so conventional variants, including an anti-ship variant, the DF-21D (CH-SS-5 Mod 5).

The intermediate-range DF-26 (CH-SS-18) is China’s first truly dual-capable ballistic missile. It is designed so that launch units can change the warhead type in the field, which makes it extremely difficult to know how many nuclear weapons are assigned to the DF-26 brigades or even which units have nuclear missions. The US intelligence community also assesses that the DF-17 hypersonic glider is dual-capable, although many experts doubt that the system will be armed with nuclear weapons.²⁰

Nuclear-missile submarines

Although China pursued the idea of launching a ballistic missile from a nuclear-powered submarine from the outset of its nuclear programme, early efforts were slow and an initial vessel was not commissioned until 1984. At that time, China was in the midst of a significant era of ‘defence conversion’ and cancelled the construction of additional ballistic-missile submarines (SSBNs). China did not develop a true sea-based deterrent until the mid-2010s,
deploying its first Type-094 Jin-class SSBN in 2007. Today the PLA Navy (PLAN) has six SSBNs, the most recent commissioned in April 2021.\textsuperscript{21}

Each Jin-class submarine carries 12 JL-2 (CH-SS-N-14) submarine-launched ballistic missiles, which are sea-based variants of the DF-31 ICBM. The JL-2 has limited range, likely around 7,000 km, which means that the submarines would need ‘to operate in areas north and east of Hawaii if the PRC [People's Republic of China] seeks to target the east coast of the United States’.\textsuperscript{22} This constraint seriously limits the credibility of China’s sea-based deterrent, especially given that only a portion of the SSBN force is at sea at any one time and the possibility that these submarines might be vulnerable to US anti-submarine-warfare efforts over such a long journey. However, China is developing an estimated 10,000 km-range follow-on, the JL-3, which would allow it to target portions of the continental US from its own territorial waters.\textsuperscript{23} This missile will probably be deployed on the new Type-096 submarine, which China likely began constructing in the early 2020s.\textsuperscript{24}

**Nuclear-armed bombers**

China has not historically operated nuclear-capable bombers, although it did use a small number of specially modified aircraft for nuclear-weapons tests in the 1960s and 1970s, leading to speculation that some Chinese aircraft might have a nuclear-delivery mission. Since 2017, however, China has made substantial progress towards developing ALBMs that could deliver nuclear weapons.\textsuperscript{25} It has developed a new variant of the Xian H-6 bomber, the ‘N’ variant, which can be refuelled in flight and has ‘recessed fuselage modifications that would allow for the external carriage of an ALBM believed to be nuclear capable’.\textsuperscript{26} According to press reports, the ALBM – designated the CH-AS-X-13 by the US – is a 3,000 km-range, two-stage, solid-fuel variant of the ground-launched DF-21 ballistic missile.\textsuperscript{27}

**Nuclear-weapons stockpile**

In 2020, the US Department of Defense estimated that China’s stockpile of nuclear warheads was ‘in the low-200s’.\textsuperscript{28} This number was unchanged from declassified estimates dating back to the early 1990s\textsuperscript{29} that appear to be derived from estimates of fissile-material production, nuclear-weapons designs and the number of delivery vehicles deployed by China. There is no evidence that the US has direct knowledge of the size of China’s nuclear stockpile.

China produced weapons-grade plutonium and highly enriched uranium (HEU) at four sites starting from the early 1960s. Beginning in the 1980s, however, these sites were gradually converted for use by the civilian nuclear programme. This decision was part of a broader trend of defence conversion, which represented a change in leadership priorities rather than a conscious decision to cap China’s stockpile. Consequently, Beijing has not publicly declared a moratorium on fissile-material production, although Chinese officials have occasionally – and in private – stated that China is not producing HEU or plutonium for weapons purposes.\textsuperscript{30}

In the late 1990s, the US Department of Energy estimated that China had accumulated a stockpile of between 1.7 and 2.8 tonnes of plutonium during its period of producing fissile material.\textsuperscript{31} This number is broadly consistent with open-source estimates, which cluster around median estimates of about two or three tonnes. While official estimates of China’s
HEU production are not available, open-source estimates place the total amount of HEU produced by China at 10–20 tonnes. How many nuclear weapons these estimates represent depends on how much fissile material each nuclear weapon uses. Fissile-material usage can vary greatly across different designs, meaning that estimating the size of China’s stockpile further requires making educated guesses about the types and degree of sophistication of its nuclear weapons.

In general, such estimates are produced by examining nuclear tests and historical sources that often describe in general terms the course of China’s nuclear-weapons development. China has likely only deployed a small number of nuclear-warhead designs, including a large multi-megaton thermonuclear warhead for its older liquid-fuelled ballistic missiles and a more modern warhead for its solid-propellant ballistic missiles tested prior to China’s signing of the Comprehensive Nuclear-Test-Ban Treaty (CTBT) in 1996.

Declassified estimates – such as the expressed belief of the US intelligence community in 1993 that China’s stockpile was ‘based on only a few designs’ – are derived by matching the development of delivery systems with China’s 46 nuclear explosive tests, which were largely conducted in the atmosphere until the early 1980s. Because those tests were conducted in the atmosphere, it is possible to confirm with publicly available data the course of Chinese nuclear-weapons development until nuclear testing went underground in the early 1980s.

In the mid-1990s, China completed the development of a warhead for its new generation of solid-propellant ballistic missiles. This design is likely the mainstay of its nuclear forces today. It is the most modern nuclear warhead that China has been able to validate with an explosive test and, according to one US estimate, weighs 470 kilograms. Based on publicly available seismic data from the test series and US and Soviet nuclear-test experience, the warhead could have a yield of several hundred kilotons. Both estimates are consistent with open-source information that China planned a warhead with a mass of 500 kg and a yield of 300 kt. The ‘yield to weight’ ratio is a common figure of merit for nuclear warheads; achieving a ratio of 1 (500 kg and 500 kt) is plausible for a state with significant nuclear-testing and -design experience.

How much fissile material might such a device require? A thermonuclear weapon comprises a primary stage that might use plutonium, HEU or both, and a secondary stage that includes thermonuclear materials such as lithium-6 and a significant amount of HEU. Based on its atmospheric nuclear tests, China’s large, multi-megaton thermonuclear warhead used significant amounts of plutonium in its primary. Its modern thermonuclear weapon, tested in the early 1990s, would be expected to make more efficient use of plutonium than its predecessor, although analysts are largely left to guess. Assuming 3–6 kg of plutonium per nuclear weapon would suggest China had sufficient fissile material for several hundred warheads.

The US has recently released a new estimate that ‘Beijing has accelerated its nuclear
expansion, which may enable the PRC to have up to 700 deliverable nuclear warheads by 2027 and likely intends to have at least 1,000 warheads by 2030.\textsuperscript{36} Although this estimate does not indicate a consensus of the US intelligence community, it reflects a growing concern that China will continue to expand its nuclear stockpile. If China wished to increase its stockpile substantially – to around 1,000 warheads – it would have two options: produce additional fissile material, or use a new design that would make more efficient use of its existing stock of plutonium.

US officials have highlighted the possibility that China might employ its large civilian nuclear-energy programme to increase its stockpile size by using fast breeder reactors and reprocessing facilities to produce and harvest weapons-grade plutonium. Testifying before the Senate Armed Services Committee in April 2021, Admiral Richard stated:

> With a fast breeder reactor, you now have a very large source of weapons grade plutonium available to you, that will change the upper bounds of what China could choose to do if they wanted to, in terms of further expansion of their nuclear capabilities.\textsuperscript{36}

This observation is repeated in the 2021 edition of the Department of Defense’s annual report to Congress regarding military and security developments involving China.\textsuperscript{37} It is important to stress that these comments are intended to underline options available to China and are not US intelligence judgements about what Chinese leaders have chosen to do. Relying on fast breeder reactors to provide plutonium would entail significant technical risk. Although the possibility of economical fast breeder reactors was recognised immediately in the nuclear age, states that have invested in their development have typically found them expensive to build and difficult to operate safely. While Beijing could choose to take this path despite the apparent difficulties, a simpler solution would be to build dedicated plutonium-production reactors using familiar designs.

China could also attempt to develop a new generation of nuclear warheads that make more efficient use of fissile material. Reports in the Chinese press have indicated that China’s final nuclear test was intended to validate even more advanced nuclear-weapons designs.\textsuperscript{38} To assess their performance, China would rely heavily on modern computing capabilities, data from past nuclear explosive tests, and sub-critical tests conducted at the nuclear-test site near Lop Nor.

In the US, there is a generational divide among nuclear-weapons designers. Older designers express little confidence in designs that have not been explosively tested, while younger designers are more comfortable relying on computer models. This divide reflects, in part, the enormous advances in supercomputing that have occurred since the
mid-1990s. China’s early nuclear-weapons designers were highly conservative in their design choices, and it is unclear how comfortable the current generation would be developing new designs without additional explosive testing. When China stopped testing in 1996 it had extremely limited supercomputing capabilities that fell far short of the 100-teraflops (one trillion floating operations per second) benchmark that US designers thought necessary to certify nuclear weapons without testing (see Figure 5.2). Today China is a world leader in supercomputing. Its Sunway TaihuLight is the world’s fourth-fastest computer with a rating of 93,000 teraflops. China is also developing a so-called ‘exascale’ computer capable of performing an exaflop (one million teraflops).

China does conduct stockpile-stewardship efforts, including so-called ‘sub-critical tests’ that do not produce a nuclear explosion. In 1999, the State Department reported that it believed China had initiated a programme at its Lop Nor test site ‘to evaluate the safety and reliability of its nuclear weapons’. The US National Academies suggested these activities would include ‘hydrodynamic tests with flash radiography and subcritical tests’. The US conducts similar tests underground at its former nuclear-test site in Nevada and maintains the site in a state of readiness to resume explosive testing with as little as six months’ notice.

Commercial satellite images show similar activity levels consistent with sub-critical testing and test-site-readiness activities at Lop Nor. These activities have given rise to a debate in the US about whether China is strictly adhering to the CTBT, which has not yet entered into force, or whether it is conducting small nuclear explosions that are not detectable using existing means of monitoring. This debate is reflected in the State Department’s annual compliance report of April 2021, which cited observable activities at Lop Nor as having ‘raised concerns regarding its adherence to the US “zero yield” nuclear testing moratorium’. In 2012, a National Academy of Sciences panel said that conducting extremely low-yield nuclear tests could allow China ‘to partially validate design codes and modernize [its] arsenal’, but continued that the country is ‘unlikely to be able to deploy new types of strategic nuclear weapons that fall outside of the design range of [its] nuclear-explosion test experience’.

**Additional systems**

In addition to new offensive nuclear-weapons systems, China is developing other strategic systems that have raised alarm in the US and among American allies. Over the past two decades, Beijing has invested in a range of anti-satellite capabilities, including ground-based lasers and a direct-ascent missile capable of destroying adversary satellites. It demonstrated a hit-to-kill direct-ascent anti-satellite missile in 2007, which destroyed a defunct Chinese weather satellite in orbit. The development of this system was, according
to Chinese sources, driven by concerns about advanced US military capabilities – including missile defences – that depend on space-based sensors to operate.46

The 2007 anti-satellite weapons tests were met with significant international outcry, prompting Beijing to shift to testing the same system as an anti-ballistic missile. China has now reportedly developed ‘kinetic-kill vehicle technology to field a mid-course interceptor, which will form the upper layer of a multi-tiered missile defense’.47 It tested this system in February 2021.

**IMPLICATIONS FOR STABILITY AT STRATEGIC AND THEATRE LEVELS**

Why are China’s nuclear forces changing? One view is that Beijing has embarked on a search for nuclear parity with the US, deploying a wide range of new capabilities in large numbers that could be used to deter the US from coming to the aid of allies (Taiwan, for example) and to coerce regional states that might oppose Chinese regional hegemony. This view starts with the observation that the PLARF has married a large arsenal of conventional missiles with a highly offensive doctrine for conventional missile strikes.48 It is easy to imagine that Beijing’s nuclear policy might eventually evolve in similar ways. In this view, China’s growing economy and increasingly authoritarian leadership under Xi Jinping represent a sharp break with the past.

Another view is that the new capabilities do not represent a fundamental break with a policy of assured retaliation. Although in the past China’s nuclear forces were smaller and less capable, leaders were extremely concerned about their survivability, exploring anti-satellite weapons, anti-ballistic missiles, orbital bombardment systems and a variety of basing modes for their ICBMs. They chose not to pursue most of these systems for historically contingent reasons – China had limited resources and, following Mao Zedong’s death, leaders insisted that the international environment was becoming increasingly benign to justify a process of reform and opening that entailed a significant amount of defence conversion. Restraint, however, was hardly complacency: Chinese strategists simultaneously expressed alarm about the development of advanced US military capabilities, including missile defences.

In this view, China remains committed to preserving an assured retaliatory capability in the face of increasingly capable US strategic forces, including missile defences. However, that commitment is mediated both through leadership perceptions that the US has become more difficult to deter and the availability of more options since China labours under fewer technical and financial constraints.

In 2022, China has technological options that it did not have in the past. Beijing considered shell-game-style basing desirable in the 1980s. However, its large, liquid-fuelled ICBMs were unsuitable for a ‘race-track’-style system in which missiles were moved among silos. Today, China is deploying solid-propellant ICBMs that could easily be shuttled in canisters among a much larger number of silos. Similarly, in the past China rejected placing its large liquid-fuelled missiles on alert partly because the country lacked ground-based radars and satellites to warn of an attack. Today, China has early-warning radars, an early-warning satellite and a modern communications infrastructure. Beijing ended research into its FOBS when accuracy issues became apparent, but hypersonic glide vehicles are now able to glide onto target using modern guidance technologies.
Former Chinese leaders might have made different decisions about the country’s nuclear posture had their options been different. It is impossible to separate how Mao and others viewed nuclear weapons from the context in which they arrived at those views. What has changed more than anything else is China’s economy. The current leaders preside over one of the world’s largest economies and do not feel the technological constraints that bound Mao, nor are they compelled to seek reform and opening as Deng Xiaoping did. China’s economic dynamism has produced a leadership committed to tightening political control of the country and fearful of external efforts to weaken that dynamism and undermine the Chinese Communist Party’s (CCP) control.

It is by no means clear that the leadership has dramatically changed its views about nuclear weapons in response to this different context. Consumed by the challenges of maintaining economic growth and securing the CCP’s leadership, it is more likely that Xi and other senior figures in Beijing are broadly committed to military modernisation but do not think deeply about nuclear deterrence. However, it is also possible that leaders will begin to think differently as these new capabilities offer them novel options.

China’s new nuclear forces raise troubling questions about crisis stability, particularly escalation control in a crisis. Even if Beijing and Washington view their own nuclear forces as inherently retaliatory, it will not be clear to either that the other side shares this perception. US and allied officials dismiss China’s unconditional no-first-use pledge as little more than propaganda. They believe there are scenarios in which Beijing might initiate the use of nuclear weapons. For example, some US officials have expressed concern that China might engage in limited use of nuclear weapons for escalation control. During a crisis, it is possible to imagine China putting some nuclear forces into the field or to sea as part of a basic measure to improve their survivability. The US, however, might conclude that these forces were being postured for a first use of nuclear weapons by China to attempt to control escalation. This problem is exacerbated by the fact that China maintains dual-capable missile systems. For instance, if during a conventional conflict over Taiwan China were to prepare DF-26 intermediate-range ballistic missiles for use against US bases in Guam, it is not clear that Washington would be able to interpret correctly whether the ensuing attack was conventional or nuclear.

Moreover, if the US were to attack dual-capable systems such as the DF-26 throughout China, it cannot be guaranteed that Chinese leaders would understand that such an attack was limited in scope. These challenges are difficult enough to reason through in the comfort of an office behind a keyboard. They would be much more ambiguous and frightening in a situation room under the pressure of events in a real crisis.

The problem is further complicated by ‘entanglement’ – the tight coupling of the development of US and Chinese forces.
As the US built missile defences, China developed anti-satellite weapons to target sensors and a FOBS to offer avenues of attack other than over the North Pole. In turn, the US has explored the development of long-range conventional-strike systems to target Chinese anti-satellite systems and may seek anti-satellite weapons of its own to counter potential Chinese FOBS. The existence of large numbers of complex military forces with interlocking concepts of operations raises difficult questions about timing and incentives in a crisis. A missile-defence system works most effectively if a first strike reduces the number of missiles with which it must contend. An anti-satellite weapon works best if it can blind the missile defences before the first strike. Each additional layer of complexity reduces the time available to decision-makers and makes it harder to react calmly to warnings.

**POTENTIAL FOR ARMS CONTROL**

Beijing’s growing nuclear arsenal is a concern for traditional US approaches to managing the strategic challenge that China presents. The American approach to date has been to watch China warily. The George W. Bush administration was worried by a ‘sprint to parity’ scenario in which US nuclear reductions would prompt China to seek numerical parity. Its solution was ‘dissuasion’, hoping that the United States’ retention of large advantages in nuclear forces (such as a stockpile four times as large as China’s) would dissuade Beijing from seeking numerical parity. Others argued that attempting to maintain large advantages would provoke a Chinese build-up.

The Trump administration made a public show of attempting to bring China into bilateral arms-control negotiations in the context of discussions about extending the New Strategic Arms Reduction Treaty (New START). Marshal Billingslea, then undersecretary of state for arms control and international security, went so far as to place small Chinese flags in front of empty seats at a 2020 meeting between the US and Russia on extending the agreement. Billingslea photographed the flags and then posted them on Twitter with the caption: ‘Vienna talks about to start. China is a no-show.’ Many observers denounced the tweet as a stunt, including the Russian delegation attending the talks. ‘There weren’t any Chinese flags in the negotiating room and couldn’t have been at Russian–American consultations on strategic stability’, one Russian official told Russian news agency RIA Novosti. Chinese officials believed that the Trump administration did not want to extend New START and was using China’s non-participation as a thin veil to obscure Washington’s own preferences. Similarly, US officials, when blaming Russia for the demise of the 1987 Intermediate-Range Nuclear Forces (INF) Treaty, also made it clear that Washington would want China to be included in any replacement.

It is easy to overlook the fact that China did engage in arms control for a short period.
In the 1990s, it signed the CTBT and participated in the early stages of preparatory efforts to negotiate a ‘fissile material cut-off treaty’. These efforts are overlooked because they were multilateral, although that feature was very appealing to China. The CTBT especially was evidence that China could be enticed into negotiations that constrained its nuclear arsenal providing they had widespread international support and similarly constrained the US. These two agreements would have provided important constraints on the nuclear powers. China would be hard-pressed today to complete the current expansion of its nuclear forces if the nuclear-test ban were in force and if there were a verifiable prohibition on producing new fissile material for nuclear weapons.

These efforts collapsed due to the same issues that are driving Sino-American nuclear tensions today. Although the US signed the CTBT, it did not ratify it. Chinese officials made it clear that China would not ratify the treaty until the US did so. Furthermore, Beijing began to block negotiations on a fissile-material cut-off treaty after 1998 because Chinese officials felt they could not commit to capping their arsenal if the US was committed to an open-ended strategic modernisation that included missile defences.

In the 1990s China tried two different arms-control strategies. At first, it attempted to negotiate a bilateral no-first-use pledge with the US, which the Clinton administration rejected. Subsequently, it tried to link efforts in the United Nations Conference on Disarmament to negotiate a fissile-material cut-off treaty with a corresponding negotiation on what Beijing and Moscow called ‘preventing an arms race in outer space’. This policy was a back-door effort to negotiate limits on US missile defences, which rely heavily on space-based sensors.

Then, as now, the key questions were simple but different for each country. For China, the question remains whether the US accepts mutual deterrence. China developed an assured retaliation capability to prevent what it perceived to be nuclear coercion. Beijing sees the modernisation of US nuclear forces – and the deployment of missile defences – as an attempt to negate the Chinese deterrent so assiduously constructed over many decades. For Washington, the question remains whether Beijing seeks numerical parity and to undermine US extended deterrence in the Asia-Pacific. What Beijing perceived as nuclear ‘blackmail’ in the 1950s was, from Washington’s vantage point, simply the US coming to the aid of its allies in South Korea and Taiwan.

**CONCLUSION**

It is necessary to consider China’s nuclear modernisation in the broader context of the Sino-American security relationship. The question of whether China’s nuclear forces are intended simply to deter the US or whether they threaten Washington’s ability to extend deterrence to its allies cannot be answered by merely counting missiles and warheads or working out ‘exchange ratios’ for nuclear strikes and counterstrikes.

The question is fundamentally political. In order to stabilise their bilateral nuclear dynamic, Chinese and American leaders must work out what the other side wants. The available evidence suggests that each side struggles with this crucial task. The US intelligence community can provide a careful accounting of the nuclear forces that China is building, but the question of why is harder to parse. Chinese intelligence analysts
presumably also struggle to understand US nuclear motives. Chairman of the US Joint Chiefs of Staff General Mark Milley was sufficiently alarmed by a body of intelligence indicating that China believed the US might launch an attack that he twice reached out to his Chinese counterpart to de-escalate tensions in late 2020 and early 2021.53

The infrastructure the two sides have created to manage these tensions is woefully inadequate. While the hardware exists, it is not suited to the two countries’ political relationship. US policy coordinator for the Indo-Pacific Kurt Campbell has stated that while a hotline does exist, ‘it’s known to have, the couple of times we’ve used it, just rung in an empty room for hours upon hours’.54 Calls take days to organise and, as General Milley discovered from the political response to his calls, may resurrect unresolved tensions within each country about how to deal with the other.

A deeper problem is that neither side is sure the other is committed to the status quo. The debate over whether China is seeking to restore a credible deterrent or attempting to develop a coercive capability replicates the broader debate about the sort of competition that is emerging between the two countries. Is China simply becoming more powerful within an international system that has facilitated its rise, or is Beijing seeking to overthrow the system? Finding the answer to this question exceeds the scope of this chapter. The two countries do, however, share an interest in avoiding nuclear war. It is firmly in the interest of both parties to explore whether they could stabilise the nuclear dynamics of the bilateral relationship.

One possibility is for China and the US to devise and issue a communiqué or joint statement on strategic stability. Such an agreement would attempt, much as the Shanghai Communiqué of 1972 did with regard to Taiwan’s status, to set out clearly the parties’ differences and, crucially, the elements of a status quo that each could accept in the interests of peace and stability. On Taiwan, the crucial bargain was Washington’s acknowledgement that there was ‘one China’ while reaffirming its interest that any settlement of the issue must be peaceful. For a joint statement on strategic stability, the US might acknowledge that it does not seek to negate China’s deterrent, while China for its part might reject an interest in numerical parity while also making clear that it does not seek to undermine the extended deterrence that the US provides for its regional allies.

Such an agreement would not resolve all the difficult aspects of the nuclear dynamic, which is part of a broader troubled relationship. Yet it might stabilise the dynamic and provide the two countries with a clear definition of the status quo against which stability could be understood. Over time, achieving real stability would require negotiated and verifiable limitations on both countries’ offensive and defensive strategic forces.

The alternative to initiating strategic-arms control between China and the US is that the two powers continue with a mode of great-power competition that includes a nuclear arms race. Yet an arms race is a strange sort of competition: it has no finish line. Victory in such a race is usually found in stability – the simple act of being able to run the race without it careening out of control in a crisis. Stable deterrence, in turn, depends at least partly on a basic level of mutual understanding. If the shock produced by China’s changing nuclear arsenal tells us anything, it is that this understanding remains in short supply.
NOTES


2 Author’s interview, September 2021.


11 Lewis and Hua, ‘China’s Ballistic Missile Programs’.


The possibility should be noted that China may have simply used an orbital path to make possible a long-range test of its hypersonic glider that could be tracked on a trajectory into China by ships and land-based sensors. In the 1970s, US intelligence wrongly assessed that China was developing nuclear gravity bombs because of the widespread use of aircraft to conduct atmospheric nuclear explosions. Chinese historical literature, however, indicated that the use of aircraft was intended to reduce fallout and that China did not, at that time, intend the future deployment of nuclear gravity bombs except as an emergency capability. See Lewis, Paper Tigers: China’s Nuclear Posture.


For example, in 2005, John Carlson, then director general of the Australian Safeguards and
Nonproliferation Office, briefed US embassy officials on his recent trip to Beijing to begin exploratory talks on Australian uranium sales to China. He was told by Chinese officials that ‘he should infer … that China was not producing such fissile material’. William Stanton, then deputy chief of mission in Canberra, summarised Carlson’s briefing in a cable subsequently released by WikiLeaks. See ‘Discussions Begin for China to Buy Australian Uranium’, 4 March 2005, WikiLeaks, http://www.wikileaks.org/plusd/cables/05CANBERRA432_a.html.


34 Lewis and Hua, ‘China’s Ballistic Missile Programs’, p. 30.


43 Like the US, China is one of a handful of states to have signed but not ratified the treaty. For the CTBT to enter into force, eight additional states must accede to it: China, Egypt, India, Iran, Israel, North Korea, Pakistan and the US.


USArmsControl (@USArmsControl), ‘Vienna talks about to start. China is a no-show. Beijing still hiding behind #GreatWallOfSecrecy on its crash nuclear build-up, and so many other things. We will proceed with #Russia, notwithstanding’, 22 June 2020, https://twitter.com/USArmsControl/status/1274956212723802113.


From Beijing’s perspective, it would be hard to understand the relevance of New START given that China’s nuclear forces today are much smaller than the treaty’s central limits of 1,550 deployed strategic warheads and 700 deployed strategic offensive arms – and still would be even if China were to deploy 1,000 warheads.


AIR AND NAVAL OPERATIONS IN THE ASIA-PACIFIC: LEGAL AND POLITICAL DIMENSIONS

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China’s air, naval and constabulary forces are active throughout the region advancing its interests and claims. Beijing engages in air operations to signal its displeasure with developments in Taiwan. At sea, the United States’ freedom-of-navigation operations push back against China’s attempts to deny passage and freedoms of the seas. Enhanced dialogue at every level will be essential to maintaining stability in East Asia.

AIR OPERATIONS: LEGALITY AND THREATPOSED
Since Tsai Ing-wen’s re-election as president of Taiwan in 2020, the People’s Liberation Army (PLA) has engaged in an intensified campaign of military signalling to demonstrate its resolve to prevent the island from escaping the mainland’s grasp. This campaign includes air operations in Taiwan’s Air Defence Identification Zone and, in recent years, across the median line of the Taiwan Strait. These operations are lawful but signal Beijing’s willingness to accept increased operational risk to deter unfavourable political developments in Taiwan.

CHINESE MARITIME OPERATIONS
China’s three sea forces – its navy, coastguard and militia – seek to consolidate territorial claims and strengthen control over China’s near seas through grey-zone operations. The Philippines and Indonesia were targets of China’s maritime pressure in 2021, strengthening support for US presence in Southeast Asia. China’s Coast Guard Law continues to provoke particular concern in the region that Beijing’s next step will be to enforce the extensive jurisdiction it claims.

NEED FOR INTERNATIONAL COOPERATION AND ENHANCED DIALOGUE
The PLA and US forces operating in maritime East Asia are the daily tactical instruments of a broader struggle for power, leadership and rule-making in the region. China’s increased aircraft sorties and objections to lawful assertions of maritime rights and freedoms greatly heighten tensions in the region. Informal agreements, such as the Taiwan Strait median line and the decision to shelve disputes for later generations to resolve, have been important to regional stability in the past. They can be a part of maintaining stability in the future.
China’s military and constabulary forces are active throughout East Asian waters advancing Beijing’s power in furtherance of its claims and interests. The framework for these actions is divided by People’s Liberation Army (PLA) doctrine into non-war military activities as a category distinct from the conduct of war. The PLA’s concept of non-war military activities spans the spectrum from military diplomacy and humanitarian assistance to near-war or war-threatening actions. Though they do not cross the technical threshold of war, these operations can be coercive in nature and are designed to achieve national political interests, such as advancing sovereignty and sovereign rights over economic resources. Coercion and threats of violence below the level of armed conflict can blend military and law-enforcement activities to achieve important national objectives.¹ In recent years, China’s military operations on its periphery have prioritised two objectives. The PLA’s primary aim is to deter moves toward independence by Taiwan and prepare for a contingency to unify the island with the mainland by military means if necessary, including by preventing any third-party intervention on Taiwan’s behalf.² A secondary but related objective is to advance Beijing’s claims and control over the features and waters of the East and South China seas.

**AIR OPERATIONS: LEGALITY AND THREAT POSED**

Since Tsai Ing-wen’s re-election as president of Taiwan in 2020, the PLA has engaged in an intensified campaign of military signalling to demonstrate its resolve to prevent the island from escaping the mainland’s grasp. This campaign includes regular air operations in Taiwan’s Air Defence Identification Zone (ADIZ), including signalling flights in the vicinity of the median line (also known as the centre line) between the two sides of the Taiwan Strait – a buffer that has served as a risk-reduction measure for decades. These flights are
Figure 6.1: Maritime and airspace zones

Note: Not drawn to scale. nm = nautical mile.
Source: IISS

designed to convey Beijing’s displeasure with certain actions of the Taiwanese government and suggest an increased willingness by the former to escalate militarily if these actions are repeated. Such flights are not illegal, nor are the intercept flights that Taiwan sends in response. They are the lawful acts of separate governments pursuing national-security interests in international airspace. However, the PLA flights do signal China’s increased willingness to accept operational risk in the airspace off its coasts in order to send deterrence signals to Taiwan, the United States and others.

The increasing military activity in the skies over the Taiwan Strait and the South China Sea (by China, Taiwan, the US and others) accords with international air law, which is governed by a combination of custom and treaty. Customarily, the legal character of airspace has reflected the legal character of the land or sea beneath it. In terms of treaty law, the 1919 Convention Relating to the Regulation of Aerial Navigation (the ‘Paris Convention’) and the 1944 Convention on International Civil Aviation (the ‘Chicago Convention’) each perpetuate the long-held distinction between sovereign and non-sovereign space; both require special authorisation for all aircraft – including military aircraft – to fly in the airspace above the territory of another sovereign. In law, the sovereign’s territory includes the territorial sea, a 12-nautical-mile band of ocean extending from the sovereign’s coast. Thus, the airspace above the territorial sea is also sovereign and part of the national airspace of the coastal state. The airspace over the oceans beyond the territorial sea is non-sovereign – or international – in character. In international airspace, military aircraft are simply expected to operate with due regard for the right of others to operate safely in the same airspace and to refrain from unlawful threat or use of force.

The 1982 United Nations Convention on the Law of the Sea (UNCLOS) further divided the waters beyond the territorial sea into the contiguous zone, the exclusive economic zone...
(EEZ), the continental shelf and the high seas (see Figure 6.1), but in each of these zones UNCLOS explicitly retained the concept of high-seas freedoms. Nonetheless, for a time, Chinese scholars and officials argued that UNCLOS also gave the coastal state security interests beyond the territorial sea that should, on balance, be superior to international rights to freely operate military aircraft there. However, over at least the last decade, as China’s interests and military capacity have expanded, Beijing’s claims to legally protected offshore security interests appear to have receded. Prior to about 2010, Beijing took the line that military overflights above a coastal state’s EEZ were illegal, employing a convoluted legal argument about a coastal state having a legally protected security interest in and above the EEZ. Since about 2010, the Chinese narrative has shifted to acknowledging that such flights ‘may be legal’ but are ‘unfriendly’ (i.e., politically provocative) and should therefore not be undertaken in the context of an overall relationship seeking pathways toward cooperation.

In terms of Chinese operations and rhetoric, China’s policy, like that of the US, may now favour broad operational rights for military aircraft in international airspace above all non-sovereign maritime zones. If so, the major powers operating in the airspace above East Asia appear to agree that in the airspace beyond the territorial sea, military aircraft are, according to international law, allowed to operate freely with due regard for others.

THE AIR DEFENCE IDENTIFICATION ZONE AND INTERNATIONAL LAW

Although UNCLOS did not create a new legal regime of protections for a coastal state’s offshore security interests, the fact remains that coastal states do possess security interests that emanate to the maritime domain beyond the territorial sea. One way some states choose to protect these security interests is to declare an ADIZ off their coasts. It is important to note that establishing an ADIZ does not give the coastal state additional legal rights or jurisdiction. General international law provides for a coastal state’s security whether it possesses an ADIZ or not. These zones do, however, put other states on notice that the coastal state has a heightened security interest in a particular area and may choose to exercise its existing legal rights to ensure its security.

Conceptually, therefore, an ADIZ is a defined area of international airspace in which a coastal state notifies other states of its security interests and publicises the procedures it will follow – and may request others to follow – in furtherance of those interests. As discussed above, the coastal state has no general authority to regulate the operational activities of military aircraft in the international airspace off its coasts. However, it may designate requested procedures for military aircraft to follow while they operate in international airspace within the ADIZ. These procedures assist the coastal state to ascertain the character and intentions of foreign military aircraft operating off its coasts. The requested procedures usually involve a radio request by the coastal state’s air-traffic controllers to the military pilot to provide a positive radio identification, a statement of intentions and to set the aircraft’s transponder to a particular frequency to allow the coastal state to readily track and monitor the aircraft’s activities. When followed, these procedures assure the coastal state that the foreign aircraft presents no active threat to its security. However, because military aircraft possess the sovereign immunity of their state of origin, they cannot be
Map 6.1: **Declared Air Defence Identification Zones (ADIZs) in East Asia**

Sources: IISS, US Congressional Research Service, crsreports.congress.gov

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required to follow these procedures. Accordingly, coastal states often provide notice that unidentified or unresponsive aircraft operating in their ADIZ may be subject to intercept and observation by their own military aircraft. Each aircraft – the foreign military aircraft operating in the ADIZ and the coastal state’s intercepting aircraft – must always operate with due regard for the rights and safety of each other and of others. In summary, the basic principle of freedom of the skies governs the operation of military aircraft in international airspace. The right of national defence and the responsibility to respect the rights of others govern a coastal state’s reaction to them.

The international airspace of East Asia is well covered by ADIZs (see Map 6.1). China, Japan, the Philippines, South Korea and Taiwan have offshore ADIZs. Japan’s ADIZ was drawn by the US during its occupation following the Second World War, in the context of increasing tensions with the Soviet Union. It was eventually adopted by the Japanese Ministry of Defense in 1969. Similarly, the South Korean ADIZ was first drawn by the US in 1951, after China entered the Korean War and as threats from Chinese aircraft increased.8 War on the Korean Peninsula also led to the creation of an ADIZ around Taiwan. North Korea’s attack on the South led then US president Harry Truman to fear a larger communist assault in East Asia.9 In 1951, he reversed US policy and offered a mutual defence assistance agreement to Chiang Kai-shek’s regime in Taiwan, stationed US forces on and around the island and established the Taiwan ADIZ.10

The Philippines’ ADIZ was also established with US assistance. In 1953, a Philippine presidential directive required the country’s civil-aeronautics administrator and air force to establish the ADIZ ‘in consultation with representatives of the Armed Forces of the United States’ for ‘effective air defense’ during the ongoing ‘military emergency’.11 China’s ADIZ over the East China Sea was established much later, in November 2013, with some controversy as to the degree of jurisdictional authority it appeared to claim and its apparent threat to use force if not obeyed.12 Despite declaring these authorities, however, Beijing has done little to act on them in the intervening years. Therefore, there are ADIZs in the international airspace of East Asia that extend from Hokkaido to Luzon, covering much of the Sea of Japan (East Sea), the Yellow Sea, the East China Sea, the Taiwan Strait and the northeastern portion of the South China Sea. The latter two regions have been the focus of tensions and attention most recently.

**CHINESE AIR OPERATIONS AROUND TAIWAN**

PLA naval and air-force flights around Taiwan began to increase dramatically after 2010, especially in the airspace to its north over the East China Sea, through the Miyako Strait, into the Philippine Sea, and even circumnavigating the island. In 2020, after nearly 70 years of restraint and limited capacity, the increasingly capable PLA began flying up to and even across the median line in the Taiwan Strait. The first such flights across the median line came after then US health and human services secretary, Alex Azar, made an official visit to the island in August 2020. Azar was the most senior US official to visit the island since the US normalised relations with China in 1979.13 The visit was followed by an official visit from then US under secretary of state for economic growth, energy, and the environment, Keith Krach, in September 2020.14 The median line was established by the US in 1954 after
completing the Mutual Defense Assistance Agreement with Taiwan. Its purpose was to discourage dangerous cross-strait military incursions by both communist and nationalist forces; it has served as a de facto demarcation line since that time despite having no foundation in either international law, national legislation or formal agreement.\textsuperscript{15}

Records of Chinese military incursions into the Taiwan ADIZ – based on data made public by the Taiwanese Ministry of Defense – indicate that between October 2020 and December 2021, PLA military aircraft entered Taiwan’s ADIZ between ten and 27 days per month.\textsuperscript{16} There are conflicting statistics, but only eight formations are known to have flown sorties across the median line in the middle of the Taiwan Strait.\textsuperscript{17} Six of these incursions occurred in September 2020 following Azar’s and Krach’s visits to Taiwan. Other sources report that in total there were 49 median-line crossings in 2020.\textsuperscript{18} One possible explanation for the difference is that most median-line crossings may have taken place at the very southern tip of the line – as aircraft flew from the mainland to exercise or to operational stations in the South China Sea – and were not intended to be especially provocative. In any event, the vast majority of Chinese aircraft sorties crossing the median line flew into the southwest portion of Taiwan’s ADIZ between Taiwan and the Taiwan-occupied Pratas Island in the South China Sea. Although these flights cross the median line, the fact that they do so well outside the Taiwan Strait means they are much less provocative.\textsuperscript{19} The Pratas Islands, which lie outside of Taiwan’s ADIZ, lie in the north of the South China Sea, close to the Chinese mainland and approximately 400 kilometres southwest of Taiwan. Some observers, especially in Taiwan, see these flights as intentionally provocative, since the PLA clearly has the military capacity to displace the small contingent of Taiwanese forces on Pratas Island in a military action to demonstrate its power and possibly provoke a wider conflict.\textsuperscript{20}

According to Gerald C. Brown, a Washington DC-based defence analyst, as of 30 April 2022, there had been 1,480 PLA aircraft sorties in Taiwan’s ADIZ in the previous 20 months. The majority of these incursions were reportedly by fighter aircraft (782) and anti-submarine-warfare aircraft (263).\textsuperscript{21} During one especially intense period – over a four-day weekend in October 2021 during which China held its National Day
celebrations – 149 PLA aircraft of various types sortied to the airspace over the South China Sea between Taiwan and the Pratas Islands.\(^2\) From Friday to Sunday, PLA H-6 bombers, accompanied by J-16 and other fighter aircraft, plus anti-submarine and early-warning aircraft, flew from their mainland bases into the airspace over the South China Sea off the southern tip of Taiwan. Some flights continued through the Luzon Strait and then headed northeast to operate in the Philippine Sea parallel to Taiwan’s east coast before completing their missions.\(^2\)

One especially significant development was an incursion by a group of H-6s and accompanying fighter aircraft flying at night, demonstrating advances in the PLA’s ability to fly – and potentially to fight – around the clock. This occurred as three aircraft carriers – two from the US and one from the United Kingdom – operated with a flotilla of navy vessels from Canada, Japan, the Netherlands, New Zealand, the UK and the US in the waters off Okinawa and the Philippines. French navy vessels had also been active in the region in the preceding months.\(^2\)

Given the level of tension, it is not surprising that some of the PLA aircraft operating in and around Taiwan’s ADIZ have real teeth. The H-6 is a PLA bomber, based on the Soviet Tu-16 Badger, which forms the core of the PLA’s strike force. As a bomber, it is operated in multiple incrementally improved variants by both the PLA Air Force and the PLA Navy Air Force and incorporates many of the PLA’s newest capabilities and technologies. Some H-6 variants have the capacity to carry cruise missiles capable of threatening US bases throughout the Western Pacific and East Asia.\(^2\) These systems make the H-6 one of the mainstays of the PLA’s ‘counter-intervention’ force structure. Similarly, the J-16 is an advanced strike fighter with an electronic-warfare variant. These versions of the J-16 and H-6 would be useful operating together to suppress Taiwan’s air-defence system in the early stages of a conflict.\(^2\) Accordingly, the combination of H-6 and J-16 aircraft operating with anti-submarine and early-warning aircraft around Taiwan signal China’s full-spectrum capacity to challenge US intervention in a conflict over the future of the island and, in so doing, seek to deter both Taipei and Washington from crossing any of Beijing’s red lines.
The vast majority of the PLA aerial operations in Taiwan’s ADIZ occur in the north-eastern part of the South China Sea (as opposed to in the Taiwan Strait). What is unclear is the degree to which these are merely overwater training flights in a convenient offshore area as opposed to flight operations intended to intimidate Taiwan and signal China’s displeasure with US actions. That a significant number of the incursions were made by Y-8 anti-submarine-warfare aircraft suggests the possibility that submarine-tracking operations may be the purpose of some of these flights of concern. The Bashi Channel between Taiwan and the Philippines is a key submarine passage through the first island chain. Certainly, the PLA has multiple motives for its operations. In addition to signalling, training and operational requirements, these flights allow the PLA to gather intelligence and to wear down Taiwan’s air force. Whatever the motives, these flights have the effect of greatly heightening tensions in the region and are one significant driver of the rapid strategic and political changes under way.

**CHINESE MARITIME OPERATIONS**

China’s air operations over the waters of East Asia are matched by its long-standing campaign on and under the waters of the East and South China seas. It is worth noting that in this aspect of its maritime campaign China employs a much more numerous and diverse array of tools than it does in the air. While China’s aerial operations have been undertaken almost exclusively by the various branches of its military, on the water Beijing employs three very different sets of tools.

China’s armed forces comprise three major organisations, each with a maritime subcomponent that, taken together, comprise the world’s largest such sea force by number of ships. Firstly, the PLA contains the PLAN. Secondly, since 2018 the People’s Armed Police has formally overseen most maritime law-enforcement forces, including the China Coast Guard (CCG). Finally, the People’s Armed Forces Militia oversees the People’s Armed Forces Maritime Militia (PAFMM). These organisations comprise China’s three sea forces, which train, coordinate and operate together with increasing frequency and integration. Determined to change the status quo in its favour – while avoiding war if possible but using coercion as necessary – Beijing employs its enormous second and third sea forces in maritime grey-zone operations to further its disputed sovereignty and sovereign-rights claims in the ‘Near Seas’ (the East and South China seas and the Yellow Sea). Typically, the PLAN provides coordination and deterrence from over the horizon.27

**East China Sea**

The CCG was very active in the East China Sea in 2021. China claims sovereignty over the Senkaku/Diaoyu islands, which are administered by Japan, and the CCG continues to patrol the waters around the islands to advance China’s claims and undermine Japan’s exclusive administrative control over them. Since 2020, the duration and assertiveness of patrols has increased, with longer times spent in the territorial sea than in the past. In 2019, the CCG was observed in the contiguous zone (a zone contiguous to the territorial sea not extending beyond 24 nm from the baselines from which the breadth of the territorial sea is measured) around the islands for 282 days. This increased to 333 days in 2020, with two periods of
more than a day and a half each. In 2021, CCG incursions continued at a similar pace to those in 2019 and 2020. CCG forces have also become more assertive during their patrols, shadowing Japanese fishing vessels and ordering them to depart, causing the Japanese Coast Guard to intervene and Tokyo to lodge protests to Beijing. These actions occurred after the controversial new China Coast Guard Law came into effect on 1 February 2021, providing the CCG with the right to take measures, including using weapons, in maritime areas under the ‘jurisdiction’ of China, a term China interprets expansively.

The PLAN was also active in the East China Sea in 2021. In addition to routine small-unit training, the PLAN held a six-day surface drill that included live-fire exercises north of Taiwan in July. The drill occurred after three US senators arrived in Taiwan aboard a US Air Force C-17 transport aircraft in June. Another US military transport aircraft made a brief stop in Taipei in July. In October, in the aftermath of the announcement of the AUKUS agreement between Australia, the UK and the US, China and Russia held a joint naval exercise in the East China Sea and Western Pacific. A sign of their growing military alignment, Beijing described the exercise as a ‘comprehensive strategic partnership’ to ‘jointly maintain international and regional strategic stability’. As part of the exercise, ten Chinese and Russian naval vessels – five from each country – passed through Japan’s Tsugaru and Osumi straits in a circumnavigation of Japan’s main island of Honshu. Although the ships’ passage was entirely lawful, it raised eyebrows given Beijing’s own description of foreign warships passing through the Taiwan Strait as developments that could ‘seriously jeopardize peace and stability’ and ‘stir up trouble’. In December 2021, the Chinese aircraft carrier Liaoning led PLAN exercises in the East China Sea and in the Philippine Sea southeast of Okinawa. The Liaoning conducted flight operations with J-15 carrier-based fighter aircraft, among other flight operations.

South China Sea

One of the most significant series of incidents in the South China Sea involved China’s maritime militia playing what some have called a ‘shell game’, moving from one contested spot to another just ahead of law-enforcement vessels in the Spratly Islands (see Map 6.2 for key features and groups of features in this area). Despite Chinese denials, there is ample evidence that at least some of the ‘fishing vessels’ that began gathering at Whitsun Reef in the Union Banks of the Spratly Islands as early as February 2020 were affiliated with the PAFMM. Whitsun Reef is a shallow coral reef with a natural harbour but little or no land – artificial or otherwise – and no built facilities. In the spring of 2020, Chinese vessels avoided law-enforcement action by circulating around the various unoccupied features at Union Banks, including Whitsun Reef, Kennan Reef, Hughes Reef and Sin
In late 2020 and early 2021, many of these vessels rode at anchor for weeks or even months through good and bad weather, suggesting that Beijing’s claim that they were escaping a storm was simply cover for government-directed activities. Bolstering this point of view is the fact that China maintained a substantial presence of civilian and militia fishing vessels in the region for more than a year. In April 2021, there were as many as 220 Chinese fishing vessels at Whitsun Reef, provoking concerns in Manila that China intended to occupy and fortify this feature. The vessels once again circulated between Union Banks and Reed Bank, where they gathered at Iroquois Reef in April. By September 2021 there were more than 100 Chinese fishing vessels at Union Banks. Their number rose to more than 150 in October. As of December 2021, many of these vessels remained there, idle for at least three months.

Reed Bank is an especially sensitive area for the Philippines. It is located off the island of Palawan, where Chinese vessels previously disrupted Philippine hydrocarbon development. In the 2016 South China Sea arbitration case brought by the Philippines against China, the arbitral tribunal found that Reed Bank is submerged at high tide and, forming part of the Philippines’ continental shelf, is within the Philippines’ sovereign rights and control. China continues to refuse to accept the award’s validity and contests its findings based on its claim of historic rights related to its self-drawn ‘nine-dash line’ encapsulating much of the South China Sea.

In an incident that precipitated the Philippines bringing a legal case against China under UNCLOS, China took over control of Scarborough Shoal in 2012. In the South China Sea, China often employs grey-zone tactics – incremental steps to achieve control over a maritime feature or to advance its maritime claims. Such tactics often begin with passing domestic legislation that extends China’s jurisdictional authority and its enforcement powers. China’s Coast Guard Law has caused particular concern in Manila and elsewhere that Beijing’s next step will be to enforce the extensive jurisdiction it claims. In the Philippines, China’s actions in the past two years have increased domestic frustration with the government of President Rodrigo Duterte and elevated concerns in the fishing industry. (The latter fears it may face a second Scarborough Shoal-style incident at Whitsun Reef – and another loss of access to rich fishing grounds.)
China has also been applying pressure on the Philippines throughout 2021 at Second Thomas Shoal, another unoccupied reef on the Philippines’ continental shelf not far from Palawan but within the nine-dash line and therefore claimed by China. Second Thomas Shoal, like Reed Bank, was explicitly determined to be part of the Philippines’ continental shelf in the 2016 arbitration decision. On 16 November 2021, CCG vessels aimed water cannons at and blocked two Philippine civilian vessels delivering supplies to the Philippine service members garrisoned aboard the BRP Sierra Madre, a hulk used by the Philippines’ government to establish a military presence at the shoal. At least one Philippine commentator has suggested that Beijing’s motive may have been to signal that Manila should not undertake any actions or decisions that undermine China’s interests in the dispute. If true, Beijing’s actions are yet another indication that it continues to disregard the 2016 South China Sea arbitral tribunal’s award.

China’s actions have had a significant impact on the Philippines’ politics and Manila’s willingness to work more closely with the US. In July 2021, the Duterte administration reversed its previous position and retracted its notice of termination of the Visiting Forces Agreement with the US. The agreement facilitates more than 300 bilateral military engagements each year, such as expert exchanges, component exercises and major training exercises with international partners. The policy change came during US Secretary of Defense Lloyd Austin’s visit to Manila in July, during which the two sides also discussed US support for modernising the Armed Forces of the Philippines to deal with ‘the region’s complex security environment’. Furthermore, the 2014 Enhanced Defense Cooperation Agreement already allows the US to pre-position military assets in five locations in the Philippines to facilitate an immediate response to any contingency in the region, such as a crisis in the South China Sea or Taiwan Strait. Discussions are now reportedly under way to explore additional sites – clearly not the result Beijing would have preferred.
Indonesia also had to weather Chinese maritime pressure in its EEZ in 2021. It followed the familiar pattern of non-militarised coercion China has employed against Malaysia, the Philippines and Vietnam. Over the summer of 2021, a joint British and Russian venture drilled two exploratory wells within Indonesia’s EEZ off the Natuna Islands, though the block in which the wells were drilled falls within the farthest reaches of China’s nine-dash line (see Map 6.3). CCG vessels trailed the rig but failed to deter it from its work. In the following months, Chinese officials reportedly demanded that the drilling activities be halted. While Jakarta prefers to maintain a low profile on the issue, it has quite publicly worked with the US to build a joint coastguard training facility near Natuna. It has also participated in a major joint military exercise (Garuda Shield) to practise island-defence tactics.

The CCG and maritime-militia units harass and coerce vessels in the South China Sea; the Indonesian Navy and coastguard have dealt with these Chinese tactics for many years. In one incident in 2013, an Indonesian vessel from the Ministry of Maritime Affairs and Fisheries encountered a Chinese fishing boat operating illegally in Indonesian waters and arrested its crew. *Yuzheng 310* – a Chinese maritime-law-enforcement vessel equipped with guns, light cannons and electronic gear – began to threaten the Indonesian vessel, demanding the release of the Chinese crew. The Indonesian vessels’ radios stopped functioning (though they worked flawlessly before and after the incident) and the Indonesian captain decided to acquiesce to the Chinese demands out of consideration for the crew’s safety. In December 2019 and January 2020, more than 60 Chinese fishing vessels went to fish in the portion of the Indonesian EEZ claimed by China. Where oil and gas are involved, a repeated Chinese tactic involves sending research vessels: from late August to early October 2021, Beijing sent *Haiyang Dizhi* to perform a seismic survey within the area of overlap between the nine-dash line and the Indonesian EEZ.

For decades, China and the member states of the Association of Southeast Asian Nations (ASEAN) have unsuccessfully sought to conclude a ‘code of conduct’ for the South China Sea. Beijing points to its intensified rivalry with the US as a key reason for the failure to find agreement but neglects to acknowledge that its own actions have encroached upon its neighbours’ sovereign rights to their economic resources. China’s actions have
mostly strengthened support for US presence in Southeast Asia. As Secretary of Defense Austin pointedly remarked in his speech in Manila in July: ‘We ... talked about how we can work toward a free and open Indo-Pacific rooted in a rules based international order.’ Beyond support for coastal states’ resource rights, the US and its allies and partners have also sought to defend passage and freedoms of the seas through conducting multiple ‘freedom of navigation’ operations (FONOPs) each year.

LEGAL BASIS FOR ‘FREEDOM OF NAVIGATION’ OPERATIONS
As Secretary of Defense Austin’s remarks suggest, the US has sought to reinforce the international law of the sea as reflected in UNCLOS. It has tried to do so especially in the South China Sea in response to China’s actions. US FONOPs in the South China Sea have long been an irritant to Beijing – perhaps because one of their objectives is to ensure that Beijing’s excessive maritime claims do not gain the international traction Chinese leaders seek. A FONOP is a US operational activity to apply the rights and freedoms set out in UNCLOS carefully and strictly in a particular water space, in order to challenge a coastal state’s assertion of excessive jurisdictional authority over that space. Such operational activity is often coupled with a démarche from the US specifying the United States’ legal objections to the government with the excessive claim.

Law-of-the-sea expert Jonathan Odom has explained: ‘Since the U.S. FON Program’s inception, a fundamental guiding principle has been to “not acquiesce in unilateral acts of other states designed to restrict” freedom of the seas.’ Acquiescence could suggest that the US accepts a coastal state’s excessive maritime claims and ultimately undermine traditional freedoms of the seas. FONOPs are based in international law in two ways. Firstly, they reflect the exercise of rights and freedoms as they are set forth in UNCLOS. Secondly, they reflect the right of all states to exercise those freedoms. Some commentators argue that the US, as a non-party to UNCLOS, cannot rely on its navigational provisions. This reflects several misconceptions. Most importantly, many of UNCLOS’s provisions on navigational rights and freedoms in the various maritime zones have been held to be customary international law and the US accepts them as such. Furthermore, in 1983 then US president Ronald Reagan ‘declared that the United States will accept and act in accordance with the provisions of the Convention relating to traditional (non-seabed) uses of the ocean, such as navigation and overflight’. Reagan’s document sets out the policy rationale that became the FONOP. Specifically:

the United States will exercise and assert its navigation and overflight rights and freedoms on a worldwide basis in a manner that is consistent with the balance of interests reflected in the convention. The United States will not, however, acquiesce in unilateral
acts of other states designed to restrict the rights and freedoms of the international community in navigation and overflight and other related high seas uses.\textsuperscript{58}

The US objects to China’s restrictions of passage and freedoms of the sea in the South China Sea. FONOPs preserve application of the global navigational regime in the waters of East Asia – for the US and all states.

**NEED FOR INTERNATIONAL COOPERATION AND ENHANCED DIALOGUE**

The PLA and US forces operating in maritime East Asia in proximity to each other are the daily tactical instruments of a broader struggle for power, leadership and rule-making in the region. Sharpening tensions even further is the increased salience of the Taiwan issue. Recent actions and statements by Beijing suggest that Chinese leaders now believe that many of the reasons previously seen as justifying deferring resolution of this issue have waned. Furthermore, some in Beijing believe that in the wake of Russia’s invasion of Ukraine in February 2022, the resulting international climate is cause for an accelerated timeline to resolve the Taiwan issue, by force if necessary.\textsuperscript{59} Simultaneously, Beijing sees increasingly overt international support for Taiwan as a clear trend against its interests. Accordingly, while Washington wants to maintain the status quo, Beijing may be less willing to defer resolution of Taiwan’s status than in the past.

These overlapping drivers make very real the risk of a tactical crisis between US and Chinese military forces, especially in the Taiwan Strait. Each side blames the other. US State Department spokesperson Ned Price has condemned China’s ‘provocative military activity near Taiwan’, stating that such activity is ‘destabilizing, risks miscalculations, and undermines regional peace and stability’.\textsuperscript{60} Similarly, Chinese Ministry of National Defense spokesperson Senior Colonel Tan Kefei recently stated that the ‘prolonged and intensive reconnaissance and exercises by the US military ships and aircraft and their frequent provocative activities are the source of Sino-US maritime and aerial security risks’.\textsuperscript{61} Given these tactical tensions and the lack of serious introspection by either government, a crisis could result from a mistake or human error. Some have sensibly asked, for instance, what would happen if a PLA military aircraft or a Taiwanese intercepting aircraft experienced mechanical failure and crashed into the sea during especially tense operations near or across the median line. This event could easily lead to the mistaken assumption that one side or the other had used force to send a signal or to precipitate a crisis.\textsuperscript{62} In March 2021, Taiwan’s deputy minister of national defence announced that the Taiwanese military would ‘largely use land-based missile forces’ to track Chinese military aircraft flying in the vicinity of Taiwan.\textsuperscript{63} While this development alleviates the strain on Taiwan’s air force, it invites a risk that China might mistakenly believe that a provocative PLA flight has been attacked.

Allies and partners in the region will be critical to ensuring that stability is maintained before, during and after a crisis. Any Chinese decision to use force to alter the status quo will be influenced by its calculations of relative power, the risk involved and the likelihood of success. The degree to which states align policies in support of stability will therefore have a profound impact on East Asia’s future. International cooperation is likely to deter Beijing from adopting an aggressive stance towards Taiwan, which is why such
cooperation is rapidly coalescing across the Asia-Pacific, sometimes under US leadership and sometimes independent of it.

Mechanisms to maintain stability do exist but they should be expanded. Both Washington and Beijing currently pursue power-based deterrence as a form of stability maintenance. Each side claims it formulates its military policies in reaction to provocations or changes brought about by the other. In fact, the dynamic is much more complex and the two sides’ interests, especially in regard to the status of Taiwan, have always been misaligned. Systems in which power is the only regulator are highly unstable. It is a good sign, therefore, that the two sides have agreed to restart talks pursuant to the Military Maritime Consultative Agreement. Dialogue should be increased at every official level, as should semi-official and non-governmental dialogues. Such dialogues are essential in the effort to find ways to accommodate and compartmentalise friction to avoid a destructive breakdown of the overall relationship. Furthermore, the US and China, with the assistance, support and participation of partners in the region and beyond it, should find ways to extend both formal and informal rule-making. Informal agreements, such as the Taiwan Strait median line and the decision to shelve disputes for later generations to resolve, have been important to regional stability in the past. They can be a part of maintaining stability in the future.

NOTES


2 Ibid., p. 99.


5 See, for example, Peter A. Dutton (ed.), Military Activities in the EEZ: A U.S.–China Dialogue on Security and International Law in the Maritime Commons, China Maritime Study No. 7 (Newport, RI: Naval War College Press, 2010).


7 See, for example, Kimberly Hsu and Craig Murray, ‘China’s Expanding Military Operations in Foreign Exclusive Economic Zones’, US–China Economic and Security Review Commission Staff Research Backgrounder, 19 June 2013, https://www.uscc.gov/sites/default/files/Research/Staff%20Backgrounder_China%20in%20Foreign%20EEZs.pdf. The quotes are derived from the author’s conversations with Chinese officials and senior military officers.


12 Peter A. Dutton, ‘Testimony before the House


16 Gerald C. Brown, a Washington DC-based defence analyst, maintains a detailed public database of Chinese military incursions into Taiwan’s ADIZ from September 2020 to the present based on information publicised by the Taiwanese Ministry of Foreign Affairs. See Gerald C. Brown, ‘Taiwan ADIZ Violations’, https://docs.google.com/spreadsheets/d/1qbfYFoVgDBjofZNSelpZwN-TiKZ4wvCUc557yoYwmyZg/edit#gid=364160716.


18 Mulvaney, ‘Presentation for Habibie Center 30 Nov 2021’.

19 Allen and Brown, ‘PLA Flight Activity in Taiwan’s ADIZ’.


21 See Brown, ‘Taiwan ADIZ Violations’.


29 Japan, Ministry of Foreign Affairs, ‘Trends in China Coast Guard and Other Vessels in the Waters Surrounding the Senkaku Islands, and Japan’s Response’.


31 Yang Sheng and Leng Shumei, ‘China’s Coast Guard Continues Patrolling Waters Surrounding Diaoyu, Defying US Reaffirming
45 ‘China Seeks Maritime Dominance with Gunboat-filled “Fishing Fleets”’, Newsweek.
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55 Garamone, ‘Philippine President Restores Visiting Forces Agreement with U.S.’.


60 Buckley and Qin, ‘In a Surge of Military Flights, China Tests and Warns Taiwan’.


62 Allen and Brown, ‘PLA Flight Activity in Taiwan’s ADIZ’.


64 Wong, ‘Chinese, US Militaries Resume Maritime Safety Talks After Last Year’s No-show’.
CHAPTER 7

SINO-AMERICAN TECHNOLOGY COMPETITION AND THE ASIA-PACIFIC

PAUL TRIOLO

Paul Triolo is Senior Vice President for China and Technology Policy Lead at Albright Stonebridge Group
Beginning during the Trump administration and continuing under President Joe Biden, the United States’ technology competition with China – conducted through major policy decisions, regulatory actions and think tank position papers – has become an important aspect of bilateral relations. This intensifying competition is likely to have profound regional security implications, particularly for the potential for military confrontation over Taiwan but also more generally for the long-term strategic and economic security of the Asia-Pacific.

SINO-AMERICAN TECHNOLOGY COLD WAR

In both Washington and Beijing, strategic goals have sometimes been driven by forces intent on over-securitising the technology dimension of bilateral relations. This process has been fraught with risks and potential collateral damage for bilateral US–China relations and the Asia-Pacific, as well as more generally for global supply chains in key technology sectors, such as semiconductors.

SEMICONDUCTORS AND THE RISK OF A TAIWAN CONFLICT: PUSHING ON UNKNOWN RED LINES

Taiwan is increasingly a flashpoint in the bilateral relationship, a development linked to changes in the semiconductor industry, which has been increasingly affected by US–China competition. US efforts to restrict Chinese companies’ ability to use Taiwanese firms as a manufacturing platform – particularly global foundry leader Taiwan Semiconductor Manufacturing Company (TSMC) – and Washington’s pressure on Taipei to support US over Chinese supply chains creates a new red line for Beijing, though it is unclear what might trigger a Chinese response.

COMPETITION IN EMERGING TECHNOLOGIES: ARTIFICIAL INTELLIGENCE AND QUANTUM COMPUTING

US–China technology competition in emerging sectors such as artificial intelligence and quantum computing could lead to the decoupling of supply chains and research and development, reducing US (and US allies’) understanding of China’s progress in these areas.
SINO-AMERICAN TECHNOLOGY COLD WAR

The author first used the hashtag #USChinaTechColdWar in January 2018, though the term ‘technological cold war’ was first employed by China technology watcher Paul Mozur of the New York Times in July 2015. The context of the 2015 article – important for the future direction of US-China technology competition – was the attempted acquisition of Micron Technology, the leading US semiconductor-memory company, by China’s Tsinghua Unigroup. The latter had support from the China Integrated Circuit Industry Investment Fund (CICF), established in 2014 as part of a series of major national technology-related initiatives actioned under Chinese President Xi Jinping. Tsinghua Unigroup would later abandon the deal as the Committee on Foreign Investment in the US (CFIUS) came under increasing congressional pressure to review it. Over the next five years, China became increasingly authoritarian in the eyes of Washington policymakers as Xi ramped up efforts to support domestic technology companies. This context set the stage for a spiralling dynamic that would culminate in 2021 and 2022 with geopolitical risks erupting around the entire semiconductor sector and one of its epicentres (Taiwan). To understand how this happened one must follow several interrelated threads, including the failed Micron deal, the expansion of US regulatory purviews and powers and lastly Beijing’s reactions and countermeasures, both current and future.

CFIUS is an inter-agency committee that reviews proposed acquisitions of US companies by foreign firms through the prism of national security. It typically employs a mitigation strategy to address any concerns while allowing some portion of a deal to go forward. The committee had already been reviewing semiconductor-related acquisitions as far back as 2012. However, Xi’s focus on building China into a cyber superpower (on par with the US) and the establishment of the CICF under his aegis generated greater concern in Washington regarding the potential that Micron’s acquisition could be used to assist Chinese firms. CFIUS said it was part of ‘an effort among foreign governments or companies to acquire U.S. companies involved in research, development or production of critical technologies’. Both sides abandoned discussions of the deal after receiving clear signals from CFIUS that it would not be approved.

CFIUS then adopted a much harder line on Chinese acquisitions of semiconductor companies. Another major milestone – in what would be an increasingly central theatre of the US-China ‘Tech Cold War’ – was president Barack Obama’s decision in December 2016 to block Chinese investors from acquiring Aixtron US, a subsidiary of a German maker of manufacturing equipment (such as gallium arsenide) for compound semiconductors that have military applications. The company had been targeted by a provincial Chinese investment fund with ties to the CICF. In this case, the very unusual route of issuing a presidential executive order, based on a recommendation from CFIUS, indicated that the US government would no longer hesitate to act directly and promptly on this type of deal. In the past, firms involved in a transaction had backed down merely as a result of the threat of a CFIUS recommendation to deny the deal in question; only in rare cases was a presidential action recommended or needed to kill a deal.

The coupling of concerns over Beijing’s subsidies for China’s domestic semiconductor industry and the potential for the CICF to fuel multiple acquisitions of US
semiconductor-technology companies became a hallmark of the Trump era, which also saw broader US–China technology-related tensions spread to many other technology sectors, including artificial intelligence (AI), quantum computing and biotechnology.

This focus on the potential impact of government subsidies generated several key strands that remain part of the ongoing US–China technology-competition narrative.

Tentative US steps to use the subsidy issue as a justification for applying export controls

Concern about the potential for the CICF to distort the highly competitive and global value chains critical to the semiconductor industry also became part of the US debate late in the Obama administration. The president’s last commerce secretary, Penny Pritzker, claimed in late 2016 that China was using the fund to try to ‘appropriate’ the global semiconductor supply chain.7 Though Pritzker was referring primarily to the fund’s role in backing acquisitions, she was also addressing its fuelling of overinvestment in the sector in China and undermining of more market-driven players, such as commodity semiconductor producers in the memory sector. This concern became the basis for the 2018 Commerce Department Entity List action against Chinese semiconductor-manufacturing start-up Fujian Jinhua (see Table 7.1). 8 The start-up had been involved in a case involving intellectual-property theft from Micron. However, after receiving significant subsidies from the CICF, it was blacklisted for potentially undermining established US dynamic random-access memory producers that might be future suppliers to the US armed forces. One Washington trade lawyer called the move a ‘dramatic expansion of the use of the Entity List for economic purposes’.9

Table 7.1: Chinese semiconductor companies on the US Commerce Department Entity List and Treasury Department NS-CMIC List

<table>
<thead>
<tr>
<th>Company</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fujian Torch Electron Technology</td>
<td>17 Dec 2021</td>
</tr>
<tr>
<td>Hong Kong Cheung Wah Electronics Technology</td>
<td>17 Dec 2021</td>
</tr>
<tr>
<td>HSJ Electronics</td>
<td>17 Dec 2021</td>
</tr>
<tr>
<td>Shaanxi Reactor Microelectronics</td>
<td>17 Dec 2021</td>
</tr>
<tr>
<td>Shanghai Aisinochip Electronics Technology</td>
<td>17 Dec 2021</td>
</tr>
<tr>
<td>Dawning Information Industry (Sugon)*</td>
<td>16 Dec 2021</td>
</tr>
<tr>
<td>Corad Technology (Shenzhen)</td>
<td>26 Nov 2021</td>
</tr>
<tr>
<td>Hangzhou Zhongke Microelectronics</td>
<td>26 Nov 2021</td>
</tr>
<tr>
<td>Hunan Goke Microelectronics</td>
<td>26 Nov 2021</td>
</tr>
<tr>
<td>New H3C Semiconductor Technologies</td>
<td>26 Nov 2021</td>
</tr>
<tr>
<td>Xi’an Aerospace Huaxun Technology</td>
<td>26 Nov 2021</td>
</tr>
<tr>
<td>Yunchip Microelectronics</td>
<td>26 Nov 2021</td>
</tr>
<tr>
<td>Armysty</td>
<td>12 Jul 2021</td>
</tr>
<tr>
<td>Beijing E-science</td>
<td>12 Jul 2021</td>
</tr>
<tr>
<td>Beijing Hiled Solutions</td>
<td>12 Jul 2021</td>
</tr>
<tr>
<td>Hangzhou Hualan Microelectronics</td>
<td>12 Jul 2021</td>
</tr>
<tr>
<td>Tongfang R.I.A.</td>
<td>12 Jul 2021</td>
</tr>
<tr>
<td>Changsha Jingjia Microelectronics Company</td>
<td>03 Jun 2021</td>
</tr>
<tr>
<td>Semiconductor Manufacturing International Corporation (SMIC)</td>
<td>03 Jun 2021</td>
</tr>
<tr>
<td>Ningbo Semiconductor International Corporation (NSI)</td>
<td>18 Dec 2020</td>
</tr>
<tr>
<td>ROFS Microsystems</td>
<td>18 Dec 2020</td>
</tr>
<tr>
<td>SMIC + related entities</td>
<td>18 Dec 2020</td>
</tr>
<tr>
<td>SJ Semiconductor</td>
<td>18 Dec 2020</td>
</tr>
<tr>
<td>Hefei Bitland Information Technology</td>
<td>22 Jul 2020</td>
</tr>
<tr>
<td>HiSilicon + three subsidiaries</td>
<td>21 Aug 2019</td>
</tr>
<tr>
<td>Chengdu Haiguang Integrated Circuit</td>
<td>24 Jun 2019</td>
</tr>
<tr>
<td>Chengdu Haiguang Microelectronics Technology</td>
<td>24 Jun 2019</td>
</tr>
<tr>
<td>Higon</td>
<td>24 Jun 2019</td>
</tr>
<tr>
<td>Fujian Jinhua</td>
<td>30 Oct 2018</td>
</tr>
</tbody>
</table>

*Better described as a supercomputing company. Note: ‘NS-CMIC List’ refers to the Treasury Department’s Non-SDN Chinese Military-Industrial Complex Companies List, where SDN stands for ‘Specially Designated Nationals’.

Expansion of US concerns to allies

As Chinese firms determined that the US would be a much less fertile ground for acquisitions in the semiconductor and other high-technology sectors, they turned to other countries and regions. However, they have found that European and Asian countries have also stepped up their efforts to monitor transactions in sensitive technology sectors, including those involving semiconductors, AI and robotics. In addition, the US government under both Donald Trump and Joe Biden has worked hard with so-called ‘like-minded’ allies to share information on transactions deemed sensitive and related to national security. This allied effort intensified following Chinese electronics-maker Midea’s late-2016 acquisition of German robot-maker Kuka. The acquisition, which Kuka claims obtained CFIUS approval, drew significant criticism in Europe after being approved by Berlin. In the geopolitical climate of 2022, there is little chance that such a deal would be allowed to proceed.

EXPANSION OF EXPORT CONTROLS’ EXTRATERRITORIAL APPLICATION

Following the Kuka sale, the tightening of mergers and acquisitions and investments involving Chinese entities was increasingly a focus for both CFIUS and an emerging investment-review process in the European Union. The late Obama era also saw critical and unprecedented export-control actions targeting Chinese telecoms firm ZTE kick off another key strand of the confrontation over semiconductors. Under Trump, the ZTE action also spawned a spate of Commerce Department Entity List actions, including those against China’s leading technology company Huawei (a competitor to ZTE) and Sugon and Phytium – Chinese makers of central processing units (CPU).

Placing large multinational Chinese companies such as ZTE and Huawei on the Entity List came with a host of unanticipated second- and third-order effects. Although the 2016 listing of ZTE was put on hold after the firm agreed to pay a fine and discipline executives, in April 2018 then US commerce secretary Wilbur Ross imposed a denial order on the firm for allegedly violating the original provisions of the 2016 deal. Only a phone call between Trump and Xi in July 2018 – when the firm faced an increasing threat of bankruptcy – saved ZTE by again holding the Entity List action in abeyance (although new fines and monitoring requirements were imposed). Huawei was hit with an Entity List action in May 2019, soon after US-China trade talks had collapsed. This development sparked a months-long process during which US subcontractors to Huawei continued to ship some products to the Shenzhen firm (complying with the letter of the underlying Export Administration Regulations) while the Commerce Department’s Bureau of Industry and Security (BIS) lacked clear guidance on how to adjudicate incoming licensing requests. In part responding to this cat-and-mouse game, US political appointees at the

![Huawei’s headquarters in Shenzhen, China, 31 May 2021](STRUMPF via Getty Images)
Commerce Department developed a way to strengthen the restrictions on suppliers to Huawei by crafting a change to the Foreign Direct Product Rule (FDPR), issued initially in May 2020 and then amended to provide further clarity in August 2020. With this amendment, the rule now extended US export controls in an unprecedented manner to all manufacturers globally that used any US technology to manufacture semiconductors on behalf of Huawei.

The FDPR’s extraterritoriality effectively dragged Taiwan and its semiconductor-manufacturing champion and global foundry leader Taiwan Semiconductor Manufacturing Company (TSMC) into the growing US–China technology competition. In May 2020, TSMC announced that it was suspending cooperation with Huawei, which at the time represented at least 15% of TSMC sales and was a fast-growing customer for the firm’s foundry services. It also announced that by September 2020 Huawei would be unable to source from TSMC advanced semiconductors for any of its product lines, undermining Huawei’s business model. While Huawei continued in business, drawing on significant stockpiles of TSMC-made semiconductors, by early 2022 it was clear that it could no longer compete in its two major product lines and revenue sources: smartphones and critical parts of its advanced mobile-telecommunications-equipment line. These developments set the stage for the potential broader use of the FDPR.

**PUSH TO PROTECT FOUNDATIONAL TECHNOLOGY: SEMICONDUCTOR MANUFACTURING EQUIPMENT IN THE CROSS HAIRS**

As concern grew within the Trump administration over China’s rise as a technological and military power, academic studies and growing debate within Congress on these issues culminated in the 2018 effort to revamp the US export-control system. The so-called Export Control and Reform Act (ECRA), passed as part of the 2019 National Defense Authorization Act, called (among many other new provisions) for the BIS to draft lists of foundational and emerging technologies that should be considered for new export controls and also monitored for transactions falling under CFIUS. The semiconductor manufacturing equipment (SME) sector, where US companies are among global leaders, was an important part of the overall debate, which centred on how and whether to control (or reassert control over) a broader range of SME going to specific Chinese end users deemed to be providing support for China’s military modernisation.

The debate around ECRA, SME and foundational technology helped to fuel new policy initiatives during the Trump era that have continued into the Biden era (see Table 7.2 for details on the United States’ options to pursue policy action against China). The most important aims of these initiatives are discussed below.
Preventing companies in China from obtaining advanced equipment related to semiconductor manufacturing

All the technologies specific to producing advanced SME – such as extreme ultraviolet lithography (EUV) – are controlled under US export controls and the multilateral Wassenaar Arrangement, which replaced the Cold War era Coordinating Committee for Multilateral Export Controls in 1996. A company wishing to buy EUV equipment from
the sole supplier, Dutch firm ASML, must get a licence approved by the Netherlands government. Beginning in early 2018 and reflecting growing US concern over China’s rise as a technological power, the US government has applied pressure on the Netherlands to deny a licence to Chinese foundry leader Semiconductor Manufacturing International Corporation (SMIC). The effect of this restriction has been to freeze China’s domestic semiconductor-manufacturing capability somewhere between the seven nanometre (nm)
and 10 nm nodes (see Tables 7.3 and 7.4). (‘Nodes’ refers to the feature size of individual elements of a semiconductor that depend on the level of advanced processing; currently the most advanced levels in commercial operation or at the research and development (R&D) stage are pushing down towards 5 nm, 3 nm and 2 nm). In addition to restrictions on SMIC’s ability to obtain EUV equipment, in late 2021 US officials vetoed the installation of EUV equipment in a manufacturing facility in Wuxi, China, operated by South Korean semiconductor giant SK Hynix, probably citing concerns about the potential for diversion of the technology.²²

**Expansion of restrictions from semiconductors to more of the equipment used to manufacture chips**

In addition to imposing restrictions on EUV equipment and making slow progress on developing a list of foundational technologies likely to include SME capable of manufacturing at more mature nodes, late in the Trump administration the Commerce Department moved to add SMIC to the Entity List. As a result, US suppliers to the firm would need to apply to the department for a licence, often with the presumption of denial. The language of the listing specified that equipment ‘uniquely required to produce semiconductors at advanced technology nodes 10 nanometers or below will be subject to a presumption of denial’.²³ In early 2022, there was continued discussion within the Biden administration about a Department of Defense proposal to change the language from ‘uniquely required’ to ‘capable of’. The reasoning was that typically no SME is designed specifically to produce a particular node. Such a change would potentially subject a wider range of equipment to licence denial. It was opposed by career officials at the Commerce Department and by US semiconductor-equipment manufacturers.²⁴
### Table 7.3: Number of semiconductor-manufacturing firms at key technology nodes, early 2022

<table>
<thead>
<tr>
<th>Process node (nanometre, nm)</th>
<th>180</th>
<th>130</th>
<th>90</th>
<th>65</th>
<th>45/40</th>
<th>32/28</th>
<th>22/20</th>
<th>16/14</th>
<th>10/7</th>
<th>5/4</th>
<th>3/2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of manufacturers working at each process node</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>US</td>
<td>24</td>
<td>18</td>
<td>11</td>
<td>8</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>South Korea</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Taiwan</td>
<td>9</td>
<td>9</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>6</td>
<td>5</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Japan</td>
<td>18</td>
<td>10</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>19</td>
<td>18</td>
<td>16</td>
<td>13</td>
<td>8</td>
<td>6</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
<td>13</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>94</td>
<td>72</td>
<td>48</td>
<td>36</td>
<td>26</td>
<td>20</td>
<td>16</td>
<td>11</td>
<td>5</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Notes: ‘Nodes’ refers to the feature size of individual elements of a semiconductor. These depend on the level of advanced processing. Some companies have fabrication facilities outside of where they are headquartered but have been included in totals; table does not distinguish between producers of different types of semiconductors, such as CPU/GPU, application-specific semiconductors and memory, each of which is driven by market requirements relating to future size.


### Table 7.4: Major industry players and the process-node levels at which they are working, early 2022

<table>
<thead>
<tr>
<th>Major industry players</th>
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<th>45/40</th>
<th>32/28</th>
<th>22/20</th>
<th>16/14</th>
<th>10/7</th>
<th>5/4</th>
<th>3/2</th>
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<td>GlobalFoundries</td>
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<tr>
<td>Semiconductor Manufacturing International Corporation (SMIC)***</td>
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<td>International Business Machines (IBM)</td>
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- **●** Currently producing in commercial volumes
- **●** Under development/planned

*Commercial production to start in late 2022. **Intel is in commercial production at 10 nm but has encountered challenges with high-volume production at 7 nm. ***SMIC's ability to develop processes at advanced nodes will remain limited by US export controls on advanced lithography equipment.

Note: The industry labelling of advanced nodes is becoming more complicated. Essentially, it is now a marketing tool, as companies use different geometries and packaging technologies, such as 3D FinFET, to achieve greater performance.

SEMICONDUCTORS AND THE RISK OF A TAIWAN CONFLICT: PUSHING ON UNKNOWN RED LINES

The rolling actions taken by Trump and continued under Biden in the semiconductor and other high-tech sectors – coupled with other elements of the ‘Tech Cold War’ dynamic – have contributed to a broad cross-party consensus in Washington among certain elements of the foreign policy community, conservative think tanks and within the US intelligence community. The consensus perspective holds that the US and China are locked in a long-term struggle to dominate the ‘technologies of the future’, including both some already in existence – such as advanced semiconductors and next-generation mobile-telecommunications technologies – and also emerging sectors, such as AI, quantum computing and biotechnology. There is an important subtext to this perspective that holds that Beijing, left to its own preferences, will eventually misuse or exploit these technologies (or its companies’ role in particular technology sectors) to damage or undermine Western institutions and values, either by using them in ways that would contribute to human-rights violations; by exporting them to authoritarian governments; or by seeking to exploit them for China’s military modernisation, particularly in relation to a potential attack on Taiwan. By the time Biden took office in January 2021, this narrative was firmly entrenched in Washington policy circles, as well as in the Department of Defense and the US intelligence community.

Another important element of the emerging conventional wisdom regarding the US–China Tech Cold War was that US companies – particularly those in the cutting-edge sectors now part of the struggle for the so-called technologies of the future – should not be assisting China’s military modernisation. Increasingly during the Trump administration, rhetoric from Washington policymakers and think tanks focused on the Chinese leadership’s civil–military fusion and integration initiative, which is an attempt to exploit technologies developed by the private sector for military purposes.

From late 2021, several of these strands converged in ways that are likely to affect the Asia-Pacific by raising pressures on supply chains and innovation ecosystems and by driving further wedges between China and Taiwan – with unknown consequences for regional stability. Washington was angered by revelations in late 2021 that Phytium CPUs manufactured at TSMC may have been used in high-performance computers that modelled advanced Chinese weapons systems, such as a hypersonic glide vehicle apparently tested in July–August 2021. Some congressional hardliners on China wrote to Commerce Secretary Gina Raimondo in October 2021 following reports of the hypersonic-missile test. They urged her to extend the FDPR to all ‘entities that enable the CCP’s military capabilities and human rights abuses’. Then, in early 2022, the semiconductor element of US-China technology competition saw renewed emphasis on Taiwan and TSMC, specifically the latter’s continued viability as a platform for Chinese firms to manufacture advanced semiconductors. From Beijing’s point of view, the US had already cut off its leading technology from TSMC, along with a major CPU-maker, Phytium, which was added to the Entity List in April 2021.

US officials are approaching what may be called Beijing’s unknown red lines, given the prospect that the further extraterritorial extension of US export controls could cut off more Chinese technology firms from using TSMC and other Taiwanese semiconductor-manufacturing companies, such as United Microelectronics Corporation (UMC).
The importance of the semiconductor sector for China has been highlighted by Xi’s launching of the CICF and his role in leading Chinese Communist Party (CCP) Politburo ‘study sessions’ on semiconductors and other high-tech sectors. Developing these sectors and reducing China’s reliance on foreign sources are key parts of the 14th Five-Year Plan – published in March 2021 – and Xi’s overall push for ‘self reliance’, which was boosted in 2021 with Beijing’s ‘dual circulation’ and ‘common prosperity’ initiatives.

So far, the Chinese government has not even threatened to target US technology-company operations in China in retaliation for US actions that have undermined Huawei’s business model and future viability. However, it remains unclear how Beijing will react to the prospect of having most or all of its technology leaders cut off from Taiwan and TSMC. The prospect that SMIC will not be able to obtain EUV equipment to enable the firm to move to production at more advanced nodes domestically – as a hedge against Chinese firms being delinked from TSMC – creates more uncertainty. US officials deliberating changing the Entity List language on SMIC appear to favour first holding discussions with international allies on the issue, probably as part of semiconductor supply-chain and export-control collaboration taking place in the ‘Quad’ format (a grouping comprising Australia, India, Japan and the US) via its Emerging Technology Working Group and at the EU–US Trade and Technology Council. For China, the worst-case outcome of these discussions would be a united front among the US and its international partners on export controls covering SME and other advanced and emerging technologies.

In early 2022, Beijing was concerned about another Washington discussion on extending the FDPR. The talks took place in February when the Commerce Department extended FDPR restrictions to Russia broadly and added dozens of Russian firms to the Entity List as retaliation for the Russian invasion of Ukraine. The new rules apply the FDPR against Russia in a blanket fashion and specifically require an export licence – likely to be denied – for any information and communications technology (ICT) equipment that includes US technology intended for transfer to specific Russian firms or organisations. It is the first time that Washington has effectively weaponised the entire US technology supply chain to target an entire country (rather than a single company), in a manner similar to the use of the dollar in US Treasury Department sanctions. A senior official with the Semiconductor Industry Association, Jimmy Goodrich, who is familiar with the US Entity List and FDPR actions, noted: ‘We could be in uncharted waters with such a potentially broad export control measure. We are still trying to assess what the ripple effect may be to global supply chains.’

A major issue that remained unclear in late March 2022 was whether China would go along with such an action and, if not, whether Chinese firms shipping electronics to Russia could be the target of secondary sanctions. The broad use of the FDPR in this
manner would set a dangerous precedent, according to industry officials, by disrupting supply chains, driving countries to ‘design out’ US technology, and adding to concerns in Beijing that China or a much broader set of Chinese companies could be subject to the same treatment, particularly under a potential Republican-dominated Congress later in 2022.

The broader technology-policy environment is also increasingly hostile for Beijing. The US-organised Summit for Democracy held in December 2021 and the associated Alliance for the Future of the Internet, launched in early 2022, use language such as the need to promote ‘democracy-affirming’ technologies and to control technologies that could be used by ‘techno-authoritarian’ states, meaning principally China and Russia. As the debate intensified over how to handle sales to China of advanced and emerging technologies that could contribute to its military modernisation and government surveillance operations, the issue of the role of Taiwan (and particularly TSMC) generated media speculation in late 2021 in relation to the potential that China will use military force to achieve ‘reunification’. Taiwanese President Tsai Ing-wen has emphasised the importance of Taiwan’s ‘silicon shield’ – in other words, the dominance of TSMC and other Taiwan-based companies in the semiconductor-manufacturing sector – as a potential deterrent to Chinese military action. Some US commentators have even suggested that Taiwan should threaten to destroy semiconductor facilities in the event of Chinese military action against the island. That the discussions reached this point indicated US and Taiwanese policy circles’ growing recognition of the centrality of Taiwan and TSMC to the technology sector in general, to China and to the global economy.

The US and its allies in Europe and Asia are working to reduce their companies’ dependence on TSMC via new funding for domestic semiconductor manufacturing. However, it will be at least a decade before there is significant change in the sector. The Biden administration’s CHIPS for America Act, which is unlikely to receive funding until May 2022 or later, will provide incentives for TSMC, Samsung and Intel to locate advanced facilities in the US. The EU Chips Act will attempt to provide similar subsidies to incentivise these firms to consider placing facilities in Europe. It is likely that over the next five years Washington and its allies will make progress towards reducing the centrality of Taiwan and TSMC in semiconductor manufacturing. However, as a result of the risks around US export-control and other policies, there will likely be increased tail risk that the semiconductor issue will play a larger role in Beijing’s calculus around making a military move against Taiwan – especially if there is a substantial reduction in Chinese firms’ ability to use Taiwan as a manufacturing platform. Therefore, the consequences of US-China technology competition blowing up over Taiwan are real and growing, with major implications for the wider Asia-Pacific.
COMPETITION IN EMERGING TECHNOLOGIES: ARTIFICIAL INTELLIGENCE AND QUANTUM COMPUTING

In addition to semiconductors and semiconductor manufacturing, US–China technology competition has intensified under both the Trump and Biden administrations in two other important sectors that Washington identifies as ‘technologies of the future’: AI and quantum computing. AI-related competition intensified following the publication of China’s ‘National AI Development Plan’ (AIDP) in 2017, which highlighted Beijing’s efforts to develop key technologies. Subsequent plans and strategies, such as the 14th Five-Year Plan and 14th Five-Year Plan for Informatization, have continued to focus on AI and other key technology areas, such as quantum computing.

Following the AIDP’s release, Chinese government support for the AI sector grew with the establishment of industry alliances, an AI Strategic Advisory Committee and preferential policies. In addition, many AI start-ups and established companies found ready funding for application development from government security organisations. This was particularly true in relation to facial-recognition and natural-language processing, the latter being the core of ‘perception AI’. A large number of companies have emerged in this field, which have provided an impetus for advances in the sector. These companies include Hikvision, iFlytek, Megvii, SenseTime and Yitu. Other key areas of commercial AI development in China include healthcare, autonomous vehicles, retail applications, education and data science as a service (‘DaaS’).

An important part of the 14th Five-Year Plan was concerned with so-called ‘hard technologies’. This included AI and quantum computing as well as semiconductors and advanced manufacturing. In a major speech in October 2021, which was later published as an essay in the CCP journal Qiushi, Xi emphasised the importance of AI, cloud computing, big data and blockchain for China’s future economic growth.

AI is clearly a priority for Beijing and increasingly the sector is being pulled into the US–China technology competition. Most Western analyses of the AIDP highlight the Chinese government’s role in promoting AI development, including applications relevant to surveillance and internal security, and its potential applications for military command and control. This emphasis has given rise to the narrative that Beijing is intent on using AI as a critical part of its military modernisation, with significant potential security consequences for the Asia-Pacific. However, in reality, it is the Chinese private sector that is responsible for much of the R&D related to AI, driven by foreign and domestic venture capital. Meanwhile, the Chinese government is primarily ‘playing catchup’, supporting rather than leading China’s AI charge.

The narrative that US–China technological competition includes an ‘AI arms race’ obscures the reality that US companies currently lead their Chinese counterparts in almost every category of AI development and sectoral application, including what former Microsoft Research Asia chief and venture-capital investor Kai-fu Lee has called ‘internet AI’, ‘business AI’, ‘perception AI’ and ‘autonomous AI’.

Nevertheless, spurred by its innovative private-sector companies, China is rapidly closing the gap. Yet companies in both China and the US have benefited from the current high levels of collaboration: China is able to leverage open-source and openly published research and is increasingly
Table 7.5: Chinese emerging-technology companies on the US Commerce Department Entity List and Treasury Department NS-CMIC List

<table>
<thead>
<tr>
<th>Company</th>
<th>Sector</th>
<th>Date</th>
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<td>Leon Technology Group</td>
<td>Cloud services</td>
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<td>Megvii Technology</td>
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<td>16 Dec 2021</td>
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<td>NetPosa Technologies</td>
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<td>16 Dec 2021</td>
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<tr>
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<td>16 Dec 2021</td>
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<td>AI</td>
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<td>SenseTime Group</td>
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<td>16 Dec 2021</td>
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<td>Supercomputing</td>
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<td>Supercomputing</td>
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<tr>
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<td>12 Jul 2021</td>
</tr>
<tr>
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<td>Supercomputing</td>
<td>12 Jul 2021</td>
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<tr>
<td>Shenzhen Cobber Information Technology</td>
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<td>12 Jul 2021</td>
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<tr>
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<tr>
<td>Xinjiang Tangli Technology</td>
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<tr>
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<td>iFlytek</td>
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</tr>
<tr>
<td>Sugon + nine aliases</td>
<td>Supercomputing</td>
<td>24 Jun 2019</td>
</tr>
<tr>
<td>Wuxi Jiangnan Institute of Computing Technology + two affiliates</td>
<td>Supercomputing</td>
<td>24 Jun 2019</td>
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Note: 'NS-CMIC List' refers to the Treasury Department’s Non-SDN Chinese Military-Industrial Complex Companies List, where SDN stands for 'Specially Designated Nationals'.

contributing to cutting-edge R&D, while US companies benefit from being able to recruit large numbers of qualified software engineers in China and from collaboration with Chinese companies to gain exposure to Chinese datasets.

**Advanced technologies increasingly pulled into competition**

During the Trump administration, large Chinese AI companies came under increasing pressure from export controls and later from financial sanctions, having been targeted for selling hardware and software to support public security organs involved in monitoring the Uighur population in China’s Xinjiang province. In October 2019, iFlytek, Hikvision, Megvii, SenseTime and Yitu were added to the Entity List, followed in June 2020 by other AI companies including Cloudwalk, Intellifusion and SenseNets (see Table 7.5). Under Trump and in December 2021 under the Biden administration, these companies were also added to the Treasury Department’s so-called non-SDN Chinese Military-Industrial Complex Companies (NS-CMIC) list, barring US investors from holding the securities of the firms and precluding them from stock listings on US markets.

The measures have restricted these companies’ access to US technology, such as semiconductors, but also affected their ability to raise money on capital markets. For example, Megvii postponed a planned listing in Hong Kong following the October 2019 Entity List action but by early 2022 was planning to list on the Shanghai STAR market. SenseTime briefly postponed its initial public offering (IPO) in Hong Kong in early January 2021 as a result of the NS-CMIC listing. All the companies on these US lists face reputational challenges and are unlikely to be able to operate globally as a result. Megvii appears to have appealed to the Commerce Department regarding its Entity List action in 2019. It claimed that even before the October 2019 Entity List action it did very little business in Xinjiang and was phasing out remaining support for public security organs there, and had installed an internal AI ethics committee, which reported to the board, that included several external members. Megvii’s reported inability to secure a clear answer from US officials about what it would take to be removed from the list, despite apparently taking action to address the underlying reasons it was placed there, suggests a continuing lack of a clear US strategy for listing firms. Another result of the growing restrictions on Chinese technology companies’ ability to tap overseas capital markets (and the intensified efforts of US financial regulators to require Chinese firms listed on US markets to undergo third-party audits) is that the Chinese government is boosting its support for domestic stock markets, notably Shanghai’s STAR and a new bourse in Beijing.

**Chinese AI sector under increasing pressure**

While China’s big push into AI has encouraged Western observers to think in terms of a bilateral US–China ‘AI arms race’, the reality is that China’s AI companies face major challenges to further development on several fronts:

- **Investment in the sector has slowed considerably, and much touted Chinese government funding is squandered in dubious investments.** Foreign investors remain concerned about further US pressure on the sector as well as the inability of large players like iFlytek, Megvii and SenseTime to list on US capital markets. Government
funding in the form of large pools of capital, such as that announced by the city of Tianjin with much fanfare in 2018, appear to be largely real-estate schemes.\textsuperscript{49} A close watcher of Chinese AI developments, Jeffery Ding, noted in early 2022 that much state-backed AI investment has been ‘reckless and redundant’,\textsuperscript{50} with private-sector companies devoting a significant amount of revenue to AI R&D focused on optimising their business operations, but often then experiencing difficulties when trying to integrate AI applications due to lack of sufficient qualified personnel or management understanding of the potential benefit.

- **Talent recruitment is becoming more difficult and increasing numbers of Chinese AI engineers, particularly the top 10%, are choosing to work outside China.** Top-level Chinese AI researchers are on par with their peers in the US, Europe and elsewhere and are able to find work with top-tier AI companies internationally. Many are choosing to leave China, particularly in the wake of increased US sanctions targeting Chinese AI companies, which makes it likely these firms will be shut out of major markets in the US and EU.\textsuperscript{51} In addition, a 2020 study by MacroPolo, the US-based Paulson Institute’s think tank, found that while about one-third of ‘top-tier’ AI personnel globally has been trained in China, only one-tenth is currently working there.\textsuperscript{52}

- **IPOs are under pressure as US restrictions remove potential for US listings.** The pressure on Chinese AI companies from US restrictions will continue to mean that they will be both unlikely to penetrate markets in the US and other developed countries and unable to contemplate future overseas listing to raise capital. After briefly postponing an IPO in Hong Kong in December 2021 following its NS-CMIC listing, AI giant SenseTime was able to go public in late December, raising some US$740 million.\textsuperscript{53} It is not clear whether other Chinese AI ‘unicorns’, of which there are many in the pipeline, will be as successful as SenseTime in tapping capital markets to continue their growth.

- **Access to cutting-edge, AI-optimised hardware may prove more difficult.** The Biden administration’s continued use of export-control laws to restrict access to US technology has made it difficult for blacklisted Chinese AI firms to obtain cutting-edge CPU and graphics processing unit (GPU) hardware from US firms. In addition, Washington could increase the use of extraterritorial controls to prevent Chinese companies from developing their own AI-optimised semiconductors (many Chinese AI semiconductor start-ups are using foundry services from TSMC in Taiwan, Samsung in South Korea or US-based Global Foundries).\textsuperscript{54}

Due to these challenges, the future of China’s AI development is uncertain and the AIDP’s ambitious targets for 2025 and 2030 are unlikely to be met. Moreover, the decoupling pressure on the sector is likely to continue apace. The coronavirus pandemic has complicated international travel from China, making it difficult, if not impossible, for Chinese AI researchers to travel to the US or other international destinations for conferences. Due to the US China Initiative at the Department of Justice and anti-Asian sentiment in the US stoked by the pandemic (and right-wing media portrayals that blamed China for the coronavirus outbreak), the US has become a more hostile environment for Chinese STEM researchers and professionals. The result has been fewer Chinese AI researchers willing to travel to the
US, fewer Chinese students at US universities and more Chinese AI researchers and software engineers returning to work for Chinese companies. The once tightly coupled US and Chinese AI sectors are becoming increasingly decoupled, with unknown consequences. The United States’ National Security Committee on AI (NSCAI), a blue-ribbon committee that included former US government officials and industry leaders, concluded in March 2021: ‘It would be counterproductive to sever the technology ties to China that benefit basic research and U.S. companies.” As the decoupling process continues, the risks for Asian security are likely to increase: US and other foreign researchers’ lack of visibility into China’s AI sector will reduce US (and its allies’) understanding of how the sector is developing, how the People’s Liberation Army (PLA) may be benefiting from AI, and how and when major breakthroughs with economic and national-security implications might occur.

A similar dynamic can be seen in other emerging-technology sectors, notably quantum computing. In December 2021, the US Commerce Department put Chinese quantum-computing and quantum-communications firms on the Entity List. The companies were not designated because they were involved in developing quantum technology in general terms but rather because they had acquired quantum-related technology that could be used for military purposes. According to the Commerce Department, the listing was intended to prevent ‘U.S. emerging technologies from being used for China’s quantum computing efforts that support military applications, such as counter-stealth and counter-submarine applications, and the ability to break encryption or develop unbreakable encryption’.

Some of the companies have ties to China’s defence industry and PLA-funded academic organisations. One sanctioned firm, QuantumCTek, supplies equipment and devices for quantum computing, as well as quantum key distribution (QKD) systems used in telecommunications systems to establish encrypted links. The Chinese Academy of Sciences and the University of Science and Technology of China (USTC), plus leading Chinese QKD researcher Pan Jianwei, hold stakes in the company. A USTC-based institution, the Hefei National Laboratory for Physical Sciences at Microscale, was also listed. In late 2021, USTC announced that it was launching China’s first doctoral-degree programme in quantum science and technology, while Hefei is also home to the National Laboratory for Quantum Information Science. Quantum information sciences (QIS) are a priority for Beijing, which has a national strategy for quantum and has provided significant funding for projects such as the Hefei facility. Most of the Chinese breakthroughs announced in QIS, such as those relating to QKD and quantum computing, have come from state-backed national projects.

The Commerce Department listed quantum computing among the technology sectors under consideration for further controls as part of the requirement mandated in the 2018 ECRA. However, the US export-control system has been slow to bring quantum-computing technologies under its aegis. In part, this is a result of the industry’s nascent state but also uncertainty about how to bring clarity to concerns specific to national security – especially those related to the dual-use technologies used in quantum computing and QKD systems. In November 2018, the BIS announced an advanced notice for proposed rulemaking (ANPRM), which cited 14 broad areas of emerging technology under consideration for expanded controls, including quantum computing, quantum encryption and quantum sensing. Since then, under the Biden administration the BIS has attempted to narrow the
controls to focus on specific enabling equipment, such as quantum-refrigeration units and post-quantum cryptography, software used for nucleic-acid assembly and synthesis, and some specific AI-related software.61

As well as QIS (including quantum computing), biotechnology is another sector under focus – particularly in terms of its military applications and access to healthcare data. The broader risks related to further decoupling in these sectors are similar to those for developments related to AI, as Beijing continues to support advanced technologies and restrict information about domestic R&D in key sectors – such as high-performance computing – while the US government increases its controls and US researchers retract their collaboration. Loss of access and visibility into how these technologies are developed and used in China will make it more challenging for the US and its allies to keep abreast of significant breakthroughs there.

In addition, semiconductors, quantum-related technologies and AI have featured in discussions initiated by the Biden administration in 2021 about expanding multilateral or plurilateral export controls among the US, the EU and the Quad. The formats for these discussions include the EU–US Trade and Technology Council, which has working groups on export controls and supply-chain resilience,62 and the Quad Emerging Technology Working Group,63 which is likely to investigate opportunities for expanding export controls targeting China and coordinating semiconductor-related industrial policies.

**RISKS FOR ASIA-PACIFIC SECURITY**

If left unchecked, growing pressures driven by the effects of US–China technology competition on semiconductor supply chains and by decoupling in emerging-technology sectors will pose an increasing risk to Asia-Pacific security over the next five years. If the Republican Party sweeps the US mid-term elections in November 2022, hardline political views on tightening export controls and using the FDPR more expansively are likely to gain traction in Washington. If large numbers of Chinese firms are affected by an FDP-style rule – and thereby cut off from using Taiwan as a manufacturing base – the result may be that Beijing feels pushed into a corner on the issue of Taiwan and advanced semiconductor manufacturing. The US would then risk running up against Beijing’s unknown red lines on technology-related issues. Semiconductors are now part of Beijing’s calculus when it considers the timetable for ‘reunification’ with Taiwan. It is unclear what the regional consequences would be if the US attempted to cut off Taiwan’s role as a semiconductor-manufacturing base for Chinese firms. Such a development could reduce the utility of the silicon shield around Taiwan, increasing Beijing’s willingness to discount the impact of a significant disconnection from Taiwan’s semiconductor industry resulting from military action.
In addition, the lack of clear US policy with respect to dual-use-technology controls and restrictions will further complicate the development of robust, resilient semiconductor supply chains in the Asia-Pacific. It could also lead to further economic-security challenges of the kind caused by the global semiconductor shortage since 2020. For example, some industry observers believe that the US Entity List action against Huawei in May 2019 and the FDPR action in May 2020 are responsible for 15–20% of the global semiconductor shortage. These actions were starting to take effect at the same time that the coronavirus pandemic was impacting auto-industry procurement decisions (which were the prime cause of the shortage). These developments led Huawei and then other Chinese companies to stockpile, the impact of which ripped through supply chains and semiconductor brokers, worsening the shortage.  

Without a clear regulatory framework governing civilian-use technologies not traditionally covered by the US export-control regime – including in AI, quantum computing and biotechnology – the US risks taking action with unknown second- and third-order collateral impacts. These impacts could affect global and regional supply chains, as with the Huawei Entity List and FDPR actions. Highlighting the risks relating to future regulatory decisions affecting advanced technologies, in March 2021 the NSCAI made a number of recommendations on export controls, including:

The U.S. Government must clearly state the principles that will guide future U.S. decisions regarding policies to protect critical technologies. This will enable more consistent and cohesive technology protection policies and provide clarity to industry regarding how the government intends to utilize these regulatory tools in the current competitive environment, thereby reducing uncertainty for U.S. businesses. No such framework currently exists.

US officials could consider tightening controls in the semiconductor sector, pursuing very narrow export controls and seeking to reduce tensions over the issue. They should aim to sharpen the focus on specific national-security implications for the semiconductor industry; often, these implications are not clearly articulated by government officials. Similar considerations could be applied to other technology sectors in order to reduce the unforeseen or low-probability (but high-risk) implications for the Asia-Pacific. If current trends continue unchecked, the regional security implications will only grow larger.

NOTES

3 See China, State Council, ‘Guojia jicheng dianlu chanye touzi jijin zhengshi sheli’ [The National IC Industry Investment Fund is officially launched], 14

4 This is a key concept in understanding the wellsprings of the US–China technology competition. For a detailed discussion of this concept, ‘wángluò qiángguó’, see Rogier Creemers et al., ‘Lexicon: Wángluò Qiángguó: Understanding and Translating a Crucial Slogan and “Cyber Superpower” Ambition’, New America, 31 May 2018, https://www.newamerica.org/cybersecurity-initiative/digichina/blog/lexicon-wangluo-qiangguo/.


25 This was particularly the case during the Trump administration.


29 Ibid.

30 Ibid.


36 ‘Outline of the People’s Republic of China 14th Five-Year Plan for National Economic and Social


43 SDN refers to specially designated nationals.


46 Ibid., p. 3.

47 The basis for including Megvii on the Entity List in October has not been explained clearly by US officials but appears to rely primarily on media reports about the company. Speaking to the author, one industry observer said it appeared that Commerce officials were clipping outdated media stories, which the firm deemed to be inaccurate, and using them as the basis for inclusion. The official did not believe the Commerce Department had read the 600-page English-language prospectus Megvii had submitted to the Hong Kong Stock Exchange months before the Commerce action.

48 The auditing issue is a long-standing problem that has resulted in ‘on-again, off-again’ negotiations between the China Securities Regulatory Commission and the US Securities Exchange Commission (SEC), eventually leading to US legislation that sets a deadline for delisting Chinese companies if the two sides cannot agree on a solution. The SEC announced on 3 December 2021 that it had adopted the final rule that fully implements the requirements of the Holding Foreign Companies Accountable Act, enacted by Congress in 2020 and signed into law by former president Trump in December


51 Author’s discussions with Chinese AI industry leaders and insiders, 2020–21.


64 Author’s discussions with various industry officials, 2020–21.


CHAPTER 8

JAPAN–CHINA RELATIONS: STABILISING INTENSE STRATEGIC COMPETITION

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Japan’s rivalry with China is deep and enduring. A decade ago, Tokyo began quietly pushing Washington and other like-minded capitals to embrace a counterbalancing strategy centred on Japan’s vision for a free and open Indo-Pacific (FOIP), the protection of sensitive technologies and the Quadrilateral Security Dialogue (Quad). Today, Japan is proving that it is possible to adopt a nuanced approach towards China that combines competition and cooperation.

**SHAPING THE INDO-PACIFIC**

At first, the likes of Canberra, London and Washington viewed Japan’s counterbalancing strategy with a deep scepticism. However, a decade of coercive Chinese strategies under President Xi Jinping’s leadership has prompted a change of perspective. The Trump and Biden administrations in the United States embraced Tokyo’s framework, while other states in Europe and maritime Asia are following suit. Japan is beginning to explore how to ‘compete with China without catastrophe’. A key question for Japan is how to maintain beneficial economic and diplomatic ties with China while defending the rules-based order. Since the US approach to China is still focused on competition – with little emphasis on cooperation or the future of bilateral economic relations – Japan’s search for balance in its relations with Beijing could once again be an important shaper of future American strategy.

**TAPERING JAPAN–CHINA ECONOMIC INTERDEPENDENCE**

An emerging debate over economic security in Japan – premised on the need to secure sensitive technologies – is leading to a tapering of investments in certain industries in China, introducing a new dimension of economic competition to the bilateral relationship.

**TRAJECTORY FOR JAPAN–CHINA RELATIONS**

Continuity should be expected in Japan’s China strategy given the domestic consensus on China and the reality that Tokyo needs to deter Chinese aggression while recognising a degree of economic interdependence, tempered by elements of competition with Beijing in areas such as emerging technologies.
FIRST MOVER JAPAN

For all the chaos it sowed on the world stage, the Trump administration opened an enduring new chapter in US diplomatic history by declaring China a strategic competitor in its 2017 National Security Strategy. Though different in tone, the Biden administration has followed suit. In turn, Australia, the European Union, the United Kingdom and other stakeholders have adopted tougher stances on Beijing and demonstrated a willingness to defend the liberal international order against systemic competition from Beijing. Yet of the major powers it was Japan that moved first to adopt policies that reflected the increasing challenge posed by China. In Japan’s 2013 National Security Strategy, then-prime minister Abe Shinzo premised his policies on the observation that Chinese coercion was creating a challenging security environment for Japan. Abe promised lines of effort to preserve what he would call later the ‘free and open Indo-Pacific’ (FOIP). The Trump and Biden administrations picked up the key elements of Abe’s approach, including the FOIP framework; an emphasis on the Quadrilateral Security Dialogue (the ‘Quad’, comprising Australia, India, Japan and the US); the banning of Chinese telecoms firm Huawei from domestic 5G markets; deeper engagement with the Association of Southeast Asian Nations (ASEAN); and provision of ‘quality infrastructure’ to counter China’s Belt and Road Initiative (BRI).

It is unsurprising that Japan – which has been competing strategically with China since at least the eighth century – was the first to adapt to China’s rise. More surprising has been the degree to which other major powers have followed in Japan’s footsteps, often without fully appreciating Tokyo’s foresight.

When Abe’s government published its 2013 National Security Strategy, its position on China contrasted with that of the rest of the world. At that time, the Obama administration was debating whether to operationalise Chinese President Xi Jinping’s proposal for a US–China ‘New Model of Great Power Relations’, which foresaw a bipolar condominium that would have relegated Japan and other US allies to second-tier status in Asia. Polls showed that 40% of Americans supported such an approach at the time. Meanwhile, then UK chancellor of the exchequer George Osborne was promising to make London the renminbi hub in Europe, while Australian scholar Hugh White’s popular new book, China Choice: Why America Should Share Power, was prompting former Australian prime ministers to urge their fellow citizens to follow China rather than the US. Rather than viewing Abe’s Japan as a responsible manager of competition with China, many Western observers agreed with the Financial Times’ observation in 2014 that – on the centenary of the outbreak of the First World War – there were echoes of August 1914 emanating from East Asia.

Yet Abe’s Japan did in fact show the way forward. Today, more than three-quarters

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**Figure 8.1: Public opinion on Japan–China relations, 2013–20**

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<th>Year</th>
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<th>Japanese public: favourable or relatively favourable impressions of China</th>
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<td>2020</td>
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Source: Genron NPO, genron-npo.net
of Americans (and over 80% of US elites) agree that it would be better to work with Japan to counter China’s rise rather than to seek compromise with Beijing.  

The Lowy Institute’s 2019 survey of power in Asia declared Japan the ‘leader of the liberal order’ in the Asia-Pacific, particularly after the vacuum left by the Trump administration’s withdrawal from the Trans-Pacific Partnership in 2017. Lowy polls also found that in Australia, Abe was the second-most trusted leader on the world stage. Polls by the Institute of Southeast Asian Studies and others consistently list Japan as the most trusted power in Southeast Asia. Bipartisan support for the US–Japan alliance in the US Congress has never been higher. Perhaps most notably, Chinese polls showed that over the course of Abe’s second term as prime minister, the proportion of respondents that held a positive view of Japan increased (from 5.2% in 2013 to 45.2% in 2020, see Figure 8.1), although the Japanese public maintained its largely negative assessment of China’s intentions. 

The Chinese public might be on to something. For just as Japan led the way to ramp up strategic competition with China a decade ago, today Tokyo is quietly defining how to sustain that competition without spiralling into catastrophe. In other words, Tokyo is showing how to deter Chinese aggression, protect advanced technology and defend a rules-based order without inviting complete decoupling, regime change or conflict. Japan’s strategy continues to evolve and there are clearly shortcomings. However, of all the countries in the region, Japan’s approach to China will have the most influence on the United States’ China strategy – because no country is more important to US strategy in Asia than Japan. In this sense, Japan’s relationship with China going forward may be a harbinger of other regional states’ strategic approaches towards Beijing, rather than the outlier many thought was the case a decade ago.

**JAPAN’S DOMESTIC POLITICAL CONSENSUS ON CHINA**

There is more political consensus in Japan on the China challenge than in any other major power. It was evident in the ruling Liberal Democratic Party’s (LDP) leadership race of September 2021, in which all four candidates were critical of China. Indeed, their views on security policy, including whether Japan should acquire a counterstrike capability to deter missile attacks, were as central to the policy debate as their prescriptions for economic growth or combatting the coronavirus pandemic. Kishida Fumio, who emerged victorious in that race and succeeded Suga Yoshihide as prime minister, was generally considered a moderate on China as he headed a faction led previously by Kato Koichi, who favoured close diplomatic and economic ties with Beijing to stabilise the Japan–China relationship. However, Kishida adopted a harsher stance on
China, leading the LDP to victory in the October 2021 elections for the National Diet’s (Japanese parliament’s) lower house. His party’s policy manifesto emphasised the need to protect universal values, such as freedom and human rights (and referenced the Uighurs, Tibet and Hong Kong in that context); welcomed Taiwan’s interest in joining the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP); supported Taiwan’s desire for observer status in the World Health Organization; and noted the need to strengthen Japan’s defence capabilities in response to China’s rapidly advancing military modernisation and to produce a new national-security strategy to reflect changes in the regional security environment.13

Kishida’s policy prescriptions do not presage a hardline approach towards China weighed heavily in favour of competition. Rather, like his predecessors, Kishida will strive to balance competition and cooperation. The prime minister indicated as much in a January 2022 speech to the National Diet in which he vowed to ‘say to China the things that need to be said and strongly urge China to act responsibly’ but also explore opportunities for dialogue and cooperation, given that 2022 marks the 50th anniversary of the normalisation of diplomatic relations between the two countries.14

Recent public-opinion surveys suggest that the Japanese public also appreciates the balance between competition and cooperation at the heart of Japan’s China strategy. Such polls have highlighted the public’s recognition that Japan–China relations are poor but also a recognition that stable ties with China are important for regional stability. A poll conducted by Genron NPO in October 2021 found that 90% of Japanese respondents had a poor impression of China but 56% agreed that Japan and China should cooperate to resolve bilateral and regional issues.15 Similarly, a survey of the Japanese public conducted by Japan’s Cabinet Office during the same period indicated that 85% of the public did not consider the current state of Japan–China relations to be good but 78% believed that the future development of the relationship was important for the Asia-Pacific.16 Meanwhile, thought leaders in Japan appear more inclined to counterbalance China on national-security issues. In a 2020 survey of thought leaders in Asia and Europe conducted by the Center for Strategic and International Studies, 80% of Japanese respondents supported an approach to national-security issues in which Japan prioritised cooperation with the US and other allies or partners to balance China, even at the risk of harming Tokyo’s relations with Beijing.17 Those same respondents expressed a readiness to accept economic decoupling from China in technology but much less readiness to accept a broader economic decoupling, including in trade in goods and services and tourism, exemplifying the perceived importance of sustaining stable economic ties with Beijing.
There are several explanations for Japan’s strategic consensus on China. As Mireya Solís of the Brookings Institution notes, Japan had adjusted to the realities of globalisation earlier than other states – and without the displacement and reaction against globalisation that divided US and UK society and politics – enabling Japan to accept a degree of economic integration with China while rivalling China in terms of investment and infrastructure development abroad.18 Japan also has a millennia-old tradition of measuring and responding to Chinese power and was the first major power to be subjected to China’s latest coercive practices (in relation to the Senkaku/Diaoyu islands in 2010 and 2012). Finally, alternate strategies that sought to downplay the competitive dynamics in Japan’s China strategy and associate cooperation with equidistance between the US and China, such as former prime minister Hatoyama Yukio’s attempt to distance Japan somewhat from its US alliance by proposing to move all US Marine Corps air units off of Okinawa, failed miserably, weakening the credibility of the Democratic Party of Japan and the plausibility of his idea for an ‘East Asia Community’ that would play the US and China against each other. Taken together, these factors led to a domestic consensus on a strategy that incorporated elements of cooperation and competition with China. At present, the key question is not whether Japan should be tough on China but rather how tough it should become. The outcomes of debates on issues such as defence spending and the degree of economic interdependence that is acceptable will indicate the extent to which Japan will push back more forcefully against increased Chinese assertiveness.

COUNTERING CHINESE GREY-ZONE COERCION

Japan’s 2021 defence white paper, ‘Defense of Japan 2021’, accentuated Japanese concerns about the rapid advances in China’s military capabilities and grey-zone coercion in the East China Sea (see Figure 8.2 for Japan Air Self-Defense Force scrambles over the East China Sea in response to Chinese military aircraft).19 Japan’s increasing concern about China’s behaviour was evident in its denunciation of China’s Coast Guard Law, which was passed in January 2021 and authorised the use of weapons in ‘maritime areas under Chinese jurisdiction’ – a term China interprets expansively.20 Tokyo’s concerns were also made clear in a statement that emphasised that ‘stabilizing the situation surrounding Taiwan is important not only for Japan’s security but also for the stability of the international community’ and that Japan should ‘pay close attention to the situation with a sense of crisis more than ever before’.21 Moreover, a US–Japan joint leaders’ statement – issued following a summit meeting between Suga and US President Joe Biden in April 2021 – also referred to the importance of peace and stability across the Taiwan Strait and encouraged the peaceful resolution of cross-strait issues, clearly reflecting heightened concerns about Chinese coercion.22 Japan’s willingness to speak more openly about Taiwan reflects its own experience of Chinese coercion around the Senkaku/Diaoyu islands in the East China Sea and Tokyo’s concern that if China were to attempt to seize Taiwan by force, similar action against the Senkaku/Diaoyu islands could follow. Ensuring maritime and air superiority and enhancing manoeuvre and deployment capabilities across the Nansei (southwest) island chain therefore feature prominently in Japan’s defence strategy, while China’s grey-zone coercion tactics inform the policy debate on increasing defence spending to manage an increasingly complex security environment around Japan.23
Kishida’s cabinet approved a record-high defence budget of approximately US$50 billion for the fiscal year beginning April 2022, with an emphasis on enhancing capabilities in traditional domains, such as air and missile defence, as well as new domains, including space, cyber and the electromagnetic spectrum (Japan’s defence budget saw only small increases in the previous decade, see Figure 8.3). Procurement and construction priorities included patrol aircraft (to strengthen intelligence, surveillance and reconnaissance capabilities); destroyers and submarines (to increase maritime-domain awareness); the F-35A/B stealth fighter and funds to upgrade the F-15 multi-role fighter and design a replacement for the F-2 multi-role fighter (to support air superiority); missiles and radars (for missile defence); and transport vessels (to be used in rapid-deployment training and joint exercises for amphibious operations, to improve Japan’s ability to defend remote islands). Kishida also pledged to develop a new national-security strategy – the first to follow the inaugural strategy unveiled by Abe in 2013 – and attendant national-defence and procurement strategies by the end of 2022 to meet an array of security challenges. Kishida suggested that deliberations on the new strategy will examine all options to enhance national security, including strike capability to deter missile strikes against Japan. The debate on strike capability signifies the beginning of a new chapter in a decades-long process of pursuing incremental changes to defence policy in response to the deteriorating regional security environment. In addition to strengthening its own capabilities, Japan will also seek opportunities to enhance defence cooperation with the US and other partners in the region.

There are clearly shortcomings in Japan’s defence strategy. Per capita defence spending still ranks closer to Barbados or Bermuda than neighbouring US allies Australia and South Korea (see Figure 8.4). Tokyo’s emphasis on maintaining the aerospace-industrial base has
led to expensive indigenous programmes with long lead times before deployment. Training has improved but Japan still engages in far fewer large-scale combined-arms exercises than Australia, South Korea and the US. Despite the unprecedented alignment of Japanese and US defence strategies, the bilateral command-and-control relationship remains outdated compared with the joint - and combined - command relationships of NATO countries and the US–South Korea alliance. However, there is no doubt that Abe’s decision to double down on defence cooperation with the US is here to stay following his government’s activation of Japan’s right of collective self-defence in 2015 (the right to defend the US and allies and engage in joint operations outside of Japan). Beijing will have to assume it will face both the US and Japan in regional contingencies; although this fact complicates Japan–China relations, it also reduces Beijing’s confidence that it will prevail in such contingencies.

SHAPING THE INDO-PACIFIC

Japan’s strategy also involves networking with like-minded states across the Indo-Pacific to manage strategic competition with China and support regional stability and prosperity within a rules-based order. Abe unveiled the FOIP concept in 2016 and promoted a vision for the region based on the rule of law, open economies and freedom from coercion.27 This framework has shaped not only Japan’s regional strategy but also that of countries such as Australia, France, Germany, India, the Netherlands, the UK and the US, as well as organisations including ASEAN and the EU. Japan’s FOIP vision has encouraged the cultivation of a shared interest in shaping an open, inclusive and rules-based Asia-Pacific security environment.

The US–Japan alliance constitutes the core of Japan’s networking strategy. The two countries are increasingly aligned on the importance of defence cooperation and of
partnering in areas such as public health, emerging technologies and infrastructure development under a shared vision for a free and open Indo-Pacific. Japan has also partnered closely with Australia; the two governments signed a Reciprocal Access Agreement in January 2022 that stands to further bilateral defence cooperation and trilateral coordination with the US. Australia, Japan and the US have cooperated on infrastructure development to counter China’s regional economic influence, evidenced most recently by their December 2021 announcement of a project to strengthen internet connectivity in Pacific Island countries. The three countries have engaged India via the Quad grouping, which in 2021 unveiled a range of initiatives related to coronavirus-vaccine diplomacy, climate change, critical and emerging technologies, cyberspace and infrastructure development. The Quad reiterated a commitment to provide public goods consistent with its establishment as a vehicle for humanitarian assistance and disaster relief following the 2004 Indian Ocean tsunami. The four countries have also participated in the Malabar naval exercise to enhance inter-operability and maritime-security cooperation. Japan is committed to engaging ASEAN countries in areas such as defence capacity-building to support its FOIP vision.

The missing link in Japan’s shaping strategy is South Korea. Bilateral tensions over historical sensitivities, territorial dispute and export controls have impacted efforts to advance security cooperation bilaterally and trilaterally (with the US) and prevented coordination on broader regional imperatives consistent with the FOIP vision. Seoul unveiled its New Southern Policy in 2017, which aims to develop ties with ASEAN and India, but is conducting this diplomatic initiative largely in isolation. It represents a missed opportunity to coordinate official development assistance and other strategies with like-minded countries aimed at promoting future prosperity. Integrating South Korea into the broader network of nations focused on the Indo-Pacific will prove critical to efforts to shape rules and norms foundational to future stability and prosperity. Seoul’s adherence to ‘strategic ambiguity’ with regard to competition with China is viewed in Tokyo as undermining US and Japanese strategy. However, Japan’s passive-aggressive stance towards Seoul (including downgrading expressions of shared values with South Korea in the ‘Diplomatic Bluebook’, an annual report on Japan’s foreign policy and diplomatic activities published by its Ministry of Foreign Affairs) does not help either. Although Japan and South Korea share a common commitment to democratic norms and a strong alliance with the US, it may take a shock from North Korea to remind them of their common purpose in Northeast Asia. The election of Yoon Suk-yeol, who expressed interest in diplomacy with Japan, as South Korean president in March 2022 could present an opportunity to enhance trilateral coordination on North Korea.
TAPERING JAPAN–CHINA ECONOMIC INTERDEPENDENCE

Throughout Japan’s history of economic interdependence with China, Japanese leaders favoured economic cooperation with Beijing to balance Japan’s emphasis on deterrence in the security realm – often called seikei bunri (separating political and economic issues). However, an emerging debate over economic security in Japan – premised on the need to secure sensitive technologies – is already leading to a tapering of investments in certain industries in China, introducing a new dimension of economic competition to the bilateral relationship.

Following the normalisation of diplomatic relations with China in 1972, Japan invested heavily in China due to a strategic impetus to bolster its economic competitiveness vis-à-vis the Soviet Union. Bilateral economic ties flourished, with foreign direct investment, bilateral trade and the emergence of a middle class in China that boosted tourism to Japan. However, by the late 2000s, China’s emergence as an economic power was accompanied by an assertive foreign policy that generated tensions, exemplified by Chinese coercion in the East China Sea, which prompted Japanese industry to divert some manufacturing operations from China to other countries in the region, such as Vietnam, under the so-called ‘plus one’ strategy. More recently, Chinese attempts to enhance its regional economic influence through establishing the BRI in 2013 and the Asian Infrastructure Investment Bank in 2016 have led to competition in regional economic diplomacy, as Japanese businesses continue to invest heavily in the Chinese market, creating a dynamic of economic interdependence and competition that is likely to continue into the future.

A recent survey of Japanese business sentiment indicates that China is considered the most promising country for overseas manufacturing investment over the next three years, followed closely by India (see Map 8.1).\textsuperscript{37}
Map 8.1: Top five most promising destinations for mid-term business development as seen by Japanese businesses, 2018–21

Source: Japan Bank for International Cooperation, jbic.go.jp
70% of 118 Japanese firms with operations in China surveyed at the end of 2021 indicated plans to either maintain or expand business operations in China. Yet one of the centre-pieces of Kishida’s 2022 economic agenda is legislation on economic security designed to strengthen the supply chain for key industries; prevent the outflow of sensitive technologies by introducing a classified patent system; secure rare earth minerals; and encourage the domestic production of sensitive products, including semiconductors, which could limit new market entrants to the Chinese market. This appetite for partial decoupling is also evident in the business community. A 2020 survey by the business-oriented Japan Center for Economic Research found that 46% of respondents favoured reducing high-tech tie-ups in China and 48% favoured stronger export controls modelled on those of the Trump administration. When Japan offered funds for reshoring from China in 2020, the subscriptions from companies were 11 times the available funds. The juxtaposition of these two trends suggests the potential for targeted decoupling in critical and emerging technologies, capturing the delicate balancing act between cooperation and competition that could become a permanent fixture of Japan–China economic relations. Where the Biden administration has no clear policy position on US investments in China, Tokyo is seeking multilateral trade agreements such as the Regional Comprehensive Economic Partnership (RCEP) to protect continuing investments while offering incentives to Japanese companies to shift supply chains out of China when necessary to safeguard the most advanced technologies. As Japanese CEOs put it to the authors, this is a matter of ‘tapering’ rather than ‘decoupling’.

WHAT’S NEW? TAIWAN AND HUMAN RIGHTS

While Japan has sought a careful balance between economics and security, there is no doubt that the Japanese public – and especially the ruling LDP – have developed a greater appetite for risk in relations with China. China’s growing military and mercantile pressure on Taiwan prompted Japanese leaders to make unprecedented statements of support for Taiwan in 2021. In June, former state minister of defense Nakayama Yasuhide referred to Taiwan as Japan’s ‘brother’ and stressed the importance of supporting Taiwan in the face of Chinese coercion. Shortly thereafter, then-deputy prime minister Aso Taro reportedly told a gathering of LDP lawmakers that Japan and the US would have to defend Taiwan if the island was attacked by China. Former prime minister Abe echoed those sentiments in December when he declared that a Taiwan contingency would be a contingency for Japan and the US–Japan alliance. Abe stated subsequently that if a US vessel were attacked in a Taiwan contingency, it could constitute a threat to Japan’s survival and allow Japan to exercise the right of collective self-defence. Japan’s role in such a contingency would presumably centre on providing rear-area support for US forces. However, these statements nonetheless sent strong signals about alliance solidarity amid a steady tempo of Chinese coercion aimed at...
Taiwan and Japan in the East China Sea. The Japanese public is also increasingly attuned to the threat against Taiwan; 74% of respondents to a survey in April 2021 supported Japan’s engagement towards stability in the Taiwan Strait.47

There is also growing bipartisan support for Japan to voice more forcefully concerns about China’s human-rights record. In 2021, a group led by former minister of defense Nakatani Gen sought to pass legislation comparable to the American Global Magnitsky Act that would allow Japan to impose sanctions against individuals and entities involved in human-rights abuses.48 While this legislation is yet to pass, Kishida appointed Nakatani as his special adviser on international human-rights issues, a new cabinet post, to emphasise the administration’s commitment to this issue.49 Human rights have also featured in Kishida’s diplomatic agenda; a readout of his virtual summit meeting with Biden in January 2022 included a reference to shared concerns about Chinese practices in Xinjiang and Hong Kong,50 consistent with Kishida’s emphasis on human rights in the LDP policy platform for the October 2021 lower-house elections. There are also elements of subtlety in Kishida’s approach, as evidenced by his cabinet’s decision to stop short of declaring a diplomatic boycott of the Beijing Winter Olympics in February 2022 but quietly refrain from sending cabinet members to the games.51 Meanwhile, before the start of the Olympics, the National Diet’s lower house passed a resolution expressing concerns about human rights in the country without directly referencing ‘China’.52

It would be a mistake to assume that this new appetite for standing up to Beijing on Taiwan and human rights is driven solely by ideologically motivated conservatives in Japan, though that is one factor to consider. The ideological battles within the LDP over China policy go back to the 1950s. However, for perspective, it is worth noting that the Japan Communist Party was among the most critical of China in the 2020 election cycle (and the only communist party in the world not to join the Chinese Communist Party in celebrating its centennial).53 The increased emphasis on deterrence, support for Taiwan and human rights is taking place under Kishida, a moderate keen on managing a delicate balancing act between cooperation and coercion. The main driver for this new readiness to confront China on Taiwan and human rights is China’s repression of Hong Kong (captured for average Japanese by the sympathetic social-media account of fluent Japanese-language speaker and democracy activist Agnes Chow) and the conspicuous increase in Chinese military pressure on Taiwan, which sits only 225 kilometres from Japanese islands.

**TRAJECTORY FOR JAPAN–CHINA RELATIONS**

As Japan develops its new national-security strategy in 2022, the balance of competition and cooperation that animates Japan’s China strategy will come into clearer view. Continuity should be expected in this trajectory given the domestic consensus on China and the reality that Japan needs to deter Chinese aggression while recognising a degree of economic interdependence, tempered by elements of competition with China in areas such as emerging technologies. Five variables in particular are likely to influence the effectiveness of Japan’s strategy in 2022:

- **Defence spending:** Defense Minister Kishi Nobuo has called for Japan to use the NATO methodology for calculating the ratio of defence spending to GDP and demonstrate
that Japan is surpassing the unofficial threshold of 1% of GDP. Takaichi Sanae, Chair of the LDP’s Policy Research Council, openly advocated for an increase in defence spending to 2% of GDP while a candidate for LDP president in 2021, but it is not clear whether Japan can resource that degree of defence spending.

This debate speaks to the importance of economic power to support Japan’s desire to enhance its defence capabilities.

- **Political stability:** This factor does not affect the trajectory of Japan’s China strategy as much as its velocity. Should Kishida’s LDP falter in the upper-house elections scheduled for mid-2022 and cede some power to the political opposition, the policymaking process could become bogged down and slow the pace of implementation, though the fundamentals of the strategy would likely remain unchanged.

- **China’s assertiveness:** If Xi Jinping continues to consolidate his power by securing a third term, expectations of a more belligerent China will accelerate the elements of competition in Japan’s China strategy. This could manifest as even more expressions of support for Taiwan, both unilaterally and under the rubric of the US–Japan alliance, to counter Chinese coercion.

- **Japan–South Korea relations:** China will seek to exploit ongoing tension between Japan and South Korea by leveraging the latter’s economic dependence on China and historical grievances with Japan to pull Seoul closer to Beijing, thereby driving a wedge between two of the United States’ closest allies. A renewed effort in Tokyo and Seoul to turn the tide and facilitate trilateral cooperation with the US would signal that the US alliance network in Northeast Asia cannot be divided, while also potentially opening avenues for coordination under the FOIP framework.

- **Regional trade:** China is a party to the RCEP and has expressed interest in joining the CPTPP. China’s accession to the CPTPP may not be a near-term prospect but Japan will have to engage China on this question and play a leading role in determining whether China has a seat at the table where standards for trade liberalisation and the future of regional economic integration will take shape. The CPTPP could become an arena for either competition or cooperation, and the absence of US leadership places pressure on Japan to lead the navigation of this complex challenge.
CONCLUSION

Japan is proving that it is possible to adopt a nuanced approach towards China that combines competition and cooperation. The trend line favours increased investments in defence amid concerns about China’s advancing capabilities and military ambitions; continued emphasis on the US–Japan alliance and networking with other like-minded states to shape regional dynamics; more vocal criticism of Chinese behaviour; and sustained economic ties with China, albeit with some tapering of economic interdependence in sensitive areas related to national security. A commitment to deterrence need not preclude the pursuit of diplomatic interaction, which can play an important role in encouraging stability and preventing conflict. The 50th anniversary of the normalisation of Japan–China diplomatic ties in 2022 presents such an opportunity. However, there should be no doubt that Japan is prepared to manage strategic competition with China by strengthening its own capabilities and the network of like-minded states committed to shaping a regional environment free from coercion and favouring a rules-based order.

NOTES


25 Ibid.


30 US, Department of State, ‘Joint Statement on Improving East Micronesia Telecommunications...


35 In 2020, the Japanese government referred to South Korea as an ‘important neighboring country for Japan’ (it was previously referred to as ‘most important neighboring country’). Beginning in 2015, in its ‘Diplomatic Bluebook’ Japan no longer referred to South Korea as a country with which it shared common values. See Japan, Ministry of Foreign Affairs, ‘Diplomatic Bluebook 2020’, 21 October 2020, p. 37, https://www.mofa.go.jp/policy/other/bluebook/2020/pdf/2-1.pdf.


38 ‘Shuyō 118 sha Ankēto Chūgoku Jigyō “Keizoku” 7 wari’ [Survey of 118 Major Companies: 70% to Continue China Activities], Sankei Shimbun, 5 January 2022.


41 ‘Korona de Seisan Kaiki Hojokin Kyōsōritsu 11bai Masuku ya Iyakuhin’ [As the Coronavirus Promotes Reshoring of Production, Applications for the Government Subsidy Swell to 11 Times the Budget, Many in Mask and Medical Equipment Producers], Nihon Keizai Shimbun, 8 September 2020.

42 Author’s interviews, December 2021 and January 2022.


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50 White House, ‘Readout of President Biden’s Meeting with Prime Minister Kishida of Japan’.


INDIA AND THE QUAD

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India's choices have been crucial to the Quadrilateral Security Dialogue’s (Quad’s) revitalisation since 2017. For now, New Delhi remains committed to deepening its engagement in the grouping. The longer the trends that facilitated this deeper engagement continue – especially regarding a greater threat perception of China – the more likely it is that these choices will get locked in.

**THE CHINA FACTOR**

China’s actions in recent years have fundamentally changed India’s cost–benefit calculus about the Quad. Beijing’s challenge to the rules-based order in the Indo-Pacific has prompted Quad countries to explore opportunities for collaboration with like-minded states that share concerns about Chinese behaviour. Moreover, China’s assertiveness helped them overcome their reluctance to revive the Quad and to elevate its status.

**INDIA: THE QUAD’S PACING PARTNER**

As the only Quad country outside the US hub-and-spoke alliance system in Asia, India’s buy-in is critical to the format’s sustainability and trajectory. Since 2020, Indian engagement with the Quad has intensified, helping to speed up the grouping’s development. India has also been active in shaping the Quad’s agenda and adjusting its framing, particularly towards the portrayal of the group as a regional-solutions provider.

**POTENTIAL IMPEDIMENTS**

If New Delhi perceives that Canberra’s, Tokyo’s or Washington’s enthusiasm for the Quad is waning – for example, as a result of domestic political changes in those countries, their competing global or regional priorities or even their differences with India – then India could recalibrate its involvement. Or, if India believes that further deepening of its involvement would be detrimental to stability along its border with China, or if China successfully pursues a wedge strategy via outreach to India or other Quad members, some in New Delhi might advocate for slowing the pace of the Quad.
In March 2016, then-head of United States Indo-Pacific Command Admiral Harry Harris spoke at a conference co-hosted by the Indian Ministry of External Affairs. In a speech titled ‘Let’s Be Ambitious Together’, he proposed reviving the Quadrilateral Security Dialogue (Quad), an informal grouping of Australia, India, Japan and the US that had enjoyed a brief existence in 2007. Harris stated: ‘We are all united in supporting the international rules-based order that has kept the peace and is essential to all of us.’

In 2016 India was not ready to match the admiral’s ambition. However, the following year, in November 2017, New Delhi agreed to revive the Quad at the working level. Two years after that, it supported its elevation to the ministerial level while still trying to maintain the grouping’s limited visibility. India went even further in 2021, agreeing to a virtual leaders’ summit in March followed by an in-person summit in September. Despite the Indian approach to Russia’s February 2022 invasion of Ukraine differing from that of the other Quad countries (and despite Moscow’s objections to the Quad), New Delhi also joined the other Quad leaders in March 2022 for a call in which they discussed the implications of the conflict in Ukraine for the Indo-Pacific.

It is important to understand the evolution and drivers of India’s approach to the Quad. The Biden administration has identified both ‘a leading India’ and ‘a strong and reliable Quad’ as key elements of its Indo-Pacific strategy. However, as former US deputy secretary of state Stephen Biegun suggested in August 2020, the Quad is a consensus-driven grouping. As the only country outside the US hub-and-spoke alliance system in Asia, India’s buy-in is critical to the format’s sustainability and trajectory. One can even think about India as the pacing partner in the Quad.

This chapter examines India’s evolving perspectives and policies vis-à-vis the Quad. It first considers New Delhi’s role in the rise and fall of the grouping’s first iteration in 2007–08. It then examines India’s decision to agree to the Quad’s revival and the government’s step-by-step approach to achieve this. Particular attention is paid to how the China factor has shaped India’s approach. The chapter then explores New Delhi’s current assessment of the Quad and India’s role within it, with a concluding review of potential impediments to India’s engagement and the grouping’s future development.

THE ORIGIN STORY

In some sense, the Quad originated organically in India’s neighbourhood. It was launched in 2007, inspired by the four countries’ cooperative response to the December 2004 Indian Ocean tsunami. New Delhi was actively involved in the Tsunami Core Group (TCG) that was formed at the time. In 2005, then joint secretary (Americas) in India’s external-affairs ministry S. Jaishankar – today the external-affairs minister – described the TCG as an ‘urgent
and ad-hoc response to an unprecedented situation that required close and continuous coordination between those contributing actively and expeditiously to rescue and relief. It was a vehicle for the four countries to share information, avoid duplication and fill gaps. It later came to involve Canada, the Netherlands and the United Nations before disbanding in early 2005 once the UN was able to lead the coordination effort.

Subsequently, in 2006, Indian prime minister Manmohan Singh and Japanese prime minister Abe Shinzo met in Tokyo, concurring on ‘the usefulness of having dialogue among India, Japan and other like-minded countries in the Asia-Pacific region on themes of mutual interest’. Less than six months later, in May 2007, working-level officials from the four countries met in Manila on the sidelines of the Association of Southeast Asian Nations (ASEAN) Regional Forum. Later that year, the navies of the four countries and Singapore conducted an exercise in the Bay of Bengal. However, following these developments, the Quad faded away – in practice, although not as an idea – for a decade. All the member countries had reservations about the grouping and it was clear that the Quad’s time had yet to come.

It is important to understand New Delhi’s reservations about the Quad’s first iteration (or Quad 1.0) as India played a role in its demise and was reluctant to revive the grouping for several years. Moreover, the Quad’s rebirth (Quad 2.0) only became possible when India revised its cost–benefit assessment of the grouping and overcame its reservations. Finally, some of India’s concerns about Quad 1.0 continue to shape its approach to Quad 2.0, particularly regarding the pace of its development.

One reason for India’s reluctance about Quad 1.0 was its assessment of the utility and necessity of the grouping. In 2007, there was no sense of urgency, no challenge or purpose for which India assessed the Quad necessary. Or rather, there was no challenge sufficient to override a second factor: Indian concerns about the Quad’s potential impact on its relationships with other countries, particularly China. There was concern in New Delhi that Beijing would see India’s participation in the Quad as provocative – evidence of ‘ganging up’ against China. Indeed, Beijing had issued démarches to all four countries about their involvement.

In addition to India’s broad strategic concern that China would interpret its involvement as hostile and find ways to retaliate, there was also a more immediate consideration: at that time, India needed Beijing’s buy-in – or at least its acquiescence – as New Delhi and Washington sought a waiver for India from the Nuclear Suppliers Group following the India–US civil nuclear agreement.

A third reservation was India’s uncertainty about other members’ enthusiasm for the Quad. Tokyo seemed lukewarm after Abe left office in September 2007. Washington seemed more interested in the Australia–Japan–US trilateral strategic dialogue, which
had been upgraded to the ministerial level in 2005. Furthermore, a new government took office in Canberra whose leadership had objected to the Quad when in opposition.13

New Delhi’s uncertainty about the other countries was magnified by other factors, such as India’s doubts about their reliability on China. Indian officials believed that their partners’ diplomatic and economic ties with China would make them unwilling to commit fully to the Quad and even lead them to renege at some point, leaving India to face Beijing’s ire alone. And when in 2008 the Australian foreign minister stated at a joint press conference with his Chinese counterpart that Australia would not propose another Quad meeting – administering what then Indian foreign secretary Shyam Saran later called the ‘coup de grâce’ for Quad 1.0 – New Delhi interpreted the development as Canberra currying favour with Beijing at the expense of the other countries.14

New Delhi’s doubts about other Quad members’ reliability were exacerbated by another factor: its lack of familiarity – and lack of experience cooperating – with the other members. In 2007–08, India’s bilateral relationships with those countries were not particularly well developed, especially in the strategic realm. New Delhi and Washington had only recently begun to build a strategic relationship with the Next Steps in Strategic Partnership initiative (January 2004), a ten-year defence framework agreement (June 2005) and a nuclear deal (July 2005).15 At that time, India was yet to acquire US military equipment. Moreover, there were no regular US–India discussions on Asia and no US–India–Japan trilateral dialogues (these developments would follow Quad 1.0’s demise). There was even less Indian strategic collaboration with Canberra and Tokyo.

A final factor informing India’s reservations about Quad 1.0 was domestic politics. At the time, the Singh government depended on the support of communist parties. These parties, which have a long history of anti-Americanism, objected to deepening ties with the US and were particularly opposed to the 2007 Quad–plus–Singapore Malabar exercise. There were also some within the ruling Indian National Congress party who looked askance at the initiative – because of either scepticism of the US or a broader concern that the Quad signalled a departure from non-alignment and would impinge on India’s strategic autonomy. These groups were also concerned about the proposed US–India civil nuclear deal, which was going through the legislative process and facing opposition from the communist parties and the Bharatiya Janata Party (BJP). Singh prioritised passing legislation to enable the deal over the Quad, eventually putting his government at stake for the nuclear agreement in a no-confidence vote in 2008.16

The combination of these factors – and a belief that the Quad would not provide sufficient benefit to balance or overcome them – resulted in New Delhi’s focus shifting elsewhere.
INDIA’S APPROACH TO THE QUAD’S REVIVAL

When Admiral Harris proposed reviving the Quad in 2016, some of India’s reservations persisted even as others had faded. Prime Minister Narendra Modi’s BJP had come to power with a majority in 2014 and, on balance, his government was not as sceptical of the US as its predecessor. In its first two years it had deepened bilateral ties, elevated the US–India–Japan dialogue and welcomed Japanese participation in the annual US–India Malabar military exercise.\(^7\)

However, whatever the admiral’s views, the administration of president Barack Obama was not pushing to revive the Quad in 2016. Moreover, New Delhi had only recently started to deepen defence and security ties with Tokyo and Canberra. Relations with Australia were especially underdeveloped and New Delhi remained sceptical of Canberra’s China policies, partly as a result of the legacy of Quad 1.0. Complicating matters, the Modi government itself sought to engage China, particularly on economic issues. Furthermore, although there were signs of Sino-Indian friction, New Delhi did not want to see relations worsen in ways that would require a diversion of Indian attention and resources.\(^8\)

By August 2017, there was renewed official interest in reviving the Quad, with Tokyo putting forth a proposal at the Australia–Japan–US trilateral.\(^9\) However, there could be no Quad without India and securing New Delhi’s buy-in became crucial. By that time, India and the US had joined Australia and Japan in embracing the concept of an integrated Indo-Pacific region. In October, then US secretary of state Rex Tillerson made a case for building on US–India–Japan cooperation by including Australia.\(^10\) By November, India was on board for Quad 2.0.

The Quad met on the sidelines of the East Asia Summit in Manila at the senior officials’ level (India sent a joint secretary, the equivalent of an assistant secretary in the US). Those working-level meetings were subsequently held twice a year (see Figure 9.1). The countries’ cyber-security officials met on the sidelines of a summit, while Quad diplomats also held meetings in various Indo-Pacific capitals and beyond. For instance, India’s ambassador in Brussels met with his Quad counterparts. In addition, India hosted a Quad table-top counter-terrorism exercise in November 2019, while its foreign ministry’s flagship conference, the Raisina Dialogue, featured Quad+ panels that included senior military leaders from member states (in 2018, they were joined by the former Indonesian deputy foreign minister; in 2019, by the French navy chief).\(^11\)

India was slower to take other steps. Its readout of the first senior officials’ meeting in November 2017, unlike those of Australia and the US, did not refer to the grouping as a ‘quadrilateral’. It continued to demur from using the term ‘Quad’ in official documents, or issuing joint statements, instead preferring individual readouts. Furthermore, despite Canberra’s request, it did not invite Australia to join the India–Japan–US Malabar exercise in 2018 or 2019. It also took two years to heed calls, particularly from the US, to agree to an elevation of theQuad to the ministerial level, which eventually took place on the sidelines of a UN General Assembly meeting in September 2019.\(^12\) Even then, it did not provide a readout of the ministerial.

New Delhi preferred to take a step-by-step approach to Quad 2.0 for several reasons. Firstly, it enabled India to assess the sustainability of other countries’ enthusiasm for Quad
2.0 and whether their more competitive attitudes towards China would continue. (In the period 2017–21, India was particularly uncertain about US president Donald Trump’s view of China and the United States’ role in the world hosts.\(^\text{23}\))

A second reason was the China factor. A summer 2017 China–India military stand-off contributed significantly to New Delhi’s decision to revive the Quad. Concurrently, however, New Delhi also sought to stabilise ties with Beijing. The period between autumn 2017 and autumn 2019 witnessed Sino-Indian reengagement in various dialogues and two summits between Modi and Chinese President Xi Jinping.\(^\text{24}\) New Delhi would not let Beijing veto the Quad; the inaugural ministerial a month before Modi was due to meet with Xi made that clear. However, it did not want higher-profile Quad activity to lead Beijing to pause the Sino-Indian stabilisation effort, or to provoke Beijing into pressuring India or trying to weaken the Quad.

An additional reason for India’s step-by-step approach was non-Quad partners’ concerns. ASEAN’s anxieties about the grouping prompted Indian efforts to assuage those concerns, including by inviting Southeast Asian leaders to India’s Republic Day in January 2018.
Subsequently, Modi’s Shangri-La Dialogue speech in June 2018 emphasised the inclusivity of India’s approach to the Indo-Pacific and Southeast Asia’s key role in New Delhi’s regional strategy. Russian concerns might also have played a role in India’s gradual approach: in this period, New Delhi was seeking to keep Moscow onside and prevent a further deepening of Sino-Russian ties.

Finally, India generally prefers to take a gradual approach to new initiatives. For instance, it took four years for the India–Japan–US trilateral to be elevated from the joint-secretary (December 2011) to the ministerial level (September 2015), and three more for it to meet at the leader level (November 2018). Such an approach gives advocates within government an opportunity to socialise the system and assess an initiative’s utility. It can also ensure initiatives are more sustainable because of opportunities for internal consultations and consensus-building.

Once India agreed to a Quad ministerial in September 2019 the pace intensified, with New Delhi agreeing to a high-profile in-person ministerial in Tokyo in October 2020 and Australia’s inclusion in the Malabar exercise in November 2020. In 2021, a virtual ministerial took place within a month of US President Joe Biden taking office, followed by three leaders’ meetings in a year (two virtual, one in person).

India’s warmer embrace of the Quad was evident in its agreement to a joint statement, a joint op-ed and a joint vaccine initiative in March 2021. Starting with the ministerial in February 2021, it has also officially adopted the label ‘Quad’. In addition, New Delhi has helped shape the Quad’s framing, its growing institutionalisation (without formalisation) and the broadening of its agenda. Institutionalisation has taken the form of an annual leaders’ summit and regular ministers’ and senior officials’ meetings, coordinating sherpas and sous-sherpas within each government, and several issue-based working groups.

Recent Indian choices vis-à-vis the Quad have been particularly striking given that they evolved in 2020 during the worst Sino-Indian boundary crisis in nearly six decades and then in 2021, when India and China were engaged in sensitive talks to resolve the crisis. Traditionally, during such sensitive moments, New Delhi would have avoided taking actions that might further unsettle its relationship with Beijing. However, it was that very crisis with China that spurred – and arguably locked in – India’s embrace of the Quad.

**THE CHINA FACTOR**

The recent evolution of India’s view of the Quad cannot be explained without understanding New Delhi’s changing perception of China. While Indian officials often point to the TCG as the origin of the Quad, to explain its revival one must look to China’s growing assertiveness towards India and the latter’s recognition that it could not alone tackle...
the intensifying bilateral and regional challenges Beijing poses. These were not the only reasons for India’s agreement to resurrect the Quad. However, without them, it is unlikely that New Delhi would have considered the revival necessary.

The China factor contributed directly and indirectly to the Quad’s rebirth, with Beijing’s actions in recent years making the Quad both desirable and feasible for all members. China’s challenge to the rules-based order in the Indo-Pacific prompted Quad countries to explore opportunities for collaboration with like-minded states that shared concerns about Beijing’s behaviour. Moreover, China’s assertiveness helped them overcome their reluctance to revive the grouping and to elevate its status. China’s actions also prompted the four countries to strengthen their bilateral and trilateral ties (on which the Quad is built).

New Delhi’s concerns about growing Chinese assertiveness can be traced to the aftermath of the 2008 global financial crisis. Indian officials believed that a more confident Beijing was seeking to press its advantage vis-à-vis India, as well as regionally. This anxiety intensified when – after two and a half decades of relative stability – there were a series of Sino-Indian military stand-offs after Xi took office, particularly in 2013, 2014 and 2017, and then in 2020–22. In each case, India accused the People’s Liberation Army of trying to unilaterally change the status quo. The most recent border stand-off, which resulted in the first fatalities and shots fired in decades, was a game-changer. The episode hardened Indian views of China as New Delhi accused China of violating the bilateral agreements to manage the boundary dispute, which had enabled progress in other parts of the relationship. The deteriorating situation at the border came in the context of other frictions: lack of reciprocity and imbalance in economic ties; deepening China–Pakistan relations; China’s growing influence in India’s territorial and maritime neighbourhood; what India sees as
China’s aims for a unipolar Asia with China as the dominant power; and Beijing’s impeding of Indian interests on the global stage. The latter concern included China being the only P5 member not to endorse the idea of a permanent seat for India in a reformed UN Security Council, and Beijing’s blocking of Indian membership of the Nuclear Suppliers Group.32

India’s China challenge has been exacerbated by the widening China–India capabilities gap. Three decades ago the two countries’ economies were roughly the same size. In 2021, China’s GDP (US$16.8 trillion) was more than five times that of India (US$2.9trn). Moreover, Beijing’s defence budget (US$207.3 billion) was more than three times that of India (US$65.1bn) (see Figure 9.3).33 Such disparities made clear that New Delhi could not deal with the China challenge alone. It needed partners to enhance its own capabilities and resilience, provide alternatives in the region, and shape a favourable balance of power that could deter China and maintain a rules-based order in the region. Therefore, it sought to broaden and deepen partnerships – both bilaterally and plurilaterally. Canberra, Tokyo and Washington seemed to be the most like-minded on China and the Indo-Pacific, and thus particularly attractive options (see Figure 9.2).

Due to Beijing’s assertiveness, there was indeed supply to meet India’s demand. Like the Bush and Obama administrations before it, the Trump administration in the US envisaged a crucial role for India in its Indo-Pacific strategy. So too did Japan and, much to some in the Indian government’s surprise, Australia. While the Australia–India relationship had been the weakest and least developed bilateral in the Quad, Canberra’s growing concerns about China’s foreign interference and economic coercion became a key driver of a transformed Australia–India diplomatic, defence and security relationship after 2017.34 The improved habits of cooperation developed between these countries facilitated India’s willingness and ability to revive and deepen the Quad.
China’s assertiveness also influenced India’s embrace of plurilaterals (including trilaterals and the quadrilateral) more generally (see Figure 9.4). New Delhi saw bilaterals (as well as existing multilateral and regional organisations) as insufficient to deal with the challenges China posed in the region. Alliance membership was neither an option for India nor on offer. Plurilaterals, or what others have called minilaterals or coalitions, were part of the answer. They offered India a way to deepen cooperation and align – even if not ally – with like-minded partners based on shared concerns or interests. Coalitions are ‘plug and play’, allowing New Delhi to join or create groupings fit for its purposes. The Quad fit that bill.

Moreover, as the China challenge has intensified, so too has India’s willingness to make choices that have enabled the Quad’s strengthening. Some of these decisions have been difficult to make because they have required trade-offs at home and abroad, including with regard to Russia, a partner of India’s that has embraced China’s critique of the Quad as a destabilising clique. However, China’s actions have fundamentally changed India’s cost–benefit calculus about the grouping.

**INDIA: THE QUAD’S PACING PARTNER**

Since 2020, Indian engagement with the Quad has intensified, helping to speed up the grouping’s development. In April 2021, the Australian ambassador to the US noted: ‘India has really … driven a lot of the elevation of the Quad in recent times.’ New Delhi’s buy-in has been important to Quad progress as Australia and Japan are already American allies that enjoy significantly deeper defence and security cooperation with the US. Thus, Kurt Campbell, Indo-Pacific Coordinator in the US National Security Council, has called India ‘the critical, crucial member in the Quad’.

![Figure 9.3: China’s and India’s defence budgets and GDP, 2008–21](source: IISS, Military Balance+, milbalplus.iiss.org)

Royal Australian Navy submarine HMAS Rankin, Indian Navy ships Shivalik and Kadmaat, and Royal Australian Navy frigate HMAS Warramunga participate in the Ausindex exercise near Darwin, Australia, 5 September 2021

(PBS Yuri Vasyukov/Australian Defence Force via Getty Images)
**Figure 9.4: Trilaterals involving Quad members and minilaterals involving India**

**TRILATERALS AMONG QUAD MEMBERS**

Japan → Australia → US → India

**TRILATERALS WITH TWO QUAD MEMBERS**

Australia → Japan → US → Indonesia → South Korea → UK

**SELECTED OTHER MINILATERALS INVOLVING INDIA**

India → Brazil → South Africa → Maldives → Sri Lanka → China → Russia → Israel → UAE

Sources: Government of India, pib.gov.in; US Department of State, www.state.gov
The Quad serves multiple purposes for India. Its participation (both the nature and extent) is a signal to China. The grouping can also contribute to several Indian objectives in the region: shaping a favourable balance of power; improving deterrence; building India’s and other regional countries’ capabilities and resilience; and providing alternative solutions in various sectors, including regional infrastructure, so that China is not the only option for regional countries. New Delhi also sees the Quad as a platform for consultation, coordination and cooperation with three democratic partners that broadly share India’s vision for the region (that is, one not dominated by China and where a rules-based order prevails) and its concerns about the challenge posed by Beijing’s behaviour. Moreover, the grouping gives India the opportunity to share perspectives about China with the other members. This helps New Delhi to assess its partners’ evolving views of China – and the extent of their willingness to balance against it.

In addition, India sees the Quad as a platform to keep the US engaged in the region, to encourage Japan’s recent more proactive stance on strategic issues and to deepen its partnership with Australia. Furthermore, the grouping provides India with an opportunity to participate in and shape conversations about the region. Finally, Quad membership has facilitated India’s inclusion in other cooperative initiatives and platforms, for instance, the G7+3 group, New Delhi’s (and Tokyo’s) signing on to a Five Eyes statement on encryption, and like-minded partners’ coordination in regional and international forums.

India has been active in shaping the group’s agenda. As the Indian foreign minister outlined in September 2021, this agenda has broadened over time: it now includes maritime security, cyber security, critical and emerging technologies, disaster response, connectivity and infrastructure, climate change and clean energy, counter-terrorism, vaccine production, student mobility, resilient supply chains and combating disinformation.\(^\text{39}\)

India also plays an indispensable role in the Quad’s vaccine initiative, which pools the countries’ resources and deploys their comparative advantages. From India’s perspective, if the initiative succeeds, it can help demonstrate that democracies can deliver high-quality solutions to their own publics and to the region, provide an alternative to China’s approach (since the Quad is coordinating with existing institutions such as the World Health Organization), improve healthcare infrastructure in the region (including enhancing India’s vaccine production capacity) and convey the Quad’s utility to people living in the Indo-Pacific. It would also highlight and reinforce a softer framing of the Quad – that it has, as Modi put it, a ‘positive vision’.\(^\text{40}\)

India has been involved in adjusting the Quad’s framing, particularly towards the portrayal of the group as a regional-solutions provider. From India’s perspective, this helps
to alleviate the concerns of smaller Indo-Pacific countries, to undercut Beijing’s framing of the grouping as an exclusive, destabilising anti-China military alliance, and to address criticisms at home and from partners such as Russia. If the Quad achieves these sub-objectives, it will ultimately bolster the sustainability of the grouping.

Simultaneously, the Modi government – like the Biden administration – has often rhetorically downplayed the group’s security dimension. For instance, Quad statements do not mention China explicitly (neither do Indian official documents more generally). However, this does not mean that the Quad avoids discussions about security. Moreover, China is very much on the agenda, as Quad statements and readouts make clear. After the March 2021 summit, official Indian sources confirmed that the Quad leaders had discussed the Sino-Indian border situation and that ‘Indian concerns found sympathetic response from leaders’. Foreign Secretary Harsh Shringla demurred when asked to speak on the record but acknowledged that ‘contemporary’ regional issues of importance to the countries were discussed.

India also participates in discussions and activities related to Quad defence and security ties. It does so in two ways: within the grouping and with Quad partners bilaterally, trilaterally and in other settings. Many areas of consultation and cooperation between Quad countries involve critical security components, particularly in the technology, cyber-security, counter-terrorism, maritime and space domains. The Quad also provides a platform for the countries to discuss and coordinate their security-assistance and capacity-building efforts in the region. In addition, it is likely that discussions on regional infrastructure either already have or will include assessments of which Chinese projects are strategically sensitive. Moreover, regional security is a regular agenda item in Quad meetings (for instance, regarding Afghanistan or the Indo-Pacific); these interactions provide an opportunity for high-level consultation on China as well.

Finally, there is joint activity in the defence and security domain. The Malabar exercise now involves all four countries. Even though officials sometimes say this is not a ‘Quad’ exercise, to some extent that is a distinction without a difference. As previously mentioned, New Delhi also hosted a table-top counter-terrorism exercise. Moreover, interactions between the countries’ intelligence communities have increased, including via a leadership-level meeting of what’s been dubbed the Quadrilateral Strategic Intelligence Forum. The four countries have also participated in what have been informally labelled Quad-plus exercises: France’s La Pérouse in 2021, and the US-hosted anti-submarine-warfare exercise Sea Dragon in 2021 (with Canada) and 2022 (with Canada and South Korea).
Today, India has bilateral mechanisms, agreements and liaison arrangements in place with each of its Quad partners that have allowed it to deepen defence and security cooperation. These arrangements (alongside Indian defence acquisitions from the US, see Table 9.1) have facilitated inter-operability, intelligence sharing and habits of cooperation. So too have a range of regular and increasingly sophisticated military exercises. With Australia, India has the biennial Ausindex maritime exercise and the Austra Hind special-forces exercise. With Japan, it has navy (Jimex), air-force (Shinryuu Maitri), army (Dharma Guardian) and coastguard (Sahyog-Kaijin) exercises. With the US, it has army (Yudh Abhyas), special-forces (Vajra Prahar) and air-force (Cope India) exercises and a new tri-services exercise (Tiger TRIUMPH). In addition, its navy now regularly conducts passage exercises (PASSEX) with each of these countries between their bilateral exercises.

India has also been a participant or observer in its Quad partners’ bilateral or multilateral exercises (Australia’s Pitch Black, Kakadu, Black Carillon and Talisman Sabre; the United States’ Rimpac, Red Flag and Cutlass Express). In addition, India invites them to its own bilateral or multilateral exercises. There were Japanese observers at the India–US air-force exercise in 2018, US observers at the 2019 Ausindex and US participants in the India–UK tri-services exercise Konkan Shakti. All three of India’s Quad partners participated in India’s Milan 2022 exercise and indeed coordinated beforehand. Moreover, maritime security has been a key focus of the India–Australia trilaterals with France and Indonesia.

This Indian security engagement beyond the Quad that often includes its Quad partners reflects two Indian beliefs: firstly, in the Quad’s role as one – but not the only – platform for cooperation, and secondly, in the need for Quad members – collectively or separately – to cooperate with other like-minded countries. Within this ambit, India has sought to deepen bilateral partnerships with countries like France, Indonesia, Singapore, South Korea, the
United Kingdom and Vietnam, and to maintain ties with Russia. It participates in a range of
trilaterals and there are additional proposals for Australia–India–UK and India–Japan–France
dialogues.\footnote{46} India has joined both military (mentioned above) and diplomatic ‘Quad-plus’
activities – with regular discussions on coronavirus response among the Quad, New Zealand,
South Korea and Vietnam (at the foreign-secretary level for India) and between the
Quad, Brazil, Israel and South Korea at the foreign-ministerial level.\footnote{47} It has also participated in one-off
initiatives, including a US–India–Japan–Philippines group sail through the South China Sea.\footnote{48}

New Delhi has shown little interest in expanding the membership of the Quad. The
current members bring not only capabilities to the table, but also willingness, shaped by
shared concerns about challenges in the region, especially those posed by China. At this
stage, it is not clear that other countries share the same assessment of or risk tolerance
vis-à-vis Beijing. For example, in the past, Seoul has been reluctant to engage with the
Quad – whether because of concern about China’s reaction, its desire to remain auton-
omous, its differences with Japan, or lack of clarity on the Quad countries’ Indo-Pacific
visions or the grouping’s goals. A less enthusiastic Quad member could serve as a drag
on the chemistry and the pace of the grouping. Also, India might not want its role or voice
diluted – a particular concern because, unlike India, the potential members that have been
discussed (France, South Korea and the UK) are US allies.

\begin{table}[h]
\centering
\begin{tabular}{|l|l|l|l|l|l|l|}
\hline
\textbf{Designation} & \textbf{Quantity} & \textbf{Value (US$)} & \textbf{Classification} & \textbf{Domain} & \textbf{Prime contractor(s)} & \textbf{Order date} & \textbf{Delivery date} \\
\hline
\hline
Jalashwa (ex-US Austin) & 1 & 48.2m & Landing platform dock & Maritime & US government surplus & 2006 & 2007 \\
\hline
UH-3H Sea King & 6 & 39m & Medium transport helicopter & Air & US government surplus & 2006 & 2007 \\
\hline
C-130J-30 Hercules & 6 & 962.5m & Medium transport aircraft & Air & Lockheed Martin & 2008 & 2011 \\
\hline
\hline
\hline
C-130J-30 Hercules & 7 & 1.1bn & Medium transport aircraft & Air & Lockheed Martin & 2014 & 2017–19 \\
\hline
\hline
CH-47F Chinook & 15 & 1.2bn & Heavy transport helicopter & Air & Boeing & 2015 & 2019–20 \\
\hline
M777A2 & 145 & 542.1m & 155mm towed artillery & Land & BAE Systems Land & Armaments & 2017 & 2017–ongoing \\
\hline
C-17A Globemaster III & 1 & 262m & Heavy transport aircraft & Air & Boeing & 2018 & 2019 \\
\hline
\hline
\end{tabular}
\caption{Indian defence procurement from the United States, 2002–21}
\label{tab:procurement}
\end{table}

\textit{Source:} IISS, Military Balance+, milbalplus.iiss.org
POTENTIAL IMPEDIMENTS

While India has embraced the Quad in recent years, there remain potential headwinds that could shape and impede its involvement in the group. The current momentum has been driven by a confluence of circumstances and high-level leadership that considers the Quad a crucial part of the solution to India's current problems. A different set of political and bureaucratic decision-makers could be less enthusiastic about the Quad, or have different views on the pace of its development or its focus areas. The Quad is not a partisan issue as such. Its first iteration stemmed from the previous Indian National Congress-led coalition government and officials who served then have spoken out in support of the current Quad. However, there are different views both within and outside the current government (and ruling party) about the nature and extent of India’s involvement with the Quad, as well as the US. Sometimes those views are shaped by ideology. For instance, the left and some parts of the right remain sceptical or distrustful of the US. Others do not want to see a departure from India’s strategic culture (strategic autonomy) and are wary of dependence on any external actors, which might impede India’s freedom of action. Some are concerned about the reaction from India’s friends (Russia) and foes (China). Even with the current configuration of the government, these views could shape India’s involvement in the Quad. For instance, a preference for strategic autonomy – or its legacy, in the form of dependence on Russia as a defence-trade and technology partner – could prove to be an obstacle in deepening military cooperation. So too could a need to keep Russia onside.

China’s choices could also directly or indirectly affect India’s decisions vis-à-vis the Quad. One way would be if New Delhi sought stability – and no further deterioration – at the border for economic and political reasons. If India believes that further deepening of its Quad involvement would be detrimental to that objective, then there is a possibility it might hold back or slow the pace of the Quad. In the past, India did see the Quad as leverage to deploy against Beijing, using the level of its participation to convince China of India’s desire for engagement or to dissuade it from taking actions contrary to Indian interests. China could also shape India’s decisions if it is successful in pursuing a wedge strategy via outreach to India or other Quad members.

The last point relates to another potential obstacle – India’s assessment of other members’ commitment to the Quad. If it perceives that Canberra’s, Tokyo’s or Washington’s enthusiasm for the group is waning, then New Delhi could recalibrate its involvement. Their enthusiasm could be affected by political changes (there has only been one change in government in the capitals – that is, from one party or coalition to another – since the Quad’s revival), or by a desire for better relations with China, or because those members find other mechanisms (for example, AUKUS) more useful.

Their enthusiasm could also be affected by contingencies in Europe, which could draw away US attention in particular and serve to highlight India’s divergences with the other members on Russia. Indeed, the Russian invasion of Ukraine in February 2022 has raised questions about its implications for the Quad, particularly given New Delhi’s lack of explicit condemnation of Moscow’s military actions. It is too soon to tell what the impact on the Quad will be, and the effect could be complex. On the one hand, the existence of the Quad itself is evidence of India’s willingness to make choices that do not fit with Russia’s
preferences or demands. Moreover, defence capabilities provided by Russia enable New Delhi to play a role vis-à-vis China that is desired by Australia, Japan and the US, in terms of holding the line both at the border and in the Indian Ocean. In addition, the Quad has served as a platform for the leaders to discuss the implications of the conflict in Ukraine for the Indo-Pacific. Furthermore, the crisis has driven home the idea that Indo-Pacific contingencies that seemed distant or unlikely may actually require greater attention and urgency. These factors potentially increase rather than decrease the utility and necessity of the Quad.

On the other hand, India’s response to the Russian invasion has raised questions in the other Quad countries about how India would react, if at all, to an Indo-Pacific contingency. This development could lead to the perception that the Quad and India will have limited utility, and potentially result in greater investment in other platforms that are viewed as likely to be more effective in responding to Indo-Pacific crises. Much will depend on whether and how Australia, Japan and the US see and manage their differences with India, if it diminishes their enthusiasm for India, and how they see the relative weight and linkages between the European and Indo-Pacific theatres. The level of interest and investment in the Quad could also depend on the outcome of Chinese and Russian efforts to fuel friction between India and its Quad partners.

In turn, New Delhi is concerned with the extent to which the conflict in Ukraine will shift other Quad countries’ focus from the Indo-Pacific. Simultaneously, it is wary of expanding the Quad’s remit beyond the Indo-Pacific. However, it will have to reconcile some realities. Even if India seeks to align with countries to balance China but not to isolate Russia, deepening Sino-Russian alignment is increasingly connecting the two theatres. Moreover, Russia’s actions will adversely affect Moscow’s ability to provide India the very military supplies and technology that make Moscow a crucial partner for New Delhi. Finally, the joint Sino-Russian statement of 4 February 2022 and remarks made by Chinese officials since Russia’s invasion of Ukraine have made clear that Beijing does perceive linkages between Europe and the Indo-Pacific and draws comparisons between NATO and the Quad. China is also learning lessons about how countries will respond or not respond to violations of international law.

Other broader impediments to the Quad’s development – from New Delhi’s perspective – could involve a change in India’s assessment of the comparative utility of the Quad. Some Indian commentators already argue that the grouping is too focused on the maritime domain. This critique might not factor in how capabilities and information acquired from Quad partners have been beneficial to India as it seeks to address the continental challenge posed by China (and Pakistan), but it resonates as China looms large. Relatedly, other Quad members could come to see India as too focused on the continental domain, or less aligned (or at least less forward leaning) in the case of a Taiwan contingency, and thus less useful or important. Another argument that could undermine the Quad is that India is not completely aligned with other members on values, at home or abroad. This impediment could stem either from within India or among the Quad members, particularly the US. Such divergences have already been evident in concerns expressed in the US about democratic backsliding in India and its impact on the country’s attractiveness and abilities
as a partner – and India’s objections to such comments, which it sees as interference in its internal affairs. It can also be seen in differences between India and the other Quad countries on principles such as freedom of navigation and economic openness.

Beyond principles, India’s power and performance could be impediments if they do not meet expectations. Resource and capabilities constraints could affect India’s ability (and willingness) to play the role envisaged for it by other members (indeed, there are already bandwidth impediments). In turn, this could adversely affect their assessment of the utility of India in their Indo-Pacific or global strategies.

CONCLUSION

India’s choices have been crucial to the Quad’s revitalisation. For now, it remains committed to deepening its engagement in the grouping. The longer the trends that facilitated this deeper engagement continue – especially regarding a greater threat perception of China – the more likely it is that these choices will be locked in. If the other members’ enthusiasm for the grouping remains high, the Quad’s durability will be strengthened. Nonetheless, although the Quad’s importance has been elevated in New Delhi’s view, it will remain one of several mechanisms that India uses to achieve its objectives in the region. The trends that drove India towards the Quad will also facilitate the deepening of its bilateral, trilateral and plurilateral ties with other partners that share its interests and concerns.

NOTES


8 Ibid.; and India, Ministry of External Affairs, ‘Joint Media Briefing by Foreign Secretary Shri


41 India, Ministry of External Affairs, ‘Prime Minister’s Opening Remarks at the First Quadrilateral Leaders’ Virtual Summit by Foreign Secretary’, 12 March 2021, https://mea.gov.in/media-briefings.htm?dl=33596/Transcript_of_Special_Briefing_on_First_Quadrilateral_Leaders_Virtual_Summit_by_Foreign_Secretary_March_12_2021.


CHAPTER 10

EUROPE AND THE INDO-PACIFIC: EVOLVING SECURITY ENGAGEMENT

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A growing number of European nations, as well as the European Union, have formulated ambitions to enhance their security engagements in the Indo-Pacific. NATO is producing a new Strategic Concept expected to announce a similar aim. In 2021, the European military presence in the region increased. A major force behind these activities is China’s increasing power and its drive to shape the international system in ways that conflict with European interests. However, the war in Ukraine raises doubts about Europe’s capacity to significantly increase its defence engagement in the Indo-Pacific.

EUROPE’S BROAD INDO-PACIFIC INTERESTS

Beijing’s challenge to European economic security, global supply chains and the rule of law has led to greater strategic convergence between European nations, the EU, NATO and their Indo-Pacific partners. All these parties share a desire to check China’s influence.

Evolving European strategies

Yet Europe’s engagement in Indo-Pacific security lacks a long-term agenda and remains incoherent and opportunistic. The military-power-projection capabilities of even major European powers remain limited and Russia’s invasion of Ukraine may further reduce their willingness to engage in the region strategically.

TOWARDS A GEOPOLITICAL APPROACH?

If Europe’s resources can match its growing interest in Indo-Pacific security – and if it can develop a strategy informed by geopolitics rather than mostly narrow economic interests – then its future security role in the region might not be insignificant.
In September 2021, European Commission President Ursula von der Leyen vowed that the European Union would take a robust approach towards China. The statement was made after Beijing banned ten European citizens (including five members of the European Parliament) from entering China in March 2021 in response to EU sanctions levied against Beijing for reported human-rights abuses committed against the Uighur population in Xinjiang province. In April 2021, a European Council report commissioned by the leaders of the 27 EU member states warned that China had continued its authoritarian shift with further closure of the domestic political space, increased social controls and repression in Xinjiang and Tibet. China has also cracked down on fundamental freedoms in Hong Kong [which] … can only have a negative impact on EU–China relations … . The EU has clear interests at stake when it comes to peace and stability in the South China Sea. The recent rise in tensions across the Taiwan Strait should be closely followed.

In September 2021, the EU’s new ‘Strategy for Cooperation in the Indo-Pacific’ outlined its objective to play a greater role in the region, including in the security and defence domains. Specific aims included promoting ‘an open and rules-based regional security architecture, including secure sea lines of communication, capacity-building and enhanced naval presence in the Indo-Pacific’; exploring ‘ways to ensure enhanced naval deployments by [EU] Member States in the region’; supporting ‘Indo-Pacific partners’ capacity to ensure maritime security’; and facilitating ‘capacity-building for partners to tackle cybercrime’.

Individual European nations have also intensified their strategic engagement with the Indo-Pacific. Alongside the two traditional players with long-standing regional security interests – France and the United Kingdom – Germany and the Netherlands sent warships to the region in 2021. Combining declaratory policy to signal long-term political support with bureaucratic planning for Indo-Pacific activities, the EU, NATO and policymakers from major European powers are working to establish a more coherent framework for engaging the region. Europe now accepts that China has changed the regional balance of power. In response, the EU, NATO and European democracies seek to partner with major Indo-Pacific powers and regional forums, such as the Association of Southeast Asian Nations (ASEAN), to address this challenge. That said, some increasingly autocratic European countries, such as Hungary and Serbia, have closer relations with China (and with Russia), although those aligning with Moscow had to adjust their positions following Russia’s invasion of Ukraine in February 2022. The focus here is on those European countries whose strategic interests broadly align with those of the United States, are often termed ‘like-minded’ and seek to uphold the ‘rules-based order’. 
EUROPE’S BROAD INDO-PACIFIC INTERESTS

Many European countries’ interests in Indo-Pacific stability are tied to considerations of strategy, economics and values. Firstly, Beijing’s growing military aspirations have resulted in several strategic concerns. Intensifying US–China strategic competition in the military, political, economic and technological domains has prompted the EU, NATO and major European powers to reassess their respective roles in the region. A regional conflict involving China, Japan, the US and other Indo-Pacific countries would have severe ramifications, including for the European continent. Apart from global market and supply-chain disruptions, a military conflict might not remain local and limited. Australia, Japan and the US – and likely also India and maritime Southeast Asian states – would look to their European partners for political, financial and even military support. Tellingly, US President Joe Biden’s new Indo-Pacific strategy, published in February 2022, welcomed enhanced European and EU engagement in the Indo-Pacific and declared Europe an important partner in collective efforts to uphold the regional order.

In the long term, Europe will also face China’s global power-projection capabilities and a People’s Liberation Army (PLA) more able to deploy forces in and around the European theatre of operations.

Secondly, the Indo-Pacific is of critical economic and technological importance to European countries (see Figure 10.1), notably in terms of ensuring the uninterrupted flow of goods through Asia’s maritime and land trade routes. Europe’s economic security is already adversely affected by Chinese activities, such as cyber attacks and the theft or acquisition of critical technologies. European governments and companies have also needed to adjust to Beijing’s illiberal trade practices and use of economic sanctions for political gain. For example, after Lithuania invited Taiwan to open a representative office in Vilnius in November 2021, Beijing downgraded its diplomatic and economic relations with the Baltic nation. The following month, Beijing also pressured major European companies, including German car-parts company Continental, to stop using parts made in Lithuania. In response, EU lawmakers called for rapid implementation of a new ‘anti-coercion’ instrument, though it is unclear when and how such measures will be adopted. Furthermore, to the detriment of European innovation and critical
China is intensifying efforts to take leadership positions in international organisations and set international standards – based on China’s domestic laws – in relation to emerging and enabling technologies.

Thirdly, China’s efforts to reshape the international order to reflect its authoritarian values conflict with Europe’s stance as a promoter of the liberal rules-based international order. As one EU parliamentarian said in September 2021, Europe ‘must not be naive when dealing with China. Whilst China is an important trading partner, it is also a systemic rival that poses a challenge to our way of life and the liberal world order.’

Beijing’s alleged systematic violation of human rights in Xinjiang province, its continued suppression of civil rights in Hong Kong and its militarisation of the South China Sea have prompted Europe to make a fundamental reassessment of China’s intentions. Specifically, the fate of Taiwan has received increased attention in Europe as it could be ‘next’ on China’s list of illiberal expansion. Consequently, several European countries have signalled to Beijing their strong interest in cross-strait stability. For instance, the December 2021 treaty establishing the new German coalition government stated that any change in the status quo between China and Taiwan could only happen peacefully and with mutual consent.

China’s mandate under President Xi Jinping and its unwillingness to cooperate with international efforts to uncover the origins of the coronavirus pandemic have contributed to a negative shift in European public opinion regarding China, including in the three largest European powers – France, Germany and the UK (see Figure 10.2). To be sure, public-opinion data in 2021 indicated that many Europeans do not perceive China as a direct geopolitical threat and remain unwilling to incur significant costs to stand up to Beijing’s behaviour. However, at the same time, China’s threats to democratic norms and electoral systems have led to increased public support for European governments pushing back against China’s interference in their domestic politics. Such measures as establishing the European Parliament’s Special Committee on Foreign Interference aim to address China’s suborning and co-optation of elites in Southeastern, Central and Eastern Europe. The European Commission also seeks to establish a system of quick-fire sanctions – which can be applied without the endorsement of all EU member states – in response to foreign powers’ attempts to coerce the EU or individual members. Individually, the Czech Republic, Denmark and Germany have also implemented foreign-investment screening.

Figure 10.2: Selected European countries’ sentiment towards China, 2020

Evolving European Strategies

The EU, NATO and European countries are seeking to increase their respective security roles in the Indo-Pacific. The EU, the three major European powers (France, Germany and the UK) and the Netherlands have all declared Indo-Pacific policies, demonstrating a growing view among Europeans that their continent’s geopolitical future is increasingly tied to the region. However, forging consensus in the EU and NATO regarding how to achieve Europe’s ambitions for an upgraded Indo-Pacific presence is likely to remain a long-term challenge.

The EU’s 2021 Indo-Pacific strategy

The EU seeks a degree of autonomy from the US regarding the terms and scope of its engagement with Indo-Pacific security and defence. Many EU members remain reluctant to join what they regard as a ‘hawkish’ US approach towards China. They have objected to American suggestions to partially ‘decouple’ from China’s economy,13 which remains a key market for almost all European countries. Moreover, the EU seeks independence from Washington when deepening its own strategic and economic ties with Indo-Pacific partners such as ASEAN, Australia, India and Japan. Tellingly, EU leaders remained reluctant in early 2021 to embrace the Biden administration’s call for Europe and the US to ‘push back’ together against China.14 French President Emmanuel Macron expressed similar concerns in February that year, arguing that joining together against China would create ‘a scenario of the highest possible conflictuality’.15 However, should the EU’s ‘autonomous’ approach remain unclarified with regards to resources and outcomes – as EU High Representative for Foreign and Security Affairs Josep Borrell Fontelles has warned – the EU will be at risk of ‘strategic shrinkage’.16

In this context, the EU’s Indo-Pacific strategy reflects its ambition to have influence in the region. Recognising that the ‘world’s centre of gravity is moving towards the Indo-Pacific’,17 the document pledged to build ‘partnerships that reinforce the rules-based international order, address global challenges, and lay the foundations for a rapid, just and sustainable economic recovery that creates long-term prosperity’.18 Yet the document failed to directly address China’s assertiveness as the main cause of regional instability, instead insisting on an ‘inclusive’ and ‘cooperation based’ approach to the Indo-Pacific. It only hinted at Beijing’s attempts to alter the regional status quo, mentioning ‘tensions around contested territories and maritime zones’ and a ‘significant military build-up, including by China’. It also stated that regional flashpoints, such as the South and East China seas and the Taiwan Strait, may have ‘a direct impact on European security and prosperity’.19 The decision to avoid criticising China’s behaviour differed from recent approaches of the US and its regional allies (notably Australia and Japan), which are taking assertive steps to counter Beijing’s actions.20
Nonetheless, EU objectives include establishing a ‘meaningful’ European naval presence and intra-European coordination through mechanisms such as the Coordinated Maritime Presences, which aims to develop the EU into a maritime-security provider and establish a permanent presence in areas of interest.\textsuperscript{21} The strategy called for more joint naval exercises between EU members, more port calls and increased participation in multilateral exercises. Brussels further seeks strengthened regional maritime-domain awareness and information-sharing through working with information fusion centres (such as Singapore’s) and with Indian Ocean Rim Association (IORA) member states. It has also expanded the EU Critical Maritime Route Wider Indian Ocean (CRIMARIO) programme to Southeast Asia and the South Pacific. Moreover, the EU promised to step up its defence diplomacy, deploy military advisers with EU delegations and establish security and defence dialogues with more partners, including discussions on challenges such as counter-terrorism, cyber security, maritime security and non-proliferation. Recognising the trend towards flexible, outcomes-based minilateralism, the EU intends to cooperate with the Quadrilateral Security Dialogue (the Quad, comprising Australia, India, Japan and the US) on issues such as vaccines and emerging technologies.\textsuperscript{22} Therefore, despite some shortfalls, the EU’s Indo-Pacific strategy has involved a step up from the previous declaratory interest in the region. The strategy attempts to define a cohesive EU security approach towards Indo-Pacific partners as opposed to relying on individual member states’ contributions. Crucially, it sets out a more active role while simultaneously trying to steer clear – to the extent possible – of US–China competition.

Whether that delicate balancing act will succeed remains to be seen. Some European critics have argued that an EU approach that pursues a ‘third way’ between the US and China does not adequately reflect Europe’s values and interests. Instead, they say Europe should support the US and other like-minded countries in the Indo-Pacific to reinforce liberal norms and rules in the interest of maintaining a regional order favourable to Western (and hence European) interests.\textsuperscript{23}

The EU’s strategy faces other challenges. It states that the EU will not only continue to protect its essential interests but also ‘promote its values’ and push back against China ‘where fundamental disagreements exist … such as on human rights’.\textsuperscript{24} It is uncertain the extent to which Europe will indeed be willing to defend civil liberties, democratisation and human rights in the Indo-Pacific (for example, Hong Kong’s subjugation by the Chinese Communist Party and the ethnic genocide of the Rohingya minority in Myanmar were met with largely ineffective EU responses).

The objective of establishing a regular and ‘meaningful’ regional maritime presence may also face challenges. The EU’s ability to project significant military power remains severely limited. Since the UK left the EU, France is the only power within the EU with significant naval power-projection capacity. All of Europe’s Indo-Pacific deployments, apart from Operation Atalanta in the western Indian Ocean, have been conducted under national flags and many states will remain reluctant to reallocate military resources from pressing problems closer to home, such as Russia’s threat to Eastern and Northern Europe. The EU’s March 2022 ‘Strategic Compass’ announced the conduct of ‘live maritime exercises with partners in the Indo-Pacific in addition to more frequent port calls and patrols’
by 2023. In this context, in late January, it was reported that a concept note by the EU’s European External Action Service proposed the establishment of a new European ‘maritime area of interest’ (MAI), which would cover the area from the Red Sea to Madagascar, the Maldives and the Strait of Hormuz. It stated that European ‘member states deploying assets [warships] in the new NWIO [northwest Indian Ocean] MAI ... would be a good opportunity’ to ‘enhance the EU’s diplomatic influence’ there. Indo-Pacific governments will watch closely as Paris tries to persuade European countries to commit resources to the region, in support of France’s declared objective to strengthen Indo-Pacific security during its EU presidency in 2022.

**NATO’s next Strategic Concept and the China question**

Ever since the Trump administration put the rise of China on NATO’s agenda in 2017, the Alliance has been searching for its own Indo-Pacific strategy. An expert report commissioned by NATO Secretary-General Jens Stoltenberg concluded in November 2020 that NATO had to ‘devote much more time, political resources, and action to the security challenges posed by China – based on an assessment of its national capabilities, economic heft, and the stated ideological goals of its leaders’. It further stated that the ‘growing power and assertiveness of China is the other major geopolitical development that is changing the strategic calculus of the Alliance’. Stoltenberg himself declared in November 2021 that NATO’s next Strategic Concept, due in 2022, had to address the new reality of an age of ‘systemic competition’ that saw ‘Russia and China undermining the rules based international order’, a shifting balance of power and pressure on democracy and freedom.
Nevertheless, it is uncertain whether the Alliance will be able to agree on an enhanced role in Indo-Pacific security – and whether this might include a regular NATO presence in the region. While it is plausible that the new Strategic Concept will pave the way for greater defence cooperation with Indo-Pacific partners, such as Australia, Japan, New Zealand and South Korea, any developments are likely to reflect more a continuation of its current approach than a major departure. An intensified engagement in the Indo-Pacific seems unlikely given that key European allies, such as France and Germany, remain wary of an enhanced NATO role due to concerns about China’s response. More importantly, most European allies understandable prefer that NATO’s priority remain Russia. The latter’s invasion of Ukraine in February 2022 will only sharpen NATO’s focus on its eastern, northern and southeastern flanks. For these reasons, Alliance members will likely struggle to organise a communal response to China’s activities in the Indo-Pacific region. That said, the ‘China question’ is now firmly on NATO’s agenda as a pressing security challenge.

France pivots
Of all the European powers, France has published the clearest expression of its security interests in the Indo-Pacific. A few months after the 2017 presidential election, the Ministry for the Armed Forces’ ‘Defence and National Security Strategic Review’ pointed to growing Sino-American rivalry and the risks Chinese power posed to regional stability. In 2019, the ministry published two further documents outlining France’s security and defence strategies vis-à-vis the Indo-Pacific. The first, ‘France and Security in the Indo-Pacific’, reasserted France’s long-standing argument that it is a ‘resident power’ in the Indo-Pacific owing to its overseas departments and territories in the Indian Ocean and Southwest Pacific and its permanent military presence in both sub-regions. It added that Indo-Pacific security was a ‘strategic challenge’ for Paris and vowed to make a ‘real commitment’ to regional stability, including through a significant military presence.

Also in 2019, the Ministry for the Armed Forces released ‘France’s Defence Strategy in the Indo-Pacific’. Noting that France was a ‘sovereign nation of the Indo-Pacific’, it identified four key tasks for the French armed forces in the region: to ‘defend and ensure the integrity of our sovereignty, the protection of our nationals, territories and EEZ [exclusive economic zone]’; to ‘contribute to the security of regional environments through military and security cooperation’; to ‘maintain a free and open access to the commons, in cooperation with our partners, in a context of global strategic competition and challenging military environments’; and to ‘assist in maintaining strategic stability and balances’. The document also stated that China’s actions had generated ‘deep-seated concerns’. In speeches in China and India in 2018, Macron had already warned Beijing against pursuing hegemonic ambitions.

In its attempt to promote greater ‘strategic autonomy’, France has avoided close alignment with the US approach to China. In a May 2018 speech in Sydney, Macron stated that France views itself as a ‘mediating, inclusive and stabilising’ Indo-Pacific power. Consequently, Paris has actively participated in security minilateralism in the region, specifically with Australia, India, Indonesia and Japan. Measures have included a
trilateral ministerial dialogue with India and Australia, a defence-equipment deal with Indonesia and a ‘2+2’ meeting with Japan. Along with the French foreign ministry labelling its 2021 guidelines ‘France’s Partnerships in the Indo-Pacific’, such moves highlight France’s recognition of the limitations of multilateralism and of the EU as a global security actor. Moreover, France’s 2020 defence strategy for the region included not just the US as a ‘primary partner’ but also Australia, India, Indonesia, Japan, Malaysia, New Zealand, Singapore and Vietnam. However, in February 2022 the French foreign ministry published an updated version of ‘France’s Indo-Pacific Strategy’ that stated it had undertaken a ‘re-evaluation’ and downgraded France’s strategic relationship with Australia. This measure followed the dispute over Canberra’s September 2021 decision to terminate cooperation with France on Australia’s future submarine programme. The update also added the anticipation of ‘security risks brought about by climate change’ to the list of key security and defence objectives in the Indo-Pacific.

Germany engages

In September 2020, Germany’s Federal Foreign Office published the country’s ‘Policy Guidelines for the Indo-Pacific’. They stated that, as part of the EU, Germany had a ‘great interest in participating in Asia’s growth dynamics and in being involved in shaping the Indo-Pacific region, as well as in upholding global norms in regional structures’. They further stressed that Germany’s primary interests were regional ‘peace and security’, which were threatened by ‘geopolitical tensions’. To enhance Germany’s contribution to Indo-Pacific stability, the guidelines aimed to expand regional security and defence cooperation, including at the bilateral level. Concrete measures ‘may include attending security policy forums, taking part in exercises in the region, elaborating joint evacuation plans, seconding liaison officers and various forms of maritime presence’.

The guidelines reflected a step forward in terms of Germany’s willingness to engage more systematically with the region. That said, they fell short in other respects. China’s assertiveness was not listed as the cause for growing regional tensions. It was also noteworthy that the guidelines distanced Berlin from the US (Trump) administration of the time, for instance by labelling ‘containment and decoupling strategies’ as adverse to Berlin’s inclusive approaches to regional order. The US, rather than China, appeared to be the main contributor to regional instability – a position out of touch with the views of key Indo-Pacific partners, notably Japan and India. In addition, the guidelines framed Germany’s approach to the Indo-Pacific within multilateral and European solutions. Indeed, the foreign minister’s foreword stressed arms control and support for an ‘Alliance for Multilateralism’ as part of Germany’s ‘tangible contribution’ to the region. Not only did this approach disregard the limitations of the region’s multilateral organisations, it also neglected a perception in the region that the EU is not a serious strategic actor in Asia because it is not willing to wield hard power.

Against this backdrop, Germany’s Indo-Pacific partners will be looking for signs of Berlin’s future strategy towards the region under the country’s new coalition government. There have been tentative signs that Chancellor Olaf Scholz’s administration will adjust the China-friendly course of his predecessor, Angela Merkel. The coalition agreement
acknowledged that Germany was now in a ‘systemic rivalry’ with China such that a ‘comprehensive China strategy’ was required. It also called for cooperation with regional partners that have shared strategic interests, such as Australia, India and Japan, to reduce ‘strategic dependencies’ and emphasised the need for close cooperation with the US on China. The agreement further called on Beijing to play a ‘responsible’ role in the interests of peace and stability, including in the Taiwan Strait. Moreover, new Minister of Foreign Affairs Annalena Baerbock has been outspoken regarding China’s challenge to the existing international order. As Minister of State in the Federal Foreign Office Tobias Lindner said in January 2022, ‘disagreements with China touch the core of European values and interests – not addressing this now will cost us dearly in the long run’.

It remains to be seen whether in practice the Scholz government will actively diversify Germany’s Indo-Pacific relations away from their current China-centric focus. It is possible that Berlin will remain focused on economic, trade and technology links to the region and view strategic issues vis-à-vis China as separate. If so, Germany’s Indo-Pacific engagement might intensify but lack substance when it comes to security and defence affairs. For instance, it is unclear whether Scholz’s administration will support continued German military deployments in the Indo-Pacific, notwithstanding remarks by then German chief of navy Vice Admiral Kay-Achim Schönbach during his IISS Fullerton Lecture in Singapore in December 2021. That said, one should not underestimate the importance of Germany’s role in organising a more coherent European contribution in support of critical but non-military areas of regional security, such as digital standards and dual-use infrastructure development.

**Increased engagement by the Netherlands**

The Netherlands is the only smaller European country that has published an official Indo-Pacific strategy document. Its 2020 publication ‘Indo-Pacific: Guidelines for Strengthening Dutch and EU Cooperation with Partners in Asia’ noted that the ‘geopolitical and geo-economic balance of power is shifting rapidly’ and that the Netherlands (and the EU) needed to ‘step up’ their efforts in the Indo-Pacific. Designed to inform the EU drafting process of an Indo-Pacific strategy at the time, the guidelines stated that the EU should not be afraid of realpolitik and that great-power competition in the region called ‘for a strategic approach that goes beyond trade and investment’. It added that the Netherlands should actively pursue its strategic interests – an endeavour in which ‘power politics and principles can go hand in hand’ – and that it would try to shift the EU towards adopting a more geopolitically driven Indo-Pacific strategy.
In pursuit of its geopolitical interests, the Netherlands aimed for close collaboration with like-minded EU and NATO member states, NATO’s regional partners (including Australia, Japan, New Zealand and South Korea), India and selected ASEAN member states (Indonesia, Malaysia, Singapore and Vietnam). To this end, the Netherlands vowed to underpin the EU’s role in helping to preserve the balance of power and potentially ‘providing a counterweight to the strategic economic and military influence of one or more great powers’, a thinly veiled reference to China’s growing power in the region. More specifically, it suggested promoting maritime security in terms of ensuring safe passage, preserving the UN Convention on the Law of the Sea (UNCLOS) and capacity-building. This element was a response to Beijing’s use of ‘the full range of its governmental instruments in a hybrid manner to pursue its strategic aims’ and aimed to remind China of its responsibilities with regards to nuclear-arms modernisation. The Netherlands’ guidelines also stressed an intention to participate in ‘relevant gatherings on strategic issues in the Indo-Pacific region’, such as the annual IISS Shangri-La Dialogue in Singapore, and plans to advance cooperation with regional partners on cyber security.

The guidelines reflect the Netherlands’ concerns over the potential impact on the Netherlands of China’s rising power and influence. The use of assertive language and references to realpolitik pointed to a significant departure from previous language. While the guidelines also used the term ‘inclusive’ as a framework for its approach towards the Indo-Pacific, it made clear that such inclusivity meant cooperation with like-minded partners to push back against China’s hegemonic ambitions. Therefore, the Netherlands may be more willing in future to become involved in efforts to maintain maritime security and freedom of navigation in the region.

The UK as an Indo-Pacific power
Unlike France, Germany and the Netherlands, the UK does not have an overarching strategy document guiding its Indo-Pacific engagement. Following Brexit, the UK’s foreign policy operates independently of EU frameworks. The government’s ‘Integrated Review of Security, Defence, Development and Foreign Policy’, published in March 2021, highlighted the UK’s ‘tilt’ to the Indo-Pacific, which it identified as a framework guiding the government’s ‘Global Britain’ approach. The review stated that the UK would ‘be the European partner with the broadest and most integrated presence in the Indo-Pacific’. Because of the ‘growing importance of the Indo-Pacific’, the review pledged to reinforce the UK’s commitment to the Five Power Defence Arrangements (FPDA; the other members are Australia, Malaysia, New Zealand and Singapore) and increase its regional maritime presence. In this context, it announced that its new aircraft carrier, HMS Queen Elizabeth, would lead a multinational task group on a global deployment in 2021, including to the Indo-Pacific, to demonstrate ‘interoperability with allies and partners – in particular the United States’.

The review and its accompanying document ‘Defence in a Competitive Age’ both highlighted concerns about Beijing’s challenge to the regional order, noting that ‘China’s increasing international assertiveness’ was a key geopolitical challenge. The UK’s ‘tilt’ thus needed to show a willingness to ‘push back to protect [its] values and global interests’. To achieve this, the British armed services would evolve from a force ‘primarily
designed for the contingency of a major conflict and warfighting, to one that is also designed for permanent and persistent global engagement’.64 The documents anticipated an increased British defence role in the Indo-Pacific, including pledges to make larger and more permanent British contributions to the FPDA; to ensure freedom of navigation and access to UK bases in the region; to establish a ‘Littoral Response Group’ in the region in 2023; and to deploy frigates in the ensuing decade.65

**EUROPEAN NAVAL AND BROADER MILITARY ACTIVITIES IN THE INDO-PACIFIC**

In 2021, the combined Indo-Pacific naval presence of European states increased substantially in terms of units deployed to the region. It was evident that the European countries sending ships primarily intended to signal their willingness to be more engaged in maintaining the region’s security in the face of Chinese assertiveness. However, there are grounds for questioning European governments’ determination to sustain such deployments in the medium and long term, particularly in light of their constrained defence resources. In any case, aside from the two European powers long established in the Indo-Pacific – France and the UK – it was only Germany and the Netherlands that sent ships: a single frigate in each case (see Map 10.1).

**Increased naval presence**

A long-planned Royal Navy-led carrier strike group centred on aircraft carrier HMS Queen Elizabeth deployed to the region in 2021 for over seven months to showcase ‘Global Britain’s’ tilt to the region. It followed a series of single-ship British naval deployments to the Indo-Pacific during 2018–20 after a break of some years in such missions. The carrier strike group – known as CSG21 – included a Royal Netherlands Navy frigate, HNLMS Evertsen, US Navy destroyer USS The Sullivans and a US Marine Corps squadron of F-35B Lightning II combat aircraft alongside a similarly equipped British squadron aboard HMS Queen Elizabeth. Elements of the group sailed through the South China Sea, while CSG21 conducted exercises in the region with local states’ navies, including Singapore’s. It also took part in drills in the Philippine Sea southwest of Okinawa with two US aircraft carriers and a Japanese helicopter carrier.66 Separately, one CSG21 ship, the frigate HMS Richmond, transited the Taiwan Strait, the first time a British frontline warship had done so for over a decade.67 In September 2021, the UK followed CSG21 by sending two patrol vessels to the region with the intention that they would remain there for five years.68
The presence of the German frigate Bayern in the Indo-Pacific from August 2021 to February 2022 was the first German deployment of its kind in nearly 20 years and received considerable publicity. Controversially, the ship's original itinerary included a request for a port visit to Shanghai. In the end, Beijing rejected the planned stopover on the grounds that the ship's deployment to the South China Sea was intended to ‘flex muscles and stir up trouble, deliberately creating disputes on maritime issues’.69 Instead the ship conducted an additional port call in Australia, the first such visit in 30 years. Germany’s then naval chief stated that the deployment was ‘about showing the flag and demonstrating on the ground that Germany stands by its international partners when it comes to securing the freedom of the sea routes and upholding international law in the region’.70 During its deployment, the Bayern joined exercises with regional states’ navies, including Japan’s multinational exercise AnnualEx in the Philippine Sea in November 2021.71 That said, the German ship was not integrated into CSG21 or any other multinational naval task groups and – presumably to avoid provoking Beijing72 – did not sail through the Taiwan Strait.

Meanwhile, France continued its annual regional naval deployments. In 2021, these included two groups, one centred around the aircraft carrier Charles de Gaulle and the other – as is normally the case for such training missions into the region – led by one of its...
### Table 10.1: Selected Asia-Pacific military exercises involving European countries, 2018–21

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Exercises</th>
<th>Participants</th>
<th>Locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Japan–Germany Bilateral Exercise</td>
<td>13 Dec 2021</td>
<td>Maritime</td>
<td>Germany, Japan</td>
<td>Pacific Ocean</td>
</tr>
<tr>
<td>ANNUALEX 2021</td>
<td>20–30 Nov 2021</td>
<td>Interoperability, maritime, anti-submarine warfare (ASW), surface warfare, information warfare</td>
<td>Australia, Canada, Germany, Japan, US</td>
<td>Philippine Sea</td>
</tr>
<tr>
<td>Konkan Shakti 2021</td>
<td>21–27 Oct 2021</td>
<td>Maritime, air, land</td>
<td>India, Netherlands, UK</td>
<td>India (Mumbai), Arabian Sea</td>
</tr>
<tr>
<td>Maritime Partnership Exercise 2021</td>
<td>15–18 Oct 2021</td>
<td>Air defence, amphibious, ASW, combat support, field training, gunnery, interoperability, maritime</td>
<td>Australia, Japan, UK, US</td>
<td>Pacific Ocean</td>
</tr>
<tr>
<td>Ajeya Warrior 2021</td>
<td>7–20 Oct 2021</td>
<td>Field training, interoperability</td>
<td>India, UK</td>
<td>India (Uttarakhand)</td>
</tr>
<tr>
<td>Bersama Gold 2021</td>
<td>4–18 Oct 2021</td>
<td>Air combat, air defence, ASW, gunnery, interoperability, maritime</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Malaysia (Butterworth), South China Sea</td>
</tr>
<tr>
<td>Multilateral Exercise 2021</td>
<td>2–3 Oct 2021</td>
<td>Maritime</td>
<td>Canada, Netherlands, Japan, New Zealand, UK, US</td>
<td>Japan (Okinawa), Philippine Sea</td>
</tr>
<tr>
<td>Noble Union</td>
<td>17–23 Aug 2021</td>
<td>Interoperability, maritime, air, amphibious, force experimentation</td>
<td>Japan, Netherlands, UK, US</td>
<td>Japan (Okinawa), Philippine Sea</td>
</tr>
<tr>
<td>India–UK Maritime Exercise 2021</td>
<td>21–23 Jul 2021</td>
<td>Maritime</td>
<td>India, UK</td>
<td>Bay of Bengal</td>
</tr>
<tr>
<td>Talisman Sabre 2021</td>
<td>14–31 Jul 2021</td>
<td>Interoperability, amphibious, field training, maritime, air combat</td>
<td>Australia, Canada, Japan, New Zealand, South Korea, UK, US</td>
<td>Australia (Queensland)</td>
</tr>
<tr>
<td>Suman Warrior 2021</td>
<td>5–14 Jul 2021</td>
<td>Synthetic, interoperability, command post (CPX)</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Singapore (hosted virtually)</td>
</tr>
<tr>
<td>Jeanne D’Arc 2021 (ARC 21)</td>
<td>11–17 May 2021</td>
<td>Air defence, amphibious, ASW, combat support, command and staff, field training, gunnery, interoperability, synthetic, urban operations</td>
<td>Australia, France, Japan, US</td>
<td>Japan (airspace over Kyushu, Camp Ainoura, Kirishima Manoeuvre Area, East China Sea)</td>
</tr>
<tr>
<td>Varuna 2021</td>
<td>25–27 Apr 2021</td>
<td>Air defence, ASW, anti-surface warfare, maritime</td>
<td>France, India</td>
<td>Indian Ocean</td>
</tr>
<tr>
<td>Bersama Shield 2021</td>
<td>5–28 Apr 2021</td>
<td>CPX, interoperability</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Malaysia (Butterworth), (hosted virtually)</td>
</tr>
<tr>
<td>La Pérouse 2021</td>
<td>5–7 Apr 2021</td>
<td>Air defence, anti-surface warfare, interoperability, maritime, surface warfare</td>
<td>Australia, France, India, Japan, US</td>
<td>Bay of Bengal</td>
</tr>
<tr>
<td>Desert Knight 2021</td>
<td>20–24 Jan 2021</td>
<td>Air combat</td>
<td>France, India</td>
<td>India (Jodhpur)</td>
</tr>
<tr>
<td>RimPAC 2020</td>
<td>17–31 Aug 2020</td>
<td>Maritime, naval/navigation</td>
<td>Australia, Brunei, France, Japan, New Zealand, Philippines, Singapore, South Korea, US</td>
<td>Pacific Ocean</td>
</tr>
<tr>
<td>Indradhanush</td>
<td>24–29 Feb 2020</td>
<td>Air, air combat, airborne, force protection</td>
<td>India, UK</td>
<td>India (Hindan airbase)</td>
</tr>
<tr>
<td>Shakti 2019</td>
<td>31 Oct–13 Nov 2019</td>
<td>Field training</td>
<td>India, France</td>
<td>India (Mahajan Range, Rajasthan)</td>
</tr>
<tr>
<td>Bersama Lima 2019</td>
<td>6–16 Oct 2019</td>
<td>Air combat, CPX, humanitarian assistance and disaster response (HADR), interoperability, maritime, naval/navigation</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Malaysia (RMAF base Butterworth; land training at Kuantan), Singapore</td>
</tr>
<tr>
<td>Thor’s Hammer</td>
<td>1 Oct–1 Nov 2019</td>
<td>Counter-IED</td>
<td>Australia, Austria, Belgium, Canada, Denmark, France, Germany, Luxembourg, Netherlands, Sweden, UK, US</td>
<td>Australia (Woomera)</td>
</tr>
<tr>
<td>Equateur 2019</td>
<td>21 Sep–5 Oct 2019</td>
<td>HADR</td>
<td>France, Japan</td>
<td>France (New Caledonia)</td>
</tr>
<tr>
<td>Name</td>
<td>Date</td>
<td>Exercises</td>
<td>Participants</td>
<td>Locations</td>
</tr>
<tr>
<td>-----------------------------------</td>
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<td>------------------------------------------------</td>
<td>--------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td><strong>Suman Warrior 2019</strong></td>
<td>8–20 Sep 2019</td>
<td>Interoperability, CPX, land forces</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Australia (Brisbane, Queensland)</td>
</tr>
<tr>
<td><strong>Talisman Sabre 2019</strong></td>
<td>7–27 Jul 2019</td>
<td>Interoperability, amphibious, field training, maritime, air combat</td>
<td>Australia, Canada, Japan, New Zealand, UK, US</td>
<td>Australia (Queensland)</td>
</tr>
<tr>
<td><strong>La Pérouse 2019</strong></td>
<td>17–25 May 2019</td>
<td>Maritime</td>
<td>Australia, France, Japan, US</td>
<td>Bay of Bengal</td>
</tr>
<tr>
<td><strong>Varuna 2019-1</strong></td>
<td>1–10 May 2019</td>
<td>Air defence, ASW, maritime, surface warfare</td>
<td>France, India</td>
<td>India (offshore Goa), Indian Ocean</td>
</tr>
<tr>
<td><strong>Bersama LIMA 2018</strong></td>
<td>1–19 Oct 2018</td>
<td>Air combat, ASW, anti-surface warfare, field training, flying, gunnery, interoperability, maritime</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Malaysia, Singapore</td>
</tr>
<tr>
<td><strong>Vigilant Isles</strong></td>
<td>1–14 Oct 2018</td>
<td>Field training</td>
<td>Japan, UK</td>
<td>Japan (Camp Fuji)</td>
</tr>
<tr>
<td><strong>Koolendong 2018</strong></td>
<td>15–29 Aug 2018</td>
<td>Field training</td>
<td>Australia, France, US</td>
<td>Australia</td>
</tr>
<tr>
<td><strong>RIMPAC 2018</strong></td>
<td>11–24 Jul 2018</td>
<td>Air defence, amphibious, ASW, anti-surface warfare, maritime security</td>
<td>Australia, Brunei, Canada, Chile, Denmark, France, Germany, India, Indonesia, Italy, Japan, Malaysia, Netherlands, New Zealand, Norway, Philippines, Singapore, South Korea, Thailand, UK, US</td>
<td>US (Hawaii)</td>
</tr>
<tr>
<td><strong>Gobi Wolf 2018</strong></td>
<td>4–8 Jun 2018</td>
<td>HADR</td>
<td>Australia, Canada, France, Japan, Mongolia, Nepal, Sri Lanka, South Korea, Thailand, UK, US</td>
<td>Mongolia</td>
</tr>
<tr>
<td><strong>Suman Warrior 2018</strong></td>
<td>28 May–8 Jun 2018</td>
<td>Interoperability, CPX</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>UK (Wiltshire)</td>
</tr>
<tr>
<td><strong>Komodo 2018</strong></td>
<td>4–9 May 2018</td>
<td>CPX, field training, naval/navigation, table top</td>
<td>Australia, Bahrain, Brazil, Brunei, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Malaysia, Myanmar, New Zealand, Oman, Papua New Guinea, Philippines, Poland, Qatar, Russia, Spain, Sri Lanka, Sweden, Thailand, Timor-Leste, Turkey, UK, US, Vietnam</td>
<td>Indonesia</td>
</tr>
<tr>
<td><strong>Varuna 2018-3</strong></td>
<td>1–7 May 2018</td>
<td>Air defence, interoperability, live fire, maritime security</td>
<td>France, India</td>
<td>Indian Ocean</td>
</tr>
<tr>
<td><strong>Bersama Shield 2018</strong></td>
<td>27 Apr–15 May 2018</td>
<td>Interoperability, maritime, flying, gunnery</td>
<td>Australia, Malaysia, New Zealand, Singapore, UK</td>
<td>Mayalsia, Singapore</td>
</tr>
<tr>
<td><strong>Japan–UK Maritime Exercise</strong></td>
<td>27–28 Apr 2018</td>
<td>Maritime</td>
<td>Japan, UK</td>
<td>Japan (waters south of Honshu)</td>
</tr>
<tr>
<td><strong>Varuna 2018-2</strong></td>
<td>3–8 Apr 2018</td>
<td>Amphibious, maritime security</td>
<td>France, India</td>
<td>Bay of Bengal</td>
</tr>
<tr>
<td><strong>Varuna 2018-1</strong></td>
<td>15–24 Mar 2018</td>
<td>ASW, maritime</td>
<td>France, India</td>
<td>Arabian Sea, Bay of Bengal, Indian Ocean</td>
</tr>
</tbody>
</table>

Note: Passing exercises (PASSEX) excluded; listed exercise participants may have taken part in the entire exercise, or only aspect(s) of it, with some deploying more equipment and personnel than others; these exercises are of varying size and complexity; some exercises may be annual, but may alternate exercise location.

Source: IISS Military Balance+, milbalplus.iiss.org
amphibious helicopter carriers, *Tonnere.* In April 2021, the latter group took part in the French-led *La Pérouse* exercise in the Bay of Bengal, which for the first time included all four Quad members. The French group also joined Australian ships for a joint patrol in the South China Sea. A month later, the multinational exercise *ARC21* around Japan’s southwestern islands involved Australian, French, Japanese and US warships (see Table 10.1). During the year, France also sent a nuclear-powered attack submarine to the region, while its signals-intelligence vessel, *Dupuy de Lôme*, made a rare transit through the Taiwan Strait.

As European governments’ security and defence concerns came to focus increasingly on Russia’s war against Ukraine in early 2022, it remained to be seen if Europe’s defence engagement in Indo-Pacific security would significantly expand. While the German Navy indicated prior to Russia’s invasion of Ukraine that it may send two ships to the region in 2023, it is no longer certain that this will happen. Moreover, smaller European countries have not yet announced any deployments for 2022. In addition, even France and the UK may struggle to maintain a persistent regional naval presence unless their governments take deliberate choices to either increase their fleets or limit their operational contributions in their European theatres. That said, the UK’s planned expansion of its surface-combatant strength during the current decade and its potential long-term regional deployment of a frigate in the medium term remain positive signals.

**Growing bilateral defence relations**

Several European powers have intensified their bilateral defence cooperation with Indo-Pacific countries, with the supply of military technology and equipment sometimes constituting a significant part of these relationships (see Table 10.2). In December 2021, Japan and the UK signed a memorandum of cooperation on the joint development of an
engine demonstrator for their respective sixth-generation fighter aircraft. The development followed their agreement in September 2021 to commence formal negotiations on a Reciprocal Access Agreement (RAA) to deepen their defence relations. If these talks succeed, the UK will be only the third country (after the US and Australia) to have concluded a visiting-forces agreement with Japan.

In November 2021, France reached an agreement with India on strengthening their bilateral defence and security relationship through greater intelligence- and information-sharing, operational cooperation and improving capabilities for joint operations, including those in the maritime, space and cyber domains. France also offered Rafale combat aircraft to both India (which already operated the type) and Indonesia, indicating its desire to increase its arms sales to these attractive markets. In February 2022, Indonesian Defence Minister Prabowo Subianto announced the country’s intention to purchase 42 Rafales.

Germany signed an Enhanced Strategic Partnership with Australia in June 2021 that included a commitment to hold regular ‘2+2’ meetings between the foreign and defence ministers and to increase defence cooperation. In September 2021, the two countries signed

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Table 10.2: European defence companies: selected ongoing and pending sales to Asia-Pacific countries

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Quantity and type of equipment</th>
<th>Prime contractor flag</th>
<th>Contractor</th>
<th>Value (US$ billions)</th>
<th>Order date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>211 x Boxer armoured fighting vehicles</td>
<td>Germany</td>
<td>Rheinmetall</td>
<td>2.58</td>
<td>Aug 2018</td>
</tr>
<tr>
<td>Australia</td>
<td>12 x Arafura-class (OPV 80) patrol ships</td>
<td>Germany</td>
<td>Lürssen Werft</td>
<td>2.55</td>
<td>Jan 2018</td>
</tr>
<tr>
<td>Australia</td>
<td>9 x Hunter-class frigates</td>
<td>UK</td>
<td>BAE Systems</td>
<td>26.18</td>
<td>Pending</td>
</tr>
<tr>
<td>India</td>
<td>56 x C295MW light transport aircraft</td>
<td>Spain</td>
<td>Airbus</td>
<td>2.54</td>
<td>Sep 2021</td>
</tr>
<tr>
<td>India</td>
<td>36 x Rafale fighter ground-attack aircraft</td>
<td>France</td>
<td>Dassault Aviation</td>
<td>8.71</td>
<td>Sep 2016</td>
</tr>
<tr>
<td>India</td>
<td>6 x Kalvari-class (Scorpène) submarines</td>
<td>France</td>
<td>Naval Group</td>
<td>3.75</td>
<td>Oct 2005</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6 x European multi-purpose frigate (FREMM), 2 x Maestrale-class frigates</td>
<td>Italy</td>
<td>Fincantieri</td>
<td>n.k.</td>
<td>Jun 2021</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2 x Arrowhead 140 frigates</td>
<td>UK</td>
<td>Babcock International</td>
<td>0.72</td>
<td>May 2021</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6 x Rafale fighter ground-attack aircraft</td>
<td>France, Germany, Spain</td>
<td>Dassault Aviation</td>
<td>1.10</td>
<td>Pending</td>
</tr>
<tr>
<td>Indonesia</td>
<td>2 x A400M heavy transport aircraft</td>
<td>France, Germany, Spain</td>
<td>Airbus</td>
<td>n.k.</td>
<td>Pending</td>
</tr>
<tr>
<td>Malaysia</td>
<td>6 x Mahangga Lela-class (Gowind 2500) frigates</td>
<td>France</td>
<td>Naval Group</td>
<td>2.94</td>
<td>Dec 2011</td>
</tr>
<tr>
<td>Philippines</td>
<td>6 x T129B attack helicopters</td>
<td>Turkey</td>
<td>Turkish Aerospace Industries</td>
<td>0.27</td>
<td>Jul 2020</td>
</tr>
<tr>
<td>Philippines</td>
<td>32 x S-70i Black Hawk medium transport helicopters</td>
<td>Poland</td>
<td>PZL Mielec</td>
<td>0.65</td>
<td>Pending</td>
</tr>
<tr>
<td>Singapore</td>
<td>H225M heavy transport helicopters</td>
<td>France</td>
<td>Airbus</td>
<td>1.58</td>
<td>Nov 2016</td>
</tr>
<tr>
<td>Singapore</td>
<td>4 x Type-218SG attack submarines</td>
<td>Germany</td>
<td>ThyssenKrupp Marine System</td>
<td>3.44</td>
<td>Dec 2013</td>
</tr>
</tbody>
</table>

a letter of intent for a ‘military space partnership’. Germany’s air force is scheduled to participate in Australia’s annual multinational air combat exercise Pitch Black in September 2022, sending six Eurofighter combat aircraft, three A330 MRTT tankers (presumably from NATO’s Multinational Multi-Role Tanker and Transport Fleet – MMF) and three A400M transport aircraft. Following the exercise, several aircraft are scheduled to visit Japan, Singapore and South Korea. In November 2021, in the context of the frigate Bayern’s visit, Japanese defence minister Kishi Nobuo announced that Japan and Germany would seek to increase their defence cooperation.

AUKUS fallout

European engagement in Indo-Pacific security was temporarily complicated by the unexpected September 2021 announcement of AUKUS, an Australia–UK–US deal that will see the UK and US assisting Australia to develop a nuclear-powered submarine capability. The three allies also agreed to joint capability-building in cyber, artificial-intelligence, quantum-computing and undersea technologies. Caught unprepared, the French government responded furiously to the surprise termination of its US$65 billion submarine deal with Australia by recalling its ambassador and cancelling the next iteration of the India–France–Australia Trilateral Ministerial Dialogue. Minister of the Armed Forces Florence Parly and Minister for Europe and Foreign Affairs Jean-Yves Le Drian also issued a statement that called for greater European ‘strategic autonomy’ in response. As already mentioned, France’s updated Indo-Pacific strategy of February 2022 also dropped Australia as a strategic partner in the region.

While France’s immediate reaction was to seek closer ties with India and Japan, and to advocate a distinct ‘European’ approach to Indo-Pacific security, the long-term fallout from AUKUS may be limited. France depends on continued military cooperation with Australia and the US to protect its enduring strategic interests in the Indo-Pacific. Paris is also cognisant of the limits of European power projection. Since the non-nuclear domains of AUKUS are reportedly open to other partners, there is potential for future European participation in cooperation under the auspices of AUKUS – a multi-decade project – including with France.

Asian countries’ responses to AUKUS indicated that many were not averse in principle to increased European (in this case, British) military engagement in the region. Aside from China and Malaysia, which both responded negatively, Indo-Pacific powers were either silent or expressed support for the AUKUS agreement. For instance, while Malaysia attempted to organise unified ASEAN opposition to AUKUS, the Philippines publicly declared its support while Singapore and Vietnam indicated...
implicit support. And while the Indonesian government voiced concerns, at the 2021 IISS Manama Dialogue Defence Minister Prabowo Subianto expressed an understanding of the thinking behind the agreement. India and Japan also stated their support.

**TOWARDS A GEOPOLITICAL APPROACH?**

In light of China’s geopolitical challenge to the regional and global order, individual European countries, the EU and NATO can no longer avoid the question of how to engage with Indo-Pacific security. Several European states have declared their aim to play a more active role in Indo-Pacific security. These include Germany, Europe’s largest single national economy, which also played a leading role in developing the EU’s Indo-Pacific strategy. Greater European interest is welcome news for many Indo-Pacific countries, which see it as additional weight to balance China’s assertiveness while simultaneously providing additional mechanisms aside from US-focused security pacts.

Protecting European interests and promoting European values are increasingly tied to Indo-Pacific geopolitical dynamics. Foremost for Europe is the need to avoid major-power conflict so as to maintain the Indo-Pacific as an open market to meet European economic and trade objectives. Secondly, effectively countering China’s growing assertiveness in Asia and elsewhere will require substantive coordination by the EU and individual European states with Australia, India, Japan, South Korea, Southeast Asian states and the US. In the first case, this should involve information-sharing regarding foreign-interference attempts, coordinating approaches to global-governance challenges such as technical-standards issues, and the aligning of the EU’s new ‘Global Gateway’ sustainable-infrastructure-development initiative (designed to counter China’s Belt and Road Initiative) with like-minded Indo-Pacific connectivity programmes.

Moreover, because closer Sino-Russian alignment will have repercussions for both regions, European powers and institutions may find that they need to engage with Indo-Pacific partners about potential collective responses. Debates about what might constitute effective responses to growing cooperation between Beijing and Moscow has the potential to promote EU disunity and constrain NATO actions. A Sino-Russian strategic communique of February 2022 stated for the first time that both sides ‘oppose further enlargement of NATO’. This document indicated both Chinese President Xi’s support for Russian President Vladimir Putin’s concerns about NATO expansion in Europe and Putin’s concurrence with Xi’s worries about possible NATO involvement in Asia. Increased China–Russia alignment and, in particular, their closer coordination in Africa, the northern Indian Ocean and Central Asia could complicate future US and European military deployments to the Indo-Pacific via land and maritime routes.

European leaders have been openly critical of the evolving Sino-Russian relationship and its impact on Europe’s security order. For instance, EU Commission President von der Leyen stated in February 2022 that both countries were now seeking a ‘new era’ and were trying to replace ‘the existing international order’. Moreover, her foreign-policy chief, Josep Borrell Fontelles, stated that the joint communique was the ‘culmination of a long-standing campaign. It is an act of defiance. It is clear: revisionist manifesto. A manifesto to review the world order.’ He added that Russia and China were ‘becoming more and more
assertive, willing to restore the old empires that they have been in the past’. A senior European diplomat also declared that ‘China endorsing Russia’s historical revisionism and aggression on our continent’ was ‘certainly not going down well in EU’. Beijing’s willingness to lean on Moscow to stop its war of aggression against Ukraine, with President Xi reportedly even asking Putin to delay the invasion until after the Olympics, has further hardened the mood in European capitals.

However, to deal effectively with this issue and China’s broader challenge, the EU and European states would need to fully embrace geopolitics as the lens through which to approach the Indo-Pacific. At present, they are far from fulfilling their objectives to influence the region’s security equation. The three most powerful European countries – France, Germany and the UK – manifest significant differences in their strategic approaches, while the EU’s Indo-Pacific strategy lacks a framework sufficiently informed by geopolitics that accepts that hard power is an important currency in the Indo-Pacific. Shortfalls in the military capability needed to enable a more persistent presence are unlikely to be addressed in the short term. Moreover, the EU’s insistence on a middle path between the US and China will continue to reduce its effectiveness as a security actor in the region. Europe’s influence on Indo-Pacific stability will remain limited unless its constituent parts work together with the US and significant regional players, including Australia, India, Japan, Singapore and South Korea, to shore up the region’s open markets and supply chains, provide alternatives to China’s financing and investments and ensure fair access to critical and emerging technologies.

NOTES


11 ‘Mehr Fortschritt Wagen: Bündnis für Freiheit, Gerechtigkeit und Nachhaltigkeit’ [Dare more progress: Alliance for freedom, justice and sustainability], 2021–25 coalition agreement between the Social Democratic Party of Germany (SPD), Alliance 90/The Greens and the Free Democratic Party (FDP), Association of German Educational Organizations (AdB), 6 December 2021, p. 157, https://www.adb.de/content/mehr-fortschritt-wagen-%C3%BCbndnis-f%C3%BC-rechtigkeit-und-nachhaltigkeit.


13 See Demetri Sevastopulo and Sam Fleming, ‘Will Europe Sign Up to Joe Biden’s Plan to Counter China?’, Financial Times, 7 June 2021, https://www.ft.com/content/e4c7df1a-5048-4cf1-8a2d-c9a2d721ba92.


19 Ibid., p. 2.


22 Ibid., p. 4.


29 Ibid., p. 17.


48 ‘Mehr Fortschritt wagen: Bündnis für Freiheit, Gerechtigkeit und Nachhaltigkeit’ [Dare more progress: Alliance for freedom, justice and sustainability], p. 157.

49 *Ibid.*.


57 Ibid., p. 4.  
58 Ibid., p. 9.  
61 Ibid., p. 5.  
62 Ibid., p. 17.  
64 Ibid., p. 12.  
73 The Charles de Gaulle only got as far as the north Arabian Sea and northern Indian Ocean, while the Tonnerre-led deployment ranged further into the Pacific.  


93 ‘Joint Statement of the Russian Federation and the People’s Republic of China on


CHAPTER 11

CHINA AS AN UPSTREAM RIPARIAN STATE: IMPLICATIONS FOR SOUTHEAST ASIA

BRIAN EYLER

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As well as being deeply involved in lower Mekong countries’ infrastructure development, China is the most upstream state in the Mekong basin. China has completed 11 mega-dams on its portion of the Mekong mainstream that have changed the hydrology of the river system and exacerbated droughts, causing ecological crises and water- and food-security challenges for downstream countries. In the worst case, environmental damage to the lower Mekong could lead to a major refugee crisis in Southeast Asia. Likely, only an ‘all hands on deck’ approach involving China, development partners and downstream states will be sufficient to mitigate such outcomes. However, attempts to make downstream countries take sides in a broader geopolitical competition could undermine efforts to avoid worst-case scenarios.

**CHINA’S MOTIVATION FOR DAMMING THE MEKONG**

Economic incentives related to Beijing’s clean-energy discourse and emissions-reduction goals provide important reasons for China to continue damming its southwestern rivers. More dams are likely to be built on China’s portion of the upstream Mekong over the coming decade.

**SOUTHEAST ASIAN CONCERNS AND CHINESE POLICY**

Processes set in motion through the Lancang–Mekong Cooperation Mechanism and recognition of the environmental crisis in the Mekong by the Mekong River Commission have led to some changes in Chinese activities since 2018. Beijing’s attitude towards data transparency in relation to the Mekong is also evolving. However, these developments have not been sufficient to reduce the threat damming poses for downstream countries.

**NON-SOUTHEAST-ASIAN RESPONSES AND THE REGIONAL BALANCE**

Geopolitical concerns over the deepening impact of China’s upstream activities have driven greater external resources towards downstream governments, civil-society groups and research bodies. The United States and other development partners of downstream Southeast Asian countries now have multilateral development frameworks focused on the sub-region.
ENVIRONMENTAL AND ECONOMIC IMPACTS OF CHINA’S UPSTREAM DAMMING

The water and food security – and by extension, economic security – of tens of millions of people rely on the natural-resource provisions of the Mekong, a transboundary river system running more than 4,000 kilometres from China into Cambodia, Laos, Myanmar, Thailand and Vietnam (see Map 11.1). While half of the river’s length is upstream in China, the country’s portion of the Mekong basin accounts for only 20% of the total basin size and less than 5% of China’s national territory. As the river flows out of China, its basin fans out to form significant portions of downstream countries (with the exception of Myanmar). More than 80% of the territories of Laos and Cambodia are located within the Mekong basin. All of Thailand’s northeastern region and several provinces in northern Thailand (35% of the country’s territory) are also within the basin. In Vietnam, 23% of national territory lies inside, almost equally split between parts of Vietnam’s central highlands and the delta region at the Mekong’s mouth.

The Mekong delta in Vietnam, one of the world’s largest rice-, fruit- and aquaculture-production zones, is responsible for roughly 20% of Vietnam’s GDP.\(^1\) The delta relies on the Mekong’s annual wet-season floods – delivering freshwater and sediment across the floodplain – to maintain its agricultural productivity. The Mekong is also the world’s largest inland fishery, containing 20% of the global freshwater fish catch (an annual haul of 2.6 million tonnes).\(^2\) It is second only to the Amazon in terms of fish biodiversity and all lower Mekong countries rely on the annual fish catch for livelihood and diets. Cambodia alone consumes some 500,000 tn of fish per year, providing its population with approximately 70% of its animal-protein intake.\(^3\)

Much of Cambodia’s catch is provided by Tonle Sap Lake, Southeast Asia’s largest freshwater body. Each summer wet season, a pulse of floodwaters from the Mekong mainstream reverses the direction of the Tonle Sap River and causes the lake to increase its dry-season volume 50 times.\(^4\) This natural pulse of wet-season floods brings fish, sediment and nutrients that combine to set the scene for the world’s largest migration of biomass, which occurs underwater later in the year when the floods recede, sending fish upstream and downstream throughout the basin.

The Mekong delta’s agricultural productivity, the river system’s impressive fishery, the livelihoods and identities of countless riparian communities and the basin’s wide

Map 11.1: The Mekong basin

Source: IISS
Map 11.2: Dams along the Mekong mainstream, 2022

Source: The Stimson Center, www.stimson.org ©IISS
range of land- and water-based biodiversity rely on the annual wet-season pulse. Over the last two decades and particularly since 2016, the impacts of upstream dams and reductions in wet-season precipitation have severely reduced the positive benefits of the wet season's flood pulse. Mega-dams on China's mainstream are assessed to have a major impact by reducing the wet-season pulse all the way to the river's mouth.

More than 400 completed dams now populate the Mekong basin (see Table 11.1). They have been built and used for many purposes, notably for hydropower, irrigation and flood control. Each contributes in varying degrees to reducing the Mekong's annual flood pulse by storing and releasing water. Chinese companies, many of them state-owned, have built more than 130 dams on China's portion of the Mekong, including 11 on the Mekong mainstream (see Map 11.2). Two of those dams – Xiaowan (4,200 megawatts) and Nuozhadu (5,850 MW) – are within the top 25 dams globally for hydropower production. When these and China's nine other Mekong dams release water for hydropower production during the Mekong's dry season, they generate and transmit up to 23,000 MW in hydropower capacity to benefit energy users from southwest China to the industrial coast. To prepare for the next dry season, these dams must recharge their reservoirs during the wet season to the detriment of downstream countries, which rely on the wet season's natural flood pulse.

Following the commissioning of China's first Mekong dam at Manwan in the 1990s, communities in the closest downstream zone began feeling the effects. A community organisation in Thailand's Chiang Rai province, the Rak Chiang Khong Conservation Group, noted slight seasonal change – slightly lower floodwaters during the wet season and slightly higher dry-season river levels – just after the dam was finished in 1995. As larger upstream dams were completed over the next 15 years, these seasonal effects became more noticeable in Chiang Rai, with local community fisheries beginning to decline. When the Jinghong Dam
was completed in 2008 some 300 km to the north, making it the closest dam to Chiang Rai, the conservation group noted daily changes in river levels, sometimes of one metre or more. Local communities assumed these unnatural daily fluctuations were the result of ‘hydropoeaking’ operations coming from the Jinghong Dam.7 Hydropoeaking is a method of operating a hydropower dam to maximise energy production over short periods of high demand and involves sudden releases and restrictions of water. It is widely documented as delivering severe ecological shocks to fish populations, forests and wetlands along a river’s course.8 Yet because Chinese water authorities in Yunnan or Beijing (as well as Jinghong Dam’s operators) provided no information about the dam’s operations, downstream communities along the Thailand–Laos border could only speculate as to the cause of the sudden changes in the river’s regular hydrological cycle. Then, during a rainless week in December 2013, without any notification from Chinese authorities, a massive release of water from China’s upstream zone caused a 10 m-deep flood along the Thailand–Laos border. It took several days to subside and resulted in an uncalculated quantity of losses in agricultural assets and livestock.9 Subsequent studies based on satellite data suggested that the massive release of water was part of the commissioning process for Nuozhadu Dam, more than 1,500 km upstream from the flooded areas.10 More specifically, in recent years the Mekong’s hydrological cycle along this part of the river’s course has flipped: high levels are reached during the dry season from upstream dam releases, while low levels bottom out in the wet season from upstream dam restrictions (see Figure 11.1). While China releases no information concerning seasonal dam operations or even the construction status or completion of new dams, the downstream impact has been severe. For example, fishing settlements along the Thailand–Laos border in stretches of the river closest to China have been depopulated, effectively turning some into ghost villages.11
Much of what is now known about the exact drivers of change along the Thailand–Laos border is derived from the work of United States-based climate consultancy Eyes on Earth, which released a report in April 2020 that used remote-sensing data to show for the first time when, for how long and to what degree China’s upstream dams were changing the river’s hydrology in Chiang Rai.12 Before this report, which was funded by the US Department of State’s Mekong Water Data Initiative, researchers and downstream authorities widely agreed that China’s upstream dams were changing the Mekong’s natural flow pattern but their conclusions lacked supporting evidence.13 The Eyes on Earth study showed that after 2007 China’s dams could significantly reduce wet-season flow in Chiang Rai and significantly increase dry-season flow. Another key finding was that during the severe wet-season drought in 2019, flow restrictions from China’s upstream completely erased any wet-season pulse effect in the province.14 While China’s water authorities dismissed the report15 and the Mekong River Commission (MRC, representing Cambodia, Laos, Thailand and Vietnam) questioned the use of remote-sensing data as a basis for such conclusions,16 the Trump administration in the US capitalised on the study to open a new chapter of American engagement in the Mekong region, thereby intensifying great-power competition there. The Eyes on Earth study also led to the establishment of the Mekong Dam Monitor (MDM),17 an online platform co-managed by US-based think tank the Stimson Center and Eyes on Earth. The monitor provides accurate, near-real-time reporting on the operations of all of China’s mainstream dams and 34 large dams in downstream countries.

Determining the specific impacts of China’s upstream dams on stretches of the river downstream from Chiang Rai province is difficult owing to the complexity of the river system. Hundreds of tributaries drain into the lower basin. However, peer-reviewed studies have built a consensus around evidence suggesting that China’s dams trap about 60% of the Mekong’s traditional total sediment load of some 163m tn per year.18 China’s portion of the Mekong traditionally provides a majority of the sediment to the Mekong basin due to long mountainous slopes in Tibet and Yunnan province. That sediment, now trapped behind China’s 11-dam cascade, no longer flows into Cambodia’s Tonle Sap Lake.
Of the 346 dams shown, 166 are for hydroelectric power generation and 180 for water supply. Not shown are 289 further hydropower dams that are planned in the lower Mekong, mostly in Cambodia and Laos but also in Myanmar and Thailand, though not yet under construction.

Map 11.3: Operational and under-construction dams in the lower Mekong, 2021

and across the Mekong delta floodplain. Yet downstream more than 300 dams of various sizes and uses (hydropower, irrigation, flood control, etc.) are operational in Cambodia, Laos, Thailand and Vietnam (see Table 11.1 and Map 11.3). These dams also contribute to downstream problems.

Over the last two decades, downstream countries have experienced some of the driest wet seasons on record and have often blamed this on China’s manipulation of wet-season flow. In 2015–16, the Mekong delta experienced a major drought by historical standards, leading Hanoi to highlight the effects of China’s upstream dams and appeal to Beijing to release water. That appeal was met with six weeks of water release during March–April 2016. It was the first time that Beijing had responded to a call for drought relief. However, China’s dams are not solely responsible for low river levels downstream. MRC data shows that wet-season droughts are increasing in both frequency and intensity, mostly because of low precipitation. Table 11.2 shows that over a 112-year period, the ten years with the lowest flow at Stung Treng in northeastern Cambodia have occurred since 1977, with five of these since 2010. The year with the lowest flow on record was 2020 – 150 km$^3$ lower than the pre-2008 average. Upstream dams cannot be responsible for such an effect as their operational patterns are seasonally determined. In other words, by and large, whatever water is restricted in the wet season is released during the next dry season. Some water is indeed held permanently behind reservoirs when dams are commissioned, but this likely totals less than 10 km$^3$ per year over the last two decades.

MDM data suggest that China’s dams are operating the same way during abnormally low-flow wet seasons as they do during normal wet seasons, taking the same amount of water out of the Mekong system. When this happens, dams in China and downstream have an even greater effect in terms of reducing Tonle Sap’s flood pulse and reducing the dispersal of nutrient-rich floodwater across the Mekong delta.

A recent study suggests that during years with anomalously low flows, upper-basin dam restrictions in China have reduced by 9–11% over six months of wet-season flow to Stung Treng, Cambodia, which is nearly 2,000 km from China’s most downstream dam. These wet-season restrictions are probably significant enough to alter substantially the duration and intensity of the annual wet-season natural flooding processes at Tonle Sap and in the Mekong delta, therefore having a major impact on downstream fisheries and agricultural production during wet

<table>
<thead>
<tr>
<th>Rank</th>
<th>Year</th>
<th>Annual flow (km$^3$)</th>
<th>Difference in flow from baseline$^*$ (km$^3$)</th>
<th>% difference in flow from baseline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2020</td>
<td>270.98</td>
<td>-150.31**</td>
<td>-35.7</td>
</tr>
<tr>
<td>2</td>
<td>1998</td>
<td>272.29</td>
<td>-149.01</td>
<td>-35.4</td>
</tr>
<tr>
<td>3</td>
<td>1988</td>
<td>281.40</td>
<td>-139.90</td>
<td>-33.2</td>
</tr>
<tr>
<td>4</td>
<td>2015</td>
<td>291.08</td>
<td>-130.22</td>
<td>-30.9</td>
</tr>
<tr>
<td>5</td>
<td>1977</td>
<td>295.71</td>
<td>-125.59</td>
<td>-29.8</td>
</tr>
<tr>
<td>6</td>
<td>2010</td>
<td>301.28</td>
<td>-120.02</td>
<td>-28.5</td>
</tr>
<tr>
<td>7</td>
<td>2019</td>
<td>302.06</td>
<td>-119.24</td>
<td>-28.3</td>
</tr>
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<td>1987</td>
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</tr>
<tr>
<td>9</td>
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<td>316.30</td>
<td>-105.00</td>
<td>-24.9</td>
</tr>
<tr>
<td>10</td>
<td>1992</td>
<td>320.01</td>
<td>-101.29</td>
<td>-24.0</td>
</tr>
</tbody>
</table>

*The baseline (421.3 km$^3$) is the average annual flow from 1910 to 2007 (the latter being the year when large dams began to be constructed throughout the Mekong basin) as measured by the Mekong River Commission’s gauge in Stung Treng, Cambodia. **Annual flow plus ‘Difference in flow from baseline’ for 2020 only adds to 421.29 rather than 421.3 km$^3$ due to rounding.

Source: Mekong River Commission, portal.mrcmekong.org/home
seasons, which are anomalously dry. Further research has supported these findings but ultimately more research is needed to pin down how upstream dams impact natural flood processes in the Tonle Sap and Mekong delta. Moreover, recent reporting from Tonle Sap and the Mekong delta suggests that fish and agricultural harvests have declined significantly since 2018 as the environmental crisis in the Mekong basin has worsened. The last three years were among the top nine low annual flow years for the Mekong. If the succession of low-flow years persists in the 2020s, dam operations in China and throughout the basin will need to change if a modicum of natural wet-season flood pulse is to be preserved to support downstream fisheries and agriculture.

**CHINA'S MOTIVATION FOR DAMMING THE MEKONG**

Some policy analysts suggest that China's upstream control of the Mekong – and of the upstream reaches of more than a dozen international rivers that flow out of China – is part of a geopolitical plot to bring downstream countries into China's sphere of influence. This message often prevails in international media coverage. Yet this perspective misinterprets the complexity of China's political economy and the internal motivations that drive China's hydropower and dam sector. The control of rivers for irrigation purposes and flood control has long been part of China's state-building narrative and political discourse. The harnessing of the Min River at Dujiangyan in 256 BCE paved the way for a strong state supported by robust agricultural production. China's communist government has sought to harness the power of all of China's rivers for various purposes and has designated all major rivers in Southwest China, the Mekong included, as ideal investment zones for
hydropower production, regardless of the environmental and social impacts of the dams both inside and outside China.\textsuperscript{27} This has led to the construction of more than 200 large hydropower dams in Yunnan, Guanxi, Sichuan and Tibet over the last two decades.\textsuperscript{28} The environmental geographer Darrin Magee calls these exploited river basins ‘powersheds’ as they are viewed by Beijing as geographical areas zoned for a single purpose: the production of massive amounts of hydroelectric power to drive industrial growth and further the development of the Chinese state (and by extension the legitimacy of the ruling Chinese Communist Party).\textsuperscript{29} Specifically in the context of the Mekong, in the 1990s the Yunnan provincial government negotiated – under Beijing’s oversight – a deal with its counterpart in Guangzhou to exploit Yunnan’s rivers (the Mekong included) for hydropower, which would be transmitted to Guangzhou to support export-oriented manufacturing there. The intent was to provide income to Yunnan through the sale of hydropower and allow that province to forgo large-scale industrialisation that might undermine tourism, a major driver of its economy. In other words, damming the Mekong and other rivers in Yunnan was a way to keep the province ‘green’.\textsuperscript{30}

Today, economic incentives related to Beijing’s clean-energy discourse and emissions-reduction goals provide important reasons for the Chinese state to continue investing in damming the country’s southwestern rivers. Indeed, Beijing’s latest (14th) five-year plan, covering the years 2021–25, pledges to finish pipelines of hydropower projects, construction of which had lagged under the previous plan.\textsuperscript{31} It can be expected that many more dams will be built in China over the next decade, including the planned eight dams on China’s portion of the Mekong mainstream, despite the protests of downstream countries. China’s powerful dam-building sector is largely impervious to such objections. Most information concerning Chinese dams’ construction schedules, design specifications and operations is classified, which has resulted in downstream authorities and interested parties in the lower Mekong often calling for China to be more transparent regarding its dam operations and river data.\textsuperscript{32} This lack of transparency has contributed to speculation regarding the role of Chinese dams in exacerbating wet-season droughts.

China agreed to become an MRC dialogue partner in 1996 just one year after its formal establishment but has not joined as a full member. That would require full transparency on mainstream dam operations and adherence to MRC protocols for notification and consultation on mainstream dam construction. Importantly, full MRC membership would also require upstream dams to operate at minimal flow levels during the wet season in order to guarantee floodplain contributions to Tonle Sap and the Mekong delta.\textsuperscript{33} During the wet seasons, China’s major upstream dams at Xiaowan and Nuozhadu recharge their empty reser-
voirs. To do this, they effectively turn off their taps: they are likely not engineered to provide guaranteed flow during the wet season even under dire circumstances. In other words, if China were a full member, it would not have been able to build the major seasonal storage dams at Xiaowan and Nuozhadu. Nevertheless, over the last decade China has increased its transparency (though minimally compared to the practices of downstream countries) and improved its cooperative engagement with downstream countries via the Lancang–Mekong Cooperation Mechanism (LMC), a multilateral development framework Beijing established in 2016 that downstream countries have welcomed.

EFFECTS ON CHINA–SOUTHEAST ASIA RELATIONS

Since the 1990s, downstream countries have viewed China’s upstream behaviour with ambivalence. China is a growing global economic power as well as an upstream riparian state. While prioritising its national interests, Beijing also tries to avoid destabilising relations with its Southeast Asian neighbours. With the exception of Myanmar (which has been inward-looking for most of its post-colonial existence), mainland Southeast Asian governments have often displayed a preference for alliances and deep economic relations with far-flung powers over fostering relations in their immediate region. Examples include Thailand’s long-standing security alliance with the US, Vietnam’s relationship with the Soviet Union after its ‘American War’ and the Khmer Rouge regime’s alliance with China from 1975–79. Like most other Southeast Asian states, Vietnam warily but skilfully balances its relations with the US and China, pursuing hedging strategies that accrue economic and security benefits. However, mainland Southeast Asian states have sometimes lent too far towards particular major powers, resulting in state failure or forced regime change. Examples include the Republic of Vietnam (South Vietnam), the Khmer Rouge regime and Myanmar’s military regime before 2015. Asia policy experts now often cite Cambodia’s and Laos’ contemporary over-reliance on Chinese investment and commercial ties as examples that might ultimately lead to similar results.

Mainland Southeast Asia is often referred to as a coherent sub-regional geographical and economic bloc. However, it has never been sufficiently internally connected via road, rail or water transport infrastructure. While outward-looking and maritime-focused foreign policies have traditionally impeded connections, so has the geography of the Mekong basin, one of the world’s wettest and most mountainous regions. Only in the last two decades are century-old visions for sub-regional infrastructural connectivity coming to fruition. Chinese state-sponsored investment via the Belt and Road Initiative (BRI) is playing an important part in improving sub-regional connectivity: most of China’s infrastructure pathways originate in Yunnan’s provincial capital, Kunming, and branch out to promote economic and physical links with mainland Southeast Asia.

Early plans for sub-regional connectivity, such as those for dams on the Mekong, were originally developed by the French and British colonial powers and later by the US and global institutions such as the United Nations and Asian Development Bank. When, after a half-century of intermittent conflict, mainland Southeast Asia stabilised following the landmark 1991 Paris Peace Agreement ending the conflict in Cambodia, the Asian Development Bank established its Greater Mekong Subregion Program. The initiative supported both
Thailand’s goal of ‘turning battlefields into marketplaces’ and China’s ‘good neighbour’ policy of promoting trade with mainland Southeast Asia. When China’s first upstream Mekong dam, at Manwan, was completed in the mid-1990s, energy planners in Cambodia, Laos and Thailand dusted off decades-old blueprints for Mekong mainstream dams first suggested by the US government in the 1960s. At that time, some downstream hydropower planners welcomed China’s damming of the upstream Mekong. They believed this was a necessary first step towards building dams downstream as China’s upstream dams could help manage the river’s unwieldy wet-season flow.

These developments led to the 1995 Mekong Agreement, which established the MRC and protocols to govern damming of the Mekong mainstream in mainland Southeast Asia. From that time to the advent of the Xi Jinping era in 2012, China’s economic relationship with downstream Southeast Asian countries was generally positive. However, downstream states’ attitudes towards China’s upstream dams hardened as more dams were built without notification, consultation and data-sharing on dam operations. The Mekong Agreement had created protocols for notification, consultation and data-sharing; Southeast Asian countries had hoped that China would adhere to these rules. Its unwillingness to do so drew the ire of some government and non-government stakeholders in the sub-region. The MRC and a broad network of scientists and civil-society actors also produced numerous peer-reviewed studies speculating on the impacts of China’s upstream. Those studies also highlighted the severe economic and social costs of damming the Mekong mainstream and tributaries in downstream countries, focusing on the Xayaburi, Nam Theun 2 and Don-Sahong dams in Laos and China’s Lower Sesan 2 dam in Cambodia, a flagship project of the BRI. Because of Laos’ ambition to become a major hydropower producer and its policy of exploiting all of its mainstream and tributaries to that end, Lao government stakeholders, including the Prime Minister’s Office and line agencies, have never criticised any dam projects, including China’s.

Since 2013, an era of closer Chinese engagement in mainland Southeast Asia (a result of the BRI) has brought large-scale investment in dams and physical-infrastructure projects. While downstream states have benefited from China’s largesse, stakeholders inside and outside the region are increasingly nervous about China’s intentions. The annual ‘State of Southeast Asia’ report produced by Singapore’s ISEAS-Yusof Ishak Institute shows that these worries have increased over the last five years. China’s hydropower investment projects in mainland Southeast Asia, notably the failed Myitsone Dam in Myanmar and the Lower Sesan 2 Dam in Cambodia, are often cited as negative examples of poorly designed projects resulting in social and environmental costs that far outweigh their benefits. One study predicts that the 400 MW Lower Sesan 2 Dam will reduce the total Mekong fish population by 9.3%. Thailand and Vietnam have developed their own hydropower investment plans in Laos, possibly in part to balance China’s dam construction there. While Chinese entities are involved in 41 of Laos’ dams, Thailand is Laos’ largest investor and dam builder, with involvement in 120 projects. The Thai and Vietnamese power markets favour purchasing power from Thai- and Vietnamese-built dams respectively, in Laos. Numerous dams in Laos financed largely through Beijing’s state-sponsored vehicles sell power directly to Laos’ state electricity corporation, Électricité du Laos, which has struggled
to find foreign markets for its hydropower because of Thai and Vietnamese preferences. An excessive number of Chinese-financed dams with no viable markets left Laos’ equity share of those dams overburdened with onerous debt-financing requirements; in September 2020, China Southern Power Grid, one of China’s two major utility companies, took majority control of the transmission arm of Électricité du Laos. Beijing’s support for dam construction and other projects in Laos, such as a high-speed rail project, have substantially increased China’s influence in the country. 

Under Xi’s leadership, China has developed its foreign-policy architecture in mainland Southeast Asia. Previous Chinese leaders preferred bilateral and often transactional relationships with lower Mekong countries. Xi instigated a period of sub-regional multilateralism with the establishment of the LMC in 2016. Some analysts suggest that China established the LMC in reaction to the US-led Lower Mekong Initiative created by the Obama administration in 2009. However, Beijing’s global pivot towards multilateralism and participation in multilateral institutions has been pronounced during Xi’s tenure, and China may not have needed the stimulus supposedly provided by the US to establish the LMC. The organisation counts as members all six Mekong basin countries (Cambodia, China, Laos, Myanmar, Thailand and Vietnam); holds regular high-level meetings, including an annual leaders’ summit; and features working groups and cooperative frameworks on sectors ranging from energy and infrastructural development to water-resource cooperation, health and education. Since 2016, the LMC’s Special Fund is estimated to have contributed tens of millions of dollars to numerous projects and programmes throughout the lower Mekong. Chinese Foreign Minister Wang Yi has called for the LMC to ‘not be a superb talking shop, but a grounded bulldozer’ for regional cooperation – an oblique criticism of Western-led regional cooperation mechanisms, which the Chinese government sometimes portrays as forums for diplomatic discourse with scant tangible outcomes in terms of practical cooperation. Another contrast is drawn by Fudan University’s Zhang Li, who claims that while the LMC promotes regionalisation through a common identity and shared experience, Western-led mechanisms promote internationalisation that reinforces overdependence on foreign aid and global institutions such as the World Bank and Asian Development Bank. Yet in contrast to mechanisms such as the MRC and the Thai-led Ayeyawady-Chao Phraya-Mekong Economic Cooperation Strategy (ACMECS, established in 2003), to which member states contribute resources to support various projects, the LMC Special Fund is funded only by Beijing. Furthermore, the LMC’s Sino-centric orientation is apparent: its headquarters and key research centres are located in Beijing, while the organisation’s name contains ‘Lancang’ – the name given to China’s portion of the Mekong – rather
than adopting the regionally and globally accepted name of the river. Within the wide community of stakeholders involved in Mekong transboundary water research and policymaking (including academic institutions, think tanks, civil-society groups and government agencies), the LMC is often portrayed as a rival to the MRC. It is described in academic studies and mainland Southeast Asian media as a threat to the viability of the MRC and as an institution that might eventually replace the MRC.

In reality, the MRC and LMC are not mirror images of each other. The MRC was established by the 1995 Mekong Agreement, an international treaty ratified by the four member countries. It is bound by strict legal protocols and practices that focus on water-related issues and is financially supported by member countries and external development partners. The LMC is a regional development mechanism initiated, led and entirely financed by Beijing, with a loosely defined and amorphous set of objectives in various sectors. The MRC also curates more than a century’s worth of publicly available data on the lower Mekong. In contrast, whatever data generation and curation is conducted by China’s Lancang–Mekong Water Resources Cooperation Center (LMWRCC, established in 2016) is not widely shared. For these reasons, the MRC is a regional centre of excellence from which the LMWRCC seeks to learn. However, the MRC will need continued robust funding from member states and external development partners to maintain this position.

The LMC promotes a consistent discourse about upstream dams. In its view, upstream dams (which it often calls ‘water conservancy projects’) promote downstream flood control and drought relief. However, this is a contentious perspective. Firstly, China’s upstream dams were singularly built for hydropower production. Secondly, unlike the 1995 Mekong Agreement, no agreements exist between China and downstream countries detailing how these dams should contribute to flood-control or drought-relief efforts. Thirdly, the LMC has not provided authoritative evidence or data to show how the upstream dams contribute to flood control or drought relief. Finally, despite growing calls for river regulation in the interests of wet-season flood control from a growing cohort of downstream stakeholders, the MRC continues to promote an evidence-based position that wet-season floods provide benefits for fisheries, agriculture and freshwater availability that far outweigh the damage caused by extreme flood events. On the issue of river regulation, China and downstream countries continue to be diametrically opposed.

These opposing viewpoints could widen, even in the near term. The April 2020 Eyes on Earth study showed how China’s dam operations entirely obviated the 2019 wet-season pulse at Chiang Saen, Thailand, and exacerbated wet-season drought downstream. It was the beginning of a series of wet-season droughts that continued in 2020 and 2021.
SOUTHEAST ASIAN CONCERNS AND CHINESE POLICY

Despite an increasing body of evidence to the contrary, the LMC’s repeated assertions that upstream dams are useful for wet-season flood control and relieving dry-season drought show no signs of changing. Yet processes set in motion by the LMC combined with the ongoing environmental crisis in the Mekong have led to changes in China’s behaviour since 2018. For instance, community-based conservation groups in Chiang Rai, Thailand, had protested Chinese plans to blast rapids along the Thailand–Laos border in order to open a major cargo trade route from Yunnan to Laos’ southern border. The groups claimed that the rapids were important breeding grounds for the Mekong giant catfish and other fish species. From 2017–19, relevant Chinese and Thai authorities and engineering firms involved with the project met the conservation groups for several rounds of consultations. In February 2019, Chinese Foreign Minister Wang Yi announced the cancellation of the project after Thailand’s cabinet made a formal request that Beijing halt it. It was a rare example of civil society achieving success in altering the behaviour of Chinese stakeholders through persistent campaigning.

Beijing’s attitude towards data transparency is also changing. The April 2020 Eyes on Earth report and the subsequent launch of the MDM have acted as catalysts to quicken implementation of China’s pledges for increased transparency over upstream dam operations and river-flow conditions. Before the downstream environmental crisis that began in 2019, China had made slow progress towards data transparency. In 1996, it began sharing wet-season data on water levels at two gauges along the river’s course, one on the mainstream below the Jinghong Dam and another tributary that flows into the Mekong below Jinghong. China occasionally shared dry-season data at times ‘of emergency’: according to the academic expert Sebastian Biba, this was an ad hoc measure intended to de-escalate criticism. Mekong transboundary water governance expert Carl Middleton has suggested that ‘released data was not complete enough to conclusively determine the role that upstream dams had played in low river flows’. Since its inception, the MRC has repeatedly called on China to release more data; following the publication of the Eyes on Earth report it messaged Beijing publicly on five occasions regarding the need for greater data transparency. It also signalled to external development partners its interest in using satellite-observation techniques to better understand river and dam conditions throughout the basin.

In September 2020, the LMWRCC launched a publicly available online data portal that provides hourly river-level data at the Jinghong and Man’an gauges. For the first time, Mekong watchers could observe physical river conditions in China. However, the portal shares no information on upstream dam operations or reservoir conditions, and its data should be understood as representing only a marginal improvement on the broad historical datasets curated and made

Community representatives protest in Bangkok against the construction of the then-planned and subsequently completed Xayaburi Dam in Laos, 24 April 2012

(Apichart Weerawong/AP Photo)
publicly available by the MRC. The LMWRCC also describes its portal as a platform for unspecified ‘early warning’, but the organisation lacks protocols defining early warning and the website has yet to issue such a warning. In the meantime, by November 2021 the MDM had issued more than 20 early warnings based on parameters of upstream dam releases and restrictions in China changing the river level in Chiang Rai province by 50 centimetres or more. The monitor’s first identification of such change occurred in early January 2021 when it detected a sudden 1m drop in the river level at Jinghong caused by upstream dams. Some 48 hours after an alert was issued on social media, China’s water authorities notified the MRC of a prolonged, 20-day flow restriction.

Occurring only three weeks after the MDM’s launch, the January 2021 alert was the first example of the monitor encouraging behavioural change on the part of China’s water authorities. Other indications of behavioural change include the LMC’s adoption of MRC methodology to calculate flow at Jinghong after a mathematical discrepancy was discovered between their data. Furthermore, using Eyes on Earth’s natural-flow modelling, the MDM has identified major impacts on upstream flow caused by dams since 2007. In September 2021, the MRC and LMC agreed to a three-year joint study that uses the pre-2008 period as a baseline for normal river conditions. If the study is to be conducted effectively, the LMC will have to share information on upstream dam operations with the MRC for the first time, although it is unclear how much of this information will then be shared publicly. Until a full spectrum of data on dam and river conditions is shared with downstream countries, sources of information on upstream reservoir conditions will continue to rely on remote-sensing data and satellite imagery, the quality of which is improving rapidly.
There is an increasing demand for data on China’s upstream dam operations. Thailand’s Office of National Water Resources has repeatedly called for information on sediment-trapping behind China’s dams and downstream dams, citing the ‘Blue Mekong’ phenomenon that is thought to occur when the Mekong is robbed of its sediment load. Downstream dam companies have contacted the MDM team regarding speculation that China’s upstream dams are altering flow so much that downstream dams are unable to meet power-generation targets. Unnatural flow patterns were affecting their business, but like many other stakeholders in the basin they could not point to specific drivers of these patterns. Meanwhile, the deepening environmental crisis (resulting in decreased fish catches and agricultural yields) has amplified calls from government agencies, research institutions and civil-society groups throughout the basin for greater data transparency, which is necessary for effective economic planning. For example, the success of Vietnam’s Resolution 120 – a Mekong delta planning programme initiated in 2018 that assumes natural flow in the flood plain will persist to promote a transition to high-value agriculture – relies on continued upstream natural flow conditions.

Current data on both upstream and downstream reservoir operations, provided by the MDM and authorities in Laos, Thailand and Vietnam, suggests the cumulative amount of downstream water storage in reservoirs is roughly equal to the amount of water storage in China. However, a major difference is that downstream storage is spread across many more dams than in China. From an engineering and dam-operations perspective, it is theoretically possible to operate downstream dams with releases in a way that counters China’s upstream wet-season restriction and helps restore some natural flooding to Tonle Sap and the Mekong delta. However, such coordination would require participatory authorities in Laos, Thailand and Vietnam to manage reservoirs using protocols not provided for in the 1995 Mekong Agreement and operating rules outside the MRC’s current purview. Laos contains most of the dams that could provide a counterbalance in flow to China’s upstream restrictions. However, the Lao government has limited capacity to communicate with dam operators to coordinate such an effort, let alone convince or even pay those dam operators to forgo hydropower production for wet-season reservoir releases.

The Association of Southeast Asian Nations (ASEAN) apparently struggles to maintain a strong focus on Mekong River environmental issues despite the importance of primary production in the Mekong basin for Southeast Asia’s food security. While serving as ASEAN chair in 2020, Vietnam attempted unsuccessfully to make the Mekong crisis an ASEAN priority. However, the coronavirus pandemic reduced Hanoi’s ability to develop a robust agenda. Moreover, some ASEAN members may have objected to prioritising the issue due to concerns about being drawn into growing US–China tensions in the sub-region. Instead of promoting Mekong River governance as a specific point on ASEAN’s agenda, stakeholders could allocate Mekong-related concerns to thematic areas already prioritised by the organisation, such as climate, food security, trade and disaster-risk reduction. The Mekong is a major food export zone for consumers throughout ASEAN; the organisation’s trade and commerce initiatives could provide resources to support rice and aquaculture supply chains via smart planning initiatives addressing both climate adaptation and upstream water-resource management. An ASEAN-wide focus on climate adaptation
for at-risk coastal river deltas like the Mekong could generate solutions to mitigate environmental damage there but also encourage the sharing of best practices in delta protection across Southeast Asia.

**NON-SOUTHEAST-ASIAN RESPONSES AND THE REGIONAL BALANCE**

Before the BRI and the establishment of the LMC, external funding for the MRC and government and non-government initiatives addressing transboundary water governance was waning. In 2016, some external funders, particularly those from Europe, were planning to cease supporting the MRC entirely because of the absence of evidence that the organisation could produce the desired result of no dams on the lower Mekong mainstream. Denmark and Finland ended their formerly robust support for Mekong initiatives in 2016 and 2018, respectively. At the same time, Myanmar’s democratic opening following its 2015 election led donors to reallocate resources away from Mekong-focused efforts to programmes supporting democratisation, resource governance and market development there. However, the deepening impact of China’s upstream activities on the region has actually driven greater external resources back into the hands of downstream governments, civil-society groups and research institutions, leading some in the Mekong policy community to ironically call China the Mekong’s ‘best friend’ due to this unintended consequence of Beijing’s dam operations.

Australia, India, Japan, South Korea and the US each now has a multilateral development framework focused on the Mekong region. All except the United States’ framework include leaders’ summits. In 2020, the US rebranded its Lower Mekong Initiative as the Mekong–US Partnership (MUSP) to emphasise inclusivity, multilateralism and the building of partnerships on issues related to ‘economic connectivity, human capital development, transboundary water and natural resources management and non-traditional security’, including collaboration on threats such as health security and pandemic responses, transnational crime, cyber-security challenges, and trafficking in people, drugs and wildlife. The MUSP was launched towards the end of the Trump administration alongside US rhetoric critical of China’s Mekong dams, which was amplified in speeches by then-secretary of state Mike Pompeo and other senior officials. While the MUSP was well received throughout the region, Washington’s parallel diplomatic discourse was misinterpreted by some in the region as suggesting that the US wanted Southeast Asian countries to ‘choose sides’ between China and the US. Subsequently, the Biden administration has reduced US criticism of China’s upstream dams. It has also moved the focus of US Mekong policy towards increasing the region’s capacity for adapting to the impact of climate change and concerns about the impact of dams in general throughout the Mekong region. US programmes that use satellite imagery and remote-sensing approaches to provide evidence, improve transparency and inform local decision-making processes, such as the Mekong Water Data Initiative, the MDM and the US Agency for International Development’s SERVIR–Mekong programme, continue to receive robust funding support from Washington. Furthermore, the MUSP has issued an important message to all actors involved in regional policymaking on the Mekong regarding the continued need for the US and other external development partners to support the MRC with annual funding
and other support. In aid of this objective, in August 2021 the MRC joined ‘The Friends of the Mekong’, a cooperation mechanism within the MUSP that comprises the lower Mekong countries, Australia, the European Union, Japan, New Zealand, South Korea, the Asian Development Bank, the World Bank and the US. It is tasked with coordinating and calibrating development partners’ resources and efforts focused on the Mekong.

Other Mekong-focused initiatives include the Mekong–Australia Partnership (MAP) established by the Australian Department of Foreign Affairs and Trade in November 2020. A major augmentation of Canberra’s existing work in the sub-region, the MAP focuses on coronavirus-pandemic recovery, trade and investment, cyber issues, infrastructure development, environmental resilience, gender and regional governance. Elsewhere, India has reinvigorated the Mekong–Ganga Cooperation (originally launched in 2000) with the aim of enhancing economic and people-to-people ties between India and downstream Mekong countries. Japan and the US continue to develop the Japan–US–Mekong Power Partnership (JUMPP), which seeks to promote regional electricity trade through the financing of power-generation projects and transmission infrastructure with an emphasis on connectivity between Vietnam and Laos. The Korea–Mekong Cooperation Fund (established in 2013) has received increased resources as part of South Korea’s broader New Southern Policy focused on supporting diplomatic relations and economic development with ASEAN and India.

**LOOKING TO THE FUTURE**

Environmental conditions and the state of the Mekong River are likely to worsen over the coming decades as the effects of dams and climate change take hold. The result will be reduced production of primary foods, including the fish and rice that currently form the basis of the diets of tens of millions of people living in the Mekong basin. If the Mekong’s resource base is significantly depleted, intra-regional migration and possibly out-migration could increase. In the worst case, these conditions could lead to a refugee crisis in Southeast Asia.

These effects could be mitigated by proper planning based on improved provision of data and monitoring of the river’s resources. An ‘all hands on deck’ approach is needed to reduce the most disastrous effects of the potential environmental crisis. Such an approach would require the active participation of China, development partners (including Australia, Japan, South Korea and the US) and government and non-government stakeholders from downstream states. A significant step in the right direction would be for China to modify its position on upstream river regulation to recognise firstly the resources that the river provides naturally to downstream countries and secondly that...
China’s upstream dams are part of the problem. However, effecting this change would require greater effort by downstream countries to influence China’s perspective and policy. Development partners, acting in cooperation and on a sustained basis, could assist by continuing to identify and highlight factors contributing to environmental change, strengthening the provision of data needed to inform downstream countries’ decision-making. Adopting such approaches could enable China and the sub-region’s development partners to help downstream countries avoid the worst effects of water, climate and food-security crises. However, efforts to avoid worst-case scenarios in the lower Mekong will be undermined if non-Southeast Asian powers encourage downstream countries to take sides in a broader geopolitical competition.

NOTES


11 Eyler, Last Days of the Mighty Mekong, chapter 5.

12 Brian Eyler, Last Days of the Mighty Mekong, chapter 5.


Mekong Dam Monitor, https://monitor.mekongwater.org/virtual-gauges/. See operating curves for major season dams in the Mekong to see consistent patterns of dry-season releases and wet-season restrictions from 2016 to the present.

Brian Eyler et al., “Mekong Dam Monitor at One Year: What Have We Learned?” Stimson Center, 5 March 2022, https://www.stimson.org/2022/mdm-one-year-findings/.


Eyler, Last Days of the Mighty Mekong, chapter 3.


Eyler, Last Days of the Mighty Mekong, chapter 3.


This analysis can be determined by use of the Mekong Dam Monitor and access to dam speci-


38 Eyler, Last Days of the Mighty Mekong, chapter 7.


41 ‘Mekong Infrastructure Tracker Dashboard’.

42 Such as China’s EXIM Bank or the China Development Bank.


44 The Lower Mekong Initiative was established in 2009 by the US Department of State. It was the United States’ flagship regional policy framework in mainland Southeast Asia, involving Cambodia, Laos, Myanmar, Thailand and Vietnam. In 2020, the LMI was rebranded as the Mekong–US Partnership (MUSP).


58 http://www.lmcwater.org.cn/.


61 Confirmed through author’s internal discussions with MRC staff.


65 Comparing the upstream in China to the downstream, each has about 24 km³ of cumulative active storage. See Mekong Dam Monitor, https://monitor.mekongwater.org/virtual-gauges/.


67 Examples include the waning resource allocations for the United States’ Lower Mekong Initiative, Australia’s Water Partnership and formerly robust support from the government of Finland. Mekong programming by major NGOs or IOs, such as the International Union for Conservation of Nature, World Wide Fund for Nature and Oxfam, also declined. Major funding support from foundations such as the MacArthur Foundation and the McKnight Foundation also concluded within the last six years.


CHAPTER 12

THE CLIMATE CRISIS AND ASIA-PACIFIC SECURITY

DR JEFFREY MAZO

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The world is on track to warm by 2.1–2.7°C over pre-industrial levels by the end of the century. The Asia-Pacific is both highly exposed and vulnerable to the resulting climate changes, which are expected to slow down economic growth and contribute to food, water and energy insecurity, affect military activities and infrastructure, and lead to a systemic breakdown of critical services in some countries.

HUMAN SECURITY AND SYSTEMIC RISK
The impacts of climate change will not generally be distributed equally: they will disproportionately affect poorer or marginalised states and communities. Increased inequality may create instability within states or change the power balance between them.

REGIONAL SECURITY AND TRANSBOUNDARY ISSUES
Climate change in the Asia-Pacific may delay anticipated shifts in the balance of military and economic power and exacerbate existing inequalities between developed and developing economies. Regional flashpoints and transboundary issues at particular risk include the Korean Peninsula, India–Pakistan water disputes, the Mekong basin, the South China Sea and changing patterns of trade.

MITIGATION, ADAPTATION AND SECURITY
The degree to which regional powers commit to emissions reductions and international adaptation efforts, and meet those commitments, will also have implications for soft power and regional leadership.
In August 2021, the United Nations’ Intergovernmental Panel on Climate Change (IPCC) released the first volume of its long-awaited Sixth Assessment Report on the science of past and projected warming, announcing that climate change was now ‘widespread, rapid, and intensifying’. Even with strong and sustained reductions in greenhouse-gas emissions, it could take 20–30 years for temperatures to stabilise.1 UN Secretary-General António Guterres, who in 2020 called on all national governments to declare a state of climate emergency, called the report a ‘code red for humanity’.2 The world has already warmed by 1.2°C since the pre-industrial period and is on track to warm by 2.1–2.7°C by the end of the century, even with the agreements reached at the UN Framework Convention on Climate Change (UNFCCC) summit in Glasgow in November 2021 (COP26).3 In scenarios where emissions continue to rise until 2050 – resulting from failure to meet or deliberate backsliding on national commitments to greenhouse-gas reductions – warming could reach a near-catastrophic 4°C or more by 2100.4

Regardless of current global efforts to curb greenhouse-gas emissions, global mean temperature will definitely continue to increase over the next few decades and the degree of climate risk will increase in direct proportion.5 Increasing climate hazards can, separately and together, drive systemic breakdown of infrastructure and critical services; food and water insecurity; loss of livelihoods and income, particularly for poorer populations; severe ill health; loss of biodiversity; and reduction in the economic benefits provided by healthy ecosystems.6 Climate change is expected to slow down economic growth, making poverty reduction more difficult and further eroding food security.7

The Asia-Pacific is both highly exposed and vulnerable to particular climate hazards, especially droughts and floods (including sea-level rise), heat extremes and tropical cyclones.8 In the Climate Risk Index 2000–2019, a measure of the human and economic impact of extreme weather-related events over that period, six of the top ten and 11 of the top 20 most affected countries are in the Asia-Pacific.9 Over 330 million people (including 120m in China alone) live in places subject to long-term sea-level rise that is already ‘locked in’ due to past emissions, and population and emissions growth will only increase the risk. More than one-quarter of the populations of Bangladesh, Thailand and Vietnam is currently exposed. Small island states in the Pacific and Indian oceans and coastal megacities in China, South and Southeast Asia are at particular risk.10 At the same time, Notre Dame University’s Global Adaptation Initiative (ND-GAIN) Country Index has identified Singapore as the second-most prepared to adapt to climate change worldwide, followed closely by South Korea (in seventh place), Japan (ninth), New Zealand (tenth) and
Overall, measuring both vulnerability and readiness to adapt, 22 out of 33 Asia-Pacific countries rank in the bottom 50% globally.\textsuperscript{11}

The security implications of climate change, especially its role as a multiplier of existing stresses, threats and risks, have been widely recognised for at least a decade and a half.\textsuperscript{12} A 2021 survey of 57 global climate-security experts revealed a consensus that the risk from climate-change-exacerbated events that affect global security will become severe within the next 20 years.\textsuperscript{13} Moreover, mitigating climate change carries risks of its own.

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<th>Table 12.1: Projected climate changes in the Asia-Pacific by 2050</th>
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<td><strong>South Asia</strong></td>
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<td>Mean temperature</td>
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<td>Coastal flooding, erosion and marine heatwaves</td>
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<td>Fire weather</td>
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<td>Snow cover, glaciers, sea and river ice</td>
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<td>Landslides</td>
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<td>Aridity</td>
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<td>Heavy precipitation and flooding</td>
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<td>Sand and dust storms</td>
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<td>Tropical cyclones</td>
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<td>Mean wind speed</td>
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<td>Drought</td>
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<td>Heavy snowfall and ice storms</td>
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$\uparrow$ = increase, $\downarrow$ = decrease, $\uparrow\downarrow$ = increase in some parts, decrease in others, $\uparrow\uparrow\downarrow$ = increased intensity but decreased frequency

Source: Intergovernmental Panel on Climate Change, www.ipcc.ch

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Limiting global warming to 1.5°C – the aspiration of the 2015 Paris Agreement – by achieving net-zero emissions by mid-century will require large investments and rapid and drastic changes to lifestyles, which could increase inequality within and among nations and at the very least be highly socially disruptive.

The precise impacts of climate change in the next few decades remain uncertain. But evidence that recent changes are real and caused by human activity is increasingly strong. Moreover, statistical confidence in climate-change projections has been steadily improving, especially at the regional level. Since the 1950s, heatwaves and temperature extremes have unambiguously increased in the Asia-Pacific due to greenhouse-gas emissions, but there is less certainty that other observed trends, such as increased extreme precipitation and fewer but more intense cyclones and typhoons (and a general northward shift, towards northern China, Japan and the Korean Peninsula, in their occurrence), are due to human activity. Over a timescale of up to three decades, normal year-to-year variation in weather and climate can mask all but the strongest and most robust underlying trends. Nevertheless, events such as Typhoon Haiyan (one of the largest and strongest tropical cyclones on record, which struck the Philippines in November 2013) and the 2019–20 Australian bushfires (which destroyed millions of hectares and nearly 6,000 buildings) are widely considered to be harbingers of climate change.

The IPCC report released in August 2021 contained fine-grained assessments of regional and sub-regional climate changes (see Table 12.1). The changes projected for the region are likely to strongly affect food, water and energy security, economic development, military activities and infrastructure, which will in turn influence all aspects of regional security.

**HUMAN SECURITY AND SYSTEMIC RISK**

Food, water and energy security are inextricably linked, and both the short- and long-term climate changes projected for the Asia-Pacific are risk multipliers for all three components of this nexus. After a half-century of rapid economic growth, the Asia-Pacific now accounts for more than half of global energy consumption and an even greater proportion of resources, although it still lags behind most of the world in per capita use. These growth and resource-use trends are expected to continue for several decades. Water insecurity in the Asia-Pacific is generally due to lack of storage and transport infrastructure rather than absolute unavailability, but improving access to water requires greater energy consumption, while large volumes of water are needed not just for oil production but especially for hydraulic fracturing (fracking), nuclear power and biofuel production. This reality constrains the potential for domestic renewable and carbon-neutral energy production other than solar or wind power. And water in turn is essential for agriculture; as
the demand for food rises due to population growth (at least to mid-century) and rising incomes, so too will water stress.

Climate change will be a mixed blessing for the region in terms of water security: overall, freshwater availability may increase, but changes in precipitation patterns could reduce the productive capacity of rain-fed agriculture and heat stress could reduce agricultural productivity, both requiring increased water withdrawals. Salinisation of partially depleted coastal aquifers may reduce water availability for coastal megacities. All these factors, coupled with uncertainty about geography and timing, will make the already pressing need for increased and improved storage and irrigation infrastructure even more urgent and more difficult to meet. Integrated water, food and energy management planning is key to meeting the climate-security challenge.

National rankings in the ND-GAIN Country Index – which measures countries’ exposure, sensitivity and ability to adapt to climate change in the areas of food, water, health, ecosystem services, human habitat and infrastructure, as well as their economic, governmental and social readiness to adapt – strongly correlate globally to per capita GDP, suggesting that a country’s relative wealth is one of the most important indications of its ability to adapt to climate change. Among the Asia-Pacific countries included in the ranking, Singapore and Brunei stand out: both are much more vulnerable to climate change than their wealth would suggest (see Figure 12.1). This is primarily due to low energy security, both in terms of self-sufficiency (for Singapore) and diversity of supply (for both). Some countries, such as Australia and Japan, may be particularly exposed to certain climate hazards, but are well positioned to deal with their consequences. The cost of adaptation, however, rises with increased temperature, and not necessarily in a linear way, so such countries face increasing and accelerating costs. Moreover, if warming does eventually exceed their capacity to cope, they have much more to lose.

In general, the impacts of climate change will not be distributed equally across or within countries: they will disproportionately affect poorer or marginalised states and communities. Increased inequality may in turn create instability within states, or change the power balance between them. For the most part, given the complex nexus between water, food
and energy and the unpredictable nature of climate change, the risk is best perceived as a general systemic weakening, especially in the shorter term, and Asia-Pacific states will all face broadly similar challenges. Beyond the common threats faced by many or most countries in the region, there are some particularly salient climate risks for individual countries or sets of countries (see Map 12.1):

- Particular water-security ‘hotspots’ identified by the UN Economic and Social Commission for Asia and the Pacific in 2011 include Cambodia, Indonesia, Laos, Papua New Guinea and Philippines, and secondarily India, Myanmar and Thailand. It is notable that, with the exception of India and Papua New Guinea, these are all in Southeast Asia, which is water-rich in absolute terms. But most countries in the sub-region are also particularly exposed to climate hazards and lacking in infrastructure for access to clean water and sanitation.

- Increased precipitation and glacial and permafrost melting but declining snowfall and overall glacial volume on the Tibetan Plateau will alter the geographical and seasonal patterns of drought. Over two billion people rely on water from the ten major river systems fed by the plateau. While the total amount of this water may not decline, major investments in dams and other infrastructure will be needed to ensure it is available when and where needed.

- By 2050, prices for irrigated crops in the region could rise in real terms by up to 37% for rice, 49% for soybeans, 97% for wheat and 102% for maize due to lower yields. South Asia and much of Southeast Asia are particular food-security hotspots.

- China’s megacities face major threats to human health, economic productivity and energy demand due to increased heat stress, compounded by the ‘urban heat island’ effect. Other urban ‘hotspot areas of risk’ include Dhaka, Karachi, Quezon City and Bangkok. Most Asian megacities, including Manila and Ho Chi Minh City, also face the compound risk from sea-level rise.

- Of the world’s population currently living in areas that by 2050 are expected to be subject to annual coastal flooding due to sea-level rise, roughly three-quarters is in Bangladesh, China, India, Indonesia, Thailand and Vietnam. Bangladesh, Thailand and Vietnam are at particular risk in terms of the percentage of their populations exposed.
Map 12.1: Climate-security hotspots in the Asia-Pacific

Source: IISS ©IISS
Two other categories of risk stand out as separate from the water–food–energy–climate nexus. Firstly, in terms of traditional security, increasing disaster risks, including the risk of complex, overlapping crises, will put considerable strain on regional armed forces’ capacities for humanitarian assistance and disaster relief (HADR). Militaries are integral to HADR across South and Southeast Asia and their role is increasing in Australia, China and Japan.\(^3\) Secondly, geophysical changes outside the region, in particular the opening of new maritime routes in the Arctic, could have considerable economic impacts on Asia-Pacific countries and affect patterns of trade within and between them.\(^3\)

The aggregate effect of all these trends and vulnerabilities can be seen in the projected economic impact of climate change as a percentage of GDP in a world that is on the way to a warming of 3°C – slightly higher than the current trajectory (see Figure 12.3). These impacts include not just the direct costs (in terms of damage from extreme weather, lost workdays, etc.) but also the cost of adaptation. The OECD countries are thus projected to suffer less damage in percentage terms, since they are more resilient. (Of course, since they are wealthier, they may lose more in absolute terms.) This reaffirms that Southeast Asia and India are at particular risk, comparable only to sub-Saharan Africa at the global level.\(^4\)

**REGIONAL SECURITY AND TRANSBOUNDARY ISSUES**

The varying impacts of climate change in different Asia-Pacific states could affect the geopolitics of the region. The comparatively high economic impact on India, for example, could slow or reverse a widening economic gap with Pakistan that has weakened Islamabad diplomatically and militarily vis-à-vis New Delhi.\(^5\) It could similarly reduce India’s burgeoning role in regional security as part of the Quadrilateral Security Dialogue (‘Quad’) with Australia, Japan and the United States and leave it at a considerable disadvantage compared to China. The comparatively high impact on Taiwan could

Workers place geotextile bags to prevent erosion on the banks of the Padma River in Manikganj District near Dhaka, Bangladesh, 20 September 2021
weaken its capacity to resist Chinese pressure for reunification. The particularly disproportionate impact of climate change on Southeast Asia could weaken the Association of Southeast Asian Nations’ (ASEAN’s) efforts towards building greater sub-regional cohesion and more robust institutions. The relatively modest impact on China is still significant in comparison to the OECD states and could slow China’s rise in relation to many of its regional and global rivals (see Table 12.2). Other things being equal, the net effect of climate change in the Asia-Pacific in the short, medium and long term will be to delay anticipated shifts in the balance of military and economic power and exacerbate existing inequalities between developed and developing economies.

Beyond these broad trends, regional flashpoints and transboundary issues that could be affected by climate change include the Korean Peninsula, India–Pakistan water disputes, the Mekong basin, the South China Sea and changing patterns of trade. The latter will be affected not just by geophysical changes but also by global efforts to mitigate climate change, particularly the movement to achieve net-zero carbon by mid-century, as trade in hydrocarbons gradually declines.36 The degree to which regional powers commit themselves to emissions reductions and international adaptation efforts, and meet those commitments, will also have implications for their soft power and regional leadership prospects.

The Korean Peninsula
North Korea suffers from high food insecurity due to mismanagement, deliberate government policies, international sanctions, a shortage of domestic resources and, most recently, self-imposed COVID-19-related border restrictions. The government declared food emergencies in 2017 and 2018 due to low production, and in April 2021 leader Kim Jong-un warned that the country could be facing a repeat of the Arduous March – a major famine that may have caused over 2m deaths in the period 1994–98 – beginning in 2022.37

Figure 12.3: Selected Asia-Pacific countries’ projected GDP losses, for scenarios leading to 3°C warming by 2100

Source: Tom Kompas, Pham Van Ha and Tuong Nhu Che, 'The Effects of Climate Change on GDP by Country and the Global Economic Gains from Complying with the Paris Climate Accord,' Earth’s Future, vol. 6, no. 8, August 2018, Tables 1 and 2.
Climate change threatens to make such crises more frequent and more severe, posing risks to the Pyongyang regime’s stability, or even survival. Heatwaves, extreme precipitation events and intense storms are likely to increase in the medium term, damaging food production and transport infrastructure, and flooding densely inhabited areas. Increasing flood risk could negatively affect inter-Korean relations as Pyongyang ramps up unannounced dam releases, causing flooding in South Korea, and a spike in climate refugees into China could strain Pyongyang’s vital relations with Beijing.

North Korea stands out in the region as the most likely location for an acute climate-change-related event (rather than an increase in systemic stress) that could spark a major crisis or outbreak of armed conflict. With the risk already relatively high, it would not take much to tip the balance. The contribution of drought and climate change to the outbreak of the Syrian civil war a decade ago offers a good analogy.

### The Indus basin

Pakistan gets about 90% of its agricultural water from the Indus River, most of which flows first through India and is subject to the 1960 bilateral Indus Waters Treaty (IWT). The IWT reserves about 80% of the total flow for Pakistan and 20% for India; the water from the western tributaries is reserved for Pakistan, with some exceptions, while India is allocated the eastern tributaries. Since the treaty was signed, flow in the river system has declined by at least 5%. The future of the basin is highly uncertain, with projections ranging from moderate increases to significant decreases in flow by the end of the century.

Transboundary water-sharing agreements are generally stabilising factors: the IWT – with the World Bank acting as facilitator with limited enforcement powers – has survived three wars between its parties and, on balance, has contributed to reducing tensions in the fraught Kashmir region. Over the last decade, however, there have been increasing calls on

#### Table 12.2: Potential economic damage from climate change to the Chinese, Indian and selected advanced economies, assuming 3°C warming by 2100

<table>
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<th>2027</th>
<th>2047</th>
<th>2100</th>
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<td>5.95</td>
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<td>-0.69</td>
<td>-2.92</td>
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<td>India</td>
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<td>-1.02</td>
<td>-3.22</td>
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<td>-0.02</td>
<td>-0.07</td>
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<td>-0.03</td>
<td>-0.14</td>
<td>-1.50</td>
</tr>
<tr>
<td>Australia</td>
<td>1.91</td>
<td>-0.05</td>
<td>-0.17</td>
<td>-1.34</td>
</tr>
<tr>
<td>New Zealand</td>
<td>2.42</td>
<td>+0.04</td>
<td>+0.09</td>
<td>-0.80</td>
</tr>
</tbody>
</table>

Figures for 2027, 2047 and 2100 are the projected percentage losses (or gains) in annual GDP for those years compared to a world with no climate change.

Sources: IISS, Military Balance+, mbalplus.iiss.org; and Tom Kompas, Pham Van Ha and Tuong Nhu Che “The Effects of Climate Change on GDP by Country and the Global Economic Gains from Complying with the Paris Climate Accord”, Earth’s Future, vol. 6, no. 8, August 2018, Table 1
both sides for renegotiation as the demand for water increases due to population growth and development, and as the prospect of climate change on the Tibetan Plateau threatens to change the timing and volume of flow in the Indus basin.

New Delhi considered, at least rhetorically, unilaterally withdrawing from the IWT in 2016 and again in 2019 after attacks by the Pakistan-based terrorist group Jaysh-e-Mohammad against Indian troops in Jammu and Kashmir. Islamabad responded that any such move would be ‘an act of war’. Before the Taliban takeover in August 2021, India was also funding dam projects in Afghanistan which would affect downstream supplies for Pakistan without contravening the IWT. But the potential for India to use water as a weapon has never substantially materialised despite having always been there. A more likely scenario is one in which India decides it needs more than its agreed share of Indus waters for its own use in response to declines in other sources, rather than as a weapon. As with the Korean Peninsula, the risk of crisis is already high, but here it is longer-term systemic stresses from climate change rather than specific events that may increase the risk further.

The Mekong basin

Like the Indus, the Mekong River arises on the Tibetan Plateau. In the previous chapter in this volume, Brian Eyler documents the effect of China’s programme of building dams on the upper Mekong in Yunnan Province on the food, water and economic security of Cambodia, Laos, Thailand and Vietnam, all of which rely to a great extent on the Mekong’s natural resources. This effect is mainly due to how China’s water-management practices interfere with the seasonal flow patterns of the river by reducing the annual wet-season flood pulse. This is particularly important in years of lower-than-average annual flows, which have been occurring more and more frequently and becoming more severe over the past few decades due to declining precipitation.
Other things being equal, climate change is expected to bring increased annual precipitation to the Mekong basin. The volume and duration of flooding in the lower Mekong are expected to rise on average, but increased variability from year to year may mean the existing trend towards more frequent and severe droughts will continue. Water insecurity will be further worsened by saltwater intrusion into the Mekong delta due to sea-level rise and subsidence from groundwater extraction. On balance, the impacts of climate change on water security will be similar to, but less severe than, those caused by China’s hydro-power dams. Climate change will thus increase the salience, but not change the nature, of the political and diplomatic issues surrounding water availability and management in the Mekong basin outlined by Eyler in his chapter.

The South China Sea

China, Malaysia, Philippines, Taiwan and Vietnam maintain more than 90 outposts on nearly 70 low-lying islands and features in the South China Sea. Many of these features are on reclaimed land; China in particular has converted submerged or partially submerged features, or uninhabitable rocks, into artificial islands. The other four occupants have had small airstrips in the Spratly Islands for at least ten years, and in some cases for three or four decades. Beginning in 2014, however, China established airstrips, missile emplacements, significant radar and communications infrastructure and storage facilities on its ‘big three’ – Fiery Cross Reef, Mischief Reef and Subi Reef – which together now comprise more than 1,200 hectares of reclaimed land. Smaller features house fortifications, helipads and other facilities established by several of the rival claimants.
These features and facilities have strategic significance in terms of asserting territorial claims under the UN Convention on the Law of the Sea (UNCLOS) over the disputed oil- and gas-rich seabed, and in terms of power projection. But the smaller features are highly vulnerable to sea-level rise, and even the largest will be increasingly at risk from storm surges and coastal erosion due to climate change. In 2015, for example, a typhoon washed away the land that had been recently reclaimed by Vietnam on Cornwallis South Reef. The cost of maintaining the artificial islands and their facilities and of extracting any hydrocarbon resources will rise considerably, while the importance of those resources could decline rapidly if the world moves towards the UN target of net-zero carbon emissions by mid-century. Sea-level rise could also slow or reverse the establishment and expansion of freshwater reservoirs on the artificial islands, such as the one discovered on Fiery Cross Reef in 2020, which could affect the status of the islands under UNCLOS.

Such climate considerations are unlikely to affect the likelihood of acute crises or military confrontation in the South China Sea noticeably, but they will affect strategic risk–benefit calculations, especially by China, in the medium term. If countries decide that assertion of their maritime claims remains critical for other than economic reasons, acceleration or expansion of land reclamation in response to climate change could increase tensions. Rival claimants could, however, calculate that declining demand for oil and gas over the next few decades and the increasing cost of asserting their claims argue for a reduced presence and reduced tensions.

**Pacific Island states and US bases**

The Pacific Island states view climate change as their most significant security challenge. Countries such as Kiribati, Marshall Islands, Tokelau and Tuvalu, which almost entirely comprise low-lying atolls and features, could see much of their territory become uninhabitable by mid-century, and face the loss of much of the extensive exclusive economic zones on which they rely. Greater vulnerability to extreme weather events such as typhoons will also increase the likelihood of acute humanitarian crises. Sources of potable groundwater on the majority of atolls could disappear by 2060 on current emissions trajectories, or by 2030 in worst-case scenarios.

Sea-level rise will also affect critical military bases and installations in the Pacific and Indian oceans. The Pentagon has identified US Marine Corps facilities on Okinawa, Andersen Air Force Base and Naval Base Guam, the Ronald Reagan Ballistic Missile Defense Test Site and Space Fence radar on eight islands of the Kwajalein Atoll in Marshall Islands, as well as two bases in Hawaii, as among the US military facilities most vulnerable to climate change. The twin island of Roi-Namur at Kwajalein, for example, comprising two former islands joined by an artificial isthmus, houses four key radar systems for space surveillance and detection of launches from East Asia. A 2017 US Geological Survey report for the US Department of Defense concluded that Roi-Namur’s water supply could be destroyed by 2030–40 (under a high-emissions scenario) or 2055–65 (under the current emissions trajectory), and over half the island could be subject to annual flooding by 2060–70 or the end of the century, depending on emissions pathway. The timeline for other islands with facilities currently or potentially used by the US military, such as Diego
Garcia in the Indian Ocean, and the Northern Mariana Islands and Palau in the Pacific, is expected to be broadly similar, although detailed modelling has not been done.53

As with facilities in the South China Sea, projected climate change affects the cost–benefit calculations with respect to US bases, including political as well as military considerations. Climate change will diminish the suitability of, for example, potential alternatives to US bases on Okinawa, while also providing an additional incentive to relocate. It will also be a factor in any US decision to establish new bases in Palau (which requested them in 2020) or Federated States of Micronesia (agreed in principle in July 2021). These two states, as well as Marshall Islands, are in Compacts of Free Association with the US and have been described as ‘tantamount to a power-projection superhighway running through the heart of the North Pacific into Asia’.54 Climate change thus has significant implications for US defence posture in the Asia-Pacific, and hence for regional security more broadly.

MITIGATION, ADAPTATION AND SECURITY

Many potential climate risks in the Asia-Pacific may not emerge if the world as a whole can make the necessary emissions reductions quickly enough to keep global warming to reasonable levels. The impact of those that do emerge, too, could be significantly reduced by adaptation measures, including aid from wealthier nations to the more vulnerable ones. But these measures could themselves have security implications.

The most significant development in climate-change policy over the last few years is the trend of nations committing to achieve net-zero carbon by mid-century, which the IPCC has concluded is necessary to keep warming below 1.5°C.55 If this is successful, demand for oil and gas will fall by more than 70% by 2050.56 Besides diminishing the strategic relevance of potential hydrocarbon resources such as those in the South China Sea, this will reduce (but by no means eliminate) or alter the relative importance of sea lines of communication in the region. A quarter of the vessels over 100,000 gross tonnage passing through the Malacca Strait are oil tankers; most of this oil also passes through the South China Sea, either as crude or after refining in Singapore and Malaysia.57 And as Arctic sea lanes become increasingly and consistently open to large vessels, it could become cheaper to ship from ports north of Hong Kong to Europe through the High North, rather than via the Indian Ocean and Suez Canal.58 Both factors could significantly challenge Singapore’s position as an entrepôt. On the other hand, increased demand for renewable energy to replace hydrocarbons will only strengthen China’s motivation to harness the Mekong for hydropower, further aggravating the situation there.

There is also the question of soft power and moral leadership. Public opinion in the Asia-Pacific is strongly in favour of climate action and critical of governments that are seen as not playing their part.59 Until 2008, the US was, if not actually a hindrance, at least a mere bystander to international efforts to avoid dangerous global warming. But the crisis (in the eyes of most governments, at least) had not yet come, and China too paid only lip service to the need to reduce emissions. During Barack Obama’s presidency, the US took on more of a leadership role despite domestic opposition, while China continued to drag its feet. During Donald Trump’s, Washington abrogated its role entirely, even becoming an active impediment, but Beijing failed to seize the opportunity to fill the vacuum.
China’s commitment to ‘carbon neutrality’ only came in September 2020 and aimed for 2060 rather than the almost-universal target date of 2050, while carbon neutrality is a much less robust goal than the ‘net zero carbon’ to which most countries aspire.\(^{60}\)

Climate-change policies offer the larger powers opportunities to assert (or damage) their soft power in more specific ways. China, for example, was heavily criticised for subsidising new hydrocarbon infrastructure, and especially hundreds of new coal plants, through its Belt and Road Initiative. In September 2021, however, Xi Jinping announced that Beijing would no longer finance new coal plants abroad, and would ‘step up support for other developing countries in developing green and low-carbon energy’.\(^{61}\) At the same time, Beijing’s record on cooperation and transparency along the Mekong, for example, is poor, and unilateral implementation of China’s ‘Sky River’ cloud-seeding project, designed to generate precipitation amounting to up to 7\% of its annual water use, could provoke a similar reaction not just from Southeast Asian states but from Bangladesh, India and Pakistan, which might perceive it as diverting rainfall they would otherwise receive.\(^{62}\) For its part, the United States’ failure (along with other industrialised states, including Australia, Japan and New Zealand) to meet the commitment made at the Copenhagen climate summit in 2009 to collectively provide US$100bn per year by 2020 in climate finance for developing countries has not endeared it to poorer Asia-Pacific states. For example, even as it became clear that the collective commitments would not be met before COP26, ASEAN called for them not just to be honoured but stepped up.\(^{63}\) Japan is the only Asia-Pacific country that has provided its full individual share of finance, and most of this has been in the form of loans rather than grants.\(^ {64}\)

China has stepped up its regional HADR activities over the last decade, responding to 16 disasters in 13 countries from 2002 to 2019 – most recently Typhoon Haiyan, the search for the missing MH370 passenger aircraft, water shortages in Maldives in 2014, and the Nepalese earthquake in 2015 – at least partly in an effort to enhance its soft power.\(^ {65}\) As climate change increases the need for such support, its opportunities will increase. India, too, has been increasing its activities in this area, hosting joint regional exercises and conducting 29 international humanitarian-relief operations, most notably in response to the COVID-19 pandemic.\(^ {66}\) But Beijing’s efforts are sometimes perceived as primarily politically motivated, poorly integrated with those of other nations and relief organisations, and even counterproductive.\(^ {67}\) Meanwhile, since 2004 the US Navy has led an annual Pacific Partnership HADR preparedness exercise in conjunction with regional governments and armed forces and humanitarian organisations, and the
Pentagon contributes to HADR operations somewhere in the region every year. This is also politically motivated to some extent, but its practical effect is a continual reinforcement and enhancement of the United States’ image, at least where that image is already positive; where it is not, the effect is short-lived. Most such HADR missions are not climate-related, but the proportion and numbers of these are likely to increase significantly over the coming decades.

Asia-Pacific countries do appear strongly divided in their attitudes to emissions reduction and climate-change mitigation. Except for Australia, the region’s OECD countries – Japan, New Zealand and South Korea – are strong advocates of action, even as they will be the least affected in the region. China makes the right noises, but does not always follow through. The other G20 members in the region – Australia, India and Indonesia – did not adopt net-zero targets until the COP26 climate summit in Glasgow in October/November 2021, and even then, India adopted a 2070 time frame while Australia’s and Indonesia’s goals are purely aspirational, without concrete plans to achieve them. At COP26, late objections from China and India over the wording of an agreement on coal nearly derailed the summit; they agreed a revised version calling for ‘phasing down’ rather than ‘phasing out’ coal, a day after the conference had been scheduled to end. Even the smaller states are behind the curve; at the end of 2021, only Sri Lanka and some Indian Ocean and Pacific Island states (Fiji, Maldives and Marshall Islands) had formal policy goals of net zero by 2050. It is thus unclear how important climate leadership is in the region, but as and when the impact of climate change on economic growth and security becomes more obvious, this will surely change.

**CONCLUSION**

There are two aspects to the climate crisis in the Asia-Pacific: a long-term, potentially catastrophic threat that may not materialise but which requires immediate action to avoid, and a medium-term, gradual but unavoidable increase in systemic stress that calls for equally gradual and nuanced responses. The first is a question of mitigation, the second of adaptation. When the UN Security Council first acknowledged climate change as a security issue in 2007, China and Pakistan (the latter on behalf of the G77 coalition of developing countries) formally objected to the debate on the grounds that it was an economic and social issue best dealt with in other forums. In retrospect, they were right, in the sense that although climate change may be a security issue, the solutions are (with the narrow exception of military preparedness and HADR) outside the scope of security institutions, whether national, regional or global.
Mitigation is necessarily a global issue, governed by the UNFCCC and the Paris Agreement. Regional institutions such as ASEAN and the Pacific Islands Forum (PIF) can and do present united negotiating positions in the UNFCCC process, but just six Asia-Pacific countries account for more than 1% of global greenhouse-gas emissions each: China (26.8%), India (7.1%), Japan (2.5%), Indonesia (2.1%), South Korea (1.5%) and Australia (1.1%). The remainder of the region collectively contributes only 6%. Even if these other nations could present a united front, as the PIF does, they would have little negotiating leverage. At COP26, for example, the pan-regional G77 and Small Island Developing States groups failed to get new commitments from the major emitters on climate finance or ‘loss and damage’ funding for helping the most vulnerable countries respond to climate-related disasters. Only China and India (and to a lesser extent Indonesia and the Asia-Pacific OECD states) have real influence on the success or failure of global mitigation efforts. The hesitation of major regional emitters to commit to early and rapid decarbonisation stems from calculations that the damage to their own security and development would be greater, or more immediate, than the risks they face from climate change under the current emissions trajectory, even if the gap between advanced and emerging economies widens.

In the medium term, climate change threatens security in the Asia-Pacific indirectly, through its impacts on water, food, energy, ecosystem services, health and general economic development. Besides increased international development aid from outside the region or from the regional OECD countries and China (which has been a net donor since 2010), whether or not it is formally counted as climate finance, the main opportunity for Asia-Pacific countries to improve their climate resilience is through existing domestic and international institutions and mechanisms intended to improve resilience in general. The key is to ensure that such institutions and mechanisms take climate hazards into account in their decision-making, so all investment is green or at least neutral, rather than brown (that is, counterproductive in climate terms). This is particularly salient as the region recovers from the COVID-19 shock. With the exceptions of Japan and South Korea, less than 10% of recovery spending by Asia-Pacific countries in 2020 was green and the leader, South Korea, managed less than 30%.

The Asia-Pacific faces a myriad of security issues. In some respects, climate change is *sui generis*: no security issue is entirely isolated from the others, but global warming alters the geopolitical landscape both figuratively and literally in ways that will have repercussions across the board. By aggravating existing stresses, it is likely at the very least to increase uncertainty and volatility, and at worst to give rise to new and unpredictable threats. Its effects are subtle and difficult to untangle but need to be considered by policymakers and planners contemplating any but the nearest time horizon.
NOTES


7 Ibid., p. 73.


16 The report assesses regional climate change through a set of Reference Regions, which do not necessarily correspond to national boundaries. The regions discussed in this chapter include South Asia; the Tibetan Plateau; the Russian Far East; East Asia; Southeast Asia; Northern, Central, Eastern and Southern Australia; and New Zealand, as well as three reference regions each for the Indian and Pacific oceans.


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51 Storlazzi et al., ‘The Impact of Sea-level Rise and Climate Change on Department of Defense Installations on Atolls in the Pacific Ocean (RC-2334)’, pp. 101-4.

52 Ibid., p. 105.


58 Le Mière and Mazo, Arctic Opening: Insecurity and Opportunity, pp. 64–70.


60 ‘The Rise of Carbon Neutrality: Is the New Optimism Justified?’


69 ‘The Glasgow Climate Conference’.


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Key developments and trends

The Asia-Pacific Regional Security Assessment examines key regional security issues relevant to the policy-focused discussions of the IISS Shangri-La Dialogue, Asia's premier defence summit convened by the International Institute for Strategic Studies. It is published each year in association with the Dialogue and the issues analysed within its covers are central to discussions at the event.

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