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Conflict between great powers is back with vengeance: the new cold war between the US and China plus Russia

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ABSTRACT

China's emergence as a powerful challenger to the US's and the west's well-crystallized position atop the global hierarchy poses the question of how to co-exist peacefully. This essay discusses several economic sectors where the two sides are acting aggressively towards each other; in trade,

capital, high tech, and cyberwar. It argues that the geopolitical class of the US and the west must go against the drift of popular opinion and strengthen interaction and investment in the 'battle ground' states of the global South, while simultaneously sustaining a closer negotiating position with China and avoiding a self-fulfilling prophecy of war. It concludes with a discussion of appropriate western steps to peaceful co-existence, and the prospects for hot war.

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Since around 2017 there has been an ominous escalation of tension in what is arguably the most important bilateral relationship in the world, between the US and China. Now Russia's invasion of Ukraine, February 2022, followed by US House Speaker Nancy Pelosi's brief visit to Taiwan in August 2022, have prompted much talk of a new cold war, even of a third world war.

The current situation can be understood as the second stage of a single broad conflict, with a 'globalization' intermission of thirty years. As in stage one, the US is once again leading a western alliance against a Russia-China axis. Once again the leaders avoid direct fighting for fear of mutual assured destruction through nuclear weapons. Once again both sides court a large bloc of 'non-aligned states', sometimes called 'the global South' (Rachman 2022).

But there are also major differences between the first cold war and the new one. Most obviously, China is challenging the US's long-established position of technological and economic-financial dominance in a way that the Soviet Union never did ; this, even though China's average income remains far below that of the US (between a quarter and a third). From its side, the US government sees China and Russia as partners in a direct challenge to the 'rules-based global order' designed and upheld by the US and allies. The war in Ukraine is the current battlefield for this challenge.¹ The US government and NATO see the Ukraine war as

¹ Mitchell et al. 2022 argue that Beijing's support for Russia in Ukraine is a lot less than the rhetoric suggests.

not just about the security of Europe but about the wider global order.

Second, the first cold war occurred when the west was politically stable and ideologically 'centrist', and enjoyed rising and widely shared prosperity. The second one occurs when the democratic west confronts political polarization and economic duress; and across the world, according to the Gallup World Poll, there has been a big increase in the proportion of respondents who rate themselves in the bottom happiness category since Gallup began measuring these things in 2005. The US General Social Survey shows that the proportion of Americans who put themselves in the bottom happiness category increased by 50% between 1990 and 2018.

Third, the second cold war is occurring in a situation of much greater global upheaval and tension than the first, just when the 'global order' for cooperation between states for the global collective good has substantially eroded. The issues include climate chaos, artificial intelligence, pandemics, threat of major war, mass migration, food shortages, energy shortages, inflation, soaring economic insecurity and

income concentration, and political polarization or fragmentation across western polities. The weakness of inter-state cooperation was dramatically exposed by the way that rich countries hogged Covid-19 vaccines, and by the failure of debt relief proposals made by the G20 group of large economies (Wade 2020a, 2020b; Ahuja 2022). The last coherent response by ‘the global community’ was as long ago as 2009, when leaders of the G20 took steps to stabilize the global banking system in the wake of the 2008 crash.

And fourth, the US-Soviet cold war was between basically different types of economic systems largely unconnected to each other, whereas the current one involves two kinds of capitalist systems which are deeply interdependent. If the name of the game in the first cold war was ‘mutual assured *destruction*’ (MAD1), respect for which kept it cold, the name of the game this time is ‘mutual assured *disruption*’ (MAD2); with the crucial qualification that the disruption threat is muted by ‘mutual assured *dependence*’ (MAD3), on account of the interdependencies.

The US, EU, China and Russia are now each emphasising ‘strategic autonomy’, ‘re-shoring’ or

‘friend-shoring’ of supply chains. Companies of all sizes are looking for ways to localise more production where their customers are, and to build redundancy into their supply chains (giving more priority to ‘just-in-case’ and less to ‘just-in-time’). But so far this amounts to ‘slowbalization’, not ‘deglobalization’. Global merchandise trade as a share of GDP is currently only a little below its historic high of 26% in 2010, compared to 10% in 1980.

The element of conflict is more evident in the way that some governments are ‘weaponizing’ their control of assets vital to other economies. And some governments are exploiting other economies’ digital vulnerabilities through cyberwar -- in power plants, pipelines, railways, sanitation, hospitals, chemical refineries, banks, cell-phone networks, water treatment plants, election infrastructure, medical records and more. As a Finnish general said, ‘Geopolitics is back, but it’s in the economy.’² Retired military officers who earlier -- during the post-first-cold-war ‘globalization era’ when the world economy operated on western rules with little challenge -- might

² Finnish general, quoted in Braw 2021.

have retired to a quiet life on the golf course are now employed on boards of multinational companies.

If the biggest open question about this second cold war is, ‘will it tip into the third world war?’, the next biggest is, ‘can the deep integration between China, Russia and the west survive the intensification of super-power rivalries?’ Pierre-Olivier Gourinchas, chief economist of the IMF, is doubtful. He warns of the world splitting into ‘distinct blocs with different ideologies, political systems, technology standards, cross-border payments and trade systems, and reserve currencies’ (quoted in Bounds 2022).

This essay describes the current state of cold war play in several domains of economics and technology: trade, capital markets, high-tech, and cyberwar. But first, more on the main players, the US and China.

UNITED STATES

The US remains the global hegemon, though diminished. The US advantage starts with size, geography and geology. It has the third largest

population. It is surrounded by oceans and just two neighbours, both of whom are likely to remain friendly. It has abundant fossil energy in the form of shale gas, and -- with renewable energy -- may become self-sufficient within the next decade, while China continues to depend heavily on energy imports from the Middle East via the contested South China Sea.

The US led the two almost-global orders after World War II: the Keynesian-and-cold-war one up to around 1980, followed by the neoliberal-globalization one up to around the 2010s. Even today, when the world is in an 'interregnum' -- between orders with the new one quite unclear -- the US's 'structural power' (crudely, population times average income) keeps it far ahead of every other state, about 1.5 times China's.

The US dollar is another source of structural power. James Rickards says 'America's most powerful weapon of war does not shoot, fly or explode. It's not a submarine, plane, tank or laser. America's most powerful strategic weapon today is the dollar. The US uses the dollar strategically to reward friends and punish enemies' (2022). Around 60% of the foreign reserves held by the world's governments are in US

dollars, compared with 2% in renmimbi. The US controls not only the dollar itself; it also controls the dollar payment system. A dollar payment from a bank in Shanghai to another bank in Sydney runs through one of the US-controlled payments systems. The US government can cut off these payments more or less at will. China, Russia, Iran and others are working to escape 'dollar hegemony' and implement non-dollar transactional currencies and independent payments systems; so far with limited success.

The US remains by several measures the most profitable and most innovative country in the world. With the world economy divided into 25 sectors (such as heavy machinery, electronics, aerospace, financial services, health care, pharma, media), US firms had the highest share of global profits in 18 out of 25 sectors (72%) in 2006 and in 2017, including in the most high tech sectors (Starrs, forthcoming, based on Forbes Global 2000). China is the only developing country with even a toehold in the global distribution of profits in more than a few sectors (but India does relatively well in software).

The US has by far the biggest share of world high-tech exports (using the OECD definition): in 2018, 32 %, against China's 21 % and EU27's 19 % (Schuller and Schuler-Zhou 2020).

War remains a large part of the American identity. The US spends almost a sixth of the federal budget on 'defence', keeps troops in 750 foreign military bases around the world including many within easy strike range of China and Russia, and engages in 'counterterrorism' missions in 85 countries. Its record of non-kinetic interventions to stress and extend governments it does not like is far more extensive than that of Russia or China (Askary 2022, Dobbins et al. 2019, Wade 2015)

The US's structural power as the center of global capitalism is on full display as it defenestrates the world's largest nuclear power and G20/former G8 member from global capitalism, in the wake of the latter's invasion of Ukraine. And enables it to persuade many of the world's most powerful corporations to withdraw from Russia, even McDonalds.

Tributes to US strengths have to be qualified by several sources of rising internal weakness. One is eroding national ambition. A 2019 Eurasia Group Foundation survey found that 55% of Americans between the ages of 18 and 29 do not think the US is 'exceptional', compared with only 25% of Americans over 60. This finding is consistent with the many surveys that show growing popular skepticism about the need to project US military power overseas. Summarizing this evidence a recent RAND corporation study concludes, 'public opinion polls paint a picture of a nation that is no longer sure of itself, much less of its right and duty to impose its will on the world' (Mazarr 2022).

A second weakness is eroding national identity. US global leadership capacity is weakened by internal divisions which fuel the most vicious, democracy-destroying partisanship in the western world (with 'endless confrontation' with China as the main issue of bipartisanship). Domestic politics is caught in the equivalent of a cold war, coupled with growing militarization of society; the US share of worldwide private gun ownership is more than ten times its share of global population (Luce 2022). Measures that

cushion adjustments to economic change and expand opportunities and security for those badly affected are conspicuous by their weakness. Around a quarter of the world's prison population lives in the US, with 4% of the world's population.

Political leaders exploit voters' anxiety by preaching nationalism and xenophobia, focusing anger on 'unfair' competitors, especially China; while raising torrents of cash by adopting policies wanted by plutocrats. This combination of plutocratic goals with nativist populism and social reaction – an unlikely coalition of the very wealthy and people near the bottom of the class hierarchy -- ensures that some version of Trumpism will remain the dominant ideology of the Republican party.

Underlying these trends is the system of capitalism dominated by finance rather than 'real sector' firms. Real sector firms expect 3-5% rate of return while financial firms searching the world for yield expect 10-15% (hence they insist on global open capital markets, no capital controls). The latter treat this rate of profit as a quasi-fixed cost with wages as a residual – as distinct from the textbook model where wage costs are

the quasi-fixed cost and profits the residual. Their economic dominance forces real sector firms to push in the same direction; many of the latter now derive much of their profit from financial activities. This explains the falling share of wages in GDP in OECD countries and widespread wage stagnation (reinforced by government efforts to weaken trade unions). Economic and political polarization and fragmentation is no surprise (Bayer 2022).

How long can such a polarized, fractious nation continue to lead the west ? One cannot presume that domestic chaos must lead to external weakness. The US constitution separates foreign policy ('high politics') from domestic policy ('low politics'); and in practice voters are so indifferent to foreign affairs that the subject almost never decides elections. Both factors together give the nation's geopolitical class space to continue to lead the west, and the US's military and economic strengths give it the means to do so.

For example, the US has been polarizing for decades, yet it leads the west's response to Ukraine. Germany is the most cohesive of the major

democracies, it does not lead west's response to Ukraine !

WESTERN DEMOCRACIES

Most western democracies have followed the US in institutionalizing a type of capitalism shaped to promote the interests of finance and raise the share of profits (shrink the share of wages) in national income. The interests of finance are quite different to providing a service needed for the real economy; but governments take those interests ('the markets') as their primary goal for setting fiscal and monetary policy. The result is apparently paradoxical: higher profits, lower investment. The profits have flowed into finance, real estate and insurance (FIRE) more than plant and equipment, R&D and the like. One result is lack of effective demand and slow growth, filled by public expenditure financed by ... rising debt, adding to financialization of the economy (FOE).

As in the US, there has been a general rise of populism, or insurrection against elites, across the western democracies during the past quarter century, resulting from the perception – broadly correct – that

this type of capitalism is rigged in favour of elites. They have moved manufacturing overseas and encouraged the withering of labour unions; and have pocketed much of the gains of globalization and technology, leaving the rest to bear the insecurities and erosion of local communities – in contrast to the elites of the '30 glorious years' after World War II when social democracy produced the most decent societies known to humanity. The contrast between the two periods is especially sharp in the US, where in 1946-1980 the annual average growth of real income at the 20th percentile was 2.5%, at the top percentile, 1.5%; while in 1980-2014 (also 34 years) the two figures are 0.5% and 6% (Leonhardt 2017).

A third common element is external overreaching, in the sense that western governments' global leadership activities have had steadily falling support from electorates. Peter Trubowitz and Brian Burgoon (2020) provide abundant evidence for what they call 'the retreat of the West'. They show that after the end of the (first) cold war, western governments asserted global leadership by investing in ever greater international openness and pooling more and more authority in multilateral institutions and governance

arrangements (such as the WTO, the IMF, free trade agreements). But increasing numbers of western voters grew resentful of the costs to economic security and national sovereignty, as governments rowed back on social democratic institutions at home ('embedded liberalism').

As elites promoted unfettered capitalism and turned their backs, they opened space for new parties of the radical left and especially radical right, promoting nationalism in one form or another, including hostility to globalization, multilateralism, and migrants. These trends were long underway when Silvio Berlusconi, 'Bibi' Netanyahu, Victor Orban, Donald Trump, Boris Johnson and several others rode to power in the west on the back of them. The populist leaders were symptoms more than causes.

China and Russia have been quick to seize on the erosion of domestic support for western international leadership, to promote alternative illiberal visions of politics and society, and to resist western attempts to shrink their spheres of influence.

CHINA

China was the major beneficiary of the US-led globalized order. In North Atlantic states, public opinion about China has worsened; but in much of ‘global South’ – in capitals like Jakarta, Islamabad, Montevideo -- China is esteemed for its development assistance (much more than from North Atlantic) and for its diplomatic push-back against North Atlantic states. The Pew Research Center’s global survey (2017) found that most respondents in most countries agreed that ‘China is overtaking the US as the world’s leading power’. Kishore Mahbubani, dean of the Lee Kuan Yew School, National University of Singapore, celebrated, ‘As American and European power recedes, a global resurrection of non-Western attitudes is taking place’ (2017).

The RAND corporation study referred to earlier explored the fundamental qualities of a society that make for greater or lesser ‘national competitive success’, using historical and cross-country evidence. It concludes, ‘The first essential characteristic – arguably the foundation for all forms of relative national strength – is some version of *driving national ambition*. Externally, this trait produces a sense of national

mission and greatness and a desire to influence world politics. Internally, it generates a national drive to learn, achieve, and succeed in everything from scientific research to business and industry and to the arts' (Mazarr 2022, emphasis added). 'Driving national ambition' well fits Japan, South Korea and Taiwan as they countered their nearby enemy states and caught up with the west (Wade 2004).

China clearly has a powerful sense of 'driving national ambition', fuelled by the narrative of centuries-long greatness followed by a century and a half of *humiliation* by western states, now to be avenged by regaining global pre-eminence. The central instrument is a long-term-oriented state leading an 'all-of-nation' approach, pouring resources into infrastructure, research and development, high technology, and human capital. This active state is highly trusted; in 2022 the Edelman Trust Barometer (an online survey of public opinion in 28 countries) found that China scored up near the top in terms of trust in state institutions, in sharp contrast to the US.

Beijing is acutely aware of the need to avoid the mistakes of rising Germany and Japan in the twentieth

century. It aims to greatly increase its influence in the world system without triggering the Thucydides Trap, a military trial of strength (except, possibly, with respect to Taiwan). It is placing its nationals in top positions across the whole range of international organizations. It leads the vigorous Asian Infrastructure Investment Bank, created in 2016, which only the US and Japan of the major economies are not members of. It is also building up blocs of countries to support it, or at least not support US. For example, it is pushing to expand the BRICS (Brazil, Russia, India, China, South Africa) grouping, by bringing in states like Saudi Arabia, UAE, Iran, Egypt, Argentina; and pushing to expand the membership and range of activities of the Shanghai Cooperation Organization. But expanding also means blunting the anti-American efforts of these coalitions – for example, because of India's and others' determination to 'play both sides'. Also, Beijing's drive to 'take center stage' (in Xi's phrase) lacks an alternative ideology of a China-led world order that attracts others and legitimizes Beijing's quest for dominance. And Beijing's influence is intensely contested even in its immediate neighborhood – as in active disputes with Taiwan, India, and Japan. Still, Russia's war in Ukraine has prompted Beijing to see a direct connection between hostile NATO expansion

around Russia and the US's drive for an Indo-Pacific security alliance directed against China; and to intensify the strategy of building up blocs of countries to support it.

China's Belt Road Initiative, started in 2013, is the biggest physical infrastructure investment programme in history. Its grants plus loans amount to more than the six major multilateral lenders combined, targeted at roads, railways, ports, electricity, telecommunications (including low-earth small satellites to supplement infrastructure investments in Africa and Latin America with ultrafast internet connectivity), and more. It involves some 70 states mostly in Eurasia, Africa, and Latin America, giving China good access to raw materials, consumer demand, and political influence, drawing 70% of the world's population into Beijing's orbit (Askary 2022).

Since the government established diplomatic relations with Beijing in 2019 the capital of the Solomon Islands has hosted Chinese construction companies building a new wing of the main hospital and a large sports stadium able to host the Pacific Games in 2023, and many Chinese-run businesses have

set up. A five-year China-Solomon Islands cooperation agreement was signed in April 2022. An Australian politician has sounded the alarm about ‘a little Cuba off our coast’.

The governments of US, Japan, Australia and New Zealand have long more or less ignored the Solomon and other Pacific islands. The Pacific islands – like developing country governments everywhere -- should be able to leverage the west’s fear of China into more substantial aid and investment from the west (Wickham 2022). But it is striking that the new Aukus security pact between Australia, UK and US for the ‘Indo-Pacific’ (a recently coined phrase to frame the US’s China containment strategy) does not include developing countries of the region.

In celebrating China’s remarkable achievements we have to beware the ‘halo’ effect, overlooking factors which weaken China’s longer-term challenge. China’s income per head remains low – about the same as Malaysia and Russia, consumption per head is similar to Iraq and Jamaica. Income inequality has surged since 2000, despite it being an ostensibly communist regime; the share of pre-tax income held

by the top 10 percent of the population rose from 35% in 2000 to 41% in 2015 (compared to the US figure of about 47%). Working age population is falling and will continue to fall, raising the prospect of China ‘becoming old before it becomes wealthy’; median age is already slightly higher than the US’s. The population is male dominated, leaving large numbers of unmarried – potentially troublesome – men. It already has large numbers of large-scale protests, despite the party’s intense surveillance based on AI, smart phones and facial recognition.³

Consumption as a share of GDP is still low, little higher than in 2010. Investment share is extraordinarily high, for many years at 40-45% (the US’s in recent years, around 20%).

China lacks allies abroad beyond infrastructural alliances. It borders on 14 countries, many of them poor and unstable; has territorial disputes with several and maritime disputes with several more that set limits on its ‘persuasive power’.

³ In late 2020 toilet paper dispensers using facial recognition were removed from public bathrooms in the city of Dongguan after public outrage.

We have to remember the warning of Bilahari Kausikan, former Singapore diplomat, now chair of the Middle East Institute at the National University of Singapore. 'China has done a pretty good job by itself in putting together a loose, global anti-China coalition. I cannot think of any serious country – with a big economy or even some with small economies – that does not have some concerns about China and Chinese behavior' (quoted in Buckley and Lee Myers, 2020). About a decade ago South Koreans placed China and the US about the same in terms of 'like' and 'dislike'. Now China is first among South Koreans' 'dislike' – a record 80% of the population now holds negative views of the country, according to a recent Pew Research Center poll. Public opinion in Japan has also shifted decisively against China. Yet these and many other countries of the region depend heavily on China for imports and exports (Perlez 2022).

Finally, China has moved away from collective leadership to a cult of personality around President Xi Jinping, to the point where 'Xi Jinping Thought' has been written into the Chinese constitution; billboards displaying his face, quoting his thoughts overlook city

streets, as in the days of Mao. Term limits for the presidency have been abolished.

A personality cult makes the adoption of bad policies more likely (Rachman 2020). So does the intense state control of the media. When Xi Jinping made a widely publicized visit to two prominent media in 2016 he declared that the only acceptable role for the media is to ‘love the Party, protect the Party, and closely align themselves with the Party leadership in thought, word and action’. Journalists working for state media must have their political credentials certified (Inkster 2020, 92).

The Xi government is now not prioritising growth as much as it did till recently. It is giving more attention to reining in unbridled capitalism. It is:

- (1) intensifying state control and ‘directional thrust’ (eg *Made in China 2025*);
- (2) curbing top incomes and the political power of billionaires, as in the ‘techlash’ against the entrepreneurs running the top digital companies and in the crackdown on private tutoring firms, which give advantage to children of the rich; which has converged

with Xi's 'common prosperity' campaign to help more people secure a place in the middle class;

(3) uneasily balancing between reducing its high tech dependence on the west and coupling with the outside world, especially via the Belt Road Initiative.

The Xi government is haunted by the fate of the Soviet Union and Russia after 1990 -- a collapse of GDP, a surge in the number of people in extreme poverty, a surge in the number of billionaires whose wealth was based on corruptly merged economic and political power, and the dominance of low-trust 'rule by law' over higher-trust 'rule of law'; caused in large part by the Big Bang market liberalization enthusiastically promoted by the World Bank and IMF and other western economists. It took an efficient authoritarian, Putin, to restore some degree of societal functioning and modest mass prosperity. Xi's government is determined to maintain competitive markets within political limits, maintain the financial sector as mostly providing a service to the real economy rather than a 'leading sector' in its own right searching the world for yield, and constrain the degree to which holders of economic power can buy political power and use it to further increase their economic

power and billionaire wealth. As of mid 2022, Xi's own grip on power at the top of an efficient all-pervading authoritarian state looks set to hold for years more.

To assess China's strengths we also need to factor in remarkable Northeast Asian agglomeration effects, for example in education. In 2019 Forbes published rankings of countries by IQ and school test scores. In both rankings six of the top seven positions are held by northeast Asian countries (including Singapore). The school test rank order is: Singapore, South Korea, Hong Kong, Taiwan, Japan, Russia, China. The US and western Europe come well down on both rankings. In school test scores, US is 13th, Germany 28th, UK 30th (Madden 2019).

All told, there is no doubt that the sub-text of US and western engagement with China – somehow to 'contain' it within our world order in which we sit at the top and wait for it to morph into a democracy or implode – is bound to be frustrated.

TRADE COLD WAR

From the Chinese perspective, the US has long sought to exclude China from rule-making in international trade policy in order to defend its dominant role in the global trade regime. Hence the US-led Trans-Pacific Partnership (TPP) and the Transatlantic Trade and Investment Partnership (TTIP) aimed to set rules for global trade while excluding China. Trade tensions between western countries and China plus the other BRICS (Brazil, Russia, India, South Africa) brought the WTO's Doha Round to a standstill.

The trade cold war intensified from 2017 under President Trump's government. It raised trade protection against Chinese imports, and China reciprocated. The US raised the pre-2017 average US tariff on China of 3% to around 20%; China raised its from around 8% to around 20%. The new tariffs cover more than 50% of bilateral trade. In addition to standard tariffs, the US and China use antidumping and anti-subsidy tariffs against each other. When these are included the average US tariff on China was raised to 27% by the end of 2020 (Bown 2021).

The US has imposed export controls on products close to national security. For example, in May 2019

the government placed Huawei on the Entity list, implying that US-origin goods and services could no longer be sold to the firm without an export license; in May 2020 it extended export controls on semiconductor manufacturing equipment to third countries (for example, to cover TSMC and Samsung), to prevent them manufacturing semiconductors for sale to Huawei. Also, Trump spoke often of denying federal contracts to US firms that outsourced jobs to China.

Nevertheless, a trade agreement of sorts was negotiated and in January 2020 the 'Phase One' trade agreement began to be implemented. China committed to large increases in imports from the US in 2020 to 2021. In the event, it fell more than 40% short of its commitment.

The US export bans against Russia in the Ukraine war are now being seen as useful against China too. The New York Times (International) headline of July 7 2022 says 'Export bans are central to US plan to foil China', and the story quotes the senior official in charge of the export ban program, 'We need to ensure that the US retains overmatch. In other words, China

cannot build capabilities that they will then use against us ...'. On the other hand, the prospect of further restrictions on China has raised concerns among American business executives. The executive vice-president at the US Chamber of Commerce said 'The business community has deep concerns with China's predatory and market distortion policies, yet we must also recognize that the two largest economies are very integrated. So the impact of broad decoupling or extensive sanctioning of China would be much more destabilizing' (Wong and Swanson 2022).

CAPITAL COLD WAR

In capital markets as in trade markets we see a dramatic inflection point in China-US relations, downwards; also in the private-state power balance within China, upwards towards the state. The Chinese government is curbing foreign (US) investor influence in China's capital market and the US government is curbing US investment in China. ⁴

⁴ The European Commission announced in December 2020, after 7 years of negotiation, the Comprehensive Agreement on Investment (CAI) with China. In May 2021 the European parliament voted to suspend ratification of the agreement, following Beijing's sanctions of five European officials. These sanctions were themselves a reaction to sanctions of Chinese officials by several western countries in response to the Chinese government's treatment of the Uighurs in Xinjiang. IISD, 2020, 'Outlook for the EU-China Comprehensive Agreement on Investment unclear, as EU parliament votes to suspend ratification efforts', 1 June 2021, at

China's capital market is increasingly shaped by Xi's focus on technologies considered central to competition with the west, and by a pervasive suspicion of foreign influences. The government considers China's transformation into a high-tech center crucial to its national defence. As Xi said in 2021, 'only by grasping key core technologies in our own hands can we fundamentally guarantee national economic security, national defence security...'.

The government treats equity markets as an assembly line to marshal private capital for its policy goals, with the aim of producing national champion firms in strategic sectors (very different to the standard view of finance in the west as a 'leading sector' in its own right). So foreign investors are being largely shut out of Chinese IPOs; the government blocks Chinese companies from listing in New York or London; while Chinese investors know it is dangerous to invest in activities not on the government's menu.

Take the case of Volkswagen. China's automotive success has been based heavily on Volkswagen, the first foreign manufacturer to build a presence in China almost four decades ago. VW has long relied on China for at least half of its annual net profits and retains double the market share of its nearest competitor. But as of 2022 the political tide is changing as tensions between Washington and Beijing ratchet up, as a new coalition government in Berlin says it will get tougher on authoritarian governments, as VW fears it will be pressured to reduce its engagement in China, and as Russia's war in Ukraine has led to severing of VW commercial ties with Russia. In any case, several local competitors are proving much more successful than VW in sales of electric vehicles. We are seeing the Chinese government stepping up its overt and covert support (eg concessional credit) for wholly Chinese companies in the spirit of 'Made in China 2025' (Miller 2022).

The US government is preventing or strongly discouraging US investment in China's 'strategic emerging industries'. As one investor commented, 'to be investing in China is almost immoral' (Lockett 2022).

HIGH-TECH COLD WAR

In 2015 the Chinese government published *Made in China 2025*, which set out the strategic plan to give China a commanding position in high-tech industries of the Fourth Industrial Revolution, spanning hardware, software and biology. It was a central part of the larger strategy to transform China away from ‘the world’s factory’ to a tech-intensive global powerhouse: semiconductors, AI, E-vehicles, 5G, robotics, IoT, M2M, biotech, green energy, gene editing, and more.

The US government called MIC 2025 ‘economic aggression’; the Council on Foreign Relations described it as a ‘threat to US technology leadership’. Trump and Biden raised tariffs specifically on manufactured goods included in MIC 2025. The EU too is alarmed. The European Chamber of Commerce said that MIC 2025 ‘distorts the market’, and instructed China that ‘market-based innovation provides a better way through middle-income status than industrial policies’. The president of the Chamber of Commerce said, ‘...these major plans, with lots of money, where

government bureaucrats decide who's the winner and who's the loser, end up in tears' (Wikipedia 2022).

Since 2018 China's government has de-emphasised the publication *Made in China 2025* because of the US and EU backlash; but the plan continues to guide investment amounting to several hundred billions of US dollars.

Semiconductors are central to the tech cold war. The Chinese government uses massive amounts of targeted concessional credit and tax concessions as key policy instruments for boosting semiconductor production in quantity and quality. Yet China still spends more on importing semiconductors than on oil, and is the biggest oil importer in world !

The US sees China's dependence on semiconductor imports as a major vulnerability it can exploit. Hence, the government has placed export controls on US semiconductor technology to China. And the Biden government has secured congressional approval for a sprawling bill called the CHIPS and Science Act, which gives the Commerce Department

the primary role in deciding which chip makers will benefit from the bill's \$52 bn funding. Gary Hufbauer, an expert on US industrial policy, describes it as the most significant investment in industrial policy in the US in at least 50 years. The director of the National Economic Council, Brian Deese, says, 'The question really needs to move from why do we pursue an industrial strategy to how do we pursue one' (Swanson 2022). Meanwhile Japan, India, South Korea, and the EU are also competing to attract chip makers with mega subsidies. Senate majority leader Chuck Schumer said, 'If we don't act quickly we could lose tens of thousands of good-paying jobs to Europe' (Edmundson and Swanson 2022).

Supercomputers are also central to the tech cold war. Of the fastest 500 supercomputers in the world (as of June 2022), China has 173, the US 128, Japan in third place has 33. The UK has 12, in seventh place (Roeder 2022).

Another striking case is high-speed trains. China has invested heavily in a high-speed rail network in the past 15 years. As of February 2020 it had around 35,000 kms in operation, about two thirds of high-

speed track worldwide. The US had almost none – 735 km (McCarthy 2020). The distance from New York to Chicago is about the same as the distance from Shanghai to Beijing. The fastest Amtrack train takes 19 hours and 32 minutes (most trains take 24 hours). The high-speed train from Shanghai to Beijing takes 4 hours and 18 minutes.

The high-tech cold war is playing out in parts of the periphery. For example, in December 2021, the US, Japan and Australia (a combination of governments and privates) announced they will fund a 5G network in the South Pacific. Kyodo News reports that, ‘Japanese, US and Australian authorities have become increasingly wary of China’s growing influence in the Pacific region and the risk of information theft, which could cause disruptions to social and economic activities if the area’s telecommunication development network is led by Beijing. [A Japanese govt official said], “Historically, we have deep relationship with Pacific island nations, with which we share the values of democracy.... *We must avoid a situation in which democracy is threatened by China’s control of our telecommunications networks*” (2022, emphasis added).

CYBER COLD WAR

Governments, businesses, individuals around the world depend on digital technology and the internet, to the point where 'software is eating the world'. But the technology has a seamy underworld populated by hackers inside and outside governments, who break into computer networks to sabotage the network or steal data for bribes or espionage; and by those who wish to buy or otherwise obtain their secrets. Security is only as good as the weakest link, and often the weakest link is a human who clicks on a phishing email or a persuasive message that contains viruses.

It is said that there are two types of US companies and government agencies: those who know they have been hacked and those who have been hacked but do not know it. Google was hacked in 2009 by Chinese state-linked hackers with a specific goal: Google's source code so they could guarantee long-term access to any Gmail account and in particular Chinese dissidents' Gmail accounts (Perlroth 2021, chapter 14).

Here is an extended quote from Nicole Perlroth's book about this underworld, *This Is How They Tell Me The World Will End* (2021).

'Most laypeople assume hackers are after short-term payoffs: money, credit card information, or bribe-worthy medical information. But the most sophisticated attackers want the source code, the hieroglyphics created and admired by the engineering class. Source code is the raw matter for software and hardware. It is what tells your devices and apps how to behave, when to turn on, when to sleep, who to let in, who to keep out. Source code manipulation is the long game. Code can be stolen and manipulated today and, like an invisible hole in the wall of the Oval Office, bear fruit immediately or years into the future.

'Code is often the most valuable asset technology companies have – their crown jewels – and yet when China's contracted hackers started popping up across thirty-four Silicon Valley companies in late 2009, nobody had ever thought to secure it. Customer and credit card data merited fierce protection, but the vast majority of tech companies had left their source code repositories wide open.... [The hackers] could

surreptitiously change the code that made its way into commercial products and attack any customers who used the software' (203).

Around the world, hackers – private, state, or in-betweens – are working to find or put access holes in widely-used software, such as Windows or Apple's iOS, that the maker does not know about. The holes are known as 'zero-day' holes. Once the hole is identified the hacker or programmer can write the code to gain access to the victim's software and exploit the hole. The result is called a 'zero-day exploit'. Naturally a market for these zero-day exploits has arisen, with hackers, 'zero-day brokers', spy agencies and more, and prices often running to more than \$2 million per zero-day exploit. Spy agencies are keen to get hold of them, whether discovered by their own employees or purchased on the top secret zero-day market. They can gain leverage over companies, journalists, spies, dissidents, whole states. The spreading technology of Internet of Things provides a vast and inviting attack surface.

The US is still the world's offensive cyber superpower. It is also the most targeted in terms of

frequency of attack and destructiveness of attack, especially because unfriendly states know they cannot match the US or NATO militarily but can invest more cheaply in cyber weapons to gain offensive and defensive strength. Think Iran, North Korea, UAE, Saudi Arabia, as well as China and Russia. Perloth reports that Chinese hackers in 2014 hacked into the US Office of Personnel Management, including into its repository of everyone who has applied for a security clearance; the hack was not discovered for more than a year (230). In 2014-15 Russian hackers gained access to the security systems of the White House, State Department, Treasury, and Department of Homeland Security.

So far the only sustained and comprehensive use of cyber weapons in war has been Russia in Ukraine, starting in 2014 after the coup which ousted president Yanukovich, who was seen in the west as too friendly to the Kremlin (Wade 2015). Perloth relates: 'For five long years, they [the Kremlin's digital army] shelled Ukrainians with thousands of cyberattacks a day and scanned the country's networks incessantly for signs of weakness – a weak password, a misplaced zero, pirated and unpatched software, a hastily erected firewall.... Anything to sow discord and undermine

Ukraine's pro-Western leadership.... Russian hackers are "like artists who wake up in the morning in a good mood and start painting", Putin told a gaggle of reporters in June 2017.... "If they have patriotic leanings, they may try to add their contribution to the fight against those who speak badly about Russia."

(xiv)

Putin made these celebratory remarks just three weeks before his hackers mounted the most destructive and costly cyberattack in history. They shut down Ukraine's government agencies, railways, ATMs, gas stations, the postal service, the radiation monitors at the Chernobyl nuclear site. Eighty percent of Ukraine's computers were wiped clean. Then the code seeped out of Ukraine and zapped around the world, paralysing computers at FedEx, Maersk shipping conglomerate, Pfizer and Merck pharmaceuticals, a Cadbury factory in Tasmania, and more, within minutes. The attack coincided with Ukraine's National Independence Day, a message that Russia still controlled Ukraine.

In June 2022 the heads of the FBI and MI5 appeared together at a conference with business

leaders. The FBI director warned that Beijing was using ‘elaborate shell games’ to disguise its spying, and that ‘When you deal with a Chinese company, know you’re also dealing with the Chinese government – that is the MSS [Ministry of State Security] and the PLA [People’s Liberation Army] too, almost like silent partners’ (Sevastopulo and Rathbone 2022).

One vital lesson: we must be much more careful about connecting critical infrastructure to the internet. Imagine the damage possible from a hack of the chemical controls at a water treatment plant, as just one example. Some critical systems have to be ‘air-gaped’, not connected to the internet, with analogue rather than digital controls.

CONCLUSION

This essay has explored the China-US political-economy relationship over the past decade or so, bringing out the rising tension between them. The single most important cause is China’s increasing challenge to the US and the west, and the latter’s attempt to ‘contain China’ to the point where it either

implodes or becomes more like a liberal capitalist democracy. The challenge comes in high-tech sectors, in military capacity and in 'infrastructure alliances' with countries in most of the world outside of the North Atlantic and Japan; some 70% of the world's population is being drawn towards Beijing, shifting the center of global power from the US towards Asia.

The US and the west have a powerful common interest in resisting China's challenge, for multiple reasons. One of them is that China's challenge threatens to disrupt the structure which yields huge resource transfers from developing countries to the US and west. For example, between 2000 and 2016 the developing countries in the G20 (including the big ones like China, India, Brazil, Indonesia) transferred a yearly average of 2.3% of their combined GDPs to the developed countries, mainly the US, Japan, Germany and the UK (UNCTAD 2019, Akuz 2021, Wade 2020a). These resource transfers have to be protected against those who might disrupt them. It is especially important from the perspective of western elites to protect the dominant position of finance in their economies and its 10-15% expected rate of return; which means their governments must keep pressing

other governments to open and deregulate their capital markets, a model counter to Beijing's effort to maintain finance as a service provider to the real economy.

A second cause of the new cold war is that the governments of both the US and China face extreme internal tensions (the US has a domestic cold war), and both invoke the other as an existential enemy -- in line with the oldest generalization in social science, 'An external enemy induces internal cooperation'. Or as Georgy Arbatov, political scientist and advisor to five General Secretaries of Communist Party of Soviet Union, said to group of US politicians in 1989, 'We are going to do you a disservice, we are going to deprive you of an enemy'. More specifically in the case of the US and several other western states (notably the UK), governments in electoral trouble seek to boost their legitimacy by advertising their support for the 'national security state', which needs an enemy.

A third cause is the widely shared vision of US elites that states which do not share liberal values as America and the west define them constitute a threat to the security of America, the west, and the world;

and it is the job of America and the west to remake such states in their own image (Rice 2008). Writing days after the start of the 2003 US-led invasion of Iraq, New York Times columnist David Brooks said that President Bush's decision to depose Saddam Hussein 'represents what the United States is on earth to achieve. Thank God we have the political leaders and the military capabilities to realize the ideals that have always been embodied in our founding documents' (quoted in Pierce 2014).

A fourth cause is that the US and west's defence firms and warrior corporations earn vast profits from no-competition capital-intensive projects to build armaments against Russia and China, much more than they can obtain from more labor-intensive projects against terrorists and the like. They are unmatched in their lobbying power in Washington, and in their ability to sow hawk positions on China and Russia in western media, the better to boost their profits.

What are the prospects for a major hot war? As in the first cold war, there are regional flashpoints where the second cold war could heat up. The main ones are unresolved issues from the first cold war – which

underlines that the current cold war can be seen as the second stage of a single conflict. The status of Taiwan and the Korean peninsula are obvious flashpoints. So is Russia's western near-abroad, particularly Ukraine. Russia's invasion in February 2022 prompted NATO to increase its forces on high alert from 40,000 to 300,000 (late June 2022), shifting the focus from deterring an invasion of a NATO country to mounting a full defence as the likelihood of invasion rises.

Russia's invasion of Ukraine has been a blessing-in-disguise for the US and NATO. The US now stands as the re-energized leader of the 'free world', with western Europe as its re-affirmed dependency, and NATO stands as the re-energized bulwark against Russian aggression, having been declared by President Macron to be 'brain-dead' just three years ago (Wade 2022a). The 'shadow NATO' under US leadership is currently (mid 2022) carrying out 'the grandest of war games' on the eastern flank of the Eurasian landmass, entailing over 200 ships and 25,000 military personnel from 26 countries (Polychroniou 2022).

Today the 'nuclear taboo' is much weaker than during the first cold war, when a norm of the innate

wrongness of nuclear weapons put their use beyond the pale. Now, tactical battlefield nuclear weapons exist, unlike the first time, making an escalation ladder and encouraging talk of ‘winnable nuclear wars’. In February 2022 a polling study found that majorities or near-majorities in the US, Britain, France and Israel supported using nuclear weapons in conflicts with non-nuclear nations if they were more effective than conventional ones. The Economist (2022) points out that ‘nuclear weapons may have to be used simply because they are nuclear – perhaps because the public would expect a nuclear response to a nuclear attack and find anything less unforgivable.’ And another scenario can be seen in Ukraine: Russia is making veiled threats to use nuclear weapons in order to keep NATO from direct military intervention. China is presumably learning the lesson for its ‘Taiwan temptation’.⁵ Since coming to office in 2012 President Xi has backtracked on earlier governments’ commitment to ‘no first use’ of nuclear weapons. He repeats that nuclear weapons are crucial to China’s status as a global power, and does not mention no first use.

⁵ But see Youtube 2021 for reasons why China is unlikely to invade Taiwan.

President Xi talks of future Sino-US relations as a combination of ‘entanglement and struggle’ – not of ‘de-coupling’. In contrast, many in the west do want the ‘distinct blocs with different ideologies, political systems, technology standards, cross-border payments and trade systems, and reserve currencies’ that Pierre-Olivier Gourinchas, IMF chief economist, warned about. But so far the data on trade and capital flows does not show much unravelling or ‘deglobalization’ – though one would expect such data to take time to adjust to new incentives.

To end, here are several high priority goals for western states in this new situation.

First, western states have to avoid the formation of distinct blocs -- a western-led one and a China-led one, with their own ideologies, tech standards, cross-border payment and trade systems, and reserve currencies. That would obstruct America and Europe in Asia, leaving the world’s most populous and dynamic region to China. On the other hand, democratic states do have grounds to form closer ‘comity’ with each other on issues where values are at stake, knowing that what they agree to in inter-state relations has to

have closer correspondence with the democratic values of their political systems (eg human rights, privacy, transparency) than for authoritarian states (Vibert 2021); and knowing also that the states spread out across Eurasia from Belarus to North Korea, including Russia, Uzbekistan, Tajikistan, Kazakhstan, Turkmenistan, Azerbaijan and China – most of whose territory was ruled by Mongol emperors 700 years ago -- are unlikely to become democracies anytime soon.

Second, western states must act to shrink the dominance of finance in their political-economies to make it a service for the real economy, not only for economic reasons like raising the rate of growth of productivity and reducing financial instability but also for political reasons of reining in the populism and nationalism supported by those made fearful by economic insecurity. Even small-scale steps can help, like raising financial transaction taxes and reducing tax advantages for external financing (Bayer 2022).

Third, western states have to increase their aid to compete with China's huge infrastructure investments in much of the developing world. At the G7 summit in 2021 President Biden unveiled the Build Back Better

World (B3W), claiming that ‘the United States is rallying the world’s democracies to deliver for our people, meet the world’s challenges, and demonstrate our shared values’. But thanks to Senate opposition B3W soon was ‘dead in the water’. At the G7 summit in 2022 President Biden unveiled the Partnership for Global Infrastructure and Investment (PGII) and got the G7 to pledge \$600 bn in public and private funds for infrastructure investments in developing countries. The plan offers ‘value driven, high-quality, and sustainable infrastructure’, implicitly denouncing China’s BRI; and the White House asserts it will ‘advance US national security’ (Chowdhury and Jomo 2022).

Will PGII do better than B3B? If Washington puts undue pressure on allies to comply with PGII it may end up isolating itself and harming its own national security. The broader question is, will western governments be able to sustain global leadership activities in the face of steadily falling support from electorates (‘retreat of the west’)?

Fourth, the G7 should promote a new balance of power in global governance which abandons the over-representation of western states – as in the US veto in

the IMF, with 16.5% of the votes, compared to China's 6.4%, India and Russia's 2.7% and Brazil's 2.3%, with Europeans having almost one third of the voting rights. That would be a small but symbolically important step away from the western hegemon project towards stronger global cooperation (Wade 2022b). Efforts to suppress China's influence in international rule making will backfire, by encouraging it to build alternatives.

Lastly, the G7 should support Stephen Roach's proposal for a new US-China secretariate as a permanent institution that covers all aspects of the relationship -- 'from economics and trade to cyber security and health, to climate change and human rights. Staffed equally by professionals from both countries and located in a neutral jurisdiction, this secretariate could nurture a constant exchange of views, encourage the joint development of policy white papers, and provide a mechanism for dispute resolution' (2022). Beijing might agree; the idea crystallizes its long-held ambition for a G2 to steer the world. END

REFERENCES

- Ahuja, A. 2022 'Monkeypox makes Covid unity pledges look hollow', *Financial Times*, June 29
- Akuz, Y. 2021 'External balance sheets of emerging economies: low-yielding assets high-yielding liabilities', *Review of Keynesian Economics* v. 9, n.2, 232-252
- Askary, H. 2022 'US-backed smear campaign created 'debt trap' narrative to defame BRI' June 28 at <https://www.youtube.com/watch?v=dSEOYLDiqAc>
- Bayer, K. 2022, 'Systems change? Stop financialization!', Kurt Bayer's Commentary, August 7
- Bounds, A. 2022, 'The WTO's lonely struggle', *Financial Times* 14 June
- Bown, C. 2021, 'The US-China trade war & Phase One Agreement', PIIE Working Paper 21-2.
- Braw, E. 2021, 'Business needs military nous to navigate a hostile world', *Financial Times*, March 22.
- Buckley, C. and S. Lee Myers, 2020, ' "Helmsman" Xi pushes an ambitious plan', *New York Times (International)* October 31 – November 1.
- Chowdhury, A. and Jomo K. S. 2022 'Aid for power in new cold war', *Challenging Development* July 12
- Dobbins, J. et al. 2019 'Extending Russia: Competing from Advantageous Ground' RAND

Economist, 2022, 'Thinking the unthinkable', June 4.

Edmondson, C. and A. Swanson, 2022, 'US chip makers press Congress for support', *New York Times (International)* June 21.

Inkster, N. 2020 *The Great Decoupling: China, America and the Struggle for Technological Supremacy*, Hurst

Kyodo News, 2021, 'Japan, US Australia to build 5G networks in South Pacific', Dec 13

Leonhardt, D. 2017 'A broken US economy, in on simple chart', *New York Times (International)*

Lockett, H. 2022, 'How Xi Jinping is reshaping China's capital markets', *Financial Times*, June 12,

<https://www.ft.com/content/d5b81ea0-5955-414c-b2eb-886dfed4dffe>

Luce, E. 2022 'America's unending horizon of mass shootings', *Financial Times* July 7.

Madden, D. 2019, 'Ranked: the 25 smartest countries in the world', *Forbes*, January 11.

Mahbubani, K. 2017, 'How strongmen co-opted democracy', *New York Times (International)* , Sep 13, <https://www.nytimes.com/2017/09/13/opinion/strong-man-world-democracy.html>

Mazarr, M. 2022 'What makes a power great: the real drivers of rise and fall', Council on Foreign Relations, July/August

McCarthy, N. 2020 'The world's longest high-speed rail networks', *Statistica*, Aug 18, at <https://www.statista.com/chart/17093/miles-of-high-speed-rail-track-in-operation-by-country/>

Miller, J. 2022, 'VW business in China tests German foreign policy', *Financial Times*, 17 March

Mitchell, T. and Sun Yu, 2021, 'Xi to clamp down on high incomes', *Financial Times* 19 August

Mitchell, T. et al. 2022 'The rising costs of China's friendship with Russia', *Financial Times* March 10, at <https://on.ft.com/3PkZdGY>

Perlez, J. 2022, 'Taiwan visit risks US efforts to build alliances', *New York Times (International)*, August 5.

Perlroth, N. 2021 *This Is How They Tell Me The World Will End*, Bloomsbury

Pew Research Center, 2017 'Global Indicators Database' (Washington, D.C.: Pew Research Center, 2017), <http://www.pewglobal.org/database/>

Pierce, C. 2014 'Our Mister Brooks and the Messianic Mr. Putin', *Esquire*, March 4

Polychroniou, C. J. 2022 'Noam Chomsky: the "historic" NATO summit in Madrid showed up US militarism', *TRUTHOUT*, July 6

Rachman, G. 2020, 'How I became a reluctant China sceptic', *Financial Times*, January 21.

Rachman, G. 2022, 'Ukraine and the start of a second cold war', *Financial Times* June 7

Rice, C. 2008 'Rethinking the national interest', *Foreign Affairs*, July/August.

Rickards, J. 2022 'The dollar is a victim of its own success', *Daily Reckoning*, July 7

Roach, S. 2022, 'Two insecure superpowers stumble towards collision over Taiwan', *Financial Times*, August 5

Roeder, O. 2022, 'The global race for supercomputing power gathers pace', *Financial Times* 10 June

Schuller, M. and Y. Schuler-Zhou, 2020, 'United States-China decoupling: time for European technology

sovereignty' , GIGA Focus/Asia, December, German Institute of Global and Area Studies

Sevastopulo, D. and J.P. Rathbone, 2022, 'MI5 and FBI chiefs join forces to warn on China's industrial spying campaign', *Financial Times* July 7

Swanson, A. 2022, 'Billions for US chip manufacturers, but with strings attached', *New York Times* (International), August 4.

Starrs, S.K., forthcoming, *American Power Globalized: Rethinking American Power in the Age of Globalization*. Oxford University Press.

Trubowitz, P. and B. Burgoon, 2020 'The retreat of the West' *Perspectives on Politics*, June

UNCTAD 2019 'Making private capital work for development', chapter 5 in *Trade and Development Report 2019*

Vibert, F. 2021, *Comity: Multilateralism in the New Cold War*, Edward Elgar

Wade, R. H. 2004 (1990) *Governing the Market: Economic Theory and the Role of Government in East Asian Industrialization*, Princeton University Press

Wade, R. H. 2015 'Reinterpreting the Ukraine conflict', *Challenge*, 58, July-August

Wade, R. H., 2020a, 'Rethinking the world economy as a two bloc hierarchy', *Real-World Economics Review*, 92

Wade, R. H. 2020b, "Global growth, inequality, and poverty: power and evidence in global 'best practice' economic policy", chapter 12 in John Ravenhill (ed), *Global Political Economy*, Oxford

Wade, R. H. 2022a, 'Why the US and Nato have long wanted Russia to invade the Ukraine', *Global Policy*: <https://www.globalpolicyjournal.com/blog/30/03/2022/why-us-and-nato-have-long-wanted-russia-attack-ukraine>

Wade, R. H. 2022b 'Leading states in the periphery of the world economy challenge core states: impacts of the unlikely BRICS coalition', in *Global Policy*, June, at <https://www.globalpolicyjournal.com/sites/default/files/pdf/Wade%20-%20Leading%20States%20in%20the%20Periphery%20of%20the%20World%20Economy%20Challenge%20Core%20States%2C%20%20Impacts%20of%20the%20Unlikely%20BRICS%20Coalition.pdf>

Wickham, D. 2022 'If the US ignores the Pacific, China will step right in', *New York Times (International)* June 29

Wikipedia, 2022 *Made in China 2025*, June

Wong, E. and A. Swanson, 'Export bans are central to US plan to foil China', *New York Times (International)*, June 7

Youtube, 2021 '5 reasons why China won't invade Taiwan', December 27