



The Power Atlas

Seven battlegrounds
of a networked world



**The
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Atlas**
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of a networked world

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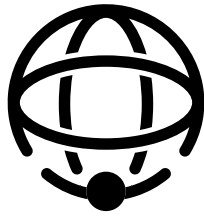
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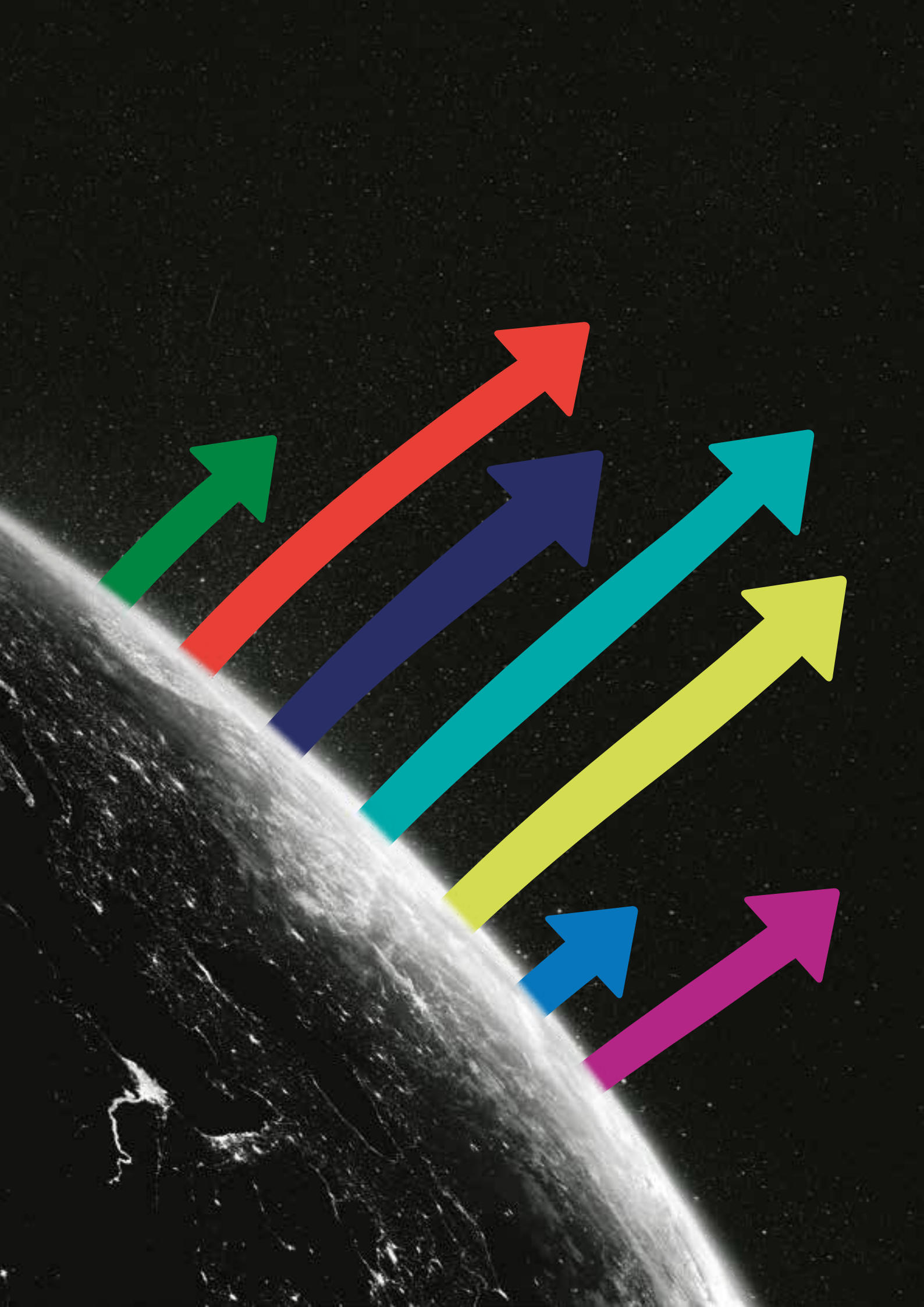
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The Power Atlas

by Mark Leonard

The post-cold war era is over. Its end came slowly and then all at once with the abrupt and chaotic US withdrawal from Afghanistan. The heart-rending scene of desperate Afghan civilians falling off American evacuation planes at Kabul airport may become an image that marks the conclusion of that US-dominated era. It was not simply Afghan civilians who were left behind, but also a certain dream of a liberal international order cemented by economic globalisation and the internet, and governed by liberal democracy and free-market capitalism. Of course, the shift had been a long time coming. The debacles that followed the invasion of Iraq in 2003 and the collapse of Lehman Brothers in 2008 had severely dented America's credibility as an international guarantor of economic and military security, while the Obama-Trump years had been defined by a desire to end 'forever wars' abroad and concentrate on domestic issues. And, outside the West, other powers had grown not just in economic and military might, but also in their determination to chart an independent course rather than follow the Western playbook. President Joe Biden likes to say that "America is back." Well, maybe – but, if it has re-emerged from the populism and quasi-isolationism of the Trump years, America is a very different country confronting a changed world.

The contours of this world, and the new patterns of American engagement, have consequences in every region. Yet it is Europeans who feel the change most dramatically. For hundreds of years, we have been at the centre of geopolitics – either as the motors of history or the world's most important battleground. For decades, we have been used to looking at global problems through a Western prism, with the transatlantic alliance as the main unit of analysis for addressing these challenges. And,

since the end of the cold war, we have thought that the core lesson of the European Union – that interdependence reduces conflict by turning enemies into friends – could be applied to the rest of the world.

The chaotic end of the post-cold war era has raised profound questions about all three ideas. The United States has made clear that it is pivoting away from Europe and the greater Middle East to focus on the Indo-Pacific. That the US did not consult its European allies about the manner of the Afghanistan withdrawal – while simultaneously manoeuvring to sign a submarine pact with Australia and the United Kingdom – demonstrated once again that, while it values the EU's support on key issues, it no longer looks at the world through a Western prism. And the fact that America was doing all this to become more battle-ready for a generational 'cold war 2.0' with China showed that the hope of using interdependence to forge a multilateral world order has given way to decoupling and great power competition. I have sought to describe the new geopolitical era conceptually in my book *The Age of Unpeace*. This atlas is a companion volume that shows through data where power now lies in the world.

Finding the right map

Many Europeans have been forced to let go of their dreams of moving towards 'one world' governed by economic interdependence and multilateral politics. But they do not know what will take its place. In recent times, commentators have often written about the world 'going back to normal' and encouraged us to dust off more traditional geopolitical frameworks to understand international affairs.

At the end of the nineteenth century, two grand theories competed to define the twentieth-century map of power. The first – best described by American naval strategist Alfred Thayer Mahan – held that the emerging technologies of massive ships powered by fossil fuels implied that whoever held command of the seas would control the world. The second was exemplified by British theorist Halford Mackinder, whose heartland theory held that, in an age of railroads, power flowed to those in control of the large landmass and abundant natural resources of Eurasia. These theories implied different maps of the world and different strategies for prospering in the twentieth century. The Germans followed Mackinder's map to eventual ruin; the Americans used Mahan's map and prospered. Regardless of one's destination, it is important to use the right map.

So, what map of power would explain the modern world? Europeans had hoped that it would be defined by flows of goods and services rather than geopolitical blocs, and by the rights of individuals rather than competing states. They tried to build a new world

based on pooled sovereignty, mutually beneficial interdependence, and norms that everyone would eventually accept. But national sovereignty has proven too resilient, interdependence too double-edged, and norms too contested.

At the same time, the new world is not simply a return to old concepts, a geographical projection based on either land or sea. On the old map, states were well-defined entities that shielded themselves from the influence of others. It made sense, therefore, to map power geographically. In a globalised world, however, interdependence is a reality in everything from trade, investment, and supply chains to flows of people and information.

In an era in which states use their interdependence against one another, power is no longer defined by control of land or oceans, or even the normative influence of “soft power”. It is now defined by control over flows of people, goods, money, and data, and via the connections they establish. As states compete to control such connections and the dependencies they create, these flows cut across overlapping spheres of influence – shaping the new map of geopolitical power. Only those who see this map clearly will be able to control the modern world.

The purpose of this atlas is to describe the key terrains of power. The European Council on Foreign Relations commissioned seven essays that explore these seven terrains: economics, technology, climate, people, military, health, and culture. By studying each of the terrains closely, one can see how various states are already trying to seize what they view as the high ground, as well as what this means for the future of conflict and relative power. During the cold war, the world was split between free countries and authoritarian states – a divide that gave the West enormous soft power. It was not just that many people yearned for the freedoms of liberal democracy, but also that liberal democracies seemed to be richer and better at solving political problems than their rivals. And, in the case of the US, they were also more powerful in every measure. Superficially, the world looks very similar today, with many people talking about a new cold war between the US (as the ‘leader of the free world’) and a China that stands alongside other authoritarian powers such as Russia. However, while the map of global politics might appear to be similar, there has been a dramatic change in the very nature of power and the ways in which it flows through that map. Even if our world has not been defined by world wars, it is riven with global conflict, as each of the terrains of power becomes a battlefield. This liminal condition – neither a formal war, but certainly not peace – is something that cyber scholars such as Lucas Kello have theorised very skilfully. But now the same dynamics are spreading to all facets of globalisation. It is a condition best described by the old Anglo-Saxon word ‘unpeace’.

The seven key terrains of the Power Atlas

The Power Atlas describes the structure of the complicated web of connections and flows in today's globalised world. Journalist Thomas Friedman once famously claimed that globalisation would lead to a flat world. But, in reality, the world is mountainous and criss-crossed by networks in which some powers are much more central than others. The nature of the ties that bind them together creates great opportunities for exercising power and influence.

Each essay in this collection focuses on one of the seven key terrains of the Power Atlas – describing how it has become a battleground of power, as well as the metrics of power, vulnerabilities, and 'weapons' on this terrain. The essays outline the power dynamics on each terrain and who has advantages in controlling them. The maps show that some of the legacy powers – such as the US and Europe – continue to have certain advantages even as the terrains become more multipolar and subject to a rise in Chinese influence. Maybe the biggest change to the effects of hard power in the first six terrains lies in the seventh one: culture. The fact that the world is moving from universalism and liberalisation to cultural resistance has blunted the advantages of many of the established powers in the other domains.

Jonathan Hackenbroich describes in his essay on the economics terrain how level playing field penalties and market access – together with other economic tools such as export controls, sanctions, and data regulations – have become the main non-military battlefield of great power politics. He differentiates between offensive tools governments can use to implement policies that increase their economic and geopolitical reach, and defensive tools that limit a country's vulnerability to offensive economic instruments. However, efforts to build up defensive and offensive capabilities in the economic realm can have negative repercussions for economic strength – which the essay describes as the third metric of power on this terrain. Hackenbroich assesses global powers' attempts to walk this fine line, highlighting the disadvantages the EU faces on the economic and finance terrain. The dominance of the US dollar gives Washington an extraordinary ability to act as the gatekeeper of the global financial system. Through the use of sanctions, entities lists, and rules on listing and delisting companies, the US has many opportunities to coerce other countries into compliance. And, paradoxically, the countries that are most vulnerable to this pressure are in Europe because they are the most exposed to the American financial system – and are least used to thinking they need to defend themselves from America. But this chapter also shows that, in the longer run, China could become an even more significant player on this terrain. Two-thirds of countries already trade more with China than America. And differential growth rates mean that the balance of power will shift. But the biggest changes come from the way that President Xi Jinping

is shifting China's economic model from one based on 'export-led growth' to a model of 'dual circulation'. Under this system, the goal is to have two parallel economies – an internal one that is shielded from international pressure, and an external one that allows China to use others' dependence on it to increase its international clout. China is working to achieve these two goals with a raft of new policies such as export controls and the development of non-dollarised payment systems. Meanwhile, powers such as Russia and Turkey are increasingly using negative offensive tools but lack the ability to project power at the global level. The EU – with its large market and single currency – does have the potential to be a player on this terrain. But the union is held back by the fact that it places the economic and political realms in different silos, and that it is reluctant to use its resources as a deterrent to weaponised interdependence.

Nowhere are these limitations clearer than on the technology terrain. José Ignacio Torreblanca outlines in his essay how today's battles are about critical digital infrastructure, critical raw materials, and new industries such as artificial intelligence (AI), the control of data flows and storage, semiconductors, 5G and mobile equipment, and quantum technology, as well as the definition of standards for new technologies. New technologies are used for foreign influence operations, disinformation, and cyber-attacks. This has led to very low levels of public trust in technology. The great powers on the technology terrain – China and the US – are once again thinking in terms of spheres of influence and trying to lure countries into their technological ecosystems. In 2019 companies headquartered in the US and China accounted for 90 per cent of the market capitalisation of the 70 largest digital platforms (68 per cent and 22 per cent respectively), 75 per cent of all patents related to blockchain technologies, 75 per cent of the cloud computing market, and 50 per cent of global spending on the internet of things. The US continues to have huge advantages on this terrain. The market capitalisation of American companies means that they can outspend or buy up any potential competitors in smaller markets. The US also dominates the world of data centres and the use of bandwidth – giving it the opportunity to mine the data of other powers both openly and secretly (as Edward Snowden revealed). Once again, China is emerging as an increasingly important player. It is a hyper-power in its investment in research and development, as its 'Made in China 2025' initiative strives to transform the country into the dominant player in many of the technologies of the future, from AI and quantum computing to batteries and smart cities. China also outranks other nations in online retail sales. Its access to rare earths provides it with a possible choke-point – one that it has used to advance a geopolitical agenda. Its leadership in surveillance technology allows it to strengthen the repressive power of the state, build huge databases for AI, and forge links with other states that want to use its technologies to control society. The biggest losers in the new world are Africa and south Asia, which are still relatively offline – although this also makes them less

vulnerable to cyber-attacks. Europeans, in contrast, have only just begun to look at technology through a geopolitical lens. The EU is wedged between the US and China; it fails on both fronts – tech sovereignty and competitive edge.

In their essay on the climate terrain, Alex Clark and Susi Dennison explore how climate change and the transition away from a carbon-fuelled economy are changing power dynamics in today's world. A large proportion of remaining oil, gas, and coal resources will become stranded assets – with potentially devastating consequences for the main exporters. In the short run, the biggest losers are high-cost producers such as the US and Canada. But, eventually, even the lowest-cost producers in the Organization of the Petroleum Exporting Countries (OPEC) – such as Saudi Arabia, Qatar, Iraq, and Kuwait – are likely to see fossil fuel extraction become economically unviable. At the same time, a range of renewables superpowers is emerging through quick investment and innovation in the areas of carbon capture and storage, battery storage, advanced nuclear technologies (China and the US), and green hydrogen and battery production (the EU and China). The countries and regions with the largest, lowest-cost solar and wind resources also have clear advantages on this terrain – as do those in possession of the crucial raw materials needed for the green transition. There are huge differences between states in their vulnerability to, and capacity to deal with, the physical effects of climate change and concurrent environmental crises. However, as the distributional effects of climate policy become clearer, it is likely that there will be a backlash against Western countries that are seen as cloaking their protectionist instincts in green rhetoric.

Fiona Adamson and Kelly Greenhill argue in their essay on the people terrain that “labour migrants, refugees, tourists, students, expatriates, and global elites all emerge as potential pieces on a strategic chessboard on which states compete for advantage and influence.” A big population or appeal as a popular destination for migrants, students, or tourists can be a source of power but can also create dependencies and vulnerabilities. Adamson and Greenhill differentiate mainly between migration magnets (such as Gulf countries, the US, and Germany); diaspora powers (such as China and India); remittances seekers (such as Nepal, Tajikistan, and Ukraine); and those that commodify migrants by either selling citizenship (such as St Kitts-Nevis), using their geographical position to block migration outflows (such as Libya), or acting as ‘warehouses’ of their own or others’ populations (such as Turkey or Nauru). The authors highlight that the idea to weaponise migration is a surprisingly common strategy, one that states across the globe have long used to achieve a wide range of political, military, and economic goals. But, in today's globalised world, it is increasingly important to retain the ability to manage cross-border mobility through effective immigration, entry, and diaspora policies.

Ulrike Franke shows how new technologies and shifting alliances are changing the balance of power on the military terrain. Global military expenditures have risen continuously over the last two decades, and last year, according to the Stockholm International Peace Research Institute, reached almost \$2 trillion (of which almost 40 per cent is accounted for by a single country, the US). However, hard factors such as money spent on the military, possession of nuclear weapons, and number of overseas military bases are of changing significance. This is due to a range of less obvious factors that determine military power, such as alliances, combat experience, and readiness to act. Technological developments such as armed drones, cyber, and AI can shift the military balance – and highlight that not just possession of new technologies but also strategies for how to use them are determining who has an advantage. American military capacity is likely to be sustained by high levels of defence spending, nuclear power, overseas bases, war-fighting and other military experience, and an independent defence industry. However, several countries are mixing things up: Russia with its new nuclear posture, Turkey through its use of drones and its geopolitical promiscuity, and – above all – China, which is becoming a leader in cyber-power, military satellites, and military tech. The biggest losers in this world are African countries (some of which are experiencing conflicts and have underdeveloped militaries) and Middle Eastern states (some of which are also experiencing conflicts, while others have high military spending but are still behind technologically).

Anthony Dworkin describes how the covid-19 pandemic has turned the health terrain into a geopolitical battlefield. Governments entered a fierce competition for medical goods that could help them scale back rates of illness and allow economic activity to return to normal. Public health became a core indicator of governmental effectiveness at a time of systemic competition. East Asia, south-east Asia, and Australasia performed best in containing the impact of the disease; the US and Europe less well. China dominates the production of personal protective equipment and – together with India, Europe, and the US – plays a leading role in pharmaceuticals manufacturing. This creates dependencies that states can weaponise – as one can see during a health crisis. Before the pandemic, the EU was the world's largest vaccine producer, closely followed by India. Now, China is the clear leader – in terms of not only production but also exports. The geopolitics of vaccines has seen the main powers adopt different approaches: “industrial strategists” (the US and the UK), “market champion” (the EU), “licensing giant” (India), “outward-facing authoritarians” (China and Russia), and “aspiring producers” (Rwanda, Senegal, and South Africa). Even though the “outward-facing authoritarians” were able to use vaccine exports geopolitically in the short term, the lower efficacy of Chinese vaccines and Russia's poor record of production limited their use as soft power tools or as a weapon in the longer term. In contrast, the “industrial strategists” and the “market champion” produced the most effective

vaccines and, after having vaccinated their own populations, exported and donated doses – which boosted their perceived health power.

Ultimately, states' ability to use their power resources has a lot to do with cultural norms. During the cold war, there was a battle of universalist creeds that won over elites and publics around the world through their ideas as much as their military and financial support. In the post-cold war era, there was also a sense that soft power would shape the world, as many countries seemed to embrace liberal democracy and free markets. This formed the backdrop to the fourth wave of democratisation and the expansion of the EU. However, in our essay on the culture terrain and the future of what Joseph Nye called “soft power”, Ivan Krastev and I show that the world has entered a decisive new phase. We discuss three trends that shift power relations on this terrain. The most fundamental change is to a new mood of “cultural decolonisation” – which replaces the universalism of the cold war and the “end of history”. We show how the development of successful alternatives to American pop culture and Hollywood – such as K-pop, Bollywood, and Turkish soap operas – reflects a deeper trend towards nationalism and efforts to ‘take back control’. This is leading to a multipolar world of ideas in which any universalist project is likely to provoke a backlash that is even more powerful than the original force. Powers such as China, with a mercantilist rather than a missionary outlook, are now better placed to thrive than those with Enlightenment missions to transform the world, such as Europe and America. And we argue that few people think that the world is clearly split between free and non-free countries, with the former performing better than the latter. This is partly because, in today's world, the idea of democracy is becoming contested by leaders such as Viktor Orban and Donald Trump, who challenge the importance of liberalism. But it is also because it is not clear that democracies are outperforming their autocratic counterparts at economic growth or responses to covid-19. These two big trends lead to a third trend, namely a shift from relying on the power of example as a source of soft power to exploiting the vulnerabilities of other systems. This situation has further empowered spoiler countries such as Russia and China, which have become adept at hacking liberal democracies and exploiting the openness of their systems to undermine them from within.

Together, these seven terrains form a new map of power. They demonstrate that, in the modern world, power is exercised not by ships passing through contested waters but by people, goods, money, and data passing through the multiple contested domains of connectivity. Just understanding these new power dynamics is not enough, however. One needs to understand the strategies for exercising power on these new terrains.

The strategies of connectivity warriors

The beauty of maps is that they can mark out the great powers, the territory they control, and their spheres of influence. The old economic world of globalisation was crowned by a G7 of advanced economies but, as the Power Atlas shows, the connected world is dominated by a slightly different group of great powers – each of which has its own goals, as well as its own strategies for seeking power and glory.

In the new world, a great power can build its influence through its capacity to define regulations and set standards, its control over financial or energy flows, its ability to affect or corrupt political processes, or even its capacity to build social media platforms or set search engine standards – among other connections. Each great power tries to benefit from the high ground it already controls. But the strategies each adopts to pursue this power depends in part on the structure of its networks. In *The Age of Unpeace*, I have laid out the seven strategies of the most successful connectivity warriors, which are summarised in Table 1.

Table 1. The seven habits of successful connectivity warriors	
1. Centrality	The goal is to put yourself into a position where other people need you more than you need them. Then, you can dictate the terms of the relationship. Example: Russia blackmailing its energy customers.
2. Gatekeeping	The ability to decide who is 'in' and who is 'out' of the network. Example: The US effectively shutting Iran out of the global financial system by threatening to exclude any banks from using the dollar if they trade with Iranian entities. Because 90 per cent of foreign exchange trading involves the American currency, the US has created a choke-point.
3. Data-mining	The ability to spy on others because you control the network or cables through which information flows. Example: Information collection by America's National Security Agency.
4. Subversion	The goal is to intervene in other countries' systems and overturn the normal rules so that they no longer apply. Example: Russia spreading misinformation about vaccines in the West.
5. Infiltration	Rather than influencing a country from the outside, it is often more efficient to change it from within. This strategy involves encouraging companies to invest, political parties to develop friendships, or even citizens to emigrate to that country. Example: President Recep Tayyip Erdogan reaching out to Turkish minorities in European countries.
6. Rule-making	The goal is to set the norms or rules for the whole network. Example: The EU's General Data Protection Regulation.
7. Independence-seeking	If many powers are trying to weaponise their links with others, the best defence can be to minimise one's dependence on them and thereby resist external manipulation. Example: China trying to become independent in the production of semiconductors and computer chips.

Source: Mark Leonard, *The Age of Unpeace: How Connectivity Causes Conflict*, 2021

Every power is trying to take advantage of its centrality to specific parts of the complex international system to weaponise interdependence and expand its sphere of influence. And, on the seven terrains discussed above, several archetypes emerge.

Russia has become the ‘disruptor in chief’. In the last few years, its foreign policy has shaped the behaviour of its neighbours and other powers through tactics including gas cut-offs, sanctions, the expulsion of workers, cyber-attacks, disinformation and propaganda campaigns, and attempts to gridlock Western-led international organisations ranging from the UN Security Council to the Organization for Security and Co-operation in Europe. In parallel, the country has worked to establish new organisations to extend its power, such as the BRICS, the Shanghai Cooperation Organization (SCO), and the Eurasian Economic Union. But because Russia has not done enough to strengthen and diversify its economy – which relies overwhelmingly on hydrocarbon exports – its share of the global economy has declined. This will limit its ability to project power over time.

Turkey is positioning itself as a migration superpower. President Recep Tayyip Erdogan has regularly used the threat of flows of people to change the balance of power between Turkey and the EU – demanding that the union remove visa restrictions on Turks, provide funds to help the country host more than two million Syrians, and reinvigorate its bid for EU membership. Turkey also uses its power to influence European foreign policy: in May 2020, Malta – a country that is heavily affected by migration – vetoed the EU’s allocation of funds to Operation Irini, a naval mission primarily designed to enforce the UN arms embargo on Libya. As Turkey was shipping weapons to the Government of National Accord in Libya – and, therefore, was disproportionately affected by this operation – most analysts saw this Maltese move as a favour to Turkey.

Saudi Arabia and Iran have used the resources they acquire from energy to turn themselves into “powers by proxy”. Saudi Arabia draws its geo-economic strength from the 10m barrels of oil it extracts every day, which make it responsible for one-fifth of the global oil trade. For decades, the country has converted its hydrocarbons into geopolitical influence, positioning OPEC as the primary instrument for translating market power into international economic leverage. Saudi Arabia has been willing to take short-term economic hits to shape global markets to its advantage (relative to rivals such as Iran or US shale companies). Moreover, Riyadh has invested billions of petrodollars to achieve its foreign policy goals – supporting counter-revolutionary regimes during the Arab uprisings as well as waging a proxy war against Iran across the Middle East. Iran is the mirror image of Saudi Arabia in its efforts to become a global champion of Islam, forge links with proxies across the Middle East, and establish itself as a cyber-power.

And South Korea has emerged as a surprise cultural power. When the video for pop song ‘Gangnam Style’ became the most viewed in YouTube’s history, this seemed to be a quirky anomaly. But, just a few years later, other branches of K-pop have dominated the music charts, a South Korean film has become the first foreign-language movie to win the Oscar for ‘best picture’, and South Korean television series ‘Squid Game’ has had the most successful launch ever on Netflix. This reflects not simply the attractiveness of South Korea’s cultural products as a turn away from Western cultural hegemony. It may also be the fact that South Korea is unlikely to take over the world – and is, therefore, unthreatening to other national cultures – that has opened the door for its singers, film directors, and TV companies to thrive across the globe.

India is a big player on several terrains – as a demographic superpower with a large diaspora, as a cultural player with a huge film industry, and as a medical superpower with its enormous capacity to manufacture vaccines. And, in future, the country could emerge as a decisive force in efforts to set global standards for handling data, potentially becoming a technological superpower. However, even with its 1.3 billion people and its reach, India – like all the archetypes mentioned above – is still a niche player in the Age of Unpeace. The same is true of countries such as Japan, Australia, and the 54 states of Africa that, by mid-century, will collectively have more residents than China and India combined.

So far, only three powers – the US, China, and the EU – can set the rules for global competition across several domains. I have called them the three empires of connectivity.

The US is emerging as a ‘gatekeeper power’ – one trying to control access to the global commons. The country remains the world’s sole superpower and can still project military might with greater ease than any of its rivals. But, recently, the US has been using the role of the dollar as the world’s reserve currency and its control of the internet and cutting-edge technologies to develop new instruments for projecting power. After 9/11 and the American president’s declaration of a global “war on terror”, officials in the US Treasury started exploring how Washington could leverage the ubiquity of the dollar and their country’s dominance of the international financial system to target the financing of terrorism. What started as a war against al-Qaeda grew to encompass measures against North Korea, Iran, Sudan, and even Russia. The enormous fines the US authorities imposed on banks accused of breaking sanctions – such as France’s BNP Paribas – sent shockwaves through global financial markets and acted as a powerful deterrent to future deals that violated these measures. In the words of the then director of the CIA Michael Hayden: “this was a twenty-first-century precision-guided munition”. During this era, US security agencies capitalised on the fact that so much data runs through American cables and platforms to gather vast quantities of information.

The next phase of American thinking focused on using these techniques to prepare for what Biden calls “extreme competition” with China. This approach centres on efforts to multiply American strength by forging closer relations with democracies across the globe. The Biden administration wants the US and its democratic allies to create a bulwark against Chinese coercion, and to counter Chinese companies in markets in Eurasia, the Indo-Pacific, Africa, and other regions (particularly those affected by China’s Belt and Road Initiative) through offensive policies such as infrastructure and connectivity partnerships.

China is rapidly challenging American dominance by using investment and infrastructure. Today, Beijing uses economic statecraft more frequently, more assertively, and in a more diverse fashion than ever before. The Chinese approach to international relations focuses as much on the ties that bind different players together as on the resources of these players. And one of the keys to thinking about power in the ‘relational’ theories of international affairs that Chinese scholars have developed is to look at the structure and the nature of the relationships between different countries. Even though China’s trade and economic power is growing, its most innovative geo-economic tool is infrastructure – both physical and institutional. Stretching from Hungary to Indonesia, Beijing’s budget for the Asian Infrastructure Investment Bank is \$100 billion – as much as the Marshall Plan spent in Europe, in inflation-adjusted dollars. Most of this finances roads, railways, pipelines, and other infrastructure across Eurasia, smoothing China’s westward projection of power. Official Chinese sources claim that this investment will add \$2.5 trillion to China’s trade in the next decade, more than the value of the country’s exports in 2013, when it was the world’s top exporter. In addition, while Beijing remains an active player within international institutions such as the United Nations, the International Monetary Fund, and the World Bank, it is also promoting and financing parallel structures such as the SCO.

The overall goal of these efforts is greater autonomy, primarily from the US, and to expand the Chinese sphere of influence in Asia and beyond. China’s ambitions extend to the virtual world, where it is pushing a cyber-sovereignty agenda and challenging the US-backed multi-stakeholder and open model of internet governance – aiming to allow national governments to control data flows and the internet within their jurisdictions. And the Chinese leadership is strengthening its control over the internet and technology suppliers. China has the weight to achieve this, given that it is home to the world’s largest community of netizens: nearly 700 million Chinese citizens now use the internet regularly, around 600 million of them through mobile devices. By 2018, China was the world leader in data and technology nationalisation, seeking to develop technological standards and capacities that were different from global ones.

Chinese scholars have identified several areas in which China could soon have control over choke-points of advanced technology such as high-performance computers, quantum communications, core chips, and satellite navigation and operating systems. China has exported surveillance technology to more than 60 countries with dismal human rights records, including Iran, Myanmar, Venezuela, and Zimbabwe. And the fear is that, in other critical technologies, China will use systems such as its Blockchain-based Service Network to try to rewire the world and create a parallel internet subject to Chinese standards.

Many people have characterised the EU as a hapless plaything of these two great powers – torn between its values-based security alliance with Washington and its economic dreams of trading with China. But, in recent decades, the union has emerged as a pole of its own on many of the terrains in this atlas, using its norms and the accession process to become a rule-making superpower. Because the EU has the world's largest single market, most multinational companies depend on access to the region – which means complying with the union's standards. The EU has used this economic power at various times over the years – blocking the merger of General Electric and Honeywell, forcing Microsoft to unbundle its Explorer browser, and challenging US agri-business in Africa and other global markets over the use of genetically modified organisms.

This export of regulations has extended to the political sphere on issues such as climate change – and, most dramatically, through the EU's accession process and neighbourhood policy. These policies condition accession to the EU and access to its markets on countries' adoption of the union's rules and standards. To join the EU, candidate countries need to integrate more than 80,000 pages of law – governing everything from gay rights and the death penalty to lawnmower sound emissions and food safety – into domestic legislation. Moreover, as Anu Bradford argues in *The Brussels Effect*, regulatory power is less costly, more durable, more deployable, and less easily undermined by competitors than traditional foreign policy tools.

Managing and preventing the new wars

Military planners in Beijing and Washington are busy running war games for a conflict in Taiwan and over various rocks and atolls in the South China Sea and the East China Sea. A war between China and America that takes on a nuclear dimension is the scariest scenario one could imagine. And this is not the only part of the world that could see the use of nuclear weapons. European defence ministries are trying to understand changes in Russia's nuclear doctrine and technologies that make the deployment of tactical nuclear weapons more likely, while the world has at various

points been worried about nuclear escalation between India and Pakistan, and what governments in North Korea or Iran might do once they are emboldened with functioning nuclear weapons.

In the last decade, conflicts raging in Syria, Yemen, the Sahel, and eastern Ukraine have killed many civilians and tempted other states to wage war by proxy through their support for militias in each of these theatres.

But this atlas shows that, even in the absence of catastrophic scenarios, there will be a huge amount of conflict waged across all the terrains discussed above. As geopolitics takes over, global supply chains will unravel and the world may plunge into a recession. Technology wars could lead to the Balkanisation of knowledge and see the control of critical systems and components become choke-points in geopolitics – just as the Strait of Malacca and the Strait of Hormuz were in earlier eras. As the world embarks on a dramatic carbon transition, there is a risk that all the elements of that process will be weaponised. And, as the global population grows and people are increasingly on the move, migration will continue to be central to our economic health, our cultural vibrance, and our politics. But it might be in the cultural realm that geopolitical competition plays out most dramatically. Fake news factories, interference in elections, and deep fake technology have the potential to sap faith in politics and exploit the tensions in our already polarised societies.

War is almost always an argument over relative power – states do not go to war unless they believe they can win. To avoid such misunderstandings, great powers have often tacitly signalled that they control a certain sphere of influence, usually to warn their rivals to stay away. War sometimes results from disputes about whether a country falls within a particular sphere of influence. The Cuban missile crisis, for example, resulted from the Soviets' (ultimately successful) effort to draw Cuba into their sphere of influence.

Despite such dangerous disputes, it was relatively easy to define the Soviet and Western spheres of influence in an era in which territorial control was the primary determinant of power. The presence of military bases and technical advisers, and membership of military alliances, stood out on the power maps of those days. Today, however, great powers are putting forward very different concepts of their spheres of influence – ones based on the terrains that are most important to them.

Each great power now disputes not just the border of its sphere of influence but also what constitutes one. So, America is trying to build a sphere of influence based on control of information technology, the centrality of the US economy, and military power; China one based on trade and investment flows, as well as infrastructure


projects; Russia one based on energy flows, corrupt business ties, and manipulation of the information space; and Iran one based on cultural and religious ties to Shia populations in the Middle East.

States are already constructing defences against these efforts. They are seeking to address their vulnerabilities by, for example, restricting data and investment flows, creating their own technology companies, or even developing ‘splinternets’ that sacrifice connections for greater control over the national information environment. They are, in essence, fortifying their positions at choke-points on the new map of power.

As each state promotes its own version of a sphere of influence, it risks interfering in others’ spheres, possibly without intending to do so. When two countries are reading different maps of power, they will often fail to understand how the other understands its sphere of influence. In Ukraine, for example, the EU’s ‘unconscious empire’ – in the form of an Association Agreement that threatened to remake Ukrainian governance – butted up against Russian efforts to move Ukraine into its sphere of influence. The result was a war over which sphere Ukraine belonged to, and the effective division of the country.

The idea of a European project that will benignly spread universal values clashes with the way that other powers are thinking about the world. The EU may object to the idea of spheres of influence, but these powers often see it as playing this game in a similar fashion to everyone else.

Unless Europeans understand how their actions appear to others, they will stumble into new conflicts with other great powers in the Balkans, other parts of eastern Europe, the Middle East, and Asia. As increasingly diverse spheres of influence continue to overlap across the world, such disputes will likely become more common and more confusing.

All this implies that the starting point of trying to manage global problems and reduce conflict is to read from the same map. I hope that this atlas can contribute to the process. By mapping the terrains of power in new ways, we can better understand one another’s actions and strategies – and that can be the first step towards working out how to coexist more peacefully. If they do not read from the right maps, our leaders could literally find themselves lost in our new Age of Unpeace. 

Acknowledgments

This Power Atlas came into being out of an intellectual effort, together with Jeremy Shapiro, to understand the reconfiguration of international relations. This essay would have been a joint project had he not taken a sabbatical. The text on finding the new map of power and the historical reflections on Mahan and Mackinder bear his inimitable imprint. Lucie Hauptenthal has been a wonderful intellectual companion and managed the whole project with great verve through a tough pandemic-affected period. She showed what an extraordinary person she is with the smartest ideas, a great humanity towards her colleagues, and a superhuman commitment to seeing the process through. It would certainly not have happened without her. Anthony Dworkin, who stepped in to cover Jeremy's role as research director during his sabbatical, skilfully led the process of commissioning and editing the essays. Gosia Piaskowska did an amazing job in collecting, organising, and analysing the data, as well as preparing the visualisations in this atlas. All of this data may be like a tree falling in a forest with no one around to hear it without Chris Eichberger. Communicating data effectively requires creating data visualisations that are well-designed, clear, and efficient, so they can be easily understood, and Chris worked tirelessly and professionally to juggle the content and creative ideas from the authors and other colleagues and gave the project its distinctive look. Rafael Loss supported the project team in any capacity needed – from data collection to visualisation ideas, to logistics. Susanne Baumann and Swantje Green helped build a launch strategy around the atlas. Catherine Baron, Pau Ruiz Guix, Filip Medunic, and Alessandra Thomsen supported the project with their research.

We thank Michael Schwarz, Anne Duncker, Teresa Spancken, and Stiftung Mercator for their enduring support for ECFR and Re:shape Global Europe. And we thank the IWM Institute and the Austrian Ministry of Defence for supporting the work on the culture chapter.



Economics

by Jonathan Hackenbroich

Trade policy once seemed so apolitical that EU member states abandoned their powers in the area and let technocrats in a commission of European experts take decisions for them. The reason they did so was never just because a common trade policy made sense in a customs union and a common internal market. It was also because even powerful countries such as Germany, France, and the United Kingdom could afford to treat tariff negotiations, rules of origin, or trade standards as technical matters in the unidirectional quest for ever more open markets. Had they imagined what a battleground of power this once-technical terrain would become, the European Union might look very different.

Today, the main battlefield on which great powers compete is not military but economic. It is one on which, for geopolitical reasons, they attach conditions to access to their market and use instruments such as tariffs, quotas, and level playing field penalties, along with tools such as export controls, sanctions, and data regulations. China, Russia, Turkey, and even the United States – Europe’s close ally – have punished other countries for their policy choices or tried to prevent them from making certain choices by pressuring companies to induce behavioural change, and by securing access to ever more sensitive information through the use and threat of tariffs, other curbs on trade, ‘popular boycotts’, financial sanctions, export controls, and forced transfers of sensitive data. China has become a systemic rival of European states, the US, and other liberal democratic countries across the globe. In March 2021, Beijing sent a strong, direct message to Europe when European companies such as H&M and Adidas disappeared from Chinese e-commerce platforms and by manufacturing ‘popular boycotts’ of these firms’ products, an increasingly common Chinese sanctions tactic. The damage was limited, but the message was clear: China is now ready to use economic coercion in direct response to European policy choices – to even moderate EU attempts to adopt stronger policies and close ranks with the US. President Xi Jinping said as much to German Chancellor Angela Merkel. According to Chinese state news agency Xinhua, Europe needed “to make [a] correct judgment independently”, he told her.

But the change in international politics is more profound than any one actor's attempts at coercion. A wide array of countries increasingly combine state action with geopolitics and economics; they use economic tools to enhance their geopolitical power and geopolitics for economic gain. Their economic weight is increasing relative to that of the G7, which by 2050 will probably account for just 20 per cent of world GDP. The economies of the Emerging 7 (E7) – Brazil, China, India, Indonesia, Mexico, Russia, and Turkey – were 37 per cent of the size of those of the G7 in 1991 (in purchasing power parity terms) but are now a similar size, and might reach 50 per cent of the world's output by 2040. The E7 are different in many ways; not all of them use economic coercion. But rapid economic growth in these countries – particularly China – is indicative of the rise of a new model of economic statecraft (see: Map 1).

Many states now put economics at the centre of a grand strategy combining all instruments of statecraft to enlarge a country's sphere of influence. Trade deals not only create economic efficiencies but also tie countries to one another through their value chains, while allowing for diversification away from the markets of states with which they have difficult geopolitical relations. Transparent supply chains help states identify pressure points that they can use against their rivals, but also give others the same advantage. A government's economic threats can alter another actor's behaviour. Even central bank policies now have significant geopolitical consequences. And the most successful players combine these tools with measures such as development cooperation, language schools, military deployments, or disinformation campaigns – all of which are geared towards gaining strategic leverage over others and securing one's own position in the world.

The EU's most important partners – from the US to the United Kingdom and others – have started to react to these developments by enhancing their own geo-economic toolboxes, aiming to strengthen their defences and respond to unfair practices that they were powerless against. Their adaptation – and the irresponsible and dangerous use of economic coercion by former US president Donald Trump – contributed to the emergence of a much more geo-economic era. The change is structural, and the EU needs to deal with it using its own tools.

There are three basic metrics of power and vulnerability on this terrain: offensive capabilities, defensive capabilities, and economic strength.

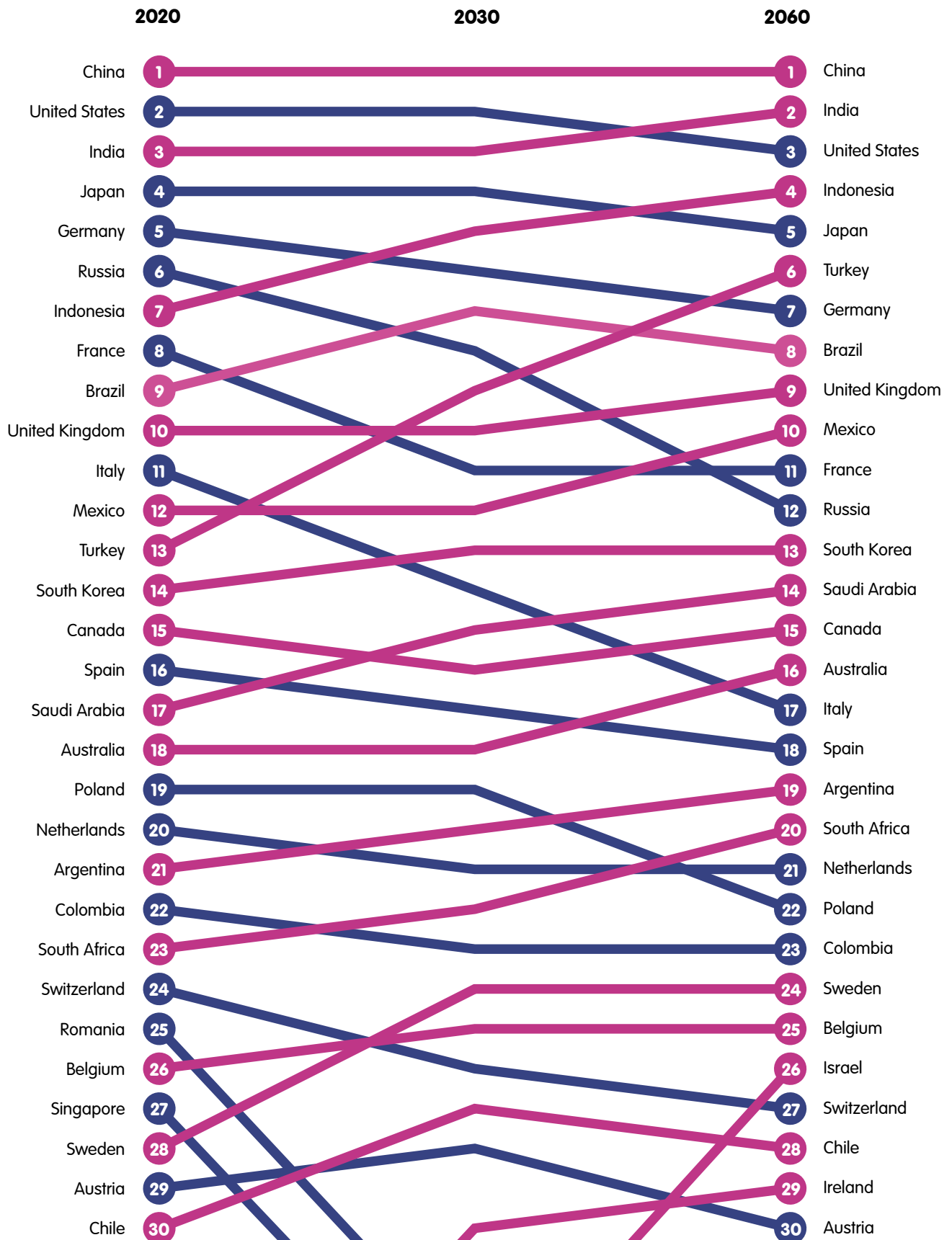
Methodology: The map shows a country ranking based on the OECD's trend gross domestic product, including long-term baseline projections (up to 2060), in real terms. The OECD's forecast is based on an assessment of the economic climate in individual countries and the world economy, using a combination of model-based analyses and expert judgement. This indicator is measured in US dollars at constant prices and 2010 purchasing power parities.

Source: OECD (2021). Economic Outlook: Real GDP long-term forecast

Europe's share of global GDP is declining

Projected GDP rankings

● Trending up
● Trending down



Offensive capabilities. These include trade agreements, state-owned enterprises (SOEs), punitive tariffs, boycotts, export controls, and personal and financial sanctions, among many other measures. Governments can use such tools to actively pursue policies that increase their economic and geopolitical reach. ‘Positive’ tools of this kind range from trade agreements to investments and connectivity partnerships. During the Trump years, when open international trade came under threat from the EU’s closest partner, the union concluded several trade agreements and advanced its trading power to hedge against deteriorating transatlantic trade relations. The EU also enlarged its networks of trade and common standards through closer partnerships with Japan, Mercosur, and others. China and 14 other Asian countries moved to reduce US influence by concluding the Regional Comprehensive Economic Partnership – which, in contrast to the Trans-Pacific Partnership, excluded America. China’s SOEs are also a positive offensive tool in that they have negative and, at times, dangerous consequences for Europeans. China increasingly uses SOEs in its strategic quest to dominate markets and marginalise its Western competitors’ industries and capabilities. Heavily subsidised SOEs sell products, or instruct companies they have acquired to sell products, at below production cost – sacrificing short-term economic success for long-term influence (see: Map 2).

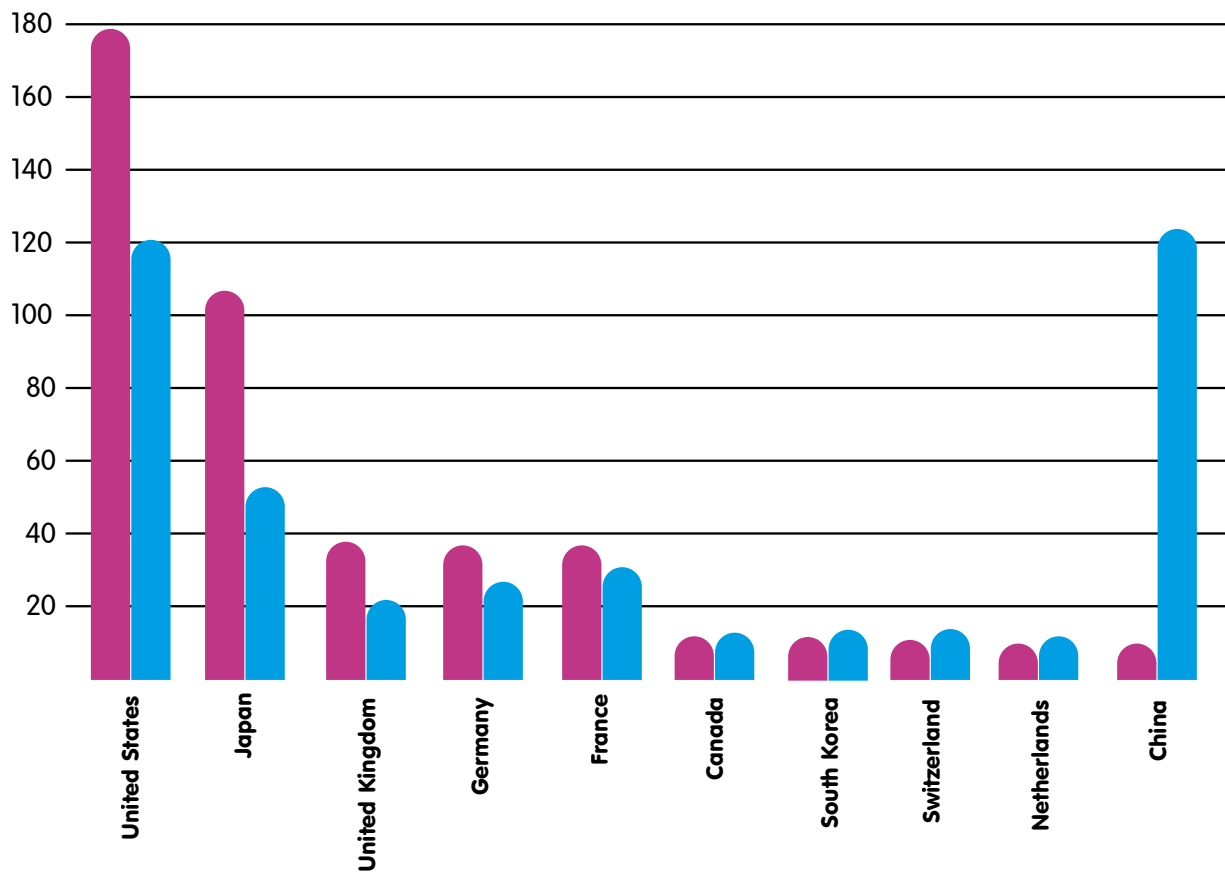
In contrast, the ‘negative’ offensive tools that states use are designed to exert pressure on other countries and punish them for their conduct (see: Map 3). In 2018 the US administration imposed a 25 per cent tariff on imported steel and a 10 per cent tariff on imported aluminium, labelling the EU’s and others’ steel and aluminium exports as a threat to US national security (a label that remains in place, despite the compromise America and Europe reached in late October 2021). Since 2018, the administration has also prohibited Europeans from trading with Iran. In 2020 China curbed 10 per cent of Australian exports as punishment for Australia’s call for independent investigations into the origins of covid-19. In late 2019 Beijing used the threat of car tariffs to try to pressure Berlin into accepting a Huawei bid to build Germany’s 5G infrastructure – a core decision about the country’s future critical infrastructure and security. In late 2020 President Recep Tayyip Erdogan called on Turks to boycott French-labelled goods after his French counterpart, Emmanuel Macron, announced new policies to combat extremism. Moscow banned in 2014 the import of a vast array of EU agricultural products, especially those produced by Poland, in response to Western sanctions on Russia over the war in Ukraine. While these actions were geopolitically motivated, Russia justified them by pointing to public health concerns. Russia threatened in May 2021 to ban Czech beer imports after the Czech government declared that the Russian intelligence services were likely responsible for explosions at a Czech warehouse in 2014.

China leads the Fortune Global 500

Chinese growth is led by state-owned enterprises

Number of Fortune Global 500 companies by country

2000 2020



State-owned enterprises among the Fortune Global 500

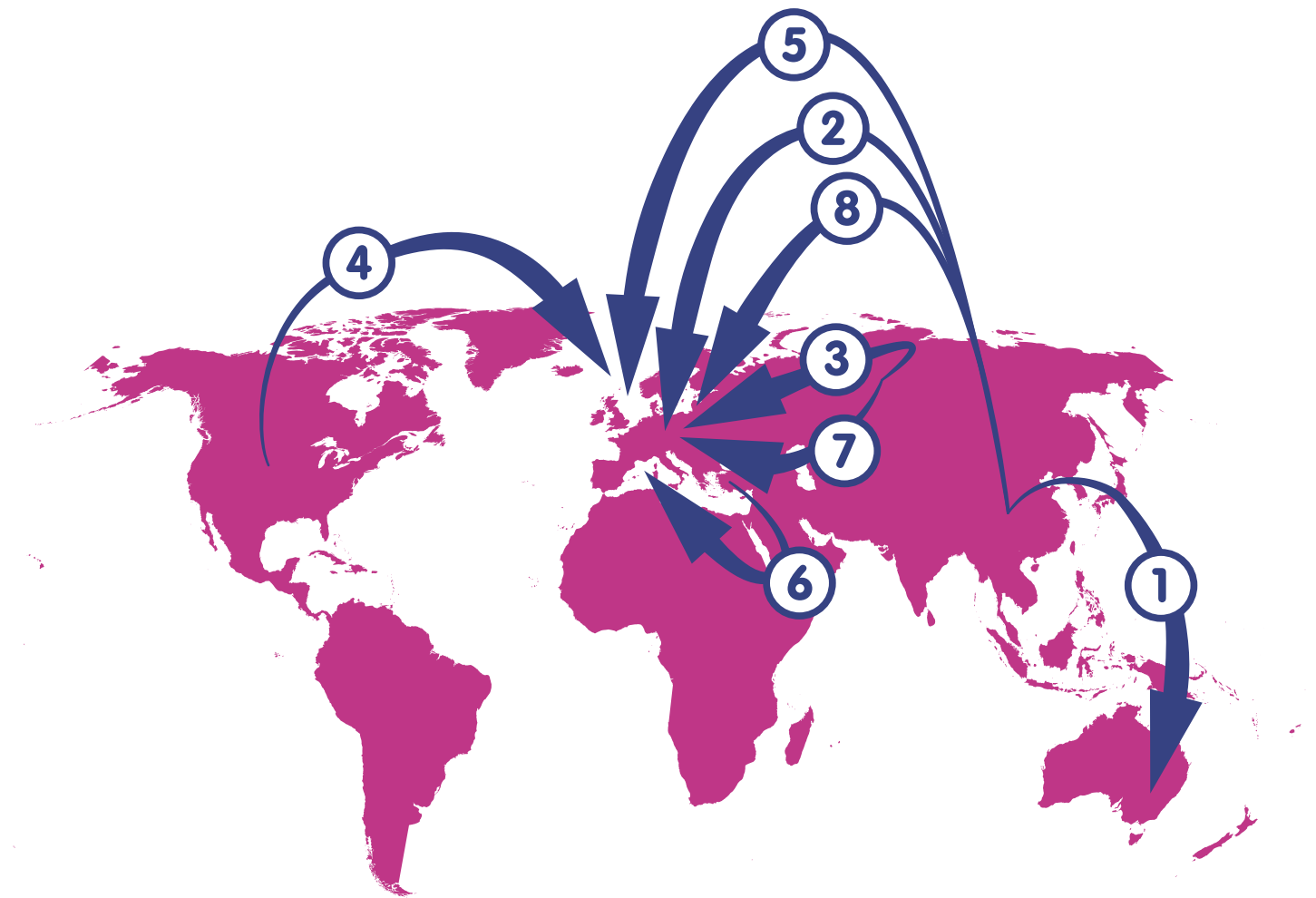
Chinese Other



Sources: Fortune Global 500 (2020); Bloomberg (2020). The Changing Headquarters Landscape for Fortune Global 500 Companies

The EU is increasingly threatened by economic coercion

Selected examples



1. Chinese curb on Australian exports to push back against an investigation into the origins of covid-19 (2020)
2. Chinese threat of car tariffs to pressure Germany into accepting Huawei's 5G infrastructure (2019)
3. Russian ban on Polish imports of fruit and vegetables following EU sanctions over the war in Ukraine (2014)
4. US threat of section 301 tariffs to prevent France and other European countries from levying taxes on digital services (2020)
5. Chinese 'popular boycott' of EU companies (such as Adidas and H&M) following EU sanctions on Chinese officials involved in human rights violations in Xinjiang (2021)
6. Turkish boycott of French-labelled goods following President Emmanuel Macron's announcement of policies to combat extremism (2020)
7. Russian threat to ban Czech beer imports following Czech government's declaration of links between Russian intelligence services and the 2014 Czech warehouse explosions (2021)
8. Reported Chinese suspension of rail freight to Lithuania and block on export permits for Lithuanian producers in reaction to the announcement that a Taiwanese Representative Office would open in Lithuania (2020)

Defensive capabilities. These are designed to limit a country’s vulnerability when confronted with negative offensive economic instruments. Sometimes, of course, the best defence is a good offence: agreements that diversify trade relations can reduce the overexposure of certain sectors, for instance. But the rise of economic coercion in recent years has prompted many powers, including the EU, to adopt robust defences. Europe has updated its trade enforcement regulation to allow it to act in trade matters even if there is no final ruling by the World Trade Organization (due to blockages in the institution caused by the Trump administration’s refusal to appoint new members to its appellate body). The EU has also implemented an investment screening mechanism that allows it to intervene when foreign companies acquire European firms mainly for geopolitical reasons. The EU is currently updating its competition policy to impose fines on SOEs or heavily subsidised foreign companies that can act in unprofitable but strategic ways in the EU market. The US, China, and others have put in place a vast range of deterrent measures that, when they are subject to economic coercion, allow them to sanction third-country companies or impose broad and heavy trade restrictions on the grounds of national security (many explicitly state that they have this capability; others only hint at it). The US now has an ‘integrated deterrence’ doctrine that uses economic measures as part of its national defence strategy.

Like offensive measures, these defensive capabilities resemble those in other areas of foreign policy. What would be diplomatic initiatives or even military strikes in traditional statecraft can now be free trade agreements or sanctions in the economic sphere (see: Map 4). What are regional security architectures, arms control treaties, or military deterrents in traditional statecraft can be agreements or instruments designed to uphold WTO rulings when the global trading system comes under pressure.

Economic strength. This metric is different from the other two. In the military realm, armament and the strength of weapons systems directly determine the power of offensive and defensive capabilities; the establishment or use of offensive or defensive tools does not typically compromise a state’s strength. But it does in economics. Here, the use of defensive tools (and some offensive tools) often involves state interventions in economic processes, and can involve protectionism. Protectionism tends to stifle innovation, limit competitiveness, and render a market unattractive for businesses – all effects that might result from a state’s efforts to prop up SOEs, implement punitive tariffs, or develop deterrents or instruments to impose countermeasures.

However, in the geo-economic era, states’ efforts to enhance their economic strength are the basis of success. Pressuring an economically strong and interconnected country can be costly for the coercer. This is not least because the coercer will have to account for the dependencies and asymmetries that the strong country could exploit in retaliation. This means that European countries and many other states need to walk

Sanctions

List of sanctions programmes (2021)

US Sanctions

- Counter-narcotics trafficking
- Cuba
- Foreign Interference in a United States election
- Lebanon
- Non-proliferation
- Rough diamond trade controls
- Transnational criminal organizations
- Chinese military companies
- Ethiopia
- Hong Kong
- Russian harmful foreign activities

EU and US and UN Sanctions

- Central African Republic
- Counter-terrorism (including al-Qaeda and the Taliban)
- Democratic Republic of Congo
- Iran
- Iraq
- Libya
- Mali
- North Korea
- Somalia
- South Sudan
- Sudan
- Yemen

EU and US Sanctions

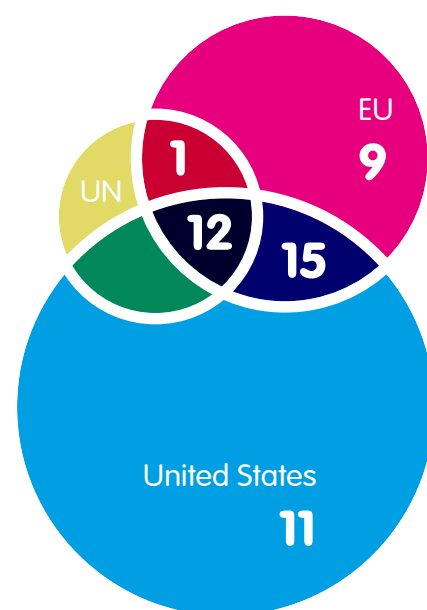
- Balkans (Bosnia and Herzegovina, Moldova, Montenegro, Serbia)
- Belarus
- Burundi
- Cyber-attacks
- Human rights (Magnitsky Sanctions)
- Lebanon
- Myanmar (Burma)
- Nicaragua
- North Korea
- Russia
- Syria
- Ukraine
- Venezuela
- Zimbabwe

EU Sanctions

- Chemical weapons
- China
- Guinea
- Haiti
- Tunisia
- Turkey
- United States

EU and UN Sanctions

- Guinea-Bissau



Total number of sanctioned individuals/entities



Methodology: The UN Security Council, DG FISMA, and the Office of Foreign Assets Control (OFAC) do not maintain a specific list of sanctioned countries but of sanctions programmes that can vary in scope. Some are broad-based and geographically oriented (such as those on Cuba and Iran). Others, such as those for counter-terrorism and counter-narcotics, are “targeted” and focus on specific individuals and entities. These programmes may encompass broad prohibitions at the country level as well as targeted sanctions.

Sources: U.S. Department of the Treasury (2021). The Office of Foreign Assets Control (OFAC): Sanctions Programs and Country Information; European Commission (2020). “Consolidated list of persons, groups and entities subject to EU financial sanctions”, Directorate-General for Financial Stability, Financial Services and Capital Markets Union; UNSC (2021). United Nations Security Council Consolidated List

a fine line in enhancing their offensive and defensive capabilities, all while avoiding negative repercussions for their economic strength. China has expanded domestic demand, fostered innovation, and reduced its reliance on foreign markets, while still integrating ever more international trade into its supply chains. This strategy is difficult to implement but has had great success – and has, as discussed, proven dangerous for others.

These three basic metrics are not, by themselves, sufficient to explain the power dynamics of geo-economics. States use increasingly advanced forms of economic coercion to achieve their strategic goals, often attempting to alter a government's policies by targeting companies rather than the government directly. These forms of coercion function through central hubs in economic networks, at which third countries can exploit foreign firms' need for access – as analysts Henry Farrell and Abraham Newman first revealed.

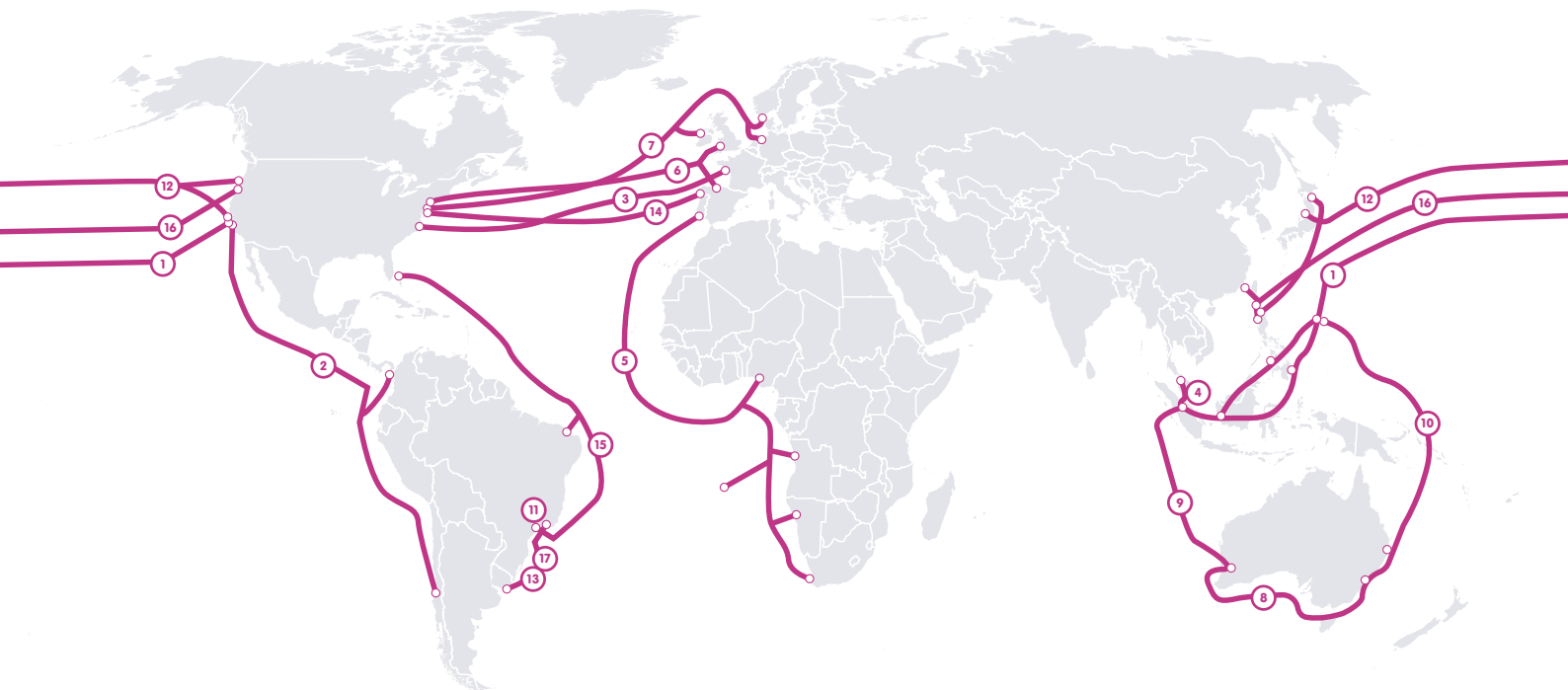
It used to be that Europeans thought of critical infrastructure primarily in terms of assets such as water or nuclear plants (see: Maps 5 and 6). But, in a globalised economy characterised by geo-economic competition, an important technology or centralised point of exchange can also take on the role of critical infrastructure – the disruption of which is detrimental to a company, an entire sector, or the economy as a whole. Powerful countries can now make use of critical financial and informational choke-points. And China and America are in an intensifying race to secure, defend, and increase their control over these choke-points. When they tell businesses and third countries to behave in a certain way or else risk exclusion, the EU sometimes calls this “extraterritorial reach”. But it too often thinks of this in terms of US extraterritorial sanctions and not as a structural development in how economic coercion functions – and that China can increasingly exploit.

The Clearing House Interbank Payments System, for example, is responsible for 95 per cent of all US dollar settlement, clearing and settling \$1.8 trillion in domestic and international payments per day. Moreover, 95 per cent of top banks worldwide are members of the SWIFT messaging system and use it for transactions. Washington can de facto deny banks and companies access to these choke-points, and can use the threat of doing so to coerce them to behave in ways that align with US strategic goals – even against its European allies' explicit will. The US clearly dominates the global financial system (see: Map 7). Europeans and many others depend heavily on American banks' financial services, particularly investment banks. For example, the EU depends on US-controlled payment systems, notably Visa and Mastercard. These types of dependencies give US primary sanctions great reach beyond America's borders, and make it significantly more difficult for other states to maintain financial channels outside US control.

US companies control most private submarine communication cables

Submarine communications cables owned by tech giants

● Owned by a tech giant (at least partly)



1. Bifrost

Facebook, Keppel T&T, Telin

2. Curie

Google

3. Dunant

Google

4. Echo

Facebook, Google

5. Equiano

Google

6. Grace Hopper

Google

7. Havfrue/AEC-2

Aqua Comms, Bulk, Facebook, Google

8. INDIGO-Central

Australia's Academic and Research Network, Google, Indosat Ooredoo, Singtel Optus, Superloop

9. INDIGO-West

Australia's Academic and Research Network, Google, Indosat Ooredoo, Singtel, Superloop, Telstra (including Belong)

10. Japan-Guam-Australia South

Australia's Academic and Research Network, Google, RTI

11. Junior

Google

12. JUPITER

Amazon Web Services, Facebook, NTT, PCCW, PLDT, SoftBank

13. Malbec

Facebook, GlobeNet

14. MAREA

Facebook, Microsoft, Telxius

15. Monet

Algar Telecom, Angola Cables, Antel Uruguay, Google

16. Pacific Light Cable Network

Facebook, Google

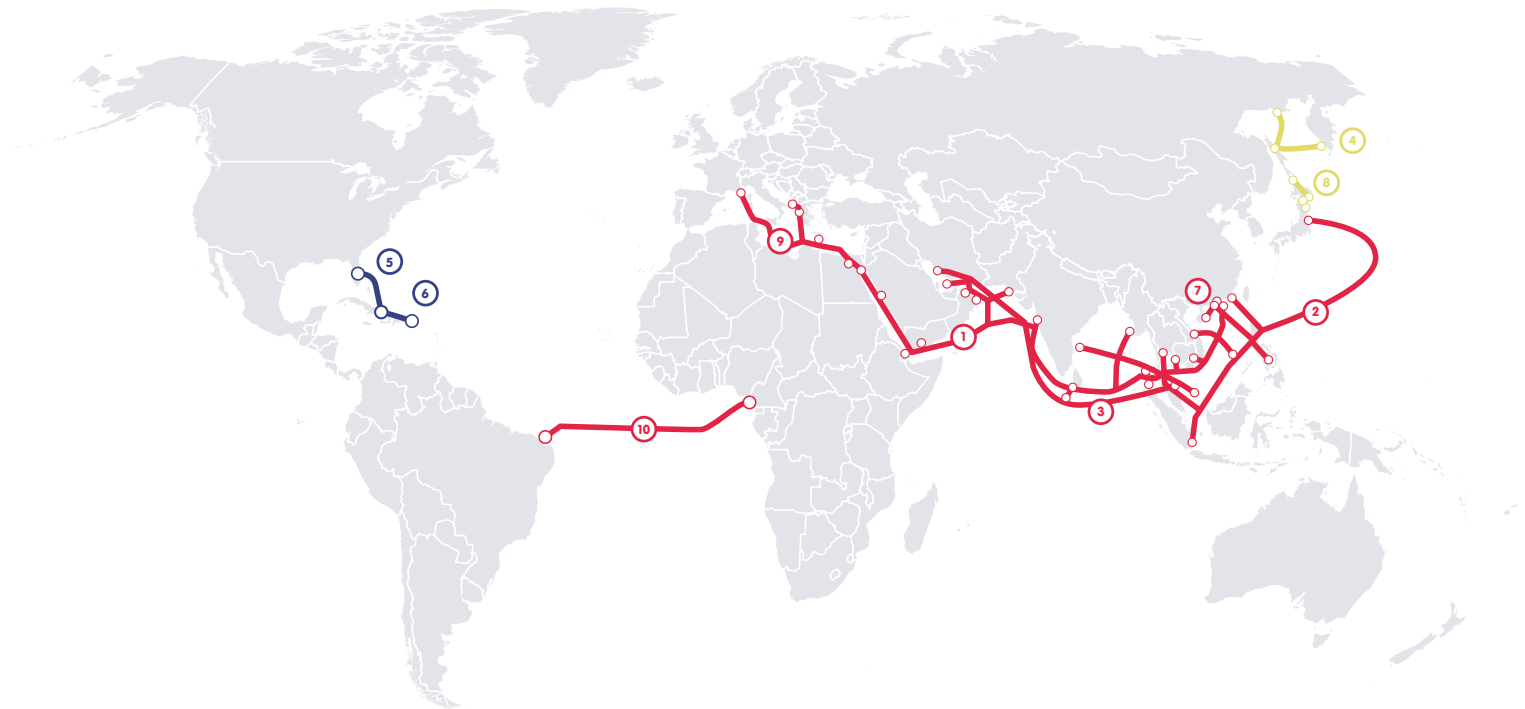
17. Tannat

Antel Uruguay, Google

The Chinese government leads state-sponsored development

Submarine communications cables owned by governments and state-owned enterprises

- Chinese (partly)
- American
- Russian



1. Asia Africa Europe-1

China Unicom, Djibouti Telecom, Etisalat UAE, Hyalroute, Metfone, Mobily, OTEGLOBE, Omantel, Ooredoo, PCCW, Pakistan Telecommunications Company Ltd., Reliance Jio Infocomm, Retelit, TIME dotCom, TeleYemen, Telecom Egypt, VNPT International, Viettel Corporation

2. Asia Direct Cable

China Telecom, China Unicom, National Telecom, PLDT, Singtel, SoftBank, Tata Communications, Viettel Corporation

3. Bay of Bengal Gateway

AT&T, China Telecom, Dialog Axiata, Etisalat UAE, Omantel, Reliance Jio Infocomm, Telekom Malaysia, Telstra (including Belong), Vodafone

4. Far East Submarine Cable System

Rostelecom

5. GTMO-1

US Government

6. GTMO-PR

US Government

7. Hainan to Hong Kong Express

China Mobile

8. Sakhalin-Kuril Islands Cable

Rostelecom

9. SeaMeWe-5

Bangladesh Submarine Cable Company Limited, China Mobile, China Telecom, China Unicom, Djibouti Telecom, Myanmar Post and Telecommunication, Ooredoo, Orange, Saudi Telecom, Singtel, Sri Lanka Telecom, TeleYemen, Telecom Egypt, Telecom Italia Sparkle, Telekom Malaysia, Telkom Indonesia, TransWorld, Turk Telekom International

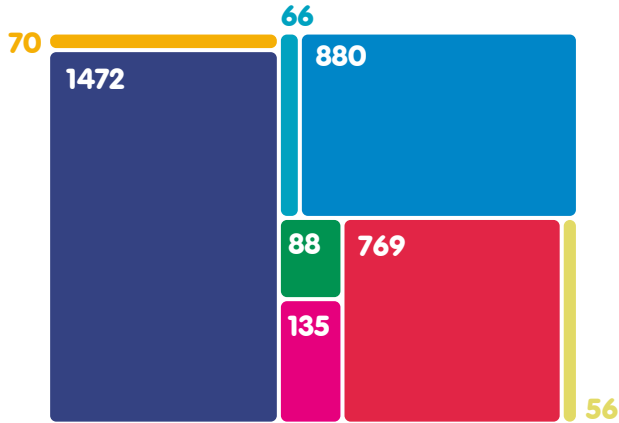
10. South Atlantic Inter Link

Camtel, China Unicom

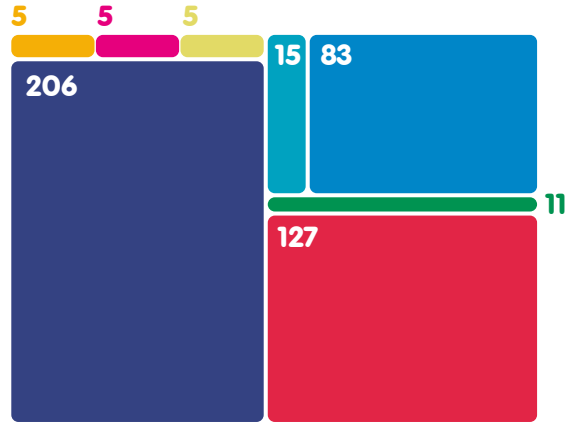
The US dominates international finance

Investment banking market value by region, \$bn (2020)

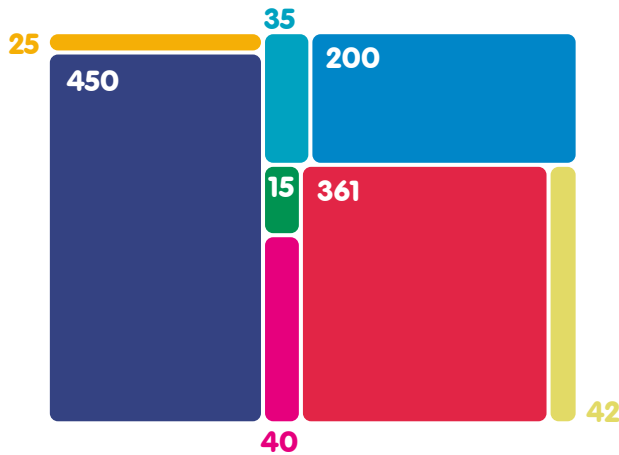
Mergers and acquisitions



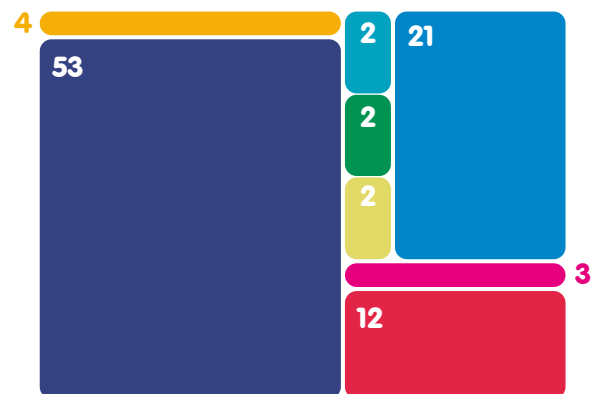
Initial public offerings



Equity capital markets



Investment banking revenue (in %)



- Canada
- US
- Latin America
- Europe
- Middle East and Africa
- Japan
- Asia (excluding Japan)
- Oceania

Meanwhile, China has created a digital renminbi that is projected to account for 15 per cent of all Chinese electronic payments by 2031 – and that, in theory, could create alternatives to the dollar-dominated financial system (even if that currently seems unlikely). Chinese payment systems are increasing their reach and are becoming an ever more important choke-point (see: Maps 8 and 9).

Great powers are also racing for control over and access to other choke-points, such as internet exchange points. And Chinese scholars have identified several areas in which China could soon have control over choke-points of advanced technology such as high-performance computers, quantum communications systems, core chips, and satellite navigation and operating systems.

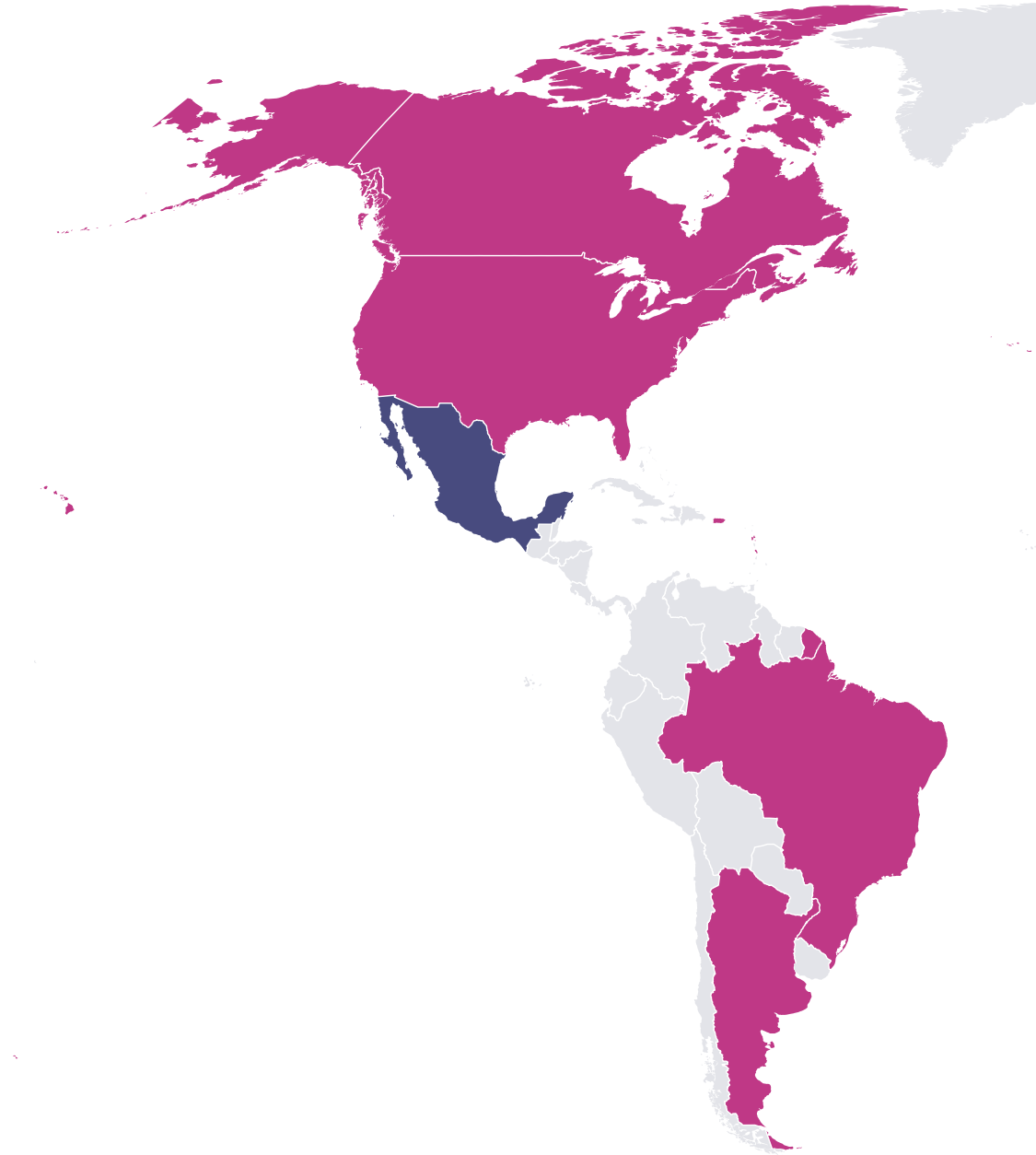
To gain influence, isolate a country, or make sure another state does not get access to information or goods, great powers increasingly impose new regulations on companies – or ‘squeezing laws’. These include obligations, prohibition of compliance with other countries’ laws, and licensing requirements for a growing number of goods and services. China’s newly adopted extraterritorial export controls, anti-sanctions law, and blocking statute are examples of this. If European firms follow obligations they have in the US or the EU, they may have to ask Beijing’s permission to export certain goods or services, face punishment, or even give up on doing business in China.

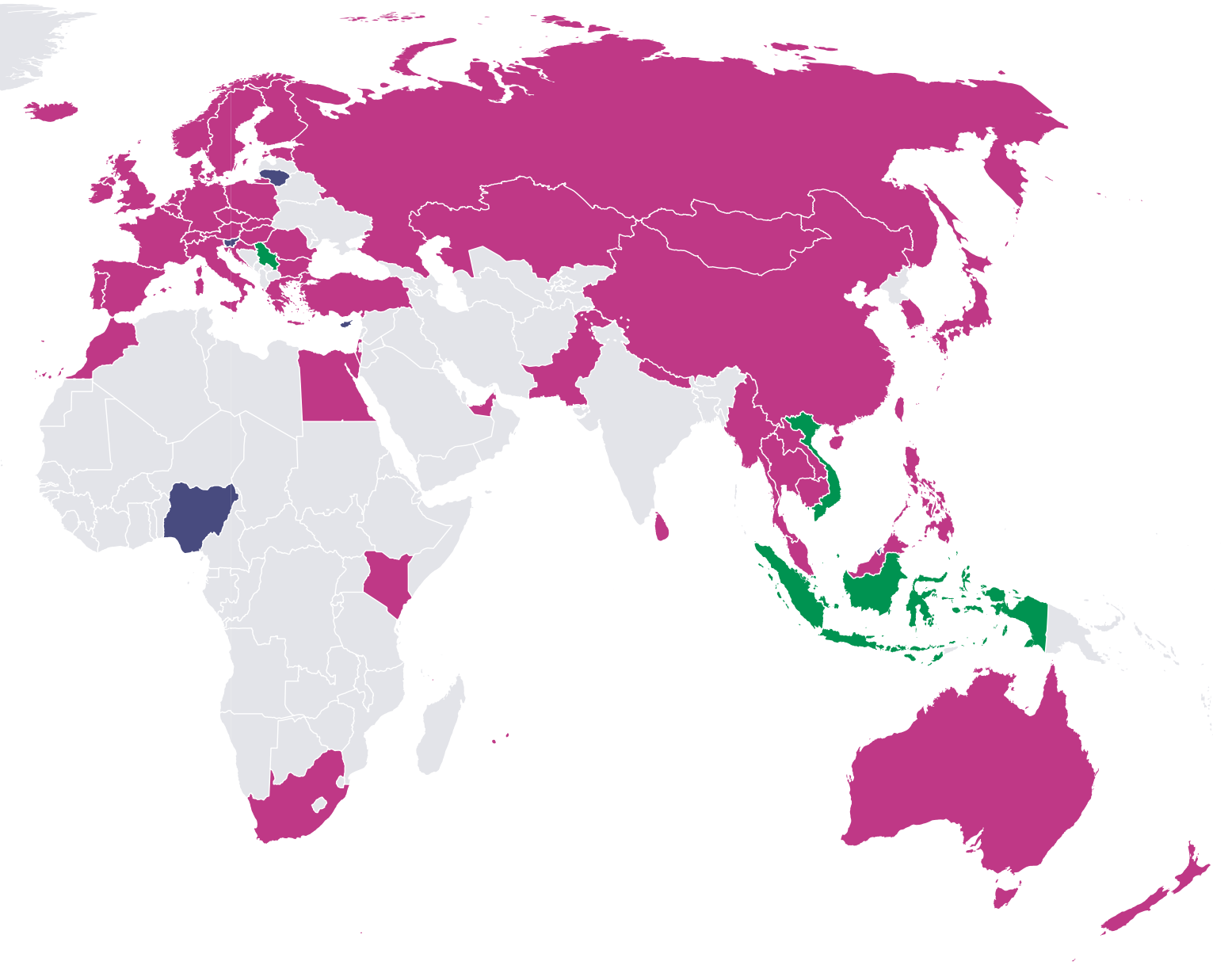
The systemic rivalry between the US and China – particularly Beijing’s approach to it – is leading democracies and former advocates of free trade to change course. Under Trump, the US employed methods that accelerated a shift in the international system towards fierce geo-economic warfare, even using its leverage against its traditional allies. The new administration in Washington has abandoned this approach to its allies and is actively rebuilding relations with them, but the fundamental power dynamics of geo-economic warfare will not change.

Chinese payment systems are expanding their reach

Countries that support the two biggest Chinese digital payments systems

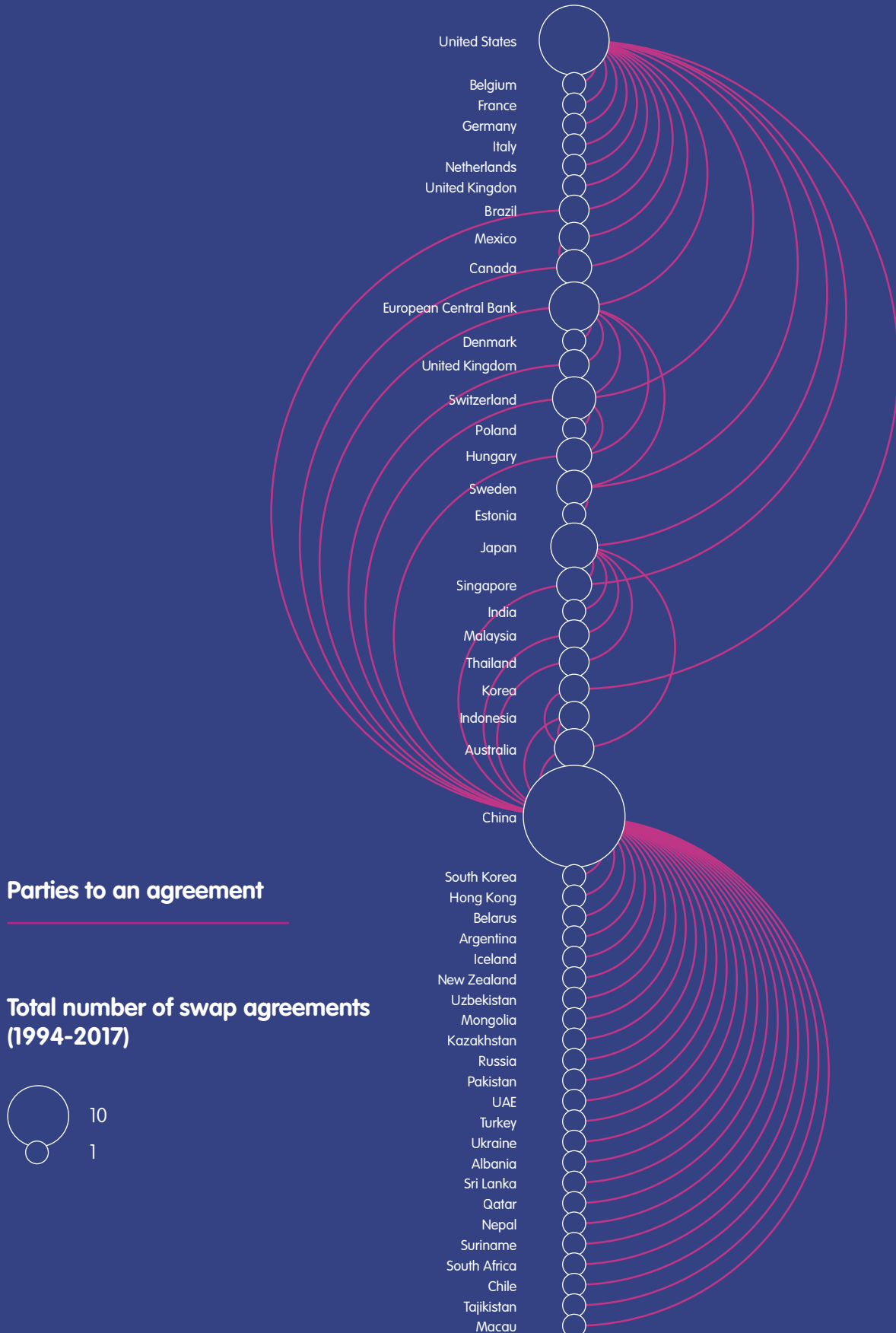
- AliPay
- WeChat Pay
- Both



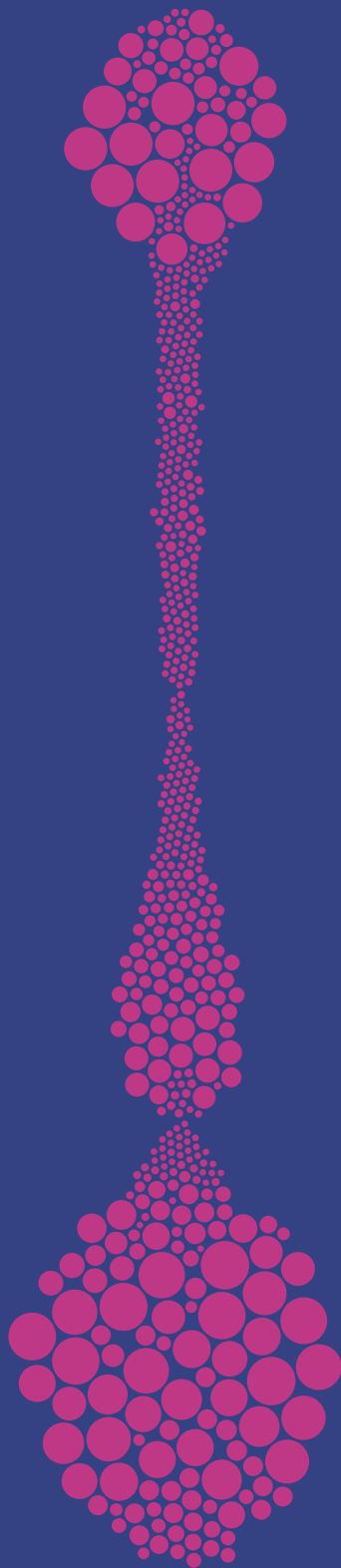


China is expanding renminbi swap agreements, but the US dollar is still dominant

Number and value of swap agreements and transactions

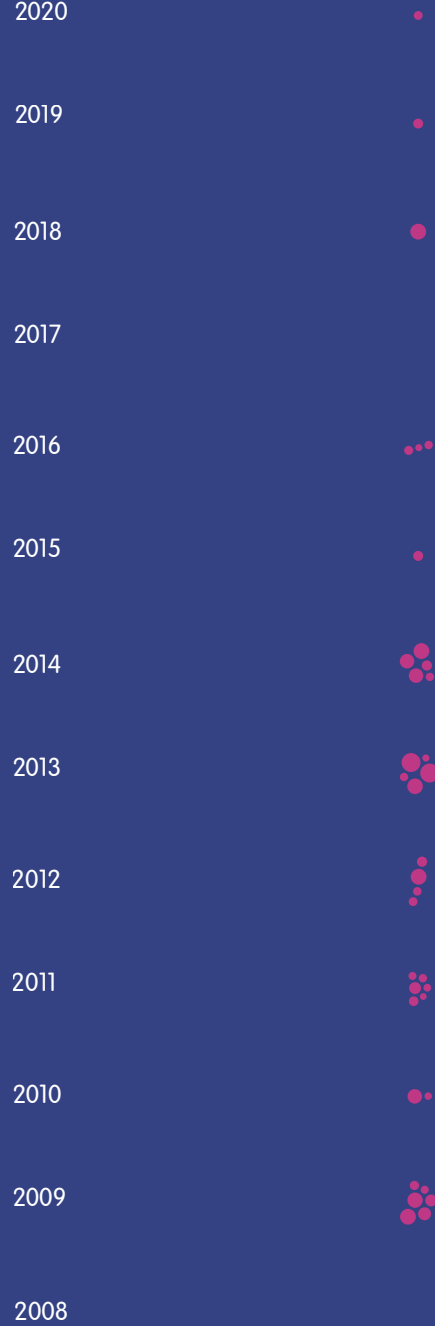


**Value of US Fed SWAPs in \$m
(2007-2021)**



**Value of Chinese SWAPs in \$m
(2009-2020)**

2021
2020
2019
2018
2017
2016
2015
2014
2013
2012
2011
2010
2009
2008



Transaction value in \$m



Sources: Council on Foreign Relations (2019). Central Bank Currency SWAPS tracker; Board of Governors of the Federal Reserve System (US), Assets: Central Bank Liquidity Swaps: Central Bank Liquidity Swaps: Wednesday Level [SWPT], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/SWPT>, 28 October 2021.; *The Hindu Business Line* (2020). Bilateral swaps' role in China's rising global footprint

In fact, the Biden administration is not changing the US posture overall or returning to the liberal globalisation of the 1990s and 2000s. It is merely replacing negative offensive tools that sometimes culminated in ‘maximum pressure’ policies with positive offensive tools or ‘extreme competition’. This approach emphasises investment in US economic strength and efforts to multiply that strength through close relations with democracies across the globe. The US-EU deal on aluminium and steel tariffs underscores this point: the Biden administration recognises that it is a fundamental US interest to find a compromise with Europeans but, fundamentally, European exports still represent a national security threat from the administration’s point of view. The Biden administration wants the US and its democratic allies to create a strong bulwark against third-country coercion, and to counter third-country offensive policies in markets in Africa and other regions (particularly those affected by China’s Belt and Road Initiative) through offensive policies such as infrastructure and connectivity partnerships. But it is not easing trade tensions with Europe out of a belief that the geo-economic era has ended and the world is returning to a trading system that is governed by rules that everyone will abide by.


Domestically, Biden passed a \$1.9 trillion fiscal stimulus package and is making investments in infrastructure and human capital on an unprecedented scale – which, in the long term, could increase the strength of the American economy to a new level. Some experts have said that this effort could even lift the US economy above its steady state and revolutionise economics. The US now emphasises positive offensive measures in the geo-economic competition between great powers, but the Biden administration has yet to define how it will use its impressive arsenal of economic coercion instruments, particularly against China, Russia, and other authoritarian regimes. The administration has upheld Trump-era punitive tariffs on China, but has not escalated them. It is entirely possible that the administration will revert to these tools much more towards the end of Biden’s presidential term – either because a Republican-dominated Congress pushes the administration to be more assertive in these ways, or because the administration believes that outcompeting China might be a smart long-term strategy but does not yield the short-term results it needs to prove it is sufficiently tough on Beijing.

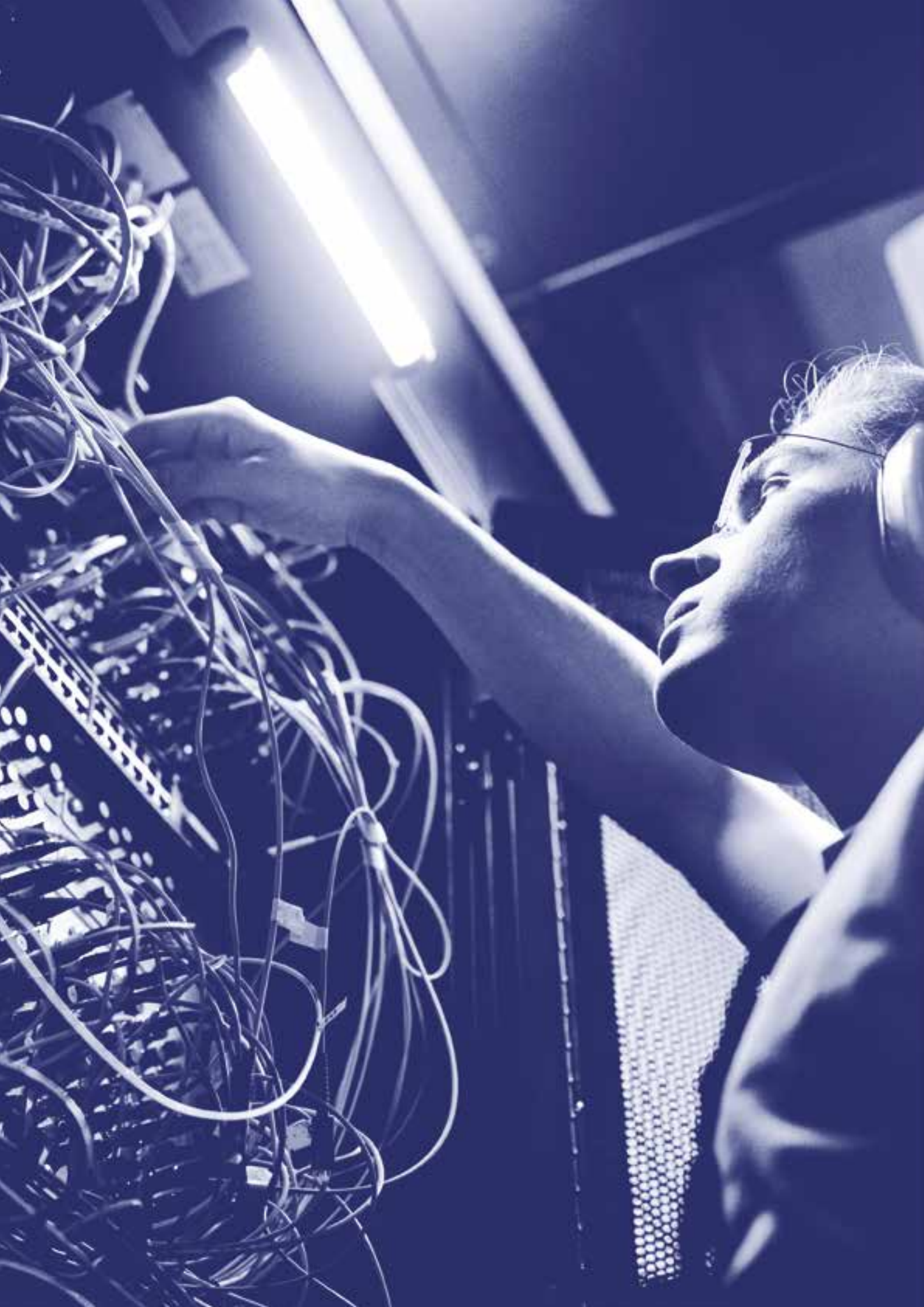
Europe has several disadvantages in the geo-economic era. The EU has the most globally connected of markets. And both superpowers are interested in access to that market and in good relations with the EU. But the European Commission was never conceived of as a mechanism to engage in geo-economic statecraft or implement a positive offensive strategy (even if it has performed relatively well in some areas of this). Europe also struggles to build up its economic strength and develop effective defensive instruments. This is due to its odd institutional structure – which is split

between supranational institutions and member states – as well as divisions between member states and its complex and slow decision-making processes.

On economic strength, Europeans struggle to match the investments and ambitious reforms the Biden administration is implementing in the US. The NextGenerationEU recovery plan does not provide the same kind of firepower as its US counterpart (even if the US has embarked on a great experiment that is not certain to increase its economic strength efficiently). To change this, Europeans would have to view the single market as much more of a geo-economic asset. Completing the single market would make the EU more competitive and reduce its vulnerability to economic coercion. The same applies to strengthening the euro. Too often, Europeans become stuck in debates about the technicalities of a capital markets union or a digital single market.

On defensive instruments, the EU suffers from its exceptional institutional shape. Its system of foreign direct investment screening is impressive on paper, but it is unclear whether all member states will implement it with the necessary rigour. For now, the EU lacks the legal provisions needed to counter many forms of economic coercion. This is why the EU should establish an anti-coercion trade instrument.

The European Commission will soon propose such an instrument that could make countermeasures possible. This will require member states to overcome their understandable hesitation about it – which might be partly a remnant of the easy globalisation of recent decades – and to simultaneously avoid protectionist policies that could reduce their economic strength. But, if they strike a careful balance and establish the instrument, the EU will become a much more capable actor in the geo-economic era. 



Technology

by José Ignacio Torreblanca

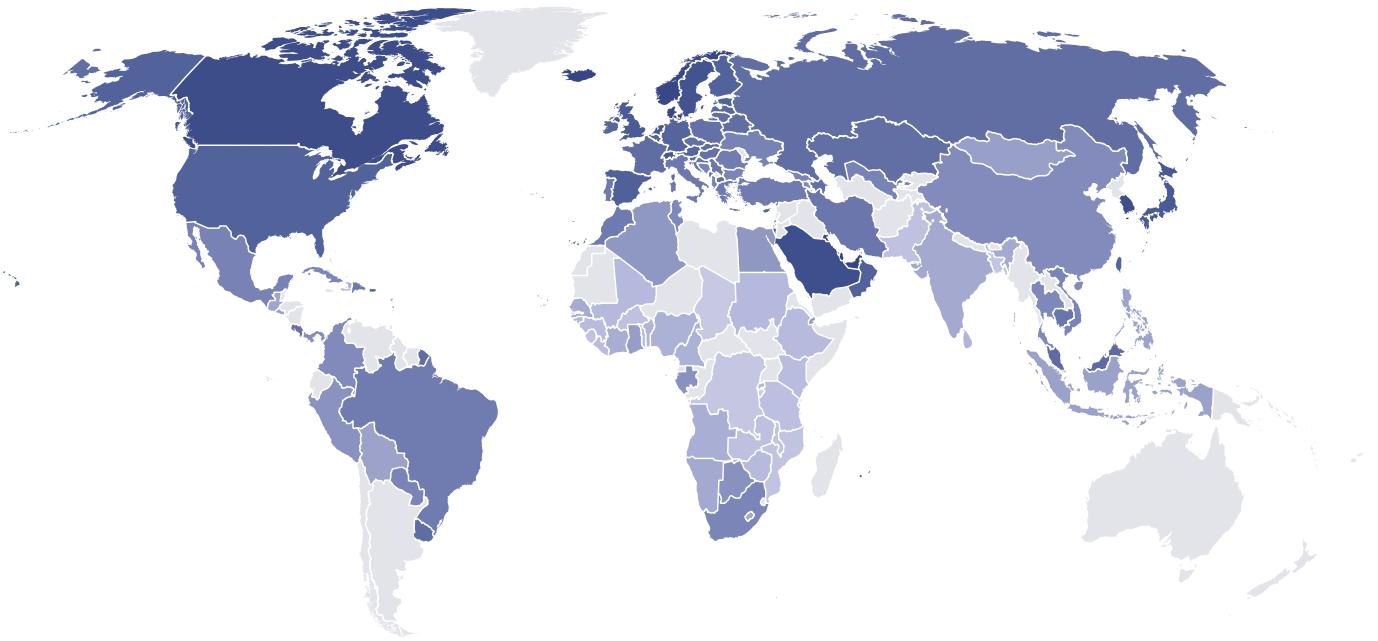
Technology shapes geopolitics – by bringing not only progress but also power to those who command and control it. Technological revolutions ranging from the development of irrigation to the first industrial revolution and electrification have unleashed deep economic, social, cultural, and political changes. All these innovations led to deep power asymmetries and inequalities before they were disseminated across the world. The digital revolution is no different. By 2019, around 4.1 billion people (57 per cent of the global population) were connected to the internet. However, as Map 1 shows, most of these users lived in developed countries, while large swathes of Africa and south Asia were still offline.

This technological revolution resembles previous ones in its profound local and global impact. By eroding political parties and traditional media, social media platforms have a profound impact on democracies' political representation and communication structures, increasing polarisation and damaging trust in established political institutions. Meanwhile, digital technologies provide authoritarian regimes with new opportunities to monitor and control their citizens – and, at the same time, wage a hybrid war to influence and interfere in democratic states, aiming to constrain or alter their foreign policies.

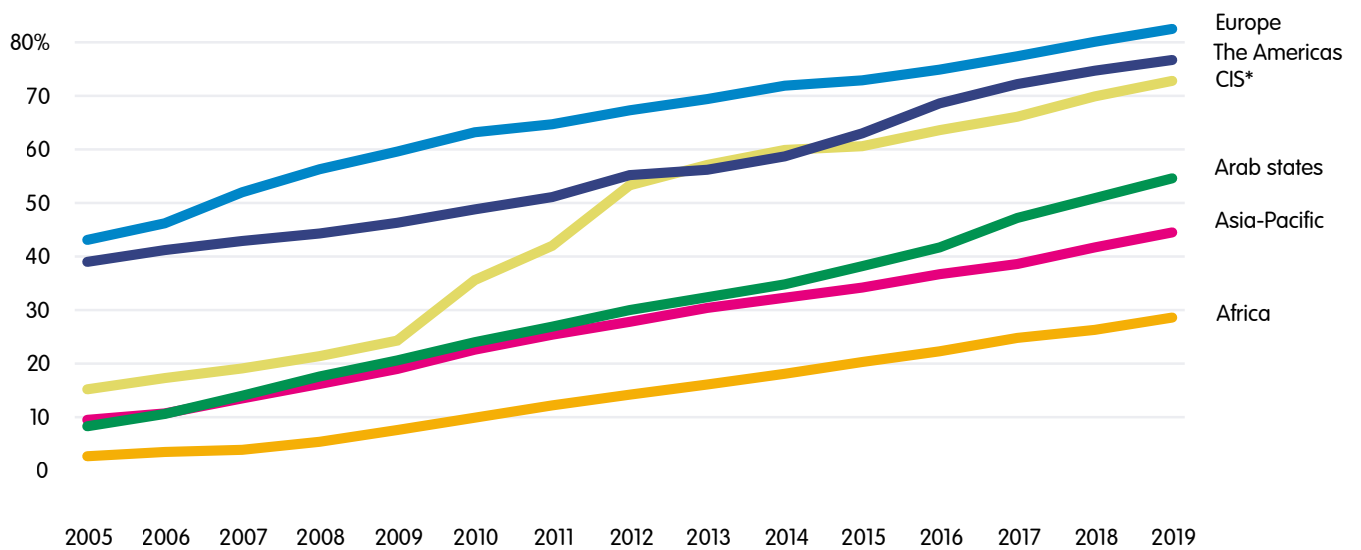
The tech divide

The global south is still offline

Individuals using the internet as percentage of total population (2019)



Individuals using the internet as percentage of total population (2019)



*Members of the Commonwealth of Independent States: Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russia, Tajikistan, Turkmenistan, Uzbekistan, and Ukraine.

Source: ITU-D ICT Statistics (2021) International Telecommunication Union

Great powers have realised that access to new technologies can be critical to their sovereignty, prompting them to engage in a fierce competition to develop their technological capabilities. After massively embracing globalisation due to its positive economic impact, these powers now regard the interdependence associated with it as a dangerous vulnerability that they need to constrain and, eventually, reduce.

The weaponisation of tech and information interconnectedness has led to fierce disputes about critical digital infrastructure (such as 5G and submarine cables), raw materials (such as rare earths), and industries (such as AI or semiconductors), as well as the control of data flows and storage, and the definition of standards for new technologies. Countries are erecting digital borders to keep their data away from others, imposing export controls on critical technologies and scientific talent, and seeking to create spheres of technological influence with like-minded countries – all in the hope of increasing their technological power and promulgating their technological models.

There is also technological competition in the influence operations, disinformation campaigns, and cyber-attacks that states use to wage hybrid wars against one another. This has led many states to try to reduce their connectedness, and even to split the internet and their industrial technological base to reduce their interdependence. While the technological revolution will continue, it will be shaped by not only a market logic, economic actors, and multilateral institutions but also governments' national security and geopolitical concerns.

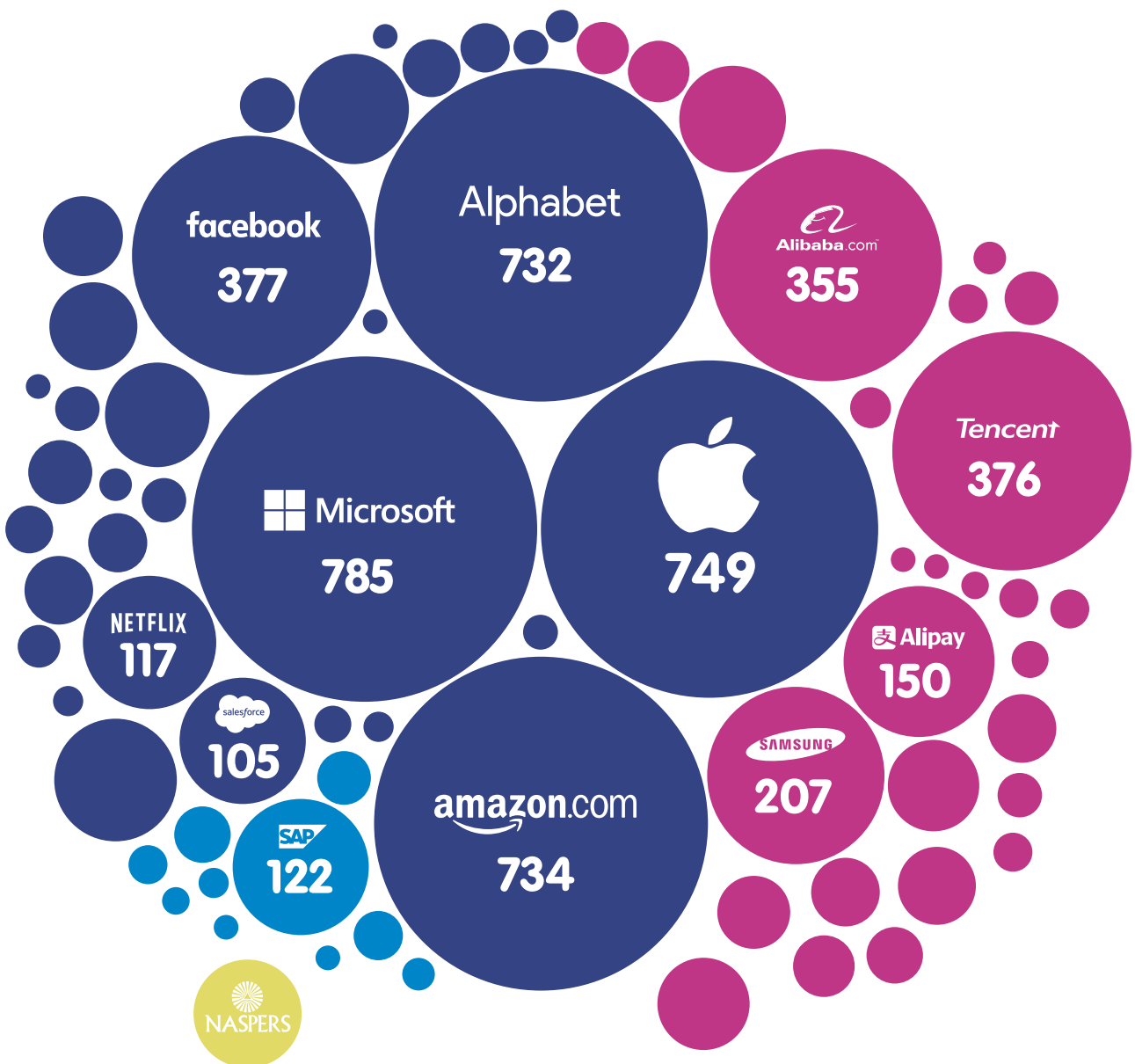
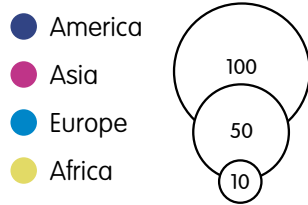
Technological power depends above all on economic and technical superiority. As Map 2 shows, the geography of the digital economy centres on two countries: the United States and China. In 2019 companies headquartered in the US and China accounted for 90 per cent of the market capitalisation of the 70 largest digital platforms (68 per cent and 22 per cent respectively), 75 per cent of all patents related to blockchain technologies, 75 per cent of the cloud computing market, and 50 per cent of global spending on the internet of things. The size of digital markets and the trade balance of digital services provide an accurate picture of the market power on which geo-tech diplomacy is based. As Map 3 shows, the pandemic has boosted e-commerce sales. According to the United Nations Conference on Trade and Development, between 2018 and 2020, online retail sales jumped from \$1,060 billion to \$1,414 billion in China, from \$520 billion to \$792 billion in the US, and from \$84 billion to \$131 billion in the United Kingdom.

Market power in some contested fields – such as 5G, semiconductors, rare earths, quantum computing, and payments systems – is critical. So is control of data flows and digital services. Cross-border data flows grew by roughly 112 times from 2008 to

Technological bipolarity

Geographical distribution of technology companies

Market capitalisation in \$billion (2018)



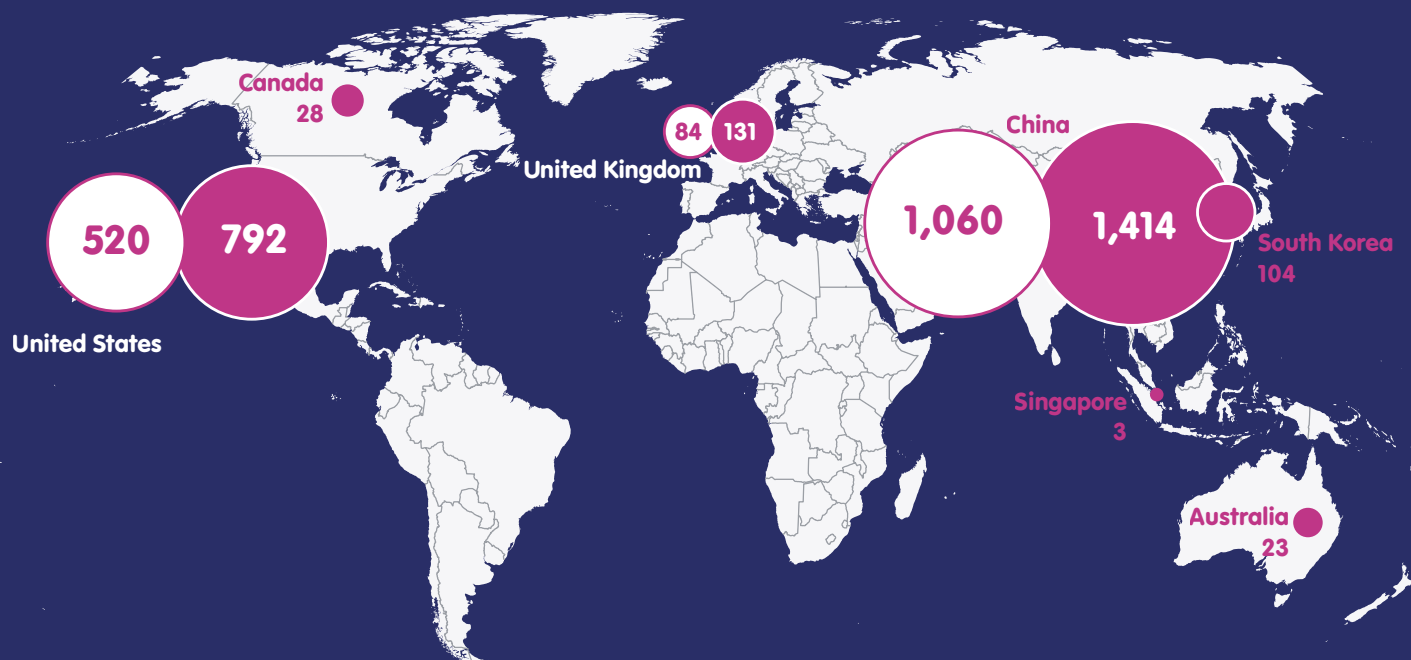
Online retail sales now drive the economy

Total online retail sales in \$billion

2018

Map 3

2020



2020. In 2018 around 330 million people made online purchases from other countries, each involving the cross-border transmission of data, helping e-commerce hit \$26.6 trillion in sales (30 per cent of the world's GDP). Companies that gain a competitive advantage by aggregating, analysing, and exploiting data have seized top market positions across the globe. Data is a source of both economic power and, now, political power. It drives productivity but also enhances state capacity.

The ownership and control of data flows have become a primary domain of US-Chinese competition for economic and geopolitical superiority – as demonstrated by, for example, the two countries' battle over 5G technology. Access to data and the capacity to deny others access to it have become key power variables. And a lack of global governance of data flows creates an acute risk of disputes over them. The geopolitical importance of data is reflected in increasingly commonplace concepts such as 'data borders', 'electronic walls', 'high-risk vendors', 'decoupling', and 'data export controls'.

The five key areas in which China and the US are waging a technological cold war, and which define countries' capacity to act, are: artificial intelligence (AI), cloud computing, semiconductors, 5G and mobile equipment, and quantum technology.

In each of these areas, the next decade is likely to see China make significant breakthroughs that help it catch up with the US, while the European Union fails to keep pace. Therefore, the US has an interest in slowing down Chinese companies' growth in these areas. However, China is lagging on semiconductors: while US factories only produce 7 per cent of the semiconductors, US companies (such as Intel, Qualcomm, Broadcom, or Texas Instruments) account for 55 per cent of the global market for this critical technological component, with Chinese and European firms at 5 per cent and 7 per cent respectively (South Korean and Taiwanese companies account for 21 per cent and 6 per cent respectively). As Map 4 shows, 63 per cent of the world's semiconductors are produced in factories located in Taiwan and 18 per cent in South Korea, both key US allies, while only 6 per cent are produced in China. The fact that semiconductors are such a choke-point for China explains why the US is seeking to restrict exports of these critical goods to its Chinese rival and why Taiwan has become such a key technological battleground.

Connectivity is also a major battlefield. Like 5G, submarine cables and cloud services are important domains for tech sovereignty and rivalry. Amazon Web Services, Google Cloud, and Microsoft Azure dominate these markets, but Chinese firm Alibaba Cloud's services are catching up. As Map 5 shows, most interregional bandwidth capacity is found between North America and Asia, and between North America and Europe. Europe is the largest internet bandwidth user (at 211 kbits/s, versus 130 kbits/s for the Americas and 102 kbits/s for the Asia-Pacific) but it lacks leading cloud service providers.

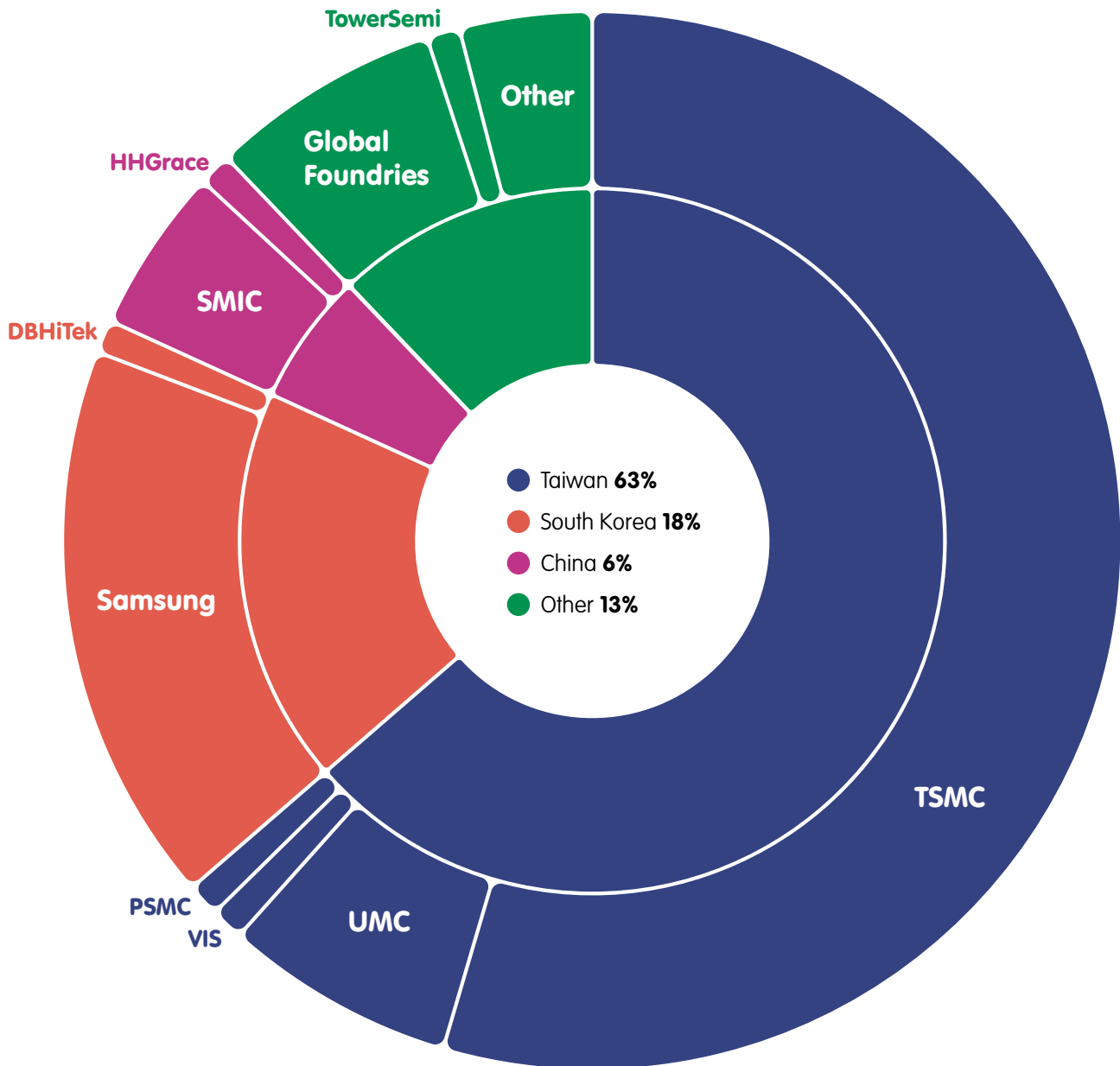
Another potential weakness for Europe is its access to the raw materials essential for technologies such as batteries, fuel cells, wind energy systems, photovoltaic cells, traction motors, robotics, drones, 3D printing, and information and communications systems. As Map 6 shows, China currently produces 58 per cent of all rare earths, and its reserves are an estimated 37 per cent of the global total. Meanwhile, US production of rare earths is 16 per cent of the global total, and its reserves are only 1.2 per cent. This is a major vulnerability for the EU in its quest for technological sovereignty, given that it currently produces less than 1 per cent of the lithium it needs for the batteries it uses, less than 1 per cent of the platinum for its fuel cells, 1 per cent of the raw materials for its wind energy systems, 1 per cent of silicon-based photovoltaic assemblies, and 2 per cent of the raw materials for its robotics.

At the turn of the twenty-first century, any list of the world's ten most valuable firms included oil and gas producers, consumer goods businesses, and banks and insurance companies. Today, as Map 7 shows, technology companies dominate the list. The oil and banking companies on which the US built its global industrial supremacy in the twentieth century have given way to Alphabet (Google), Amazon, Facebook, and

The heart of the digital economy

Concentration of semiconductor production

Foundry revenue (2020)



Total Foundry Revenue: **\$85,124m**

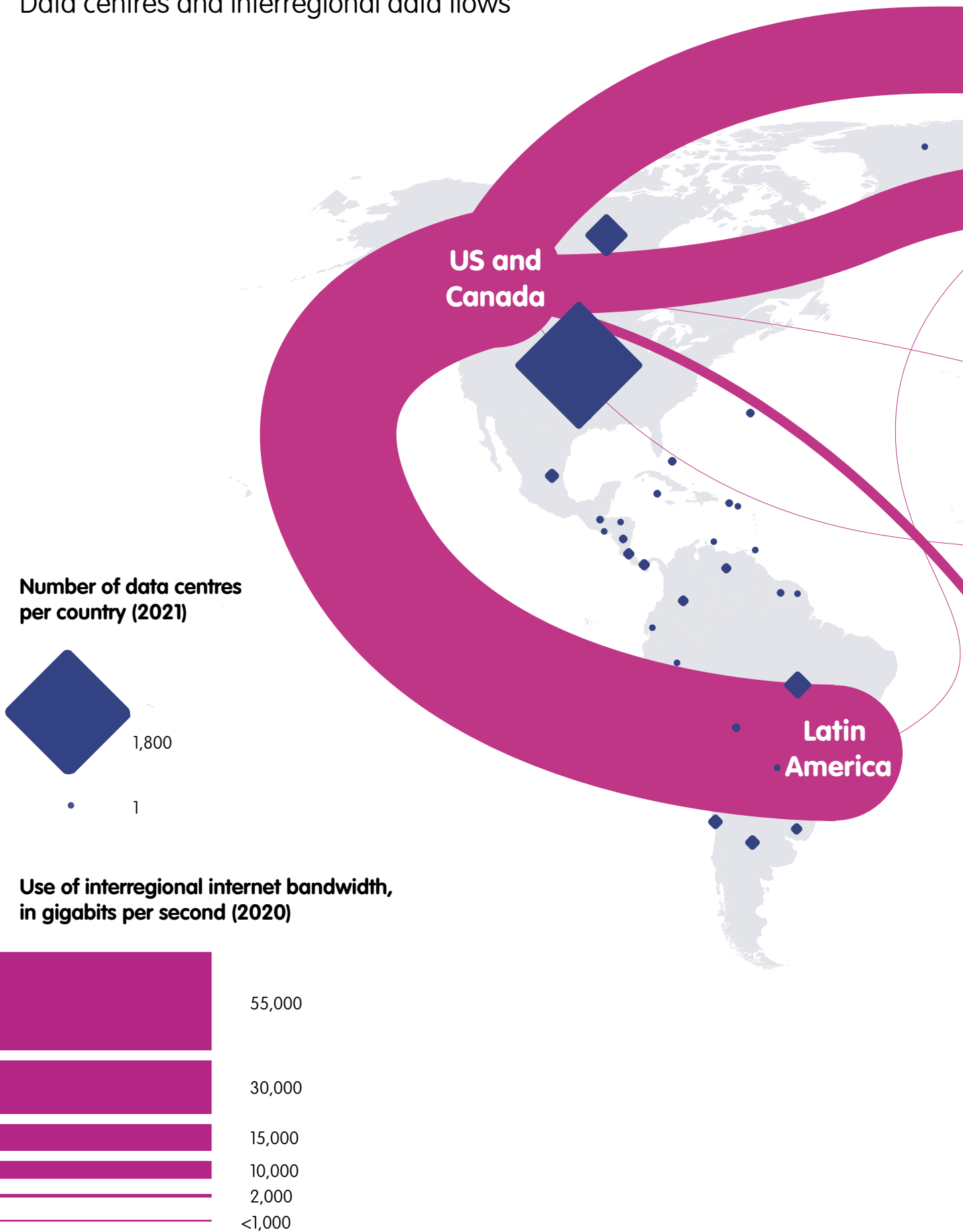
The worldwide shift to next-generation telecommunications standards has brought about a replacement demand for telecommunications and networking devices. This demand will continue to propel the semiconductor industry, resulting in high capacity utilisation rates across the major foundries.

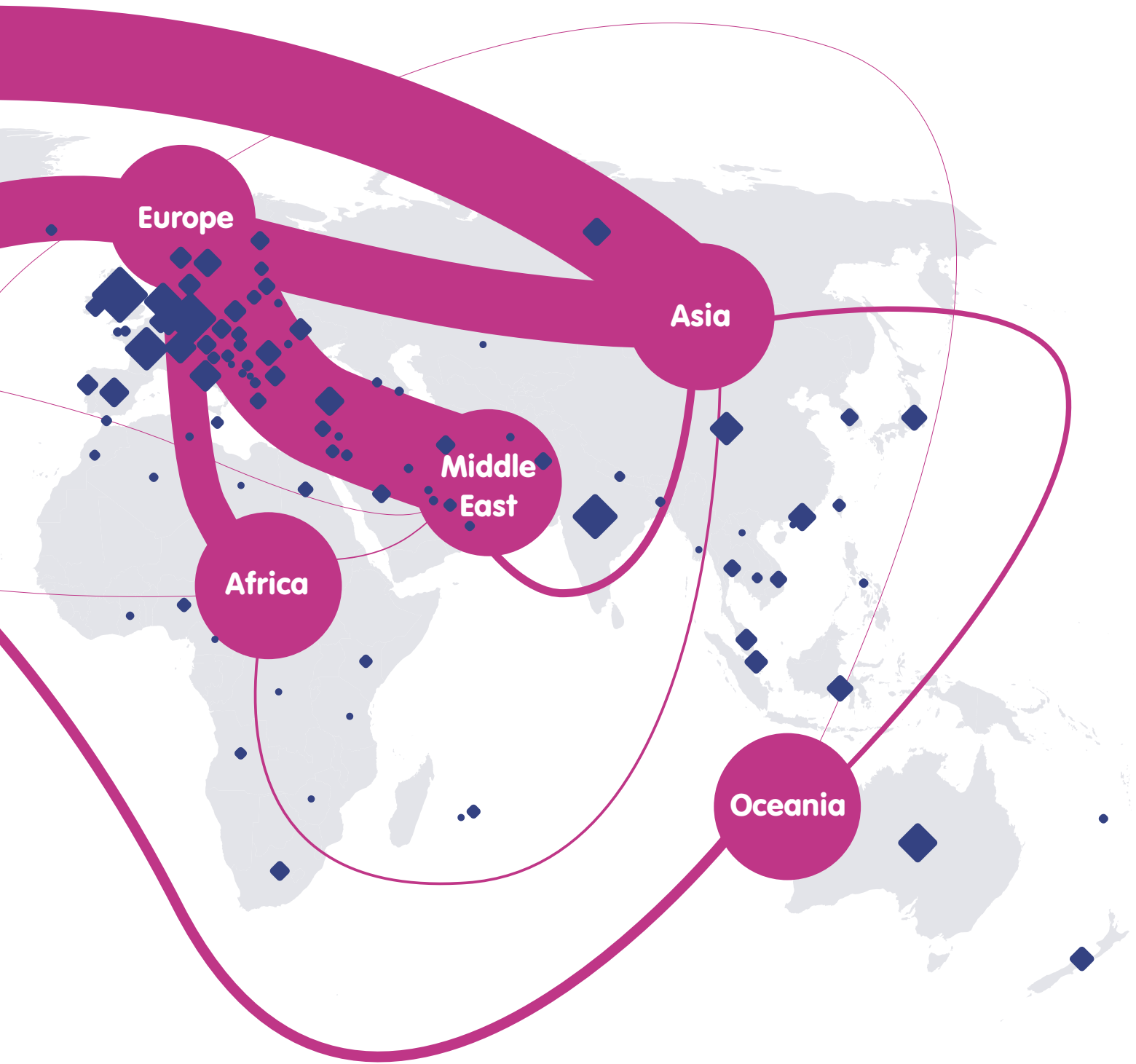
As certain foundries continue to expand their production capacities, TrendForce expects total foundry revenue to reach a historical high of \$94.6 billion this year, an annual growth rate of 11 per cent.

Source: TrendForce Department of Semiconductor Research (2021). Foundry Revenue Projected to Reach Historical High

The Terabit Era

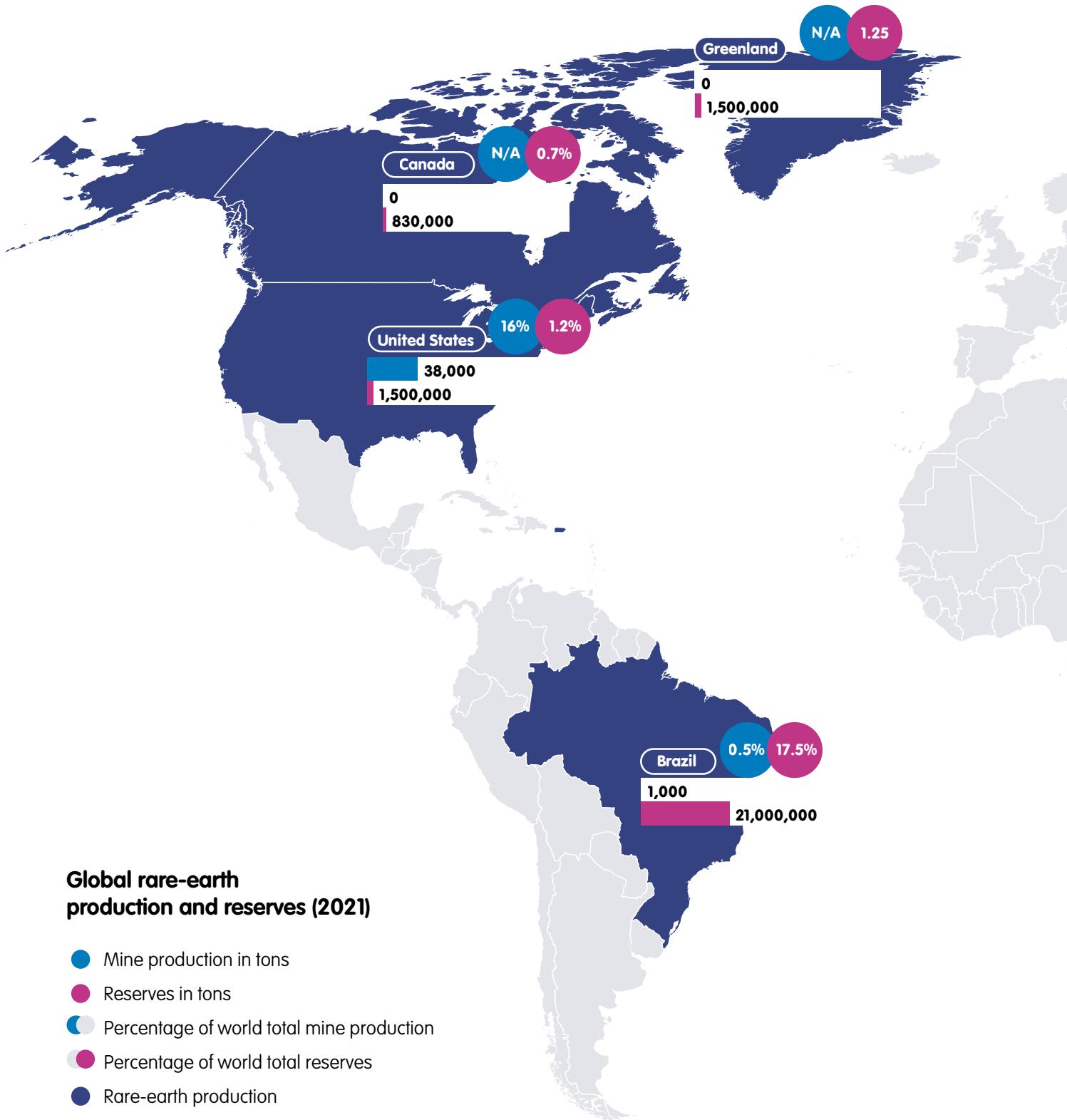
Data centres and interregional data flows

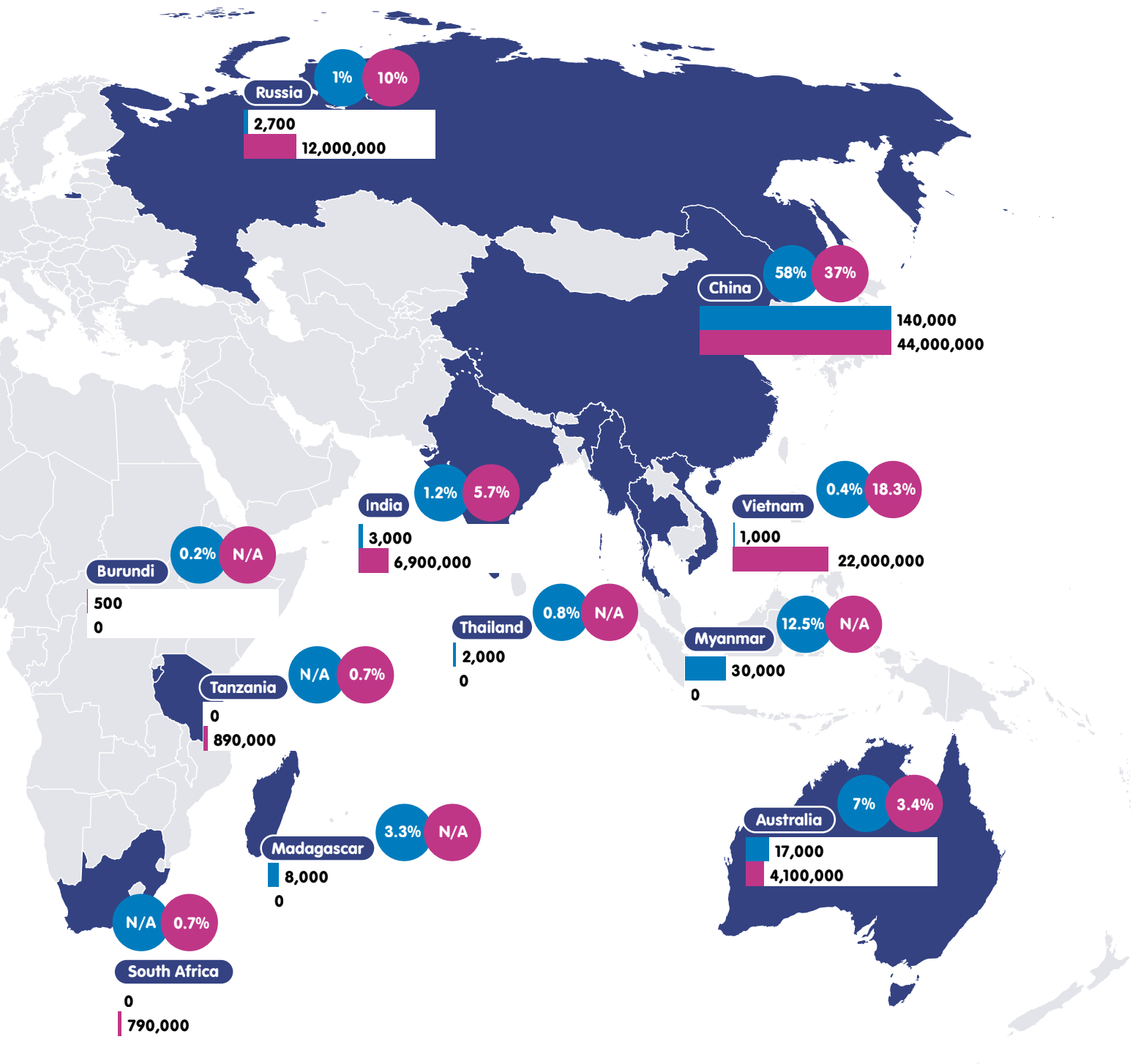




Mining rare-earth materials

How geography compromises the green tech revolution



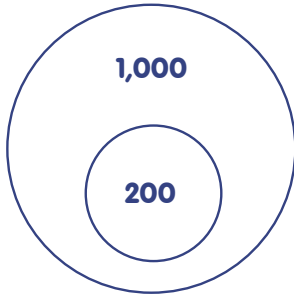


Methodology: Data for metric tons of rare-earth-oxide equivalent content.

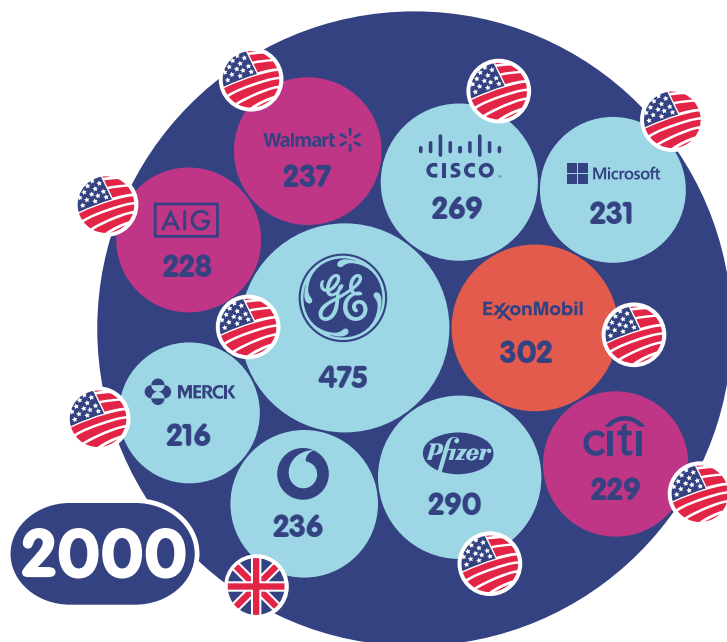
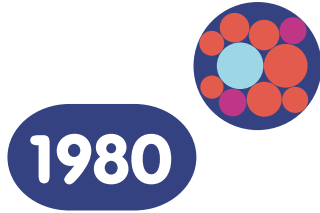
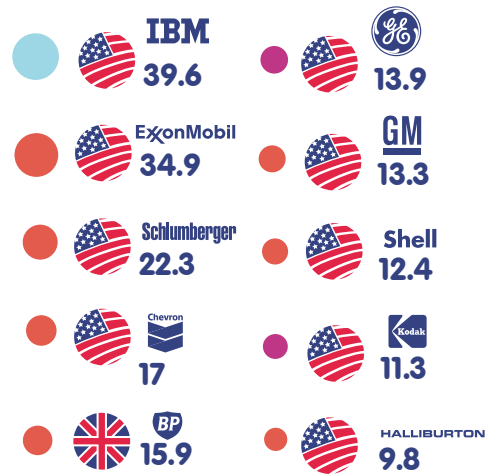
Masters of Industrial Revolution

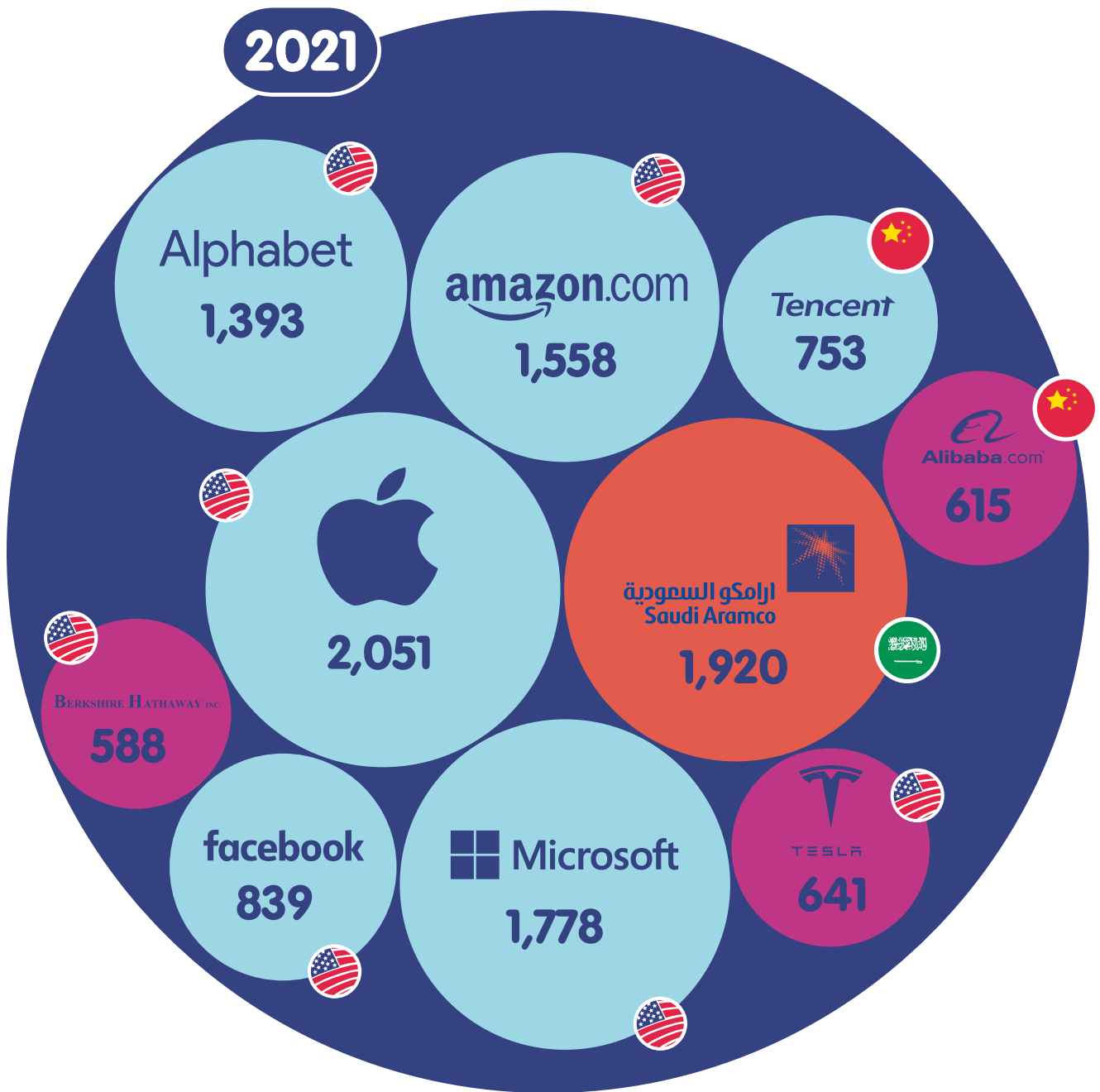
Digital is the new oil

Market value at the end of a given year in \$billion



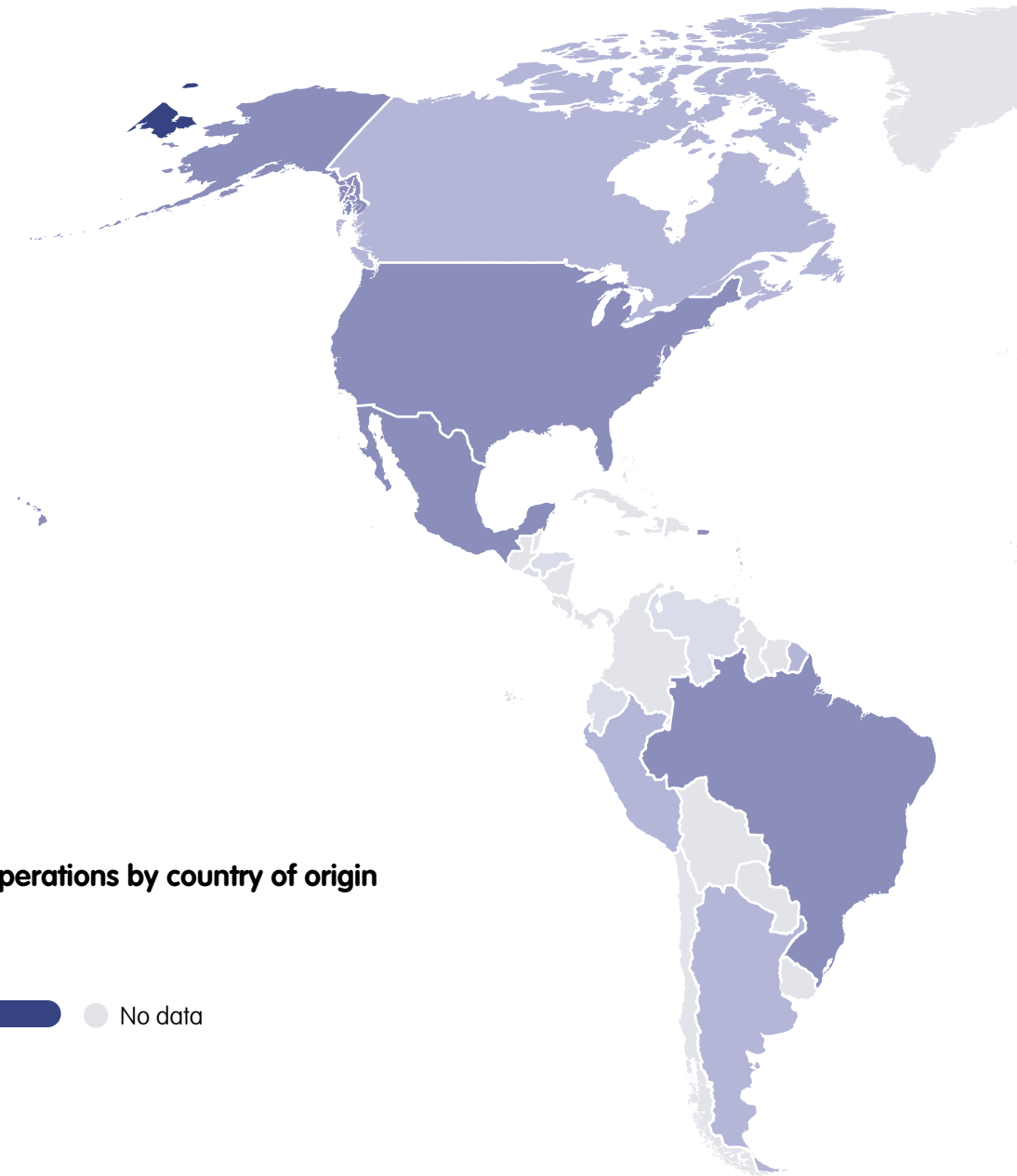
- Oil and gas
- Technology and communications
- Other



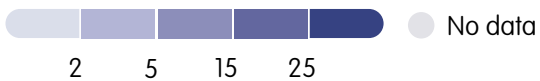


Disinformation on Facebook

How state actors weaponise social networks

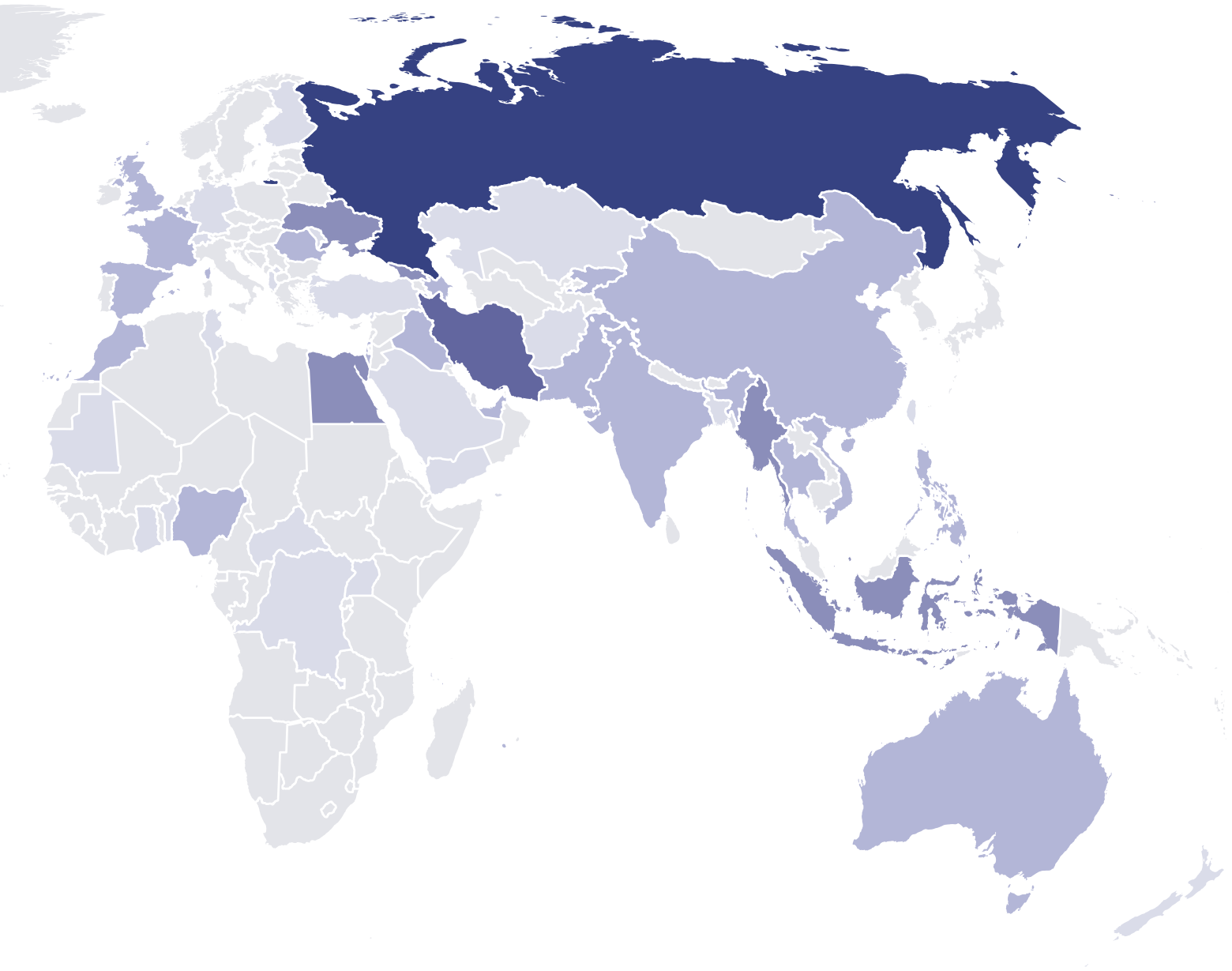


Number of influence operations by country of origin (2017-2020)



Countries most frequently targeted by foreign actors in influence operations, 2017-2020





Methodology: Over the past four years, Facebook security teams have identified and removed over 150 networks for violating their policy on coordinated inauthentic behaviour (CIB). The CIB policy was a major piece of Facebook's broader security strategy on influence operations (IO), developed in response to foreign interference by Russian actors in 2016. Since then, Facebook has investigated and disrupted operations around the world. These public enforcements paint a global picture of IO.

Apple. US tech companies dominate the global market, with Chinese firms in second place and European ones a distant third. The Mapping China's Technology Giants project at the Australian Strategic Policy Institute's International Cyber Policy Centre has identified and tracked the overseas expansion of 3,800 key Chinese technology companies, 27 of which it considers to be "tech giants".

However, market capitalisation, on which the US leads, is not the whole story. In fact, it hides the fact that China is leading on AI, machine learning, and cyber-capabilities – as the US military recently recognised. China is now the world's largest investor in technology: in 2020 its research and development investment hit a record \$378 billion, equivalent to 2.4 per cent of its GDP. This massive investment puts China on track to becoming the world leader in machine learning, the technology with the greatest potential to cause significant economic and military disruption.

In the future, geopolitics will be dominated by countries and firms that excel in artificial intelligence, robotics, the internet of things, autonomous vehicles, 3D printing, nanotechnology, biotechnology, materials science, energy storage, and quantum computing. Here, the US has many critical advantages: despite lagging on 5G and AI, it has the market size, the innovation drive, and the financial resources to challenge China's leadership in these fields. Meanwhile, China has a well-funded industrial strategy designed to achieve technological sovereignty, and can draw on the power of its huge market. The EU lags on both fronts: it does not have either a market as dynamic as the US one or an industrial strategy that can compensate for this. As a consequence, the bloc is off the pace in areas such as AI, patents, innovation, and 'unicorn companies' (privately held start-ups valued at \$1 billion or more). Still, Europe has enough assets – such as EU leadership on 5G and other areas – to be a technological player. The battle is not yet lost.

US companies are dominant in the social networking, information, advertisement, and communications markets. Facebook and Twitter are globally established, while their Chinese and Russian counterparts (WeChat and VKontakte respectively) are only dominant in their local markets. Revealingly, there are no such companies in the EU – which makes it completely dependent on the services provided by US platforms.

In liberal democracies, where freedom of speech is a key value, the open and unregulated nature of US social networking platforms creates vulnerabilities to foreign influence and interference. One can see this in Freedom House's Election Watch project, which maps the countries in which social media has been used to compromise the integrity of elections. A recent report by Facebook found that, between 2017 and 2020, there were 130 coordinated inauthentic behaviour events designed to seed disinformation in various countries. As Map 8 shows, the report placed Russia and

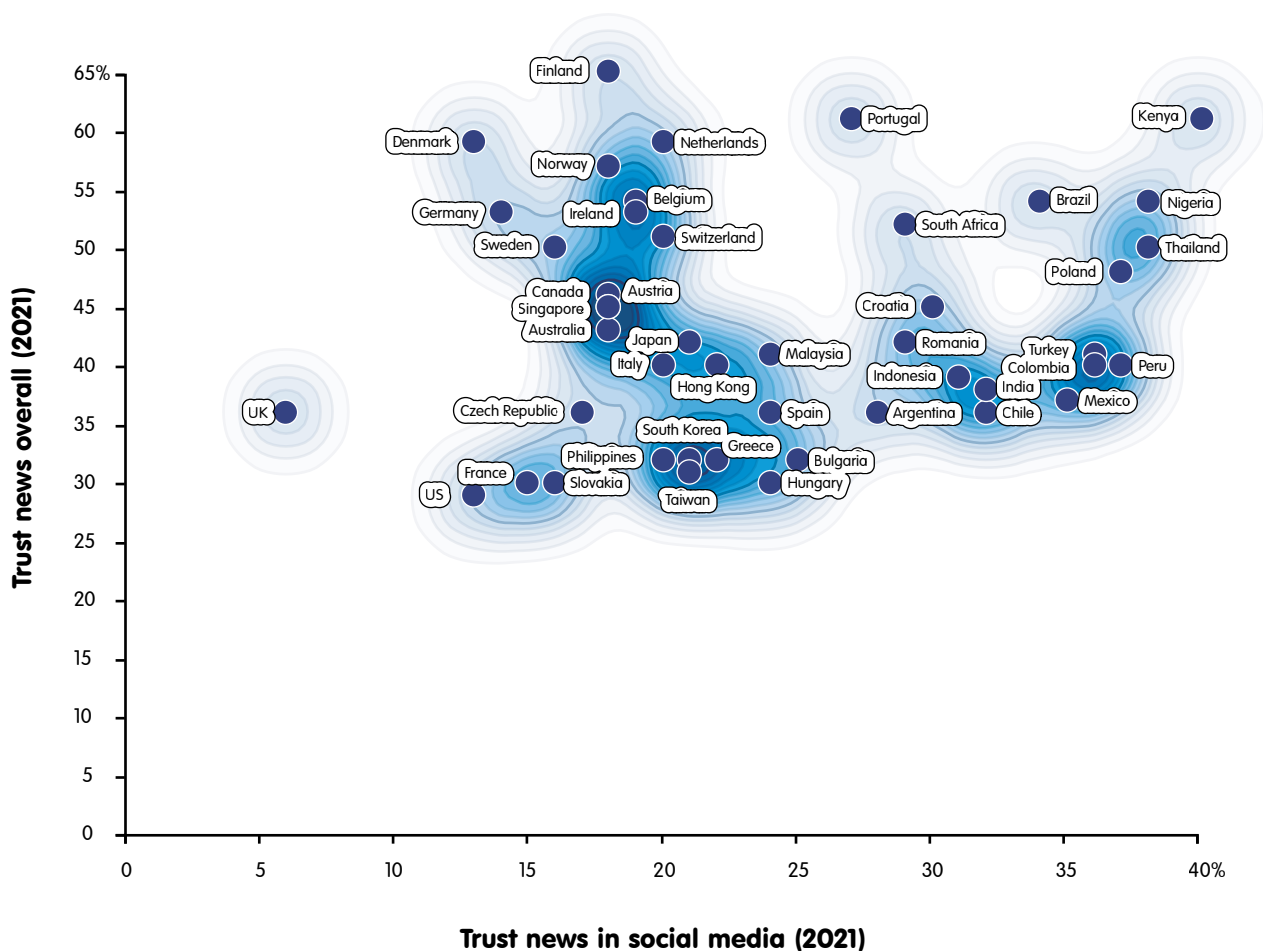
Iran at the top of the list of actors responsible for these operations, and revealed that the US and Ukraine were the main targets.

As a result, the economic gains brought about by the technological revolution coexist with very low levels of public trust in technology, especially when it comes to privacy, data safety, and cyber-crime. As Map 9 shows, concerns about data privacy and disinformation have led citizens worldwide to show very low trust in social media networks. In the 27 countries regularly surveyed by the Edelman Trust Barometer, the social media industry was the least trusted of a sample of 16 key economic

The information crisis

Map 9

How people stopped trusting the media



Methodology: The numbers show the proportion of each country's population that trust either the media overall or social media. The question read: "Please indicate your level of agreement with the following statements: I think you can trust the news/news I use/news in social media/news in search most of the time."

sectors (from healthcare to energy, education, and retail) while almost two-thirds of respondents saw traditional media organisations as biased and as doing their job poorly, reflecting record lows in trust in information sources.

In contrast to often-vulnerable democracies, authoritarian states can restrict particular individuals' and organisations' access to the internet in the territory they control. China, Iran, and North Korea have almost complete control of the internet, while Myanmar and Cambodia are trying to gain something similar. Authoritarian states such as Russia and Saudi Arabia can use advanced digital technologies, such as facial recognition and AI, to engage in mass surveillance and repression. As Freedom on the Net reports, countries such as China, North Korea, and Iran block Twitter, Facebook, and YouTube, and largely monitor all their citizens' internet traffic.

As great powers seek to enhance their technological strength, they have once again started thinking in terms of spheres of influence. In a contest resembling the nineteenth century 'Great Game' between Britain and the Russian Empire for influence over central Asia, they now seek to lure countries into their technological ecosystems. As Map 10 shows, China has exported surveillance technology to more than 60 countries with dismal human rights records, including Iran, Myanmar, Venezuela, and Zimbabwe. Thirty-six of those states have signed on to China's Belt and Road Initiative, which gives them access to cheap loans to buy 'authoritarian tech' from Chinese companies, particularly Huawei, Hikvision, Dahua, and ZTE. And, in other critical technologies, the fear is that China will use systems such as its Blockchain-Based Service Network to try to rewire the world and create a parallel internet subject to Chinese standards.

Liberal democracies also seek to establish digital and other tech alliances. Through the Clean Network Initiative it set up in 2017, the Trump administration sought to incentivise its friends and allies to ban or limit Chinese technology companies such as Huawei, and to adopt so-called "clean" carriers, data stores, apps, clouds, and cables. The group – which includes EU member states, as well as Australia, Canada, India, Israel, Japan, New Zealand, Singapore, Taiwan, and the UK – seeks to offset Chinese technological power in a manner similar to the cold war strategy of containment. In the EU, Latin America, and several other places, countries have begun to slowly move away from Chinese technology and Chinese companies after designating them as 'risky vendors'.

In an environment characterised by tech fragmentation, the 'splinternet', and geopolitical competition for spheres of influence, traditional global governance institutions such as the United Nations and the World Trade Organization cannot sustain a rules-based order that guarantees equal access to critical technologies. While

great powers compete to gain control over regulatory bodies such as the International Telecommunications Union and the World Intellectual Property Organization, global governance is also breaking up around smaller institutions, such as the D-10 initiative – which the US set up in 2014 to push advanced democracies to coordinate on tech vis-à-vis authoritarian governments – and the G7 Global Partnership on Artificial Intelligence, which excludes Russia and China. A new brand of tech diplomacy has emerged, involving a mixture of incentives and disincentives for countries to join great powers’ technological blocs and spheres of influence.

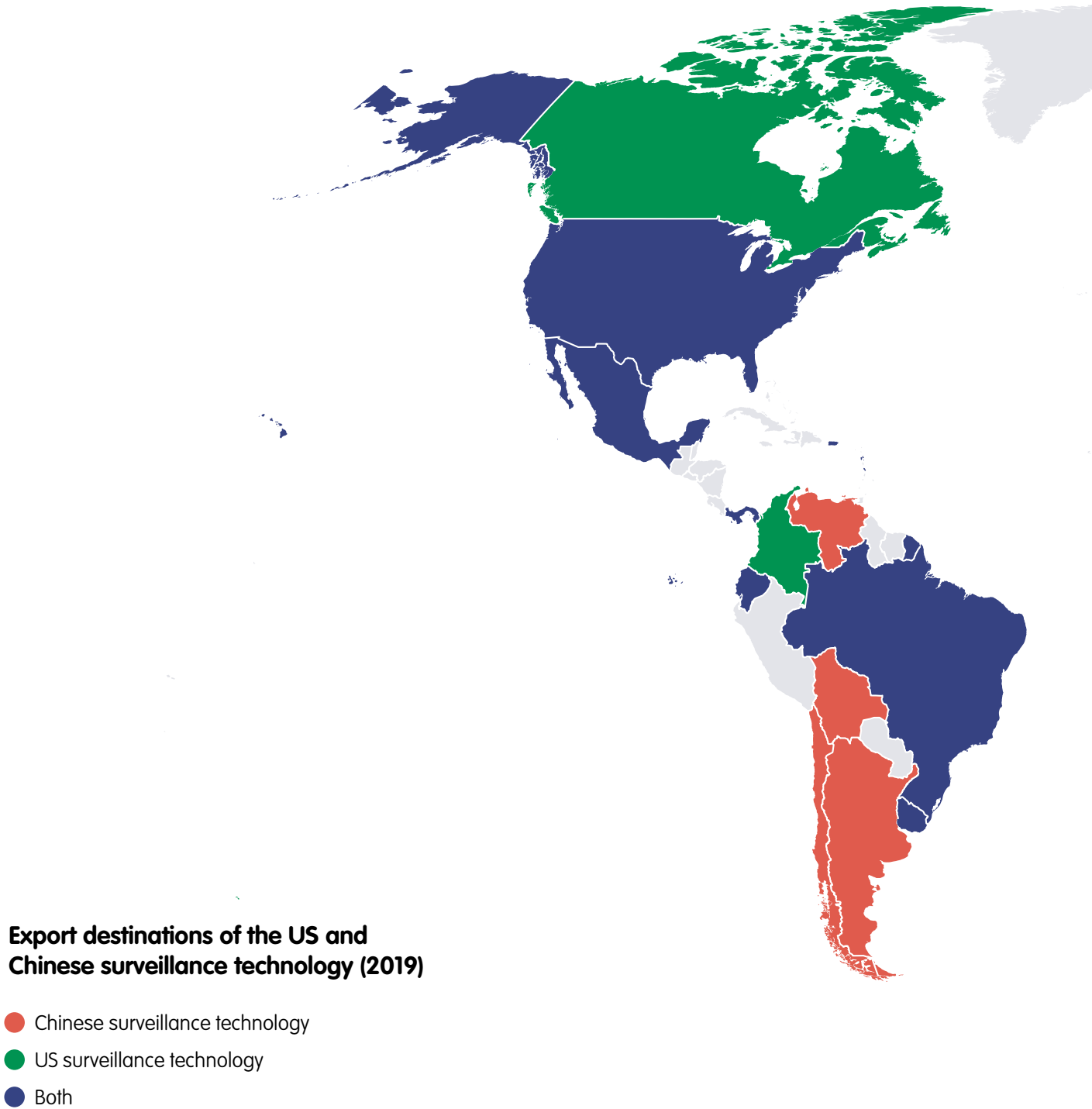
Achieving power and resilience on this new landscape requires a combination of defensive and proactive measures, both at home and globally. Defensive measures range from diversifying suppliers and markets to limiting or securing third countries’ access to home markets, controlling technological exports, keeping and attracting talent, and combating foreign influence and disinformation operations. As Map 11 shows, China stands out as the leader in digital trade restrictions and the quest for ‘digital independence’. By 2018, China was the world leader in data and technology nationalisation, seeking to develop technological standards and capacities that were different from global ones.

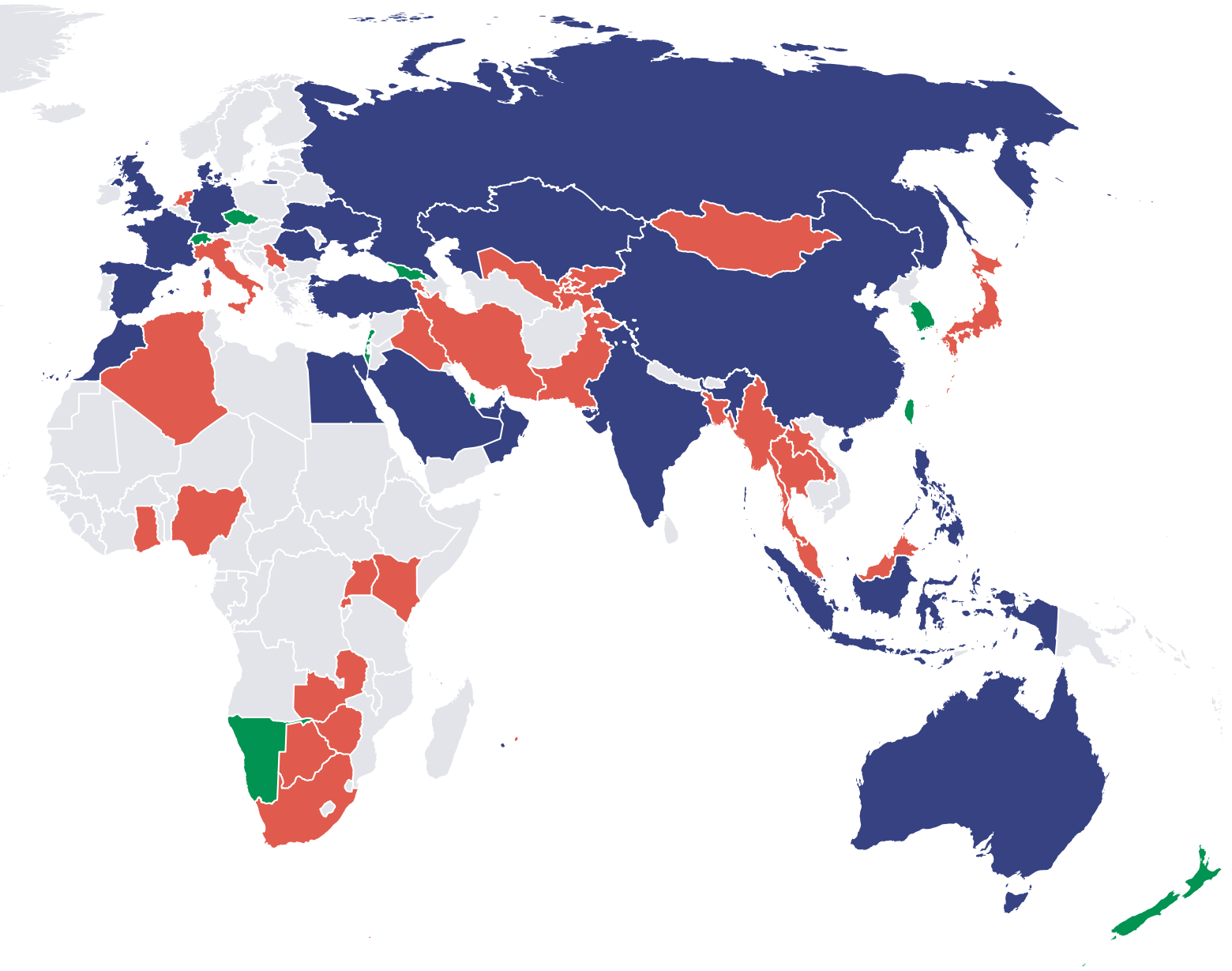
Proactive measures include the creation of deep and comprehensive industrial strategies that involve both state and market actors, and that allow countries to keep or gain a competitive edge in critical technologies. They also include the formation of international coalitions of like-minded countries and multilateral institutions that ensure fair access to technology and provide public goods such as global tech governance.

While the US and China have fully embraced geo-tech diplomacy, the EU is only beginning to learn to speak the language of technological power – to paraphrase its high representative for foreign and security affairs, Josep Borrell. The bloc needs to not only expand and secure its industrial technological base at home but also work to enhance its influence by cooperating with the US and many countries in the Indo-Pacific, Africa, and Latin America. The EU is not doomed to lose this game: like many other foreign services, Borrell’s office has appointed its own tech ambassador and engaged in geo-tech diplomacy. The recent completion of the BELLA submarine cable linking Europe and Latin America, and the recent EU-Japan Connectivity Agreement to rival China’s Belt and Road Initiative, are signs of progress. The EU seems to increasingly recognise that only those who see technology through a geopolitical lens will be able to preserve their sovereignty. 

How technology helps dictatorships

China's role in spreading surveillance technology

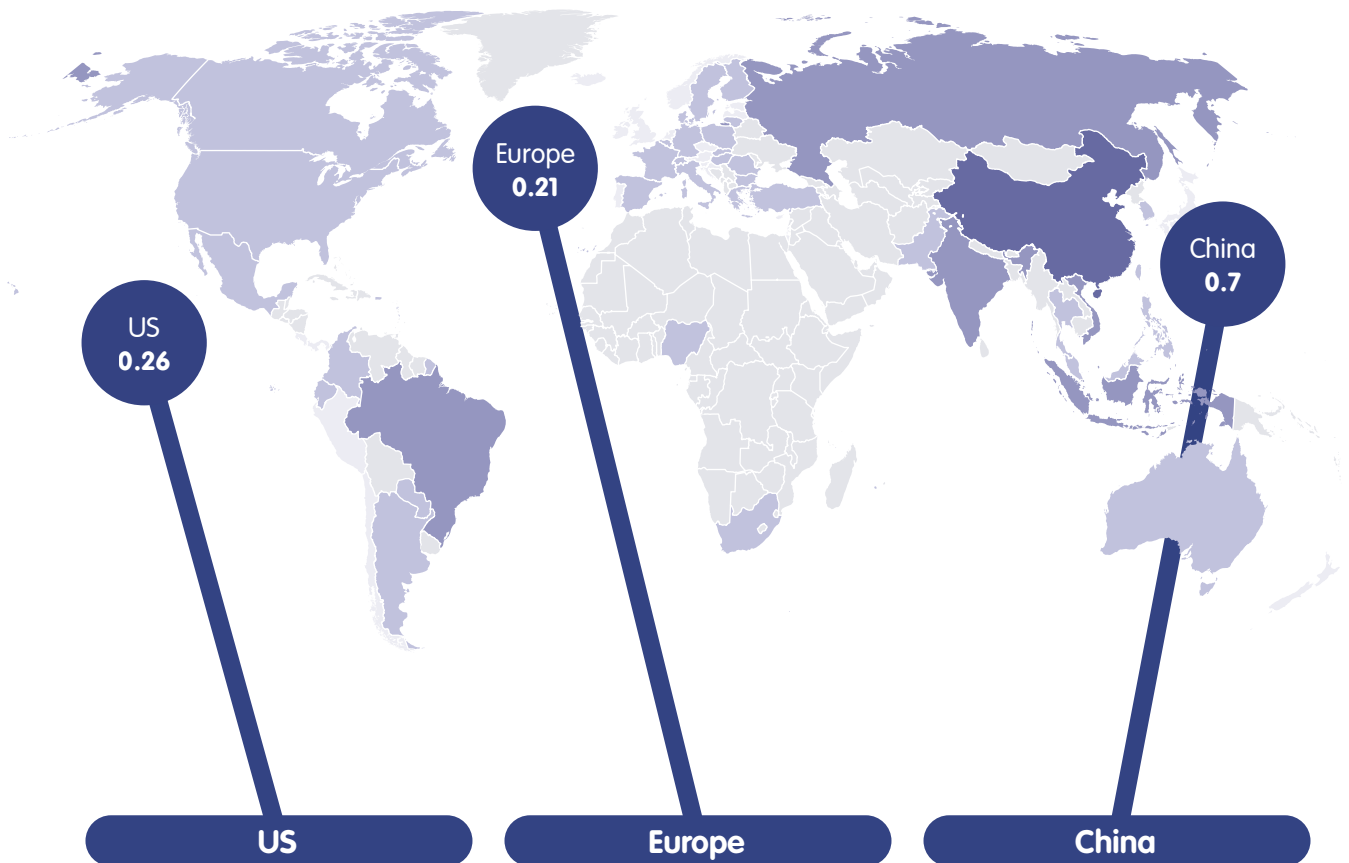
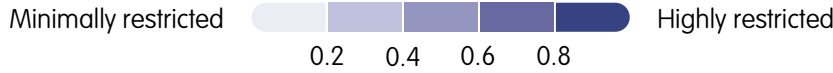




Growing restrictions on digital trade

Digital Trade Restrictiveness Index

Digital Trade Restrictiveness Index (2018)



The index shows that the US has a level of digital restrictiveness that is just above the average level of restrictiveness in all countries covered. The country that is most open to digital trade, with only a few digital trade restrictions, is New Zealand. Iceland, Norway, Ireland, and Hong Kong are also among the most digitally open countries.

In Europe, the two most digitally restricted countries are France and Germany. Both countries have more restrictive digital trade policies than most other developed countries. France is also the only European country that is part of the top ten most restricted countries in digital trade worldwide. Romania is the third most restricted European country, with a score significantly lower than France and Germany.

This index shows that China is the most restricted country in digital trade. China applies sweeping regulatory measures to all aspects of digital trade, including trade in digital goods and services, investment in the information and communications technology (ICT) sector, and the movement of data and ICT professionals. China is followed by Russia, India, Indonesia, and Vietnam.

Methodology: The Digital Trade Restrictiveness Index (DTRI) measures how 64 countries restrict digital trade. The DTRI is based on a wide spectrum of digital trade policies, covering more than 100 categories of policy measures. The index is based on the Digital Trade Estimates database that the European Centre for International Political Economy has developed and that is freely available for anyone to use. The database and the index are clustered around four larger areas of digital trade policy, namely: fiscal restrictions and market access; establishment restrictions; restrictions on data; and, finally, trading restrictions. The DTRI ranges between 0 (completely open) and 1 (virtually closed).

Source: European Centre for International Political Economy (2018). Digital Trade Restrictiveness Index



Climate

by Alex Clark and Susi Dennison

The transition away from a carbon-fuelled economy is now widely accepted as inevitable. The politics of global resources and supply chains are being reshaped by an emerging international consensus on the need to reach ‘net zero’ greenhouse-gas emissions during the second half of the twenty-first century. This race to zero carbon is driven by a combination of technological progress, declining costs, rising investment, and policy measures to support the transition.

The fossil fuel industry may still underpin the global economy but, as its strategic importance and market value decline, so will its political power. A large proportion of the world’s remaining oil, gas, and coal resources – and the associated downstream infrastructure that cannot be repurposed – will become stranded assets as green alternatives and carbon regulation become more popular, with high-cost producers at particular risk. Similarly, countries with large and relatively new industrial bases may experience sharp economic adjustments in the medium term unless they can retrofit their assets to use green energy molecules and electrons, including hydrogen, ammonia, and biofuels. States that rely on recently built steel furnaces and cement kilns – such as China, India, and several Middle Eastern nations – are likely to be among those most affected by these developments.

At the same time, the physical effects of climate change and concurrent environmental crises will have an especially severe impact on many developing countries, particularly African states, low-lying Pacific island nations, and those that host biodiverse, fragile habitats in tropical regions. Habitat and biodiversity loss, land-use changes, a rise in the sea level, and desertification will all heighten the need for investment in adaptation and resilience measures. They will also affect the availability, distribution, and productivity of arable land and coastal fishing waters, and will alter human and animal migration patterns. In the long term, these changes will affect the distribution of economic and political power between states, including within supranational bodies.

In this shifting and unpredictable environment, countries increasingly weaponise climate diplomacy. Global players exercise diplomatic power through the timing and substance of their announcements of national targets for reducing carbon emissions, the policy measures accompanying them, and the conditions they place on related financial aid. For instance, China made a surprise announcement in September 2020 that its carbon dioxide emissions would peak “before 2030” and that it would aim to achieve carbon neutrality by 2060. This expression of a marked rise in China’s climate ambition emphasised the country’s sovereignty over its development pathway.

The European Union is wielding its economic power through legislative proposals under the European Green Deal. The EU may be positioning itself to benefit from first-mover advantages in key industries of the future by proposing unprecedented measures to tax carbon-intensive imports at its borders (see: Map 1) – despite the diplomatic risks of doing so. Ultimately, this move may prove highly beneficial to societies around the world by accelerating the adoption of sustainable practices. But its short-term effect is to protect European industries as they improve their ability to transition away from carbon, and to place the EU’s trade partners in developing countries under greater pressure to introduce the same carbon pricing measures.

Emissions mitigation and adaptation are closely linked to investment, but states with deep pockets have long avoided financial commitments to green the economies of countries with less responsibility for, and greater vulnerability to, climate change. Despite the need to recover from the pandemic and to mitigate the increasingly obvious impact of climate change, the G7 has repeatedly failed to meet its target of providing developing countries with \$100 billion per year in climate finance. This funding target – which is a drop in the ocean relative to developing countries’ overall investment and adaptation needs, and which is included in the 2009 COP16 climate accords – is intended to help these states manage the impact of climate change, and to develop national action plans to counter it.

Given the importance of technology and innovation in adapting many sectors to the climate challenge, there is another source of power that will play a growing role in states’ attempts to make the transition to net zero. Access to the labour force and natural resources necessary to develop green technology, and the ability to exploit and monetise them, will also shape states’ capacity to strike economic bargains on climate in the coming decades.

The map of climate and resources power is complex and uncertain – but governments need to understand it if they are to operate in a world that is compelled to take action on climate change.

Energy transition

The global energy mix

Today, there is considerable variation in the carbon intensity of countries' energy mixes (see: Map 2). The picture is incrementally shifting as they add new – usually renewable – sources of power and heat, and retire older ones. One critical factor in the energy mix is demand, which changes as countries experience demographic growth or decline, and as their economies develop in various sectors – in some cases, with the explicit goal of transitioning away from carbon use. Energy demand is likely to grow significantly in some of the largest, most carbon-intensive economies, particularly those of India, South Africa, Indonesia, Mexico, and China (even as it remains relatively steady in Europe and the US, both of which are decarbonising). At the same time, these countries will come under pressure to ensure that future additions to their energy capacity are zero-carbon, secure sufficient access to renewable electricity, and forgo easily accessible fossil fuel alternatives.

Stranded assets and oil markets

Given the size of some countries' fossil fuel economies and the speed of their economic growth, incremental transformation will be insufficient to meet the climate challenge. They will need to implement ambitious policies if they are to phase out fossil fuels. Regardless of whether they do so, there may be rapid changes in international demand for fossil fuels, shifting the balance of power between energy-producing and energy-importing countries.

Fossil fuel extraction is likely to become economically unviable for the United States, Canada, and other high-cost oil producers before it does for the lowest-cost OPEC producers, such as Saudi Arabia, Qatar, Iraq, and Kuwait (although those in the former groups are less economically dependent on energy production; see: Map 3). Even as oil and gas markets shrink – and as technologies for alternative sources of power are still coming on line – socio-economic pressure to monetise carbon before it is too late may lead these and other economies to expand production in the short term. They could thereby expose themselves to greater stranded-asset risks – in what is sometimes called the 'green paradox'. The extent to which this occurs will depend on whether producer countries are convinced that other global players are serious about the transition away from carbon, these states' internal development needs and political makeup, and the availability of other sources of revenue.

Renewables superpowers and rare earths

Green energy is the new gold: the race is on to develop and deploy technologies that allow for the production and consumption of non-carbon energy. There are high hopes for success in sectors such as renewable energy, smart grids, and new energy vehicles. But, in many countries, it will likely be disruptive to replace electricity generation infrastructure quickly enough to decarbonise.

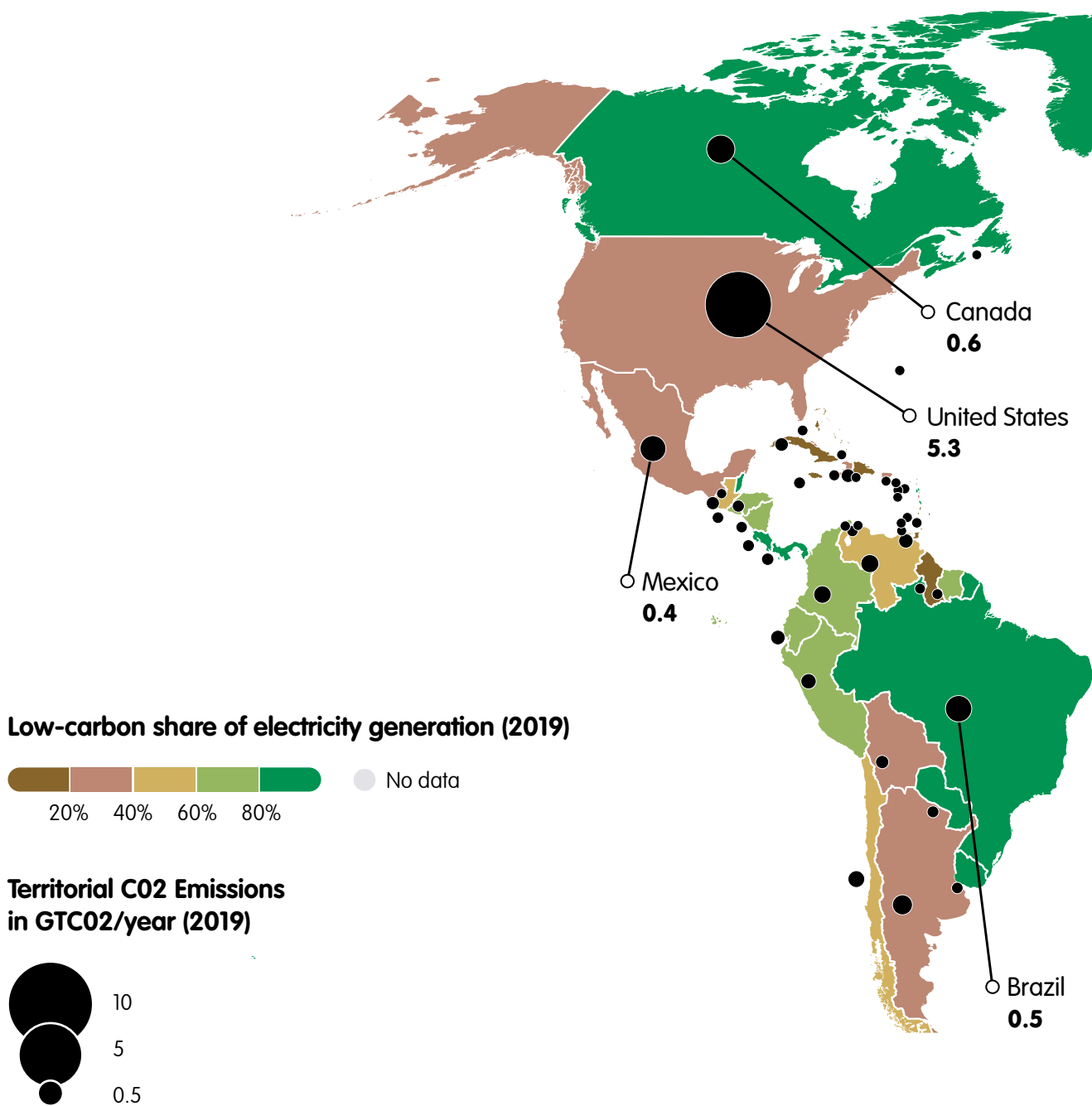
Technological solutions are emerging in sectors where electrification is challenging – such as steel, cement, shipping, and aviation – but face a long road to commercialisation. Some governments have responded to this challenge more quickly than others, by investing and innovating in, for instance, carbon capture and storage, battery storage, and advanced nuclear technologies (China and the US), and green hydrogen and battery production (the EU and China).

Once these and other technologies become commercially viable, states will need significant natural resources and infrastructure to adopt them. As renewable, electricity-based fuels displace oil and gas, countries with the largest, lowest-cost solar and wind resources – and those that produce the rare earth metals used to harvest them – may be well positioned to strike energy bargains with the world's large energy consumers. States and regions with areas of particularly high solar photovoltaic potential include Chile, Mexico, the US, Morocco, Algeria, Namibia, South Africa, Botswana, most of the Middle East, China, and Mongolia. Locations with high wind energy potential include the United Kingdom, Ireland, Iceland, and Scandinavia, as well as the coastlines of Canada, the US, Chile, Argentina, South Africa, Namibia, Somalia, Russia, Australia, France, south-eastern China, and New Zealand (see: Map 4).

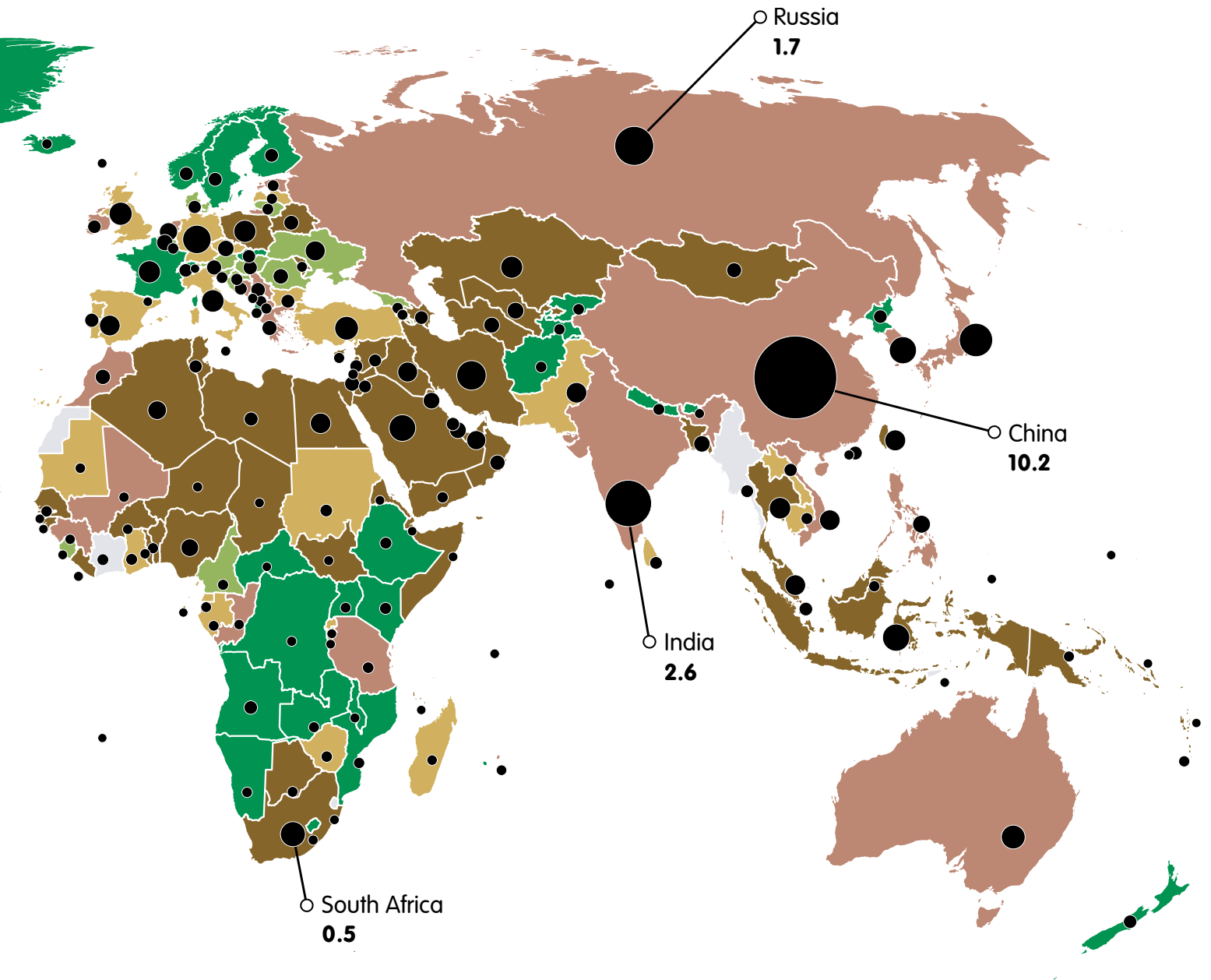
Nonetheless, profitably exploiting these resources will require access to rare earths. These 17 elements are relatively common throughout the Earth's crust, but many deposits of them are undeveloped. China, Vietnam, Brazil, Russia, India, and Australia currently have the largest reserves of rare earths. Reserves of lithium – a metal that, like cobalt, is essential for battery production – are primarily concentrated in Bolivia and Argentina, followed by Chile, the US, Australia, and China.

Greening the world's electricity

Renewable energy shares and territorial CO2 emissions

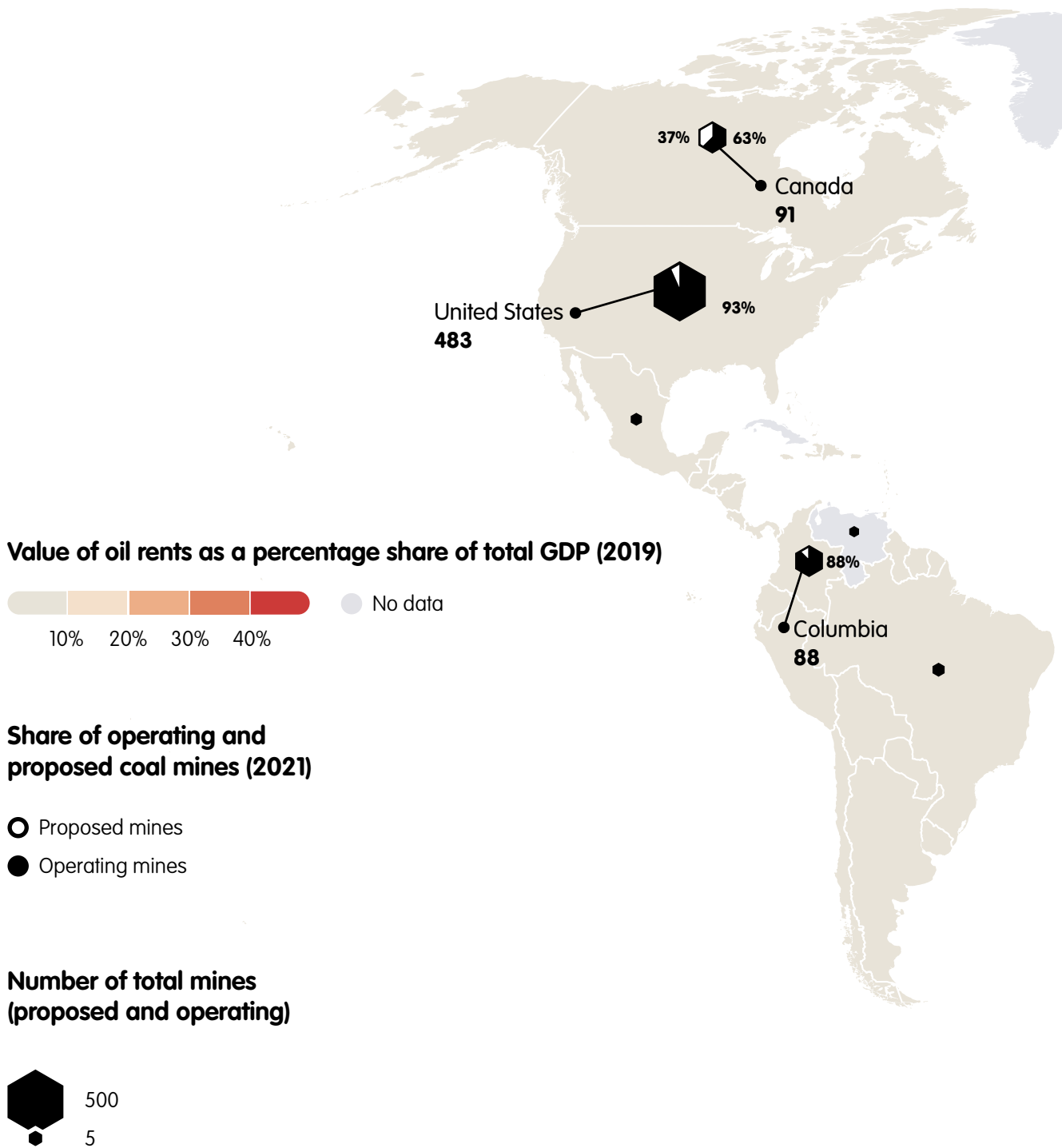


Methodology: This map shows the total CO2 emissions within a country's territory in 2019 [GTCO2/year] and the share of total electricity generation in 2019 from low-carbon sources: renewables, nuclear, and hydro.

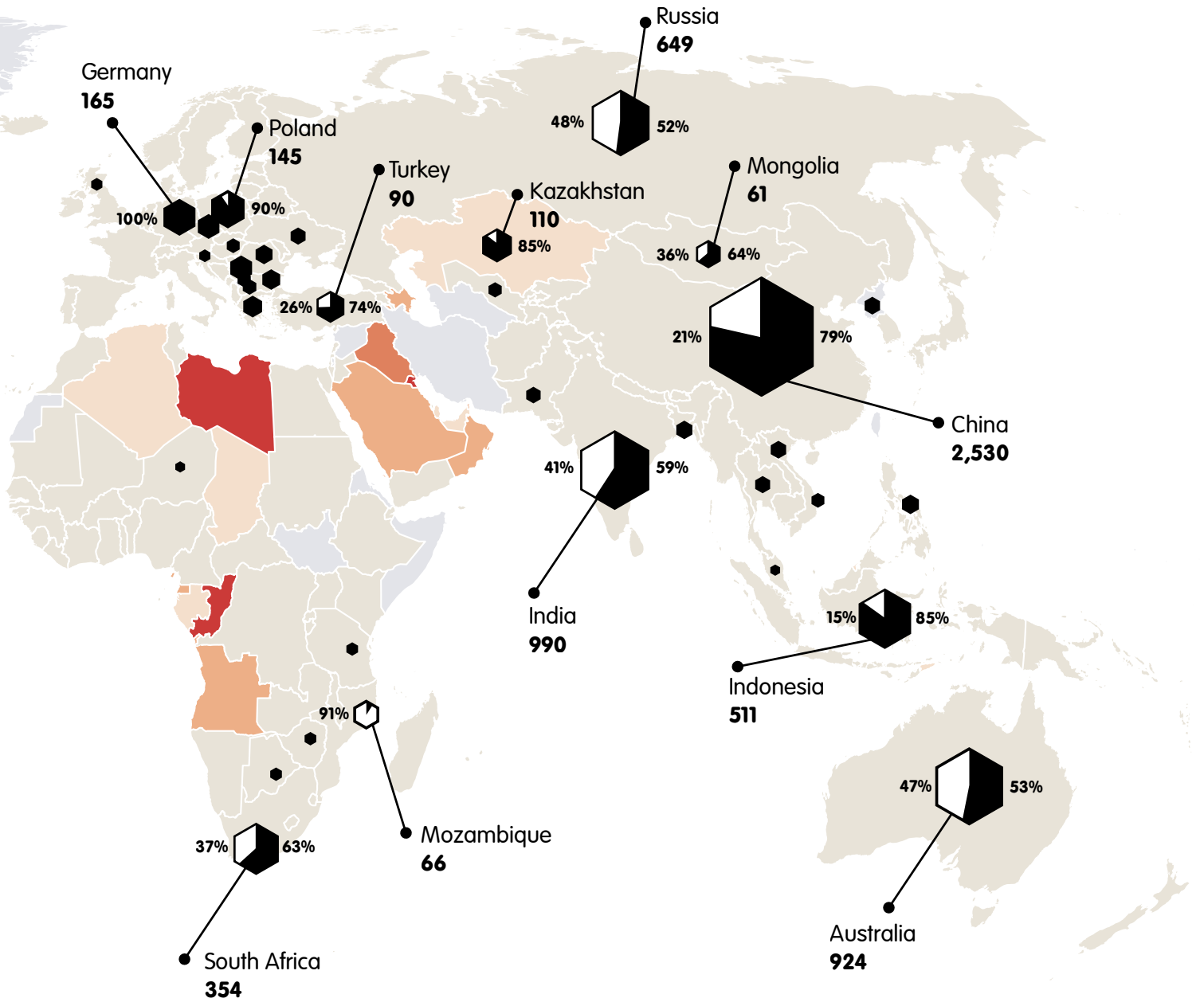


Unburnable carbon

Exposure to oil rents and number of coal mines by country



Methodology: The map shows the total number of operating coal mines with a capacity of more than 3 million tonnes per annum, as well as all proposed coal mine projects with a capacity of more than 1 million tonnes per annum, as of 2021. The percentage share of each, the operating and proposed mines, are shown for the top 15 countries with the largest total amount of mines in 2021.

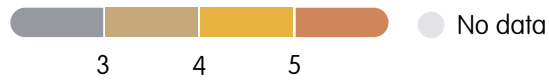


Sources: World Bank (2019). Oil rents (% of GDP); Global Energy Monitor (2021). Coal production by country, Global Coal Mine Tracker, June 2021

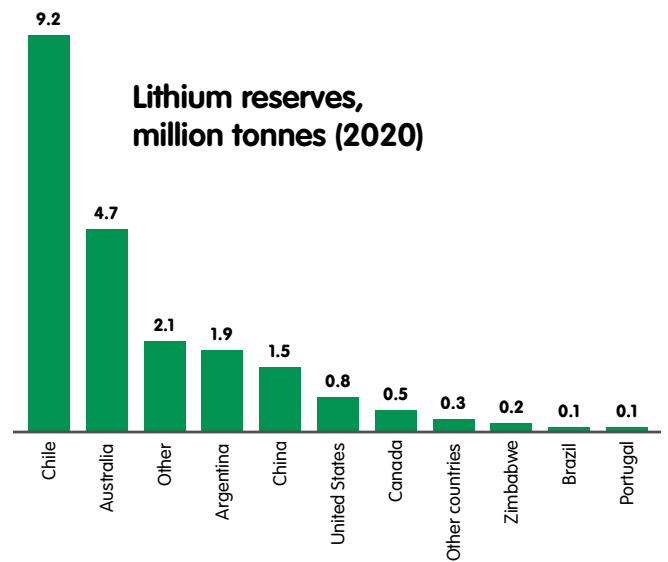
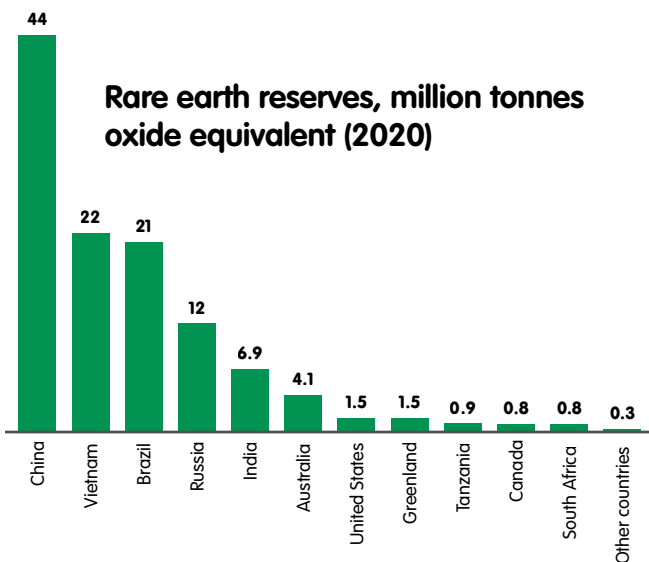
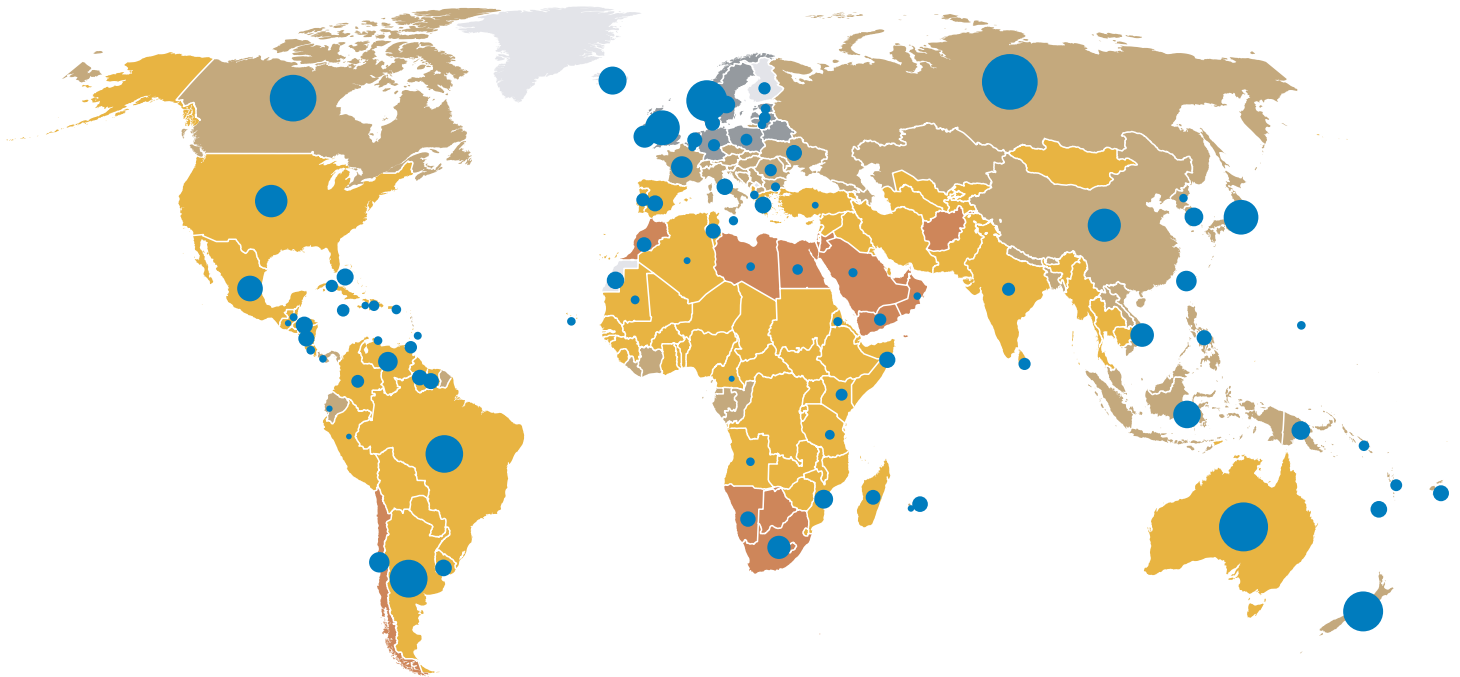
Resources for the future

Solar and wind potential, and critical mineral reserves

Average practical solar potential per day, long-term in kWh/kWp/day (2020)



Offshore wind capacity potential in GW (2012)



Methodology: The solar potential is shown through PVOUT Level 1, which is the power output of a photovoltaic system (specific yield); in this case, the long-term power output produced by a utility-scale installation of monofacial modules fixed mounted at an optimum tilt, measured in kWh/kWp/day. This excludes land with identifiable physical obstacles to utility-scale photovoltaic plants.

Sources: World Bank (2021). Global Photovoltaic Power Potential by Country; Arent, D., Sullivan, P., Heimiller, D., Lopez, A., Eurek, K., Badger, J., Jorgensen, H.E., Kelly, M., Clarke, L. and Luckow, P., (2012). Improved offshore wind resource assessment in global climate stabilization scenarios (No. NREL/TP-6A20-55049). National Renewable Energy Lab.(NREL), Golden, CO (United States); US Geological Survey (2021). Mineral Commodity Summaries, January 2021

Climate risks

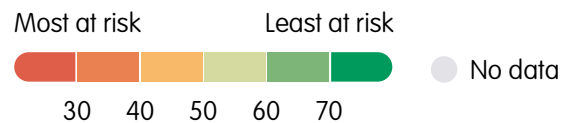
Vulnerable states

The Notre Dame GAIN index ranks countries' readiness to deal with the impact of climate change across the economy, governance, and social infrastructure, as well as their vulnerability according to exposure, sensitivity, and adaptive capacity (see: Map 5). Most of the poorest performers in the index are low-income and lower-middle-income states in North Africa, sub-Saharan Africa, Latin America, south Asia, south-east Asia, and the Pacific. The climate-related risks that these countries face involve extreme weather events, a rise in the sea level, water stress, and crop failures – all of which can increase mortality rates. These problems could lead to a host of second-order effects, including human displacement, disease, health system failures, and chronic socio-political instability. Pacific island states could be submerged by a rise in the sea level, as could large swathes of low-lying land in south Asia, north America, and Europe in particular.

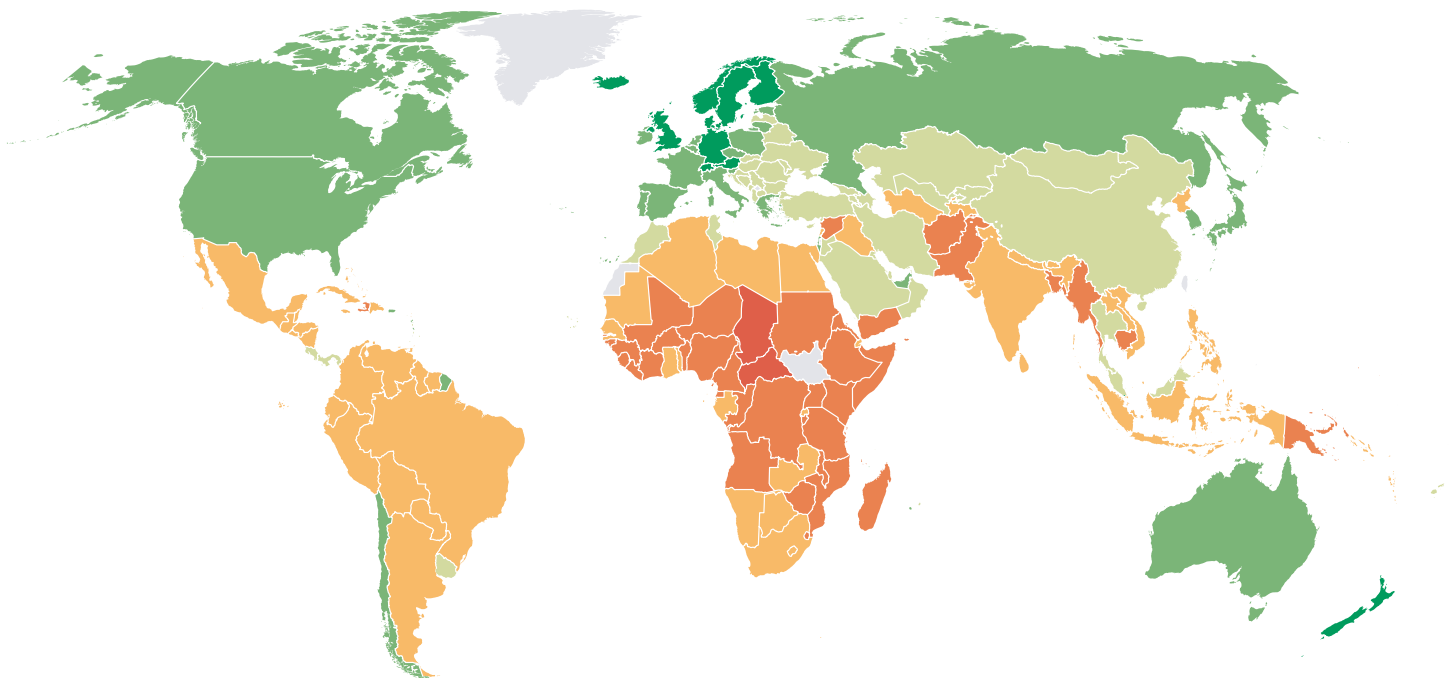
Exposed

Vulnerability to climate change and readiness to adapt

ND-GAIN Index (2019)



Map 5



Methodology: The ND-GAIN Country Index is composed of two key dimensions of adaptation: vulnerability and readiness. The vulnerability index contains indicators for exposure, sensitivity, and adaptive capacity. The readiness index contains indicators for economic, governance, and social factors. Climate vulnerability and adaptation readiness are based on compiled indicators. Thirty-six indicators contribute to ND-GAIN's measure of vulnerability and nine indicators contribute to its measure of readiness. ND-GAIN score = (readiness score - vulnerability score + 1) * 50

Unstable climate

There are many pathways for the global transition to net zero, each of which has uncertain climate implications. Some pathways risk simply substituting one set of problems for another, while others risk truly catastrophic outcomes. For instance, if the global shift away from coal becomes a shift towards gas, rising upstream methane emissions (see: Map 6) may increase atmospheric warming in the short term.

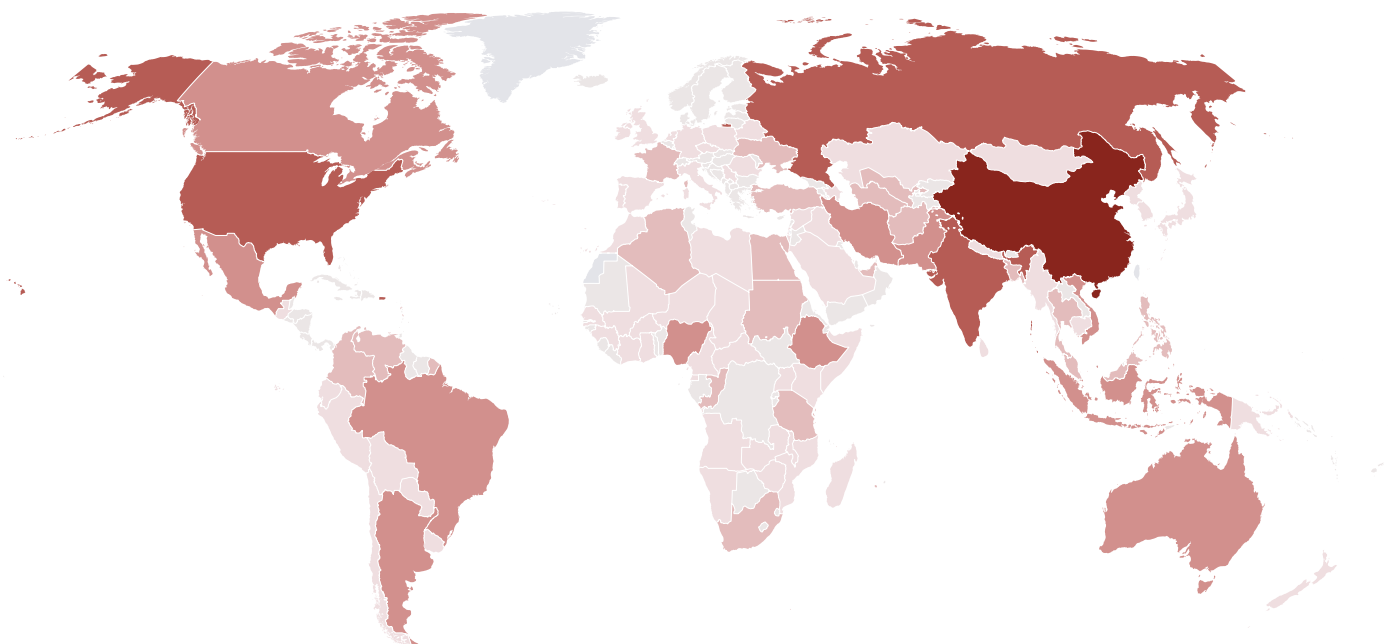
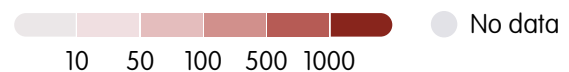
Furthermore, if heat waves become more widespread and frequent, there will be a sharp rise in demand for electricity, including that from fossil-powered generators. This problem, which is particularly acute in countries prone to extreme temperatures, would also contribute to warming. For example, India is projected to see the greatest share of increased cooling degree days – at 27 per cent of the global total – followed by China, Indonesia, Nigeria, Pakistan, Brazil, and Bangladesh (see: Map 7). Other countries in the top 30 for such increases are largely in south-east Asia, north America, Africa, and central America.

A misjudged or delayed transition to net zero would risk crop failures, fishery collapses, and ocean eutrophication. Similarly, the irreversible destruction of oceanic and land-based carbon sinks would reduce the Earth’s capacity to absorb atmospheric carbon and increase both warming and the need to remove greenhouse gas.

Map 6

Carbon’s powerful cousin Methane emissions by country

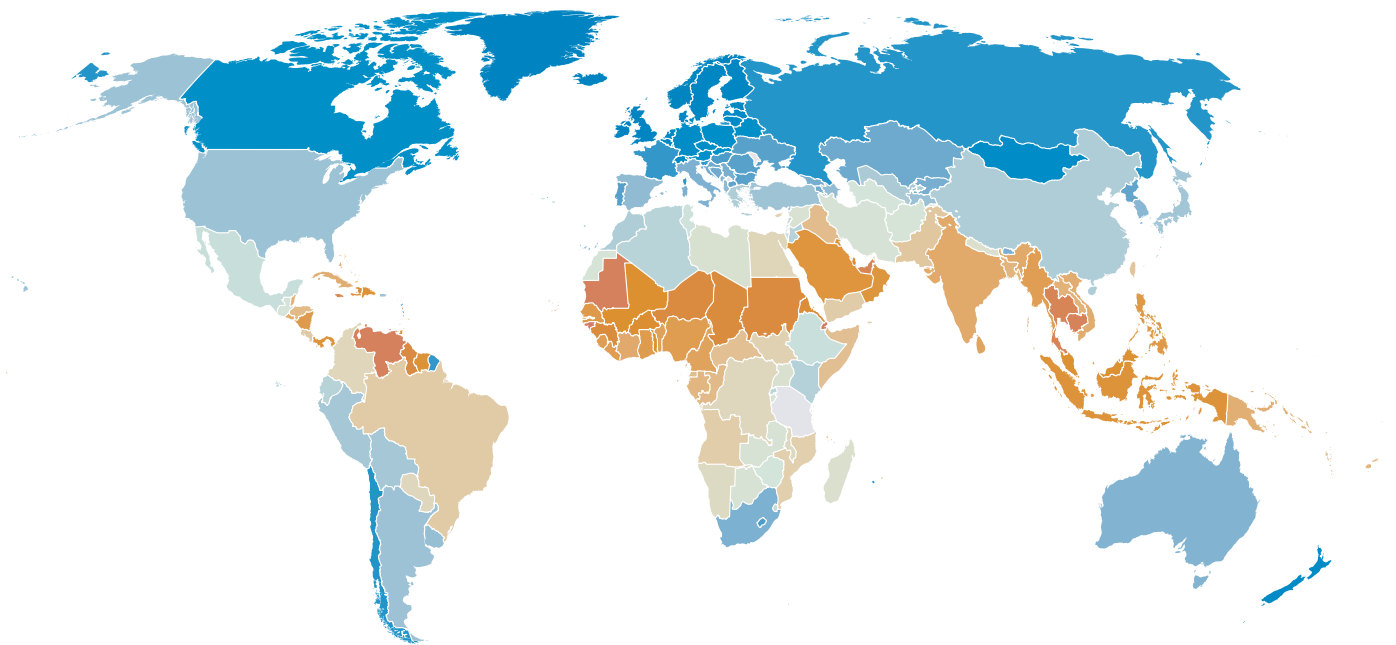
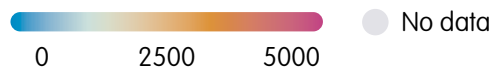
Annual methane emissions in million tonnes CO₂ equivalent (2021)



Cooling demand in a warmer world

Cooling degree days per capita,
2009-2018 average

Annual cooling degree days,
per capita (2009-2018 average)



Methodology: Cooling degree days are the sum of daily mean temperatures above 18.3C (65F), calculated across all days in the calendar year. The annual measure reflects the number of days with hot weather and the intensity of heat on those days.

Source: Biardeau, L.T., Davis, L.W., Gertler, P. et al. (2020) Heat exposure and global air conditioning. *Nature Sustainability* 3, 25–28. <https://doi.org/10.1038/s41893-019-0441-9>

Financing the transition

A green economy

Exposure to the risks of climate change and the energy transition, particularly for countries lacking the resource to adapt or diversify respectively, has long been a major sticking point in international climate negotiations. This is because developed countries have resisted providing the necessary financial and technological resources to address these risks. Adaptation and vulnerability will continue to be pivotal negotiating issues as countries with the least to gain, most to lose, and least capacity to protect themselves require progressively greater financial and technical support from wealthy nations – support that may well not be forthcoming in the absence of incentives to provide it.

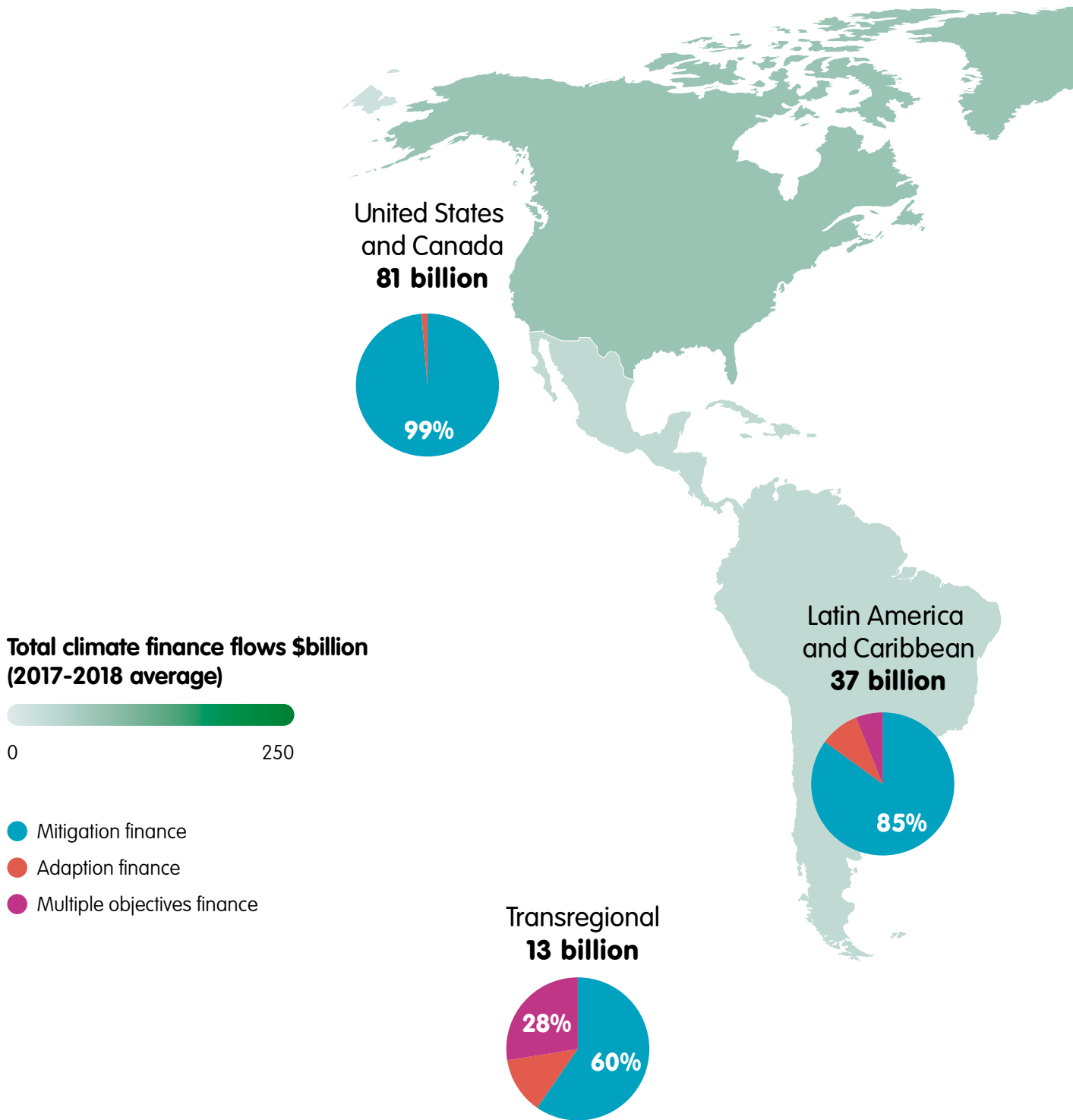
Historically, financing of climate change mitigation has dominated international and domestic, public and private, climate finance flows (usually involving renewable energy and energy efficiency projects). The amount of funding flowing into adaptation, particularly in vulnerable countries, is far less, and a fraction of what is needed to protect against the projected impact of climate change in these countries (see: Map 9). Meanwhile, climate mitigation finance and development aid remain critical to help poorer countries – which have underdeveloped financial markets and power grids – create alternatives to carbon-intensive infrastructure in the medium and long term, and to drive down the costs of technologies for renewable energy generation, and the financial costs of building and operating them.

Climate-related financial flows are still very small relative to overall investment. Although global and regional powers may seek to build up spheres of influence by bolstering their climate finance commitments and establishing green financial hubs, climate finance will remain largely marginal without a wholesale realignment of financial markets through regulation. At present, international bargaining over climate finance is more a question of optics than a genuine transfer of power from developed to developing countries.

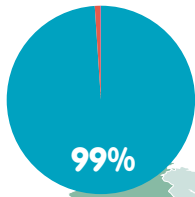
Still, optics matter. And countries that receive aid do not quickly forget where this support came from when it was needed. The US-led Build Back Better World initiative, announced after the 2021 G7 meeting, focuses on climate (alongside health, digital technology, and gender equality). The initiative underlines the West's determination to compete with China and other powers in the struggle for control and influence over the key sources of power and connectivity in a post-carbon world.

Banking on green growth

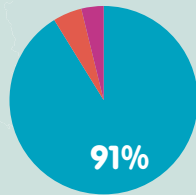
Annual climate finance flows by region



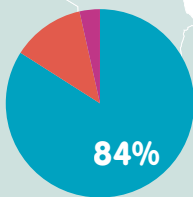
Western Europe
98 billion



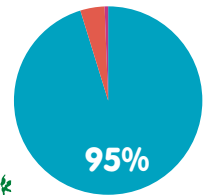
Central Asia
and eastern Europe
21 billion



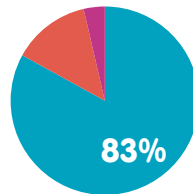
Middle East
and North Africa
15 billion



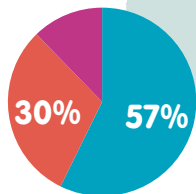
East Asia and Pacific
250 billion



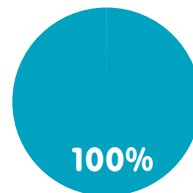
South Asia
30 billion



Sub-Saharan Africa
19 billion



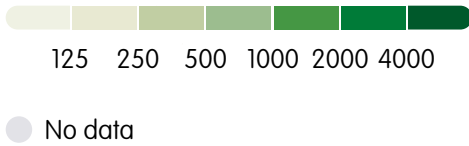
Other Oceania
11 billion



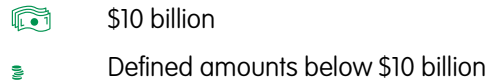
Money for nothing?

Fossil fuel subsidies per capita and bank financing for carbon-intensive fossil assets

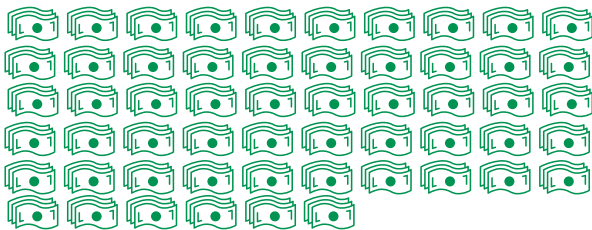
Fossil fuel subsidies in \$billion (total, 2015-2019)



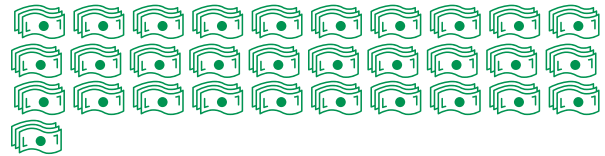
New commercial bank financing for high-carbon fossil fuels by country of domicile (total, 2016-2020)



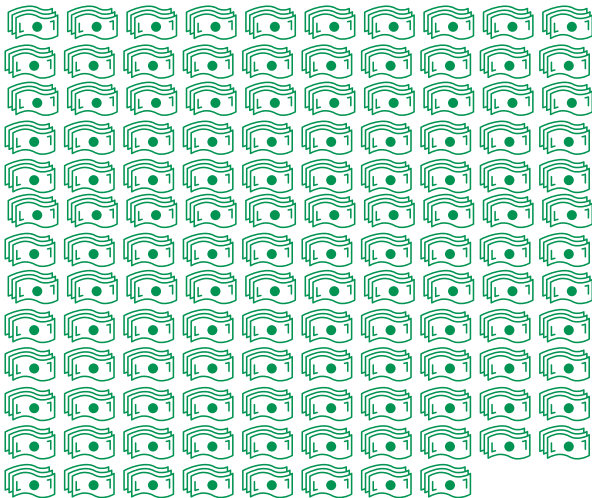
Canada \$558.9 billion



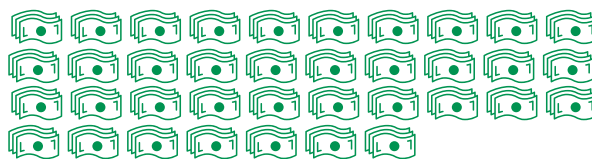
United Kingdom \$312.4 billion



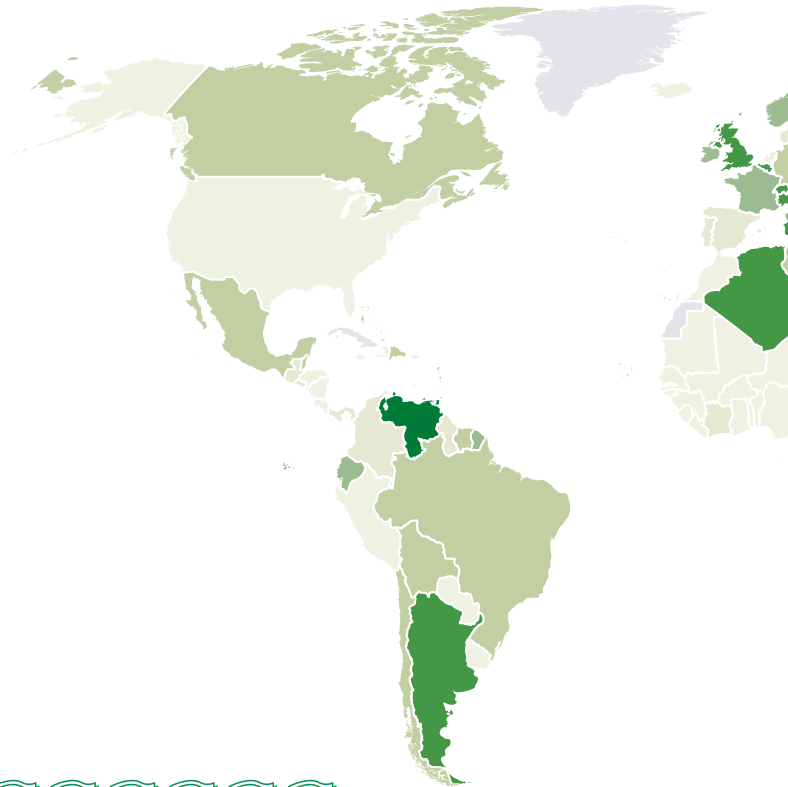
United States \$1279.4 billion



France \$377.9 billion



Spain \$56.3 billion



Netherlands \$52.4 billion



Denmark

\$5.8 billion

Germany \$88 billion



Italy \$45 billion



Finland

\$9.4 billion

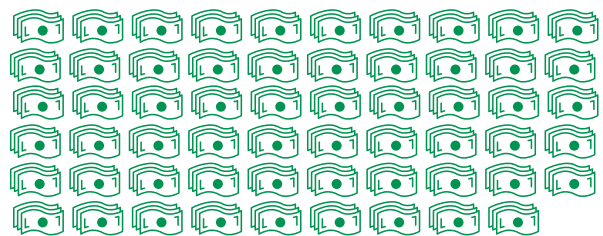


Russia

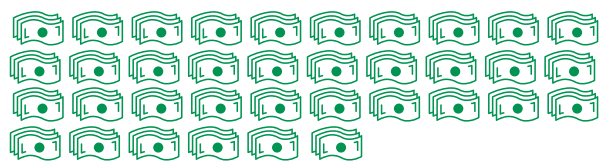


\$13 billion

China \$593 billion



Japan \$358 billion



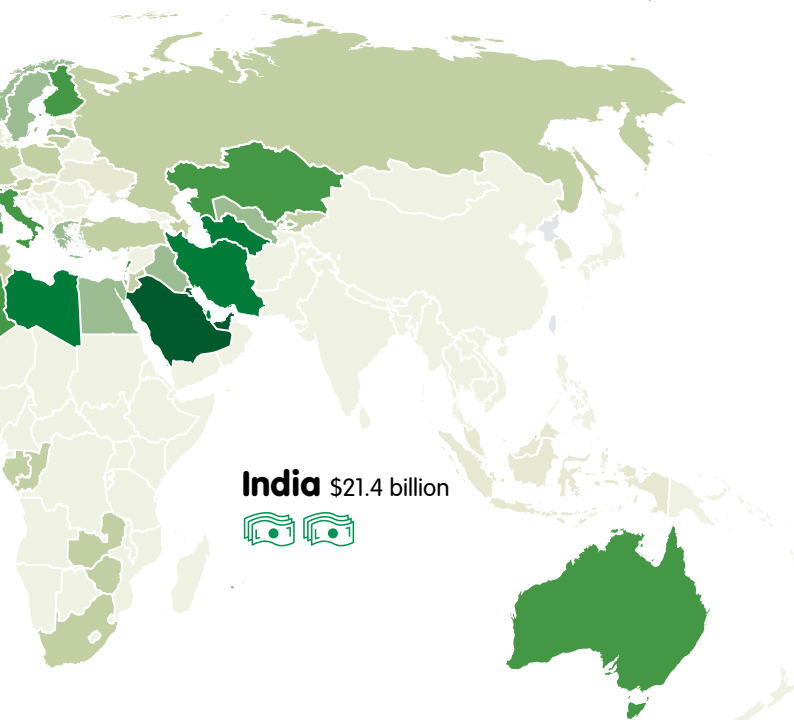
South Korea

\$1 billion

Australia \$32.4 billion



India \$21.4 billion



Methodology: The Fossil Fuel Subsidy Tracker incorporates estimates of fossil-fuel subsidies (coal, electricity, gas, petroleum) and other support measures from three international databases: the OECD Inventory of Support Measures for Fossil Fuels, the IEA Energy Subsidies Database and the IMF Fossil Fuel Subsidies Database.

The Banking on Fossil Fuels Database shows figures for financing where a given bank plays a leading role in a transaction with a given fossil fuel company, scaled to the fossil-fuel intensity of that company. It includes oil and gas expansion, tar sands, arctic oil, offshore deep-sea oil, fracking, liquefied natural gas, coal mining, and coal power.

Sources: IISD and OECD (2021). Fossil Fuel Subsidy Tracker; Rainforest Action Network, BankTrack, Indigenous Environmental Network, Oil Change International, Reclaim Finance, and Sierra Club (2021). Banking on Climate Chaos: Fossil Fuel Finance Report 2021

Fossil fuel subsidies and investments

Infrastructure that emits large amounts of carbon – or that facilitates market access for high-carbon fuels and activities – still dominates new investment. This is partly due to the decisions made by G20 governments, which have provided an estimated \$3 trillion in fossil fuel subsidies since they adopted the Paris Agreement, in 2015 (see: Map 10). If the international consensus on the need for emphatic climate action holds and technological progress continues on current trends, investment in carbon-emitting infrastructure should become less economical. But should the political balance shift or innovation in key areas stall, there could be a low-profile increase in investment in fossil fuels. China’s sprawling Belt and Road Initiative (BRI), which involves more than 120 countries, is particularly relevant in this respect. While some participants in the BRI are trying to green investments linked to the initiative, there are significant administrative and capacity-related obstacles to doing so. Despite the apparent slowdown in China’s overseas coal investments since the start of the pandemic, there is a high risk of carbon-intensive investment in BRI infrastructure in sectors such as gas, transport, mining, and forestry.

Delays to climate action

To compete, thrive, or – in many cases – simply survive in this environment, states and other international and subnational actors will need to act quickly and astutely. They will need to understand the new map of climate and resources power that is being drawn and redrawn before their eyes.

Some countries appear likely to make short-term tactical gains from climate change in various areas. And their efforts to capitalise on these potentially short-lived opportunities may cause geopolitical ripples, or even prove to be serious strategic mistakes, in the coming years. Canada and Russia, for instance, may well see a significant expansion of fertile, arable areas as permafrost melts (although this is highly contingent on seasonal climate variability and access to water resources for irrigation). Similarly, as ice cover recedes in the summer months, shipping costs and transit times could fall due to the expansion of routes crossing Canadian and Russian territorial waters through the Arctic Ocean. Given that such developments could lower the distances required for commercial shipping, it seems likely that they could benefit European states dependent on the Suez route more than American ones reliant on the Panama Canal.

Stalling climate action to reap these potential benefits, however, could be very risky for these countries and catastrophic for others. Accelerating ice and tundra melt in polar regions could destabilise water supplies, incentivise the permanent conversion

of forested areas into arable land, drive up methane emissions from livestock, release vast quantities of trapped methane, and raise the sea level. Therefore, greater access to arable land would not automatically boost the economies of Arctic countries, particularly if it was accompanied by geopolitical tension and conflict.

Although there is a great deal of uncertainty about many future dynamics of climate and resources power, it seems that swimming against the tide of climate action will not pay off. Given the wholesale transformation of economies and infrastructure states will have to engage in to meet their environmental targets, climate and resources power is rapidly becoming inextricable from the more conventional forms of political and material power explored elsewhere in this atlas. Global climate politics is likely to undergo rapid shifts as countries try to implement the Paris Agreement. But leadership in achieving the deal's goals seems more likely to pay dividends than efforts to prevent or slow the transition. 



People

by Fiona Adamson and Kelly Greenhill

Demography is destiny, the saying goes, and the twenty-first century is no different in this regard. From time immemorial, people have been a bedrock of state power and capabilities. Population size and growth rates, for instance, place critical limits on a state's aggregate power. A large population does not, by itself, make a state a great power – indeed, overpopulation can be a profound vulnerability – but it is likely impossible in the modern world to achieve and sustain great power status without one. Although technology has reduced and even supplanted the need for human labour in numerous domains, human capital continues to be a critical determinant of a state's industrial and military capabilities, and of its prestige and position in the international system. Therefore, it is unsurprising that all the world's major powers have sizeable populations (see: Map 1).

However, while the significance of demography is perennial, the ways in which states manage their people power has changed. The world is now highly interconnected, thanks to seismic shifts in recent decades in communications and transport technologies; the volume and levels of dependencies in global trade; and cultural dispersion and homogenisation. In this context, managing people is about not just populations but also cross-border mobility – who crosses borders, and why and when they do so. The ways in which states manage mobility can have fundamental effects on their economic, security, and diplomatic interests. Consequently, issues of migration, border control, and citizenship and other forms of political membership have become ever more important to states' political and strategic agendas – in addition to being issues of social concern.

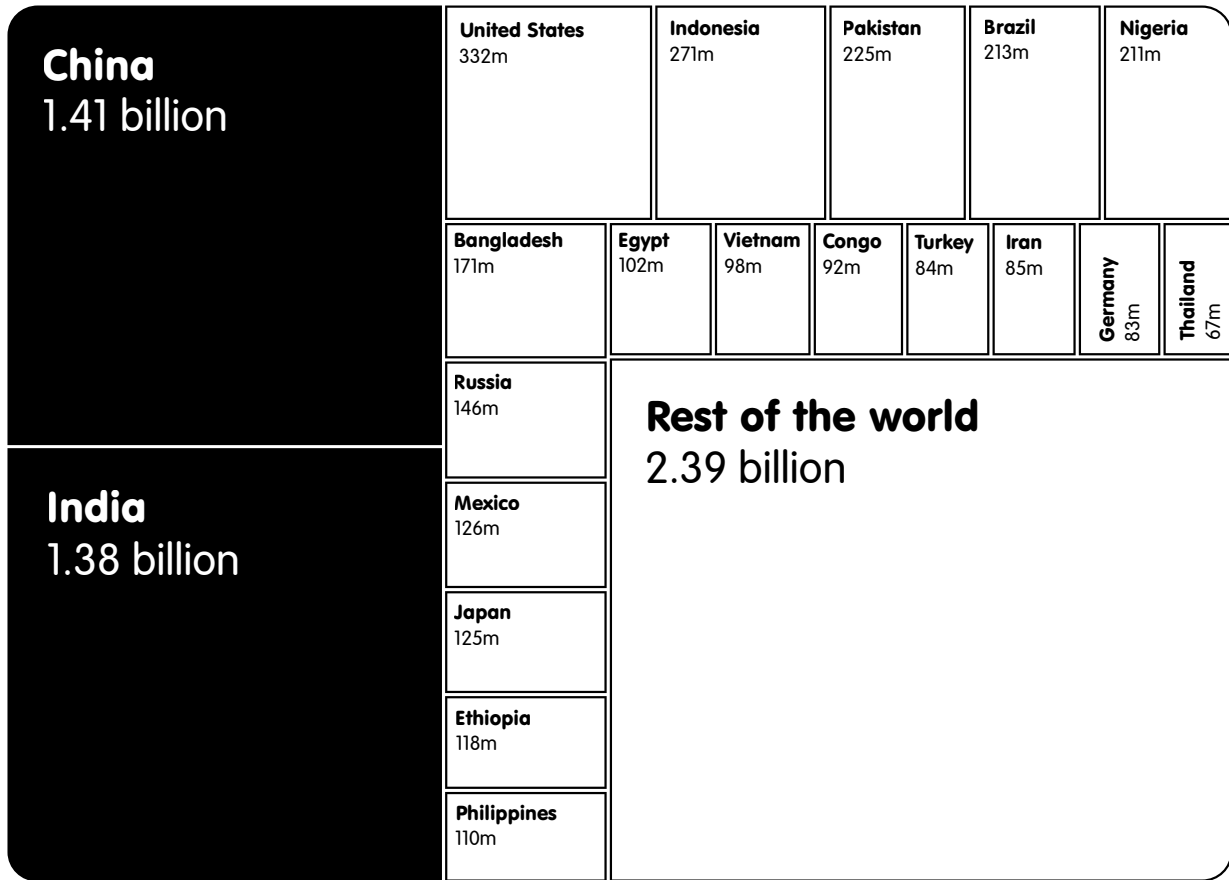
States have long viewed populations as a source and battleground of power – as illustrated by histories of imperial expansion, colonial control, and military conquest – but the terrain on which this has occurred has changed over time. States are less likely to pursue control over populations through direct military conquest or colonial expansion than through the strategic management of different forms of mobility. On this new battleground, the arsenals at states' disposal can be their immigration, entry, diaspora, and citizenship policies. And states' location within the global system of migration and mobility shapes this dimension of power (see: Map 2). Labour migrants, refugees, tourists, students, expatriates, and global elites all emerge as potential pieces on a strategic chessboard on which states compete for advantage and influence.

Map 1

The power of people

China and India account for around 36 per cent of the global population

Size of population, by country (2020)

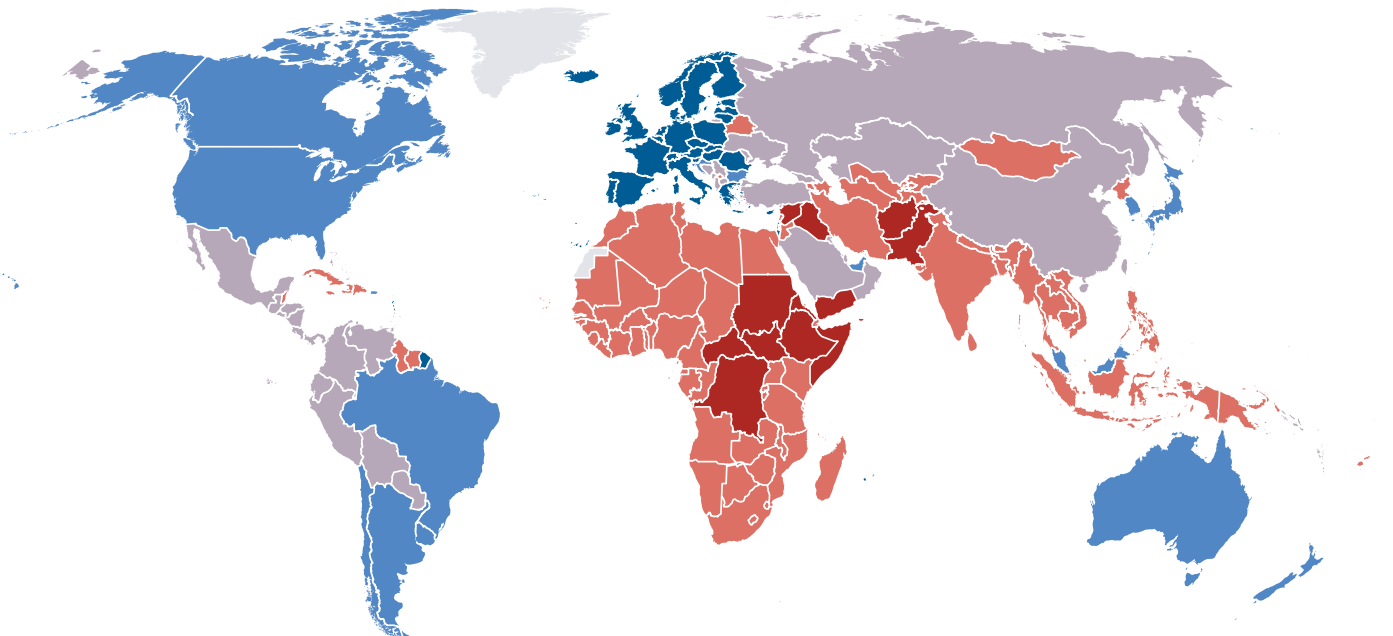
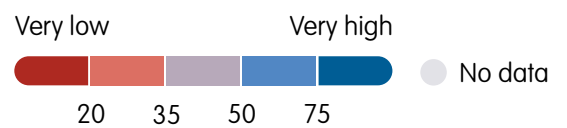


Map 2

The birthright lottery

Quality of citizenship benefits by country

Quality of nationality index (2018)



People as a source of power and vulnerability

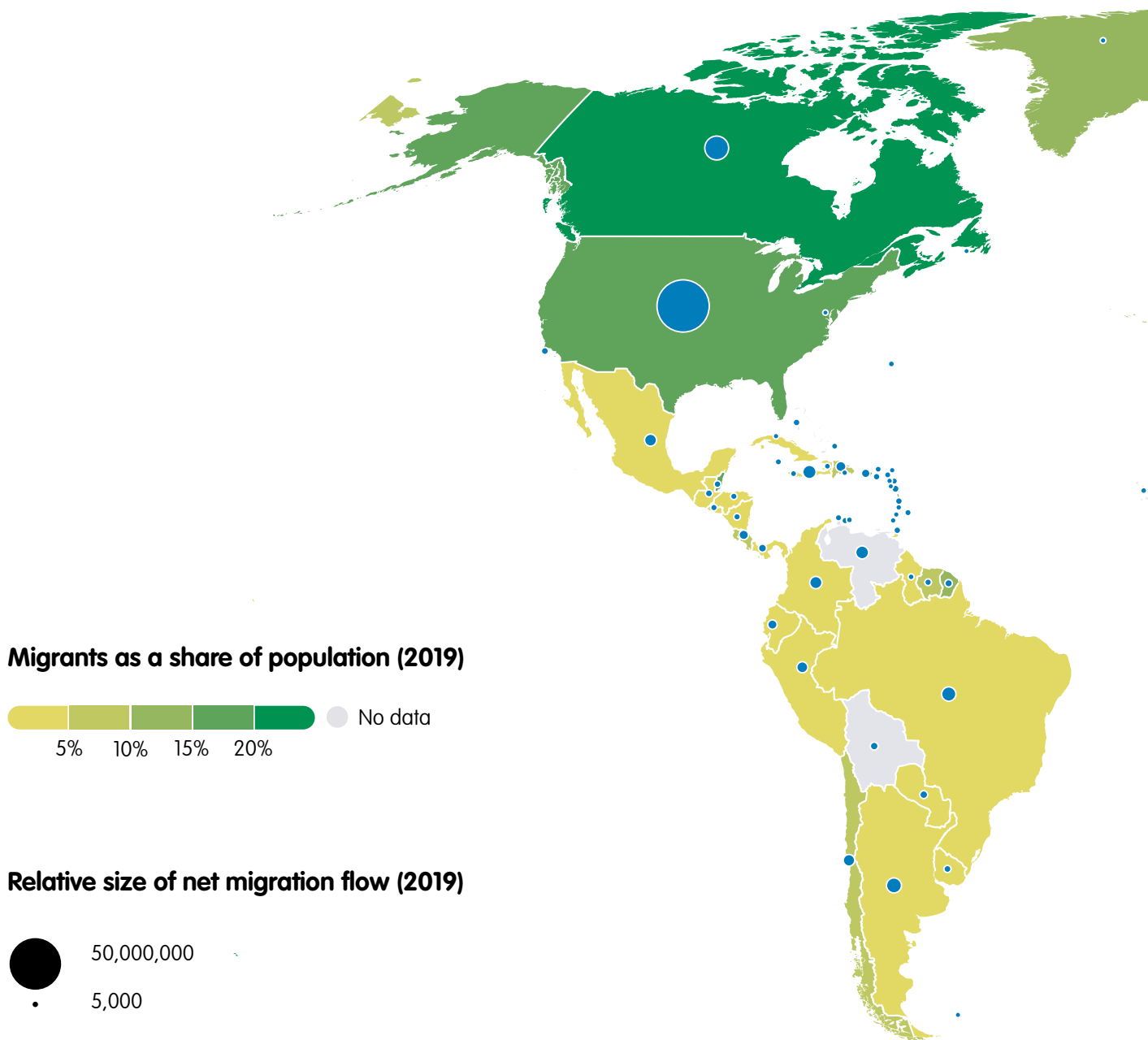
Military competition can push states to mobilise their populations either as manpower in combat or as labour in defence-related industries. Economic competition can lead them to use people in other ways: the search for cheap labour creates a market for migrant workers, often forcing large numbers of people to live without citizenship or rights in precarious conditions on the margins of societies. At the same time, a global class of super-elites purchase mobility via citizenship or residence through investment schemes such as “golden visas” – enabled by states that commodify their legal instruments of membership and belonging for economic gain.

In this context of human geopolitics, national borders take on new meanings. Traditionally, borders were viewed by governments as fortified zones designed to prevent intrusion by foreign enemies. Today, states increasingly expect borders to perform dual functions – to simultaneously facilitate the types of movement and mobility that states view as desirable and prevent those that are not. At the most basic level, states seek to attract cross-border flows that enhance their economic and political strength, and to prevent cross-border flows perceived to have detrimental effects on their economic well-being, security, and stability. The enormous contradictory pressures on states create a “liberal paradox”: states have economic incentives to be open to free flows of trade, capital, ideas, and people but political incentives to halt these flows – in many places, increasingly so – through mechanisms that define who is a citizen and, therefore, who has access to various political rights, duties, and obligations.

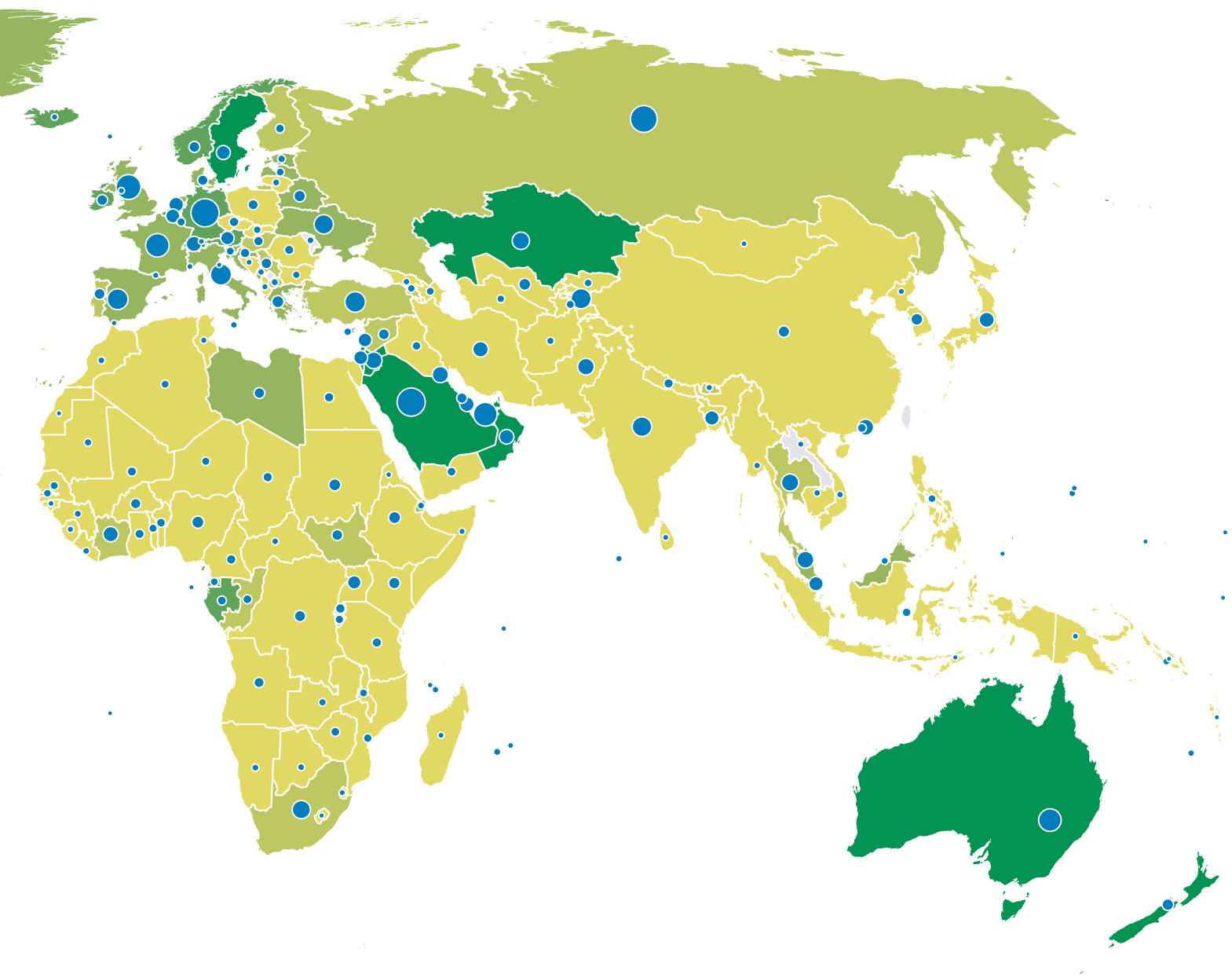
Illiberal states can jettison these political imperatives without undermining the basis of their political legitimacy. The populations of the Gulf – which, along with north America and Europe, is a leading destination for migrants (see: Map 3) – are composed largely of non-citizens. However, liberal states must live with, navigate, and balance these fundamental tensions. This leads to different types of power and vulnerabilities for different types of states. Illiberal states may have fewer constraints on how they manage migration. At the same time, they are less likely to be attractive destinations for global talent and the wealth it brings. Liberal states may be more vulnerable to charges of political hypocrisy: their political ideology relies to some extent on placing restrictions on membership and belonging, but those restrictions also undermine universalist liberal conceptions of individual rights – including the right to freely move, cross borders, and travel. States may make unsavoury trade-offs between ‘rights and numbers’, and may abrogate or instrumentalise their normative and legal commitments to provide refuge and protection.

Migration magnets

Leading destinations for international migrants



Methodology: Country colour indicates percentage of total population accounted for by international migrants. Circle size indicates total number of migrants. The United Nations Department of Economic and Social Affairs defines an “international migrant” as “any person who changes his or her country of usual residence” (Recommendations on Statistics of International Migration, Revision 1 (1998) para. 32). This definition excludes movements that are due to “recreation, holiday, visits to friends and relatives, business, medical treatment or religious pilgrimages”.



States also compete for transitory visitors who can be major sources of income, such as international students and tourists. For instance, international tourism generated almost \$2 trillion in revenue globally in 2019 alone – but this figure declined precipitously in 2020, following the outbreak of the coronavirus pandemic and the resulting travel restrictions. Therefore, states or entities within them can become vulnerable if they depend on this revenue as a key source of income, as do some tourist destinations (see: Map 4), or to balance the books in certain industries, as is increasingly the case in higher education. The number of foreign students in the US – over half of whom hail from China and India – has more than doubled since 2000. (The UK higher education sector is similarly reliant on overseas students, particularly those from China.) And many universities need to charge high tuition fees to foreign students to cover their operating costs and offer educational aid to domestic students in financial need.

Great people powers

States' position in global and regional systems of migration and mobility can shape how they wield and exercise power – and what strategies they adopt to gain a competitive edge. Countries of origin, transit, and destination for migrants possess different tools to leverage the power of mobility to their advantage. States that are populous but poor have incentives to export labour and promote emigration, as do states with population bulges that could contribute to domestic instability. For example, the share of the population aged 15-29 is around 7 percentage points higher in the developing world than elsewhere – a disparity that is especially apparent in parts of the Middle East and Africa. In both sub-Saharan and North Africa, around 40 per cent of the population is under the age of 15, and nearly 70 per cent is under the age of 30 (see: Map 5). Exporting 'excess' people has long been a means of reducing domestic pressure associated with surplus labour, as well as a means of securing income from migrant remittances.

At the same time, states that are heavily reliant on remittances – such as Nepal, Tajikistan, and Ukraine – may be vulnerable to fluctuations or disruptions in monetary flows tied to shifts in the size of their overseas workforces (see: Map 6). Countries with large numbers of emigrants, such as India or China, have incentives to wield political influence via their diasporas, which they can draw upon as instruments of soft power and public diplomacy – but which may also be seen as a source of security concerns and vulnerabilities. Wealthy states that have ageing populations and are in need of labour and talent will seek to attract migrants that fit their economic needs – either via points-based or highly skilled visa programmes, or temporary-worker or low-skilled work programmes (see: Map 7). They may also seek ways to keep out irregular

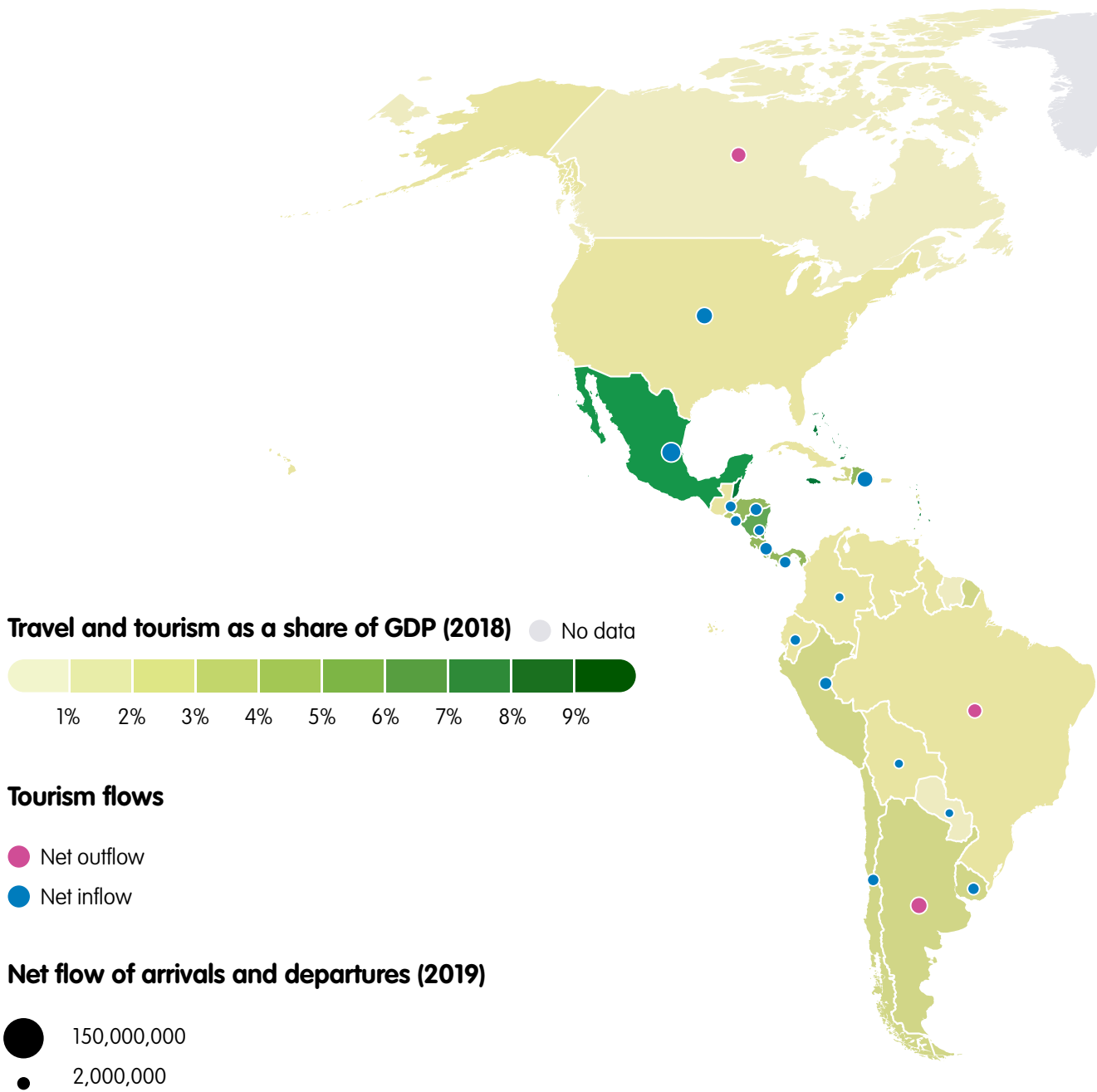
migrants whom they categorise as politically, economically, or socially burdensome.

Weaker states can exploit the restrictive migration policies of stronger states by using their positions as buffer zones or so-called “container states” that can prevent outward migration flows. In 2016 Turkey – which hosts more refugees than any other country (see: Map 8) – leveraged European concerns about migration to secure a €6 billion aid package, a commitment to visa liberalisation, and promises to restart talks on EU accession. The tiny island of Nauru has used Australia’s interest in offshoring irregular migrants to secure tens of millions of dollars in payments, including implementing a visa fee of \$1,000 per person per month, payable by the Australian state; in 2013-2014, the \$18m in visa fee income Nauru received amounted to 18 per cent of its GDP.

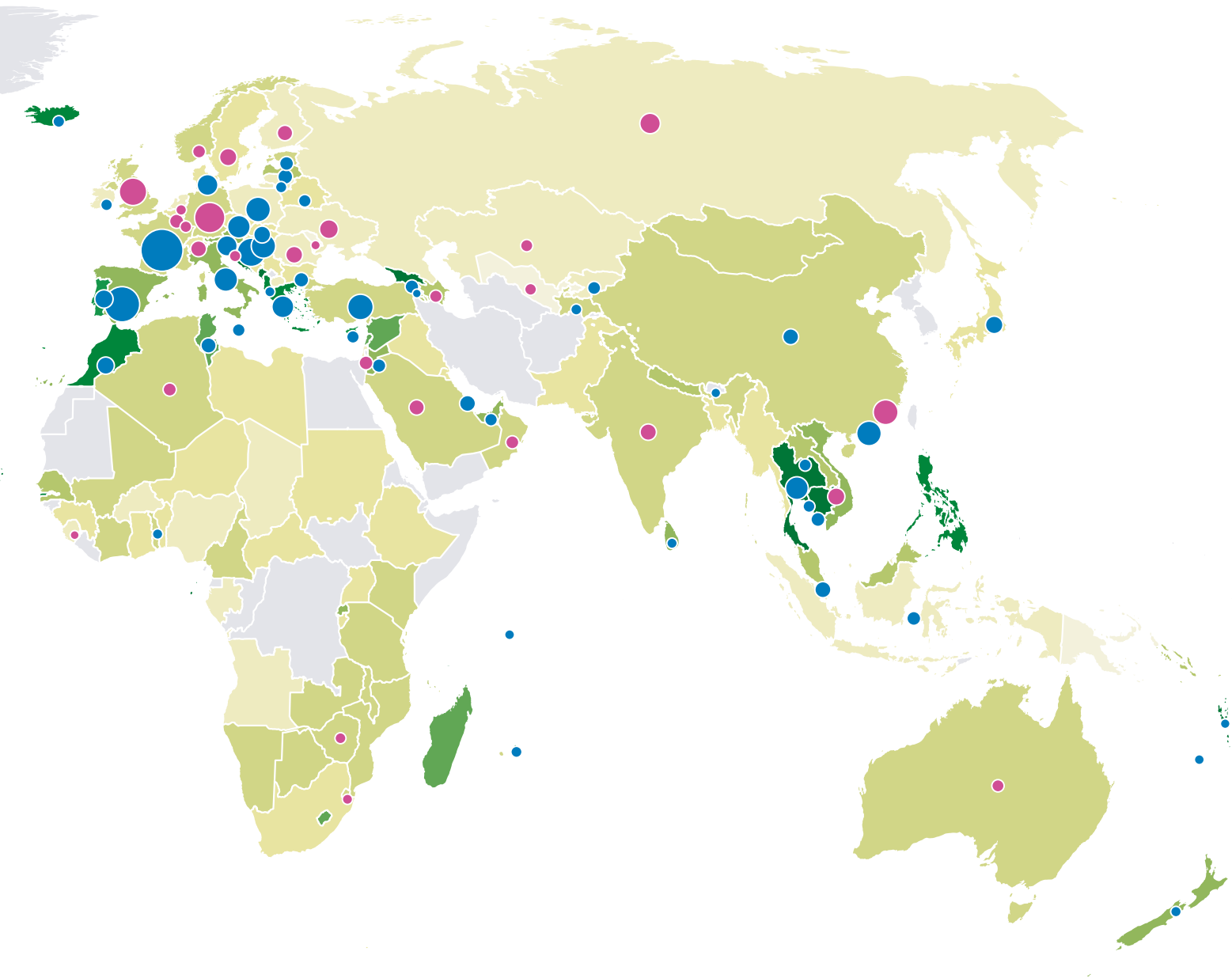
A state’s relative power and position in the global migration regime will, therefore, determine the advantages and disadvantages it has in exercising control in this area, and the mechanisms and policies at its disposal to do so. In the geopolitical pecking order, economically powerful liberal countries such as the United States and Germany may gain the greatest advantages by implementing labour-enabling policies that allow them to act as migration magnets, as Map 3 suggests. Meanwhile, major countries of origin for migrants such as India or China may mobilise or repress the political power of their diasporas, and weaker states may commodify migrants by exploiting restrictive migration policies elsewhere. These weaker states do so by either selling citizenship (as does St Kitts-Nevis); using their geographic position to block migration outflows (as does Libya); or, as discussed, acting as ‘warehouses’ of their own or others’ populations, be they labour migrants or asylum seekers. Thus, the advantages and disadvantages states have in this realm vary across mobility tools and how they are wielded, aggregate strength, and domestic governance systems.

Global tourism and travel

The major players



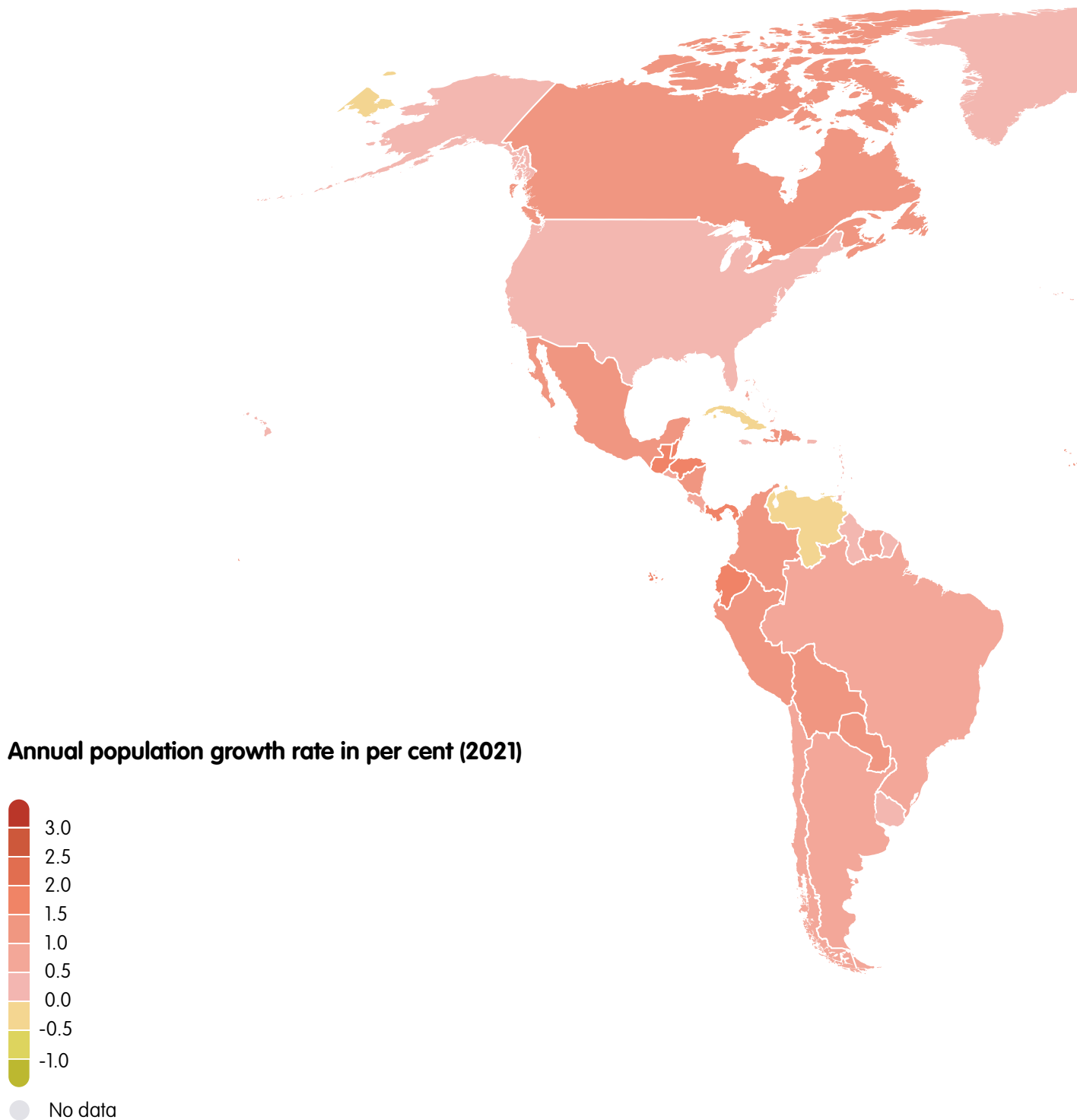
Methodology: Country colour indicates direct contribution of tourism to GDP (world average is 5.4 per cent). Circle size indicates net tourist flows (combined number of arrivals and departures) and circle colours indicate the direction of travel. Wherever 2019 data was not available for either arrivals or departures, 2018 data was used (which was the case for only 18 countries). Arrivals data measure the flows of international visitors to the country of reference: each arrival corresponds to one inbound tourism trip. Data are obtained from different sources: administrative records (immigration, traffic counts, and other possible types of controls), border surveys, or a mix of them. Departures data measure the flows of resident visitors leaving the country of reference. Data is collected using one of three methods, or a combination of them to determine the flows of outbound visitors: using an entry/departure card or a specific survey at the border, or observing them from household surveys because they belong to resident households.



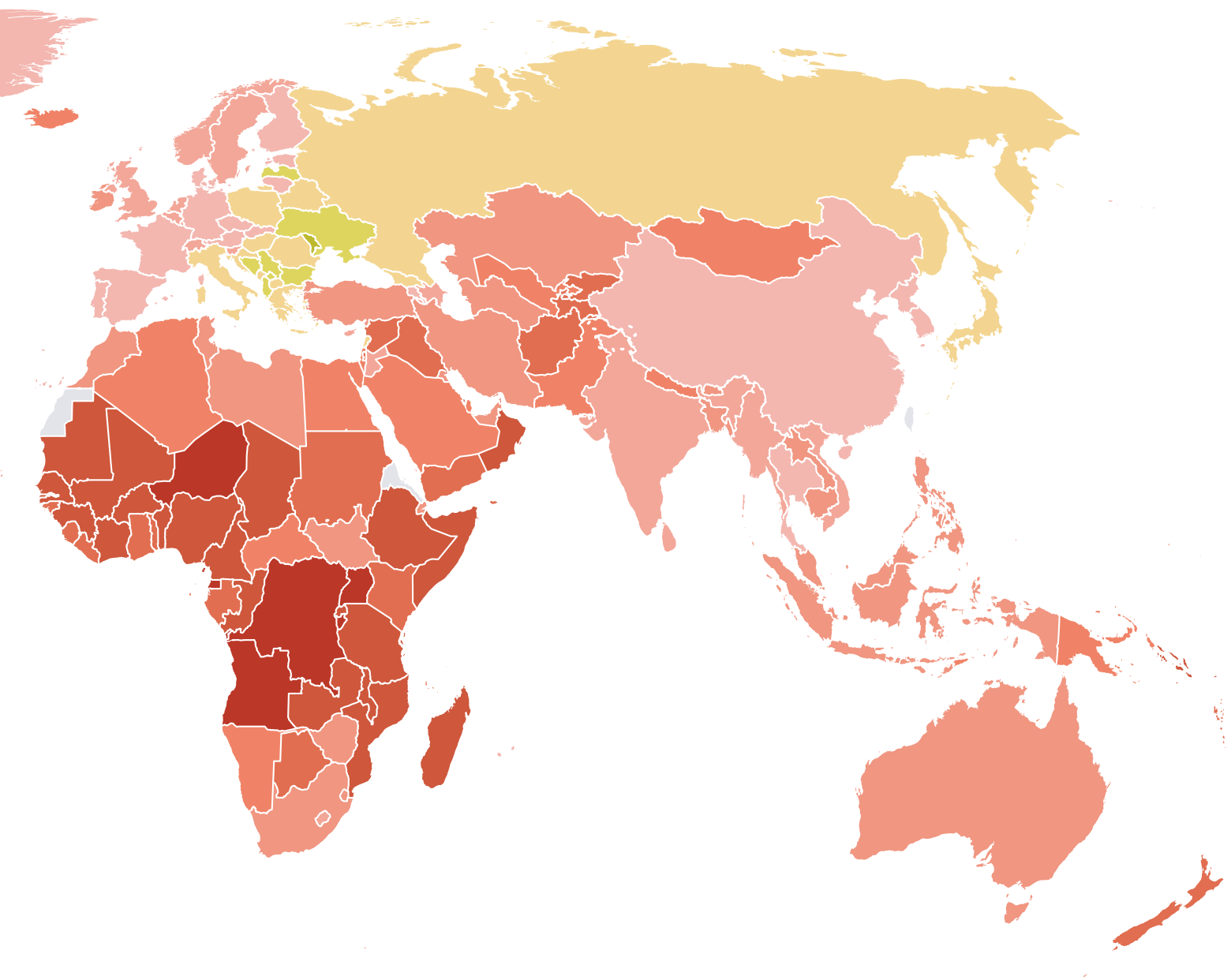
Sources: The World Bank (2021) World Development Indicators (World Tourism Organization, Yearbook of Tourism Statistics, Compendium of Tourism Statistics and data files); World Travel & Tourism Council (WTTC) TCdata3060 (2021). Travel and Tourism direct contribution to GDP, retrieved from: https://tcd360.worldbank.org/indicators/tot.direct.gdp?country=ALB&indicator=24650&countries=BRA&viz=line_chart&years=1995,2028

Africa: A future centre of people power?

The continent's population growth rates dwarf those in the rest of the world



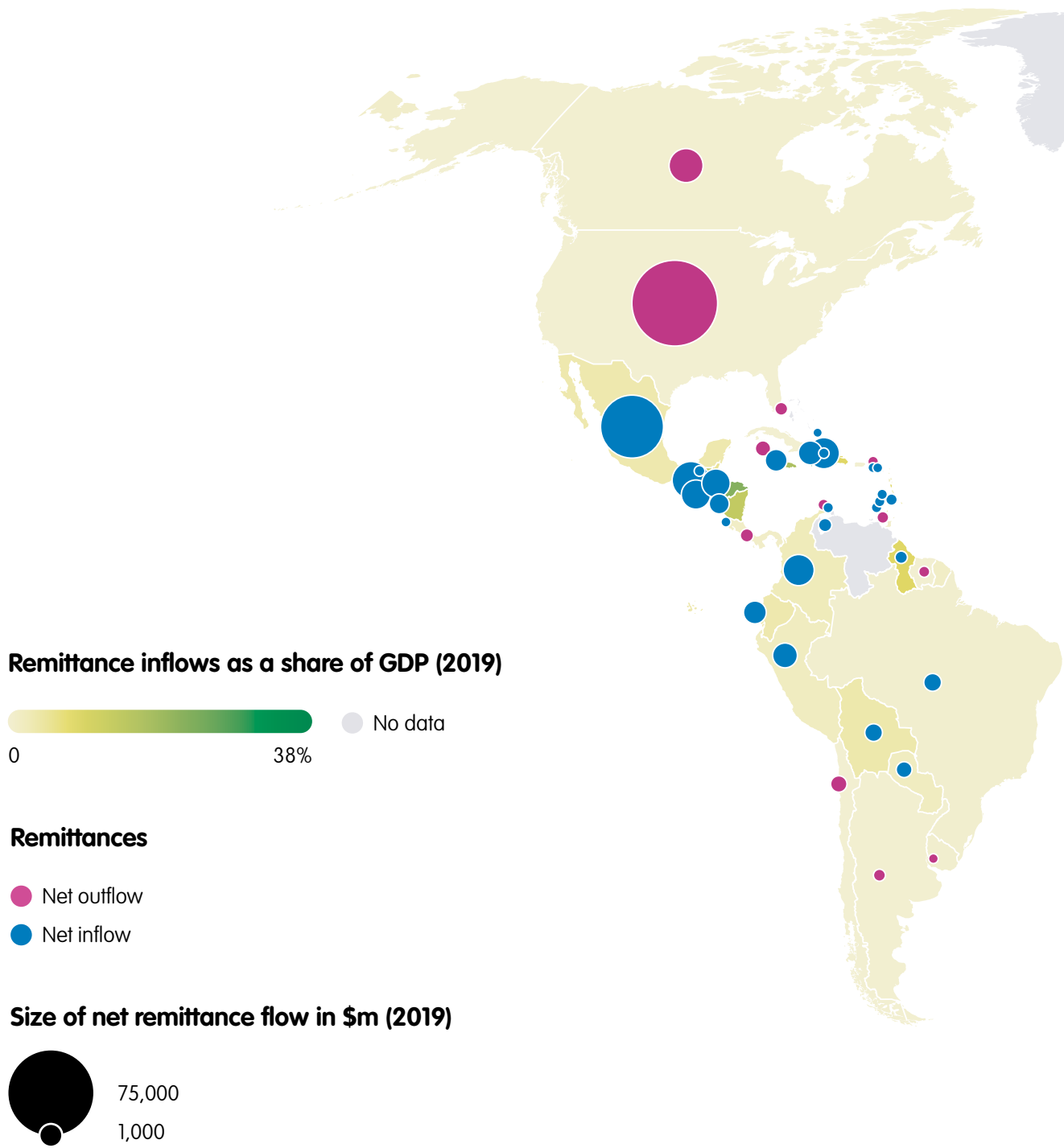
Methodology: Total population growth rates are calculated on the assumption that rate of growth is constant between two points in time. The growth rate is computed using the exponential growth formula: $r = \ln(p_n/p_0)/n$, where r is the exponential rate of growth, $\ln()$ is the natural logarithm, p_n is the end period population, p_0 is the beginning period population, and n is the number of years in between. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship.



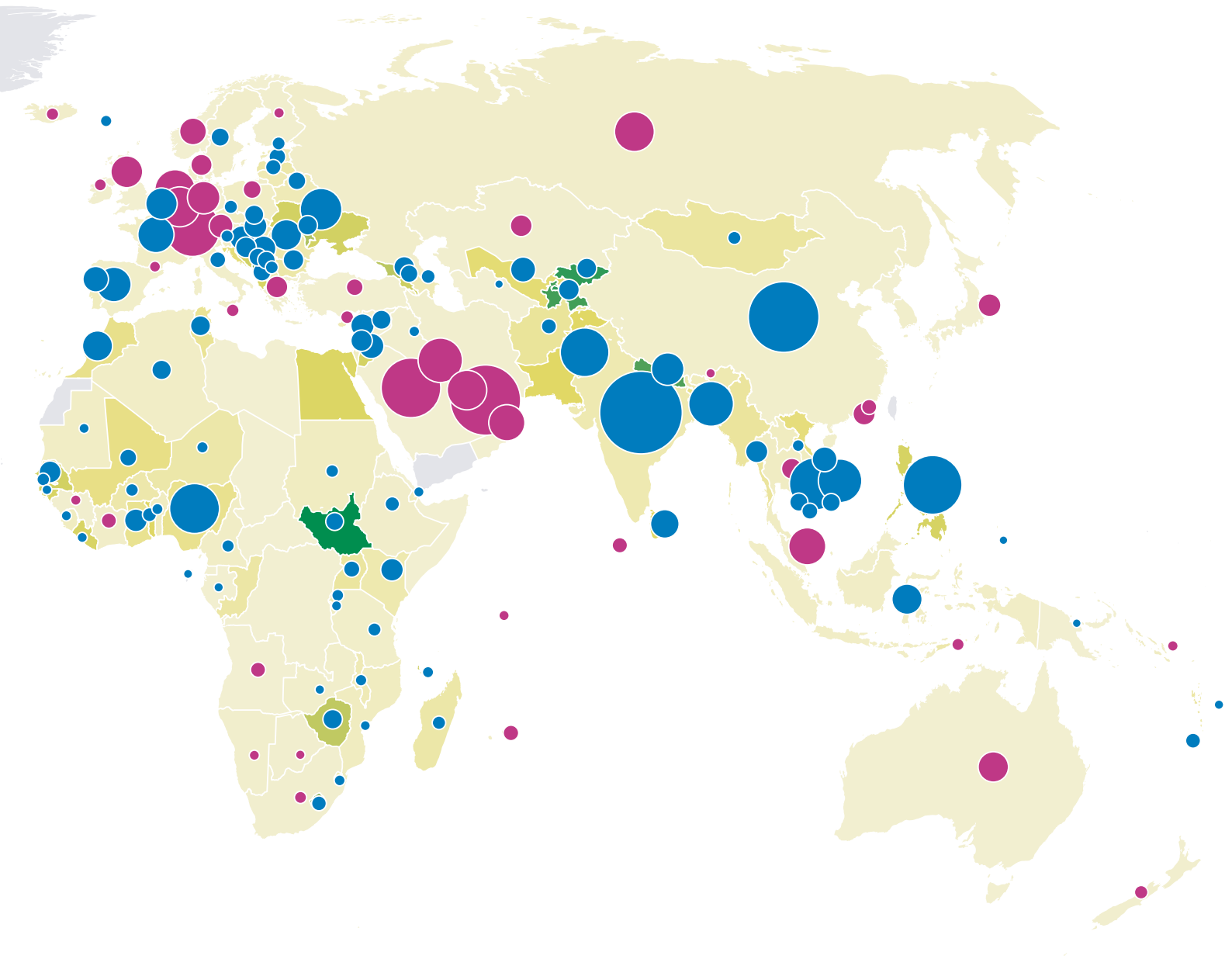
Source: The World Bank (2021). Population growth (annual percentage).

The global remittance economy

Inflows, outflows, and dependencies



Methodology: Country colour indicates remittance inflows in 2019 as per cent of GDP. Circle colour indicates whether countries are net receivers or senders. Circle size indicates net value of remittances sent or received (absolute value of inflow–outflow). GDP data is taken from the IMF World Economic Outlook. All numbers are in current (nominal) US dollars.



The global remittance economy

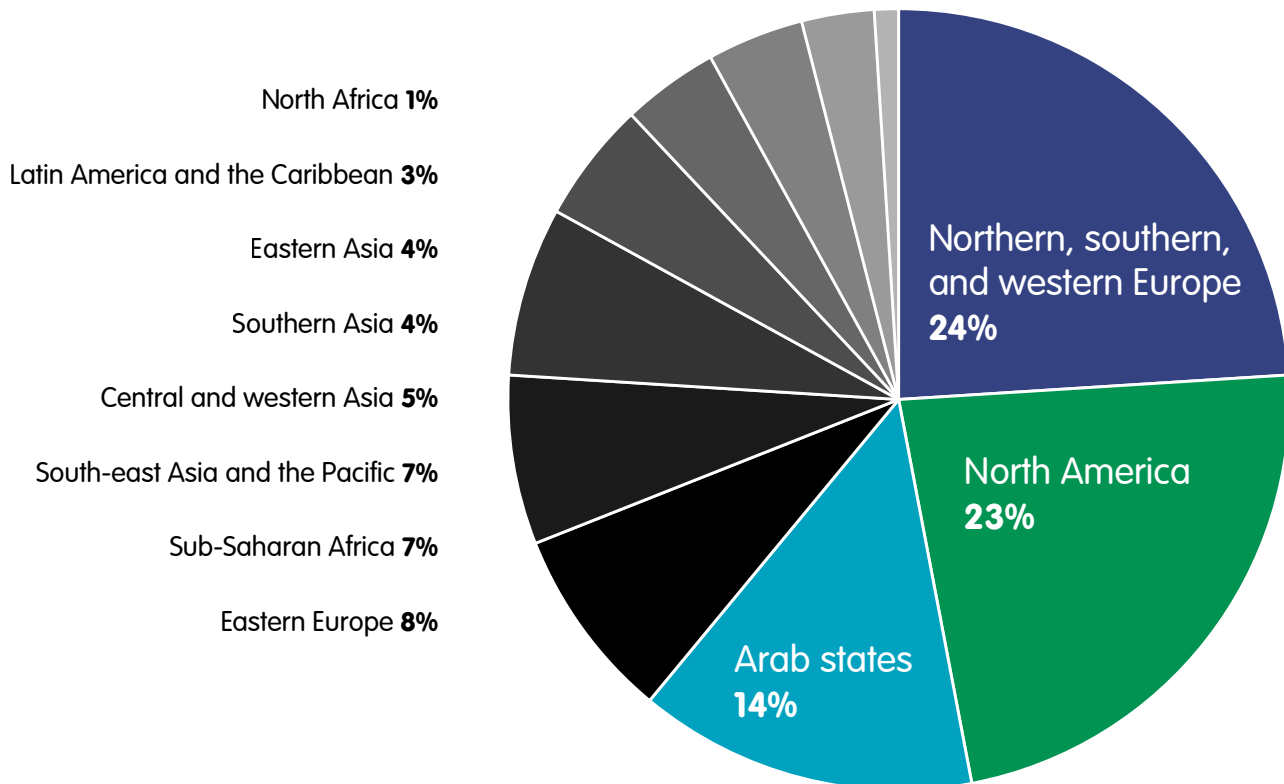
Inflows, outflows, and dependencies

The top five remittance-dependent countries (share of GDP)	
Tonga	37.6%
Haiti	37.1%
South Sudan	34.4%
Kyrgyzstan	29.2%
Tajikistan	28.2%

The top five remittance receivers (US\$m)	
India	75,599
China	53,263
Mexico	37,539
Philippines	34,941
Egypt	26,319

Global labour mobility

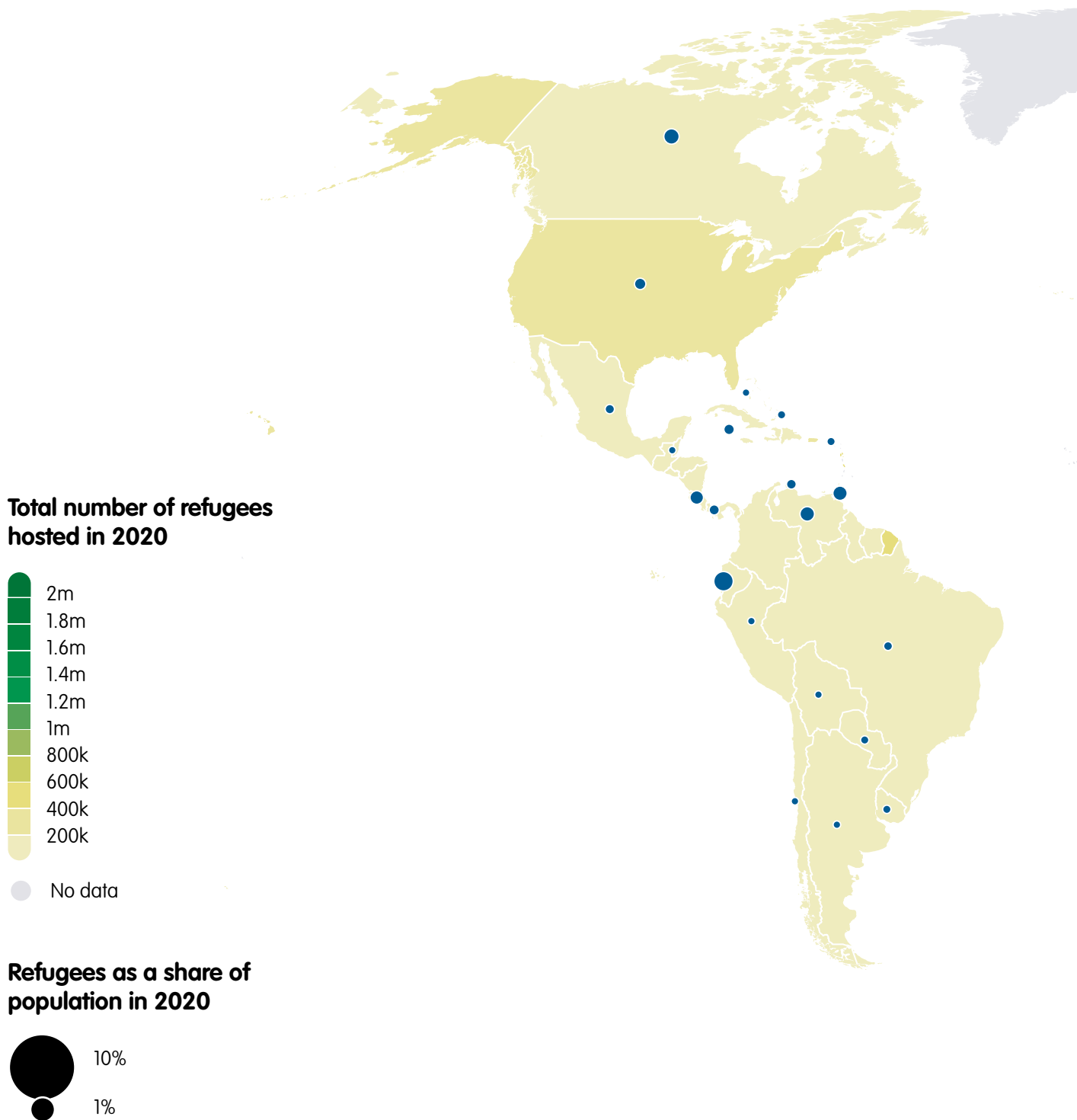
Distribution of migrant workers by region



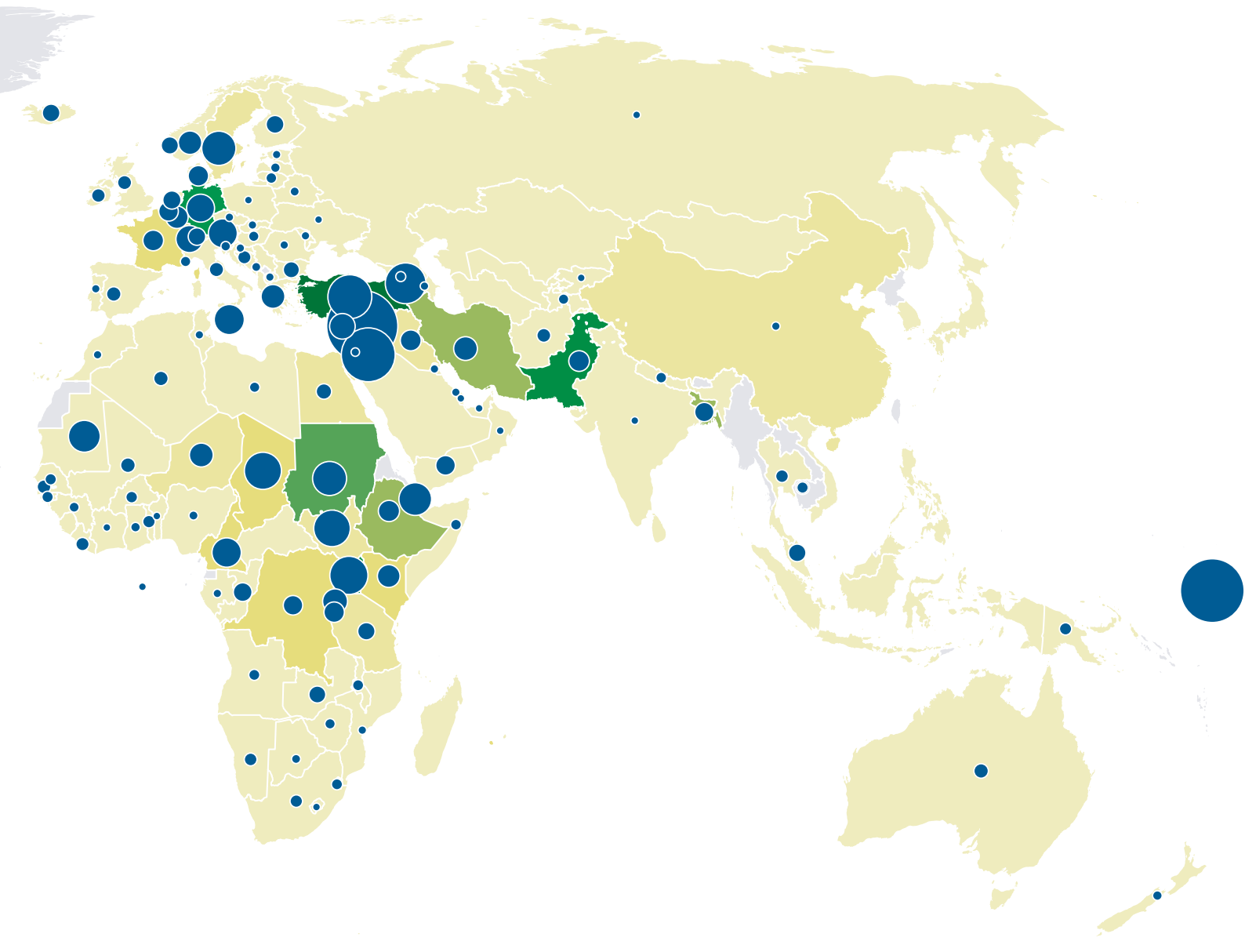
The International Labour Office estimated in 2017 that there were 164m migrant workers worldwide, which accounted for 70 per cent of all migrants of working age. The centrality of work to migration flows, particularly in the context of the Asia-Pacific, is clear. Prior to the covid-19 pandemic, there were 10m international migrants in ASEAN countries, almost half of whom were women. Arab states feature the highest proportion of migrant workers to all workers (40.8 per cent), and host 13.9 per cent of all migrant workers worldwide, most of them hailing from south-east and south Asia. There are other key migration corridors in the Asia-Pacific region, including to South Korea and Japan. Migrant workers from Pacific island countries find jobs in seasonal worker programmes in Australia and New Zealand.

Top refugee-hosting countries

Refugees: Total numbers and share of population



Methodology: Data for stock population totals at the end of the year. Only includes those designated as “refugees” under the UNHCR mandate. Refugees are all persons who meet the eligibility criteria under an applicable refugee definition as provided for in international or regional refugee instruments under the UNHCR mandate, or in national legislation.



The power dynamics of migration

The evolution of migration into an area of high politics has entailed the growing employment by states of diplomatic tools, processes, and procedures to manage and exploit cross-border population mobility. In pursuit of various strategic goals, states increasingly link issues of migration and mobility to other geopolitical interests.

For example, since the mid-2000s, the European Union has distributed ever more aid to countries that host large numbers of refugees and internally displaced persons, creating a new basis for alliances and financial assistance. This could create incentives for states that receive such aid to make inflated claims about the number of refugees they host. And it has an impact on the strategic value of states to the EU, with countries such as Niger gaining new significance as key players in the bloc's external migration control policy. The International Organization for Migration estimates that Niger – which is at the bottom of the UN Human Development Index – received an injection of approximately €100m into its economy in 2015 due to its significance as a key migration hub and transit state. The country also received approximately €1 billion in EU development cooperation aid between 2014 and 2020.


In this context, states can strategically use migration as a political weapon. In May 2021, for example, Morocco opened its border with the Spanish city of Ceuta in a bid to punish and coerce the Spanish government over policy decisions related to its support for Polisario, an insurgent group locked in a long-term conflict with Rabat. A similar move by Turkey in February 2020, which aimed to secure NATO support in Syria, came close to provoking a military confrontation with Greece. More recently, Belarus opened its borders and reportedly attempted to weaponise migration in retaliation for EU sanctions on the country. This instrumental use of migration as a policy tool is a surprisingly common strategy, one that states across the globe have long adopted to achieve a wide range of political, military, and economic goals.

Unless the backlash against globalisation severely limits global transit, these trends are likely to continue – and to be shaped by other dimensions of geopolitics, including competition between states, public health, climate change, and technology. However, states have significant leeway in leveraging mobility regimes to shift the power dynamics of the international system. For example, having made a concerted effort to improve its passport ranking, the United Arab Emirates has boosted its position on the Arton Capital Passport Index by 161 per cent in the last decade – more than any other state (see: Map 9). The country did so by undertaking a massive diplomatic effort, first securing visa-free travel within the Schengen Zone – which significantly raised the value of UAE passports – and then moving on to the rest of the world. Conversely, when the United Kingdom decided to end freedom of movement with the

EU, the value of UK citizenship dropped by more than 27 per cent in a single year in the Quality of Nationality Index.

How states can enhance their people power and resilience

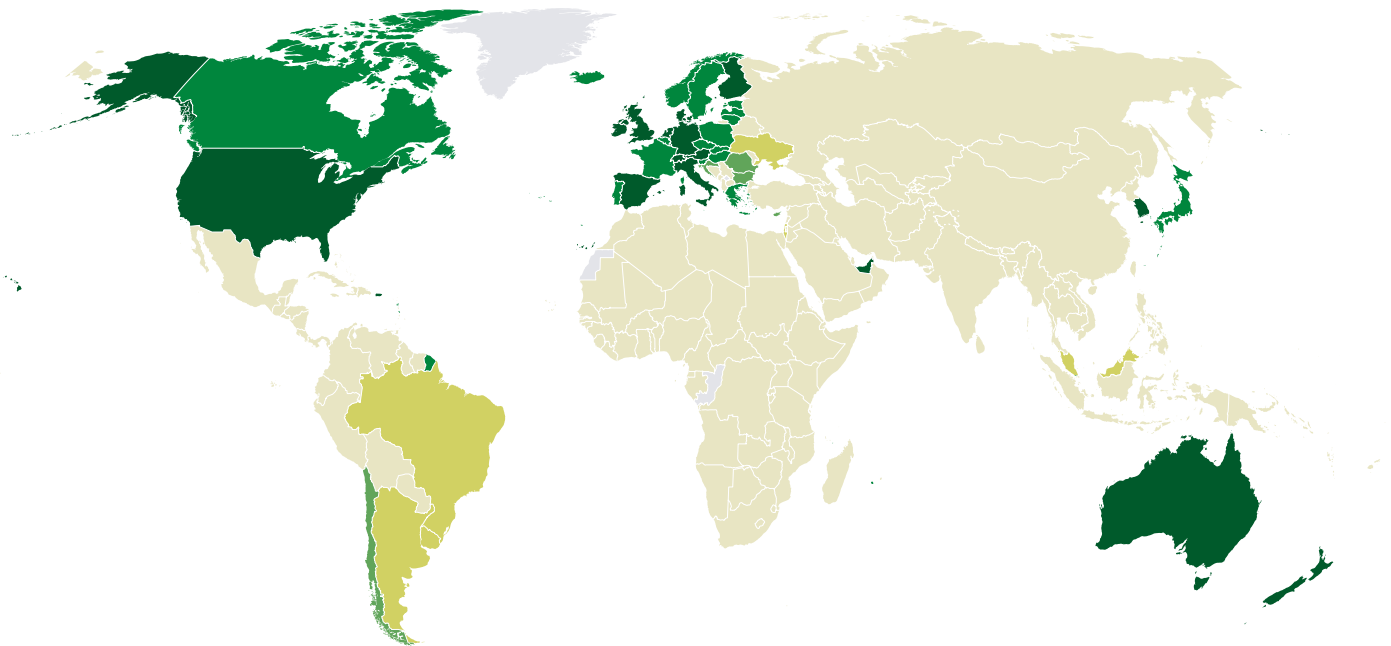
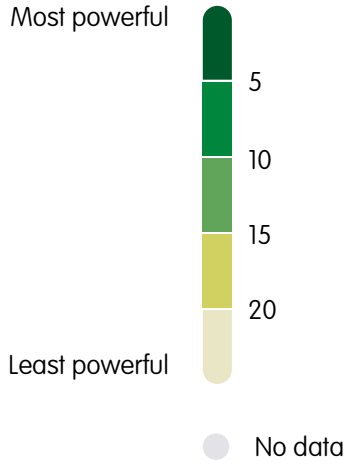
Enhancing national power and resilience on this new terrain requires a range of trade-offs and an eye to the stability of the global system of migration and mobility. To sustain the openness of the system, which can benefit all states, governments need to balance competition and cooperation. They should acquire enough autonomy and capacity to quickly and successfully respond to changes in international conditions – as the covid-19 pandemic and its fallout have reminded us. At the same time, there is tremendous potential for states to enhance their people-focused power and resilience by cooperating on their migration and mobility policies, and by ensuring that those who migrate have the optimal conditions for integration (see: Map 10). States can implement these changes in ways that mitigate shocks to the system and benefit all players. Such strategies would also benefit migrants and refugees themselves – and ensure that they are not simply treated as pawns in geopolitical games.

It ought to be possible for states to simultaneously enhance their attractiveness as homes for global talent and investment while avoiding dependence on the resources that proactive mobility management can bring, or engaging in exploitative practices that lead to systemic instability and moves towards autarky. Such strategies can have significant knock-on benefits, especially when they involve inter-state cooperation. They can be mutually beneficial for states and the people whom they are charged to protect. 

The world's most powerful passports

Global passport power rankings

Rankings by country (as of 1 November 2021)



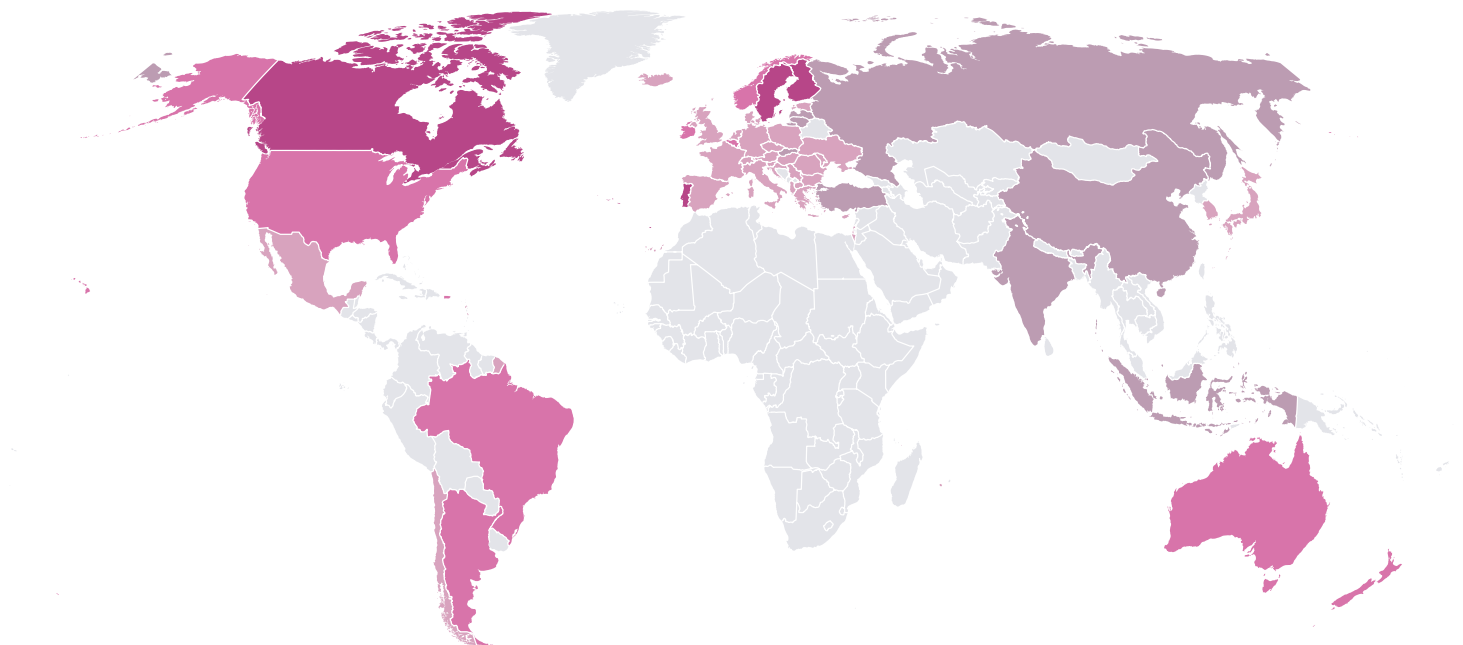
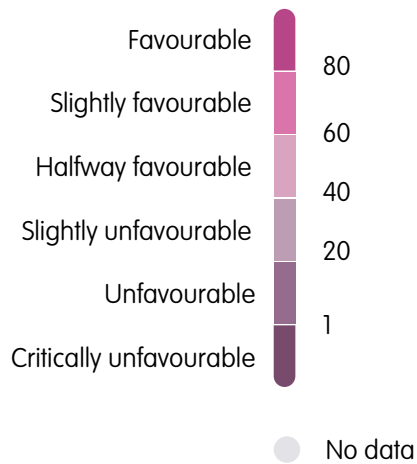
Methodology: The Passport Index is based on countries that issue passports, regardless of whether they enforce independent visa policies or not are considered as destinations. A three-tier method, based on the Mobility Score and the Human Development Index among others, is applied to calculate the Global Passport Power Rank.

Source: Passport Index (2021), available at: www.passportindex.org (accessed 1 November 2021)

Top countries for migrant integration

Migrant Integration Policy Index

Migrant Integration Policy Index score (2019)



Methodology: The Migrant Integration Policy Index (MIPEX) measures policies to integrate migrants in different countries and their opportunities to participate in society. The MIPEX score is based on a set of indicators covering eight policy areas that has been designed to benchmark current laws and policies against the highest standards. The policy areas of integration covered by the MIPEX are the following: labour market mobility; family reunification; education; political participation; permanent residence; access to nationality; anti-discrimination; and health.

Source: Solano, G. and Huddleston, T. (2020). Migration Integration Policy Index 2020



Military

by Ulrike Franke

Military power is notoriously hard to measure, and yet it is one of the areas of state power in which measurements are the most prevalent and sought after. Few things are as crucial to know before a military confrontation as the opponent's military strength. For many years, military, or hard, power was widely considered the primary source of a state's power. However, towards the end of the cold war, economic power took over. A prevalent narrative about the 'end of history', combined with a decrease in military confrontations, led to a belief – or hope – that wars would largely be a thing of the past. This belief was illustrated most clearly by US leaders' fear in the 1980s that Japan – a country that had a pacifist constitution and was unable to legally send military forces abroad – could overtake the United States due to the rapid growth of the Japanese economy.

But military power is back. Military confrontations, including those between great powers, have re-entered western Europeans' collective imagination. Global military expenditure has risen steadily in the last two decades. And, last year, according to the Stockholm International Peace Research Institute, it reached almost \$2 trillion. US military expenditure alone accounted for an estimated 39 per cent of this.

Judging by the data on military expenditure in Map 1, it seems easy to identify the key military powers of this century. The US outspends its competitors and partners to a significant degree. China's military expenditure has rapidly increased in recent years, and now stands at \$193 billion, or 1.3 per cent of GDP. Smaller states such as Afghanistan, Saudi Arabia, and Israel spend a relatively large share of their GDP on defence – due to ongoing conflicts, heightened threat perceptions, or a desire to gain regional influence.

The world's key military players also tend to be members of one of the most exclusive global clubs: nuclear-armed states. As of 2021, nine states have nuclear weapons (Israel has a policy of deliberate ambiguity about its nuclear capabilities). More than 90 per cent of the roughly 13,080 nuclear warheads worldwide belong to the US or Russia (see: Map 2). Five states – the US, Russia, the United Kingdom, France, and China – are members of the Treaty on the Non-Proliferation of Nuclear Weapons (NPT). This means that they have promised to “pursue negotiations in good faith on effective measures relating to [...] nuclear disarmament”. But the continued existence of nuclear weapons, despite the NPT and the more recent Treaty on the Prohibition of Nuclear Weapons, underlines an important element of military power: deterrence, or the capacity to demonstrate so much capability that a potential adversary is deterred from attacking. Nuclear weapons are generally understood to be procured to not be used, as weapons of last resort that have little tactical impact but provide such deterrence.

In light of Maps 1 and 2, one might assume that the ranking of the world's military powers is rather obvious – and, with the exception of China, fundamentally similar to that of recent decades. However, in the US and other Western countries, alarm bells have been ringing for a while. For example, the US National Security Commission on Artificial Intelligence argues that “America is not prepared to defend or compete in the AI era. This is the tough reality we must face.” Some Western states fear that emerging technologies could empower new actors, including smaller states or even non-state actors, to inflict significant costs on established powers. And, even though kinetic military confrontations might become more common again, the more immediate concerns are hybrid operations such as cyber-attacks, the weaponisation of migrants, and disinformation campaigns – all challenges against which tanks, aircraft, or nuclear weapons are largely useless. Therefore, in the twenty-first century, military strength will be determined by not just hard power but also a state's ability to develop and use new technologies, react quickly to challenges and build resilience against them, and draw on support from its partners and allies.

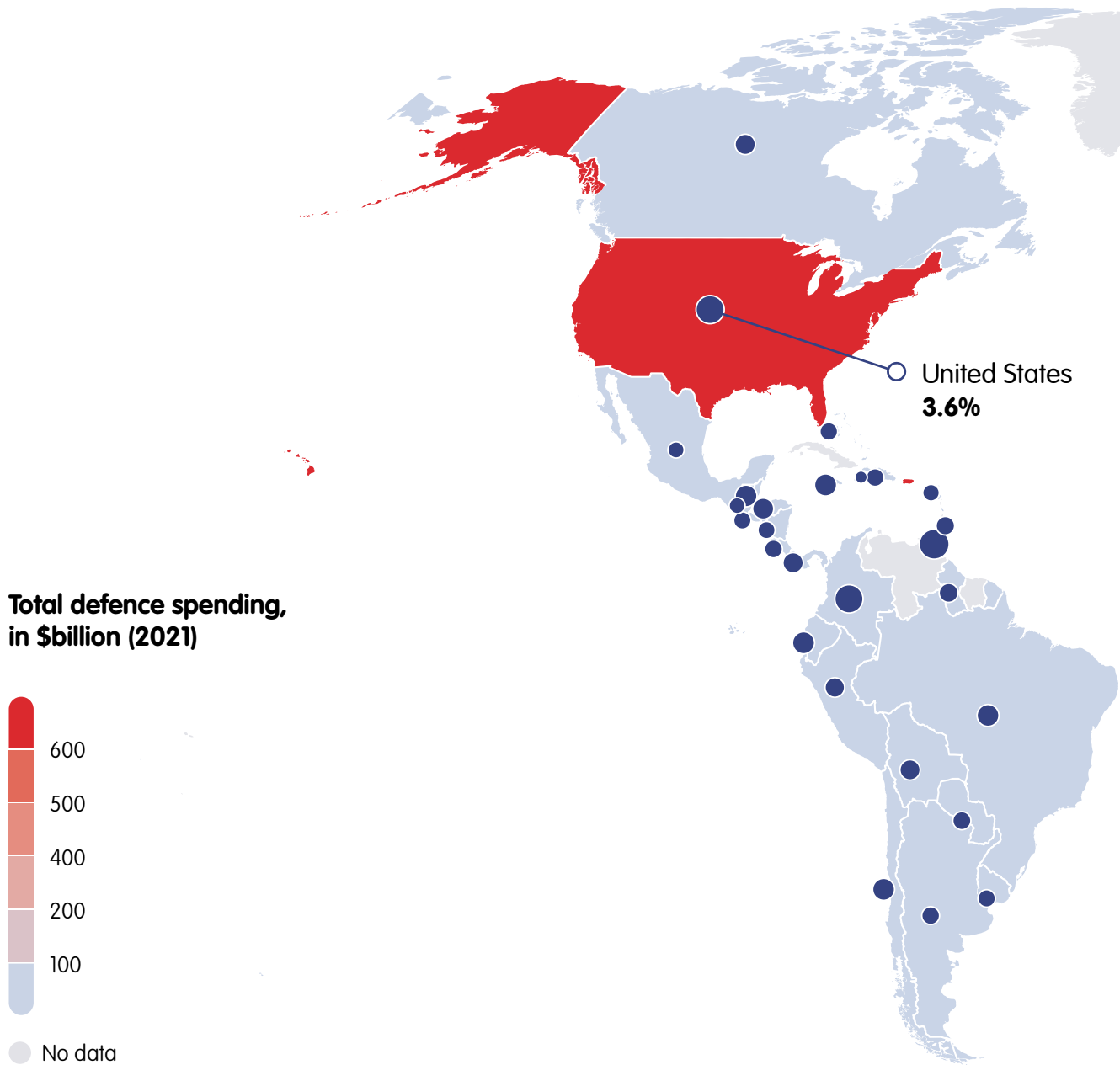
The role of new technology

There have been moments in history when warfare changed because of the introduction and innovative use of a new military technology. The crossbow and gunpowder, the tank and nuclear weapons – when militaries first adopted and used such technologies in novel ways, this sometimes had a fundamental impact on how they fought wars, organised their forces, and developed strategies. These moments are called ‘revolutions in military affairs’. And enacting such a revolution before the opponent does so is the holy grail for militaries around the world.

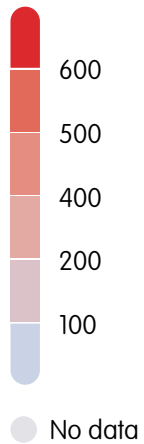
Today, there are several new technologies that will become significant elements of military power. Unmanned aerial vehicles, or drones, have received a lot of attention in recent years. Their development, which dates back to the early 2000s, has played an important role in the ‘war on terror’ fought by Western militaries. More recently, drones – especially armed drones – have proliferated to the point that they are now on battlefields around the world. As the use of drones in the 2020 conflict between Armenia and Azerbaijan in Nagorno-Karabakh demonstrated, there is a role for drones beyond asymmetric wars, such as in confrontations between states. While today’s generation of drones is unlikely to be the decisive factor in a full-blown military conflict, they can markedly boost the air power of states (or, indeed, non-state actors’ airborne capabilities). Several states, such as Turkey and China, have in the last few years invested significant resources in the creation of domestic drone industries. As Map 3 illustrates, many countries now have military drones – a dozen or more of them armed drones. Differences in drone arsenals can be substantial enough to change traditional balances of power: Turkey now has an estimated 140 armed drones – compared to the UK’s ten, France’s 12, and Germany’s none (despite a long-running debate about whether to lease five armed drones for its air force).

Who spends the most on military power

Total defence spending as a share of GDP

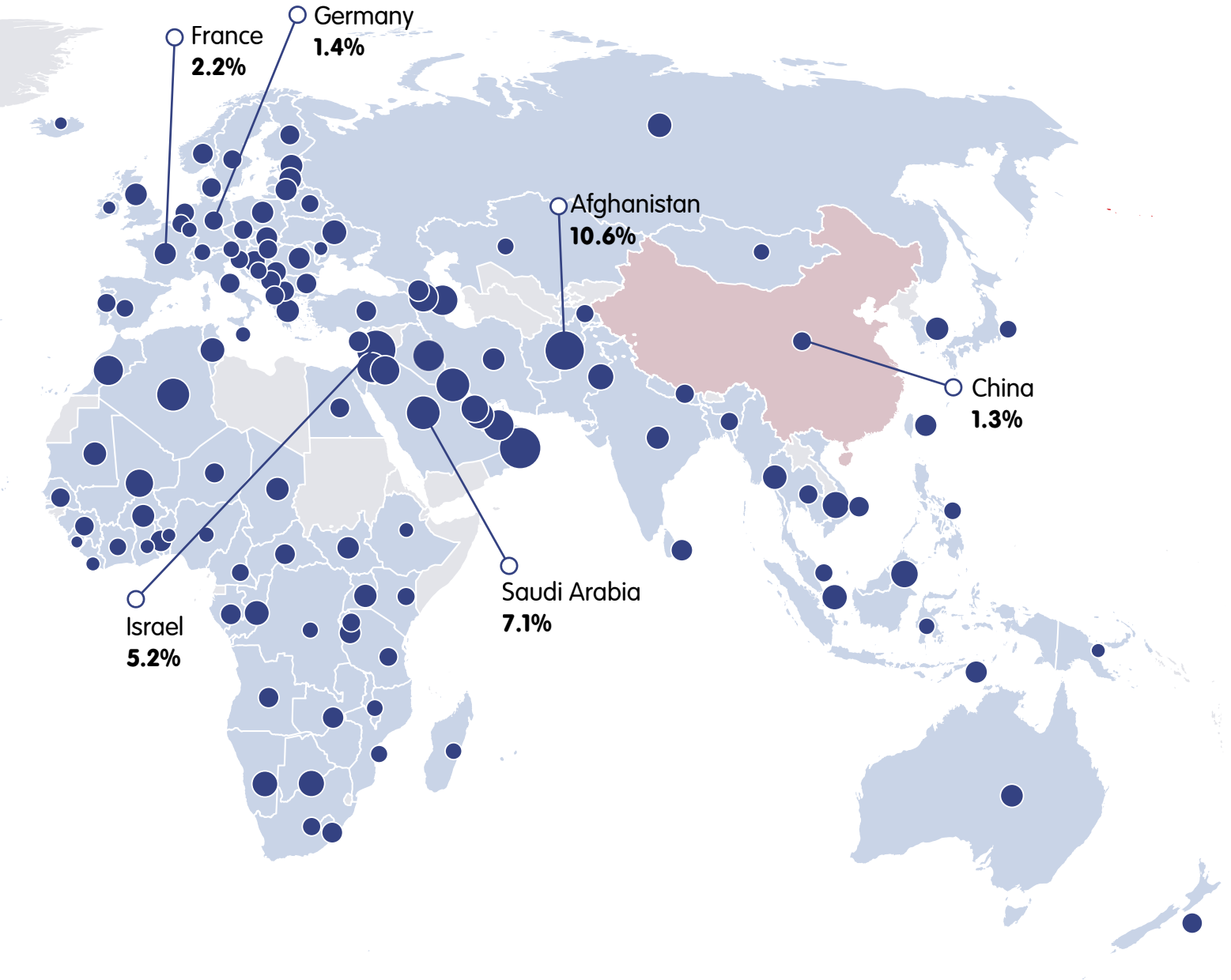


Total defence spending, in \$billion (2021)



Defence spending as a percentage of GDP (2021)





France
290



Israel
90



Pakistan
165



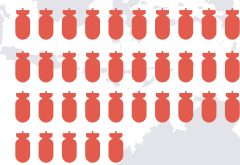
India
156



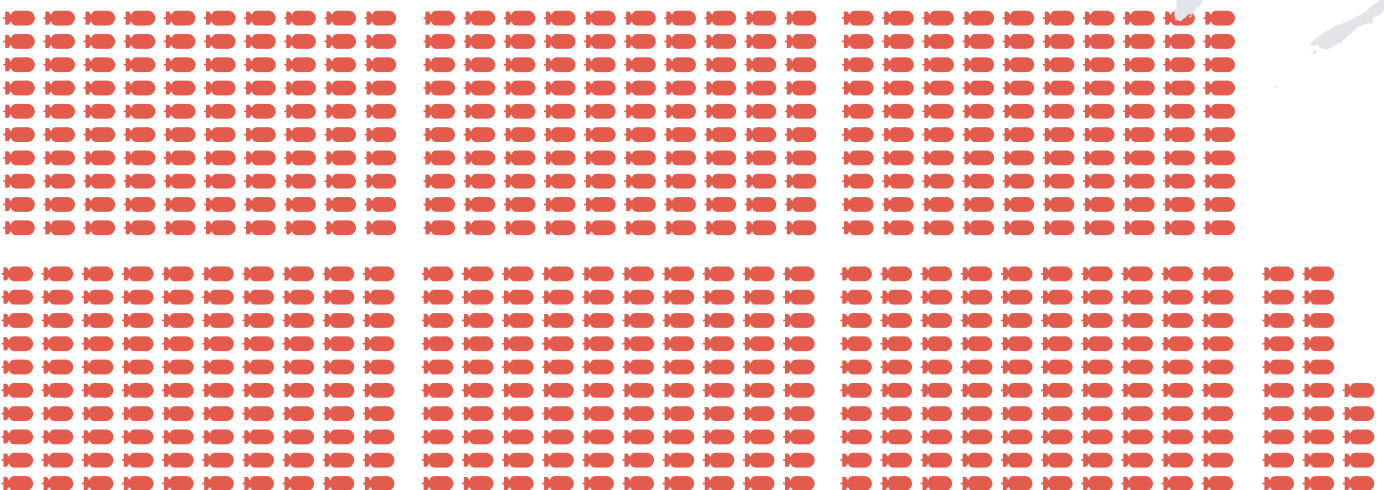
North Korea
40-50



China
350



Russia
6,255




Accompanying the rise of drones is a rise in counter-drone systems. As Map 3 shows, a variety of counter-drone systems are being used, developed, and tested. Broadly speaking, there are three ways to down a drone – kinetically, electronically, and by interception. The first involves shooting drones down with bullets, rockets, or similar munitions. The second – electronic solutions – is currently the most promising. It requires the capability to jam or interrupt the signal between the drone and its operator. A more advanced version of this approach is to hack into the drone and take command of it. Lastly, there are several ways to intercept drones. For instance, one can use drones to fight other drones, or can down them with the kind of shoulder-mounted net-throwers that have appeared at several high-level political meetings this year (though these latter capabilities are more relevant to the civilian context than the military one). While anti-drone systems do not directly translate into military power, the inability to defend oneself against drone attacks can have devastating consequences and create significant vulnerabilities. But, for now, states have not found any one capability that can counter most drones, let alone all of them. In this environment, even relatively small and basic drones can pose a significant threat.

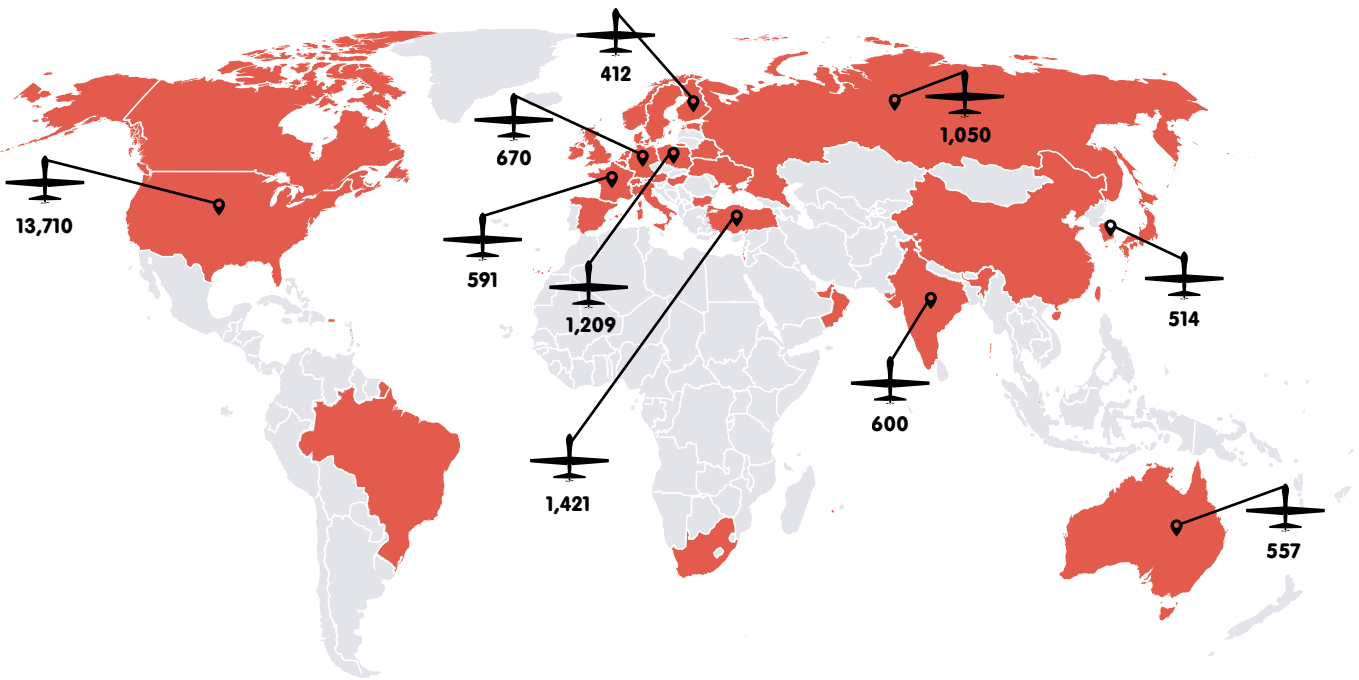
Cyber is another area widely expected to upend traditional power balances, with the proverbial teenager in their bedroom able to hack state institutions. Although such attacks are possible, most substantial cyber-power still lies with states, specifically those willing to invest resources in the requisite capabilities. The Belfer National Cyber Power Index measures 30 countries' cyber-capabilities. It ranks the top ten cyber-powers across the seven objectives it measures in the following order: the US, China, the UK, Russia, the Netherlands, France, Germany, Canada, Japan, and Australia. However, as Map 4 shows, states' performance varies a great deal across these indicators. For example, China, France, and even the Netherlands rank above the US on defensive capabilities, pointing not only to the complexity of such capabilities but also to how they might empower smaller states instead of the usual suspects.

With regard to space technologies, however, the old dictum of 'quantity is a quality of its own' still largely holds true. Many actors are building up their space capabilities, which includes satellites and earth-based space commands (see: Map 5). A country such as Luxembourg may have a satellite, or Peru a space command, but larger, more established military actors – such as the US, Russia, and China – still dominate this area through sheer numbers of satellites.

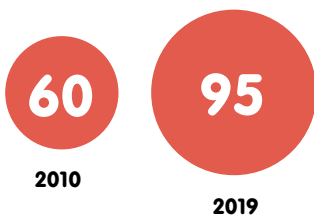
Military drones

Countries with a military drone inventory and counter-drone technology systems

 Top ten countries' stocks of drones (2020) ● Location of companies developing counter-drone technologies

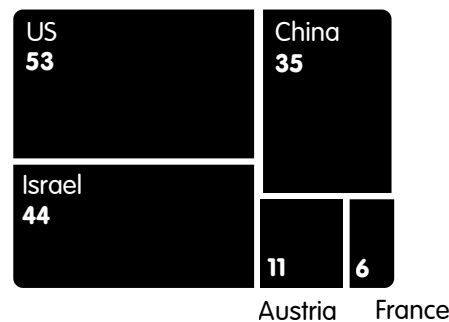


Countries with military drones



Top five exporters of unmanned aerial vehicles (UAVs)

by number of countries that are believed to have acquired at least one UAV of any class from these countries of origin

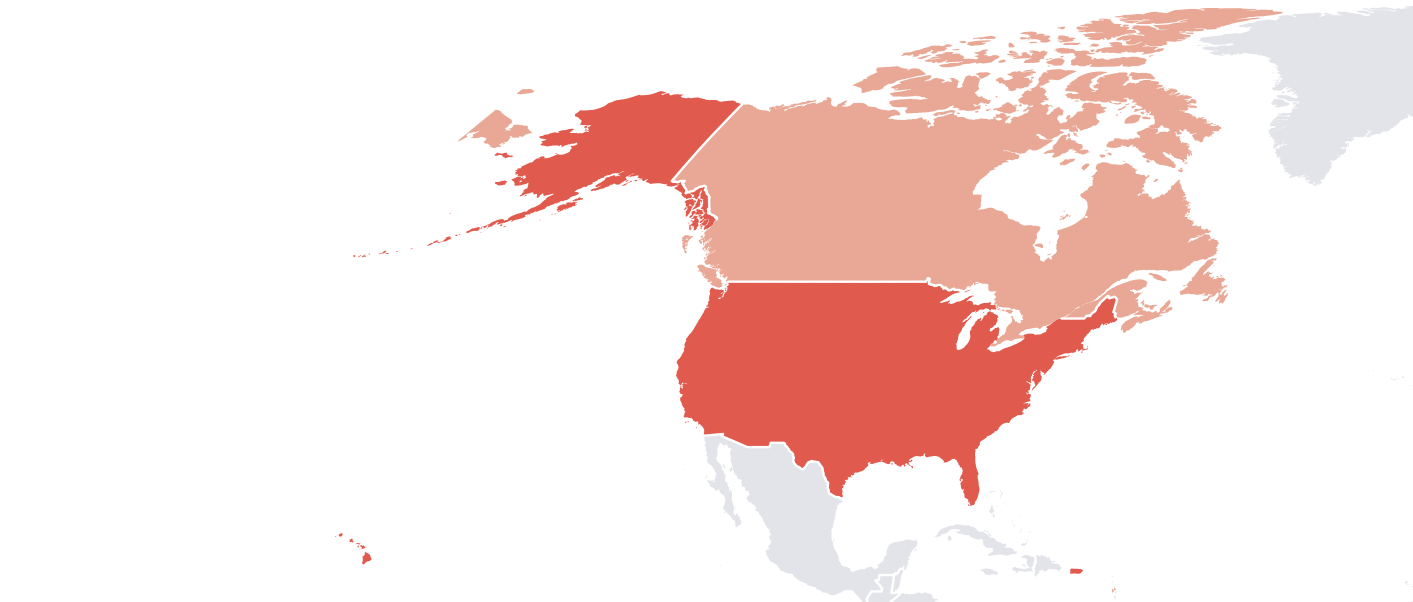


Methodology: These figures do not cover drone acquisitions by non-military agencies or entities, most military drones that existed prior to the 1980s, or military unmanned ground or maritime vehicles. The list of countries with counter-drone capabilities is based on the combined lists of Bard College (2019) and the UAS Directory (2021). It includes countries where at least one company is building a counter-drone technology.

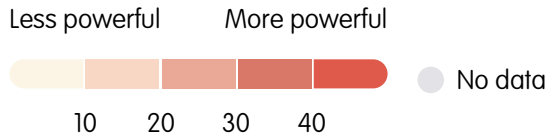
Sources: Center for the Study of the Drone at Bard College (2020). The Drone Databook, March 2020 Update; Unmanned Airspace/Philip Butterworth-Hayes (2021). Counter UAS Directory

Cyber-power

Belfer National Cyber Power Index



National Cyber Power Index 2020



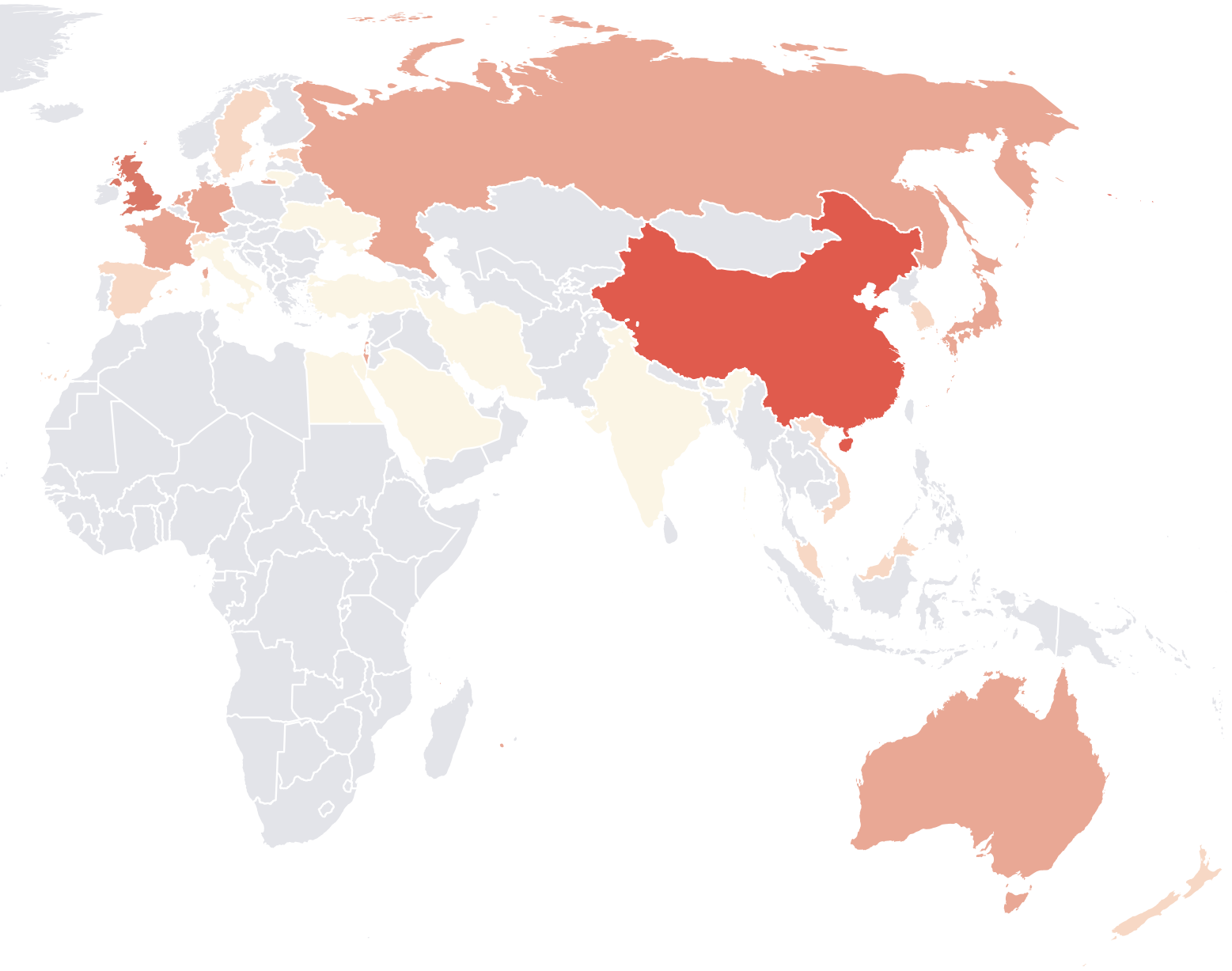
Top 5 ranking by selected component

	Offence*	Defence**
1		
2		
3		
4		
5		

*Power to destroy or disable an adversary's infrastructure and capabilities

**Power to strengthen and enhance national cyber defences

Methodology: The Belfer National Cyber Power Index measures 30 countries' cyber capabilities. The index looks at countries' intent to pursue multiple national objectives using cyber means and their capabilities to achieve those objectives. The Cyber Capability Index is on a scale from 0 to 100 per cent of the capabilities measured, and is based on the ratings of 27 indicators which are grouped by the seven national objectives, including surveillance and defence.

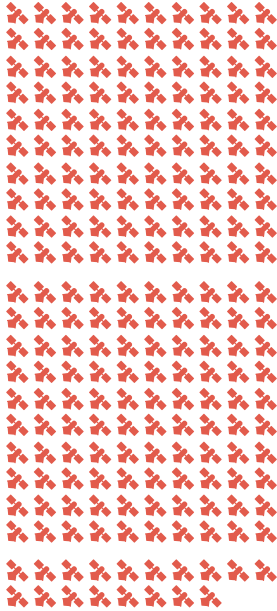


Space control

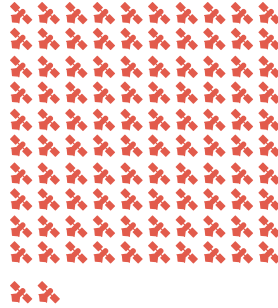
Military satellites and space capabilities

- Counter-space capabilities
- Space commands
- ✕ Number of satellites

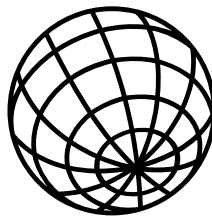
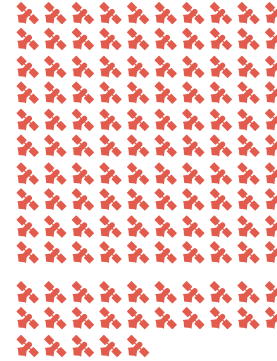
● **United States 218**



● **Russia 102**



● **China 125**



● **France 10**



● **India 9**



● **Italy 8**



● **Germany 7**



● **Israel 8**



● **United Kingdom 6**



● **Australia 4**



Spain 4



Trans-European 3



United Arab Emirates 3



● **Japan 2**



● **Mexico 2**



● **South Korea 2**



● **Turkey 2**



● **Brazil 1**



● **Canada 1**



Chile 1



Colombia 1



Denmark 1



● **Egypt 1**



● **Iran 1**



● **Luxembourg 1**



Qatar 1



South Africa 1



● **Thailand 1**



● **Sweden 1**



● **North Korea 0**

● **Libya 0**

● **Ukraine 0**

● **Peru 0**

● **Netherlands 0**

EU countries (France, Italy, Germany, Spain, trans-European, Denmark, Sweden) have a total of 35 military satellites. The Union of Concerned Scientists counts a total of 4,084 operational satellites currently in orbit around the Earth, of which 525 are used for military purposes. The Center for Strategic and International Studies reports only observed capabilities, or those inferred from specific observations. Its list is non-exhaustive, meaning that, it does not report on US capabilities in most areas.

Another promising but hard-to-measure area of military technological development is artificial intelligence (AI), which can enable and support activities in everything from logistics to autonomous weapons, cyber-warfare, and disinformation. These capabilities include offensive and defensive front-line and support systems.

Military experts agree that states will increasingly use AI in the military realm, and that this will have important implications. However, their assessments of what these implications will be run from maximalist statements that AI may “alter the immutable nature of war”, or that AI changes “the psychological essence of strategic affairs”, to less extreme views that focus on more specific and limited changes in weapons technology.

In recent years, the maximalist reading has taken hold in US circles in particular. The US National Security Commission on AI argues that the US “will not be able to defend against AI-enabled threats without ubiquitous AI capabilities and new warfighting paradigms”.

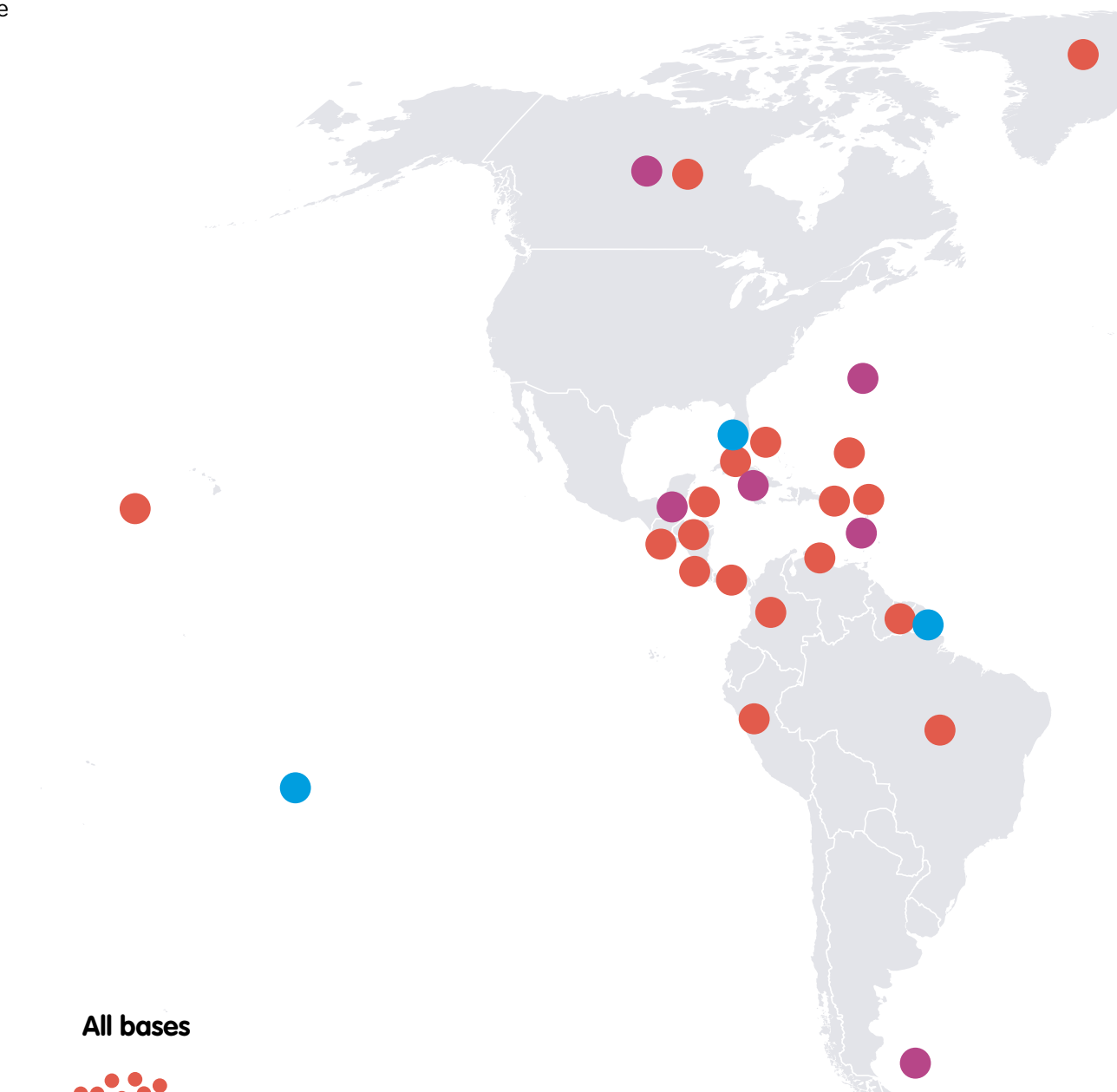
But it is difficult to make predictions about where AI will have the biggest impact on military systems and operations. And, for now, reliably measuring a state’s military AI capabilities is almost an impossible task. Artificial intelligence is still in development – with companies inventing new approaches, and making important improvements, to it. Moreover, most of the most ground-breaking work on AI occurs in the civilian realm.

Most importantly, it is difficult to make predictions about any technology’s impact on warfare. This is due to the fact that what matters for a military technology’s impact is not just the technology but how it is used. For a new technology to have a significant impact, users need to come up with novel ways of using it, along with doctrines for doing so. For example, tanks were on the battlefield in 1916. But they did not show their military potential until the second world war, during which the Wehrmacht’s Blitzkrieg doctrine combined the use of radios with a novel way of deploying tanks as independent units, allowing Germany to break through French defences in a matter of days. It is still unclear what new doctrines, organisational changes, and training regimes will develop in relation to military AI and other emerging technologies – or what impact they will have.

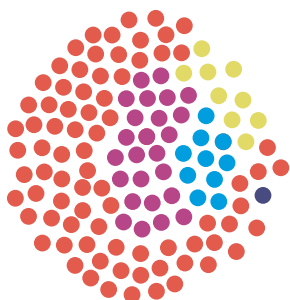
In addition to such uncertainties, absolute military capabilities are only relevant up to a point. The kinds of military systems, training, and doctrines that are needed also depend on the type of military operations they expect to be involved in. An all-out inter-state war between peer competitors requires different capabilities to a smaller intervention or an asymmetric conflict.

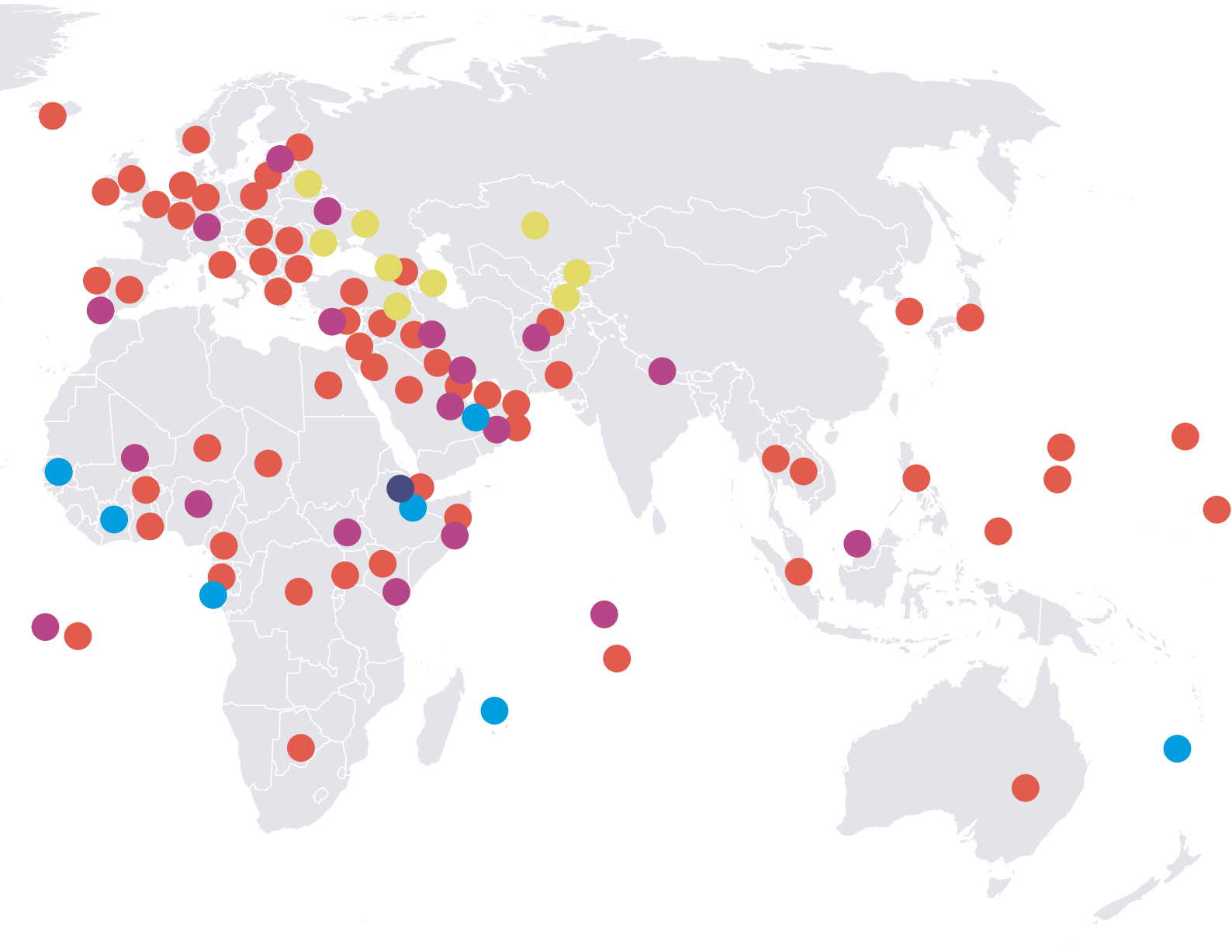
Overseas bases

- US
- UK
- Russia
- France
- China



All bases





Sources:

On China: United States Department of Defence (2020). Military and Security Development involving the People's Republic of China

On France: La République Française, Ministère des Armées (2019). Les forces françaises prépositionnées

On Russia: The Polish Institute of International Affairs (2020). Importance of Foreign Military Bases for Russia

On UK: Crown. (n.d.). The British Army, Operations and Deployments

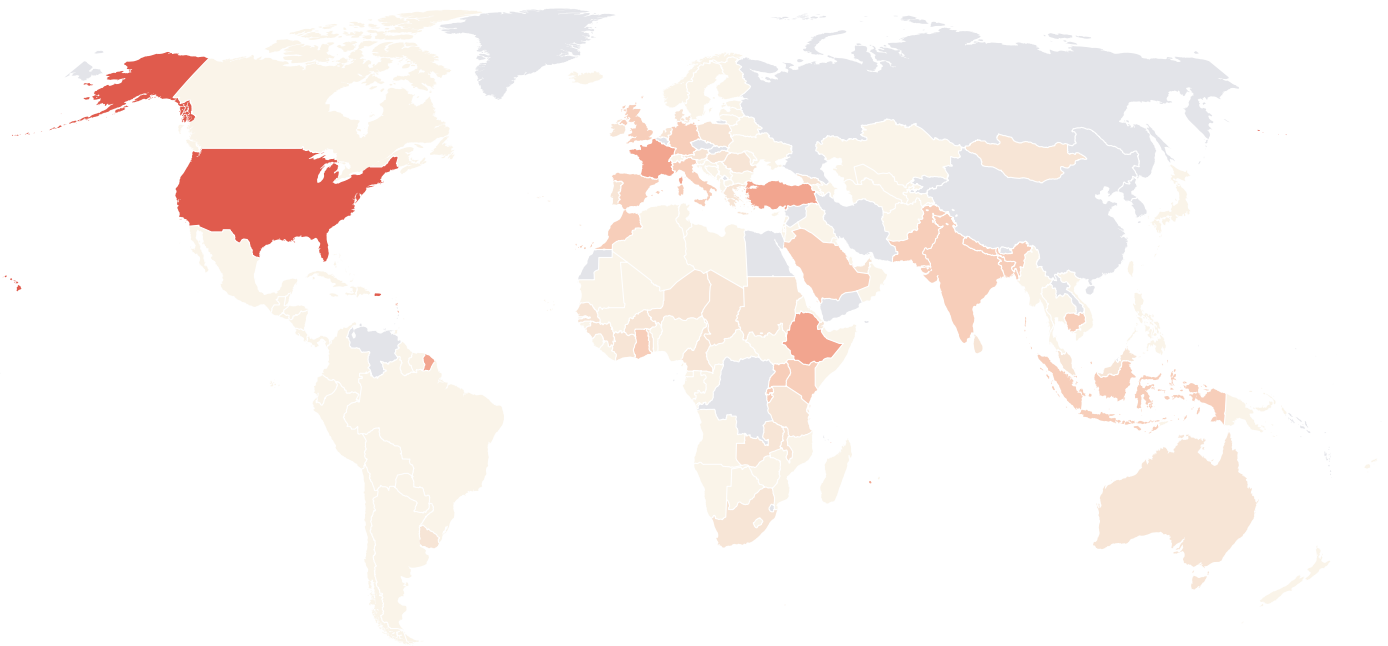
On US: Vine, D. (2021). Lists of U.S. Military Bases Abroad, 1776-2021, American University Digital Research Archive, 2021, <https://doi.org/10.17606/7em4-hb13>

Military deployments abroad

Number of troops on foreign deployments

The average number of troops on foreign deployments by country between 2017 and 2021

● <500 ● 500-2,000 ● 2,000-10,000 ● 10,000-60,000 ● ≥60,000 ● No data



Methodology: Units are the average number of military personnel who were deployed in a mission or location for a given year between 2017 and 2021. Excludes military observers and equipment of deployed units.

Source: IISS (2021). The Military Balance 2021, Routledge

A particularly difficult-to-measure indirect military capability is proxy forces and private military actors, which some states rely on for everything from logistical support for their troops to secret military operations. When the US drew down its forces in Afghanistan in early 2021, the US Department of Defence confirmed that more than 18,000 private contractors remained in the country. Russia's Wagner Group has become increasingly active in countries ranging from Syria and Ukraine to, more recently, Mali. Media reports have uncovered China's fledgling private security industry. Unfortunately, there is no reliable publicly available data on the number and impact of these groups. And it is difficult to compare their activities across different countries: some groups only provide legal and largely non-military services in conflict zones, while others are de facto paramilitary actors that do states' dirty work with a certain level of deniability.

A state's military capabilities, particularly those for operations beyond its territory, depend substantially on its capacity to project power. This capacity can come from platforms such as aircraft carriers, long-range missiles, and over-the-horizon drone capabilities. But permanent bases in overseas territories or other countries' territories can be especially valuable for power projection. Such bases allow states to make much faster deployments of troops and personnel to nearby crises. As Map 6 shows, only a handful of countries have overseas bases – but they have a lot of them. France and the UK have many overseas territories in former colonies, while the US has such territories and an extensive alliance system that includes several agreements to station its troops abroad. Elements of the United States' overseas presence are also remnants of the post-war order, with Japan and Germany home to the largest American military installations outside the US mainland. In 2016 the People's Liberation Army (PLA) began constructing its first overseas base, in Djibouti. This small country on the Horn of Africa is also home to US and French military installations, as well as the first full-scale overseas base of Japan's Self-Defence Forces.

While states can benefit from stationing and training troops abroad (see: Map 7), there is no substitute for real combat experience: one can assume that states that have deployed troops in combat in recent years would perform better in military operations than those that have not done so for a long time. For many Western – especially European – militaries, the wars in Afghanistan and Iraq were an important driver of military modernisation. China, in contrast, last fought a war in 1979 – which might put into question the PLA's fighting ability. Of course, if a deployment becomes too extensive, it can be a drain on, rather than a boost to, a military's war-fighting capabilities and financial resources (considerations that were part of the reason for the US withdrawal from Afghanistan earlier this year).

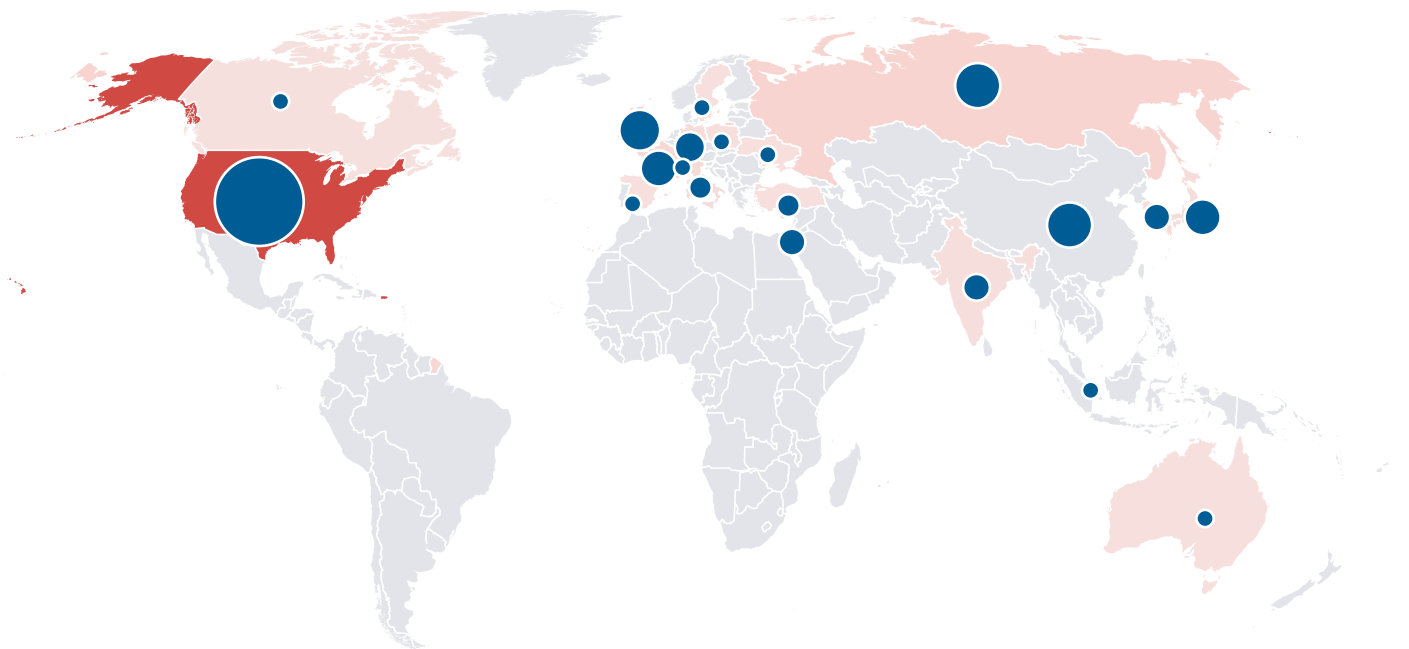
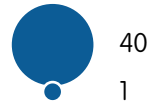
World's largest arms-producing and military services companies

Number of companies in SIPRI Top 100 by country

Total arms sales among SIPRI Top 100 per country, \$m



Number of companies in SIPRI Top 100 by country (2018)




Methodology: SIPRI ranks companies according to the value of their arms sales at the end of what SIPRI considers to be their financial year. While SIPRI formally excludes Chinese arms-producing companies from its list due to lack of data, the institute estimates that ten Chinese companies would be ranked among the top 100 arms-producing and military services.

Source: SIPRI Fact Sheet (2019). The SIPRI Top 100 arms-producing and military services companies

A strong, independent defence industry likely helps states adapt to military developments, be they technological or political. A national defence industry can allow states to quickly scale up production of military systems, if needed – and to do so without support from others. Map 8 shows that the US has a significant advantage here, with a substantial number of the world's largest arms producers located there. But France and the UK also punch above their weight in this field, with eight and six major arms producers located in the two countries respectively.

Yet, while independence can be beneficial to a state's military capability, support from others can also be crucial. Alliances, particularly those with mutual defence clauses such as NATO's Article 5 or the European Union's Article 42.7, significantly boost a state's military power. This is because that state no longer needs to rely only on its own military capabilities, as it can receive support from those of its allies.

Therefore, military capability partly consists of an intricate network of hard power, which one can measure with indicators such as expenditure and numbers of tanks and military bases. But it also includes softer elements such as alliances, readiness, and the ability to act. And efforts to assess states' military capabilities are complicated by the impact of technological developments, a constant companion to military power. As many armed forces have learnt the hard way, no measurement can substitute for real experience. 



The first responsibility of a state is to protect the lives and security of its citizens. The covid-19 pandemic brought the public health dimension of this commitment to the forefront of global politics. The virus showed how global interconnectedness through the rapid movement of people could create extraordinary vulnerability to a highly infectious disease. As covid-19 eclipsed all other political concerns and countries engaged in intensifying systemic competition, governments' approach to public health became a core indicator of their effectiveness. More significantly, the pandemic made clear how countries could exploit the production and distribution of medical goods to gain extraordinary power.

This is true of vaccines above all. The struggle to acquire personal protective equipment (PPE) in spring 2020 was a harbinger of ruthless international competition for medical products. But the development of vaccines offered the first real opportunity to mitigate the threat of covid-19, reduce rates of illness, and allow economic activity to return to normal. This was the first time in history that all governments had a vital interest in procuring a new medical product to administer to every adult in their countries.

With covid-19 almost certain to remain in circulation, and further pandemics likely to occur in the future, health will keep its place as one of the components of national security and power. Countries will now take a more strategic view of their capacity to produce or acquire medical goods. And some will use this capacity as a tool of foreign policy. During the pandemic, countries have sought to benefit from deliveries of medical goods to their partners – to strengthen relations, prevent friendly countries from being at a disadvantage, or gain more direct benefits. In some cases, states have threatened to withhold medical products to further their strategic goals. Most of all, though, powerful countries have sought to secure access to vaccines and other goods, including through restrictions on exports or preferential agreements with suppliers.

Health and national reputation

At a time when geopolitical competition is overlaid with rivalry between different systemic models, the way that countries have tackled the pandemic has had an impact on their international credibility and prestige. Several factors have determined how many cases and deaths have occurred in different countries, making it difficult to equate success in handling covid-19 with a particular socio-political system (see: Map 4 in the culture essay). Nevertheless, one can observe some patterns and standout individual cases.

Until now, the regions that have fared worst in per capita deaths have been Latin America and eastern and south-eastern Europe (see: Map 1). Those that have been most effective at reducing the impact of the disease are east Asia, south-east Asia, and Australasia. China has been particularly careful to treat its response to covid-19 as a matter of national reputation, limiting investigations into the origin of the virus and often suggesting that it may have reached the country from overseas, as well as trumpeting its success in containing the crisis. But other Asian countries have also done well: the key lesson appears to be about the benefits not of state control but of experience from previous epidemics – of preparedness and responsibility. Trust in the authorities and in medical advice, especially on vaccines, also seems to play a role in some cases (see: Map 2). Death rates in the United States have been high relative to its population density – and have continued to rise even since vaccines have been widely available, due to widespread resistance to taking them. In this way, covid-19 seems to add credibility to the idea that east Asia is rising in influence and the US is declining.

The fight for medical goods

The production of medical goods is highly concentrated in certain countries – as one would expect from the fact that, prior to the pandemic, most governments treated this almost exclusively as a question of market efficiency. The shift to seeing health as a matter of national security has prompted a rethink, leading some governments to call for production to be brought home or production lines diversified. The European Union's 2020 New Industrial Strategy for Europe states that “access to medical products and pharmaceuticals is crucial to Europe's security and autonomy in today's world”. In April 2020, then US presidential trade adviser Peter Navarro said: “never again should we have to depend on the rest of the world for our central medicines and countermeasures”.

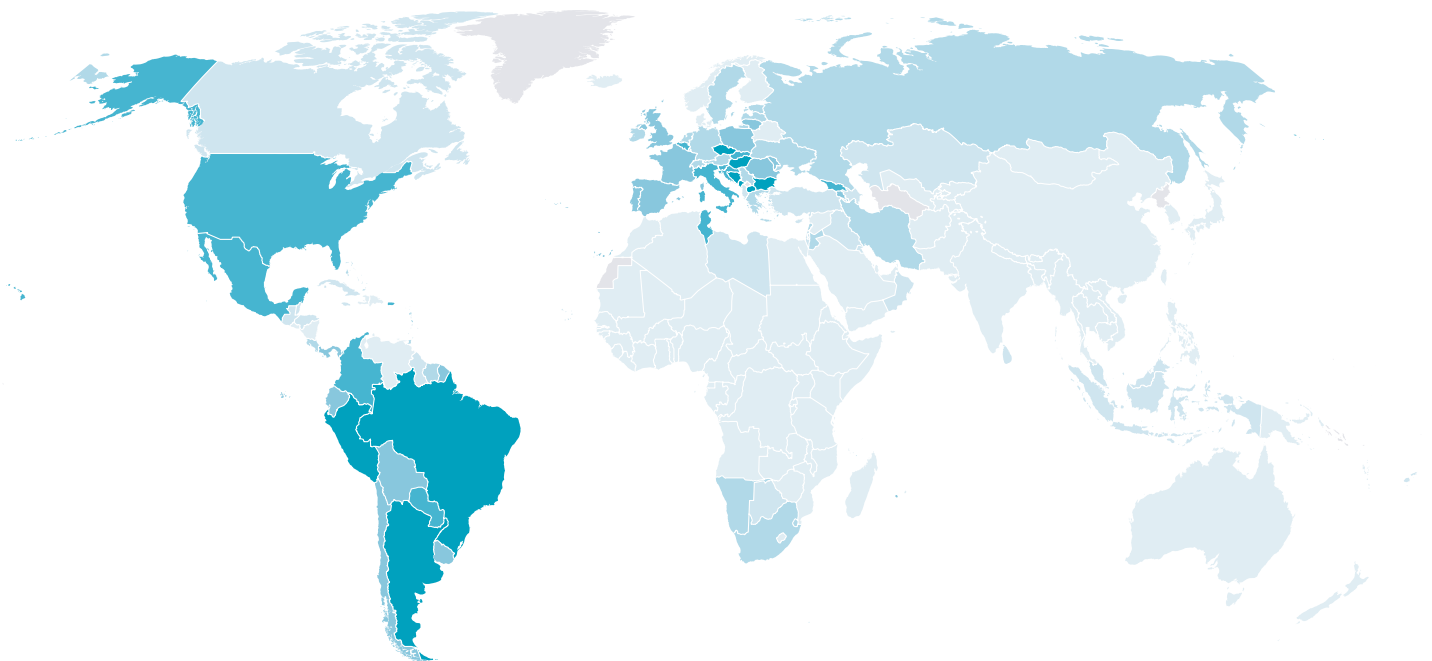
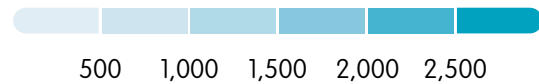
When covid-19 struck, global shortages of PPE meant that some countries were suddenly without the means to safeguard the lives of their healthcare workers and citizens more generally. China dominates the global supply of PPE imported by other

The impact of covid-19

Total death toll

Cumulative covid-19 deaths per million inhabitants (as of 22 September 2021)

Map 1



Methodology: Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the actual number of deaths from covid-19.

Source: Airfinity (2021)

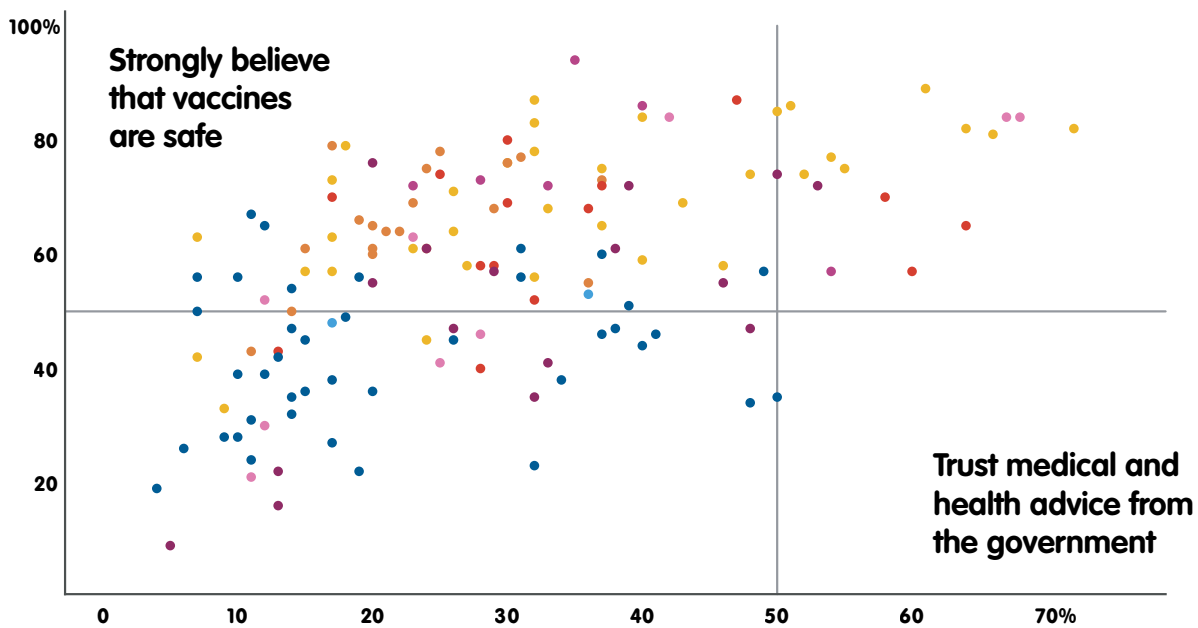
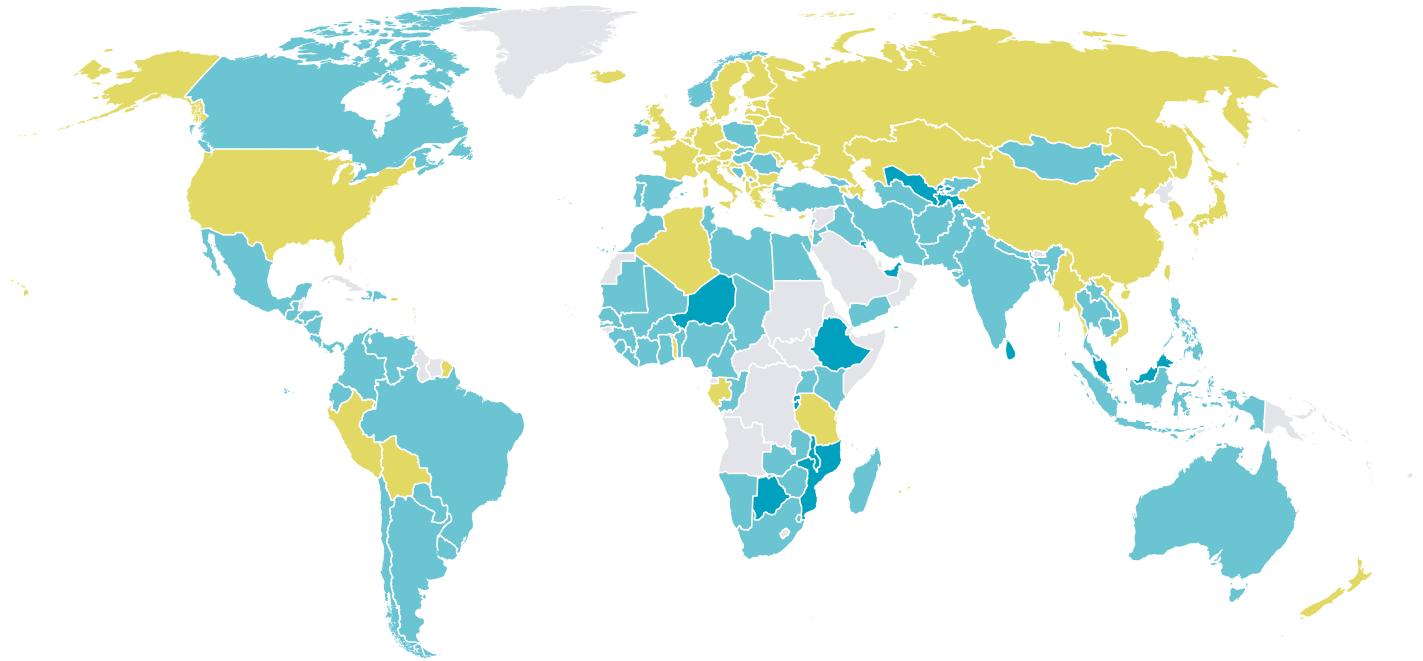
advanced economies (see: Map 3). In 2019 the country was the source of 50 per cent of PPE imported by Europe and 47 per cent of PPE imported by the US – including 67 per cent of masks and respirators imported into Europe and 72 per cent of those imported into the US. In the early months of the pandemic, with Hubei province locked down and China desperately seeking PPE for itself, the country’s exports dropped significantly; some manufacturers with plants there said the government had requisitioned their output.

As the pandemic spread, other countries imposed export restrictions on PPE, including first some EU member states and then the EU as a whole. The US also imposed export restrictions. After China scaled up production and controlled the virus at home, its PPE exports increased. China used exports and, in particular, donations of masks and other protective equipment as a way to highlight its benevolence: Beijing donated PPE both to countries in need and to those it wanted to impress for strategic purposes, including Ethiopia and Hungary. Recipients of Chinese shipments often made public displays of gratitude for them; Serbia’s president, Aleksandar Vucic, spoke of China’s “brotherly care for the citizens of Serbia”.

Trust in medical authorities

Views on vaccine safety and government health advice (2018)

● The trusting
 ● Trust in the safety of vaccines but not the government's advice on health
 ● Sceptics
 ● No data



- Europe
- South Asia
- Latin America and the Caribbean
- North America
- Central Asia
- Sub-Saharan Africa
- East Asia and the Pacific
- Middle East and North Africa

Methodology: The scatter plot illustrates the share of respondents per country who answered "strongly agree" to the question on vaccine safety and those who answered "a lot" to the question on trust in government's health advice. The questions read: 'Do you strongly or somewhat agree, strongly or somewhat disagree or neither agree nor disagree with the following statement? Vaccines are safe.' and 'In general, how much do you trust medical and health advice from the government in this country? A lot, some, not much, or not at all?' The categories in the map correspond to the majority response in each country.

Source: Wellcome (2019). Wellcome Global Monitor 2018

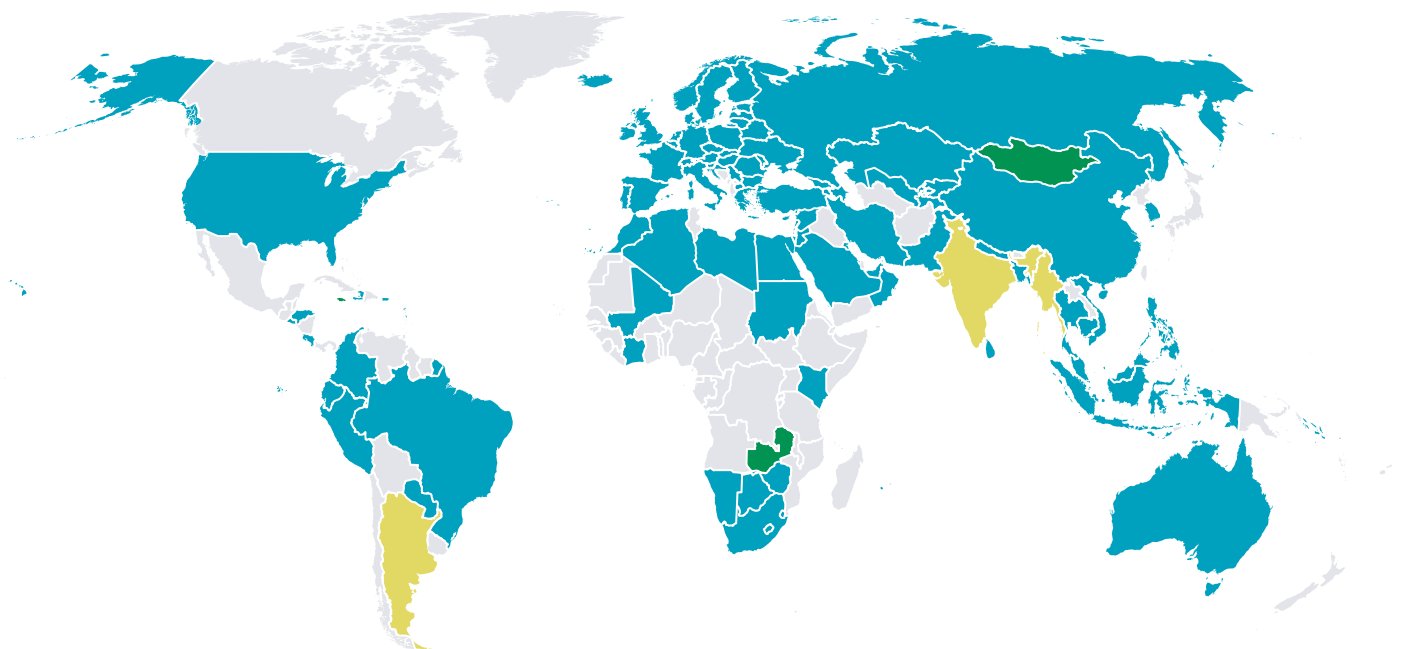
Putting national needs first

Temporary export measures on medical products during the pandemic

Affected products include: personal protection equipment (such as masks and gloves), pharmaceuticals products, hand sanitizer, food, and other products.

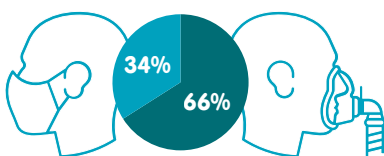
Covid-19 temporary export measures (29 October 2021)

- Export restrictions/bans (97 countries)
- Export restrictions and liberalisations (Argentina, India, Myanmar)
- Export liberalisations (Jamaica, Mongolia, Zambia)
- None (136 countries)

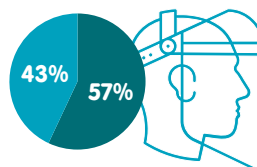


Much of the world's personal protective equipment comes from China (2019)

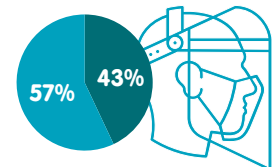
World imports of masks and respirators



World imports of protective garments



World imports of all personal protective equipment



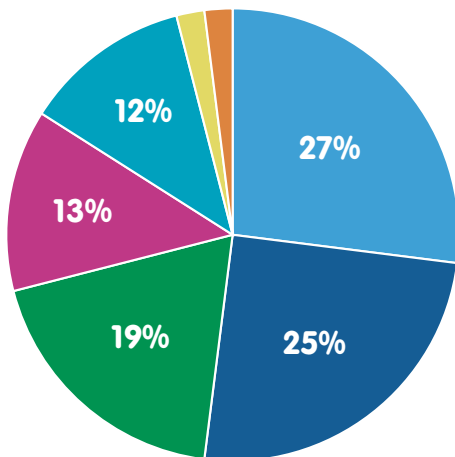
● Rest of the world ● China

US medical dependency

Source of active pharmaceutical ingredients used in the US

All drugs

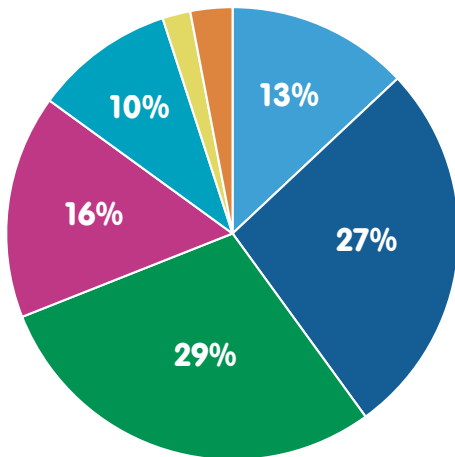
Percentage of API manufacturing facilities for all drugs used in the US by country or region (2021)



- United States
- Europe
- India
- China
- Rest of the world
- Canada
- Latin America

Generic drugs

Percentage of API manufacturing facilities for generic drugs used in the US (2021)



API – an active pharmaceutical ingredient is the element of a drug that has a medical effect on people's bodies. Generic drugs – medications that are not marketed under a brand name but contain the same active ingredients as branded medications (such as aspirin and paracetamol).

Source: The White House (2021). Building Resilient Supply Chains, Revitalizing American Manufacturing, and Fostering Broad-Based Growth, 100-Day Reviews under Executive Order 14017

The pandemic has also drawn countries' attention to their potential dependencies in the procurement of other important medical products. The EU has declared active pharmaceuticals ingredients (APIs) to be a strategic area, alongside products such as semiconductors and lithium-ion batteries. China and India have established leading roles in the manufacture of pharmaceuticals – particularly low-cost generic drugs. In 2015 Europe accounted for 24 per cent of global API production by value. Sixty-six per cent of global API production occurred in the Asia-Pacific (principally India and China), 3 per cent in north America, and 7 per cent in the rest of the world. The EU imported 53 per cent of the APIs it used by volume – almost all from China (45 per cent), the US, the United Kingdom, Indonesia, and India.

The US is more import-dependent than Europe, with only 27 per cent of the manufacturers that supply APIs to the US market located within the country as of 2021; by contrast, 25 per cent of these manufacturers are located in the EU, 19 per cent in India, and 13 per cent in China (see: Map 4). For generic drugs, the share of EU and US manufacturing is lower: 29 per cent of manufacturing sites are in India, 27 per cent in the EU, 16 per cent in China, and 13 per cent in the US. It is unclear whether the complex interdependency of pharmaceuticals supply chains will prevent governments from weaponising them, but wealthy countries are carefully assessing their vulnerabilities in this area.

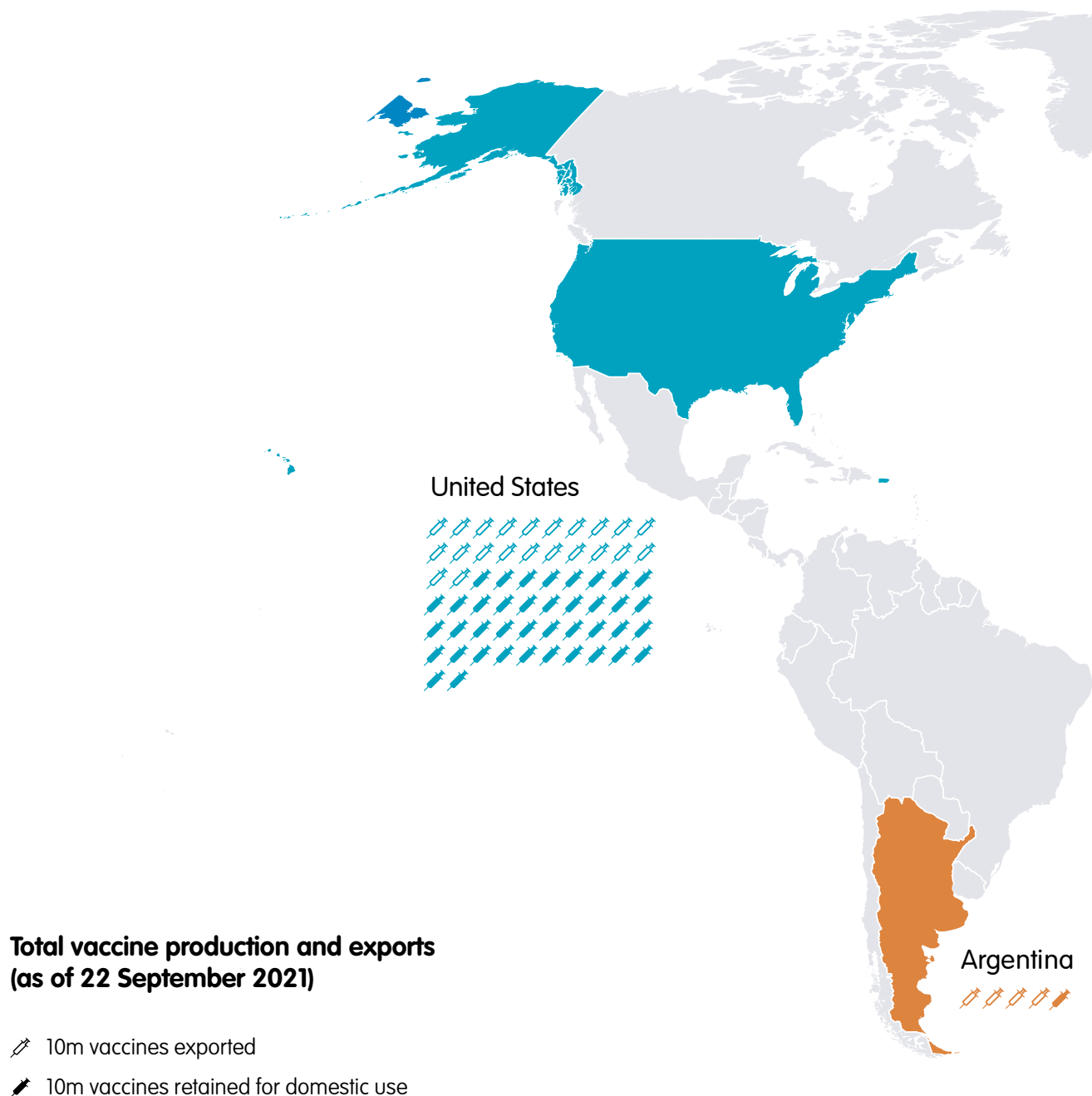
Vaccines

In a normal year, 4 billion vaccine doses are produced worldwide. The development of covid-19 vaccines led to a dramatic increase in vaccine production: it is likely that around 12 billion doses of covid-19 vaccines alone will be produced in 2021. Global vaccine production is dominated by a small group of countries – forming what some scholars have described as a “vaccine club”. A recent study by Bruegel estimates that, before the pandemic, the EU was the world's largest vaccine producer, closely followed by India. China and the US completed the list of major producers, with significant production also taking place in Indonesia, South Korea, Japan, and Russia. The EU and the US exported mainly to higher-income countries, while India dominated sales to lower-income countries – largely of vaccines produced under licence at low cost. Chinese exports were insignificant.

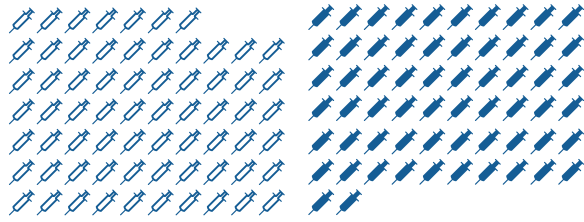
The advent of covid-19 has radically changed this picture. For covid-19 vaccines, China has vastly increased its production to become the clear global leader, and the US has become the second-largest producer, followed by the EU, India, and the United States (see: Map 5). However, there is a marked difference between the vaccines produced in each country or region: the US and the EU have produced the only mRNA vaccines

Vaccine powers

Vaccine production and exports



European Union



Russia



United Kingdom



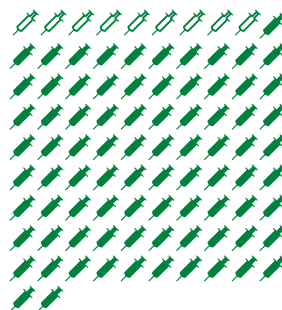
Switzerland



South Korea



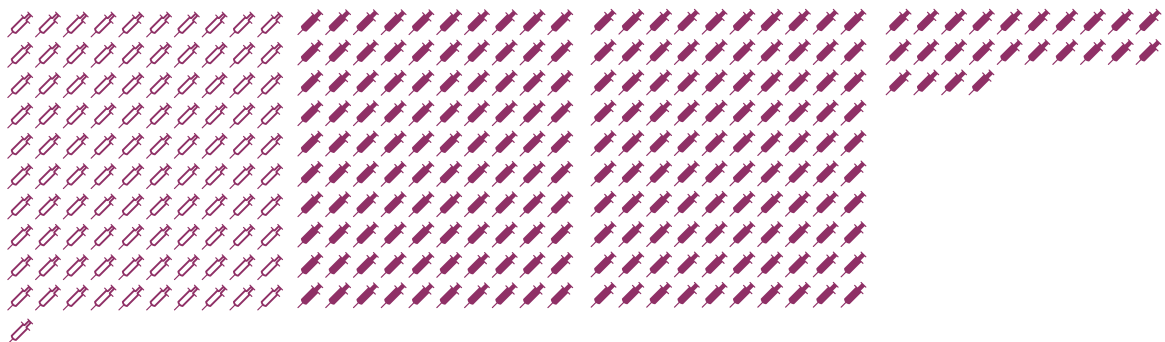
India



Thailand



China



that have been approved for use – which have emerged as the most effective vaccines against covid-19. The EU and the UK have produced the leading viral vector vaccine, which is based on research at Oxford University and produced by British-Swedish firm AstraZeneca, and is cheaper and more easily transportable than mRNA vaccines. The same technique has been used under contract in India. Russia's Sputnik V vaccine is also based on viral vector technology. China has focused on producing inactivated virus vaccines, including Sinopharm and Sinovac.

In an even more marked change from pre-pandemic patterns, China is now the leader in vaccine exports, followed by the EU. The US and India have exported a smaller number of doses, with the state purchasing the bulk of their production.

There is a significant segmentation of export markets by destination. Producers in the EU have exported a higher proportion of doses to richer countries, while China has exported more to the developing world (see: Map 6). Global patterns of production, procurement, and export reflect a strikingly unequal distribution of vaccines, with Africa and the Middle East particularly disadvantaged (see: Map 7).

The easiest way to understand the geopolitics of vaccine production and distribution is to compare the different approaches taken by leading powers. One can divide these approaches into the following five categories.

Industrial strategists: The US and the UK

From the beginning of its vaccine effort, the US has followed an industrial strategy designed to address all parts of the production process. In Operation Warp Speed, the US government has invested heavily throughout the vaccine supply chain to rapidly scale up production, and has intervened in the market to promote cooperation between companies. The British government did something similar, working closely with AstraZeneca to develop a production supply chain in the UK for the vaccine developed in Oxford. Both countries used this strategic approach to procure supplies for their own populations, becoming global leaders in the early vaccination of their citizens. The US barely exported any vaccines during the first months of its vaccination drive, but the success of Operation Warp Speed has allowed it to become the leading donor of vaccines to the rest of the world in recent months – and it is poised to distribute many more doses in the next year (see: Map 8).

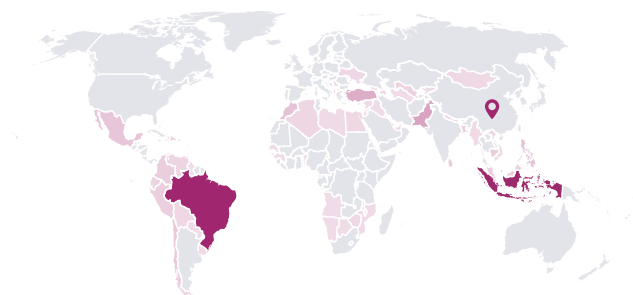
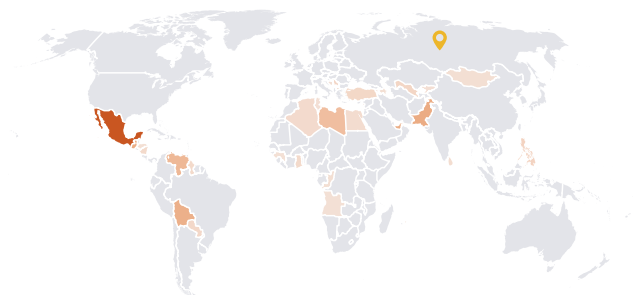
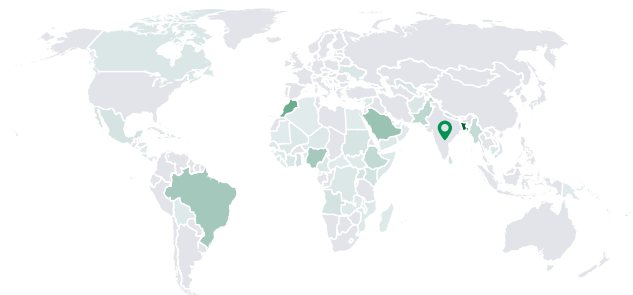
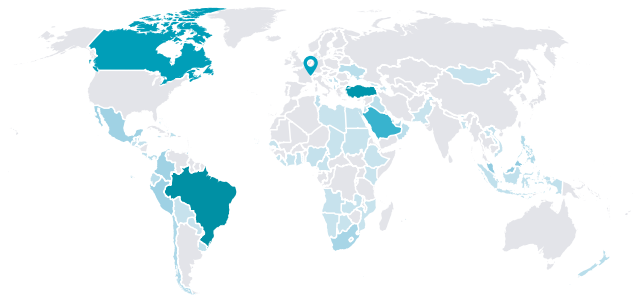
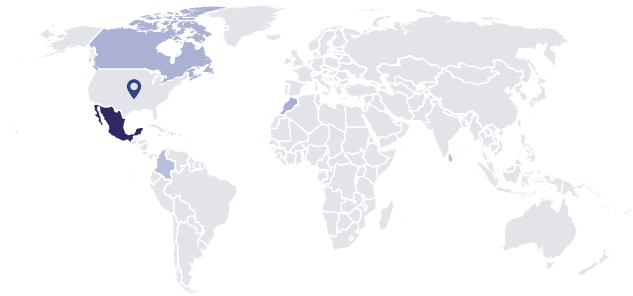
The global vaccine market

Export destinations of covid-19 vaccines

Total number of exports
(as of 22 September 2021)



- United States
- European Union
- India
- Russia
- China



Methodology: Cumulative number of vaccine doses exported per country, and the recipients of these doses.

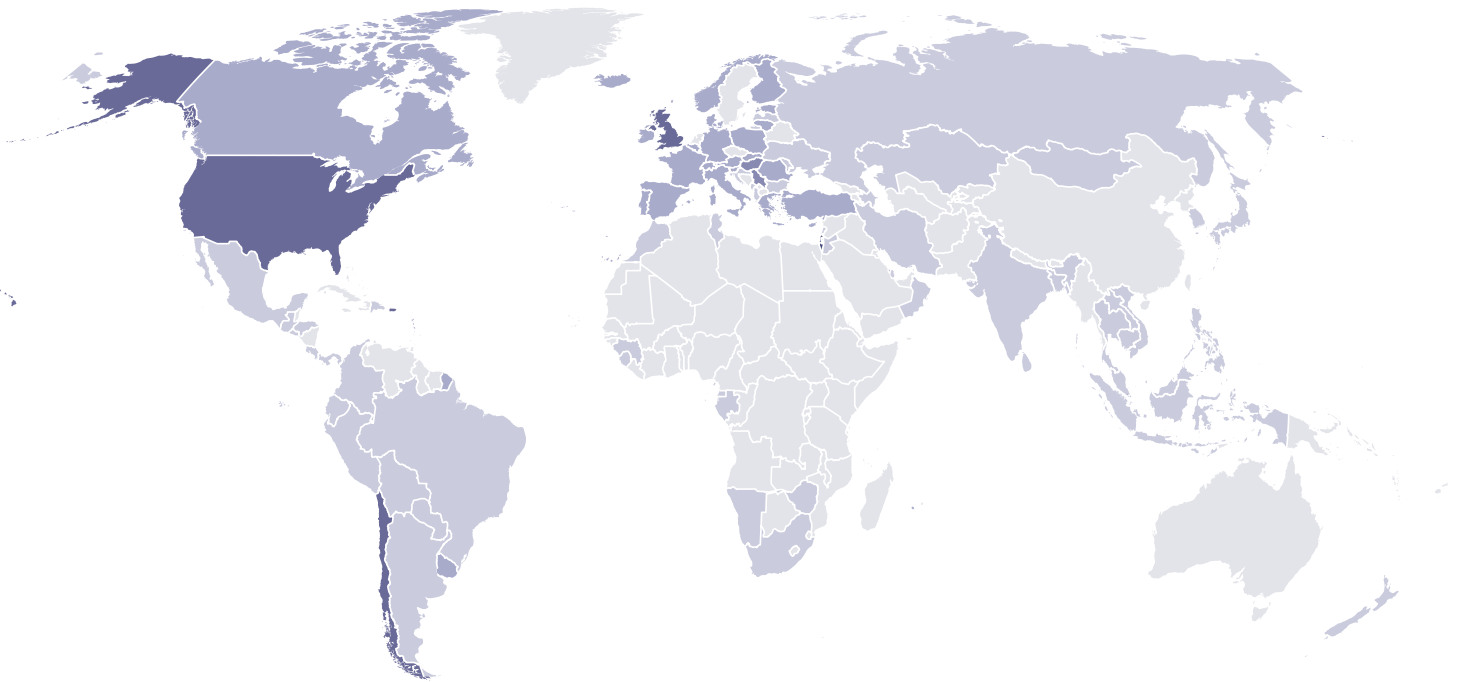
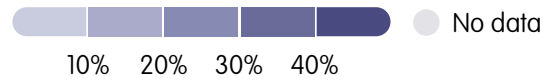
Source: Airfinity (2021)

The vaccination race

Percentage of population fully vaccinated



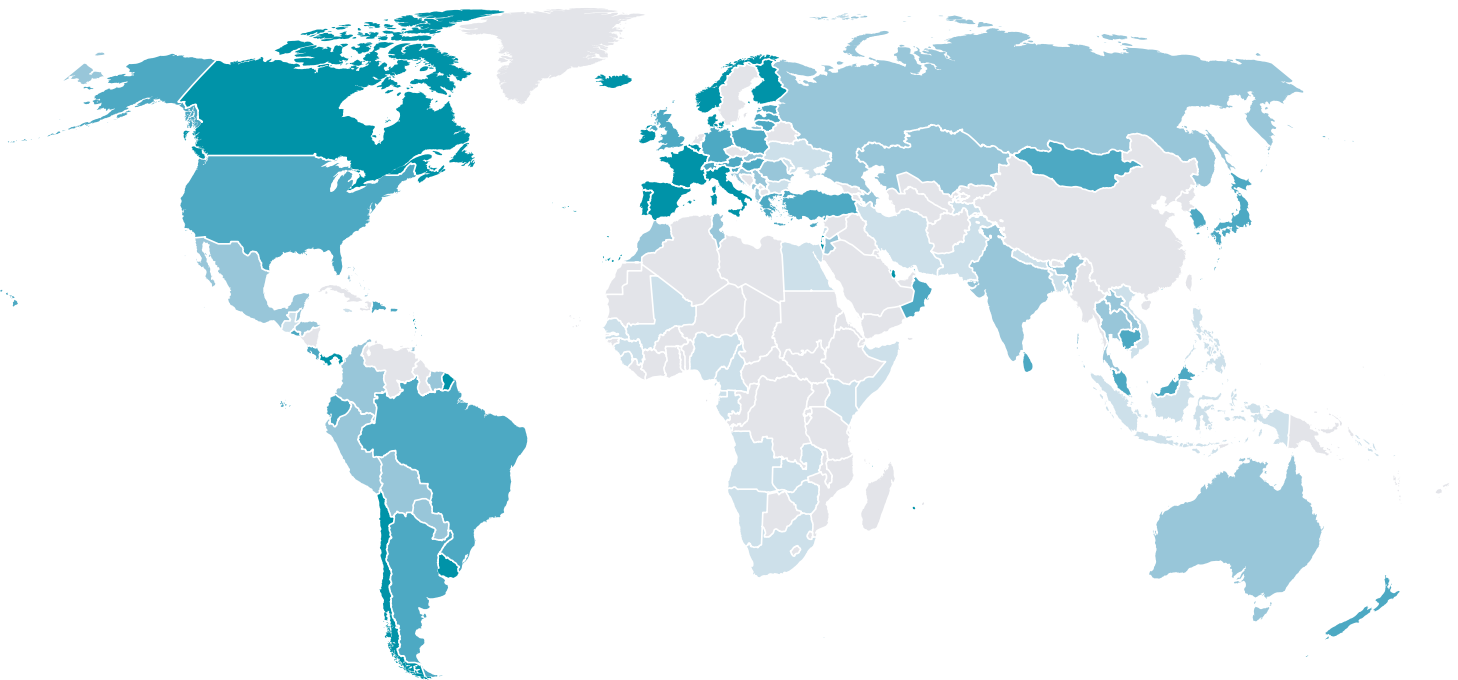
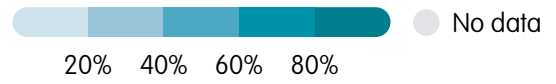
People fully vaccinated as a share of the population (30 April 2021)



Methodology: Number and proportion of people who are fully protected against covid-19 in each, per country over time. This is calculated by using the number and type of vaccines supplied to each country, the efficacies of these vaccines, the administration of vaccines in each country, and the delay until protection after administration.



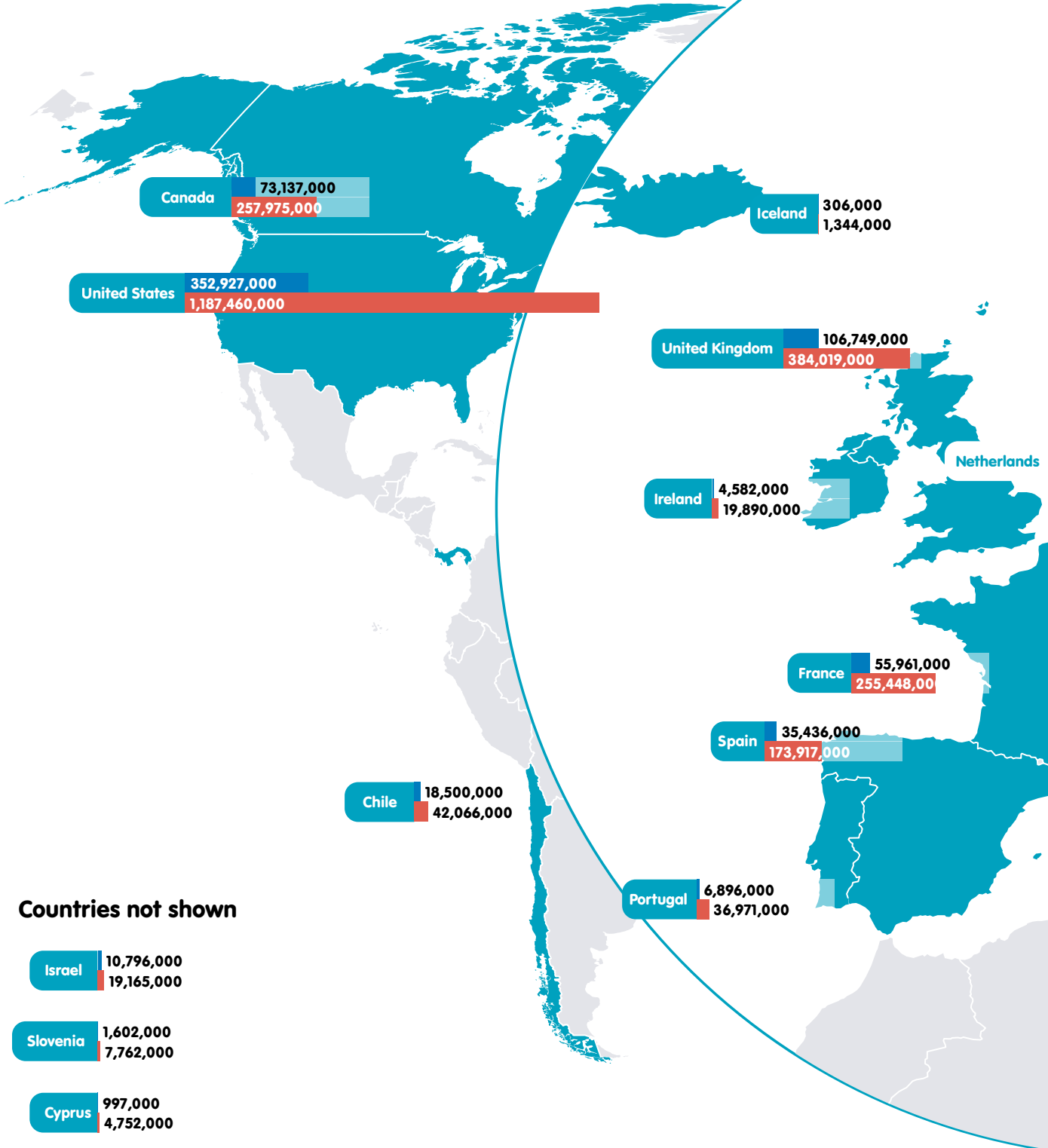
People fully vaccinated as a share of the population (19 September 2021)



Excess vaccine stock

Projected surplus vaccine doses

● 2021
 ● 2022
 ● No data



Methodology: Number of surplus doses available per country by the end of 2021 and 2022 for a given scenario, in this case after securing necessary doses to vaccinate 100 per cent of the population over 12 years of age and administer booster vaccine doses to people at high risk (those who are over 60 or have comorbidities).

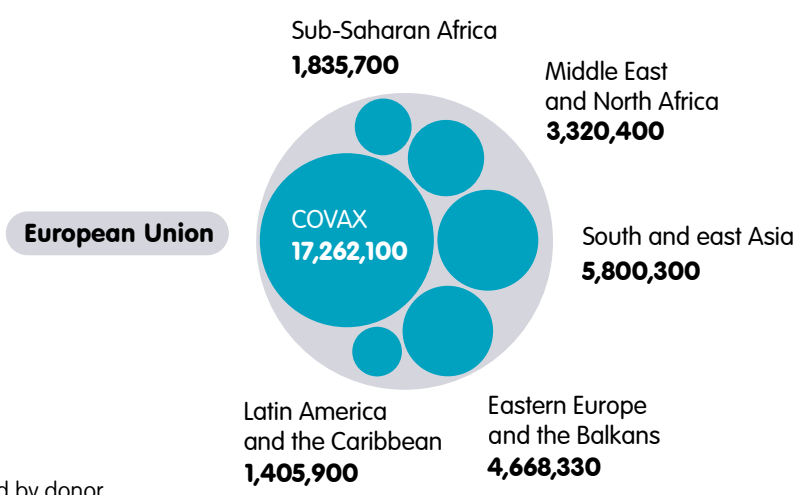
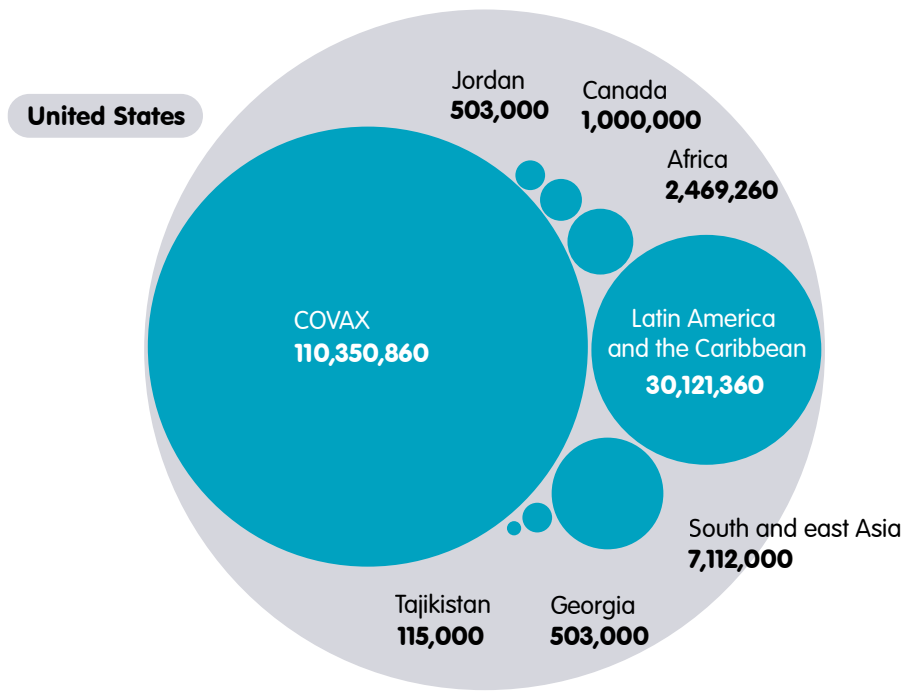
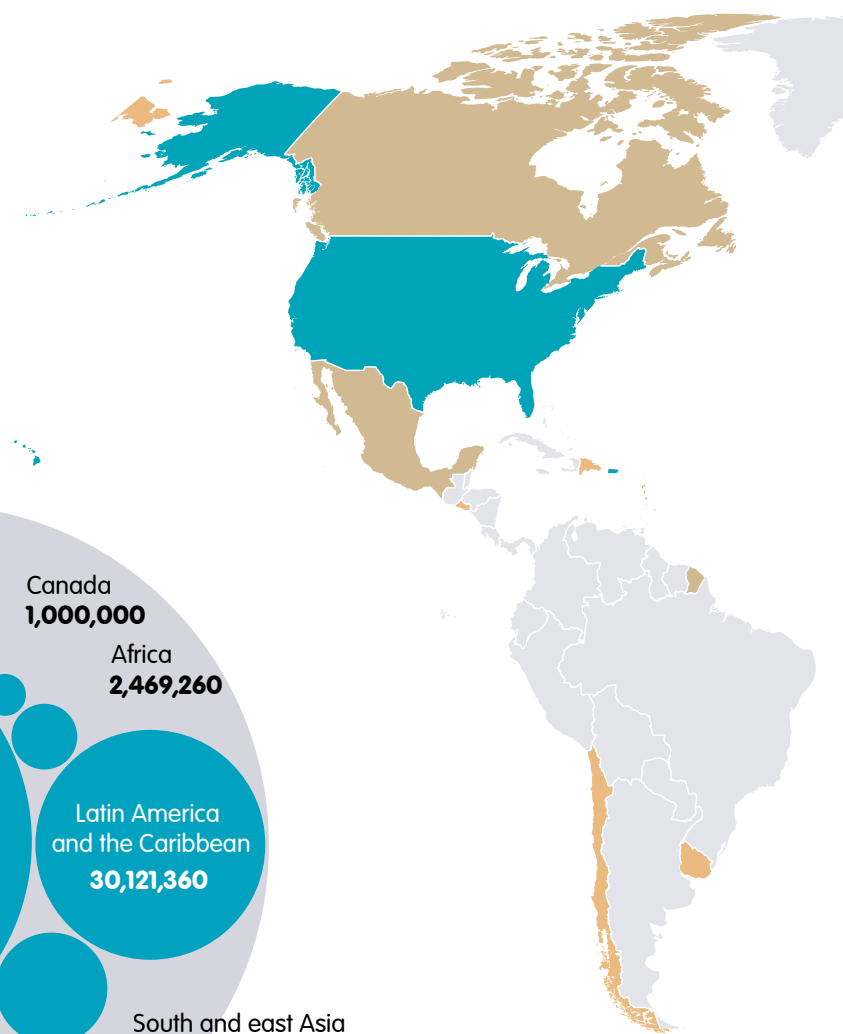
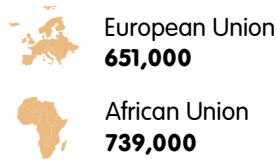


Vaccine donations

Sources and destinations of donated vaccine doses

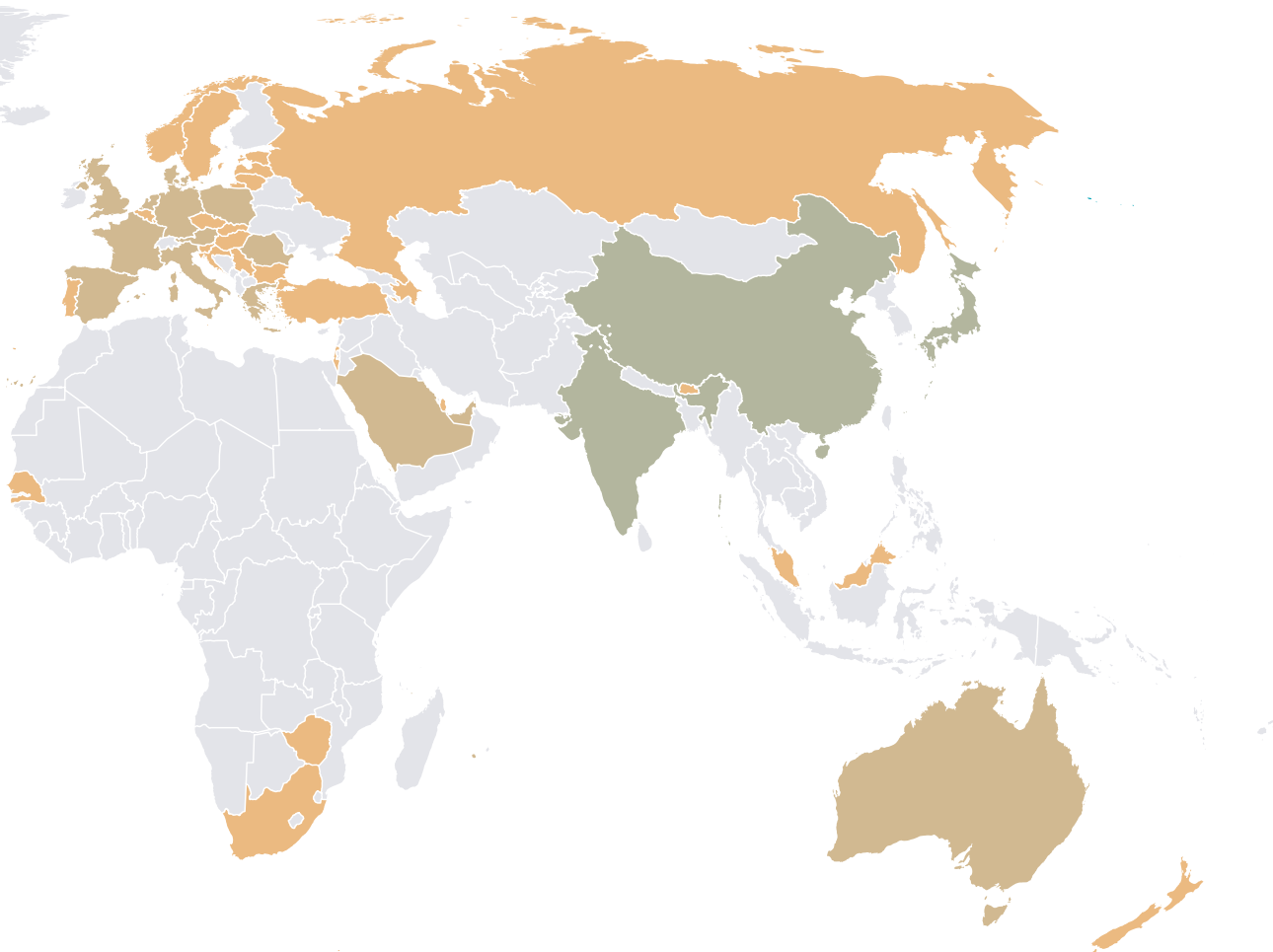
Total vaccine donations delivered (as of 23 September 2021)

- ≥100m
- 50-100m
- 10-50m
- 1-10m
- <1m



Methodology: Number of vaccine doses delivered by donor countries to recipient countries as of 23 September 2021. This includes bilateral donations as well as COVAX H1 deliveries.

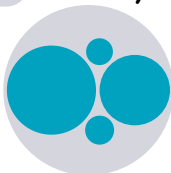
Source: Airfinity (2021)



United Kingdom

Kenya
410,000

COVAX
4,526,980



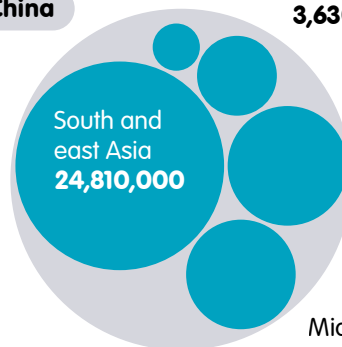
South and east Asia
2,825,040

The Caribbean
478,800

China

The Caribbean
1,270,000

Eastern Europe
and the Balkans
3,630,000



South and
east Asia
24,810,000

Sub-Saharan Africa
8,153,340

India

Albania
50,000

Mongolia
150,000

Middle East
and North Africa
225,000



South and east Asia
7,850,000

The Caribbean
1,190,000

Middle East
and North Africa
6,842,000

Oceania
110,000

Sub-Saharan Africa
965,000

Market champion: The EU

Unlike the US, the EU initially approached the procurement of covid-19 vaccines through a traditional arm's-length process, negotiating contracts with EU-based pharmaceuticals companies and making a relatively small initial outlay of money compared to the US and the UK. As a result, these firms fulfilled their contracts with the EU alongside other contracts, and continued to export doses – primarily to wealthy countries. However, after production problems led to a shortfall in doses, the EU launched an export notification procedure and Italy blocked a shipment of vaccines destined for Australia. In the face of growing public discontent about the slow pace of vaccine deliveries to Europe, the EU shifted towards a more strategic approach. By mid-2021, the bloc had vaccinated large parts of its population and begun to donate doses to third countries. The EU has directed a large part of its donations to its partners in its region, especially in the Western Balkans, as well as to COVAX.

Outward-facing authoritarians: China and Russia

China has had great success in scaling up its vaccine production. And, because it contained covid-19 domestically through stringent restrictive measures, the country has been able to export and donate more than 1 billion vaccine doses (as of late September 2021). China has emerged as the leading supplier of vaccines to the developing world, and has used its sales to advertise its sense of responsibility to address global challenges. The country has also directed exports and donations to areas of strategic interest, including the Western Balkans, and has taken advantage of delays in supplies from the EU. China has focused these exports and donations on its partners in the Belt and Road Initiative. And the country has allegedly threatened to withhold exports for political purposes: in 2021 Ukraine withdrew its support for a statement on Xinjiang at the UN Human Rights Council after Beijing reportedly warned that it could block vaccine exports it had promised to the country.

However, the lower efficacy of Chinese vaccines has undercut China's diplomatic success. Latin American countries that relied heavily on Chinese vaccines have continued to experience significant death tolls even in the latter stages of their vaccination campaigns. In south-east Asia, countries turned away from Chinese vaccines and towards Western ones after the former fared poorly against the delta variant of covid-19.


Russia bet heavily on its vaccine as a tool of international influence, naming the product after a Soviet-era scientific triumph and promoting its sale around the world. One Russian official said the country planned to vaccinate 10 per cent of the world's population in 2021. But, so far, Russia's efforts have fallen far short of its promises. Everywhere from Latin America to south-east Asia, countries that placed orders for Sputnik V have faced massive delays, undercutting Russia's soft power campaign.

Licensing giant: India

Before the pandemic, India had already established its position as the leading vaccine producer outside the advanced economies – above all through pharmaceuticals giant the Serum Institute of India (SII). As a result, India was able to quickly start producing covid-19 vaccines – particularly the AstraZeneca one – under licence at the SII. By producing this comparatively cheap and easy-to-transport vaccine at a low cost, India aimed to be the pharmacy to the world – it was supposed to supply many of the doses ordered by COVAX. In addition, India began a programme to donate doses to neighbours such as Nepal, Bangladesh, Sri Lanka, and Myanmar, as part of an effort to build up its regional influence. However, a devastating surge of covid-19 cases at home led India to restrict exports, hitting COVAX and leaving space for Chinese vaccines in the region. Argentina and South Korea are among the other countries with significant contract manufacturing capacity.

Aspiring producers: Rwanda, Senegal, and South Africa

The developing world's lack of vaccine doses has led to an intense debate about the best way to increase global production. South Africa is leading efforts to establish a significant vaccine manufacturing capacity in Africa, a continent that is largely dependent on imports and donations from elsewhere. South Africa and India are at the forefront of a campaign to lift intellectual property protections from medical products related to covid-19. Several firms in South Africa are seeking licensing agreements from Western manufacturers, while two companies in the country have established an mRNA technology transfer hub. The EU has promised €1 billion to build up vaccine manufacturing in Africa. And German firm BioNTech has agreed to manufacture vaccines at sites in Rwanda and Senegal. So far, however, many vaccine production locations outside the developed world merely engage in 'fill and finish' operations – processing active ingredients manufactured elsewhere (see: Map 10). This limits the independent power they bring to their host countries.

With vaccine production increasing and many people in the rich world vaccinated, a lively debate is under way about how to increase access to vaccines for lower-income countries. Much attention has been paid to vaccine donations, but global health advocates have called for companies to set up production sites in developing countries – or, even better, to transfer technology and expertise to local manufacturers. Such knowledge transfers would not only help increase vaccine production in the medium term but would also begin to redress the unequal distribution of power in global health. 



Culture

by Mark Leonard and Ivan Krastev

At the end of the cold war, the world experienced a unipolar moment. It was not just that the West had won the global arms race: liberal democracy became the gold standard, while Western culture, ideas, and values were pre-eminent. But the cultural dynamics of the 2020s are very different. The world is moving from an imperial era – in which Western countries saw their ideas and values spread to the most distant corners of the globe, empowered by the success of the capitalist economic model and a revolution in communications technology – to one of decolonisation, in which countries are increasingly trying to ‘take back control’ and consume their own culture rather than mimic others.

The onset of this new era, marked by the cult of one’s uniqueness, has dramatic implications for the exercise of power in the world. There are at least three big new trends for the power of culture: a mood of cultural decolonisation that halts the spread of Western ideas, a transformation of democracy that challenges liberalism, and a shift from relying on the power of example to exploiting the vulnerabilities of other systems. To grasp how these dynamics have created a new balance of cultural power in the world, it is important to understand where they come from and how the idea of culture has changed in the last three decades.

The rise and fall of soft power

Just before the end of the cold war, America was captured by a fear of inevitable decline triggered in part by the rise of Japan. It was in this context that political scientist Joseph Nye argued that the debate about how to influence others focused too much on “hard power” – the economic and military muscle of the state – and not enough on the attractiveness of the ideas and cultures of different societies. The capacity to attract, which he christened “soft power”, made him sceptical of the arguments of those who predicted America’s decline. Nye argued that the United States had hidden reserves of soft power based on its liberal model, which the rest of the world would want to imitate.

At the dawn of the twenty-first century, the idea of soft power seemed to explain everything. It explained why Soviet communism had collapsed, why democracy had spread globally, and why the post-cold war world was dominated by the US. There was a sense that the ‘end of history’ was not only a political phenomenon but a way of life that encompassed all aspects of one’s being. It was also a missionary era, an ‘age of conversion’: alongside the advance of liberal democracy and American consumerism, there was the spread of religions that always had this universal appeal – Christianity and other faiths trying to disseminate their ideas, Saudi Arabia dispatching its imams to other countries, and so on (although some would see the spread of Islamism as the first big indicator of resistance to Western soft power).

But the age of conversion created fear of what the French philosopher René Girard has called “contagious similarity”. He claimed that the spread of ideas could generate anxiety in many countries about a “pure and simple disappearance of their society”. Today, American soft power is not so much a virus that is close to taking over the world as one that has prompted the emergence of very powerful cultural antibodies. And, in many countries, these antibodies are much more powerful than the universalist ideas that were meant to trigger them.

There is now a celebration of cultural resistance in various forms rather than attempts to mimic the West. Multiple ideologies are doing well – we no longer live in the flat world of transnational ideologies but rather one characterised by the spread of ideas that preserve people’s cultural essence. The digital revolution has accelerated all this by making it easier for diasporas to maintain their national cultures. It has also allowed a shift from a verbal to a non-verbal culture that is starting to dethrone the central position of the English language. In the new visual world, one does not need to speak English to become a global celebrity.

This is leading to a new map of world power that has three important dynamics.

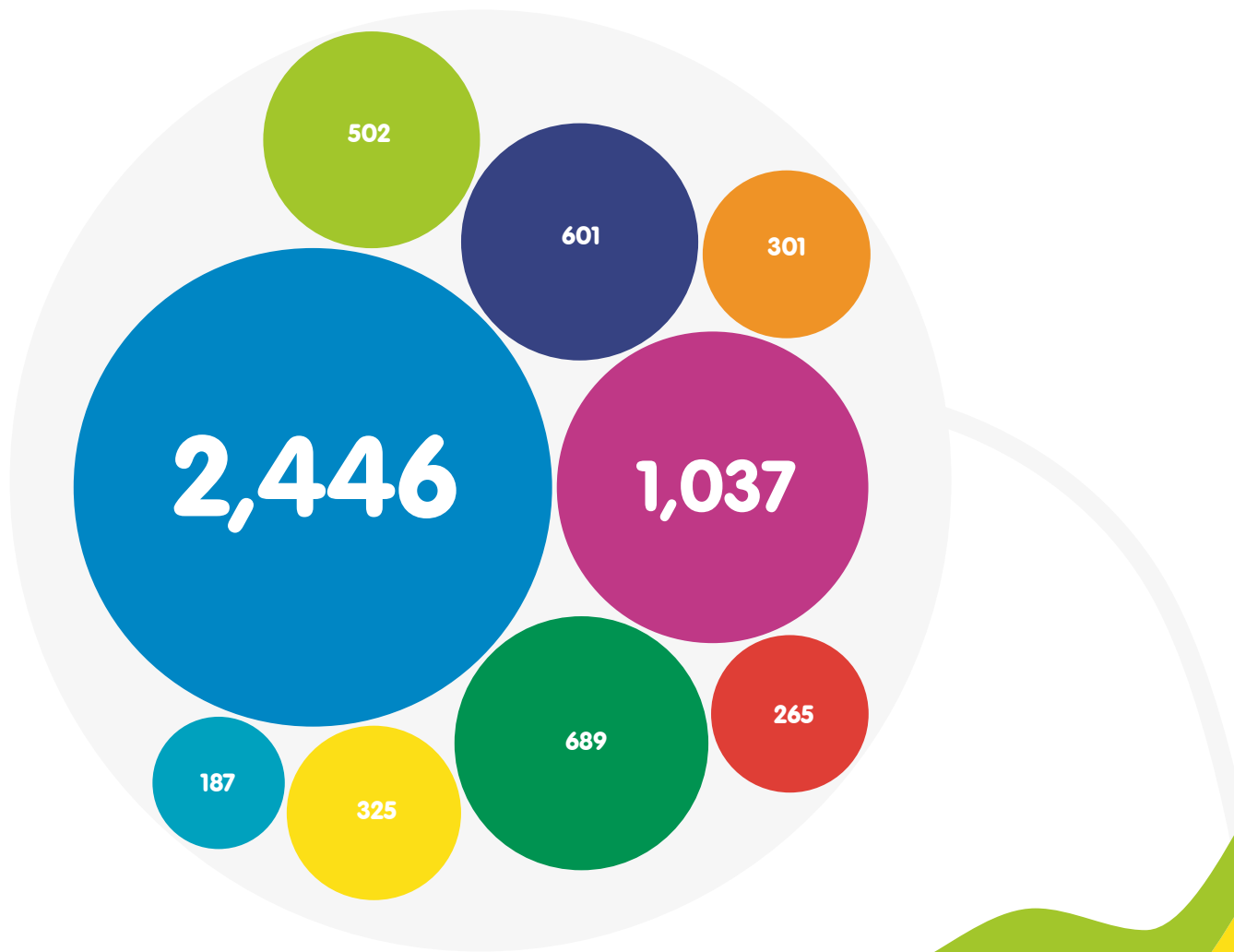
Cultural decolonisation

Towards the end of the cold war, the spread of American values was widely seen as being synonymous with freedom. But, today, many in the world regard liberty as coming from a rejection of universalist values rather than an embrace of them.

This is leading to a new map of world power on which the most important cultural powers are not the universalists (the flat-worlders) but unique cultures that are hard to replicate and, therefore, provide novelty without threatening the culture of the consuming nations. Indian cinema, Turkish television shows, and South Korean pop music – all things that do not threaten to take over one’s society – have become more attractive than Hollywood or American pop music.

Bollywood is one example of this. As Map 1 shows, India produces more movies than any other country in the world. In 2019 India produced 2,446 movies to China’s 1,037 and the United States’ 601. In the 1990s, the US was by far the biggest film producer. India exports its films to more than 70 countries. Indian cinema has spread to countries with no direct links with India – such as Nigeria, Egypt, and Peru – because it allows people to be entertained “without engaging with the heavy ideological load of ‘becoming Western’”, as anthropologist Brian Larkin puts it.

Films produced in 2019
by country



Source: Marché du Film: Focus – World Film Market Trends (1993-2020), "Top 10 markets worldwide by feature film production", released by the European Audiovisual Observatory; Historical data on China's film production prior to 2005 was supplemented from: National Bureau of Statistics of China (2005), Film production quantity (22-8)

A huge domestic market partly explains India's rise to cultural prominence, but does not explain that of some of the other new cultural superpowers. One of the most surprising is South Korea, a country that is increasingly punching above its weight in the cultural stakes.

In 2020 South Korean movie 'Parasite' became the first non-English language film to win 'best picture' at the Oscars. So-called K-dramas have been dubbed into many indigenous languages such as Guarani and have captured 86 per cent of television viewership in, for example, Iran. And South Korean video games have become incredibly popular around the world. But the most surprising South Korean export is perhaps pop music. K-pop is now a global phenomenon that is challenging the dominance of American and British music.

In 2012 South Korean pop song 'Gangnam Style' had the first video in history to reach one billion views on YouTube.

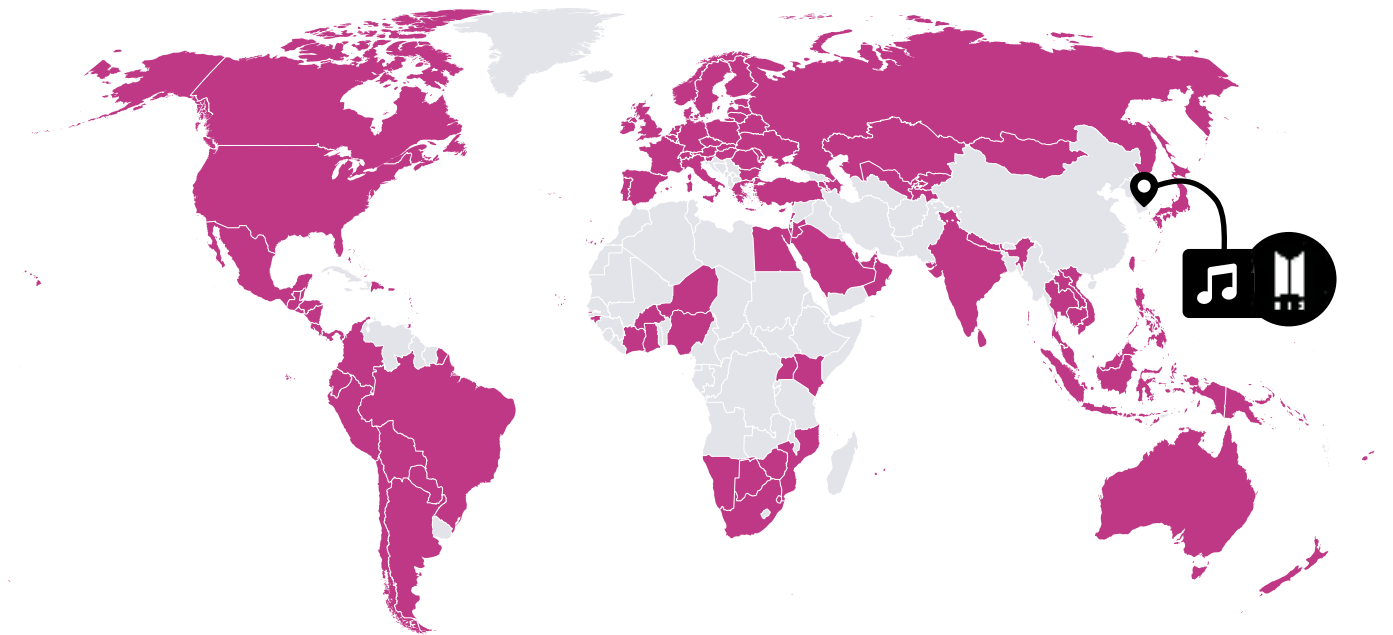
In July 2020, K-pop boy band BTS broke the record for most number-one singles on iTunes worldwide, which had previously been held by Adele. The group's track 'Black Swan' topped the charts in 104 countries. In 2020, as Map 2 shows, BTS singer V broke the record again with his song 'Sweet Night', which topped the iTunes chart in 118 countries. The band has also become Guinness World Record holder for most Twitter 'engagements'.

Turkish television shows have spread almost as far as South Korean pop. Programmes such as 'Magnificent Century' have come to rival American television in international popularity, sweeping through the Middle East, Asia, and Latin America. Known as 'dizi', Turkish period dramas seem to have "achieved the perfect balance between secular modernity and middle class conservatism", according to author Fatima Bhutto. Since 2002, more than 150 dizi have been sold to over 100 countries, including Algeria, Morocco, and Bulgaria. It was 'Magnificent Century' – which was sold to 89 countries (see: Map 3) – that blazed the way for others to follow. The Turkish government claims that, by 2023, the Turkish economy will pull in \$1 billion from dizi exports.

The power of K-pop

Map 2

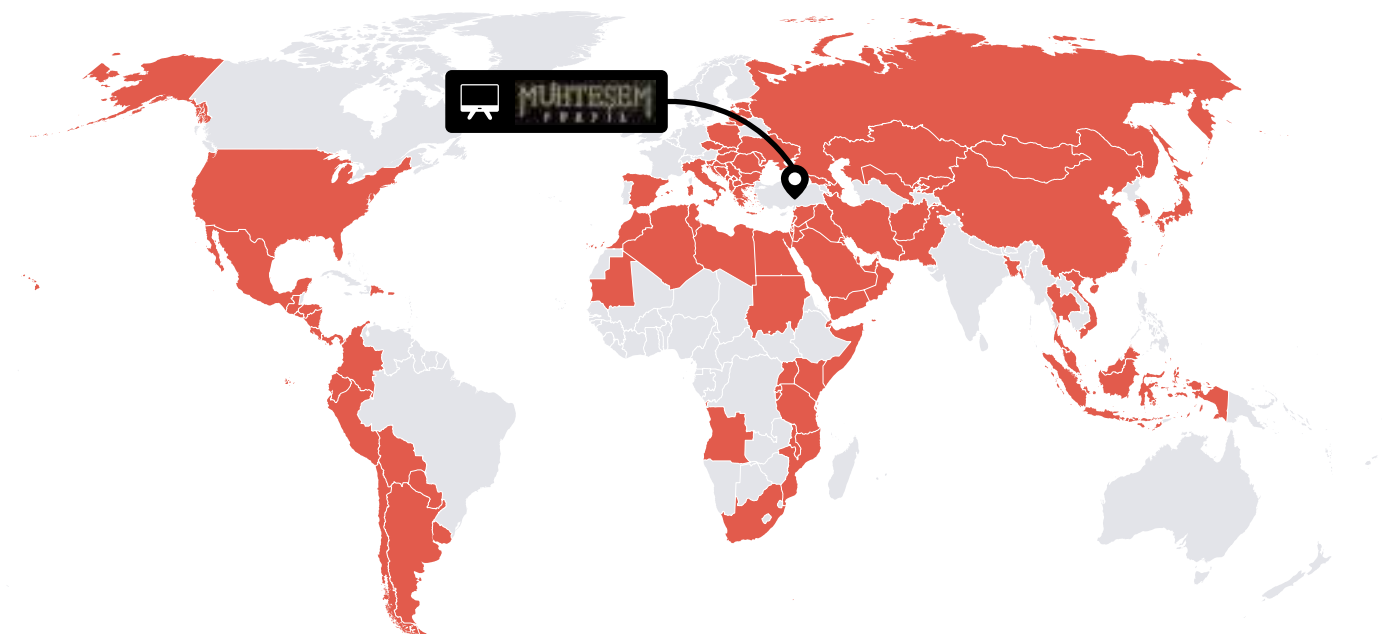
Countries in which 'Sweet Night' by BTS's V topped the iTunes charts



The power of Turkish television series

Map 3

Turkey's exports of 'Magnificent Century'



Source: Kpopmag.com (21 April 2021), BTS's V Becomes The First Artist In History With The Most No.1s On iTunes Worldwide For 'Sweet Night'
Source: Tims&B Productions (2019)

The blurring of democracy and authoritarianism

During the cold war, the world was split between free countries and authoritarian states – a divide that gave enormous soft power to the West. It was not just that many people yearned for the freedoms of liberal democracy, but also that liberal democracies seemed to be richer and better at solving political problems than their rivals. And, in the case of the US, they were also more powerful in every measure.

Superficially, the world looks very similar today, with many people talking about a new cold war between the US (as the ‘leader of the free world’) and a China that stands alongside other authoritarian powers such as Russia. However, although maps of the politics of the world might be superficially similar, the power of political ideals has changed dramatically. There are two profound differences between the world today and that of earlier eras.

The first concerns the performance of democracies. When it comes to the big questions on the political agenda, there is no longer a clear link in popular perceptions between regime type and effectiveness.

As Map 4 shows, there does not seem to be a big difference between the success of the free and non-free countries when it comes to the battle against covid-19. And Map 5 shows that there is a similar dynamic when it comes to economic growth.

Map 4

Methodology: The ‘free’ and ‘non-free’ world classification is based on the global freedom index produced by Freedom House. The free world includes countries that are classified as “Free” for the year 2020. The non-free world includes countries that are classified as either “Not free” or only “Partly free” for the year 2020. Raw data on confirmed cases and deaths for all countries are sourced from the COVID-19 Data Repository by the Center for Systems Science and Engineering at Johns Hopkins University and maintained by Our World in Data. It is updated daily and includes data on confirmed cases, deaths, hospitalisations, and testing.

Source: Dong, E., Du, H., and Gardner, L. (2020) An interactive web-based dashboard to track COVID-19 in real time. *Lancet Inf Dis.* 20(5):533-534. doi: 10.1016/S1473-3099(20)30120-1; Freedom House, Freedom in the World, 2021 edition

Map 5

Methodology: The ‘free’ and ‘non-free’ world classification is based on the global freedom index produced by Freedom House. The free world includes countries that are classified as “Free” for the year 2020. The non-free world includes countries that are classified as either “Not free” or only “Partly free” for the year 2020. Raw data on the Real GDP growth in annual percentage change is sourced from the IMF Datamapper.

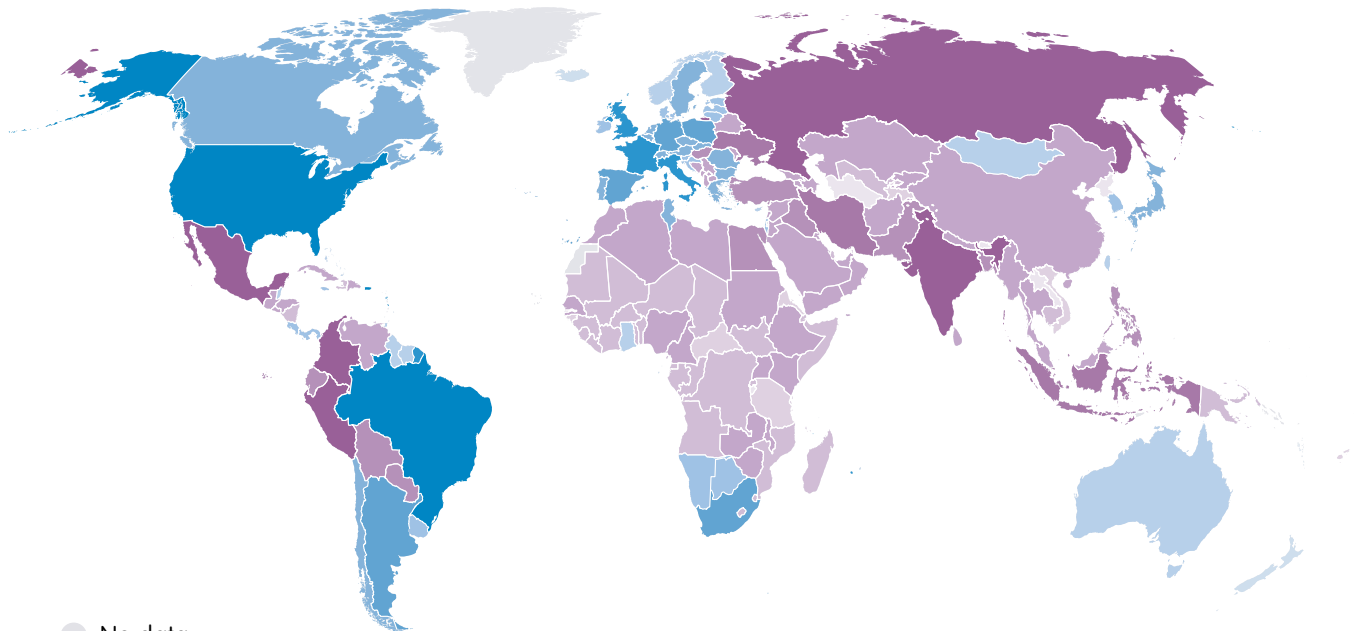
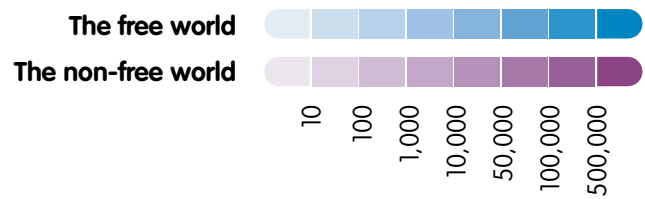
Source: International Monetary Fund (IMF) (April 2021). The World Economic Outlook (WEO) database; Freedom House (2021), Freedom in the World, 2021 edition

The free and non-free worlds

The fight against the pandemic

Cumulative covid-19 deaths (as of 1 June 2021)

Map 4



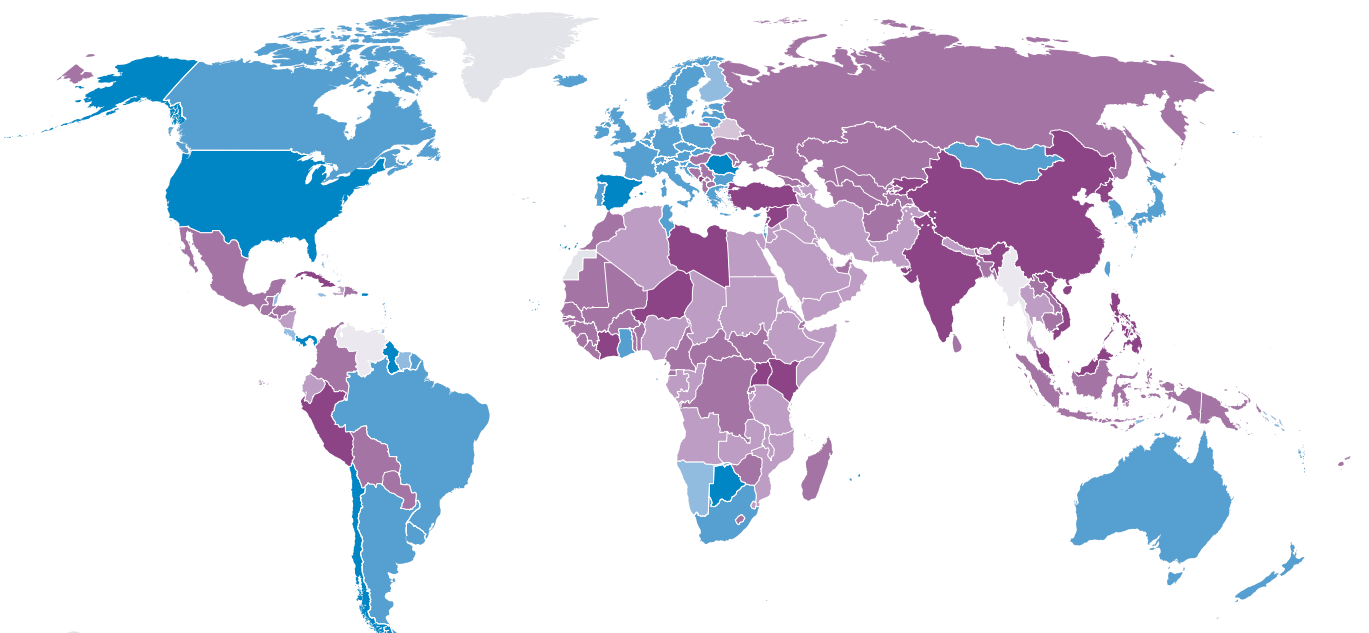
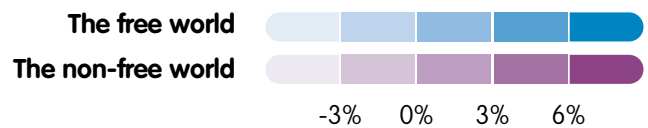
● No data

The free and non-free worlds

Economic growth

Real GDP growth
(Annual percentage change, April 2021)

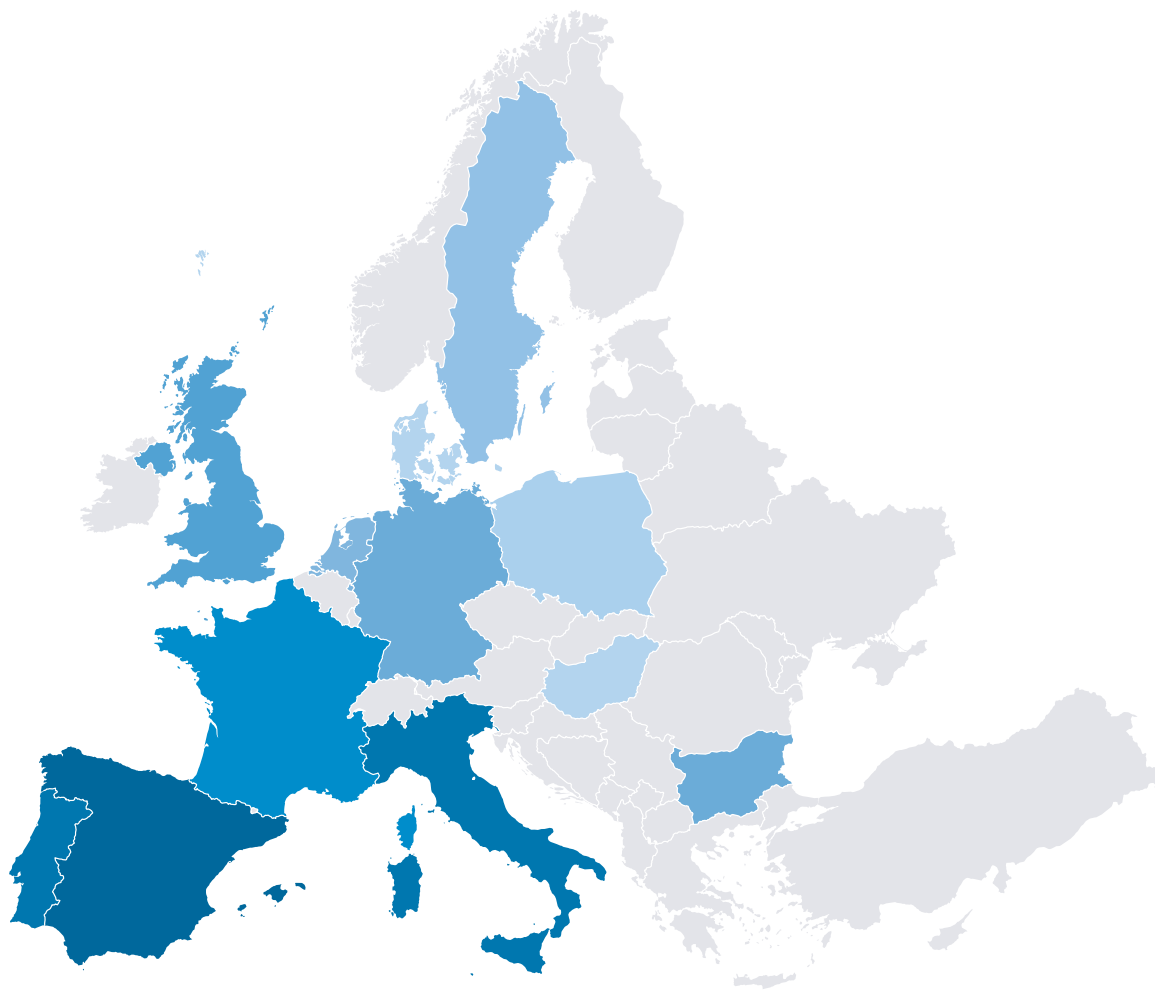
Map 5



● No data

Europeans' views of Chinese power

Share of respondents who said that China will be a stronger power than the US by 2030



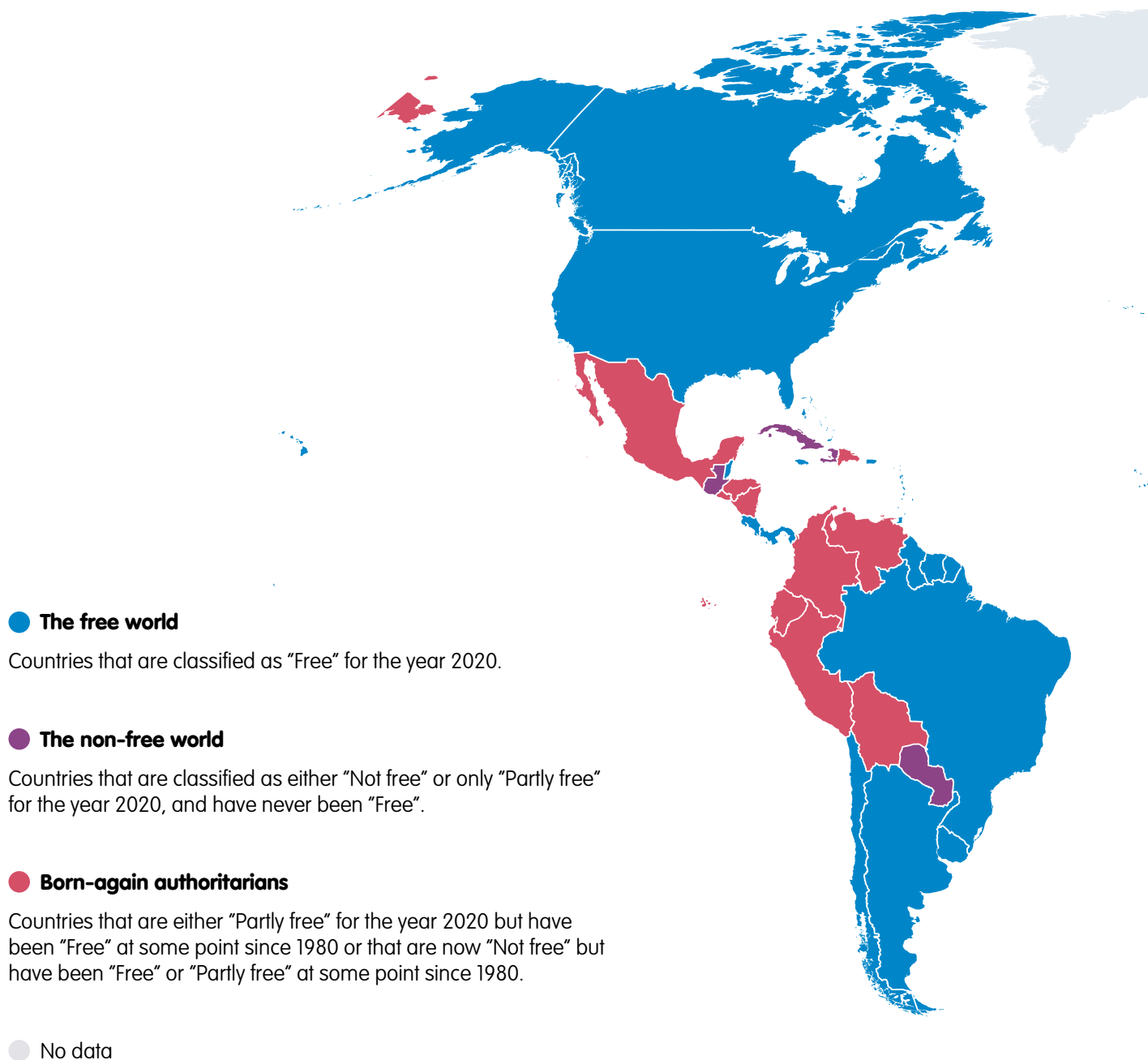
Map 6 shows that many people believe the link between democracy and power is also breaking. Even in the liberal democracies of western Europe, a majority think that China will overtake the US to become the most powerful country in the world.

But even more important than the relative performance of democracies and authoritarian states is a revolution within the idea of democracy. After a long period where liberal democracy seemed to be spreading, there are now reports of a democratic recession and a debate about democratic backsliding. According to Freedom House, the number of liberal democracies grew from around 100 to close to 150 between the 1980s and the mid-2010s. In its latest report, Freedom House talks about “the 15th consecutive year of decline in global freedom” and explains that “the countries experiencing deterioration outnumbered those with improvements by the largest margin recorded since the negative trend began in 2006”.

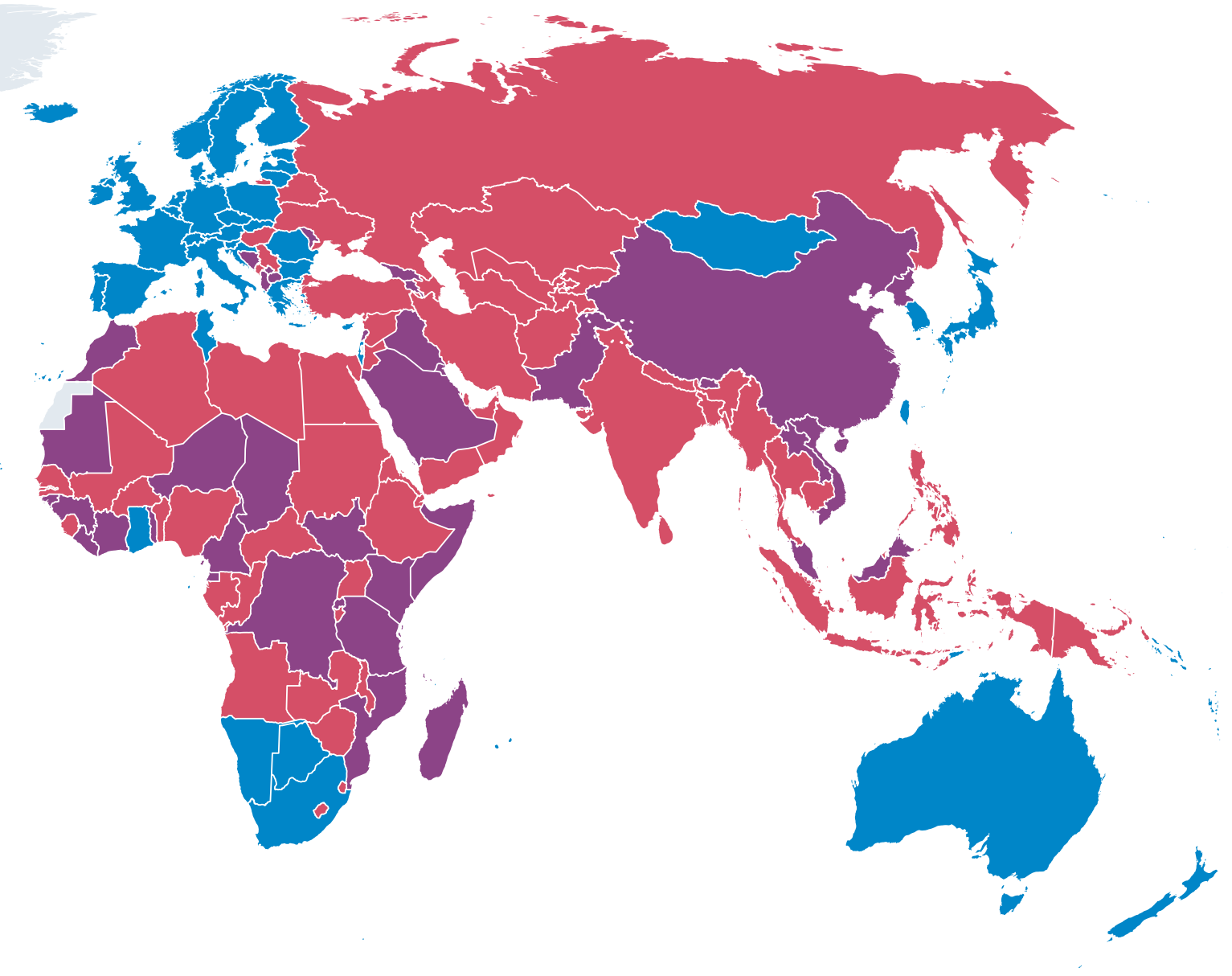
Map 7 uses Freedom House data to show how the world is no longer split between free and non-free countries. Looking at the work of these authors, we think that we could include a new category, ‘born-again authoritarians’, to describe states that had a taste of freedom but then moved towards the non-free world. Examples of this are Hungary, which has been classified as “partly free” since 2018, and Russia, which has been classified as “not free” since 2004. More recently, India moved from being “free” to being “partly free” due to a multi-year pattern of discrimination against its Muslim population and attempts to silence critical voices in the media and civil society. What comes out of this map is a much more contested idea of what democracy is – something that makes a simple opposition between the free and non-free worlds very difficult to use to mobilise political support.

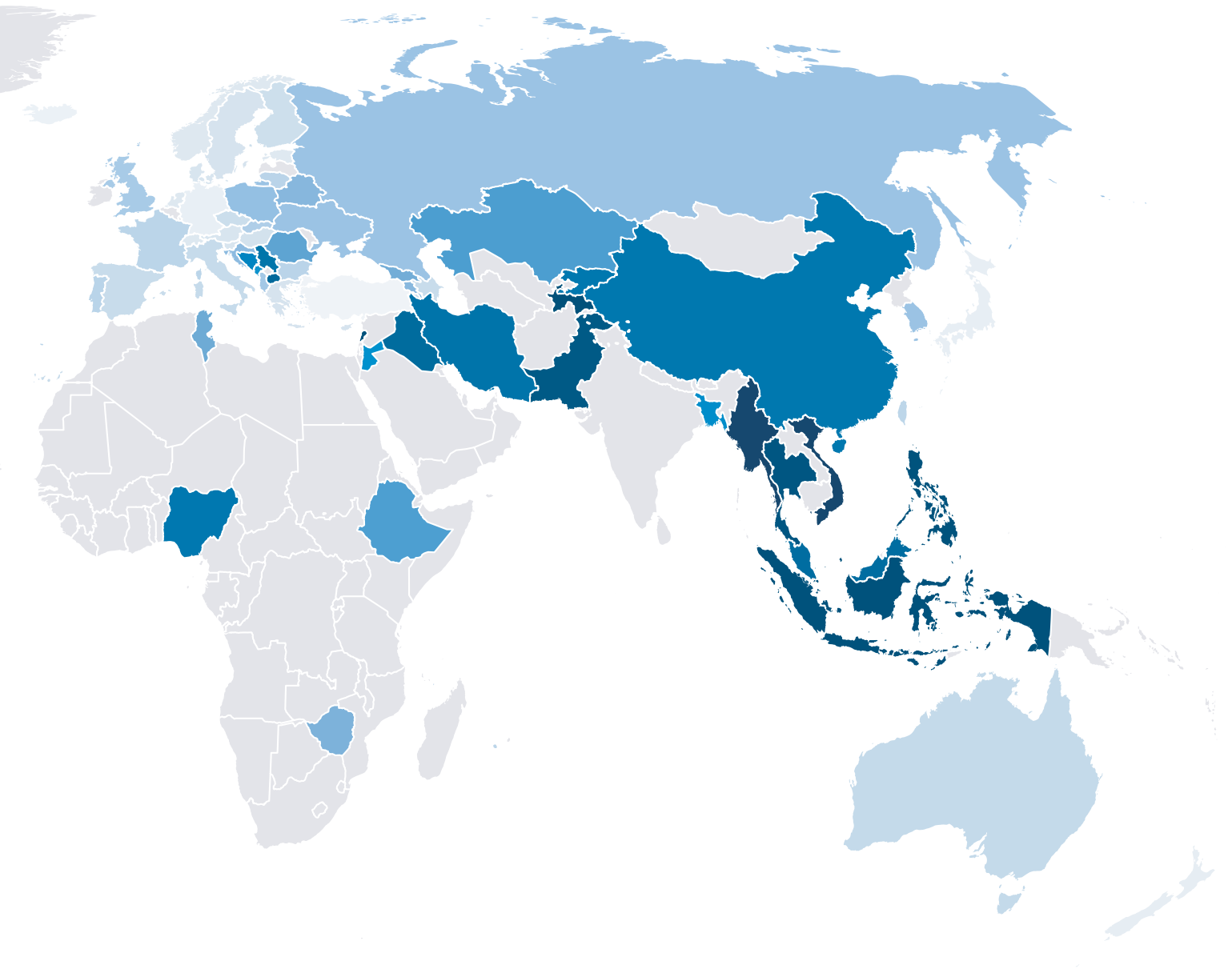
This is not simply because many of the born-again authoritarians still claim democratic credentials, as is the case in many countries where they have won free, if not always fair, elections. It is also because – as a recent study conducted by Pew Research Center demonstrated – the vast majority of American and French voters are deeply disappointed with their own political systems (as are many others in Europe). Some are even unconvinced that they still live in a democracy. Map 8 shows that a surprising number of people around the world think that military rule is a good way of governing a country. In the US, for example, 20 per cent think along those lines. In the European Union, Romania has the biggest share (31 per cent) of potential supporters of military rule.

Born-again authoritarians

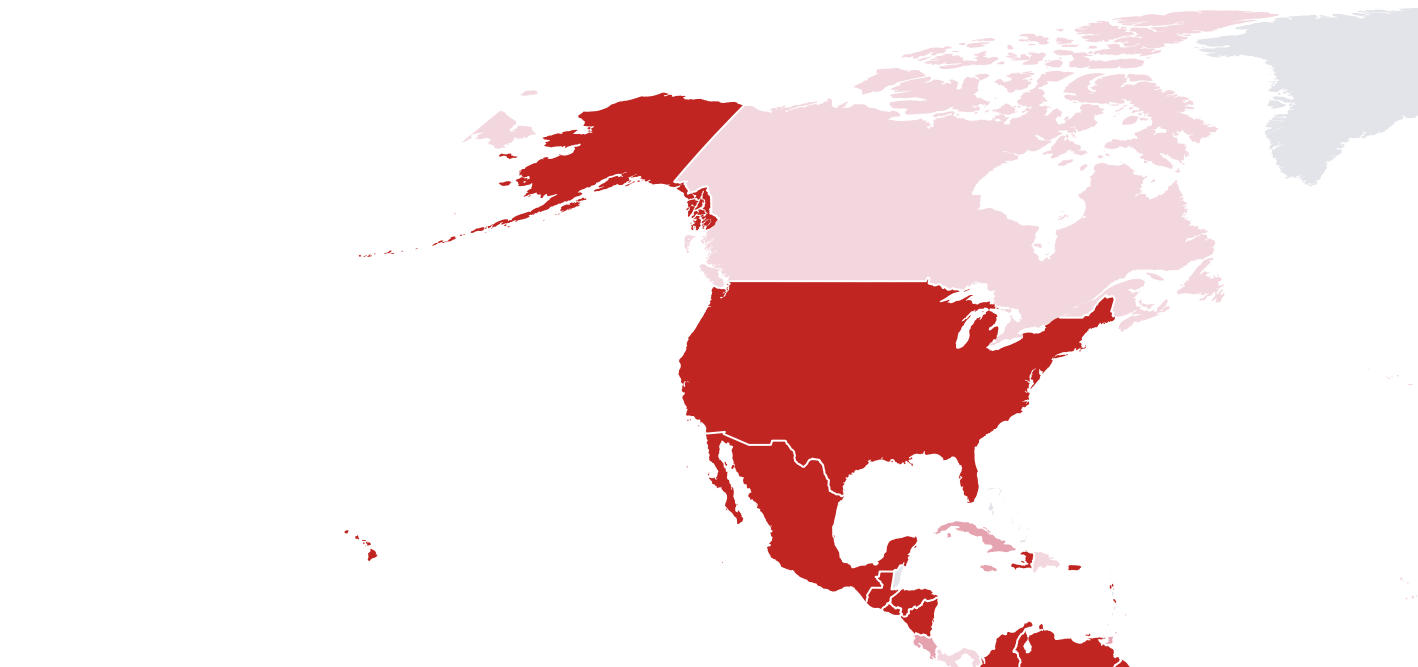


Methodology: Calculations based on the global freedom index produced by Freedom House for 1980 to 2020 (as the year under review), which is the latest available data published by Freedom House in 2021.





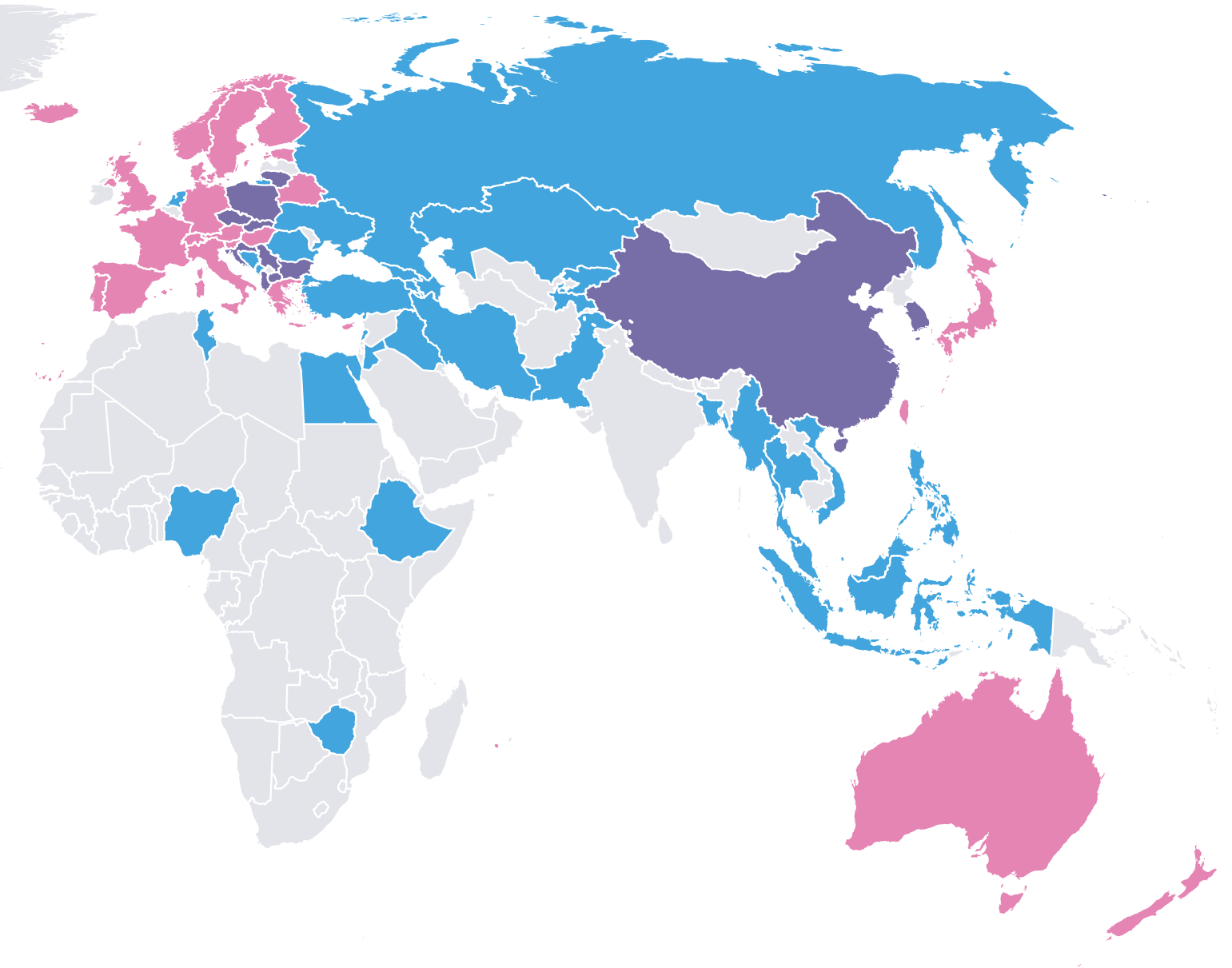
The polarised world



The Polarisation of Society indicator (2020)



Methodology: The Polarisation of Society indicator, developed by V-Dem in collaboration with the Digital Society Project, measures the extent to which differences in opinions result in clashes of views on major political issues. This is measured on a scale of 0 to 4, where 0 indicates serious polarisation on almost all key political issues and 4 indicates virtually no polarisation.



Weaponising the vulnerabilities of other systems rather than being a city on a hill

The most dramatic change to the missionary era is that great powers now seem keener to exploit the weakness of other systems than to strive to become a model themselves. Authoritarian states such as Russia find it much easier to exploit the weaknesses of others than to export their own values or political models. They can see how they can increase their power by dividing others without needing to come up with anything that is attractive on their own side.

In many advanced democracies, the political centre is eroding, and societies are becoming polarised into camps that are divided by culture and values. The stark polarisation of society in many countries with advanced economies has created a lot of vulnerabilities to external interference. Map 9 shows how divided the world now is, using the V-Dem indicator of polarisation in society. The indicator is based on ratings provided by experts and academics in each country, who measure differences of opinions on major political issues.

The front line in many of these new conflicts is often culture and identity rather than class. And the issues that are most divisive often relate to sexuality. Map 10 shows a profound gap between young and old people in different countries. Often, it is when countries have begun to liberalise their attitudes to these social questions that the previous majorities begin to feel that they might become ‘strangers in their own lands’ – and to organise politically. The Brexit referendum and the rise of Donald Trump have both been linked with the idea of these ‘threatened majorities’ fighting back against cultural liberalisation.

Both the Brexit referendum and the election of Trump were also subject to debates about foreign interference. And the rise of social media has made it easy for external powers to change domestic debates. From foreign troll factories to Twitter bots and Cambridge Analytica, the role of foreign powers in shaping national debates has become one of the most talked-about topics of the modern era. Map 11 shows that, between 2014 and 2020, foreign powers attempted to interfere in 33 elections collectively involving 1.7 billion people. Map 12 indicates that the cumulative effect of all these trends is a collapse in faith in democracy – making societies more vulnerable to this kind of external manipulation.

Election interference

Cyber-enabled foreign interference in elections and referendums between 2011 and 2020

Alleged foreign state actor

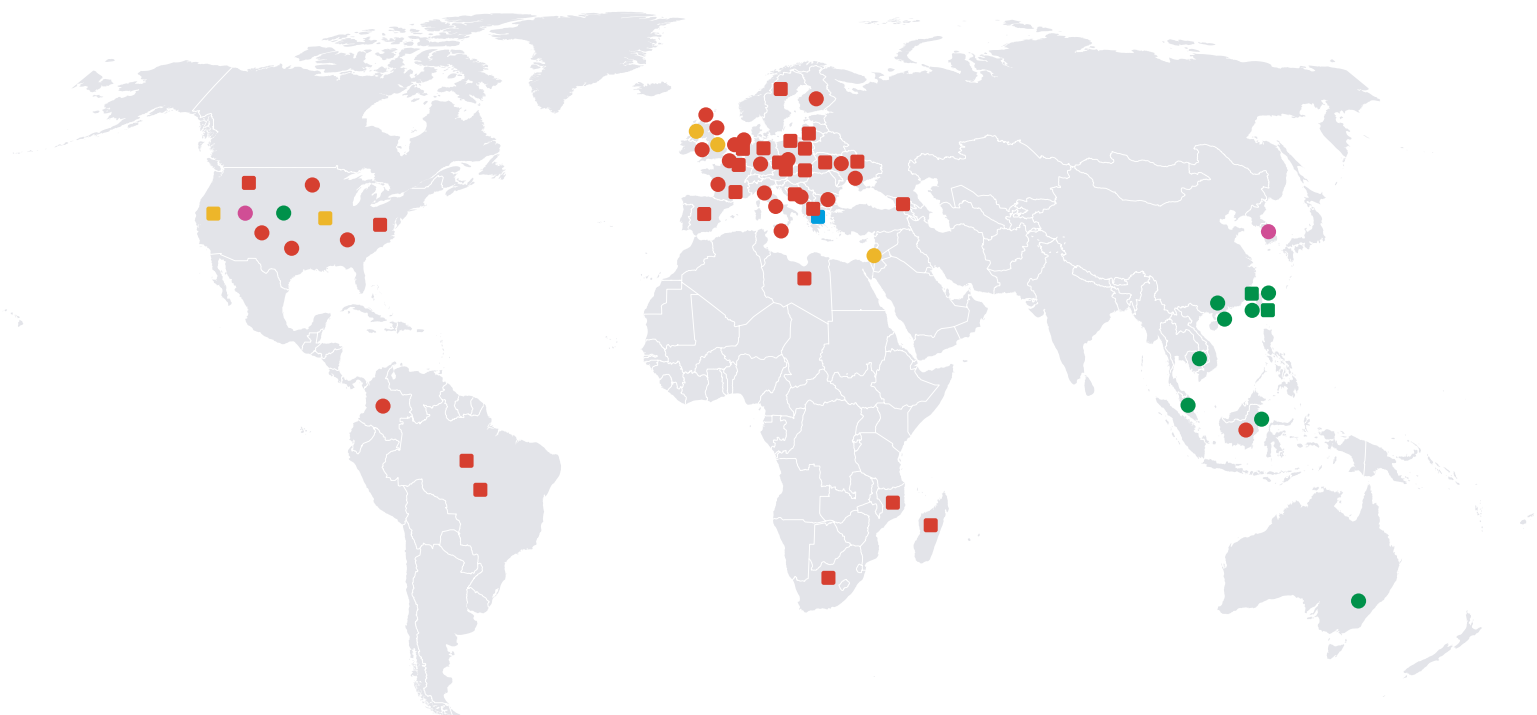
- China
- Iran
- North Korea
- Russia
- United Kingdom

● Cyber operation

Covert activities carried out via digital infrastructure to gain access to a server or system in order to compromise its service, identify or introduce vulnerabilities, manipulate information, or perform espionage.

■ Online information operation

Information operations carried out in the online information environment to covertly distort, confuse, mislead and manipulate targets through deceptive or inaccurate information.

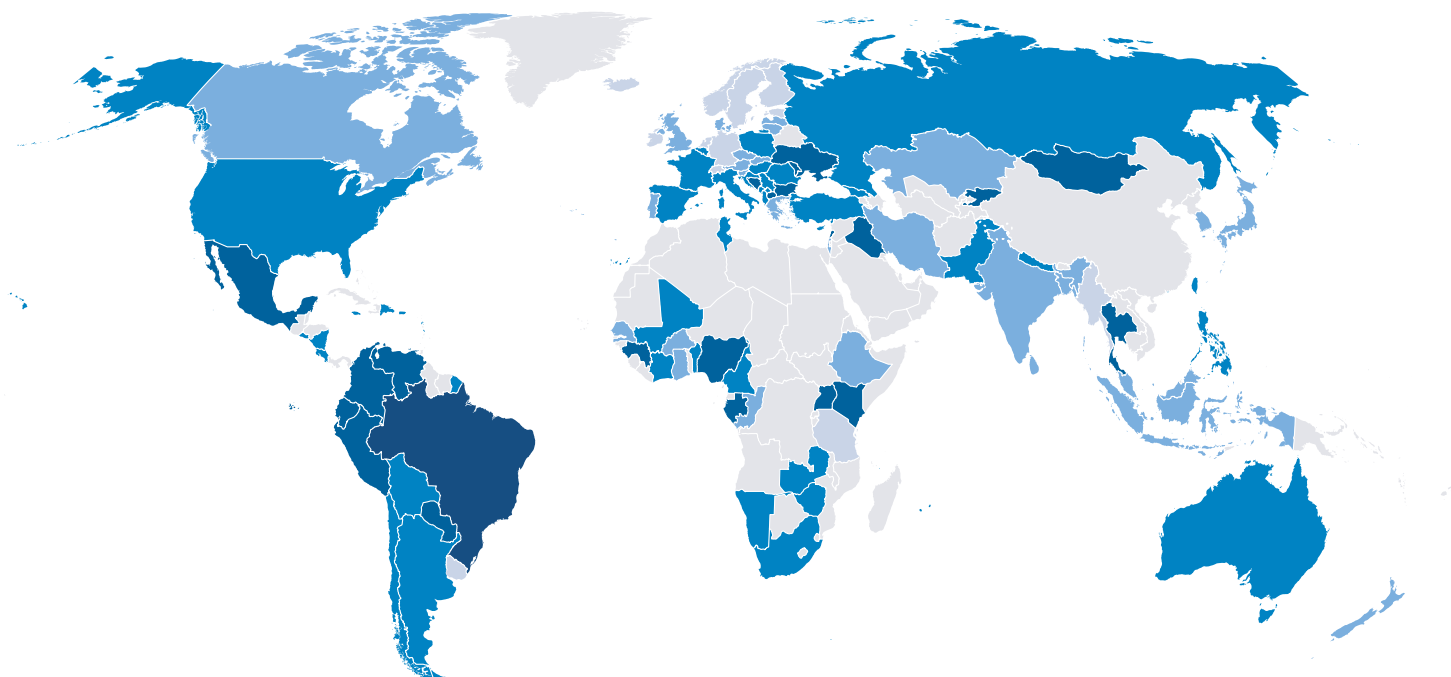
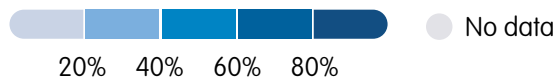


Source: O'Connor S., Hanson F., Currey E., & Beattie, T. (2020) (2020). Cyber-enabled foreign interference in elections and referendums, The International Cyber Policy Centre at ASPI

The declining legitimacy of democratic elections

Share of people who do not trust the electoral process

Share of population that does not have confidence in the honesty of elections (2020)




Conclusion: How the “ethos of decolonisation” could beat the “missionary ethos”

As the world moves from flat universalism to cultural protectionism, many countries are more defined by the cultural antibodies that developed in resistance to Western soft power than the cultural flows that they were responding to. In the new world, the core divide is not between democracy and authoritarianism but between dependence and independence. States that want to prosper will need to find a ‘sovereignty-friendly’ idea of soft power.

Many people believe the future will be defined by a clash between the West on one side and China on the other, in the same pattern as during the cold war. But, in reality, there is a huge difference between eras – at least so far.

Both the Soviet Union and the US were universalist powers rooted in the tradition of the Enlightenment. They were missionaries who wanted to remake the world in their image.

But China’s pitch to the world has been very different. The claim to power of Chinese culture comes not from the idea that it is a model that should be emulated but rather that China is creating a harmonious environment in which everyone can preserve their indigenous identities in the face of American or Western expansionism. In that sense, Chinese soft power has been a resistance identity rather than a missionary one. And, in this world of cultural resistance, “merchant powers” will be more effective than “missionary powers” at finding global followers. Unlike the missionary, the merchant pretends that she does not want to change or convert you. It is her focus on your self-interest that will make the merchant more acceptable than the missionary.

Paradoxically, in this new geopolitical polarisation, the biggest threat to Chinese soft power would be to present it as a model to the world. Upgrading the Chinese Dream into an alternative to the American Dream would make it less attractive. 

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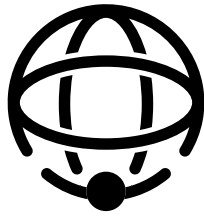
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What does power mean in the modern world?

At the end of the nineteenth century, two grand theories competed to define the twentieth-century map of power. The first held that the emerging technologies of massive ships powered by fossil fuels implied that whoever held command of the seas would control the world. The second held that, in an age of railroads, power flowed to those in control of the large landmass and abundant natural resources of Eurasia. These theories implied different maps of the world and different strategies for prospering in the twentieth century. But, in a twenty-first century in which nations are linked by vastly complex networks, power is no longer defined by control of land or oceans, or even the normative influence of “soft power”. It is now defined by control over flows of people, goods, money, and data, and via the connections they establish. Interdependence has become a currency of power – and even a weapon. As states compete to control such connections and the dependencies they create, these flows cut across overlapping spheres of influence – shaping the new map of geopolitical power. Only those who see this map clearly will be able to control the modern world.

Edited by Mark Leonard

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