

Global (Dis)Order
international policy programme

Fragmentation, Securitisation and Interdependencies in the Global Economy

Contents

The realignment of tech supply chains: lessons from US trade sanctions against Huawei	4
Elisa Oreglia	
Western finance and the rise of Chinese tech power	22
Lianrui Jia	
Rewriting the rules: critical minerals and the politics of global trade	36
Noémie Laurens	
The rising trend of screening foreign investments and the further fragmentation of the global economy	54
Dr. Szilárd Gáspár-Szilágyi	

The Global (Dis)Order international policy programme

Today's international system is in flux with the need to navigate competing power aspirations and nodes of order. To generate fresh insights and creative thinking for policymakers and practitioners in this contested environment the British Academy and the Carnegie Endowment for International Peace have begun a new joint international policy programme on Global (Dis) Order. The programme is centred around four main themes: illuminating dynamics of and within international order, diagnosing and rethinking a changing world economy, governing transnational and planetary challenges, and managing violence and (in)security.

The programme is focused on shedding light on the history, current nature, and potential future trajectories of global orders, while acknowledging that these understandings are diverse and often contested. It also provides an opportunity to think in broader, longer-range ways, drawing in a breadth of disciplines and expertise from policy, practice and research that is both historical and future-oriented. This requires us to marshal diverse perspectives and visions from around the world, as well as expertise that bridges the worlds of research, policy, and practice. It also requires us to take a long view, to better understand the historical antecedents and precedents for contemporary geopolitical, economic, political, societal, technological, ecological, and other trends.

To achieve this goal we will analyse potential pathways and trajectories for global (dis)order and propose strategies and approaches to collectively manage shared geopolitical, economic, transnational, planetary and security challenges and dilemmas. To this end, the British Academy and Carnegie Endowment for International Peace have commissioned a series of policy discussion papers to prompt engagement and debate among policy audiences, by posing challenging questions and highlighting gaps and opportunities for policy.

Preface

A confluence of crises is acting to remodel the global economy. In contrast to the liberal orthodoxies of free trade championed by the United States and broader West for much of

recent history, concerns over security are taking precedence. A US-led drive to contain China and reduce its dependencies, Russia's full-scale invasion of Ukraine in 2022, and broader Middle East tensions are indicative of a shift into a more protectionist era.

Against this backdrop, the four papers commissioned by The British Academy and Carnegie Endowment for International Peace in this collection address different facets of change, on critical minerals, investment screening, and technology financing and supply chains. Across the four papers, a more complex picture than may be commonly assumed emerges, with interdependencies still very extant despite fragmentation.

Increasing securitisation of global flows of investment, technologies, and raw materials are the main challenges identified by the report authors to more liberal trade regimes of the recent past. These are no longer simply treated as areas of apolitical commercial activity, with states prioritising sovereignty, autonomy, and resilience while minimising risk exposures. Naturally, this is not a symmetric process, with some states significantly better placed than others to absorb the consequences. Greater uncertainties potentially stand to fall on groups of investors and firms as the costs of adjustment to new security priorities.

However, all four papers also illustrate processes of reordering and reconfiguration within the global economy, with active adaptations following from new barriers. As Oreglia, Lobo and Burroughs describe in the case of Huawei, US limitations to advanced technology access prompted a rebound in its fortunes because of supply chain diversification and a turn to indigenous innovation. However, even as restrictions on access to hardware took effect, Jia concludes that access to global capital markets were instrumental in scaling privately owned Chinese technology firms, simultaneously enabling China's ascendancy and reinforcing Anglo-American dominance in global finance.

While the flow of global capital may have benefited Chinese firms in the recent past, US decoupling pressures and governmental scrutiny are building. Gáspár-Szilágyi's analysis of investment screening shows the US, UK and EU broadening the scope of scrutiny of both inward and outward flows. The extent and reach of national security concerns can be ill-defined, with limited routes for arbitration and challenge, and potential negative impacts to foreign direct investment. Jia identifies potential economic upsides for states such as the UK and EU that are more willing to remain economically engaged with China compared to the US.

As sectors considered to have security significance rapidly expand, the role of strategic alignment in economic relations increases. Arguably one of the more significant vectors for the reordering of multilateralism in global trade has been that of increased protectionism in critical mineral exports. Laurens argues that resource-rich exporters of critical minerals can impose restrictions due to the 'abundant policy space' the WTO rules leave in this area. Rather than seek to reform the WTO and preserve broader multilateralism, the US has instead opted for a form of 'club governance' with the plurilateral FORGE grouping of strategically aligned countries acceding to mutual agreements.

States will remain interdependent. But the way economic relationships are governed will increasingly be defined through national security priorities and not necessarily to the benefit of maximal economic returns. Access and control of key resources, technologies, and infrastructures will spur states to seek ways to shape markets and rules to enable greater sovereignty or management through strategically aligned partnerships. Without careful management, unintended economic risks to free trading states can accrue from security driven interventions, such as chilling effects on benign capital flows, the strengthening of sanctioned firms, or hardening of trade blocs in critical minerals.

The realignment of tech supply chains: lessons from US trade sanctions against Huawei

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Abstract

Since 2019, the US government has deployed a creative set of tariffs, export controls, investment bans, and strategic sanctions aimed at blocking Huawei's access to advanced US technologies and curbing its international expansion. Yet Huawei has rebounded, even launching its own mobile operating system in 2024. Using Huawei smartphones as an entry point, we illustrate the company's survival through short-term tactics (downgrading, stockpiling, circumventing) and longer-term strategies (supply chain diversification, indigenous innovation). We explore how sanctions function beyond their stated goals: as intelligence-gathering mechanisms, stress tests for market concentration, and indicators of supply chain commodification. Finally, we propose three analytical lenses for evaluating sanctions' impacts: clarifying goals and time frames; mapping the resources available to absorb the sanctions at different levels; and analysing component-level vulnerabilities, commodification, and modularity. Rather than achieving decoupling, the US measures have triggered supply chain realignment whose effects will only emerge over the long term.

Introduction

In April 2024, while doing fieldwork to understand the expansion of Chinese tech companies in Cambodia,¹ we noticed a new addition to the download options of local apps: Huawei's AppGallery was now listed alongside Apple's App Store and Google Play (Figure 1).

Figure 1: Download options of Cambodia's local apps in 2024



Running a variety of Cambodian apps through Janus, a software we created to analyse the connectivity of apps' back ends (Burroughs et al. 2025), also showed a sudden appearance of links to Huawei in 2023. These two observations suggested that Huawei was deploying its own smartphone operating system (OS), with a proprietary app marketplace and connectivity to its dedicated services. This was surprising: Huawei's smartphone business had not been expected to recover from the US measures that began in 2018, aiming to block the company's access to advanced US technologies and cripple its international business (Gallagher 2022). In the short term, Huawei's global business had suffered serious setbacks, but recently the company is back as a significant global innovator (Lin & Huang 2024). It launched its own mobile OS, Harmony Next, which represents a potentially serious challenger to the duopoly of Google and Apple (McMorrow & Liu 2024); it is recovering its market share globally (Shen 2025); and it has significantly improved its high-end chip production (Allen 2023). How did this happen? What lessons can be learnt from the US sanctions against Huawei, the company's

¹ The project is DIGISILK: Digital Infrastructures Along the New Silk Road: a mixed-methods exploration of China's digital investments in its borderland regions. See: DIGISILK, 'The Digital Silk Road', accessed 10 March 2026, <https://www.digisilk.eu>.

survival strategy, and the ensuing and ongoing realignment of digital tech supply chains? What role do trade sanctions play in reshaping the spheres of tech innovation, production, and use? These are the questions we address in this paper.

Drawing from insights and methods developed in a five-year mixed-methods study of the global expansion of Chinese tech, we shine a light on how the sanctions against Huawei have worked and propose an analytical road map to explore responses to such mechanisms. After an initial background section on the literature on sanctions and on the US trade measures against Huawei, we develop our argument in three parts: The first part breaks down the components and supply chains of Huawei smartphones to understand the choke points, how they arose, and how individual components hit by US actions displayed different levels of vulnerability. We show how the modularity of smartphones allowed Huawei to continue to function despite losing access to key technologies, and we discuss this as a key feature for the resilience of digital technology supply chains. The second part analyses Huawei's response to the US actions in the short and medium and long term. The final section looks at the roles that trade sanctions play beyond their stated goals and concludes with some reflections on unintended consequences of trade control measures and resilience in tech supply chains.

Creativity in economic sanctions: US versus Huawei

The US government has long had concerns about China's transformation from tech assembler to tech innovator. Removing access to high-end US technologies through sanctions was a tactic first used by the Obama administration in 2014,² but the first Trump administration (2017–2021) marked a shift towards a much more aggressive and wide-ranging strategy, if often improvised and based on ad hoc processes (Fishman 2025). The US Justice Department began investigating Huawei for suspected violations of sanctions against Iran in 2018 (Woo & Viswanatha 2018), which led to the company being added to the Bureau of Industry and Security (BIS) Entity List on 16 May 2019³ This required US companies to obtain a special license to sell to Huawei and severely restricted the company's ability to buy from US suppliers. In May 2020 the rules were expanded to block the sale to Huawei of any product containing US technology or intellectual property, regardless of where they were produced (DoC 2020) (see Figure 2 below for a detailed timeline). The 2019 and 2020 waves of measures had different goals. The 2019 Entity List prevented US companies from selling to Huawei (and all other companies in the List), which meant that Huawei lost direct access to their technology but not indirect access, e.g. by buying technology through third parties or in third countries. This loophole, created partly by the inexperience of the Department of Commerce (DoC) in this kind of 'economic warfare' (Fishman 2025: 345), was closed in May 2020 with the revival of the 1959 Foreign Direct Product Rule. These measures, confirmed under Biden's administration (2021–2025) and magnified in Trump's early second term (from January 2025), were a combination of weaponised tariffs, export controls, import restrictions, investment bans, and strategic sanctions; they represented 'an almost novel technique [in] the realm of economic sanctions' (Hufbauer & Jung 2020: 3).⁴

² In 2014, the US banned Russia from accessing US offshore oil drilling technology (Fishman 2025).

³ BIS, 'Huawei Entity Listing FAQs', accessed 30 July 2025, no longer available, <https://www.bis.doc.gov/index.php/documents/pdfs/2447-huawei-entity-listing-faqs/file>.

⁴ In this spirit, we use 'sanctions', 'trade measures', and 'measures' interchangeably in this paper to indicate the entire range of actions adopted by the US government to prevent Huawei from accessing its high-end technologies.

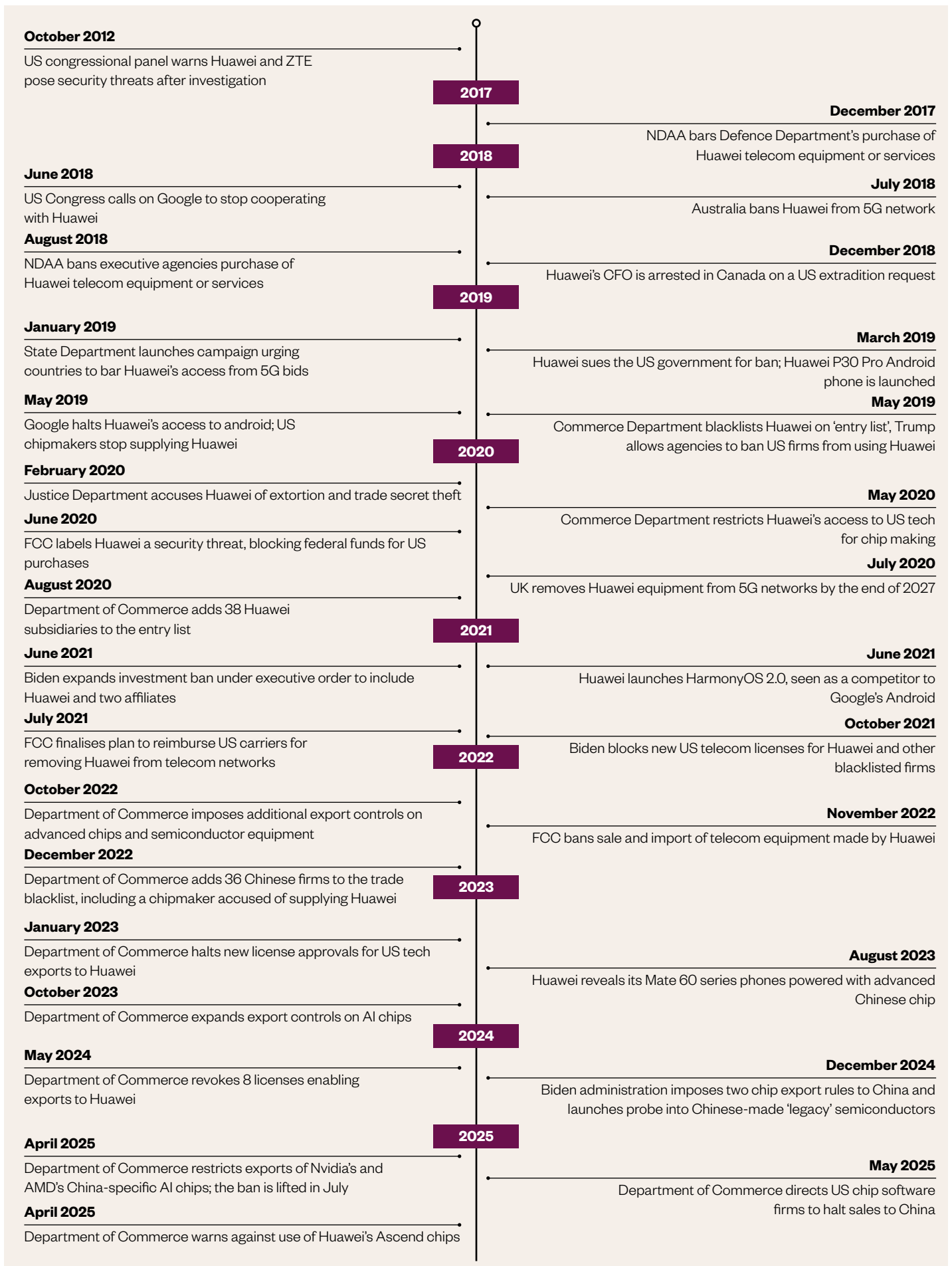


Figure 2: A timeline of the US government's measures and Huawei's reactions (created by Thais Lobo, based on Guo et al. (2023) and news sources)

Despite a large body of literature on sanctions, the specific mechanisms through which they work and how systems reorganise around them are still little understood – especially in the tech realm and with recent weaponised trade measures (Fishman 2025; Jones 2015; van Bergeijk 2021). Scholarship has long debated the effectiveness of economic sanctions, and while econometric analyses have concluded that they bring significant and long-lasting economic damage to targets, most empirical research shows that they often do not achieve their explicit political objectives, with roughly two failures for every three cases (Hufbauer et al. 1990 & 2009; Morgan et al. 2014) or worse (Pape 1997),⁵ and have a long series of unintended side effects. Sanctions inherently encourage adaptation, leading both businesses and states to develop alternatives to mitigate trade disruptions. Work on sanctions focused on digital realms further suggests that sanctions' reach in this area might be even wider than in traditional sectors, as they not only produce economic losses but also affect the access and availability of information (Douhan 2022; Park & Shin 2025), are technically difficult to implement (ten Oever et al. 2024; Ververis et al. 2024), and risk under- or over-blocking the flow of information (Douhan 2022; Ververis et al. 2024).

Research has focused more on the issuers of sanctions, typically states, than on the targeted entities and their reactions (van Bergeijk 2021), but the adaptive nature of contemporary sanctions – in which issuers respond to the reactions of targeted entities with new regulations and policies – requires a focus on both sides. Our research on the case of the US versus Huawei begins to fill this gap by analysing the effects of the creative use of trade measures in the digital sector and the combined response of the company and the Chinese state. In particular, we take Huawei's smartphones as an entry point for understanding how tech value and supply chains – from innovation to manufacturing and logistics – are reorganising in response to US trade sanctions and, more generally, increasing volatility and fragmentation in digital technologies.

The effects of sanctions

Smartphones are complex devices; each component is a gateway to multiple systems and supply chains, with deep interdependencies. Actions that happen at a component level have the potential to cascade throughout not only the device but also its network, supply chains, digital services, and even governance. Although the US BIS initially stated that Huawei phones would not be affected by the addition of the company and its affiliates to the Entity List,⁶ they were indeed directly impacted: in 2019 because of their reliance on US software (in particular the Android system and Google system apps), and in 2020 because of their dependence on advanced chips for the phones' OS.

To illustrate this sequential impact, Figure 3 shows an abstraction of the software and hardware components of a Huawei smartphone.⁷

5 Hufbauer et al.'s analysis of sanctions between 1914 and 2000 found them to be at least partially successful in 34 per cent of cases (2009:158), though Pape's stricter criteria lowered that figure to between 6 and 9 per cent (1997:106). Morgan et al.'s analysis of sanctions from 1945 to 2005 estimated a success rate of 27–37 per cent (2014: 536)

6 BIS also clarified that once Huawei phones were imported into the US, they could not be returned to Huawei without a license from BIS, even for repairs. BIS (2019), 'Huawei Entity'.

7 By abstraction, we mean a simplification of the schematic of a smartphone to illustrate its main functions and components, rather than a scientific diagram showing each part.

Huawei Device

Software

Operating System				Applications	
AOSP Core		Hardware drivers		Google Apps	System apps
Google Services		Security services		Third party apps	
		UI/UX Layer			

Hardware

SoC/Chips		Memory/Storage			Display	Sensors
CPU	GPU	RAM	Flash storage			
		Radio/Modem				
NPU/AI	ISP	5G Modem	Wifi/BT	GPS	Battery	

Figure 3: Software and hardware components of a Huawei smartphone (created by James Burroughs)

Each component is made of many parts, each designed, manufactured, and assembled by different companies. For example, components of the Huawei P30 Pro, launched in March 2019, were made by Japanese (896 components) and Korean (562 components) companies, with only 80 components supplied by Chinese firms, including Huawei itself, and 15 by US companies (Xing 2021). Because of fragmentation and modularity in the supply chain, however, 'made by' is a deceptive term here; intellectual property (IP), software, and tools from US companies were present in each step. Figure 4 illustrates the different levels of vulnerability of individual components to the US actions. In red, components that were hit directly and significantly because US companies and US IP were key to their production or functioning and alternative suppliers could not be found or easily integrated into the existing architecture. In yellow, components that were moderately to seriously (but not fatally) affected, and in green those less vulnerable, either because they were not dependent on US inputs or because there were adequate alternatives. To explain how the US measures worked, we separate software, which was affected by the 2019 measures, from hardware, which was impacted especially from 2020 onwards.

2019 measures: impact on Huawei's use of Google's software

Operating System		Applications	
AOSP Core	Hardware drivers	Google Apps	System apps
Google Services	Security services	Third party apps	
	UI/UX Layer		

Likely hit, and no equal alternative
 Likely hit, but many alternative suppliers
 Unlikely hit

Figure 4. Effects of U.S. sanctions on software. (created by James Burroughs)

As shown in Figure 4, Huawei smartphones' core OS (AOSP or Android Open-Source Project) is based on Android, the Linux-based, open-source OS used by most of the world's non-Apple smartphones. Android is fundamentally comprised of two parts: the basic OS, which is free and open-source, and Google's proprietary services layer (Play Store, Cloud, Maps, etc.). While the basic Android system can be used freely by anyone, manufacturers need a Google Mobile Services certification to include Google services and apps, which requires licenses and compliance with technical requirements set by Google.⁸ The 2019 measures did not (likely) affect the free and public version of Android. However, Google's internal branch of AOSP is restricted to manufacturers with Google Mobile Services agreements, and Huawei could no longer enter such an agreement, leaving its smartphones with a core that could not be updated and lacked the services and apps that the international market demanded.

Drivers, security services, system apps, and third-party apps were also vulnerable, but their supply chains were more diversified, with manufacturers based in different countries and a mix of open- and closed-source solutions. Alternatives and workarounds were easier to find and quickly integrate within the existing architecture. The UI/UX layer was not vulnerable, as it was proprietary to Huawei.

2020 measures: impact on hardware

SoC/Chips		Memory/Storage			Display	Sensors
CPU	GPU	RAM	Flash storage			
		Radio/Modem				
NPU/AI	ISP	5G Modem	Wifi/BT	GPS	Battery	

Likely hit, and no equal alternative

Likely hit, but many alternative suppliers

Unlikely hit

Figure 5: Effects of U.S. sanctions on hardware (created by James Burroughs)

Hardware components were affected in an equally mixed way, as shown in Figure 5. While Huawei had already lost access to some chips in 2019, at that point it could legally continue to buy them through third parties, as we discuss in the next section.

The most vulnerable components were those in the system on a chip (SoC), in particular the sophisticated CPU and GPU chips. Trade restrictions targeting this area have proven particularly effective, as this is a manufacturing chain full of choke points controlled directly and indirectly by the US.⁹ For example, high-end chips manufacturing is concentrated among three key players: TSMC (Taiwan), Samsung (South Korea), and Intel (US). The latter, a US company, was caught directly in the net of the Entity List in 2019, and the others followed in 2020. A similar pattern occurred in other parts of the manufacturing process: the architecture for mobile processors typically comes from ARM, a UK-based company that is majority-owned by the Japanese SoftBank (Sen 2023) but whose designs contain US technology.¹⁰ The sector of Electronic Design Automation (EDA) software to design chips is dominated by US companies

8 Android's open-source part is used by manufacturers to build devices that are separate from the Google Service layer, such as e-readers and the short-lived Amazon Fire Phone. However, smartphone manufacturers that want to have Google Play Store pre-installed on their devices need to abide by the Anti-Fragmentation Agreement (AFA) and Mobile App Distribution Agreement (MADA), which prevent them from creating their own forks to the AOSP Core. See Savov (2016) for a general overview of AFA and MADA.

9 In July 2025, the US government lifted all export restrictions on chip design tools, so Cadence, Synopsys, and Siemens were able to resume their sales to Chinese companies (Bajwa et al. 2025).

10 ARM provides designs for NPUs and ISP blocks, but those are modular and replaceable, unlike CPU cores. They can thus be switched to in-house or third-party solutions, though at the cost of time and money. This is why we consider them as a medium vulnerability (see Lee 2019).

Synopsys, Cadence Design Systems, and Mentor (Miller 2022), which account for about 75 per cent of the market.¹¹

In the components highlighted in yellow, US technology is important (e.g. GPS), but not in a way that its elimination would cause lasting damage. There aren't any monopolists or single choke holds in patents or manufacturing, and alternatives can be mobilised in a relatively short time. Components in green are unlikely to be disrupted: for batteries and displays, for example, China has a strong presence of manufacturing capabilities (Leahy et al. 2025)¹² and also good IP portfolios (Greitemeier & Lux 2024), as do other Asian countries.

Huawei's Response

The Chinese government had been aiming to develop indigenous technologies and lower dependence on foreign components and IP since the early days of its tech manufacturing industry in the late 1980s (Zhao 2010). This took on an additional urgency in the 2010s, especially after a 2012 US House Intelligence Committee investigation found that Huawei and ZTE posed risks to national security (HPSCI 2012). Therefore, when Huawei was added to the Entity List in 2019, the company had several strategies it could fall back on, mobilising both its own and the Chinese state's resources. We classify them into three types: short-term survival, through downgrading, stockpiling, and circumventing; medium-term repositioning, through diversification and catching up; and long-term independence, through the creation of a vertically integrated and independent supply chain. Actions in these categories are not sequential and often blend into one another, as we will show.

Short-term survival: downgrade, stockpile, circumvent

Downgrade: One of the explicit goals of the US actions was to force Huawei to revert to older technologies and thus slow down its market expansion. To survive and continue selling its smartphones, Huawei initially downgraded its OS by continuing to rely on the Android core but without Google's licenses and software. In 2020, it announced the launch of its own native OS, HarmonyOS. In reality, this was simply a version of Android without Google (Amadeo 2021), featuring instead the software service layer that the company had developed for the internal Chinese market – a common set-up for Chinese smartphones that cannot use Google in China, where the company does not operate (Rajesh 2025). While workable in the short term, a major challenge was that third-party apps outside the insular Chinese market were built on the Google Service layer. Without this, they might not work reliably – or at all – and require considerable workarounds to be downloaded. As a result, Huawei's share of the global smartphone market went from about 18 per cent in 2019, to 15 per cent in 2020, to 3 per cent in 2021 (Li 2025, Yang & Shrikanth 2019).

Regarding chips, Huawei still had access to the less advanced ones for which the DoC still granted export licenses (Allen 2023), but it had lost a reliable supply of more advanced ones. Despite China's heavy investments in developing domestic alternatives in the semiconductor

11 EDA is a critical node in the US dominance of the chip market. Further rounds of restrictions since 2020 from the DoC on selling US software to Chinese companies is pushing Huawei towards Chinese alternatives such as Empyrean Technology and continued illegal use of EDA (see Wong, S.L. 2019; Wu & Oloott 2025).

12 Also see: Grand View Research, 'China lithium-ion battery market size & outlook, 2023–2030', accessed 06 August 2025, <https://www.grandviewresearch.com/horizon/outlook/lithium-ion-battery-market/china>.

supply chain, the sector was still lagging. Huawei thus decided to downgrade its smartphone chips: tests on the Mate 30, launched in September 2019, showed that it had switched from US Skyworks Solutions to the Huawei-owned semiconductor company HiSilicon (FT 2020a).

Stockpile and circumvent: Switching chips for some of Huawei's smartphones was a viable short-term strategy, but it did not work for its higher end devices, 5G base stations, or servers, which all needed advanced chips. Huawei responded by stockpiling, that is, acquiring chips legally to save for future use, and circumventing, that is, skirting the rules and procuring chips in the grey market.¹³ To stockpile, it purchased chips from US companies Intel and Xilinx (later acquired by AMD), but also from Taiwanese manufacturers such as MediaTek (Ting-Fang & Li 2020 Li & Ting-Fang 2020), directly and through intermediaries and third companies that had not (yet) been blacklisted by the US. When that became more difficult, especially after 2020, the company circumvented the new rules by: relying on grey markets; replacing US chips with self-designed ones produced by companies that still relied on US equipment and tools (Allen 2023); and collaborating with third parties like the European STMicroelectronics that maintained access to US technology to co-design chips (Ting-Fang & Li 2020; Sharwood 2025). Stockpiling and circumventing were bridge strategies to allow the company to survive while it focused on building its own capacity and an alternative supply chain.

Medium-long-term strategies: diversify, catch up

Diversification and catching up were a mix of business and technological decisions. The former happened both in Huawei's business models and its supply chain, while the latter was focused on individual components and creating a completely vertically integrated and self sufficient company.

Diversify: In 2020–21, Huawei made two strategic sales. The first was in 2020 when it sold Honor, its mobile phone subsidiary, to a consortium headed by the Shenzhen Smart City Technology Development Group, owned by the Shenzhen Municipal Government (Baidu 2020). While portrayed as a 'market-driven investment made to save Honor's industry chain' (Baidu 2020, first author's translation), the spin-off allowed Honor to avoid the Entity List and continue to access US technology while retaining Huawei's expertise, supply chain, and consumer market presence. The second was in 2021: having lost access to Intel's X86 chips, which it used in both personal computers and servers, Huawei prioritised chips it had amassed for its core business (Bloomberg News 2021) and proceeded to sell its Intel-based server business Xfusion to another consortium headed by a State Owned Enterprise, Henan Information Industry Investment (Lee 2024; Huawei 2021). There are precedents to sales of important subsidiaries to state-owned or -backed consortia in response to external pressures,¹⁴ which highlights that despite the private ownership of businesses such as Huawei, there is a key nexus between private companies and the Chinese state. The subsidiaries sold by Huawei in response to US actions have continued to grow and have access to US technologies, while being controlled even more directly by the Chinese state, which is hardly aligned with the goals of the US measures.

Lack of access to key components also pushed Huawei to overhaul its supply chain to find adequate substitutes. The reallocation of expertise, reorganisation of business relations, and redesign of its smartphones' architecture resulted in significant inshoring of components, even those that were not directly hit by export controls. Tests done in May 2020 on a Huawei

13 See Allen (2023) for a thorough dissection of the measures taken by the US government in this sector and Fishman (2025) for details about Huawei's strategies and preparedness in terms of stockpiling.

14 For example, Huawei Marine was sold in 2019 to the Heng Tong Group to avoid blacklisting by the US government (Jiang 2019).

smartphone showed that components made in China increased from 25 per cent to 42 per cent, while those made in the US decreased from 11 per cent to 1 per cent (Yaku 2020). The supply chain diversification also included increasing purchases from competitors such as Unisoc, a Chinese mobile chip designer competing with Huawei's HiSilicon, and the Taiwanese MediaTek, which was already supplying Huawei with chips for its mid- and low-end smartphones but which Huawei competed with in the high-end smartphone segment (Ting-Fang & Li 2020). The immediate need for mobile chips overrode established boundaries and made competitors into partners.

Catch up: Huawei was keen to emphasise its ability to quickly gain independence from Google's smartphone OS Android. The 2020 release of Harmony Next was a temporary workaround still based on Android, but in 2024 the company announced that its new phone Mate 70 would feature a proprietary operating system, HarmonyOS Next (McMorrow & Liu 2024). Our analysis of back end connectivity of banking apps in Southeast Asia showed early signs of connections to Huawei Mobile Services already at the end of 2022, and the sticker advertising Huawei's AppGallery that we discussed in the introduction was very visible in 2024 in Cambodia, a country with a large number of Chinese residents and where Huawei's smartphones are popular. This suggests that HarmonyOS is making progress in establishing itself as a real international alternative to the duopoly Google/Apple, rather than being a phenomenon circumscribed to China.

Huawei's smartphone hardware's performance is also catching up with the US. Chips for radio transmission, particularly important for 5G phones, were built in-house, allowing autonomy in that strategic area. In advanced-chip manufacturing, the Chinese company SMIC is improving, and Huawei itself is having significant success with its Ascend chips for artificial intelligence (AI) (Olcott 2025). To support the catch up efforts, Huawei also created an investment arm, Hubble, targeting the Chinese semiconductor industry (Fujino 2025).

These two strategies have contributed to upgrading the entire Chinese supply chain. For example, Huawei's adoption of Unisoc's high-end chips has propelled the latter's global market share, even briefly overtaking Samsung in the SoC market in 2021 (Notebook Check 2022). As Chinese companies develop their own capabilities, however, other players also continue to innovate. A benchmarking from April 2025 showed that Chinese companies were still seriously lagging in equipment-making, in particular lithography, an area dominated by the Dutch ASML, and chip-etching machinery, for which the US Lam Research is the world leader. Catching up with those two companies is not predicted in the medium term (Lo 2025).

Function of sanctions

The strategies we have outlined above are not limited to Huawei, nor to smartphones.¹⁵ Focusing on a specific object like a smartphone, however, allows us to analyse the US measures' and Chinese counter-measures' impacts on distinct parts, taking a modular perspective to see which components are hit, how, and with what consequences to the final assembled product. This approach makes visible the interlocking relationships between monopolies and more open, competitive markets in smartphone supply chains, but it also

¹⁵ Since 2020, evidence has accumulated that the US trade measures have created a parallel market that benefits intermediaries that can procure or rent high-end chips to Chinese blacklisted companies, especially for AI purposes (Wu & Olcott 2025). Chinese AI companies, for example, continue to circumvent US rules and to access Nvidia high-end chips by using cloud providers or buying them through third parties (see Olcott, Liu & Sevastopulo 2023).

shows how the US measures have served as a litmus test along the entire informational technology (IT) supply chain and specifically in:

1. **Proprietary commercial information:** Through the licensing system, the Entity List has helped to gather information about the organisation of otherwise closed technical systems.¹⁶ License applications from companies doing business with Huawei detailed what was supplied, in what quantities, and for what purpose. This tactic has been mirrored by the Chinese government; as part of its increasingly strict export controls in response to the US actions, it requires equally detailed information from foreign companies applying for licenses to acquire resources such as rare earths (White 2025).
2. **Dependencies in hardware and software:** Global and well-integrated supply chains were shown to be full of choke points in critical infrastructure, where cooperation had toppled over into dependence.¹⁷ Google's Android was likely collateral damage from measures primarily targeting high-end chips; however, getting caught in their net highlighted not only the high dependence of the whole smartphone industry on two US oligopolists but also their low substitutability. In this sense, the US sanctions have become a stress test for market concentration. Huawei has been able to throw ample resources – with the support of the Chinese government – to keep its mobile phone business viable and its OS might still be successful in international markets, but US actions have drawn renewed attention to a market dominance that has been cyclically in the crosshairs of market-competition authorities.
3. **Commoditisation in the IT supply chain:** The rapid reorganisation of Huawei's supply chain has shown which components were highly commoditised, that is, standardised and at a mature level of development. Even extremely disruptive sanction effects tend to dissipate in the medium to long term, as systems reroute around obstacles. In the Huawei case, the reorganisation of supply chains and the components necessary to bring functioning smartphones to the market happened swiftly for parts already highly commoditised, where bringing up production volumes was a matter of financial investment rather than innovation.¹⁸ Money, it turns out, can compress time, and the rapid intervention of state capital through state-owned enterprises and subsidies, combined with existing IT manufacturing clusters, provided a safety net to the company.
4. **The frontiers of innovation:** In other areas such as high-end chips and software for chip design, such rapid catching up has not happened and does not seem likely even in the medium term. The US sanctions have shown which technologies were mature – where competition would be on price, speed of production, and incremental improvements – and which were still in their innovation phase and required equipment, IP, collaborations, and experimentations that were not amenable (yet) to mass production.

16 As explained by Christopher A. Ford, at the time Assistant Secretary of State for International Security and Nonproliferation, 'By placing the company on the Entity List, we required licenses ... for all transfers to Huawei, giving us visibility – for the first time – into the items and technologies it was acquiring from U.S. industry' (Ford 2020: 6).

17 See Fishman (2025) for a thorough analysis of tech and other choke points in globalisation, and how these have become weaponised by the US as well as other actors such as China.

18 A good example of parts that fall into this category are OLED screens but also, to remain in an area where Chinese tech companies have been targeted by US measures, the submarine cable industry (Ting-Fang et al. 2024).

Policy considerations

Since 2019, there has been improvisation, backtracking, and contradictory short-term tactics and long-term strategies on the sides of both the US government and Huawei, but there has also been an underlying logic to both actors' actions and reactions. As tech-related measures are becoming more commonly deployed, there have been different assessments of the resilience of strategic supply chains (Bateman 2022)¹⁹ that focus on strategic technologies and shifts that can only develop on a long time frame, if at all. By asking what can be learnt from the Huawei case, we pose three broad questions for policy makers to consider whilst assessing the potential consequences of sanctions:

1. What are the goals of the measures? Goals can be strategic or tactical; measures can target a company, a sector, a country, or a combination of the three. The US's goal was to secure its strategic infrastructure, to prevent 'foreign adversaries' from accessing information and communications technology (ICT) that could be deployed to damage US interests and security,²⁰ but also to solve the 'Huawei problem' (Ford 2020). Starting from goals helps to clarify the time frame(s) in which measures must be effective before the system reroutes around them.²¹
2. What resources can be deployed at company, sector, and state levels to absorb sanctions? Huawei could survive because of support mechanisms that could be mobilised very quickly within the company, from the Chinese IT sector and the state. As we saw above, it took Huawei about four years to deploy its own OS, but the company had started working on the idea in the mid-2010s. The Chinese state had been emphasising internal innovation and technological independence since the 1980s, through the cultivation of wide networks of companies and support for specific sectors. There are three lessons here: The first, well known but often overlooked, is that Chinese tech firms pursue their own business goals, but with the safety net and strategic support of the Chinese government. In calculating the effects of sanctions against firms, it is therefore important to map what kind of state-backed resources they can draw on to survive, and to understand whether a state's responses are aimed at supporting the targeted companies or sectors and/or securing the long-term interests of the state. The second is that state support is helpful to achieve specific, short-term goals while the market adapts, but it's not a long-term solution to build an industry from scratch. In the Huawei case, the Chinese state mobilised administrative, financial, and political support articulated along a different temporal framework and targets. A set of administrative and financial measures were deployed specifically for Huawei, while others were aimed at developing the areas hit by sanctions (e.g. the semiconductor industry), leveraging existing investments and industrial know-how. The political response was aligned with the state's own goals, not

19 See also: European Commission (2024) and DHS (2022).

20 Exec. Order, No. 13873, 84 FR 22689 (2019), Securing the information and communications technology and services supply chain, <https://www.federalregister.gov/documents/2019/05/17/2019-10538/securing-the-information-and-communications-technology-and-services-supply-chain>.

21 Empirical analyses show that sanctions inflict their strongest effects in the early years and then weaken as targets adapt. Dizaji & van Bergeijk (2013) report that a large share of observed 'successes' occurs within the first two years, and Splinter & Klomp (2022) find that the probability of a decline in economic activity is elevated mainly during the first three years after imposition, suggesting that adaptation blunts effects over time. Neuenkirch & Neumeier (2015) similarly show that GDP-growth penalties from broad UN sanctions diminish over time and become insignificant after about a decade. Context and timing also matter for economic resilience. Bolks & AlSowayel (2000) show that a target country's institutional structure and regime vulnerability significantly affect the duration of sanction episodes and that highly centralised political authority facilitates effective counter-measures, prolonging sanctions, while turnover in autocratic regimes shortens their duration. Major (2012) adds that temporally variant events – for example, domestic political crises – can create 'windows of opportunity' for sender states by rupturing structural protections that ordinarily shield authoritarian regimes.

Huawei's. It is therefore essential to distinguish between support for targeted companies, support for an entire sector, and responses to secure longer-term interests of the state. The final lesson is that the effects of strategies around sanctions can only be understood from a *longue durée* perspective, given that both actions (the US leveraging IP amassed through decades) and reactions (China mobilising broad-spectrum support) were grounded in industries and policies established much earlier. The capacity of these two countries to mobilise resources, the size of their markets, and their industrial and innovation bases do not exist in other countries, where supply chains' resilience and strategic measures can only be deployed within broader alliances.

3. What are the specific technologies that are targeted, and what are their components? Investigating vulnerabilities and supply chains at the component level can focus attention or counter-measures on: 1. modularity (Are the parts replaceable and not exclusively dependent on a single country's or company's IP manufacturing and assembling? Are there alternative vendors? Is there the potential for rapid innovation in the targeted area? Are there open-source alternatives?); 2. commodification (How standardised are the impacted components? How optimised is their supply chain?); and 3. short-/medium-/long-term possible responses (Which of the strategies outlined in the previous point can be deployed?).

The US measures have made visible the deep interdependencies of tech supply chains and markets and have led some to predict a 'tech decoupling' between the US and China (Bateman 2022). What we are seeing, however, is more a reshuffling of supply chains, with new actors and new modes of organization, which might have positive effects on countries that do not have the resources that the US and China do.

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List of Figures

Figure 1: Download options of Cambodia's local apps in 2024

Figure 2: A timeline of the US government's measures and Huawei's reactions (created by Thais Lobo, based on Guo et al. (2023) and news sources)

Figure 3: Software and hardware components of a Huawei smartphone (created by James Burroughs)

Figure 4: Effects of US sanctions on software (created by James Burroughs)

Figure 5: Effects of US sanctions on hardware (created by James Burroughs)

Western finance and the rise of Chinese tech power

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Summary

This discussion paper examines how China's rise as a global tech superpower has been deeply shaped by Western financial networks, a dimension largely overlooked in conventional accounts that emphasise state-led development and centralised political control. While firms like Alibaba, Tencent, and ByteDance are often framed as products of Chinese industrial policy, they originated as privately owned enterprises that scaled through access to global capital markets, including IPOs in New York and Hong Kong and equity holdings by major Western institutional investors such as BlackRock and Vanguard. Rather than a zero-sum rivalry, the US-China tech relationship has been characterised by significant financial interdependence that simultaneously enabled China's ascendancy and reinforced Anglo-American dominance in global finance. The paper then traces how this entanglement has come under visible stress as decoupling pressures mount, from investment screening and delisting threats. It concludes by drawing out policy implications, arguing that effective governance must move beyond binary geopolitical framings to grapple with the structural inequalities and enduring interdependencies embedded in the global digital economy.

This discussion paper investigates the intersection of two key themes in relation to global (dis)order – global economic fragmentation and transnational and planetary challenges – through the lens of evolving global tech orders. It focuses on the deep, yet underexamined, entanglement of China's rapid emergence as a global tech superpower and the enduring influence of Western financial networks. The paper reflects on two key questions. How has the global financial order enabled China's rise? And how is this order itself being reshaped as geopolitical tensions and economic fragmentation intensify?

Conventional accounts of China's tech rise tend to emphasise state-led development, industrial policy, and centralised political control (Amsden 1989; Norris 2016; Singh & Ovadia 2018). However, these narratives overlook a critical dimension: the foundational role of Western financial capital and advanced business services in underwriting, legitimising, and scaling China's tech economy. Despite the presence of a powerful Chinese state, China's most commercially successful and internationally recognised tech firms – including Alibaba, Tencent, and ByteDance – originated as privately owned enterprises that accessed global markets through global finance systems.

This discussion paper addresses a crucial gap in policy and academic literature: while the US-China tech rivalry is often framed as a zero-sum geopolitical conflict, the enduring financial interdependence between Chinese firms and Western finance networks – ranging from initial public offering (IPO) facilitation in New York and Hong Kong to equity holdings by BlackRock and Vanguard – challenges such binaries (Jia & Nieborg 2022). This financial symbiosis not only catalysed China's tech ascendancy but also reinforced Anglo-American dominance in global finance. Yet this mutual entanglement is undergoing visible stress as geopolitical rifts widen and tech sovereignty becomes a site of national security.

Research methods and data

The discussion paper draws on extensive original research and data derived from media and telecommunications industry studies and the political economy of digital platforms. It is based on systematic analyses of stock exchange filings, annual reports, company announcements, prospectuses, and disclosures made to regulatory bodies. These primary materials are complemented by data insights obtained from the Global Media and Internet Concentration Research Project, derived from the author's direct involvement with the research, financial

information providers and market intelligence platforms such as Crunchbase, as well as reporting from reputable news outlets. Together, these sources provide a robust evidence base for assessing the financial strategies, market behaviour, and global integration of major platform firms.

Using China as an empirically grounded and longitudinal case study, the paper presents China not only as a 'transnational challenge' but also as a hegemonic tech actor embedded in, and increasingly disrupting, the capitalist world system.

Structure and themes

The discussion paper is organised around three key themes, each substantiated by longitudinal data, policy analysis, and case studies:

1. The emergence of the China-based platforms–global finance nexus.

This section maps the deep integration of Western financial networks in the emergence of China's tech industry, presenting systematic data on IPO pathways, offshore incorporation, and the role of Western legal, accounting, and underwriting services in shaping China's tech landscape.

2. Reordering through venture capital.

This section explores how Chinese tech firms are now exporting tech capital through the establishment of corporate venture capital and the reconfiguration of global AI innovation pipelines.

3. Crisis, fragmentation, and opportunities.

This section examines the impact of escalating US–China tensions on global capital flows and regulatory realignments.

The emergence of the China-based platforms–global finance nexus

Since the late 1970s, the Chinese state has undergone radical socio-economic transformations, particularly under Deng Xiaoping's market reforms. These reforms combined market relations with deepening linkages to transnational capitalism and its accompanying consumer culture (Zhao 2007). Two strategies have been especially central to China's globalisation: 'reform and opening up' and 'going out'. The former refers to the 1978 economic reforms aimed at restructuring the economy; the latter, initiated in 1999, encouraged Chinese investments and corporate expansion abroad. China's accession to the World Trade Organization (WTO) in 2001 further marked its accelerated reintegration into global capitalism. Within this shifting landscape, the power of the market began to eclipse political imperatives in shaping the Chinese media industry (Hu 2003).

The commercialisation of Chinese media unfolded in two stages. The first was marketisation (1987–1996), when the state reduced subsidies and encouraged competition. The second was conglomeration (1996–2001), when the government pursued mergers and policy reforms to restructure the industry (Hu 2003). These developments and the reorganisation of China's communication system since the early 1980s aligned with and mirrored the neoliberal restructuring of global communication systems (Zhao 2003).

As subsidies were withdrawn and foreign investment encouraged in the 1980s, profit-seeking logic became embedded in Chinese media organisations. Before China's WTO accession, the communication system was already commercialised and commodified. As Zhao (2008) notes, 'the most important change in the Chinese national communication system has been its commercialisation and its transformation into a platform for capital accumulation' (149). Globalisation and intensified competition produced sweeping changes across media sectors, most notably the creation of 'national champions'. These state-owned enterprises achieved massive economies of scale through mergers and acquisitions. Their financialisation (Xia & Fuchs 2016), exemplified by state-owned media and telecommunication enterprises such as Xinhuanet (Xin 2017) and China Mobile (Wójcik & Camilleri 2015), illustrates the Chinese state's pragmatic strategy: absorbing private capital and Western expertise while maintaining strict ownership and political control (Huang 2007). As Curtin (2017) argues, the media revolution in Asia since the 1990s is not merely technological but rooted in neoliberal restructuring and globalisation.

The rapid commercial growth of the Chinese internet supports this view. From the government's perspective, the internet should be developed so as to safeguard the Communist Party's rule, as well as to modernise production processes, stimulate domestic consumption, and eventually help China reclaim its rightful, dominant position in the world (Shi 2018). 'Techno-nationalism' offers a framework for understanding developing countries attempting to catch up with more technologically advanced states – for example, Japan's *gijutsu rikkoku* (nation-building via technology) industrial policy of the post-war period (Nakayama 2012) – particularly regarding ICT policies, technical standards, and the trade dimensions of technology. In China, successive generations of leadership have subscribed to a policy and ideology of techno-nationalism, treating high technology as a source of national power and a central means of defining China's position in the world (Feigenbaum 1999). Techno-nationalism, as it relates to national security, carries with it an emphasis on the importance of technological autonomy, as well as being a means to support and reinforce the country's overall technological capabilities (Shim & Shin 2016).

It is under these historical and technological conditions that we must understand the rise of China as a global tech power: as a fusion of capitalist market logic and state techno-nationalist projects. The guiding and supporting role of the state and the participation of Chinese tech companies have been well documented and examined in various scholarly accounts – most notably through large-scale initiatives launched by Beijing, such as the social credit system (Jia 2020), the Belt and Road Initiative (Shen 2018), and the Internet Plus plan (Hong 2017). Leading technology companies, selected by the state, were integrated into these national projects to build the technological backbone for the country's informatisation and datafication processes. Simultaneously, under the principle of 'cyber sovereignty' – the idea that a state has the exclusive authority to regulate, control, and shape the internet within its territorial borders (Budnitsky & Jia 2018), including its technical infrastructure, information flows, and digital industries – China has tightened governance over online activities, digitised public services, and expanded tools of social control.

Yet the meteoric rise of China's technology firms cannot be explained solely by domestic economic reforms or state support. Here it is useful to clearly define the meaning and scope of Chinese platform firms as referred to in this discussion paper. The term 'digital platforms' is often used to denote these companies, as they operate a proprietary digital infrastructure to enable and intermediate the interaction between two or more groups or markets. While 'big tech' is often used to refer to a handful of US-based multinational technology companies (e.g. GAFAM, or Google/Alphabet, Apple, Facebook/Meta, Amazon, and Microsoft), the social,

market, and technological power that several China-based platform firms wield has grown to a scale that warrants comparable attention. Table 1 lists 15 publicly traded Chinese platform firms. The ‘bigness’ of these platform firms manifests not only in scale and scalability but in their power over people’s public lives, for example shaping information flows, mediating everyday social interactions, structuring digital payments and consumer behaviour, and increasingly influencing governance practices through data-driven services and infrastructure.

These 15 publicly listed platform firms offer a comprehensive overview of the specific ways that China’s tech and internet sector is wired into global finance networks. Haberly & Wójcik (2022) define global finance networks as interconnected systems of actors and places that collectively ‘manufacture money’ in the global economy. These consist of four core components:

1. financial and business services firms: investment banks, law firms, and accountants that package and standardise financial instruments across borders
2. world governments: sovereign authorities providing extraterritorial protections and acting as financial backstops
3. financial centres: market hubs like New York, London, and Hong Kong that enable liquidity and credit creation
4. offshore jurisdictions: legal havens that facilitate cross-border structuring and asset protection.

Table 1: Flotation of China-based platform companies

Year Founded	Company	Main business	Primary IPO	Primary listing	Secondary IPO	Secondary IPO	Holding Company Location	Under-writers	Revenue (million USD, as of 2024)	Auditor
1996	Sohu	gaming, online media content and service provider	July 2000	Nasdaq	N/A	N/A	Cayman Islands	Credit Suisse	\$598.00	PWC China
1997	Netease	gaming, on-line content	June 2000	Nasdaq	June 2020	HKEx	Cayman Islands	Merrill Lynch, Deutsche Bank	\$14,425.50	PWC China
1998	Tencent	conglomerate in social media, gaming, fintech, cloud services	June 2004	HKEx	N/A	N/A	Cayman Islands	Goldman Sachs	\$92,000.00	PWC
1998	JD.com	e-commerce and logistics	May 2014	Nasdaq	June 2020	HKEX	Cayman Islands	Merrill Lynch, UBS	\$158,758	Deloitte
1999	Trip.com	online travel services provider	December 2003	Nasdaq	April 2021	HKEx	Cayman Islands	Merrill Lynch	\$7,302.00	PWC
1999	Alibaba	e-commerce, fintech, cloud services	Sept 2014	NYSE	November 2019	HKEx	Cayman Islands	Credit Suisse, Deutsche Bank, Goldman Sachs, JP Morgan Chase, Morgan Stanley, Citi-group	\$132,300.00	PWC

2000	Baidu	internet technology, search engine	August 2005	Nasdaq	March 2021	HKEx	Cayman Islands	Goldman Sachs, Piper Jaffray, Credit Suisse	\$18,238.00	Ernst & Young
2009	Weibo	social media	April 2014	Nasdaq	N/A	N/A	Cayman Islands	Credit Suisse, Goldman Sachs	\$1,498.70	PWC China
2009	Bilibili	online video and streaming	March 2018	Nasdaq	March 2021	HKEx	Cayman Islands	Merrill Lynch, JP Morgan Chase, Morgan Stanley	\$3,675.90	PWC
2010	Cheetah Mobile	mobile internet	May 2014	Nasdaq	N/A	N/A	Cayman Islands	Morgan Stanley, JP Morgan, Credit Suisse	\$110.50	Ernst & Young
2010	iQiyi	online video streaming	March 2018	Nasdaq	N/A	N/A	Cayman Islands	Goldman Sachs, Merrill Lynch, Credit Suisse	\$4,003.80	Ernst & Young
2010	Meituan Dianping	delivery and lifestyle platform	Sept 2018	HKEx	N/A	N/A	Cayman Islands	Bank of America Merrill Lynch, Goldman Sachs, Morgan Stanley	\$46,200.00	PWC
2010	Xiaomi Corporation	consumer electronics	July 2018	HKEx	N/A	N/A	Cayman Islands	Goldman Sachs, Merrill Lynch, Credit Suisse	\$50,600.00	PWC
2015	Pinduoduo	social e-commerce platform	July 2018	Nasdaq	N/A	N/A	Cayman Islands	ClCC, Credit Suisse, Goldman Sachs	\$54,000.00	Ernst & Young
2016	Tencent Music Entertainment Group	digital music streaming	December 2018	NYSE	September 2022	HKEx	Cayman Islands	Bank of America, Deutsche Bank, Goldman Sachs, JP Morgan, Morgan Stanley	\$3,890.00	PWC

Source: author's compilations

The overseas listing process is a key way of integrating into global financial networks. As seen in Table 1, Chinese platform firms rely heavily on Western financial and business services firms, such as accounting and underwriting services that help companies facilitate initial public offering (IPO) processes. This reinforces the centrality of financial centres such as New York, London, and Hong Kong. On the other hand, the use of offshore jurisdictions, particularly the Cayman Islands, is widely adopted by Chinese platform firms as the registration location of the holding company. Notably, contrary to other publicly listed Chinese companies, Chinese tech and platform companies all (with the exception of Tencent) pursued IPOs in US stock exchanges. Even though a listing in Hong Kong provides many geographic, cultural, and economic proximities, it was not a viable option before April 2018 due to the prior restriction on dual-class share structures (DOSSs), which many big tech firms adopt to maintain corporate control. Xiaomi was the first Chinese issuer with a DOSS in Hong Kong, with 10 votes to each voting share.

Another notable feature is the choice of the Cayman Islands as the registration location for the holding company. This means, legally speaking, that these are not 'Chinese' companies but Cayman Islands companies that contract much of their operations to China-based service providers. This structure was named the 'Sina model', as the Sina Corporation (now taken private) pioneered this corporate structure to bypass national restrictions on foreign investment in value-added telecommunications services. Even though this creates many legal complications, for example in the review of mergers and acquisitions, the Chinese state

has thus far tolerated such 'creative legal ambiguities' (Jia 2021). Although digital platforms are branded as 'Chinese', their legal identities often span multiple jurisdictions. This reflects a pragmatic strategy of leveraging global finance while retaining domestic political control.

Table 2: Cross-shareholding in China-based and GAFAM platforms

Institutional Investor	Investment in China-based Platform Companies	Investment in GAFAM
SoftBank	Alibaba	
Orbis Investment	NetEase, Sohu	
Baillie Gifford	Baidu, Tencent, Alibaba	Facebook, Microsoft, Alphabet, Amazon
Price T. Rowe Price	Baidu, Sina	Facebook, Microsoft, Alphabet, Amazon
Schroder Investment Management	Sina	Facebook, Microsoft
BlackRock	Sina, Alibaba, Tencent, Baidu	Facebook, Microsoft, Alphabet, Apple, Amazon
Macquaire Group	Sohu	Facebook
Orbis Allan Gray	Sohu	
Renaissance Technology	Sohu	Facebook
JPMorgan Chase	Tencent	Facebook, Microsoft, Alphabet,
Hillhouse Capital	iQiyi, Alibaba, JD, Sohu	Facebook, Apple, Amazon
Sequoia Funds	Pinduoduo, JD, Sina, iQiyi, Alibaba	Alphabet, Facebook, Amazon
Lazard Asset Management	Baidu	Facebook, Microsoft, Alphabet, Amazon, Apple
Vanguard Group	Alibaba, Baidu	Apple, Microsoft, Alphabet, Amazon, Facebook
State Street	Baidu	Apple, Microsoft, Amazon, Alphabet

Source: author's compilations

While Table 1 highlights the global integration of Chinese platform companies, Table 2 shows global institutional investors move in on both US and China-based platform companies as sites of wealth accumulation. A close symbiosis has emerged between China-based platform firms and global financial markets. This underscores the financial clout of digital platforms, which now extend far beyond their role as sociotechnical infrastructure and have become key sites of financialised wealth accumulation. This is also evident in their weightings in major stock market indexes. Tencent's valuation alone has consistently accounted for more than 10 per cent of the Hang Seng Index; and, for one of its largest institutional shareholders, South Africa's media conglomerate Naspers, its stake in Tencent represented nearly 20 per cent of the Johannesburg Stock Exchange (JSE) All Share Index (Cairns 2019). To reduce the volatility in Tencent's shares that would otherwise be transmitted to the JSE, Naspers created Prosus to hold its Tencent stake and pursued an IPO on the Amsterdam Stock Exchange. Prosus now constitutes roughly 7 per cent of the Amsterdam Exchange Index.¹ Taken together, these developments illustrate how Chinese platform giants have become deeply embedded in, and consequential for, financial markets well beyond China.

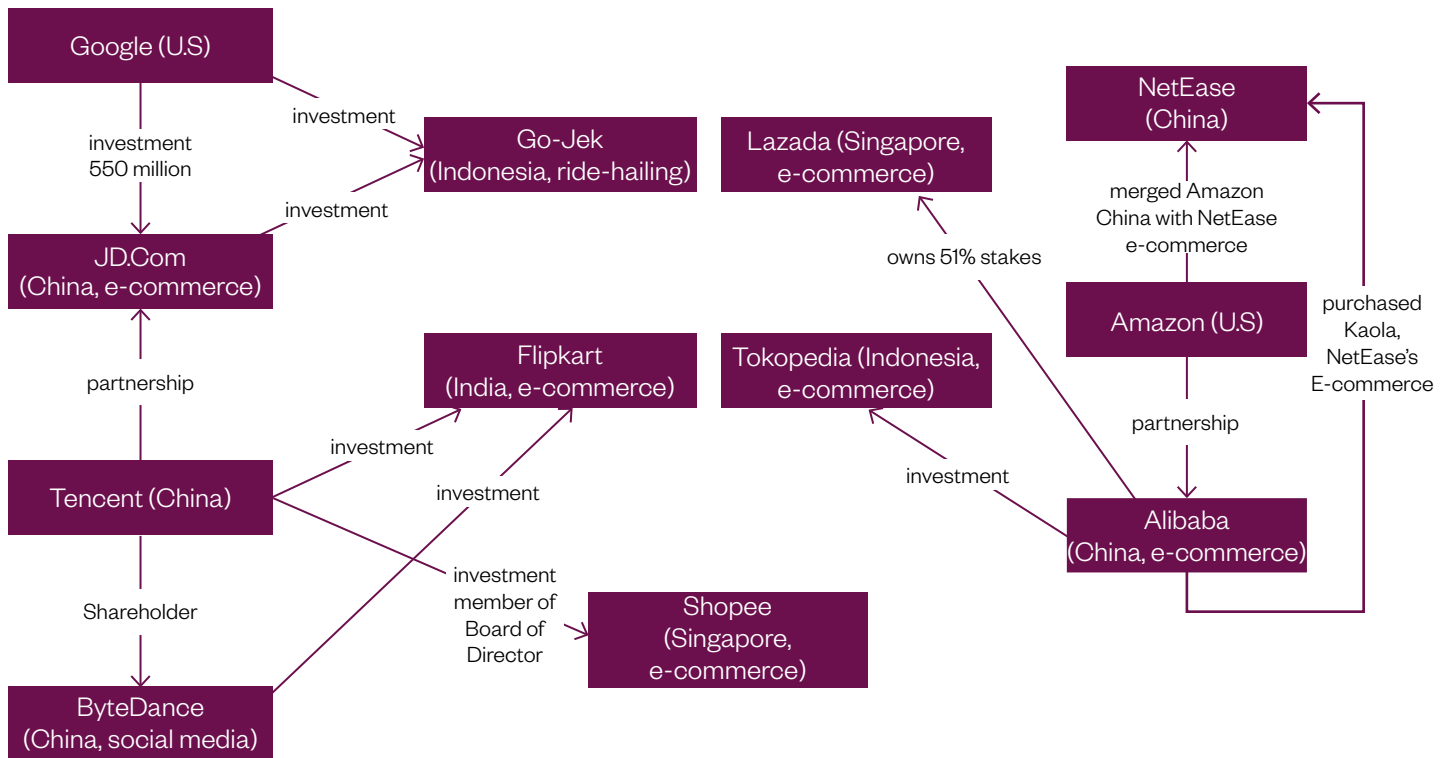
Reordering through venture capital

As global capital markets continue to fuel the growth of China as a pole of expansion, China-based platform companies take on the dual role of being both recipients and investors of capital. As Table 1 shows, platform companies in China exhibit the same winner-takes-all dynamics observed elsewhere. There is substantial disparity in revenues and market capitalisation among incumbents. The largest trio (as of 2025) are Tencent, Alibaba, and JD.com. However, the pecking order has shifted over the years: JD.com replaced Baidu in the top three, further illustrating the dynamic and volatile nature of platform competition (Jia & Winseck 2018). Venture capital units established by Baidu, Alibaba, and Tencent fund emerging technologies, particularly artificial intelligence, while also serving as financial buffers and acquisition tools. Tencent, especially active, has used acquisitions to dominate global gaming markets, transforming itself from a marginal participant into the world's largest game publisher.

Among these firms, Tencent offers a case study of the coming of age of a capital investor. Since founding its corporate venture capital arm in 2012, Tencent has become one of the world's largest venture capital investors. By 2019, Tencent's investment income nearly matched its operating profit, indicating a shift from operations to financial accumulation. It ranked second worldwide in unicorn investments in 2019, trailing only Sequoia Capital. By 2025, Tencent's dominance had waned, yet it remained among the top investors in ultra-unicorns, valued at US\$5 billion or more, alongside Andreessen Horowitz, Sequoia Capital, and Tiger Global Management. It also ranked third in China, behind Beijing-based IDG Capital and Hong Kong-based HSG, formerly known as Sequoia China (Teare 2025).

Platforms have also invested heavily in state-owned enterprises. Under the Internet Plus initiative, Baidu, Alibaba, and Tencent injected US\$11.7 billion into China Unicom (Weinland 2017), and Alibaba invested \$8.7 billion in China Tower Corporation (Si 2018). These deals mark a reversal in direction: private firms now finance state-owned enterprises and participate in mixed-ownership reform for state-owned enterprises. Tencent's joint venture with China International Capital Corporation, partly owned by the state financial holding firm Central Huijin, demonstrates the hybridisation of state and private capital.

1 'Prosus, Euronext Amsterdam, NL0013654783 - Stock', Euronext Markets, accessed 20 November 2025, <https://live.euronext.com/fr/product/equities/NL0013654783-XAMS>.

Figure 1 Chinese and U.S investments in Southeast Asian e-commerce markets

Source: author's compilations

Financialisation thus positions Chinese platforms not just as market actors but as global financiers. Figure 1 highlights the convergence between US and Chinese interests in capitalising Southeast Asia's e-commerce industry. This creates parallel dynamics with US platforms: both pursue dominance through capital deployment, speculative valuations, and aggressive acquisition. Despite geopolitical rivalry, Chinese and US firms often collaborate. For instance, Google and Tencent co-invest in Southeast Asia alongside JD.com and Temasek, forming competing blocs against Amazon and Alibaba. Cross-appointments, infrastructural integrations, and joint ventures reinforce these ties. For example, Alibaba Cloud hosts Lazada and Tokopedia, while Alphabet partners with JD.com and Tencent. This convergence suggests that, rather than a clean break, the global platform economy is structured around shared capitalist imperatives. Multipolar innovation in the digital age remains embedded within transnational finance networks historically dominated by Western capital, even as Chinese firms rise as co-architects.

Crisis, fragmentation, and opportunities

The geopolitical contestation between the United States and China is increasingly expressed through financial market regulation. In May 2020, the US Senate unanimously passed the Holding Foreign Companies Accountable Act (HFCOA), which requires Chinese companies listed on US exchanges to disclose any state ownership and comply with audits by the Public

Company Accounting Oversight Board (Fanck 2020). The US Securities and Exchange Commission adopted the HFCOA in 2021 and subsequently placed firms such as Weibo, Baidu, and iQiyi on a provisional delisting list. The act stipulates that US-listed Chinese entities must make their audits available for review by the Public Company Accounting Oversight Board. Together, these measures have introduced new risks and frictions into the once stable reliance of Chinese platform firms on US financial markets. In response, and as shown in Table 1, many China-based platform companies have pursued secondary listings on the Hong Kong Stock Exchange. This decoupling has instead reinforced the centrality of Hong Kong as both a regional and a global financial hub (Pan et al 2018), pulling in more than US\$27 billion from new offerings in the first half of 2025.

As the US–China financial relationship becomes more uncertain, new opportunities may emerge for London and European markets to position themselves as alternative hubs for Chinese capital seeking geographical diversification and regulatory predictability. The UK already maintains substantial economic ties with China. China is the UK's fifth largest trading partner, and the 11th UK–China Economic and Financial Dialogue, in January 2025, reaffirmed cooperation in areas such as financial services, innovation, and green investment.

There are early indications that Chinese technology companies are expanding their footprint in the UK, reflecting a broader strategic shift in response to US–China geopolitical and financial tensions. Facing regulatory scrutiny and anti-trust pressure in China, leading platform companies have increased their presence and investment abroad. Tencent Holdings, for example, has invested in four UK-based companies, with an additional seven investments in 2022, and acquired Sumo Group, a prominent Sheffield-based video game developer. Shein has established a permanent office in London and expanded operations in Manchester. TikTok has also announced plans to increase investment and presence in the UK (TikTok 2025). These examples suggest that, despite geopolitical frictions, commercial engagement between Chinese firms and the UK continues to deepen in selected sectors.

At the same time, the financial opportunities for London and European markets have yet to be fully realised. Efforts to bring Shein, a global e-commerce platform specialised in fast fashion, to a London Stock Exchange listing have not materialised, and the UK market is experiencing an IPO drought, reaching a 28-year low (Cerqueiro, Easton & Campling, 2025). Similarly, the London–Shanghai Stock Connect programme, established six years ago to link the Shanghai and Shenzhen exchanges and liberalise cross-border investment, has yet to produce significant tangible effects. Nevertheless, as Chinese platform firms reassess their reliance on US capital markets, London and Europe are well positioned to attract listings, investment, and operational expansion, presenting a strategic opening for policymakers to strengthen the UK's role in global finance.

Policy implications

The transformation of China's communication and digital platform economy illustrates a distinctive yet deeply entangled trajectory within global capitalism. From Deng Xiaoping's reforms to WTO accession, China's gradual marketisation and state-guided conglomeration of media industries created conditions for digital platforms to emerge as both commercial entities and political instruments. The Chinese state has played a decisive role by permitting limited foreign investment, tacitly encouraging offshore incorporation, and selecting 'national champions' to lead strategic industries. Yet, as the analysis in this paper has shown, the rise of these platforms cannot be understood without situating them within global finance networks.

Western financial institutions, legal frameworks, and capital markets have been indispensable in legitimising, financing, and scaling Chinese digital firms.

This duality of state-directed techno-nationalism, on the one hand, and reliance on transnational finance, on the other, reveals the hybrid foundations of China's platform economy. Far from being self-contained or insulated, Chinese firms embody composite legal, financial, and territorial identities. Cayman Islands registrations, Nasdaq or NYSE listings, and partnerships with global investment banks enabled firms like Alibaba, Baidu, and Tencent to mobilise unprecedented capital resources. These financial strategies, while granting global reach, also tether Chinese platforms to the logics of financialisation, including shareholder value maximisation, aggressive mergers and acquisitions, and market concentration. The result has been rapid expansion and consolidation, with Chinese platforms not only dominating domestic markets but also extending influence through venture capital, investment banking practices, and cross-border partnerships.

The outcome is a unique legal-financial architecture. While symbolically 'national', Chinese platforms are structurally transnational. This hybridity poses new challenges for regulators and policymakers. Traditional approaches grounded solely in ideological frameworks – whether techno-nationalist visions or market liberalisation doctrines – are insufficient to capture the complex realities of interdependence. Effective governance must therefore move beyond rigid ideological assumptions to account for the multi-scalar entanglements of law, finance, and technology that define digital platforms today. Only by recognising these cross-border dependencies and hybrid structures can state institutions design regulatory frameworks capable of balancing domestic priorities with the constraints and opportunities of global financial integration.

At the same time, this financialisation deepens contradictions. While global investors reap significant returns, local labour and suppliers often face precarity, marginalisation, and limited bargaining power. The uneven geographies of value capture reflect the structural hierarchies of global capitalism: liquidity and legitimacy are concentrated in financial centres such as New York, Hong Kong, and London, while risks, vulnerabilities, and economic exposure are dispersed across local economies. The pursuit of capital accumulation has also intensified competitive tensions between US and Chinese platform giants, fuelling geopolitical contestation. Yet paradoxically, these rivalries coexist with cross-investment and infrastructural collaboration, particularly in emerging markets such as Southeast Asia. This indicates that multipolar platform capitalism does not fundamentally overturn existing capitalist structures, but instead reproduces and reconfigures them on a global scale.

For policymakers, these dynamics carry concrete implications. First, governance strategies must account for the localised impacts of financialised platform economies, including labour precarity, supply chain vulnerabilities, and uneven distribution of economic benefits. Second, regulation and policy interventions cannot focus solely on high-level geopolitical competition or corporate strategies; they must also address the lived effects of global finance on domestic communities and workers. Third, understanding the entanglement of state power, global finance, and platform capitalism is critical for anticipating future configurations of economic and technological influence, both within China and across global markets. In sum, effective policy must move beyond binary framings of US–China competition to engage with the complex interdependencies and structural inequalities embedded in the global digital economy.

Beyond policymakers, then, journalists covering the digital economy have a concrete role to play in reframing these debates away from geopolitical rivalry and toward the structural question of who gains and who pays. Reporting on platforms like Shein, TikTok, or Alibaba too often defaults to a national security framing, casting these companies as a 'Chinese threat', when the more consequential story is about the techno-capitalist capture of people's public life and how its costs are differentially distributed. Investigative journalists and trade press embedded in specific regions or industries are well placed to surface those localised stories: the warehouse worker on a zero-hours contract, the small supplier squeezed by algorithmic pricing, the town whose retail economy hollowed out. Connecting those dots to the investment structures and return expectations sitting behind platform business models is where journalism can genuinely shift public understanding in ways that policy documents rarely do.

NGOs and civil society organisations occupy a different but equally important position. Labour rights groups, consumer advocacy organisations, and development NGOs working in supply chain regions already hold a great deal of ground-level knowledge about how platform economies affect real communities. What is often missing is a framework that connects those localised harms to the financial architectures producing them, so that campaigning does not stop at demanding better conditions from a single company but pushes toward the structural conditions that make those situations routine.

Lastly, as users and consumers of digital platforms and services, the general public holds real power in demanding and imagining a different arrangement. Financial literacy tends to focus on personal money management, and digital literacy tends to focus on online safety or data privacy. Neither quite equips people to understand how the platforms shaping their daily lives are the same assets sitting in their pension funds, managed by institutional investors whose return expectations quietly set the terms for how those platforms treat their workers and suppliers. That connection, between the ordinary saver and the algorithmic squeeze on a warehouse worker halfway across the world, is rarely made visible. More uncomfortable still is the realisation that most of us are not simply standing outside this system looking in. We are its consumers, its users, its unwitting investors, and in small but real ways, participants in reproducing the conditions we might otherwise criticise. Developing accessible educational materials for the general public that build this kind of critical literacy would be a meaningful intervention, one that opens up a different kind of question: if the current configuration of platform capitalism depends on our collective participation, what might it look like to organise that participation differently? The goal is not to make everyone an expert, but to make apparent that alternatives do not have to be conjured from nowhere. They begin with recognising that what exists now was also, at some point, a choice.

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Rewriting the rules: critical minerals and the politics of global trade

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Abstract

Surging demand for critical minerals (CMs) such as lithium, cobalt, nickel, rare earth elements, and copper is being driven by their essential role in clean energy technologies such as electric vehicle batteries, wind turbines, and energy storage. This increase in demand has propelled critical mineral policies (CMPs) to the forefront of national and international agendas as enablers of the global energy transition. This discussion paper maps and compares major CMPs across national, bilateral, and plurilateral levels, highlighting the contrasting strategies of resource-dependent and resource-rich countries. It also discusses the underlying ‘trilemma’ of CM governance: balancing economic welfare, sustainable development, and security objectives. It then analyses how CMPs are reshaping global trade governance through new institutional arrangements, club-based cooperation, and shifting supply chain geopolitics. In doing so, the paper situates CMPs as a pivotal arena of both opportunity and contestation in the emerging global economic (dis)order and the evolving landscape of resource governance.

Introduction

The global economy is undergoing profound changes driven by the urgent imperative of climate action and the accelerating digital revolution. At the centre of this transformation are critical minerals (CMs),¹ which are essential inputs for clean energy, defence systems, and information technologies. For instance, manufacturers use lithium, cobalt, and nickel to produce electric vehicle (EV) batteries and energy storage systems. They also use copper and aluminium in EV components, power transmission lines, and renewable energy installations, such as wind turbines and solar panels (Hund et al. 2020). The International Energy Agency (IEA) (IEA 2025) forecasts that the demand for CMs in clean energy technologies alone could double by 2030 under current policies and nearly quadruple by 2040 in a net-zero emissions scenario.

The challenges posed by rapidly escalating demand are compounded by the highly concentrated geography of mining and, more acutely, refining of CMs. For instance, Australia and Chile lead in lithium mining and the Democratic Republic of the Congo (DRC) in cobalt. China controls more than half of the world’s refining capacity for lithium, cobalt, and rare earths, and Indonesia accounts for over 40 per cent of refined nickel. These concentrations – projected to remain high or even increase by 2040 (IEA 2025) – create dependencies and supply chain vulnerabilities, amplifying the risks of price volatility, market disruptions, and geopolitical tensions.

These trends, coupled with the intensifying race among countries to secure CMs, have propelled critical mineral policies (CMPs) to the forefront of global resource governance. CMPs take many forms, from national strategies and bilateral agreements to plurilateral clubs and alliances. This discussion paper argues that CMPs are rewriting the rules of trade and resource governance as countries attempt to reconcile economic, sustainability, and security concerns, thereby driving new institutional practices while carrying a significant risk of contestation in the emerging global economic (dis)order.

¹ While definitions and methods for assessing mineral criticality vary, most focus on the material’s significance for national or economic security and the risk of supply disruptions (Srivastava & Kumar 2022, 2).

The evolving landscape of CMPs

CMPs can be defined as domestic or international policy instruments adopted by countries with the primary objective of governing CMs. This broad definition encompasses stand-alone national strategies, bilateral agreements, and plurilateral partnerships focused on: ensuring supply reliability and resiliency; promoting exploration, production, and innovation; or encouraging sustainable and responsible CM mining practices.² Although these policies differ in scope and form, they all have trade implications. This is due to the uneven distribution of mineral reserves, production, and processing across a limited number of countries, often not the same for different stages of the value chain, which creates significant trade dependencies for other countries (Srivastava 2023). CMPs centre on resource access, therefore, unlike traditional free trade agreements (FTAs), which are primarily designed to enhance market access through the reduction of tariffs and trade barriers, CMPs centre on resource access.

The number of CMPs has grown quickly over the past few years, driven by efforts to reduce supply chain vulnerabilities that were particularly exposed by the Covid-19 pandemic and Russia's invasion of Ukraine in 2022 (Allam et al. 2022). In this context, resource-dependent countries tend to adopt a proactive strategy focused on securing access, whereas resource-rich countries pursue a more defensive strategy aimed at maximising the benefits and strategic value of their mineral reserves (Crochet & Zhou 2024). These different priorities have led to diverging CMP approaches, albeit with some areas of overlap.

As a resource-dependent economy, the European Union (EU) has taken a leading role in the development of CMPs. It has identified 34 critical raw materials and in 2023 introduced the Critical Raw Materials Act (CRMA).³ The CRMA sets 2030 targets for the EU to extract 10 per cent, process 40 per cent, and recycle 25 per cent of its annual CM consumption, while capping reliance on any single country at 65 per cent per material. These targets illustrate the EU's ambition to curb its reliance on foreign suppliers, most notably China, which currently provides 100 per cent of the EU's heavy rare earth elements, alongside other dominant sources such as Turkey for 98 per cent of its boron and South Africa for 71 per cent of its platinum (European Council 2025). The EU has also signed strategic partnership agreements on sustainable raw materials with 16 resource-rich countries across six continents, including Argentina, Australia, Canada, Chile, the DRC, Namibia, Norway, and Rwanda.⁴

The United States (US) has likewise elevated CMs to a strategic priority. In 2022, the Biden Administration released America's Strategy to Secure the Supply Chain for a Robust Clean Energy Transition,⁵ a national plan to expand domestic mining and processing, invest in R&D for substitutes and recycling, and work with allies to ensure stable supplies. It also introduced the Inflation Reduction Act,⁶ which provides EV consumer tax credits conditional on the CMs in EV batteries being sourced from the US or countries with which the US has an FTA. This led to negotiations of new bilateral critical mineral agreements (CMAs) to extend 'FTA-like' status to

2 These policy areas are based on the IEA's Critical Minerals Policy Tracker, which currently counts 450 CMPs. IEA, 'Critical minerals policy tracker', last updated 21 May 2025, <https://www.iea.org/data-and-statistics/data-tools/critical-minerals-policy-tracker>.

3 Regulation (EU) 2024/1252 establishing a framework for ensuring a secure and sustainable supply of critical raw materials, 11 April 2024, <https://eur-lex.europa.eu/eli/reg/2024/1252/oj/eng>.

4 The full list of EU memoranda and partnerships can be found at: European Commission, 'Raw materials diplomacy', accessed 16 February 2026, https://single-market-economy.ec.europa.eu/sectors/raw-materials/areas-specific-interest/raw-materials-diplomacy_en.

5 US Department of Energy, America's Strategy to Secure the Supply Chain for a Robust Clean Energy Transition, 24 February 2022, https://www.energy.gov/sites/default/files/2022-02/America%E2%80%99s%20Strategy%20to%20Secure%20the%20Supply%20Chain%20for%20a%20Robust%20Clean%20Energy%20Transition%20FINAL.docx_0.pdf.

6 Inflation Reduction Act, 8 April 2022, Public Law No. 117-169, <https://www.congress.gov/bills/117th-congress/house-bill/5376/text>.

trusted partners' CM exports (Lawder 2023). For instance, the 2023 US-Japan CMA⁷ pledges to refrain from export restrictions between the two countries and to cooperate on supply chain security, fair trade practices, and investment screening in the sector. The current US administration has redoubled efforts to conclude bilateral CMPs. For instance, at the Critical Minerals Ministerial held in February 2026, the US signed eleven new deals with Argentina, the Cook Islands, Ecuador, Guinea, Morocco, Paraguay, Peru, the Philippines, the United Arab Emirates, the UK, and Uzbekistan.⁸

Other import-dependent economies have taken comparable steps. Japan, for example, has invested heavily in diversifying away from China, including through partnerships with Australia,⁹ the UK,¹⁰ and the US.¹¹ It also maintains strategic stockpiles of CMs. This comprehensive CM strategy was triggered by China's 2010 embargo on rare earth exports (Evenett & Fritz 2023), after which Japan's reliance on Chinese rare earths fell from 90 per cent in 2010 to 60 per cent by 2013 (Terazawa 2023). In 2022, Japan also adopted the Economic Security Promotion Act, identifying 11 goods – including rare earths, semiconductors, and medical supplies – as 'specifically designated important supplies' to strengthen supply chain resilience (Jochheim 2023; Koyu et al. 2022).

At the plurilateral level, the Minerals Security Partnership (MSP),¹² a US-led coalition launched in 2022, brought together Australia, Canada, Estonia, Finland, France, the EU, Germany, India, Italy, Japan, Norway, South Korea, Sweden, the UK, and the US to co-ordinate investing in CM projects and share information. Although not a formal treaty, the MSP represented a club of (mostly) resource-dependent countries aiming to collectively secure CMs in a way that upholds environmental, social, and transparency standards. A similar plurilateral effort, the Sustainable Critical Minerals Alliance, launched in 2022 by a subset of MSP partners, seeks to drive the global uptake of environmentally sustainable, socially inclusive, and responsible mining, processing, and recycling practices.¹³ At the 2026 US-led Critical Minerals Ministerial, Secretary Marco Rubio announced the creation of the Forum on Resource Geostrategic Engagement (FORGE) as the successor to the MSP.¹⁴ The G7 has also placed CMs on its agenda, tasking the IEA with producing regular outlooks to improve transparency, agreeing in June 2025 on a Critical Minerals Action Plan,¹⁵ and with Canada calling for a CM "buying group" (Rajagopal 2026).

Countries with substantial mineral reserves take a different approach to CMPs. Their priority is to capture more value from their resources, assert control over extraction, and use their mineral wealth to advance development or strategic goals. Many are no longer willing to export

7 Agreement between the Government of the United States of America and the Government of Japan on Strengthening Critical Minerals Supply Chains, 28 March 2023, <https://ustr.gov/sites/default/files/2023-03/US%20Japan%20Critical%20Minerals%20Agreement%202023%2003%2028.pdf>.

8 US Department of State (4 February 2026), '2026 Critical Minerals Ministerial', <https://www.state.gov/releases/office-of-the-spokesperson/2026/02/2026-critical-minerals-ministerial>.

9 Minister for Resources and Minister for Northern Australia (22 October 2022), 'Australia-Japan strengthen critical minerals cooperation', <https://www.minister.industry.gov.au/ministers/king/media-releases/australia-japan-strengthen-critical-minerals-cooperation>.

10 Memorandum of Cooperation between the Department for Business and Trade of the United Kingdom of Great Britain and Northern Ireland and the Ministry of Economy, Trade, and Industry of Japan on Critical Minerals, 28 October 2023, <https://www.gov.uk/government/publications/uk-japan-critical-minerals-memorandum-of-cooperation/memorandum-of-cooperation-between-the-department-for-business-and-trade-of-the-united-kingdom-of-great-britain-and-northern-ireland-and-the-ministry-o>.

11 See footnote 7.

12 US Department of State, 'Minerals Security Partnership', <https://2021-2025.state.gov/minerals-security-partnership/>.

13 Natural Resources Canada (12 December 2022), 'Countries commit to the sustainable development and sourcing of critical minerals', <https://www.canada.ca/en/natural-resources-canada/news/2022/12/countries-commit-to-the-sustainable-development-and-sourcing-of-critical-minerals.html>.

14 See footnote 11.

15 G7 Critical minerals action plan, 17 June 2025, <https://g7g20-documents.org/database/document/2025-g7-canada-leaders-leaders-language-g7-critical-minerals-action-plan>

raw ores for processing abroad. Instead, they are introducing policies to move further up the value chain and claim a larger share of the benefits, often through export restrictions on unprocessed minerals, increased taxes or royalties, and requirements for local processing or joint ventures (Weldegiorgis et al. 2021).

Indonesia, the world's top nickel producer, is a striking case of such resource nationalism (Wijaya & Sinclair 2024). In 2020, it imposed a full ban on nickel ore exports to compel foreign firms to invest in domestic smelters and battery metal facilities (Widiatedja 2021). The EU, which depended on Indonesian nickel for its steel industry, challenged the policy at the World Trade Organization (WTO) and won.¹⁶ However, Indonesia appealed the panel's decision into the void due to the paralysis of the WTO Appellate Body, and therefore maintained the restriction (Rohmah 2024).¹⁷ The policy has had a significant economic impact: within a few years, Indonesia's nickel exports shifted from \$1 billion in raw ore to over \$20 billion in higher-value processed products (Reuters 2022; see also IRENA 2023: 113–15). Encouraged by these results, Indonesia's president announced plans to apply similar measures to other CMs, such as bauxite, copper, and tin (Reuters 2022). In February 2026, Indonesia finalised an agreement on reciprocal trade¹⁸ with the US, with Article 6.1 devoted to CMs and providing that "Indonesia shall remove restrictions on exports to the United States of industrial commodities, including critical minerals" (para.1).

Similarly, China, the world's biggest CM processor, has a longstanding policy of strict control over its mineral supply chain. As mentioned, in the 2010s, it imposed export quotas on rare earth elements (critical for electronics and defence) to prioritise domestic industries. These quotas were challenged twice at the WTO and were ultimately found to be inconsistent with its obligations.¹⁹ In 2023, China also announced export licensing requirements on gallium and germanium, minerals used in semiconductors and EVs (Teer & Miller 2023). In addition, China heavily supports its firms in acquiring mining assets abroad, such as cobalt mines in the DRC and lithium mines in Latin America. According to Zhou et al. (2025), however, most of China's CMPs are primarily designed to address domestic challenges and policy priorities rather than to dominate, weaponise, or deliberately disrupt global supply chains (see also Wübbecke 2013).

African and South American countries rich in CMs are also increasingly asserting their demands for a greater share of the value generated from their resources. In the DRC, an updated Mining Code in 2018²⁰ increased royalty rates on cobalt, which was subsequently designated a 'strategic substance' and made subject to additional taxes through a Ministerial Decree.²¹ In February 2025, the DRC also imposed a four-month ban on cobalt exports to address oversupply, a measure that was later extended by an additional three months (Reuters 2025). At the continental level, the African Union adopted Africa's Green Minerals Strategy

16 Panel Report, DS592: Indonesia – Measures Relating to Raw Materials, WTO Doc. WT/DS592, circulated 30 November 2022, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds592_e.htm.

17 The EU and Indonesia are currently negotiating an FTA with a dedicated energy and raw material chapter (<https://circabc.europa.eu/ui/group/09242a36-a438-40fd-a7af-fe32e36cbbd0e/library/26847620-d033-4b8b-8171-3e33a15e4c97/details>). While the draft text does not explicitly mention nickel, it prevents parties from designating or maintaining 'a designated import or export monopoly'.

18 Agreement between the United States of America and the Republic of Indonesia on Reciprocal Trade, 20 February 2026, <https://ustr.gov/sites/default/files/files/Press/Releases/2026/02.19.26%20US-IDN%20ART%20Full%20Agreement%20-%20US%20Final%20for%20Website%20sanitized.pdf>.

19 Panel Report, China – Measures Related to the Exportation of Various Raw Materials, WTO Doc. WT/DS394 adopted 22 February 2012, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds394_e.htm; Panel Report, China – Measures Related to the Exportation of Rare Earths, Tungsten and Molybdenum, WTO Doc. WT/DS431 adopted 29 August 2014, https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds431_e.htm.

20 Loi n°18/001 modifiant et complétant la Loi n° 007/2002 du 11 juillet 2002 portant Code minier, 9 March 2018, <https://www.leganet.cd/Legislation/JQ/2018/JOS.28.03.2018.pdf>.

21 Décret n. 18/042 portant déclaration du cobalt, du germanium et de la colombo-tantalite « coltan » comme substances minérales stratégiques, 24 November 2018, <https://faolex.fao.org/docs/pdf/cng212820.pdf>.

in 2024 with the vision of an 'Africa that harnesses green mineral value chains for equitable industrialisation and electrification, creating green technologies and sustainable development to enhance the quality of life of its people'.²² Meanwhile, the countries of Latin America's 'Lithium Triangle' (Argentina, Bolivia, and Chile) have floated the idea of a lithium cartel modelled on the Organization of the Petroleum Exporting Countries (OPEC) to coordinate production and pricing, though differing national approaches have so far made this difficult (Lee 2025; Sun 2024). Chile, which holds the world's largest lithium reserves, released its National Strategy for Lithium in 2023,²³ outlining plans to establish a national lithium company and require majority state ownership in new projects. This follows Mexico's recent steps to nationalise its lithium industry (Garagarza 2023).

The proliferation of these national, bilateral, and plurilateral arrangements signals a significant evolution in global trade governance away from open, rules-based cooperation and towards more selective, state-driven arrangements grounded in strategic interests and resource control. Yet the diverging goals of resource-dependent and resource-rich countries may not only heighten geopolitical tensions but also exacerbate the complex trade-offs underpinning CMPs, which the next section explores more closely.

The trilemma of CM governance

CM governance sits at the intersection of three of humanity's most pressing concerns: economic welfare, security, and sustainable development. Economic welfare focuses on objectives such as job creation, economic growth, lower consumer costs, enhanced industrial competitiveness, and investment attractiveness. Security involves reducing strategic dependencies, diversifying supply sources, and enhancing supply chain resilience amid growing geopolitical risks (Kalantzakos 2020). Sustainable development involves transitioning to clean energy while also minimising the environmental and social impacts of CM extraction and processing, which can include deforestation, water contamination, biodiversity loss, and carbon emissions (Watari et al. 2020), as well as labour abuses and human rights violations. Berthet et al. (2024) estimate that meeting the EU's energy transition targets could expose between 15,000 and 89,000 African miners to modern slavery risks and consume up to 73 million cubic metres of water in regions already facing water scarcity. In addition, numerous scholars have warned against the adverse effects of CM extraction on local communities, ranging from damage to the surrounding population's health and income (Dou et al. 2023) to displacement and Indigenous rights violations (Amoah et al. 2024; Bofo et al. 2024; Hine et al. 2023; Marchegiani et al. 2020).

This trilemma should not be seen as three coherent pillars, as each objective is contested in itself. For instance, there is little agreement on what counts as sustainability, with some actors emphasising carbon reduction while others prioritising labour rights. Nor is the green transition a universally accepted goal. Similarly, security can mean strategic autonomy for some, resilience and diversification for others. Likewise, economic welfare can refer to keeping input costs low for consumers and industry or to capturing greater value domestically. These divergent interpretations of each pillar make the trilemma even harder to manage, since

22 African Minerals Development Centre (2024), Africa's Green Minerals Strategy, https://au.int/sites/default/files/documents/44539-doc-AGMS_Final_doc.pdf, 16

23 Estrategia Nacional del Litio, 20 April 2023, <https://www.investchile.gob.cl/wp-content/uploads/2023/04/brochure-litio-.pdf?ga=2.154104635.2052862502.1684238137-241820973.1684238137>

advancing one objective often comes at the expense of another, generating inherent tensions and trade-offs for policymakers (Laurens 2025):

Economic welfare vs. security: This is the tension that resource-dependent advanced economies are currently focusing on in the national and international CMPs presented above. On the one hand, an open trade approach maximises economic welfare by lowering input costs for industry, which can translate into cheaper clean technologies for consumers. On the other hand, when key suppliers are seen as strategically unreliable, as is the case with China and Russia from the perspective of the EU and US, governments may prioritise national security by reshoring or ‘friend-shoring’ supply chains, even at the cost of economic efficiency (Nedumpara 2024).

Resource-rich countries face a different economic welfare vs. security dilemma. Imposing an export ban can strengthen economic security by reducing dependence on external demand and increasing control over strategic value chains. At the same time, such measures may entail short-term welfare losses by reducing export revenues. In Indonesia, for example, the nickel export ban initially reduced export income, effectively subsidising its nascent processing sector through lower domestic ore prices. The government bet that this policy would yield long-term benefits by fostering a more resilient, value-added economy, which it did but not without legal and geopolitical risks, including a WTO ruling against the measure and the threat of economic retaliation (Lederman & Barattieri 2024). Similar debates are unfolding in several African countries, where policymakers weigh the potential gains of retaining more value from CMs against the risks of trade friction and potential revenue losses (Briel 2024).

Economic welfare vs. sustainability: This tension is not new, but in the context of CMs, it takes on added complexity through a potential contradiction within sustainability itself. CMs are central to the global fight against climate change, enabling technologies such as solar panels, EV batteries, and wind turbines. However, their extraction often imposes significant local environmental and social costs, particularly in lower-income regions where mining takes place. This creates a risk of what some scholars label ‘green extractivism’ (Dunlap et al. 2024) or the ‘dark side of sustainability’ (Warnecke-Berger et al. 2022), in which wealthier countries outsource environmental degradation to resource-rich but economically vulnerable countries. As Darnal et al. (2023) explain:

On the one hand, existing international and national standards set by mineral-consuming countries are either insufficient or lack effective enforcement and monitoring. On the other hand, relatively lax – or simply absent – regulatory systems in place in some producer countries allow companies to skirt responsibility by exploiting loopholes.

At the same time, calls to reduce CM demand to mitigate adverse impacts on sustainability (e.g. EU Raw Materials Coalition 2024) may constrain economic growth and industrial competitiveness.

Security vs. sustainability: As countries seek to secure stable supplies, they may fast-track mining approvals, subsidise extraction, or pressure producer countries to scale up output, potentially putting sustainability at risk. As Leonelli (2025, 245) notes, ‘national security-centred discourses on decarbonization translate into an inward-looking, adversarial, and short-term approach to the governance of the trade and climate change mitigation nexus,’ which can undermine decarbonisation efforts. Conversely, when resource-dependent countries insist on stringent sustainability standards, tensions may arise with producer or refiner countries, some of which perceive these requirements as obstacles to development or infringements on sovereignty, which in turn may constrain CM supply.

On paper, many CMPs explicitly integrate the economic, security, and sustainability pillars. For instance, the US-Japan CMA's stated objective is to:

strengthen and diversify critical minerals supply chains and promote the adoption of electric vehicle battery technologies by formalizing the shared commitment of the Parties to **facilitate trade, promote fair competition and market-oriented conditions for trade in critical minerals**, ensure robust **labor and environmental standards**, and cooperate in efforts to ensure secure, sustainable, and equitable critical minerals supply chains (art. 1, emphasis added).

Similarly, the EU frames its raw materials partnerships as win-win instruments designed to support local value addition in developing countries while securing European supply and promoting sustainable mining practices. For instance, the 2022 Memorandum of Understanding between the EU and Namibia aims:

to advance the **value, security, and sustainability of trade and investment into resilient raw materials** and downstream value chains across both Namibia and the European Union; to support the development of renewable energy sources taking into account its contribution to energy security, as well as **the impact on the environment and water resources in Namibia and the decarbonisation of the energy sector** with a particular focus on renewable hydrogen's potential; to create a well-functioning renewable hydrogen market and **promote new channels for investment and trade opportunities**, and in cooperation between Namibia and the EU (emphasis added).²⁴

In practice, however, operationalising these multiple goals is challenging. For example, when the US signed a CMA with Japan without congressional approval, several US lawmakers criticised the deal as 'unacceptable' for lacking enforceable labour and environmental standards (Lawder 2023). The EU's CM partnerships have come under even stronger scrutiny. For instance, the partnership with Rwanda has been criticised for legitimising the ongoing extraction and trade of conflict minerals from eastern DRC, given allegations that Rwanda supports the M23 insurgency and contributes to regional instability (Zimmermann 2024). Additional ethical concerns have been raised by Global Witness, which has denounced EU CM partnerships with Australia, Argentina, Uzbekistan, and the DRC, citing violations of Indigenous rights, environmental harm, labour abuses, and corruption (Stewart 2024).

The trilemma may be complicated by the fact that there is no single institution governing CMs. Instead, a 'regime complex' is emerging (Srivastava & Kumar 2024). This regime complex encompasses a multitude of policy initiatives and international organisations from different domains. This includes, for instance, the WTO, which currently focuses on trade disputes related to CM export restrictions (Bronckers & Maskus 2014; Van Calster 2013); the International Labour Organization, which adopted its Strategy on Decent Work in Supply Chains in 2023;²⁵ various United Nations (UN) bodies, such as the UN Secretary-General's Panel on Critical Energy Transition Minerals launched in April 2024; and energy institutions, such as the IEA and the International Renewable Energy Agency. The result is overlapping rules and potential gaps – a classic regime complex scenario wherein coherence is lacking and countries can forum-shop for more favourable venues (Alter & Raustiala 2018). While CMs

24 Memorandum of Understanding on a Partnership on Sustainable Raw Materials Value Chains and Renewable Hydrogen Between the European Union, Represented by the European Commission, and the Republic of Namibia, 8 November 2022. https://single-market-economy.ec.europa.eu/document/download/56b5fdff-bc0e-4b3a-8e0f-6b9fc907617b_en.4.

25 ILO strategy on decent work in supply chains, 27 February 2023. <https://www.ilo.org/resource/gb/347/ilo-strategy-decent-work-supply-chains>.

now bring together ministries and stakeholders that historically operated in separate spheres, this overlap also increases the risk that disruptions in one area, such as geopolitical conflict, may spill over into trade restrictions on CMs. In April 2025, for instance, China imposed export controls on several rare earth elements in response to tariff hikes by the Trump administration (Matthews 2025).

Domestic political economy dynamics also shape how the trilemma plays out. Governments bargain not only with other countries but also with companies and civil society at home (Hailes 2022). Firms usually press for secure and affordable supplies, while community groups and non-governmental organisations demand stronger social and environmental protections. This has led to direct conflict between corporations and local communities, such as in Serbia, where Rio Tinto's planned lithium mine triggered mass protests in 2021–2022 (Faggionato 2024), and in Panama, where public opposition over environmental damage and corruption forced the closure of a copper mine (IEA 2025). Overall, Global Witness (2024) reports that CM mines are tied to 111 violent incidents and protests on average each year. Similar tensions are also emerging in deep-seabed mining projects, including those beyond national jurisdiction (Alger et al. 2025; Havice et al. 2025; Schmidt & Rivera 2020; Van Putten et al. 2023).

Ultimately, the trilemma is not an impossible triangle but rather one of difficult compromises. Pursuing all three goals requires governments to accept partial rather than absolute gains. In practice, this may mean higher consumer costs or industrial subsidies to reconcile security with economic welfare, or slower and more expensive supply diversification to uphold sustainability standards. While 'win-win-win' outcomes are rare, trade-offs can be managed through sequencing (short-term sacrifices for long-term resilience), institutional design (embedding binding and enforceable sustainability standards in CMPs), and international cooperation (pooling risks and resources across countries). So far, however, governments have focused narrowly on the economic welfare–security nexus and treated sustainability as secondary, a pattern that risks eroding legitimacy and fuelling domestic or international resistance.

CMs and the transformation of the global trade order

Global trade rules under the WTO discourage discrimination and export controls in favour of open markets. Accordingly, quantitative export restrictions on CMs are generally prohibited under GATT Article XI (General Elimination of Quantitative Restrictions), with some exceptions. Both the US and the EU have launched several WTO disputes challenging such measures.²⁶ Yet dozens of countries have imposed, and continue to impose, export restrictions on CMs (Korinek 2019; Kowalski & Legendre 2023). According to Crochet & Zhou (2024, 154), this has to do with the fact that WTO rules 'leave abundant policy space' for WTO Members to restrict CM exports. Instead of reforming WTO rules – a slow and uncertain process (Hoekman & Mavroidis 2021; Sasmal 2024)²⁷ – countries are increasingly bypassing them by creating new venues and agreements (Cotula 2023; Sasmal 2024). For instance, plurilateral groups such as FORGE or the potential G7 buying group are not open to all WTO members. These are

²⁶ See footnotes 16 and 19.

²⁷ The WTO is nonetheless beginning to adapt to the growing importance of CMs, as illustrated by the launch of the Trade in Critical Minerals database in 2024 (WTO & Asia Development Bank, 'Trade in critical minerals', last accessed 10 March 2026, <https://critmin.org/>). Some scholars even argue that the WTO is 'an ideal forum for inclusive deliberation' on CMs (Gao et al. 2024).

voluntary coalitions of strategically aligned countries. This type of club governance enables closer cooperation among a subset of countries but inherently excludes others (Brandt 2019) and has been criticised in the context of CMs (Hendrix 2023).

The growing competition over CMs has also led to the emergence of new language in trade instruments. For instance, the US-Japan CMA explicitly references ‘non-market policies and practices of non-Parties affecting trade in critical minerals’ (art. 3.4) and cooperation in determining how best to review investments (art. 3.5). Similarly, in December 2022, the EU and Chile announced the conclusion of the modernisation of their trade agreement, in force since 2003.²⁸ This FTA, like recent EU agreements with Mexico, New Zealand, and Kazakhstan, includes a dedicated ‘energy and raw materials’ (ERM) chapter,²⁹ which, among other actions, prohibits Parties from designating or maintaining a designated import or export monopoly (art 8.4) and requires them to ‘ensure that the supply of energy goods shall be based on market principles’ (art. 8.6, para. 2) and to conduct an assessment of environmental impact ‘prior to granting authorisation for a project or activity relating to energy or raw materials that may have a significant impact on population; human health; biodiversity; land, soil, water, air or climate; and cultural heritage or landscape’ (art 8.8, para. 1) (see also Cotula 2023, 36). Despite these innovations within FTAs, most international CMPs remain non-enforceable,³⁰ marking a turn away from FTAs and WTO agreements, whose negotiation processes are often lengthy and politically fraught, and towards more flexible forms of cooperation.

Beyond rule-changing, state responses to CMs are also accelerating the erosion of multilateralism, as resource alliances create new geopolitical blocs (Vivoda et al. 2024). As former High Representative of the EU for Foreign Affairs and Security Policy Josep Borrell puts it, ‘achieving a fair distribution of efforts between countries is particularly complex because climate change, and its antidote, the green transition, are making losers and winners and shaking up the global balance of power.’³¹ In this emerging order, economic interdependence is no longer seen as a guarantee of political stability but a source of vulnerability (Kalantzakos et al. 2023, 3). On one side, we see US- and EU-led initiatives trying to integrate allies and selected producers into a secure supply network, a strategy often referred to as ‘friend-shoring’ (Maihold 2022; Nedumpara 2024; Vivoda 2023). On the other side, China is consolidating its sphere of influence. China’s Belt and Road Initiative (BRI) has become a major vehicle for expanding the country’s access to CMs by financing and building infrastructure in CM-rich regions (Kalantzakos 2020, 11). This includes direct investment in mining operations, long-term supply agreements, and support for local processing facilities (Yongtao & Sining 2024). These efforts are concentrated in countries rich in cobalt, copper, lithium, nickel, and rare earths, particularly in Africa, Southeast Asia, and Latin America.³²

According to Vivoda et al. (2024), the geopolitical contest over CMs will thus pit a US-led Western coalition against a China-led BRICS+6 bloc.³³ These developments illustrate how CMs are becoming new bargaining chips, much as coal and steel underpinned industrial power and regional integration in the post-war era and oil and gas enabled geopolitical influence

28 EU-Chile Interim Trade Agreement, 13 December 2023, https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/chile/eu-chile-agreement/text-agreement_en.

29 Chapter 8. The draft FTA between the EU and Indonesia, currently under negotiation, includes a similar chapter (see footnote 17).

30 For instance, the EU’s strategic partnerships take the form of memoranda of understanding and expressly do not create binding obligations (Cotula 2023, 39, see also Sasmal 2026).

31 EU External Action, ‘The geopolitics of climate change’ (6 December 2023). https://www.eeas.europa.eu/eeas/geopolitics-climate-change_en.

32 While these overseas investments are often portrayed as a bid to lock down resources, research points to a more complex picture. As Klinger (2020) notes, the BRI is less a monolithic strategy than a collection of heterogeneous projects shaped by China’s domestic political economy, the agency of host governments, and grassroots environmental pressures.

33 BRICS+6 refers to the original BRICS countries (Brazil, Russia, India, China, and South Africa) plus Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates, following the 2023 expansion. Argentina declined its invitation.

through, for example, OPEC's and Russia's use of energy dependence in Europe (European Commission 2022). This logic is echoed in a 2025 statement by the European Commission's lead on industrial policy, Stéphane Séjourné: 'We do not want to replace our dependence on fossil fuels with a dependence on raw materials ... Chinese lithium will not be the Russian gas of tomorrow' (Di Sario 2025). However, unlike oil and gas, for which state practice centred on producer cartels alongside consumer stockpiling, CMs have prompted governments to use export bans, subsidies, and outbound investment screening more routinely. They have also encouraged the creation of consumer-driven clubs and the negotiation of new forms of trade agreements narrowly focused on CMs.

These developments are not limited to consumer countries. Historically, trade policy was often driven by demand-side countries seeking market access, but resource-rich, often developing countries are now gaining significant leverage and transforming from passive suppliers to active shapers of global value chains. Nevertheless, this emerging economic order remains shaped by power asymmetries (UNCTAD 2024). In the words of Sasmal (2024, 10), as CMPs 'involve funding conditionalities for projects in resource-rich countries, the powers reside with resource-hungry countries to decide which resource-rich countries benefit from investments and how.' Critics argue that this dynamic risks reproducing neocolonial patterns (Crochet & Zhou 2024; Malam et al. 2024; Weizman & Ahmatović 2025). Much will depend on how international CMPs are implemented in practice – whether they foster technology transfer, local employment, environmental protection, and equitable revenue sharing or primarily serve to secure affordable resource supplies for industrialised economies.

Overall, the transformations driven by CMs contribute to a more fragmented and multipolar trade governance. At the same time, these changes open avenues for institutional innovation and possibly more resilient governance. If club initiatives succeed in setting higher social and environmental standards, these could create de facto global norms if enough major players adhere. Conversely, if clubs evolve into buyers' cartels, they may trigger retaliatory measures from excluded producer countries, including efforts to co-ordinate prices or assert greater control over supply chains.

Policy recommendations

CMs and the policies governing them have become a defining feature of the current global (dis)order. As this paper has discussed, CMPs are rewriting the rules of engagement in international trade. This ongoing instability of trade rules presents both an opportunity to rewrite them more equitably and a risk of fragmenting into competing and potentially conflicting systems.

The trilemma of economic welfare, sustainability, and security shows that there are no simple 'win-win-win' solutions. The three broad recommendations that follow from this overview of CMPs should not be read as denying these tensions but instead be seen as tools to help sequence and manage compromises in less destabilising ways.

First, **CMPs must embed binding sustainability provisions and circular economy measures.** This is a chance to bring environmental justice into trade by setting higher standards that prevent clean-energy supply chains from reproducing the social and environmental harms of fossil fuels (UN Secretary-General's Panel on Critical Energy Transition Minerals 2024). Meeting rising demand will require not only recycling and reusing (Calvo & Valero 2022; IEA 2024; Jowitt et al. 2018) but also broader strategies to reduce overall material

use. Strengthening international cooperation on these fronts could also create important synergies with global climate action, for instance by linking CMPs and ongoing work under the UN Framework Convention on Climate Change to align resource governance with mitigation and adaptation objectives.

Second, **CMPs should be built on collaboration with partners on an equal footing** to ensure benefits are shared fairly. One major concern is the prospect of green extractivism, where, in the name of advancing the green transition, wealthier countries or multinational corporations engage in exploitative mining practices in economically weaker countries, leaving behind environmental degradation and social disruption (Arezki & Van Der Ploeg 2025). Without robust and inclusive governance frameworks, the CM boom could reproduce neocolonial dynamics (Sasmal 2024). One proposal is a Global Minerals Trust, envisioned as a collectively governed resource-sharing mechanism that would act as a neutral broker to ensure fair pricing for producers and consumers, prevent protectionist measures and cartel formation, support developing countries with technical assistance, and stabilise supply chains by co-ordinating mineral flows for the green transition (Ali et al. 2025). Another proposal is an international CM treaty “based on principles of justice such as distributive, procedural, recognition, restorative, and cosmopolitan justice” (Heffron 2026, 3).

Multilateral institutions can reinforce the meaningful inclusion of countries with significant production or refining capacity in shaping the rules of CM governance. The WTO could modernise its rules or at least provide a forum for addressing how security and sustainability concerns might be integrated without further weakening the foundations of the multilateral trading system (Gao et al. 2024), while development banks and climate finance mechanisms could expand support for sustainable mining and value addition in resource-producing countries.

Third, **policymakers should adopt a flexible, data-driven approach and ensure broad participation** in CM policymaking. Because this is new terrain, CMPs will need regular adjustment as conditions change. Rather than locking in rigid arrangements that may soon prove unworkable, it is wiser to invest in knowledge. Better data, foresight exercises, and scenario planning can help governments navigate uncertainty and make more informed choices (Wittenstein & Stuermer 2023). This process must also involve civil society organisations, affected communities, academics, and industry from the outset. Engagement should be integrated into decision-making, and contributions documented and made publicly available to ensure transparency and accountability.

The coming years will determine whether global rules on CMs support cooperation or lead to further fragmentation. A global (dis)order shaped by unilateral action or geopolitical turf wars between rival blocs could put climate goals at risk and entrench global inequalities. By contrast, a more orderly transition regime that takes both national interests and global fairness into account could make CMs part of the foundation of a more just and sustainable global economy. Achieving this will not be easy, especially in the current geopolitical climate. It will require careful diplomacy, innovative policy thinking, and a recognition that security, economic welfare, and sustainability are interdependent rather than mutually exclusive.

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The rising trend of screening foreign investments and the further fragmentation of the global economy

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Abstract

Areas of the world that have traditionally championed economic liberalisation are increasingly adopting protectionist measures that are often premised on safeguarding national security or ensuring the adopting economy's technological dominance. The discussion paper focuses on US, EU, and UK measures aimed at the screening of existing, inbound, and, more recently, outbound investments. Such measures are part of a larger trend of 'securitisation' of international economic relations. The paper highlights not only various legal issues, such as the material and personal scope of such measures and the limited domestic and international remedies, but also discusses broader societal and geopolitical concerns. Lastly, the paper is also aimed at policymakers and puts forward propositions they should consider when adopting or amending investment screening measures.

The Broader Context

The US's ongoing efforts to contain China, the upsetting of global supply chains by Covid-19, Russia's war in Ukraine, and large-scale tensions in the Middle East are signalling a move away from a more liberalised economic order (OECD 2025: 68) to what some commentators argue is a Second Cold War (Ferguson & Rice 2023). Areas of the world that have traditionally championed economic liberalisation are increasingly adopting protectionist measures, through a combination of weaponised tariffs, changes to export controls (Newcomb et al. 2023), national measures meant to reshore and increase domestic manufacturing (Regulation (EU) 2023/1781; Mitchell 2024), investment screening measures, and strategic sanctions (Hufbauer & Jung 2020; Oreglia et al. forthcoming). Such measures are often premised on protecting national security or ensuring the adopting countries' technological dominance.

We are thus witnessing a reshaping of the existing economic order, one in which an increasing number of issues are becoming 'securitised', be it leading technologies, trade in certain commodities, investments in certain sensitive sectors, or the diversification and search for new sources of energy. The great power rivalry between the US and China is transforming the guiding principles of international economic relations from economic interdependence to de-risking, securitisation, and a shift in dispute settlement from judicialization to 'de-judicialization' (Du 2024).

Considering the above, this discussion paper focuses on US, EU, and UK measures aimed at the screening of existing or incoming foreign investments and, recently, the screening of outbound investments. The focus is on measures aimed at foreign investors because protectionist or restrictive measures, such as tariffs and import/export restrictions, traditionally have primarily concerned international trade in goods but not capital. It is also important not to confuse 'investment screening' with export controls on military or dual-use goods (those with both a civilian and military function) (Cornell Research Services 2025) or sanctions, in the sense of targeted (unilateral or multilateral) measures aimed at countries or private entities to change their behaviour, such as the freezing of bank accounts and the sequestration of property (Barry & Kleinberg 2015; Biglaiser & Lektzian 2011; Challet & Grumaz 2023). Nevertheless, there is overlap between these measures and investment screening.

The US, EU, and UK were selected for this paper because they have traditionally championed economic liberalisation but are now increasingly adopting restrictive measures, challenging the liberal orthodoxy. Moreover, all three economies are significant sources and recipients

of foreign direct investment (FDI). Lastly, while space is limited to discuss the investment screening mechanisms of dozens of other countries, the paper's findings are general enough to apply to those jurisdictions as well.

In the upcoming sections, the paper firstly sheds light on how areas of the world that previously championed economic liberalisation are adopting measures premised on national security 'that make it difficult to disaggregate motivations of protection and protectionism.' (Roberts et al. 2019: 657; OECD 2021). Secondly, it aims to provide a bird's eye view of recent screening measures, not only highlighting various legal issues but also addressing broader societal and geopolitical concerns. Recent academic discussions have focused on investment screening measures' compatibility with existing international commitments under the World Trade Organization (WTO) (Fraundorfer 2019) and international investment treaties (Bian 2021; Gáspár-Szilágyi 2024) and on issues concerning fundamental rights,¹ separation of powers, judicial deference (Holbrook 2024), technology transfer (Gáspár-Szilágyi forthcoming), and the relationship between screening mechanisms and state capitalism (Delimatsis et al. 2023). Clearly, such measures cannot be narrowly assessed but must be viewed in their broader context. Lastly, the paper is also aimed at policymakers and puts forward propositions to consider when adopting or amending investment screening measures.

Inbound and Outbound Investment Screening

What is Investment Screening?

Investment screening can include a variety of procedures 'allowing the State to assess, investigate, authorise, condition, or prohibit foreign direct investments based on a range of security and public order criteria.'² This inclusive definition, however, only refers to the screening of existing and inbound FDI, not outbound investments. Thus, it is worth looking more closely at this definition.

Domestic screening procedures vary depending on their breadth, scope, legal basis, and screening authorities. Screening procedures can be set up pursuant to acts of the legislative or executive branch, and the authorities performing a screening will normally be from the executive branch. The reasons behind a screening tend to be national security concerns or other criteria for the preservation of public order.

The term national security is rarely defined in screening measures. For example, the US inward screening measure only mentions that national security shall be construed to include issues of 'homeland security' (50 US Code § 4565, para a(1)). By not defining national security, screening measures can be more flexible and responsive to new threats (Danzman & Meunier 2023). Nevertheless, this ambiguity comes at the cost of transparency, predictability, domestic judicial deference to the executive (Holbrook 2024), and potential international investor-state arbitral claims (Bian 2021; Gáspár-Szilágyi 2024). Furthermore, the lack of legal specificity also creates

1 For example, see the challenge to the UK Cabinet Office's Final Order concerning the acquisition of UPP Corporation Ltd by Letter One before the High Court of England and Wales, in which the investors alleged breaches of the right to proportionality, the right to peaceful enjoyment of property, and procedural fairness. *LetterOne v Secretary of State for Business, Energy and Industrial Strategy* [2024] EWHC (Admin) 2963.

2 Department of Enterprise, Tourism, and Employment, 'Inward investment screening', last accessed 10 March 2026, <https://enterprise.gov.ie/en/what-we-do/trade-investment/investment-screening/>.

opportunities 'for special interests to push for protectionist policies cloaked in the language of national security' (Danzman & Meunier 2023: 3).

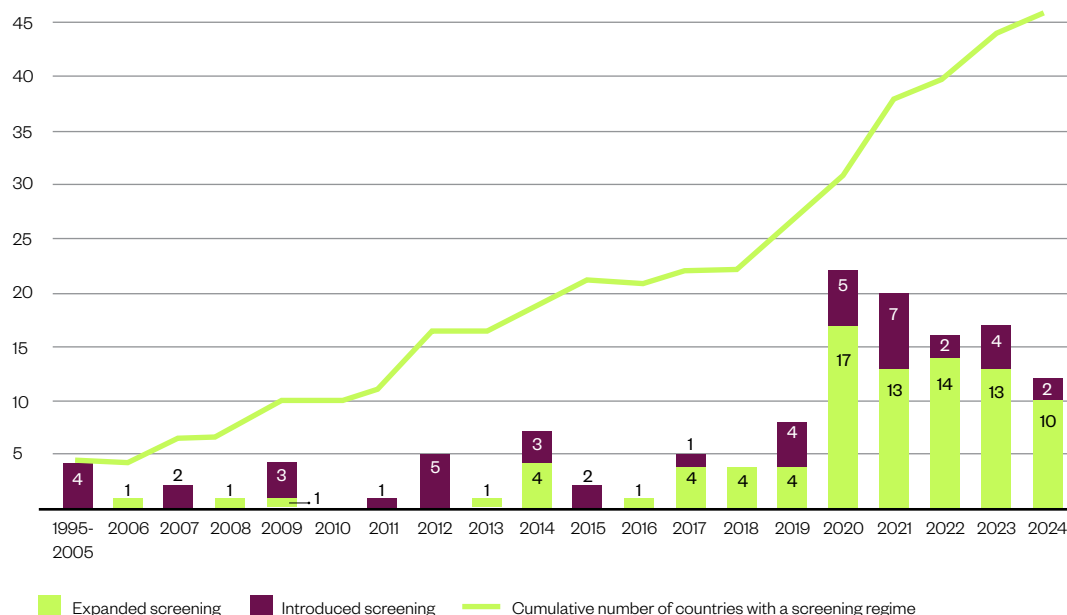
The subjects of inbound screening measures tend to be foreign investors (or even domestic investors in the case of the UK's measure), while the object tends to be much broader than the defence contracts that were the focus of the earlier investment screening measures (Danzman & Meunier 2023: 5). Today, screening measures cover investments in various economic sectors deemed important for the protection of national security, such as critical infrastructures, critical technologies, artificial intelligence, quantum computing, and semiconductors (Hindelang & Moberg 2021). Screening mechanisms will typically provide for the mandatory notification of certain transactions while some screening mechanisms will also provide for the voluntary notification of transactions (UK NSIA 2021, sec. 14 & 18). A screening authority can impose a range of mitigating measures that can result in divestment from an investment already made, the blocking of a transaction before it is finalised, or the fulfilment of certain requirements.

Unlike inbound investment screening, which has a longstanding tradition in the US and has been gaining significant ground in other countries, outbound investment screening is in its infancy. It is not to be confused with export controls, which primarily aim to stop the exportation of certain dual-use goods from the home state. Outbound investment screening primarily aims to stop the flow of capital from the home state to a problematic host state. On 2 January 2025, the US's new outbound investment screening regime came into effect. The mechanism was set up pursuant to former US President Biden's Executive Order 14105. So far, the measure is specifically aimed at outbound investments to mainland China, Hong Kong, and Macau (Exec. Order 2023: annex).

Currently, the EU has no outbound screening mechanism in place. However, on 15 January 2025, the European Commission issued a recommendation on 'reviewing outbound investments in technology areas critical for the economic security of the Union' (Commission Recommendation (EU) 2025/63). The UK, similarly, has no outbound investment screening mechanism, but it is considering screening outbound investments to protect national security (Hinchliffe & Adam 2024).

A Rising Trend

The relationship between national security and international economic relations is not a novel topic. The post-Second World War, US-led economic order depended on 'integrating economics and security rationales, not compartmentalizing them' (Paulsen 2025). However, what has changed in recent years is the intensity with which security is becoming part of the mainstream discourse in international economic relations, resulting in a mushrooming of national-security-based investment screening measures (Danzman & Meunier 2023). For example, the 2025 UNCTAD World Investment Report notes that at least 46 countries in the world (representing more than half of all FDI flows) have introduced investment screening (see Figure 1) (UNCTAD 2025: 97–98). This represents a doubling of the number of such measures since 2019!

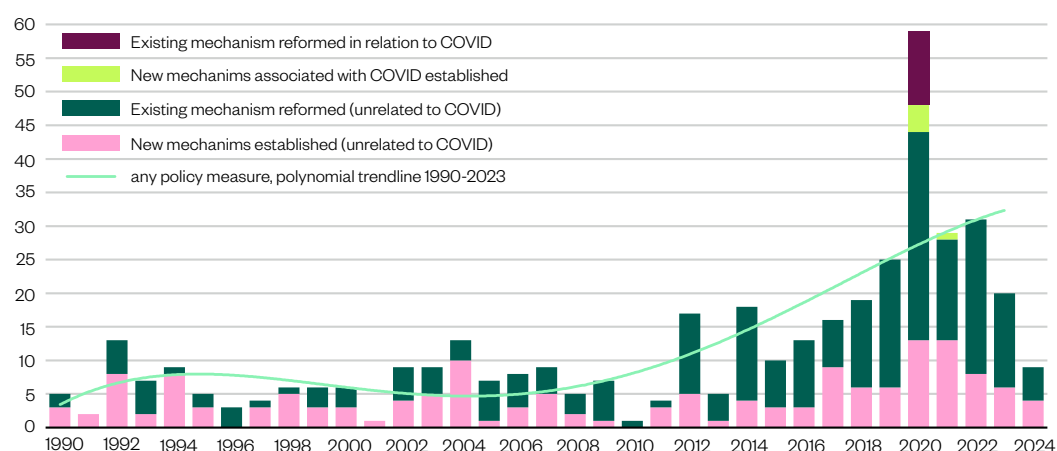
Figure 1 The expansion of FDI screening

Source: UNCTAD, Investment Policy Monitor database, accessed 31 march 2025.

A recent OECD study notes a similar trend in the introduction and reform of investment policies to safeguard national security interests in 72 advanced, emerging, and developing economies (OECD 2025: 68). While most advanced or major economies began adopting such measures from 2014 onwards, emerging and developing economies began carrying out such reforms as of 2020.

Figure 2 Introduction and reform of investment policies to safeguard national security interests (OECD 2025: 68).

Number of policy measures taken in a year by category



Note: Sample includes 72 advanced, emerging, and developing economies from within the subset of 83 economies. More than one measure may be counted for a given country in a year. A new mechanism or reform is associated with COVID-19 if the government explicitly justified its introduction, at least in part, with the pandemic or its fallout.

Source: OECD.

Furthermore, the notion of national security is expanding. New economic sub-sectors are being considered strategic, such as artificial intelligence, quantum computing, semiconductors, and strategic infrastructures, which ends up blurring the lines between national and economic security (OECD 2025). This in turn results in the broadening of the screening measures' personal and material scope, as discussed in the next section.

The types of measures used to safeguard national security are also changing. In the Cold War era, immediately after the Second World War, the US imposed various multilateral and unilateral restrictions on the export of technology and even basic raw materials to the Soviet Union and other communist countries (Golan 1979: 1039). These restrictions were both numerous and diverse; according to the OECD (2025: 68):

In earlier decades, instruments to manage security risks showed great diversity in approaches ... Such instruments include[d] golden shares, foreign ownership ceilings, administrative authorisation requirements for acquisitions in designated asset groups, security assessments at the establishment or registration of enterprises, and investment screening mechanisms.

Over the ensuing decades, however, some of the measures had to be relaxed because (a) European allies and Japan found it hard to comply with US-imposed restrictions that affected their own trading interests; (b) the Soviets and Chinese started developing their own technologies; and (c) there was increased domestic pressure from US industry to relax the restrictions (Cain 2005:134–139; Fedorowycz 1987–88). During the liberalising waves of the 1980s and 1990s, most countries drastically reduced such restrictions (Danzman & Meunier 2023: 2). New measures show less diversity as they primarily focus on screening. 'In OECD countries, almost all newly introduced investment policies related to national security employ investment screening approaches. More than four out of five OECD members now operate investment screening mechanisms, up from 55% at the end of 2020 and from only just over 42% a decade ago' (OECD 2025: 69).

The OECD attributes this rise to the likely role played by the recommendations included in the 2009 OECD Guidelines on investment screening measures (OECD 2025: 68–69), while others also point to the correlation between the rise in investment screening measures and government-led investments in technological innovation (Danzman & Meunier 2023: 9). In the EU, the adoption of the Investment Screening Regulation (No. 2019/452) caused a surge in Member State screening measures, from 11 when the Regulation was adopted to nearly all EU Members now having such measures in place (European Commission, 2022). Furthermore, one should not overlook the rise of China as an outward investor and geopolitical contender as a significant driver behind the adoption of screening measures (Danzman & Meunier 2023: 8).

Areas of concern

The adoption of screening measures poses a set of legal, societal, and geopolitical challenges that need further debate and discussion, as exemplified below.

The material scope: what is covered?

One area of concern is the material / subject matter scope of screening measures – the type of investments that are covered (existing, inbound, and outbound), the economic sectors they apply to, and how expansively the term investments should be defined. On the one

hand, if the material coverage is too broad, a measure risks being overinclusive, which in turn creates compliance hurdles for many investors, risks affecting FDI flows, and puts significant strain on enforcement authorities. For example, between April 2023 and March 2024, the UK Government received 906 mandatory and voluntary notifications pursuant to the National Security and Investment Act (NSIA) 2021 (UK Government 2024: 5). On the other hand, if the material scope is too narrow, the measure might not be sufficient to protect national security.

The UK's NSIA 2021 covers 17 sensitive sectors – such as advanced materials and robotics, artificial intelligence, computing hardware, cryptographic authentication, data infrastructure, and quantum technologies – in which companies must notify the Government (HMG) before acquiring control over UK entities operating in these sectors.³ The EU's inward screening regulation lists a number of factors that may be considered when screening foreign investments, including investments in critical infrastructures and technologies, the supply of critical raw materials, access to sensitive information, and investors being directly or indirectly controlled by a foreign government (Regulation (EU) 2019/452, art. 4). Recently, the European Parliament's International Trade Committee proposed expanding the screened sectors to include media services, raw materials, and transport infrastructures (European Parliament 2025). The European Commission has also proposed to enhance research security in the EU because '[h]igher education and research institutions can fall victim to malign influence by authoritarian states' (European Commission 2024).

In the US, the powers of the Committee on Foreign Investment in the United States (CFIUS) have traditionally applied to so-called 'covered transactions' (mergers, acquisitions, and takeovers) by 'foreign persons' that result in the control of US businesses (Latham & Watkins 2025). After successive changes, the CFIUS now also covers 'foreign government-controlled transactions' (US Code § 4565, para a(4)), certain 'non-controlling' investments, such as those in critical infrastructures and technologies (US Code § 4565, paras a(6)–(7)), and sensitive personal data, as well as real estate transactions close to military installations, airports, or maritime ports (US Dept. of the Treasury 2020).

The following cases of blocked investments are illustrative of the broadening scope of screening measures. In 2022, Germany blocked various Chinese investments into German semiconductor companies, such as the acquisition of German chipmaker Siltronic by Globalwafer (Sladden 2022); a 'traditional' form of foreign investment. However, recent US and UK practices go beyond such traditional forms of investment. For example, in 2019 CFIUS blocked a joint venture between a US company that manufactured robotic exoskeletons for medical and industrial use and two Chinese companies; the US party had licensed certain patented and non-patented manufacturing technologies to the joint venture (Marcquardt et al. 2020). In a similar fashion, in 2022 the UK Government blocked a technology licensing agreement between the University of Manchester and a Chinese company pursuant to the NSIA 2021 (UK Government 2024). In a 2024 US example, then-President Biden ordered a British Virgin Islands company that was ultimately controlled by Chinese nationals to divest from a real estate transaction located within one mile of a US strategic missile base, following a tip-off from a member of the public (Weiss 2024).

In comparison, the material scope of outbound investment screening is even less clear. The US's outbound screening regime only applies to three categories of investments abroad: semiconductors and microelectronics, quantum information technologies, and artificial

3 Applies to UK and foreign investors acquiring at least 25 per cent of shares or voting rights, or material influence over a UK business or asset.

intelligence (Exec. Order 14105, 2023: sec 9(c)). However, the measure is meant to cover not only capital flows but also certain intangible benefits to US investments abroad, including ‘enhanced standing and prominence, managerial assistance, investment and talent networks, market access, and enhanced access to additional financing’ (Exec. Order 14105, 2023: preamble at 1). In other words, potentially any type of dealing that US ‘persons’ have with Chinese ‘entities’ operating in the three covered fields can trigger the outbound screening mechanism.

In conclusion, these new screening measures affect not only traditional investments in the form of mergers and acquisitions but also joint ventures, technology transfers, licensing agreements, real estate transactions, and – potentially – even the dissemination of research findings and other intangible benefits. Such measures risk being over-inclusive, which can have detrimental effects on compliance, investment flows, the capacity of the screening state to effectively implement the measures, and even the transfer of university research, while also resulting in an expansion of executive power.

The personal scope: who is covered?

Depending on the type of measure in question, knowing who is affected by a screening mechanism poses challenges. Given the globalised nature of capital transfers and corporate ownership, discerning which investors are ‘foreign’ and which are ‘domestic’ can be a challenging task. Too wide a definition of who is covered by a screening mechanism can create unnecessary burdens for large parts of the business community and carry risks associated with the extraterritorial application of domestic law, while too narrow of a definition might pose threats to national security.

Of the three inward screening regimes examined in this paper, the UK’s has the widest personal scope. The 2021 UK NSIA’s personal scope covers both foreign and domestic investors, private and public companies (UK NSIA 2021, Sec 7(2)), and, in practice, universities and research institutions (UK Cabinet Office 2023a). Conversely, the personal scope of the US inward screening measure is narrower, applying to ‘foreign persons’ which are defined as ‘(a) a foreign national, government, or entity; or (b) any entity over which control can be exercised by a foreign national, government, or entity. For example, a US branch of a non-US parent is a foreign person’ (Latham & Watkins 2025: 2). Under the European Commission’s 2024 proposal, the EU’s modified inward investment screening mechanism (if adopted) would also apply to EU investors ‘that are ultimately controlled by individuals or businesses from a non-EU country’ (EU Commission 2024). This, in turn, raises questions about the compatibility of such measures with the EU’s free movement of capital and freedom of establishment (CJEU 2023; Georgaki 2023).

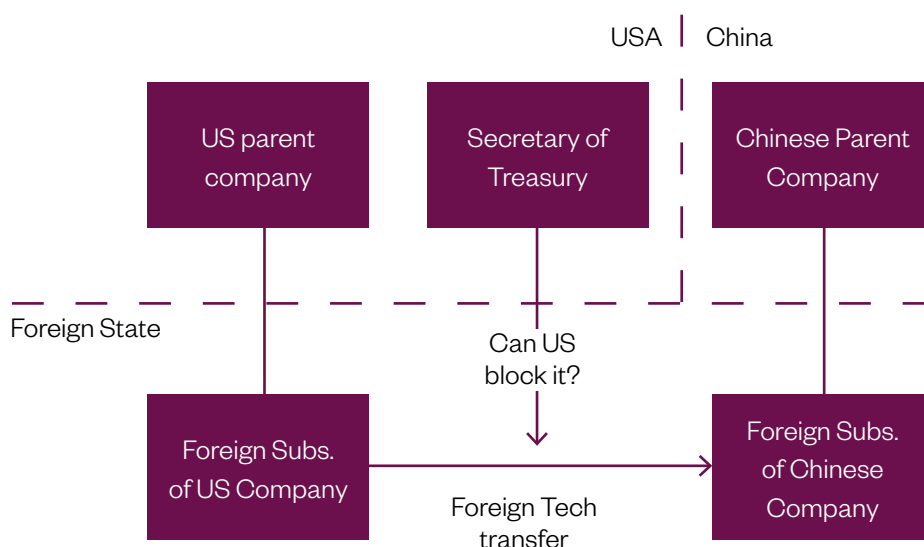
While the UK measure is neutral on its face towards an investors’ nationality, the statistics show a different picture. Of the 906 mandatory and voluntary notifications HMG received in the period between 1 April 2023–31 March 2024, 61 per cent came from UK-based companies, followed by 26 per cent from the US and only 2 per cent from China. However, of the investments ‘called in’ for further review, an impressive 41 per cent came from China (UK Government 2024: 5). China was also the origin of investments associated with the most withdrawals (8) (UK Government 2024: 27).

Furthermore, not only direct ownership but also indirect ownership is covered. For example, in 2022 the UK Government ordered Nexperia, a Dutch company under Chinese ownership, to sell its majority stake in Newport Wave Fab, a UK-based semiconductor company (UK Cabinet Office 2022). In other words, a broad definition of investor can help cover potential loopholes

that could be exploited via various ownership structures. Nevertheless, an over-inclusive definition risks creating high volumes of notifications that in turn can undermine effectiveness if the government bodies in charge are not adequately staffed (UNCTAD 2024: 57).

The personal scope of outbound investment screening measures can also pose problems. For example, the US outbound screening mechanism provides very wide definitions for the terms 'US persons' and 'foreign persons of concern' (Exec. Order 2023: sec 9(h)). Under the former, not only US citizens and companies are covered but also permanent residents, US subsidiaries of foreign firms, and foreign branches of US firms. Thus, the measure also has extraterritorial application (Figure 3). 'Person of a country of concern' is also widely defined to include citizens, permanent residents, entities organised under the laws of or with a principal place of business in the country of concern, as well as the government of the country of concern, any subdivisions of it, and any entities owned by the previously mentioned 'persons' (Exec. Order 2023: sec 9(2)). It therefore might be possible for a tech transfer agreement between the Malaysian subsidiary of a US company and a Malaysian company owned by Chinese investors to be covered by the US outbound screening measure. It follows that outbound screening measures could have far reaching extraterritorial effects, which also raises questions about the measures' effectiveness and enforcement.

Figure 3 Example of a potential extraterritorial application of the US's outward screening regime⁴



Questionable domestic remedies and contractual breaches

Another problem is that the increasing number of screening measures do not provide adequate domestic remedies for foreign investors and that negative screening decisions can only be challenged on procedural rather than substantive grounds. This is because domestic courts might be unwilling to question the national security rationale behind a measure's adoption and will show significant deference to the executive branch, further increasing executive overreach (Holbrook 2024).

⁴ In order to confirm my hypothesis concerning the extraterritorial effects of the US outbound screening mechanism, on 4 December 2025, I reached out to the U.S. Department of the Treasury but have yet to receive an answer. Hence, the figure includes a question mark as to whether the US could block such a transaction.

There is also a private law angle that needs to be considered. An established foreign investor is typically well integrated in a host state's business ecosystem, becoming party to contracts with its suppliers and other commercial partners. Should a negative screening decision suspend such a foreign investor's activities or even force them to divest, there is a high likelihood that they would have to breach their existing contracts. In such cases it is uncertain whether adjudicators would consider the host state's screening measures as amounting to force majeure or a fundamental change in circumstances (Bortolotti & Ufot 2019), which would allow the screened investors to forego their contractual obligations.

International remedies

The relationship between domestic investment screening measures and investors' rights under investment treaties is fuelling a new line of scholarship (Bian 2021; Gáspár-Szilágyi 2024; Voon & Merriman 2022); we will likely see an increase in investor-state arbitrations initiated against such restrictive measures, thus exposing the adopting country to financially onerous arbitrations and potential adverse awards (Bohmer 2023). For example, Huawei initiated International Centre for Settlement of Investment Disputes (ICSID) arbitration against Sweden for the latter's measure to block the Chinese telecom giant's bid to participate in building Sweden's 5G network (Huawei vs. Sweden 2022). Although this was openly done, not all such notifications for arbitration are transparent, given the national security implications. For example, IA Reporter (Bohmer 2023) uncovered that Huawei had also submitted two notices for investment-treaty arbitration against the UK (in 2022 and 2023) under the 1986 UK-China and 1998 UK-Hong Kong bilateral investment treaties. Such an example should prompt states to revisit their existing investment treaties and check whether they include exceptions or justifications based on national security, as most treaties in force do not expressly include such clauses.⁵

Effects on foreign investors and their behaviour

Another issue policymakers should consider is how investment screening measures may affect foreign investors and their adaptation strategies, decisions whether to invest abroad, and more broadly their behaviour. Since countries have different FDI needs, harmonised rules (e.g. at EU level) might not always be the best solution as they do not affect all countries equally. Furthermore, too strict of an approach might divert FDI away from a host country. Unlike established investors that often have significant sunken costs, investors that have yet to establish themselves in a host country can more readily pivot to alternative markets, leading to investment diversion. There is also a risk that some investors will try circumventing the screening measures. For example, the Financial Times has reported that a Chinese firm tried to acquire military-use mineral assets in Australia via a shell company based in Singapore (Kynge et al. 2024).

Established foreign investors that have been operating for many years in a host country might opt to leave the host state if judicial remedies are ineffective or non-existent and the screening measures affect the vital interests of their investments. Furthermore, screening and other restrictive measures meant to stop the technological advancement of a specific country might inadvertently force investors from that country to develop competing technologies.

5 Of the 2,227 bilateral investment treaties (BITs) in force, only 409 (18 per cent) have an essential security exception included. See UNCTAD, 'Investment Policy Hub', accessed 4 November 2025, <https://investmentpolicy.unctad.org/international-investment-agreements/iaa-mapping/Content>.

For example, following the US bans on Chinese companies such as Huawei, the Chinese telecom giant adopted several mitigation and adaption strategies that eventually led to the development of its own operating system, independent from the Android-Apple duopoly (Oreglia et al. forthcoming).

Lastly, what if foreign investors are forced to divest and sell their investments? Who will buy the shares of the company: the host state or other companies? What happens if no one buys them? In order to receive some answers to these questions, I contacted HMG's Investment Security Unity (ISU) in June 2025 to ask whether the HMG would acquire the shares in such a case. A senior representative of the ISU responded that the approach HMG follows is that the market will eventually take care of it and they had not considered, for example, setting up a government fund for the acquisition of strategic assets.⁶

Broader societal implications

Investment screening measures may negatively impact actors at different levels within the host country, such as the people employed by foreign investors. As mentioned, in 2022 the UK Government retrospectively ordered a Netherlands-based semiconductor company, owned by Chinese investors, to sell its shareholding in the UK's largest semiconductor plant (UK Cabinet Office 2022). The foreign investor argued that this measure would impact hundreds of jobs (Nexperia 2022). More generally, it is uncertain what measures a host state can be expected to adopt to alleviate the situation of employees located in the host state that are affected by a negative screening decision.

Another issue concerns local companies seeking foreign investors to infuse capital into their business or that simply want to sell the business. If the transactions are blocked and they cannot obtain foreign capital or sell their business, who will step in to fill the gap? Lastly, there can also be detrimental consequences for the wider economy. If new investors are put off from investing, they will look for other markets, exacerbating the decrease of FDI that states such as the UK are currently experiencing (Ward 2025).⁷

The role of military alliances and co-ordination

While their screening measures are national, there is significant co-ordination between the US, EU, and UK. According to a 2024 statement of the then-UK Minister with responsibility for the UK's national security screening regime, the HMG would engage with businesses and G7 allies on how to screen certain outbound foreign investments that could present national security issues (Hinchliffe & Adam 2024). Furthermore, the EU and US have created a special working group on investment screening (Working Group 8), part of the EU-US Trade and Technology Council, to 'promote best practices and develop a holistic policy approach to addressing risks pertaining to specific sensitive technologies' (UNCTAD 2024: 59; European Commission 2025). This raises questions concerning the (a) methods of cooperation between the US and its military allies and (b) the possibility of harmonisation of the different domestic measures.

HMG has highlighted the 'changing context' in which screening measures are adopted, including significant changes in inbound investment trends, the nature of threats to the UK, and changes in the strategies of the UK's allies, including NATO members. The importance

⁶ Discussions with a senior member of the UK ISU, July–August 2025.

⁷ The value of the UK's inward FDI flows reached a high of £192.0 billion in 2016, before falling year-on-year between 2016 and 2020, increasing slightly in 2021 and falling again in 2022 and 2023.

of the latter is highlighted by HMG's admission that it is working 'very closely' with allies to ensure best practices are followed when screening inbound investments (UK Cabinet Office 2023b). This is direct evidence that in this changing geopolitical landscape, the US, UK, EU, and other NATO members are co-ordinating their investment screening strategies. Furthermore, strategic security ties with military allies might not only influence a country's decision to set up an investment screening mechanism but also to block specific investments. For example, in a secret Memorandum of Understanding between the US and Romania that was declassified in 2019, the two signatories acknowledge that 'a careful and complete evaluation of 5G vendors is necessary', indirectly targeting Chinese telecommunication companies (Gáspár-Szilágyi 2024: 212).

The wider geopolitical implications, quid pro quo, and further fragmentation

The previously globalised and liberalised economic order is becoming more entrenched along the axis of US-Western allies against Russia-China. Some of the recent screening measures do not hide their ultimate targets. For example, the US outbound screening measure under 'person of a country of concern' only lists entities from China, Hong Kong, and Macau. Similarly, US, UK, Swedish, and Romanian measures have clearly targeted Huawei, whether explicitly or implicitly (Gáspár-Szilágyi 2024).

However, such an approach carries several risks. Firstly, the main target of such measures, China, will respond in kind, and Western investors will find it more difficult to invest in China (Hogan Lovells 2025). Secondly, given China's advancements in artificial intelligence (AI) and other advanced technologies, it is possible that Western countries will lose out on Chinese innovations if such inward investments are blocked. Thirdly, an entrenchment of the world economic order along the lines of 'us vs. them' risks upsetting decades of liberalised relationships and the settlement of disputes through legal means, causing further fragmentation of the international landscape. China is 'integral to many supply chains, globally as well as in the UK, and is also a significant source of FDI' (Hogan Lovells 2025). Fourthly, ensuring compliance with screening measures will become increasingly difficult, necessitating even bigger government departments to review the multitude of notifiable transactions.

Policy Recommendations

Currently, the EU and UK inward screening measures are under revision, and the US one will likely face further amendments. The EU and UK are also considering adopting outbound investment screening. Therefore, the below recommendations for policymakers are topical and timely.

- a. Different government branches tasked with overseeing inbound/outbound screening measures, sanctions, and export controls should continuously co-ordinate, as in practice these measures are difficult to delineate.
- b. The material scope of screening measures should seek to balance the competing interests of protecting national security and ensuring FDI flows. Screening measures should therefore clearly define the economic sectors they apply to, and these sectors should be continuously revisited.

- c. Given the interconnected nature of the world economy and companies' complex ownership structures, governments should be mindful of how narrowly or widely they define the personal scope of screening mechanisms. Too broad a definition can encompass too many economic actors and create compliance difficulties and extraterritorial effects, while too narrow of a definition can give rise to national security concerns. Thus, the personal scope should be continuously updated to see whether the measures are still fit for purpose.
- d. When considering expanding the material or personal scope of screening measures, States should think about whether they have the institutional capacity to handle an increased number of screenings.
- e. States should be aware of the detrimental effects of vaguely defining 'national security', such as increasing the executive's powers and minimising judicial oversight and remedies.
- f. When blocking a foreign investment, states should thoroughly examine whether there is in fact a national security concern, keeping in mind that they are bound by various domestic and international obligations and that their societies might be worse off if an investment is blocked.
- g. If states wish to diminish the likelihood of investment treaty-based international arbitrations, they should reform many of their investment treaties. Investment treaties should provide for clear exceptions when it comes to domestic measures adopted pursuant to national security concerns and it would be advisable to specifically refer to investment screening measures in the treaty exceptions. One should of course bear in mind that the efficacy of such clauses would depend on how arbitral tribunals interpret them.
- h. When forcing established foreign investors to divest, states should consider how these measures might have detrimental societal effects, such as on the fate of employees.
- i. States could consider setting up special funds through which they could buy divested shares/assets in the case of no other buyers or if, indeed, the aim is to stop foreign investors acquiring strategic assets.
- j. States should always consider the potential unintended consequences of screening measures. While many of these measures are meant to protect the adopting countries' technological leadership, such measures might also stop the adopting countries from receiving foreign technologies.
- k. Countries should consider whether national security threats might not also come from their allies. For example, large US tech giants supply essential services to UK government departments and are involved in many areas of the UK economy deemed critical (IT, payment systems, AI, semiconductors) (Hanton 2024). Thus, governments might consider investing more in domestic companies that can supply critical infrastructure and technologies.

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