

1. Introduction: International stability and human security in 2022

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Global security in 2022 showed a marked deterioration compared to a decade ago. The problem is not only the Russian invasion of Ukraine in February 2022 and the ensuing war, though that has inevitably and rightly claimed a great deal of international attention. Worldwide, there is more war, with open armed conflict in 56 countries in 2022 compared to fewer than 30 in 2010.¹ There is more military spending, with the total now standing at US\$2.2 trillion in 2022, registering an increase for the eighth successive year.² Acute food insecurity increased to over 200 million and by some estimates up to 345 million people needed emergency food assistance.³ As a result of climate change, heatwaves, drought and flooding affected millions of people, with major human and economic costs.⁴ In addition, respect for international law has declined, confrontation has increased and arms control has become less effective.

The background is equally troubling, revealing a wide range of factors that press in the direction of insecurity. The Covid-19 pandemic has weakened the economic health of most countries since it first struck in early 2020. As health and economic recovery began in many countries, there were inevitably some countries that lagged behind. The impact of the war in Ukraine on global supplies of food, fertilizers and fuel has now burdened vulnerable communities with surging energy prices and rising costs of staple foods. While the burden is heaviest in the poorest countries, the increase in food and energy prices led to a widespread increase in the cost of living, including in richer countries. In China, the world's major exporter of manufactured goods, political and social restrictions to implement the 'zero Covid' strategy hampered production and trade through much of 2022.⁵ In a significant

¹ Uppsala University, Department of Peace and Conflict Research, Uppsala Data Conflict Program. See chapter 2, section III, in this volume.

² See chapter 5, section I, in this volume.

³ Food and Agriculture Organization of the United Nations (FAO) et al., *The State of Food Security and Nutrition in the World 2021: Transforming Food Systems for Food Security, Improved Nutrition and Affordable Healthy Diets for All* (FAO: Rome, 2021), p. xiv; and Beasley, D., 'The Ukraine war could leave hundreds of millions hungry around the world', *Washington Post*, 7 Mar. 2022.

⁴ World Meteorological Organization, 'Eight warmest years on record witness upsurge in climate change impacts', Press release, 6 Nov. 2022.

⁵ 'China's failing Covid strategy leaves Xi Jinping with no good options', *The Economist*, 3 Dec. 2022.

number of countries, the pressures were multiplied by extreme weather: a once-in-500-years drought in Europe; the severest drought on record in China, affecting half the country; the inundation of 35 per cent of Pakistan; and floods in some parts of the Greater Horn of Africa (Sudan and South Sudan) and drought in others (Somalia, Ethiopia, Djibouti, Uganda).⁶

International stability was also under pressure from the war in Ukraine and from intensifying confrontation between the great powers—not only about Ukraine but also, and not least, between China and the United States over Taiwan. These tensions, disputes and confrontations resulted directly and indirectly in further pressure on an already weakened set of arrangements in bilateral arms control between Russia and the USA, while the previously postponed five-year review conference of the Nuclear Non-Proliferation Treaty delivered no results.

Given the economic and environmental background and the geopolitical and strategic turbulence of 2022, it is no surprise that the Bulletin of the Atomic Scientists once again moved its ‘Doomsday Clock’ closer to midnight, the metaphorical hour of the apocalypse. This 10-second adjustment in response to the global situation in 2022 continued a three-decade transition from the relative comfort of 1991, when the clock was put at 17 minutes to midnight, to its current position just 90 seconds from the hour of destruction, the closest that the clock has been since it was instituted in 1947.⁷ While the *Bulletin’s* assessment of the danger is, like anybody’s, subjective, the reasoning behind it is both serious and transparent. A heightened perception of deepening risk was shared by many observers and actors on the international political stage. There can be no pretence in this hour of danger that there have not been abundant warnings.

This, the 54th edition of the *SIPRI Yearbook*, explores and records in detail many of the germane elements of global insecurity in 2022. The reader will unfortunately find a wealth of evidence to support the contention that the current period is among the few most dangerous times—if not, as the analysts for the Bulletin of the Atomic Scientists conclude, *the* most dangerous moment—of the era since World War II. This chapter offers an introductory overview of some aspects of this disquieting picture, including the impact of the war on Ukraine. It places the war in the context of the broader global picture of conflict and geopolitics, including China–USA relations and nuclear arms control, and the impact of climate change.

⁶ See, respectively, Toreti, A. et al., *Drought in Europe August 2022*, Joint Research Centre Report no. JRC130493 (Publications Office of the European Union: Luxembourg, 2022); Celis, N., ‘Half of China hit by drought in worst heatwave on record’, Phys.org, 25 Aug. 2022; UN Children’s Fund (UNICEF), ‘Devastating floods in Pakistan’, 31 Jan. 2023; and World Health Organization, ‘Greater Horn of Africa food insecurity and health grade 3 emergency: Situation report as of 23 August 2022’, 28 Aug. 2022.

⁷ ‘A time of unprecedented danger: It is 90 seconds to midnight’, *Bulletin of the Atomic Scientists*, 24 Jan. 2023.

I. Food and geopolitics

The broader significance of the war in Ukraine does not lie in its scale. Tens of thousands of people have been killed and injured on both sides and millions of Ukrainians were forced to flee their homes. But the most deadly of recent wars is almost certainly that in the Tigray province of Ethiopia, which started in November 2020; there, estimates of civilian deaths alone over the two years range from 300 000 to 600 000, significantly more than the uncertain numbers thought to have perished in Ukraine during 2022 (see below).⁸ Nor does the Ukraine war's significance lie in a common perception in Europe that it signifies war returning to the continent. In fact, there have been armed conflicts and wars in Europe in every decade since the 1960s, though only in the Western Balkans and North Caucasus has the violence been at the level seen in Ukraine in 2022.

The broader impact and significance of the war in Ukraine are generated by two factors. One is that the two combatant countries are both major food producers and the war, especially because of its impact on Ukrainian agriculture, has therefore exacerbated the problem of world hunger. The second is that Russia is one of the world's three great powers, and faces an adversary supported by the USA, which is still the largest economy and has the most powerful armed forces in the world. Great powers clashing in this way has a major geopolitical impact. If China were also to involve itself in the conflict, beyond seeking to exert political influence on its outcome, this would only magnify the impact.

Food

For many governments, the war in Ukraine was not the most important event of 2022. It featured primarily because of its impact on the domestic availability and prices of food, fuel and fertilizer. In better-off countries this means a cost-of-living crisis, while in poorer countries it means hunger and food insecurity.

The impact of the war comes in the wake of the Covid-19 pandemic, exacerbating an existing trend of steadily increasing world hunger since 2017.⁹ One effect of the pandemic was to generate a major spike in world food prices in 2021, which may have moderated in 2022 but looks set to carry on in 2023. It is the third price spike this century—the earlier two were in 2007–2008 and

⁸ Abraha, M., 'Think the war in Ukraine is the world's deadliest conflict? Think again', *The Guardian*, 28 Dec. 2022; and Naranjo, J., 'Ethiopia's forgotten war is the deadliest of the 21st century, with around 600,000 civilian deaths', *El País*, 27 Jan. 2023.

⁹ Food and Agriculture Organization of the United Nations (FAO) et al., *The State of Food Security and Nutrition in the World 2022: Repurposing Food and Agricultural Policies to Make Healthy Diets More Affordable* (FAO: Rome, 2022), sections 2.1 and 2.2, tables 1 and 2, and figure 2.

2010–11. As a result of these three spikes, the real cost of food this century has more than doubled.¹⁰ The latest spike is associated with a worsening of the layered indicators of world hunger revealed by the annual report from five United Nations agencies, *The State of Food Security and Nutrition in the World*. In the first two years of the pandemic, the percentage of the world population that was undernourished rose from 8.4 to 9.8 per cent, an estimated 702–828 million people. The number of people who could not afford a healthy diet was around 3 billion in 2021. Of that total, 2.37 billion lacked access to enough food, and 923 million did not know where their next meal was coming from.¹¹ The number of people in need of emergency food assistance in 2021 was 205 million, an increase of almost 30 million extremely hungry people.¹²

Russia and Ukraine are both major producers of staple foods, accounting for more than half the global production of sunflower oil, 19 per cent of barley and 14 per cent of wheat.¹³ In addition, Ukraine has in recent years been the source of about half the wheat used by the World Food Programme to support vulnerable people.¹⁴ Thus, at each layer of the problem of world hunger—from limits on food availability to acute food insecurity—interruption of food exports from Russia and Ukraine has had a major global impact.

By the end of 2022, the armed conflict had rendered a quarter of Ukraine's farmland unproductive.¹⁵ Sanctions against Russia led to a reduction in food and fertilizer exports, even though the sanctions system was intended to allow those exports to continue.¹⁶ Russian action to mine and blockade Ukraine's Black Sea ports severely restricted trade in the first half of 2022. In July, the Black Sea Grain Initiative brokered by the UN and Türkiye allowed exports of Ukrainian grain and Russian food and fertilizers to start up again.¹⁷ However, the agreement is fragile as well as temporary, and there is a constant diplomatic back and forth about whether to renew and how to continue it.¹⁸

¹⁰ Headley, D. and Ruel, M., 'The global food price crisis threatens to cause a global nutrition crisis: New evidence from 1.27 million young children on the effects of inflation', International Food Policy Research Institute (IFPRI) Blog, 14 Dec. 2022.

¹¹ FAO et al. (note 3).

¹² Food Security Information Network (FSIN) and Global Network Against Food Crises, *2022 Global Report on Food Crises: Joint Analysis for Better Decisions, Mid-Year Update* (FSIN: Rome, Sep. 2022), p. 6.

¹³ Delgado, C., 'War in the breadbasket: The ripple effects on food insecurity and conflict risk beyond Ukraine', SIPRI Commentary, 1 Apr. 2022.

¹⁴ Beasley (note 3).

¹⁵ World Food Programme, 'Ukraine transitional interim country strategic plan (2023–2024)', 13 Dec. 2022.

¹⁶ Glauber, J., Laborde, D. and Mamun, A., 'Food export restrictions have eased as the Russia Ukraine war continues, but concerns remain for key commodities', IFPRI Blog, 23 Jan. 2023.

¹⁷ United Nations, Black Sea Grain Initiative, Joint Coordination Centre, 'Beacon on the Black Sea'.

¹⁸ Roth, A., 'Putin threatens to tear up fragile Ukraine grain deal in bellicose speech', *The Guardian*, 7 Sep. 2022; and 'Grain export deal back on as Russia rejoins in unexpected U-turn', *Daily Sabah*, 2 Nov. 2022.

Geopolitics

The UN Security Council risks being hobbled once again, as it was during the cold war. While the basis of divergence and antagonism between Russia and the USA and its allies is different from the foundations of US–Soviet confrontation in the cold war, the effect on the Security Council can be the same because of the voting system, in which any one of the five permanent members can veto any resolution.

However, much of the rest of the UN continued to function effectively in 2022. For example, the UN special envoy for Yemen led a mediation effort producing a truce in April 2022.¹⁹ UN peace operations continued to function and had their mandates renewed by the Security Council. Meanwhile, the UN agencies continued to drive their work forward. There were inefficiencies and wasted opportunities, as well as successes, but the contribution to knowledge, communication and well-being that UN agencies made in various ways was significant and probably indispensable. Protecting this framework of global institutions should be an important goal of government policies in poor and rich countries alike, because without it, human security and well-being will suffer further.

For Europe, the war in Ukraine had a profound effect. The annual ministerial meeting of the Organization for Security and Co-operation in Europe (OSCE) in December 2022 did not adopt any decisions, not even a budget; as host, the Polish government refused to allow Russia's foreign minister, Sergey Lavrov, to attend, although the Russian ambassador to the OSCE did participate.²⁰ There must be doubt about the OSCE's continuing role as an operational organization that sends missions to monitor ceasefires and elections, and facilitates conflict management and resolution. For several years, Russia has systematically sidelined it over key issues such as Crimea, eastern Donbas and the reignition of war between Armenia and Azerbaijan in 2020. The OSCE's future role may lie in a return to its origins in the cold war as the *Conference on Security and Cooperation in Europe*, from which the OSCE emerged in the period from November 1990 to December 1994.²¹

One aspect of the deepening of division and distance between Russia and the West is economic. When the cold war came to an end, Russia began to move much closer to the Western economic and trading system. Russian raw materials fed Europe's appetite for energy, while Western investment finance and consumer goods were available in Russia. Economic sanctions enacted by the West together with some retaliatory measures implemented by Russia have interrupted trading and economic relations, severing them in

¹⁹ Armed Conflict Location & Event Data Project, 'Yemen Truce Monitor', Status as of 7 Oct. 2022.

²⁰ Hernandez, G. H., 'OSCE in crisis over Russian war on Ukraine', *Arms Control Today*, Jan./Feb. 2023.

²¹ Organization for Security and Co-operation in Europe (OSCE), 'History'.

some cases, seriously denting them in others.²² The effectiveness of sanctions is measured first in the extent to which they weaken the target economy and, second and consequently, whether they lead to a change in the target government's behaviour. On these measures, the record of sanctions achieving political impact is poor.²³ Nonetheless, the termination of trading and financial links could be lasting. The dimensions of this effect are hard to discern as yet but, for example, it seems unlikely that Western brand names will be as popular and permitted in Russia for some time to come and Europe's appetite for Russian energy supplies, though it may return, will probably never be as whole-hearted again.

Contention and confrontation in global geopolitics diminish the capacity for managing and helping resolve local and regional conflicts. Although the war in Ukraine stands out for many reasons, it is worth recalling that Ukraine was only one of 56 countries that experienced armed conflict in 2022.²⁴ In many cases, conflicts have been protracted and violence has become endemic; in others, conflicts were reigniting, like the conflict in Palestine where violence during 2022 escalated to levels not experienced since the second intifada ended in 2005.²⁵ The risk for these countries and their regions lies partly in the absence of a decisive international capacity to mitigate and manage violent conflicts, which was at its strongest when the UN Security Council was freed from the burden of cold war division in the 1990s and in the first five years of this century.²⁶

II. Great power relations

Chinese–Russian alignment?

In February 2022 the Chinese and Russian leaders avowed that their friendship had no limits, with no areas where cooperation was off the table.²⁷ Not quite three weeks later, Russian forces invaded Ukraine.

²² Demertzis, M. et al., 'How have sanctions impacted Russia?', Bruegel Policy Contribution no. 18/22, Oct. 2022; and Snegovaya, M. et al., 'Russia sanctions at one year: Learning from the cases of South Africa and Iran', Center for Strategic and International Studies (CSIS), Feb. 2023. On the impact of trade restrictions on Russia, see chapter 12, section III, in this volume.

²³ Mulder, N., *The Economic Weapon: The Rise of Sanctions as a Tool of Modern War* (Yale University Press: New Haven, CT, 2022); and Staibano, C. and Wallenstein, P. (eds), *International Sanctions: Between Wars and Words* (Routledge: London, 2005).

²⁴ See chapter 2, sections I and II, in this volume.

²⁵ 'UN envoy reports "sharp increase" in violence this year in Israel–Palestine conflict', UN News, 19 Dec. 2022; and United Nations, 'With 2022 deadliest year in Israel–Palestine conflict, reversing violent trends must be international priority, middle east coordinator tells Security Council', UN Meetings Coverage, Security Council SC/15179, 18 Jan. 2023.

²⁶ Mack, A. et al., *Human Security Report 2005* (Oxford University Press: Oxford, 2005).

²⁷ Putin, V. and Xi, J., Joint statement of the Russian Federation and the People's Republic of China on the international relations entering a new era and the global sustainable development, 4 Feb. 2022.

There is a tendency in the West to treat China and Russia as a single bloc, and to develop that into a vision of a global contest between democracy and autocracy, as articulated by US President Joe Biden in his 2022 State of the Union Address, and picked up thereafter by European Commission President Ursula von der Leyen.²⁸ This narrative oversimplifies the reality of China's support for Russia's military action.²⁹ China was one of 35 states that abstained in the UN General Assembly vote in March 2022 on a resolution condemning the invasion of Ukraine. Its position both respected Ukraine's sovereignty and criticized enlargement of the North Atlantic Treaty Organization (NATO), which Russia has argued is a justification for its actions against Ukraine.³⁰ The world's most populous democracy, India, also abstained in the March 2022 vote. It has criticized Russia but avoided aligning with the West, and insists, like China, that disputes be settled by peaceful means.³¹ While frustrating for Western government leaders and diplomats who want more forthright support from other countries, this is a widely held view. Refusing to condemn Russia is not in itself evidence of alignment with Moscow.

There are further grounds for scepticism about how closely China and Russia are aligned. One lies in the very limited practical support that China has offered, in the form of equipment parts and, reportedly, continuing sales of drones.³² This is hardly comparable with either the volume or form of Western assistance to Ukraine; no transfers from China to Russia of complete weapon systems or lethal aid have yet been recorded.³³ China has bought Russian energy, as has India, but at prices that are discounted by as much as 40 per cent.³⁴ What the USA and the European Union (EU) may see as China and India sabotaging their sanctions on Russia can just as easily look like exploiting Russia's need for foreign earnings by insisting on bargain prices.

Another reason for scepticism derives from the differences between Chinese and Russian histories, cultures, current world positions and interests. China is a major manufacturing power that has experienced economic

²⁸ See, respectively, Biden, J., State of the Union address, White House Briefing Room, 1 Mar. 2022; and De Camaret, C. and Baillard, D., "“Democracy is standing up against autocracy” in Ukraine, EU's von der Leyen says", *France 24*, 18 Mar. 2022.

²⁹ De la Fuente, R. A., Gibson, T. and Gowan, R., 'UN votes reveal a lot about global opinion on the war in Ukraine', *World Politics Review*, 21 Feb. 2023.

³⁰ 'China says it respects Ukraine's sovereignty and Russia's security concerns', *Reuters*, 25 Feb. 2022.

³¹ Roy, A., 'Japan's Kishida and India's Modi discuss response to Ukraine crisis', *Reuters*, 19 Mar. 2022.

³² Garcia, N., 'Trade secrets: Exposing China–Russia Defense trade in global supply chains', *C4ADS*, 15 July 2022; and Mozur, P., Krolik, A. and Bradsher, K., 'As war in Ukraine grinds on, China helps refill Russian drone supplies', *New York Times*, 21 Mar. 2023.

³³ Vergun, D., 'DOD official says US not yet seeing China giving lethal aid to Russia', *US Department of Defense News*, 22 Feb. 2023.

³⁴ Kimani, A., 'China and India are buying Russian crude at a 40% discount', *Oilprice.com*, 29 Nov. 2022; and Sor, J., 'China is snapping up Russian oil at the steepest discount in months as EU scrambles to keep a lid on Moscow's energy income', *Markets Insider*, 7 Dec. 2022.

growth averaging 10 per cent a year for four decades, albeit slowing recently.³⁵ It continues to need markets in the rich West. Even the ‘trade war’ that the USA initiated in 2018 has not changed this.³⁶ Much higher tariffs have become the new normal, but trade between the two countries has flourished.³⁷ Russia is not in that position. Its major export to the West was energy; in 2022 Europe had to find energy from other sources and did so. Other, less wealthy countries, unable to switch as easily as Europe, will likely become more important to Russia in coming years. In these circumstances, Russia has both less incentive and less capacity than China does to temper competition and confrontation with cooperation.

Finally, as world powers, China is rising while Russia is declining. Russia has proven in the last 15 years (approximately, since its incursion into Georgia in 2008) to be willing to use force, and agile in the ways it does so. However, the course of the war in Ukraine has revealed a massive overestimation of Russian military capability by Western (and presumably also Russian) analysts in previous years.³⁸ Paradoxically, in 2022, while the Russian military underperformed compared to Western expectations, the Russian economy showed a degree of resilience that many Western analysts had not expected.³⁹ Nonetheless, while China’s economy is second only to the USA’s by one measure (the exchange rate) and larger than it by another (purchasing power parity), Russia was the 11th largest economy in the world at the end of 2021.⁴⁰ Russia remains the third largest military spender in the world, but it spends less than one-third of what China does and not much over a tenth of what the USA spends.⁴¹ In other words, China looms over Russia only somewhat less than the USA does. An alliance between China and Russia cannot be an alliance of equals; the rising power will surely expect to be the dominant partner in the relationship as it unfolds over the years ahead, regardless of the outcome of Russia’s war in Ukraine.

³⁵ Hirst, T., ‘A brief history of China’s economic growth’, World Economic Forum, 30 July 2015.

³⁶ Wong, D. and Koty, A. C., ‘The US–China trade war: A timeline’, China Briefing, 25 Aug. 2020.

³⁷ Bown, C. P., ‘US–China trade war tariffs: An up-to-date chart’, Peterson Institute for International Economics (PIIE) Charts, 16 Mar. 2021; and Gordon, N., ‘For all the “decoupling” rhetoric, US–China trade is booming’, *Fortune*, 23 July 2021.

³⁸ Dougherty, C., ‘Strange debacle: Misadventures in assessing Russian military power’, War on the Rocks, 16 June 2022.

³⁹ Lipsky, J., ‘Why Russia’s economy is more resilient than you might think’, New Atlanticist Blog, 30 June 2022; and Bhan, A., ‘The Ukraine war, sanctions, and the resilient Russian economy’, Observer Research Foundation, 26 Feb. 2023.

⁴⁰ Allison, G., Kiersznowski, N. and Fitzek, C., *The Great Economic Rivalry: China vs the US* (Harvard Belfer Center: Cambridge, MA, 23 Mar. 2022); and Statista, ‘Economy of Russia: Statistics & facts’, 16 Jan. 2023.

⁴¹ See chapter 5, table 5.3, in this volume.

China and the USA

The differences between China and the USA are deep and significant. The deterioration of their relations during the past 10–15 years is different from what has happened between Russia and the USA over the same years. While China can often make rhetorical common cause with Russia, it also pursues its own strategy for power and influence. And while China does not want to see Russia eviscerated by the war with Ukraine, that is largely because it does not want to face a stronger and more confident American adversary; it is not in itself evidence of a Chinese sentiment of solidarity with Russia. As the rising power, China chafes at the US assumption of superiority, at the global military reach the USA continues to display, and at many aspects of US behaviour.⁴² But its leaders are most unlikely to want to share global stature with Russia.

China has increased its military spending for each of the last 28 years, and is now engaged in what may be a quite ambitious programme of modernization and enhancement of its nuclear forces, with a potential capacity to increase its warhead numbers from 410 to 1500 by 2035.⁴³ It has also provided military aid, though in much smaller amounts than the USA, to gain political influence and strategic position, such as in a new arrangement with the Solomon Islands.⁴⁴ China has also invested heavily in economic development projects (some \$840 billion this century, almost all in the form of loans) that provide it with considerable soft power, albeit at the cost of the beneficiaries becoming indebted.⁴⁵

Taiwan

In the USA, opposition to China's rise to global prominence is bipartisan in a national political scene otherwise characterized by sharp partisan divisions. This was demonstrated not least when US Speaker of the House Nancy Pelosi led a congressional delegation to visit Taiwan in August 2022, which also underlined that the USA's regional policy is likely to include more forthright support for Taiwan.⁴⁶ Ever since China became a full member of the UN and

⁴² See e.g. Yi, W., 'The right way for China and the United States to get along in the new era', Chinese foreign minister's speech at the Asia Society, New York, 22 Sep. 2022.

⁴³ See chapter 5, section II, and chapter 7, section V, in this volume.

⁴⁴ Beachamp-Mustafaga, N., 'China's military aid is probably less than you think', The RAND Blog, 26 July 2022; Liang, X., 'What can we learn from China's military aid to the Pacific?', SIPRI Commentary, 20 June 2022; and Cave, D., 'China and Solomon Islands draft secret security pact', *New York Times*, 24 Mar. 2022.

⁴⁵ Malik, A. A. et al., *Banking on the Belt and Road: Insights from a New Global Dataset of 13,427 Chinese Development Projects* (AidDATA: Williamsburg, VA, 29 Sep. 2021); and 'Did China's debt-trap destroy Sri Lankan economy', *International Finance*, 15 Jan. 2023.

⁴⁶ Spegele, B., 'Nancy Pelosi's trip reflects growing US bipartisan support for Taiwan', *Wall Street Journal*, 2 Aug. 2022.

Taiwan was excluded, the USA has maintained a studiously ambiguous policy, acknowledging that Chinese leaders regard Taiwan as part of 'One China', yet also offering Taiwan support, which, though largely tacit, included sales of advanced weapon systems. Half a century on, however, the USA is edging towards a different approach; in 2022, President Biden repeated earlier statements that the USA would defend Taiwan if China attacked, though US diplomats have also qualified the commitment.⁴⁷

Speaker Pelosi's visit to Taiwan was followed by hastily announced Chinese military exercises and the suspension of cooperation with the USA on a range of issues, not least climate change.⁴⁸ China exerts military pressure on Taiwan via naval manoeuvres and intrusions by Chinese aircraft into Taiwan's air defence identification zone (ADIZ).⁴⁹ China intensified this form of pressure dramatically during 2022, almost doubling the number of aircraft intruding into Taiwan's ADIZ to 1727 over the year, including, in December, the largest single incursion of 71 combat aircraft.⁵⁰

North East Asia

All this serves as a reminder that North East Asia is the frontline in an increasingly tense and risk-heavy relationship between China and the USA plus its allies. Japanese military spending is increasing and has surpassed the self-imposed limit of 1 per cent of gross domestic product (GDP).⁵¹ The region is further troubled by the continuing missile development programme of the Democratic People's Republic of Korea (DPRK, North Korea). After a four-month pause in missile tests, in early March 2022 North Korea conducted the first of over 90 missile test-firings it undertook in the year.⁵² These tests sent more than one missile on a trajectory over Japan or close to it. The tests

⁴⁷ Wong, T., 'Biden vows to defend Taiwan in apparent US policy shift', with R. Wingfield-Hayes, 'Analysis', BBC News, 23 May 2022; and Ruwutch, J., 'Biden, again, says US would help Taiwan if China attacks', NPR, 19 Sep. 2022.

⁴⁸ Ni, V., 'China halts US cooperation on range of issues after Pelosi's Taiwan visit', *The Guardian*, 5 Aug. 2022.

⁴⁹ An ADIZ is effectively a buffer zone around sovereign air space, in which the state unilaterally claims the right to identify and monitor aircraft that enter the zone, normally civil aircraft. ADIZs are far from universal; upwards of 12 countries have established them. See Bakhtiar, H. S. et al., 'Air defence identification zone (ADIZ) in international law perspective', *Journal of Law, Policy and Globalization*, vol. 56 (2016).

⁵⁰ AFP, 'China's warplane incursions into Taiwan air defence zone doubled in 2022', *The Guardian*, 2 Jan. 2023; and Lee, Y., 'Taiwan reports China's largest incursion yet to air defence zone', Reuters, 26 Dec. 2022.

⁵¹ See chapter 5, section II, in this volume.

⁵² Choe S-H., 'Tracking North Korea's missile launches', *New York Times*, 13 Mar. 2023. See also chapter 7, section VIII, in this volume.

included both ballistic and cruise missiles and both intercontinental and shorter range tactical weapons.⁵³

In March, as missile testing began, reports surfaced suggesting North Korea might be preparing to recommence nuclear weapons testing after a five-year gap.⁵⁴ That did not happen but the reports and concerns re-emerged in September 2022 when North Korea enacted a law that permits the country's armed forces to use nuclear weapons not only to defend and retaliate against invasion but also to make a pre-emptive strike in case of an imminent attack.⁵⁵

There is, unfortunately, no reason to suppose that the escalation in tensions and increased military deployments will decelerate any time soon. Apart from the UN, there is no forum in which the countries of the region can jointly discuss their security dilemmas, including territorial disputes in the South China and East China seas. Mutual security and confidence-building measures are lacking. The regional powers are all strengthening their armed forces and external powers such as the USA, the United Kingdom, India and Australia are deploying naval forces in the region.⁵⁶ With these deployments, the risk of naval incidents rises and the importance of managing them safely when they occur increases commensurately.⁵⁷ The evidence of 2022, however, does not reveal an appetite on any side to change course that is likely to hinder the development of even modest confidence-building measures.

III. Arms control and nuclear non-proliferation

The year began with a bright moment. The five permanent members (P5) of the UN Security Council—China, France, Russia, the UK and the USA—issued a joint statement on the need to prevent nuclear war. Essentially repeating the epochal joint statement by the Soviet and US leaders Mikhail Gorbachev and Ronald Reagan in 1985, the P5 statement, issued on 3 January 2022, affirmed that ‘nuclear war cannot be won and must never be fought’.⁵⁸ The logic flowing from that statement implies that its five signatories would steer away from behaviour that might lead to nuclear weapons use by design or accident. It is not in logic possible to both forswear nuclear war and be

⁵³ McCurry, J., ‘North Korea says missile tests simulated striking South with tactical nuclear weapons’, *The Guardian*, 10 Oct. 2022.

⁵⁴ Reuters, ‘North Korea: Satellite images suggest building work at nuclear site for first time since 2018’, *The Guardian*, 8 Mar. 2022.

⁵⁵ ‘Kim Jong-un says new law guarantees North Korea will never give up nuclear weapons’, *The Guardian*, 9 Sep. 2022.

⁵⁶ Mahadzir, D., ‘6 naval task groups from US, UK, India, Japan and Australia underway in Pacific’, *USNI News*, 30 Aug. 2022.

⁵⁷ Anthony, I., Saalman, L. and Su, F., ‘Naval incident management in Europe, East Asia and South East Asia’, SIPRI Insights on Peace and Security no. 2023/03, Mar. 2023.

⁵⁸ Joint Soviet–United States statement on the summit meeting in Geneva, Ronald Reagan Presidential Library & Museum, 21 Nov. 1985; and Joint statement of the leaders of the five nuclear-weapon states on preventing nuclear war and avoiding arms races, 3 Jan. 2022.

willing to start one. Yet of all the P5, only China has a policy affirming it will only use nuclear weapons to retaliate to a nuclear attack—a ‘no first use’ policy. Equally, the statement included the wish to avoid a nuclear arms race among the five signatories, which must raise questions about the path of nuclear modernization and upgrades on which all are set.⁵⁹

The mounting crisis over Russia’s invasion of Ukraine, and the implicit and explicit threats about using nuclear weapons that came from Russian officials and media figures close to the Russian government, quickly sucked the life out of the P5 statement. Rather than the era of arms reduction and improved relations that the 1985 Gorbachev–Reagan statement presaged, the year that followed the P5 statement saw more dangers, more risky behaviour, and more concern and anxiety among ordinary citizens about the prospect of nuclear war. And arms control took another backward step in February 2022 when the US administration suspended US–Russian strategic stability talks.⁶⁰

The P5 statement was aimed at the review conference (RevCon) of the Nuclear Non-Proliferation Treaty (NPT), which had been deferred several times since 2020 and was by then rescheduled for January 2022. By the time the P5 statement was issued, the RevCon had been deferred again to August, when it finally happened. That further postponement might have offered breathing space during which the P5 could work towards outlining practical measures to act on the logic of their statement. The opportunity was not taken and the RevCon came to an end without any agreement on next steps—and even the draft outcome document outlining rather modest steps was eventually blocked by Russia due to disagreements over Ukraine.⁶¹

The Iran nuclear deal

The Iran nuclear deal agreed in 2015—formally, the Joint Comprehensive Plan of Action (JCPOA)—showed signs of breaking down irrecoverably in 2022. Iran’s development of nuclear technology has long been controversial in the West and Middle East. The country does not possess nuclear weapons and is a party to the NPT, meaning it has forsworn developing, producing or owning them. Yet suspicions of Iran’s intentions have long been widespread, and between 2006 and 2010 the UN Security Council passed six resolutions demanding an end to the country’s uranium enrichment programme, five of which had sanctions attached.⁶² The JCPOA sought to block the country’s

⁵⁹ Gibbons, R. D., ‘Five nuclear weapon states vow to prevent nuclear war while modernizing arsenals’, *Bulletin of the Atomic Scientists*, 17 Jan. 2022.

⁶⁰ Detch, J. and Gramer, R., ‘Biden halts Russian arms control talks amid Ukraine invasion’, *Foreign Policy*, 25 Feb. 2022. See also chapter 8, section I, in this volume.

⁶¹ See chapter 8, section II, in this volume.

⁶² Arms Control Association, ‘UN Security Council resolutions on Iran’, Fact sheet, Jan. 2022.

path to developing nuclear weapons until at least 2030.⁶³ The administration of Donald J. Trump, however, announced in 2018 that the USA would pull out of its JCPOA obligations even though the International Atomic Energy Agency confirmed that Iran was fully implementing its own obligations.⁶⁴ In 2019 Iran responded by starting to breach the JCPOA limits on its various activities. Negotiations on restoring the deal began in 2021, even though the Iranian government changed in June of that year, but progress was slow.⁶⁵ As 2022 proceeded, Iran's support for Russia inevitably complicated negotiations on renewing the JCPOA. By the end of 2022, its prospects did not look encouraging.⁶⁶

US nuclear posture

While campaigning for the US presidency in 2020, Joe Biden expressed his view that 'the sole purpose' of nuclear weapons is for deterrence, and retaliation if deterrence fails.⁶⁷ While not quite being a 'no first use' policy, it is close to it; the difference is that 'no first use' is an unqualified limitation on when to use nuclear weapons, while 'sole purpose' is a statement of intent, which could arguably change if circumstances demanded.⁶⁸

In October 2022, the Biden administration produced its Nuclear Posture Review (NPR), which explicitly rejected both 'no first use' and 'sole purpose', arguing that either one would result in 'an unacceptable level of risk in light of the range of non-nuclear capabilities . . . that could inflict strategic-level damage'.⁶⁹ Overall, the NPR did not articulate any significant change in US posture, strategy and forces, avoiding commitments either to reductions or increases in force levels. Perhaps, in view of the global political climate and the state of US relations with both China and Russia, it would have been unrealistic to expect any other outcome. Apart from the decision not to proceed with the development of a nuclear-armed cruise missile, which was envisaged in the 2018 NPR, the 2022 NPR was rather disappointing from the perspective of arms control and disarmament.

⁶³ Rauf, T., 'Resolving concerns about Iran's nuclear programme', *SIPRI Yearbook 2016*, pp. 673–88; and Rauf, T., 'Implementation of the Joint Comprehensive Plan of Action in Iran', *SIPRI Yearbook 2017*, pp. 505–10.

⁶⁴ International Atomic Energy Agency (IAEA), 'Verification and monitoring in the Islamic Republic of Iran in light of United Nations Security Council Resolution 2231 (2015)', Report by the director general, GOV/2018/24, 24 May 2018.

⁶⁵ Abadi, C., 'The Iran nuclear deal's long year of negotiations and uncertainty', *Foreign Policy*, 24 Dec. 2021.

⁶⁶ See chapter 8, section IV, in this volume.

⁶⁷ Biden, J. R., 'Why America must lead again', *Foreign Affairs*, 23 Jan. 2020.

⁶⁸ Panda, A. and Narang, V., 'Sole purpose is not no first use: Nuclear weapons and declaratory policy', *War on the Rocks*, 22 Feb. 2021.

⁶⁹ US DOD, *2022 Nuclear Posture Review*, 27 Oct. 2022, p. 9.

IV. Climate change and environmental diplomacy

The unfolding environmental crisis was addressed by two major inter-governmental meetings in 2022: the 27th conference of parties (COP27) of the UN Framework Convention on Climate Change (UNFCCC) in November, and the 15th conference of parties (COP15) of the UN Convention on Biological Diversity (CBD), held in October and December.⁷⁰

There are numerous other international agreements on environmental deterioration—the EU lists 29 more—and, in March 2022, representatives of over 190 governments met in the UN Environmental Assembly and agreed to draft a new legally binding treaty on plastic pollution, to be ready by the end of 2024.⁷¹ Nonetheless, the UNFCCC, under which the Paris Agreement of 2015 was reached, and the CBD are the two key agreements so far. The COPs are very large events. COP27 on climate, held in Sharm el-Shaikh, Egypt, was attended by more than 100 heads of government among a total of over 35 000 people (about 5000 fewer than COP26), if attendance by non-governmental participants at all the side events is counted.⁷² COP15 on biodiversity was held in Montreal, Canada, with a preliminary meeting in October, held in Kunming, China, and online; the Montreal gathering had 10 000 registered participants.⁷³ Both conferences were held against a background of unfulfilled promises. The world is not on track to stay below 1.5°C warming, which was agreed to be the preferred target in Paris in 2015, nor even below 2°C warming, which was agreed to be the essential target.⁷⁴ Likewise, when government representatives met in Montreal to agree a new action plan on protecting biodiversity, they were setting out to replace the Aichi framework agreed in 2010 at COP10 in Nagoya, Japan.⁷⁵ None of the Aichi targets (due to be met by 2020) was achieved.⁷⁶

A generally shared view of COP27 is that the new agreement to set up a ‘loss and damage’ fund is a significant yet vague step.⁷⁷ It will change the terms of

⁷⁰ United Nations Framework Convention on Climate Change (UNFCCC), opened for signature 9 May 1992, entered into force 21 Mar. 1994, UN Treaty Collection; and UN Convention on Biological Diversity (CBD), opened for signature 5 June 1992, entered into force 29 Dec. 1993.

⁷¹ ‘Nations sign up to end global scourge of plastic pollution’, UN News, 2 Mar. 2022; and United Nations, Environment Assembly, ‘End plastic pollution: Towards an internationally legally binding instrument’, Resolution, UNEP/EA.5/Res.14, 2 Mar. 2022. For the list of environmental treaties see European Commission, ‘International issues: Multilateral environmental agreements’.

⁷² United Nations, ‘COP27: Delivering for people and planet’.

⁷³ Convention on Biological Diversity, ‘Conference of the parties (COP)’; and Shanahan, M., ‘Explainer: COP15, the biggest biodiversity conference in a decade’, China Dialogue, 1 Dec. 2022.

⁷⁴ ‘Countries’ climate promises still not enough to avoid catastrophic global warming: UN report’, UN News, 26 Oct. 2022.

⁷⁵ Convention on Biological Diversity, ‘Aichi biodiversity targets’, 18 Sep. 2020.

⁷⁶ Convention on Biological Diversity, Secretariat, *Global Biodiversity Outlook 5: Summary for Policymakers*, Aug. 2020.

⁷⁷ UNFCCC Secretariat, ‘COP27 reaches breakthrough agreement on new “loss and damage” fund for vulnerable countries’, Press release, 20 Nov. 2022.

discussion on the costs of climate change for poorer countries, which have historically done least to create the problem yet face the heaviest burden from its consequences. The loss and damage agreement is aimed at righting that wrong. However, many key issues have not yet been agreed, including what constitutes loss and damage from the impact of climate change.⁷⁸ Is the focus on compensation after natural disasters or on the costs of readiness? Would the fund cover the costs of building new infrastructure? It is also not yet agreed how to pay into the fund, nor how to pay out.⁷⁹ These issues are to be discussed by a transitional committee that COP27 established, which is to report with recommendations to COP28 in December 2023. The agreement in Sharm el-Sheikh, in other words, is not the end of the story.

Despite this achievement, doubts remained about the firmness of commitments to resolving the challenges that global warming and climate change present. While optimists could point to the agreement on loss and damage, sceptics could note that, as at every previous COP, there was no formal agreement to reduce the use of fossil fuels, which all experts agree is necessary to slow global warming.⁸⁰ Notably in that context, over 600 lobbyists from fossil fuel industries were present and accredited to the conference.⁸¹

COP15 in Montreal successfully adopted a new framework for action to halt biodiversity loss.⁸² It has four long-range goals and 23 more detailed targets to be achieved by 2030. There can be no objection in principle to this outcome. Biodiversity loss is in part connected to climate change but also to other aspects of social and economic development, especially changes in land use and soil depletion. The sixth mass extinction of species to occur in the planet's history is well under way, at a rate of extinction that is between tens and hundreds of times higher than it has averaged over the past 10 million years. There is no rational case for delaying action to address the biodiversity crisis but the question, of course, is whether the will is there to make the changes that are required to protect the natural foundations on which humanity depends.⁸³ Generating the energy and collective action needed for

⁷⁸ European Parliamentary Research Service (ERPS), 'Understanding loss and damage: Addressing the unavoidable impacts of climate change', ERPS Briefing, July 2022; and Liao, C. et al., 'What is loss and damage?', Chatham House Explainer, 6 Dec. 2022.

⁷⁹ Najam, A., 'COP27's "loss and damage" fund for developing countries could be a breakthrough—or another empty climate promise', *The Conversation*, 21 Nov. 2022.

⁸⁰ McGuire, B., 'The big takeaway from COP 27? These climate conferences just aren't working', *The Guardian*, 20 Nov. 2022.

⁸¹ Global Witness, '636 fossil fuel lobbyists granted access to COP 27', 10 Nov. 2022.

⁸² Convention on Biodiversity, 'COP15: Nations adopt four goals, 23 targets for 2030 in landmark UN biodiversity agreement', Press release, 19 Dec. 2022.

⁸³ See e.g. Kolbert, E., *The Sixth Extinction: An Unnatural History* (Henry Holt & Co: New York, 2014); Cowie, R. H., Bouchet, P. and Fontaine, B., 'The sixth mass extinction: Fact, fiction or speculation?', *Biological Reviews*, vol. 97, no. 2 (2022); and Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), *Global Assessment Report on Biodiversity and Ecosystem Services* (IPBES: Bonn, 2019).

such change is never likely to be easy; in the current international setting, it is particularly difficult.

V. The course of the war in Ukraine

War facts and figures

Russia first invaded Ukraine in 2014, seizing Crimea and much of the eastern provinces of Donetsk and Luhansk, and triggering a continuing armed conflict in eastern Ukraine.⁸⁴ Following a systematic build-up of its forces near the border during 2021, Russia invaded Ukraine for the second time on 24 February 2022. Full-scale war ensued. Whereas the 2014 action was carried out in part by stealth, the 2022 invasion was an open act of aggression. As in 2014, the February 2022 action had no justification in the form of a Ukrainian attack or threat of one. The invasion breached Ukraine's national sovereignty, the UN Charter and the 1994 Budapest Memorandum, in which Russia undertook, along with the UK and the USA, to uphold Ukraine's territorial sovereignty.⁸⁵

Russia's military build-up in 2021 assembled an invasion force variously estimated by agencies in the West as up to 190 000 strong.⁸⁶ On 24 February 2022, Russia launched missiles against multiple targets and initiated ground offensives, from Belarus in the north towards Kyiv, from Russia towards Kharkiv, from Donetsk and Luhansk, which Russia had formally recognized as independent states on 21 February, and from Crimea, which Russia annexed in 2014.⁸⁷ Before 24 February 2022, Russian-occupied areas accounted for just under 6.5 per cent of Ukraine's territory. By the end of March, Russian forces occupied some 24 per cent of Ukraine, though control was incomplete and contested in many areas. Russia still occupied 16.6 per cent of Ukraine's territory at the end of 2022, a third down on its peak but well over twice what it held before the invasion.⁸⁸

⁸⁴ For a discussion on the initial causes of the conflict in Ukraine see Wilson, A., 'External intervention in the Ukraine conflict: Towards a frozen conflict in the Donbas', *SIPRI Yearbook 2016*, pp. 143–57; and Clem, R. S., 'Clearing the fog of war: Public versus official sources and geopolitical storylines in the Russia–Ukraine conflict', *Eurasian Geography and Economics*, vol. 58, no. 6 (2017). On the various armed groups fighting in the early phases of the conflict see Galeotti, M., *Armies of Russia's War in Ukraine* (Osprey Publishing: Oxford, 2019).

⁸⁵ Memorandum on security assurances in connection with Ukraine's accession to the Treaty on the Non-Proliferation of Nuclear Weapons, 7 Dec. 1994.

⁸⁶ Wintour, P., 'Russia has amassed up to 190,000 troops on Ukraine's borders, US warns', *The Guardian*, 18 Feb. 2022.

⁸⁷ President of Russia, 'Address by the president of the Russian Federation', English transcript, 21 Feb. 2022; and Jones, S. G., 'Russia's ill-fated invasion of Ukraine: Lessons in modern warfare', CSIS Brief, June 2022.

⁸⁸ Breteau, P., 'War in Ukraine: Russia now controls only 16% of Ukrainian territory', *Le Monde*, 6 Jan. 2023.

As in many wars, data on the scale of human suffering is patchy and unreliable. The UN regards its own estimates of approximately 8000 Ukrainian civilians killed in the first year of war as significant underestimates.⁸⁹ In addition, harrowing accounts of atrocities emerged early in the war and throughout the year.⁹⁰ Numbers of refugees and internally displaced persons (IDPs) fluctuate, as some people flee fighting and danger but return when there is some degree of safety in doing so; by early 2023 there were some 8 million Ukrainian refugees in other countries in Europe and 5.35 million IDPs (down from 6.5 million in March 2022).⁹¹

Figures for combatant casualties are uncertain, as is usually the case in wartime.⁹² Russian Defence Minister Sergey Shoigu said in September 2022 that Russian forces had suffered 5937 combat deaths and put Ukrainian combat deaths at 61 207.⁹³ These figures are completely at odds with Western estimates and Ukrainian statements. In February 2023 the British Defence Intelligence announced an estimate of Russian combat casualties of 175 000 to 200 000 personnel, including private military contractors such as the Wagner Group and regular Russian forces, and including 40 000 to 60 000 deaths.⁹⁴ These figures appear to be generally used in the West, though the Ukrainian Ministry of Defence claimed the Russian death toll after one year of war was over 130 000.⁹⁵

Russian attacks on civilian centres have been a feature of the renewed war. Missile attacks on energy infrastructure have had a heavy short-term impact, though Ukrainian authorities have improved protection of the electricity grid and can repair it quickly.⁹⁶ Artillery and missile bombardment destroyed many urban areas—a foreseeable aspect of the war, given Russian

⁸⁹ 'UN rights chief deplores Ukraine death toll one year after Russian invasion', UN News, 21 Feb. 2023; and Farge, E. and Tétrault-Farber, G., 'UN says recorded civilian toll of 8,000 in Ukraine is "tip of the iceberg"', Reuters, 21 Feb. 2023.

⁹⁰ Human Rights Watch, 'Ukraine: Apparent war crimes in Russia-controlled areas', 3 Apr. 2022; 'As Russian soldiers retreat, they leave evidence of war crimes', *The Economist*, 8 Apr. 2022; UN Office of the High Commissioner for Human Rights, 'UN report details summary executions of civilians by Russian troops in northern Ukraine', Press release, 7 Dec. 2022; and Biesecker, M. and Kinetz, E., 'Evidence of Russian crimes mounts as war in Ukraine drags on', AP News, 30 Dec. 2022.

⁹¹ UN High Commissioner for Refugees, Operational Data Portal: Ukraine Refugee Situation; International Organization for Migration, Global Data Institute, 'Ukraine—Internal displacement report: General population survey, round 12', 23 Jan. 2023; and Filo, E. and Parrish, F., 'Conflict in Ukraine: What do we know about internal displacement so far?', International Displacement Monitoring Centre, Mar. 2022.

⁹² Crawford, N. C., 'Reliable death tolls from the Ukraine war are hard to come by—the result of undercounts and manipulation', *The Conversation*, 4 Apr. 2022.

⁹³ 'Russia calls up 300,000 reservists, says 6,000 soldiers killed in Ukraine', Reuters, 21 Sep. 2022; and 'Russia reveals military losses in Ukraine', RT, 21 Sep. 2022.

⁹⁴ British Ministry of Defence (@DefenceHQ), Twitter, 17 Feb. 2023. <<https://twitter.com/DefenceHQ/status/1626472945089486848>>.

⁹⁵ McDonald, S., 'Russian death toll soars past 130,000 as war nears 1-year mark: Ukraine', *Newsweek*, 4 Feb. 2023.

⁹⁶ 'Russia has destroyed 30 percent of Ukraine's power stations: Kyiv', Al Jazeera, 18 Oct. 2022; and 'How Ukraine tamed Russian missile barrages and kept the lights on', *The Economist*, 12 Mar. 2023.

force structure and doctrine.⁹⁷ There will likely also be negative health and environmental impacts arising from the destruction of hospitals, sewage systems and water supplies, as well as from the release into the atmosphere of pulverized cement, metals and industrial compounds from destroyed buildings.⁹⁸ Further concerns about long-term health and safety arose because of the proximity of fighting to major nuclear installations, including the long-disused Chornobyl Nuclear Power Plant and the Zaporizhzhia Nuclear Power Plant.⁹⁹

Russia's goals

Russian leaders have stated Russia's goals in overlapping forms. President Vladimir Putin has both emphasized the aim of replacing the Ukrainian leadership, depicted as 'criminals' and 'neo-Nazis', and invoked more ambitious aims, envisaging the end of the Ukrainian state, on the grounds that it has no historical right to exist.¹⁰⁰ Such thinking draws on grandiose and largely polemical theorizing about a historical and geopolitical Russian mission to be a great power, dominant in Eurasia.¹⁰¹ He also depicts the war as an existential struggle against the West.¹⁰² Yet some presentations have articulated the war aims in more limited terms that swing on the need to protect Russians living in the provinces of Donetsk and Luhansk.¹⁰³ These goals are not logically incompatible with each other but they are distinct, which could imply different strategic paths for reaching them and give rise to different political narratives. In one narrative, Russia is a victim of the West and of neo-Nazism in Ukraine; in another, Russia is a generous protector

⁹⁷ Cranny-Evans, S., 'The role of artillery in a war between Russia and Ukraine', *RUSI*, 14 Feb. 2022.

⁹⁸ Roberts, L., 'Surge of HIV, tuberculosis and COVID feared amid war in Ukraine', *Nature*, 15 Mar. 2022; and Garrity, A., 'Conflict rubble: A ubiquitous and under-studied toxic remnant of war', *Conflict and Environment Observatory*, 10 July 2014.

⁹⁹ Stevenson, W. and Rodionova, M., 'The inside story of Chernobyl during the Russian occupation', *The Economist*, 10 May 2022; Liou, J., 'Situation at Zaporizhzhya Nuclear Power Plant "untenable," protection zone needed, IAEA's Grossi tells Board', *IAEA*, 12 Sep. 2022; and IAEA, 'IAEA director general statement on situation in Ukraine', Update no. 138, 30 Dec. 2022. See also chapter 8, section V, in this volume.

¹⁰⁰ See e.g. speeches by Putin in the Kremlin: President of Russia (note 87); President of Russia, 'Address by the president of the Russian Federation', English transcript, 24 Feb. 2022; and President of Russia, 'Article by Vladimir Putin "On the historical unity of Russians and Ukrainians"', 12 July 2021.

¹⁰¹ See e.g. Dugin, A., *Last War of the World-Island: The Geopolitics of Contemporary Russia* (Arktos: London, 2015).

¹⁰² Faulconbridge, G., 'Putin casts war as a battle for Russia's survival', *Reuters*, 21 Feb. 2023; and Mações, B., "'Russia cannot afford to lose, so we need a kind of a victory': Sergey Karaganov on what Putin wants', *New Statesman*, 24 Feb. 2023.

¹⁰³ See e.g. 'Russia had "no choice" but to launch "special military operation" in Ukraine, Lavrov tells UN', *UN News*, 24 Sep. 2022. Some passages on Russians in the two provinces were part of the argument for recognizing the independence of Donetsk and Luhansk, advanced by President Putin three days before the invasion. President of Russia (note 87).

of all Russians, even those who live in other states; in a third, Russia has a destiny to fulfil.

Many Western experts have argued that Russian leaders did not have a properly worked out strategic plan, but a ‘delusional strategy’ with ‘arrogant and haphazard planning’, and a ‘shockingly bad’ invasion plan.¹⁰⁴ After six months of war, analysts saw repetition of the same mistakes.¹⁰⁵ One analysis identified a key weakness as the absence of a backup plan, when Russian forces were unable to take Kyiv in the first 10 days.¹⁰⁶ Another argued that even if that operation were successful, Russia would need a full-scale military occupation to control Ukraine, for which it lacked sufficient forces.¹⁰⁷ Putin’s announcement of a call-up of 300 000 reservists, while presaging the annexation of four provinces of Ukraine (including Donetsk and Luhansk, which had previously been recognized as independent), could be regarded as evidence to support this latter view.¹⁰⁸

Overall, Western analysis contains considerable emphasis on seeing the war as a whole as an ill-considered mistake. By the end of 2022, the war’s outcome was, of course, still undecided, meaning that conclusive judgements about mistakes, failures and successes need to wait.

The West’s involvement

The West, broadly defined, has been a participant in the Ukraine crisis, though not a combatant in the war, since before the renewed war started. The impetus for this has come from both sides. The USA and its allies helped Ukraine strengthen its armed forces in the wake of the 2014 annexation of Crimea and effective occupation of parts of eastern Donbas by Russia. When the 2022 invasion occurred, the assistance was steadily stepped up.

Aid to Ukraine and sanctions against Russia

The first year of aid commitments to Ukraine totalled €143 billion, including humanitarian and general financial aid as well as military assistance.¹⁰⁹ That total, which reflects promises made, not actual spending, is not far short of the €174 billion that members of the Organisation for Economic Co-operation

¹⁰⁴ Freedman, L., ‘The fight for Ukraine’, *Comment is Freed*, 27 Feb. 2022; and Kagan, F. W. and Clark, M., ‘How not to invade a nation’, *Foreign Affairs*, 29 Apr. 2022.

¹⁰⁵ Massicot, D., ‘Russia’s repeat failures’, *Foreign Affairs*, 15 Aug. 2022.

¹⁰⁶ Zabrodskiy, M. et al., *Provisional Lessons in Contemporary Warfighting from Russia’s Invasion of Ukraine: February–July 2022* (RUSI: London, Nov. 2022), pp. 1, 12, 48.

¹⁰⁷ Freedman, L., ‘A reckless gamble’, *Comment is Freed*, 25 Feb. 2022.

¹⁰⁸ President of Russia, ‘Address by the president of the Russian Federation’, English transcript, 21 Sep. 2022; and the President of Russia, ‘Signing of treaties on accession of Donetsk and Lugansk people’s republics and Zaporozhye and Kherson regions to Russia’, 30 Sep. 2022.

¹⁰⁹ Trebesch, C. et al., *The Ukraine Support Tracker: Which Countries Help Ukraine and How?*, Kiel Working Paper no. 2218, Feb. 2023, pp. 1–2. See also chapter, 5, section II, in this volume.

and Development spent in total on official development assistance in 2021.¹¹⁰ The financial aid to Ukraine has been essential to the government's continued ability to meet basic functions and the military aid has been indispensable for its war effort.

In addition, the West, led by the EU and the USA, has emphasized supporting Ukraine by enforcing a range of sanctions—including sectoral sanctions, banking restrictions, road and maritime transport bans, travel bans, asset freezes, arms embargoes and trade restrictions—against Russia and Belarus. Already in March 2022, the sanctions that had been imposed on Russia were regarded as the most comprehensive ever put together against a major power since the end of World War II.¹¹¹ EU and US assessments indicate that these sanctions have impacted Russia's economic growth and reduced its ability to source components for its military equipment.¹¹² Yet there are grounds for doubt about the long-term efficacy of sanctions. However hard the designers and enforcers of economic sanctions work to make them technically sound and effective in their own right—such as by interrupting and limiting trade, financial transfers and the assets and travel of key individuals in the intended manner—the track record of sanctions for achieving their intended policy goals is decidedly mixed.¹¹³ Sanctions are an effective means of virtue signalling but often little more, and are sometimes counterproductive.¹¹⁴ The statistical record in the 20th century was that only one in three uses of sanctions was 'at least partially successful' in achieving its political goals.¹¹⁵

Russia and NATO

The West is also involved in the Ukraine crisis by featuring in the Russian narrative that presents the invasions of Ukraine in 2014 and 2022 as forced on Russia by NATO's incorporation of eastern European states in the years after the cold war.¹¹⁶ These were former members of the Warsaw Pact (Bulgaria, Czechia, Hungary, Poland, Romania, Slovakia) and three former Soviet republics (Estonia, Latvia, Lithuania). NATO described these additions to its membership as a process of *enlargement*, resulting from democratic decisions

¹¹⁰ Organisation for Economic Co-operation and Development, 'Official development assistance (ODA)'.

¹¹¹ Hufbauer, G. C. and Hogan, M., 'How effective are sanctions against Russia?', PIIE Blog, 16 Mar. 2022. On the trade restrictions on Russia see chapter 12, section III, in this volume.

¹¹² See European Council, 'Infographic: Impact of sanctions on the Russian economy', 17 Mar. 2023; and US Department of State, Office of the Spokesperson, 'The impact of sanctions and export controls on the Russian Federation', Fact sheet, 20 Oct. 2022.

¹¹³ Staibano, C. and Wallenstein, P. (eds), *International Sanctions: Between Wars and Words* (Routledge: London, 2005); and Biersteker, T. J., Eckert, S. E. and Tourinho, M. (eds), *Targeted Sanctions: The Impacts and Effectiveness of United Nations Action* (Cambridge University Press: Cambridge, 2016).

¹¹⁴ Haass, R. N., 'Economic sanctions: Too much of a bad thing', Brookings Policy Brief, 1 June 1998.

¹¹⁵ Mulder, N., *The Economic Weapon: The Rise of Sanctions as a Tool of Modern War* (Yale University Press: New Haven, CT, 2022) p. 295.

¹¹⁶ President of Russia (note 100).

by the new member states, while Russia and critics of NATO tend to use the term *expansion*, depicting a power play.

The Russian argument includes the assertion that, as the cold war came to an end, NATO undertook not to take in new members from east of the former German Democratic Republic (East Germany). This quite widely accepted view appears to be based on a misunderstanding that simplifies a nuanced situation. There was no formal undertaking that NATO would not incorporate new members to its east. In that sense there was no promise, which means NATO did not break faith when enlargement/expansion happened. In the final years and months of the Soviet Union's existence, however, statements were made to Soviet leaders that there would be no eastward enlargement.¹¹⁷ Among several examples, the German foreign minister at the time, Hans Dietrich Genscher, said in January 1991 that NATO would not grow to the east, and his US counterpart, James Baker, a few days later during a visit to Moscow, offered 'ironclad guarantees that NATO's jurisdiction or forces would not move eastward', a position he modified in subsequent remarks.¹¹⁸ As the exchanges on this issue unfolded, there were remarks from the Soviet side acknowledging the principle that states are free to choose their allies, implying that NATO might well accept new applicants into its membership.¹¹⁹ And in 1993, Russian President Boris Yeltsin agreed with Polish President Lech Walesa that Poland had the right to join NATO.¹²⁰ Indeed, the NATO–Russia Founding Act signed in 1997 includes explicit reference to 'new members' of NATO, indicating all parties' acceptance of that prospect.¹²¹

The Russian view focuses on the assurances that were offered while the NATO view focuses on the absence of formal agreement. Perhaps NATO could and should have handled these issues differently.¹²² This is certainly a discussion worth having. But it is hard to see moral equivalence between, on the one hand, what may have been diplomatic errors by the USA and its allies in the 1990s and, on the other hand, open aggression, systematic attacks on civilian targets, large-scale urban destruction and, if UN-collected evidence is borne out, abundant war crimes.¹²³

¹¹⁷ 'NATO expansion: What Gorbachev heard', National Security Archive, 12 Dec. 2017; and McCarthy, B., 'Fact-checking claims that NATO, US broke agreement against alliance expanding eastward', PolitiFact, 28 Feb. 2022.

¹¹⁸ Baker, P., 'In Ukraine conflict, Putin relies on a promise that ultimately wasn't', *New York Times*, 9 Jan. 2022.

¹¹⁹ Neal, J., "'There was no promise not to enlarge NATO'", *Harvard Law Today*, 16 Mar. 2022.

¹²⁰ Wintour, P., 'Russia's belief in NATO "betrayal"—and why it matters today', *The Guardian*, 12 Jan. 2022.

¹²¹ Founding Act on Mutual Relations, Cooperation and Security between NATO and the Russian Federation signed in Paris, France, 27 May 1997.

¹²² Sarotte, M. E., *Not One Inch: America, Russia, and the Making of Post-Cold War Stalemate* (Yale University Press: New Haven, CT, 2021).

¹²³ United Nations, Human Rights Council, Report of the Independent International Commission of Inquiry on Ukraine, A/HRC/52/62 (Advance version), 15 Mar. 2023.

In keeping with its view of NATO's culpability, in December 2021 Russia proposed two treaties that would have meant NATO agreeing not to absorb new members and, in particular, not Ukraine.¹²⁴ There was no likelihood of NATO accepting this restriction. But it does reflect a genuine Russian view denying the legitimacy of NATO's increase in size.

This only makes the NATO part of the West's response to the war the more striking—and the more galling perhaps for Russia. NATO, which was declared 'brain dead' by French President Emmanuel Macron in 2019, has revived and is in the process of enlarging (or expanding) once again.¹²⁵ Finland acted against clearly expressed Russian interests and preferences for the first time since the end of World War II, while Sweden put aside two centuries of not aligning with major powers in a domestic political debate lasting little more than two months. The two countries applied together to join NATO, despite strongly voiced Russian objections and warnings about potential countermeasures.¹²⁶ At the end of 2022, Hungary and Türkiye had still to approve the applications, the latter using the occasion to raise long-held concerns about the presence in both countries of politically active Kurds whom it regards as having ties to terrorism.¹²⁷

The nuclear dimension

During 2022, Russian spokespersons repeatedly warned that the use of nuclear weapons in the context of the war in Ukraine had not been ruled out.¹²⁸ By the end of the year, there was less concern about this possibility in the headlines in the West, though US officials reportedly believe there are some situations—if President Putin were losing power, or feared NATO forces would directly enter the war, or faced defeat—in which Russia might use a nuclear weapon.¹²⁹ Nuclear deterrence theory would propose that such action by Russia would be deterred by the USA's arsenal; however, there

¹²⁴ Russian Ministry of Foreign Affairs, 'Treaty between the United States of America and the Russian Federation on security guarantees', 17 Dec. 2021; and Russian Ministry of Foreign Affairs, 'Agreement on measures to ensure the security of the Russian Federation and member states of the North Atlantic Treaty Organization', 17 Dec. 2021.

¹²⁵ Rose, M., 'France's Macron: I'm not sorry I called NATO brain dead', Reuters, 28 Nov. 2019.

¹²⁶ 'Ukraine war: Russia warns Sweden and Finland against NATO membership', BBC News, 11 Apr. 2022; Erlanger, S. and Lemola, J., 'Despite Russian warnings, Finland and Sweden draw closer to NATO', *New York Times*, 13 Apr. 2022; and 'Yle poll: Support for NATO membership hits record high', Yle News, 14 Mar. 2022.

¹²⁷ Chatterjee, P., 'Who are "terrorists" Turkey wants from Sweden and Finland?', BBC News, 5 July 2022; and 'Sweden deports man with alleged ties to Kurdish militant group', Reuters, 3 Dec. 2022.

¹²⁸ Karmanau, Y. et al., 'Putin puts nuclear forces on high alert, escalating tensions', AP News, 28 Feb. 2022; Sevastopulo, D. and Qinio, A., 'Putin puts world on alert with high-stakes nuclear posturing', *Financial Times*, 7 Mar. 2022; and Faulconbridge, G. and Osborn, A., 'Analysis: Truth or bluff? Why Putin's nuclear warnings have the West worried', Reuters, 28 Sep. 2022.

¹²⁹ Barnes, J. E. and Sanger, D. E., 'Fears of Russian nuclear weapons use have diminished, but could re-emerge', *New York Times*, 3 Feb. 2022.

might be room for doubt as to whether the US president would actually authorize nuclear retaliation to a relatively limited Russian strike against a third country, especially one that, like Ukraine, is not a member of NATO. Arguments about nuclear use, the utility of nuclear weapons and what victory in a nuclear war might look like have swirled endlessly for decades.¹³⁰ This unresolved debate suggests that the risk of nuclear use is always real but also always low, because the outcome would be uncertain and wholly negative. It is worth noting the report that US war-gaming has identified how, in the event of Russia using nuclear weapons in Ukraine or against other targets, the USA could deliver a devastating blow against Russian forces using conventional weapons only.¹³¹

Prospects

By the end of 2022, the drift of many commentaries on the war, from both Russia and the West, reflected the expectation of a long war ahead, suggesting that neither side had a clear path towards victory. At the same time, a year in, there was no clear path towards a negotiated peace. In 2022, there were negotiations and agreements on issues such as grain exports and prisoner swaps.¹³² On ending the fighting, however, there was no progress since March 2022.¹³³ In early 2023, the respective positions of Russia and Ukraine remained far apart. The two sides' territorial demands are incompatible; and Russian President Putin denies the legitimacy of the government of Ukraine, while Ukraine President Volodymyr Zelensky does not trust his Russian counterpart at any level.¹³⁴ It can be argued that, eventually, co-existence will be necessary, even if it involves two hostile states facing each other across a heavily fortified border. What is not clear, however, is the short- to middle-term process of getting there.

For Russia, if it cannot gain outright victory, the unpleasant prospect looms of Ukraine joining NATO. In late 2021, when Russia proposed treaties ruling out Ukraine's accession to the alliance, that prospect was not imminent.

¹³⁰ See e.g. Bundy, M., 'To cap the volcano', *Foreign Affairs*, vol. 48, no. 1 (Oct. 1969); Ball, D., 'US strategic forces: How would they be used?', *International Security*, vol. 7, no. 3 (1982–83); Smith, D., 'The uselessness and the role of nuclear weapons: An exercise in pseudo-problems and disconnection', eds J. Gjelstad and O. Njølstad, *Nuclear Rivalry and International Order* (Sage: London, 1996); and Kaplan, F., *The Bomb: Presidents, Generals, and the Secret History of Nuclear War* (Simon & Schuster: New York, 2020).

¹³¹ Kaplan, F., 'Why the US might not use a nuke, even if Russia does', *Slate*, 7 Oct. 2022.

¹³² United Nations, Black Sea Grain Initiative (note 17); and 'Dozens freed in new Ukraine–Russia prisoner swap', *Al Jazeera*, 15 Dec. 2022.

¹³³ Seddon, M. et al., 'Ukraine and Russia explore neutrality plan in peace talks', *Financial Times*, 16 Mar. 2022.

¹³⁴ President of Russia, 'Presidential address to the Federal Assembly', 21 Feb. 2023; and Simpson, J. and Waterhouse, J., 'Ukraine war: Zelensky rules out territory deal with Putin in BBC interview', *BBC News*, 16 Feb. 2023.

NATO had declared at its Bucharest summit in 2008 that Ukraine (and Georgia) ‘will become members of NATO’.¹³⁵ However, following the conflict between Georgia and Russia in 2008, what was already understood to be a sensitive issue was regarded by some member states as particularly difficult to approach.¹³⁶ That, together with the lack of a timeline in the Bucharest statement, suggested that while some NATO members strongly supported Ukraine’s accession, the decision could be long deferred.¹³⁷ After a year of close cooperation between NATO and Ukraine, that has changed. Questions remain about timing and modalities, but Ukraine’s closeness to NATO is a practical reality and, unless the country is conquered, its membership of NATO is a probability. Ukraine may move towards EU membership as well; its self-improvement programme of anti-corruption reforms is part of what is required for EU candidacy.¹³⁸

VI. Unanswered questions

The same challenge has been identified in successive recent editions of this yearbook: Can energy and a sense of direction in the UN compensate for the lack of global leadership from the great powers? How might it be possible to achieve a balance in world affairs when the great powers are focused on their rivalries with each other? As the international system reels under the impact of the war in Ukraine, is there any space on the international agenda for action to address even the most shared of problems such as the environmental crisis?

At the end of 2022, these questions had no answer and it seemed unlikely that the uncertainties surrounding many important issues would be cleared up soon. While the great powers squared off, much of the rest of the world was paying attention to other developments. The combined impact on human security and international stability was far from positive.

Yet, as in previous editions, it is worth noting that important international institutions are still functioning effectively. As always, an important issue is whether and how well the political classes in many different countries are able to utilize the strengths of those institutions for the common good. That is perhaps an issue that will hinge on the degree to which political discourse starts to recognize common good and shared interests as key determinants of each country’s prosperity and stability.

¹³⁵ NATO, ‘Bucharest Summit declaration’, Press release, 3 Apr. 2008.

¹³⁶ Lazarevic, D., ‘NATO enlargement to Ukraine and Georgia: Old wine in new bottles?’, *Connections*, vol. 9, no. 1 (winter 2009).

¹³⁷ Bayer, L., ‘The West’s last war-time taboo: Ukraine joining NATO’, *Politico*, 6 Dec. 2022.

¹³⁸ Minakov, M., ‘Fighting corruption in wartime Ukraine’, *Focus Ukraine*, 13 Feb. 2023.