

**Derisking in a World
Gone MAD:
American, European
and Chinese
Characteristics**

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The economic relationship with China is one of mutually asymmetric dependence. China has become reliant on Western technology, markets, and finance, while many Western countries and companies have developed significant dependencies on Chinese suppliers, markets, and inflows of critical raw and processed materials under Chinese control. All sides have also come to appreciate that their economies are so deeply intertwined that they would face high costs should geopolitical tensions disrupt their relationships.



Global supply chains are undergoing an epic shift as companies around the world adapt to ongoing geopolitical tensions and economic disruptions. Russia's aggression against Ukraine has spurred Western democracies to support Kyiv while sanctioning Moscow, reducing their dependencies on Russian fossil fuels, and disentangling themselves from the Russian economy (Chapter 1, Boxes 1 and 2). Their deeper reassessment centers around China, given U.S. and European concerns about inordinate dependencies on another potent strategic rival, and the country's far greater importance as a critical node in global supply chains. Beijing, in turn, is reevaluating the risks and benefits of its dependence on Western economies.

America, Europe, and China: The New World Is MAD

During the Cold War, the U.S.-Soviet nuclear standoff was determined by the doctrine of

mutually assured destruction, or MAD. Both sides knew that if either attacked first, devastating retaliation would follow. Since the Cold War ended, the United States and Europe have each built an economic relationship with China that can also be described as MAD. Yet, this time it is not one of mutually assured destruction, it is one of mutually asymmetric dependence. China has become reliant on Western technology, markets, and finance, while many Western countries and companies have developed significant dependencies on Chinese suppliers, markets, and inflows of critical raw and processed materials under Chinese control. All sides have also come to appreciate that their economies are so deeply intertwined that they would face high costs should geopolitical tensions disrupt their relationships. Yet Western capitals and Beijing are eyeing each other warily as all seek to maximize their leverage and minimize their vulnerabilities.

“Decoupling” has become a favorite buzzword to depict these efforts, yet it misrepresents what is happening. The term suggests completely unplugging from one another. Reality is more complex: some commercial ties between the U.S. and China, and the EU and China, are weakening, while others are not.

Capitals and companies are not looking to cut the cord with China. Instead, they are adjusting the terms of their interdependence, the shorthand for which has become known as “derisking” – a term pioneered by European Commission President Ursula von der Leyen, embraced by the Biden administration, and endorsed by all G7 leaders at their 2023 Hiroshima Summit. For governments, derisking means seeking ways to both promote trade and investment and protect core economic and security interests and human rights values. For companies, derisking means identifying strategies to maintain and expand commercial ties with China while mitigating supply chain vulnerabilities and being careful not to run afoul of growing government restrictions. As we shall see, however, derisking began in China, not Europe or North America. And derisking with Chinese characteristics is decidedly different than the strategies being pursued by the West.

Table 1. EU and U.S. Dependencies on China and the Rest of the World

	Number of Dependent products	Potential for Diversification				Share in Total Import Value
		Low	Medium	Medium-High	High	
U.S./EU Dependencies on China	20	61%	9%	9%	21%	EU: 2.8% U.S.: 4.1%
U.S./EU Dependencies on Rest of the World	70	25%	8%	22%	45%	EU: 4.6% U.S.: 5.1%

Source: Sources: European Commission; United States Government; Ganyi Zhang, "EU-US: Public policies take up the challenges of the supply chain," *Upply*, July 23 2021, <https://market-insights.upply.com/en/eu-us-public-policies-take-up-the-challenges-of-the-supply-chain>.

Table 2. EU and U.S. Mutual Dependencies on China and the Rest of the World: Examples by Sector

	Health	Critical Materials	Renewables	Digital/ICT
U.S./EU Dependencies on China	APIs; COVID-19 related goods (face masks, gloves)	Tungstates, ferro-alloys, etc.	Permanent magnets	Laptops, cell phones, radio-broadcast receivers
U.S./EU Dependencies on Rest of the World	APIs; COVID-19 related goods (face masks, gloves)	Various	Permanent magnets Type electric accumulators	Laptops, cell phones, radio-broadcast receivers

Source: European Commission; United States Government; Zhang.

Western Dependencies

Western leaders are concerned that their respective dependencies on China could become security liabilities. Von der Leyen and U.S. Secretary of State Antony Blinken have each said that Beijing intends to "make China less dependent on the world and the world more dependent on China."¹

These concerns drove the EU and the United States to review their respective supply chains in 2021. Each identified semiconductors, pharmaceuticals, batteries, and critical materials as strategic sectors with vulnerable supply chains due to highly concentrated reliance on a small number of suppliers.²

Washington and Brussels identified 20 product imports for which they were dependent on China, where there was relatively low potential for diversification. Those products accounted for 2.8% of EU imports and 4.1% of U.S. imports. A later study by Allianz Research found that China is a "critical supplier" for 276 types of goods for

the U.S., from consumer electronics to household equipment to chemicals, accounting for 1.3% of U.S. gross domestic product (GDP), up from 0.7% in 2018 and 0.4% in 2010.³

Overall, the G7 countries directly source an average of only 4-5% of their industrial inputs from China. However, because Chinese inputs are also used to make the intermediate goods that other countries export to the United States and Europe, indirect dependencies on China are likely to be higher.⁴ Moreover, those dependencies grow significantly for specific sectors of each economy. The U.S. and the EU are particularly focused on their inordinate dependence on China for many critical materials, and products needed for the green and digital transitions, such as solar panels, wind-turbine components, permanent magnets, electric accumulators, cell phones, and radio broadcast receivers.⁵

Critical Raw Materials

The United States is reliant on 50 metallic elements and minerals for its commercial and

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military capabilities. Of these, the United States is 100% import-dependent for 12 raw and processed critical minerals such as graphite and manganese, and more than 50% import-dependent for 31 additional minerals.⁶ The EU and the UK are reliant on 34 critical raw materials, 80% or more of which are imported.⁷ At the mining stage, the EU is 100% import-dependent for antimony and borate and more than 80% import dependent for another six materials. At the refining stage, the EU is 100% import-dependent on six critical materials and over 80% import-dependent on 7 additional materials.⁸ The UK government determined that “the UK is almost completely dependent on imports for critical minerals and mineral products.”⁹

These dependencies are of growing concern, as governments and companies demand more critical raw and processed materials to make the energy transition real. Producing an electric car, for instance, requires six times more critical raw materials than a combustion vehicle. Wind turbines, batteries, and power grids all require large quantities of critical raw materials. According to the OECD, accelerated demand fueled a 38% increase in trade in critical raw materials over the past decade – 7% higher than global merchandise trade. Lithium trade recorded the largest increase of all critical raw materials (438%), while manganese, natural graphite, cobalt, titanium, lead, and rare earths elements as well as arsenic and zinc all recorded higher growth rates than the average for all critical raw materials. In the EU, demand for platinum is expected to surge

30 times by 2030 and 200 times by 2050; lithium and graphite demand for batteries is expected to grow 12-fold by 2030 and 21 times by 2050.¹⁰

The International Energy Agency estimates that achieving global net-zero emissions by 2050 requires a six-fold increase in the world’s supply of critical materials. Yet as demand grows, global raw materials production has become more concentrated among a few countries. China’s role has become particularly significant.

China has long been an important source of rare earths, a group of 17 elements needed for clean energy breakthroughs and advanced manufacturing, from smartphones and hard drives to weapons systems. It accounts for the global production of nearly all heavy rare earth elements, 91% of magnesium, 85% of all light rare earth elements, and 76% of silicon. China’s control of rare earths began three decades ago with targeted industrial policies and export subsidies, helped by cheap labor and a willingness to withstand the heavy environmental toll of mining and processing. Chinese leader Deng Xiaoping quipped already in 1992 that “the Middle East has oil; China has rare earths.”¹¹

China remains a critical source of supply for the United States. Between 2018 and 2021, 74% of U.S. imports of rare earths came from China. China is the largest source of imports for 26 of the 50 minerals classified as critical by the U.S. government. Between 2016 and 2022, U.S. import dependence on China for graphite as a percentage of total imports rose from 37% to 75%; magnesium increased from 38% to 51%; rare earth minerals jumped from 41% to 62%; and yttrium rose from 50% to 74%.¹²

The EU is 100% import-dependent on heavy rare earth elements processed from China, with significant dependences in additional areas, as shown in Table 3.

Table 3. The EU's Critical Raw Materials Import Dependence on China

Critical Raw Material	EU Import Dependence on China
Heavy rare earth elements	100%
Magnesium	97%
Light rare earth elements	85%
Lithium	79%
Gallium	71%
Scandium	67%
Bismuth	65%
Vanadium	62%
Baryte	45%
Germanium	45%
Natural graphite	40%
Tungsten	32%

Source: European Commission; Victor D. Cha, "Collective Resilience: Detering China's Weaponization of Economic Interdependence", *International Security*, Summer 2023.

China is not only a central source for many critical materials, it has also come to dominate their value chains. In this sense, China is not only the "factory to the world," it is also the "refinery to the world." When it comes to refining iron ore into steel or pulverizing cobalt into fine purity particles for batteries, most roads lead through China. The nation's processing infrastructure – think smelters, refiners, cracking activities, chemicals, and related capabilities – is second to none.¹³ Measured by its share of global mined or refined production, China is the leading producer of 20 critical raw materials, and is among the top three producers of six of the ten most production-concentrated critical raw materials. It performs at least 60% of the refining and processing of most minerals – 60% of the world's lithium, 63% of the nickel, 73% of the cobalt, and all the world's natural graphite.¹⁴

Thanks to these activities, China plays a central role in critical material value chains, particularly for electric vehicles (EVs). China controls much of the EV value chain – mining, refining, processing, battery-making, and manufacturing. Chinese companies are the world's biggest producers of the four key components needed in EV battery production – cathodes, anodes, electrolytes, and separators. North America and Europe produce only small amounts of cathodes and anodes, and are each largely dependent on China. China also has a chokehold over much of the capacity needed to refine metals such as lithium, cobalt, and manganese for battery production. The

EU, for instance, imports more than four-fifths of its lithium-ion batteries from China. China is responsible for 78% of global battery cell supply, including 99% of lithium iron phosphate battery cathodes, a cheaper alternative to traditional methods that has now captured half the global cathode market.¹⁵

China's Dependence on the West

Deeper interdependence with the West has also created Chinese dependencies. While the Chinese economy overall is less reliant on G7 industrial imports than vice versa, specific sectors exhibit higher dependencies. Western companies are China's most important suppliers of goods, accounting for 53% of Chinese imports in 2021, valued at \$1.48 trillion. According to an analysis by Victor Cha, China is more than 70% dependent on imports of 412 goods (worth \$46.6 billion in 2021) from the United States, Europe, and other allied countries. China is highly dependent on Japan for 124 items, followed by the U.S. (87), Germany (64), South Korea (28) and France (27) (Table 4). China's high-dependency exposure to the West amounts to just a fraction of the value of its \$2.7 trillion in annual imports. But as Cha notes, any disruption to these flows would generate costly knock-on effects throughout China's supply-chains and its broader economy.¹⁶

Table 4. China's High-Dependence Imports by Country (2022)

Country	Number of Items (>70% Dependence)	Total Value of Imports (\$Millions)
Japan	124	4,960
United States	87	11,548
Germany	64	828
South Korea	28	5,354
France	27	2,491
New Zealand	20	3,918
Canada	18	5,091
Australia	14	10,563
Norway	7	545
United Kingdom	6	480
G7+Australia	395	37,173

Source: Victor D. Cha, "Collective Resilience: Detering China's Weaponization of Economic Interdependence", *International Security*, Summer 2023, drawing on UN Comtrade data.

Research by the German Economic Institute indicates that China's import dependency on the West is high or very high for many key products. China's highest dependency (97.5%), with few alternative suppliers on hand, is on air and space vehicles and related parts and components. Other sectors demonstrating relatively high import dependency include pharmaceutical products (96%), precision instruments (64%) and machines (63%).¹⁷

China may have cornered the global solar panel market, but for its supply of silver powder, a critical intermediate good for producing solar panels, it is 99% dependent on Japan (about 90%), the United States (7.2%) and South Korea (1.2%). For its supply of copper alloys, which are used in the construction sector, China is more than 90% dependent on Japan (nearly 70%), Germany (13.5%) and the United States (7.8%). The United States accounts for more than 81% of China's zinc powder imports, more than 72% of China's grass seed imports, and almost 64% of China's grain sorghum imports. The next major suppliers of these goods to China are U.S. allies.¹⁸

Even though China has registered significant strides in many telecommunications technologies, it still lags in many areas. In 2021 the West and Taiwan accounted for 68% of China's semiconductor imports. A key vulnerability

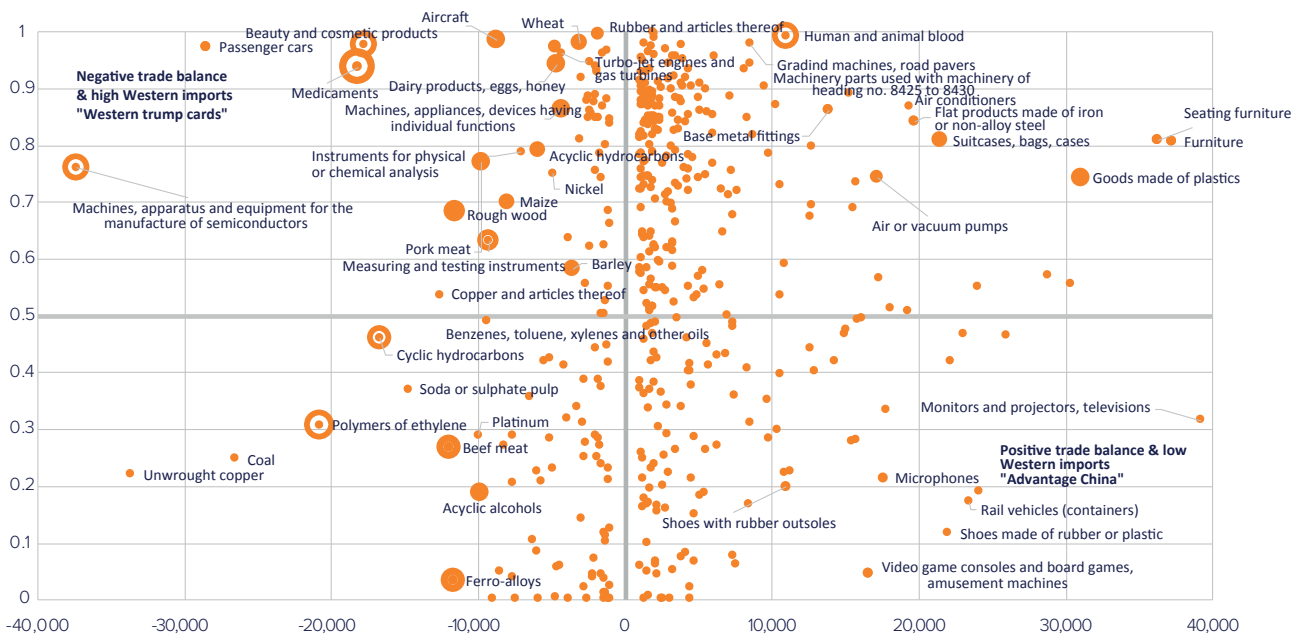
is China's inability to produce leading-edge semiconductors, an area where it is completely dependent on the West, and where its companies have been subjected to significant Western restrictions.¹⁹

While China plays a central role in the EV battery market, it is dependent on the United States and the UK for 73% of its imports of cobalt materials, which are used for battery production, and on the Philippines and Australia for nearly 70% of its global supply of nickel ores and concentrates, which are used to produce battery cathodes. Japan and Germany provide more than 82% of China's imported supplies of alloyed steel ingots, used for shipbuilding. China has no alternative domestic supply for these products.²⁰

The West also accounts for over 90% of China's imports of other important goods, such as some foodstuffs like meat and grain, certain raw materials like iron ore and gold, and some luxury products like perfume. China imports significantly more raw materials and foodstuffs than it exports – the discrepancy is 60 to 1 for ores, 36 to 1 for meat and 18 to 1 for grain. The U.S. and Canada account for 52% of China's grain imports, followed by Ukraine (20%).²¹

Table 5 depicts China's varying degrees of dependence.

Table 5. China's Import Dependencies



Vertical axis: Western company shares in Chinese imports. Horizontal axis: China trade balance. Size of dots indicate product share of total Chinese imports. Source: Institut der Deutschen Wirtschaft, with permission.

No, China Is Not Your Top Commercial Partner

Goods Trade

China remains a powerhouse in goods trade. China's gains in higher-end manufactured products have eaten into the global market share of countries such as Germany and Japan, which traditionally excel at making and exporting such products. In 2023, China surpassed Japan to become the world's largest auto exporter. Five years earlier, China was still an auto importer. State-subsidized Chinese firms are also making inroads in more technology-intensive areas that have been strengths for the U.S. and several European countries. China's export drivers are changing from its "Old Three" mainstays of household appliances, furniture, and clothing to a high-tech "New Three" of electric vehicles, lithium-ion batteries, and solar cells. Exports of "New Three" products rose 30% to reach \$139.3 billion in 2023, according to Chinese officials. The European Union has become the largest market for these products.²²

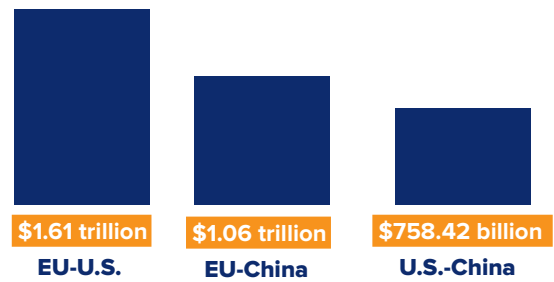
China's rise has led pundits, politicians, and many business leaders regularly to proclaim that China is the main trading partner of Europe and of the United States. This is simply not true. Such statements usually refer only to goods trade, and so ignore trade in services, as we explain below. Yet even when it comes to goods trade, these assertions are not supported by the facts: U.S.-EU goods trade in 2023 was 39% higher than U.S.-China goods trade and 16% higher than EU-China goods trade.²³

In 2023, U.S.-EU goods trade amounted to \$945.74 billion (U.S. goods exports of \$368.76 billion and U.S. goods imports of \$576.98 billion), compared to U.S.-China goods trade of \$575.04 billion (U.S. goods exports of \$147.80 billion and U.S. goods imports of \$427.24 billion). U.S.-EU goods trade was 16% more than EU-China goods trade of \$798.67 billion.²⁴

Despite rising "New Three" exports, sluggish global demand in 2023 led China's overall goods exports to contract for the first time since 2016, falling 4.6% to \$3.38 trillion, according to China's customs office. Exports to the U.S. led the decline. Demand also fell from the EU and Southeast Asian countries. China's 2023 imports dropped even more, by 5.5%, to \$2.55 trillion. China's trade with Russia was a remarkable exception to this trend: major growth in both imports and exports generated a 26% boost in bilateral goods trade.²⁵



Trade in goods and services (2022)



U.S. goods trade with China, while still sizable, is shrinking. U.S. goods imports from China in 2023 was 20% less than in 2022; U.S. goods exports to China were 4% less. U.S.-China goods trade of \$575 billion in 2023 has fallen back to the level of a decade earlier (\$562 billion in 2013), and is far off the record levels of some intervening years. If one looks at mutual exports standardized by GDP of the exporting country, China's goods exports reliance on the U.S. peaked in 2005, and that of the U.S. on China, in 2017. Looking at mutual exports standardized by GDP of the importing country, China's reliance on U.S. goods imports peaked in 2006, and U.S. reliance on Chinese goods imports, in 2014.²⁶ As we discussed earlier, certain sectors in each country are reliant on the other country. Overall, however, direct trade links are weakening.

EU-China trade tells a similar story. Between the first quarter of 2022 and the third quarter of 2023, China's share of EU imports decreased 2.2% and China's share of EU exports fell by 0.9%, according to Eurostat. During this same period, the U.S. share of EU imports increased by 3%, while the U.S. share of EU exports grew by 0.5%.

Germany is one of China's largest goods trading partners. However, Germany's China trade is also shrinking. German goods exports to China in 2023 of \$105.27 billion were 8.9% less than in 2022, and German goods imports from China of \$168.49 billion were 19.3% less than in 2022, according to Germany's Federal Statistical Office. Meanwhile, Germany's goods trade with the U.S. is growing – exports of \$170.87 billion and imports of \$102.49 billion. In the end, Germany's goods trade with the U.S. (\$273.1 billion) in 2023 was only slightly less than Germany's good trade with China (\$273.9 billion).

These trends could continue as ongoing disruptions redraw the global trade map. Boston Consulting Group (BCG) projects that, by the end of 2032, U.S.-China goods trade could fall \$197 billion from its 2022 level while EU-China goods

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trade could grow by \$135 billion. While the latter figure would represent a 19% rise in EU-China goods trade, BCG forecasts that U.S.-EU goods trade will grow much faster, by \$318 billion (38%), that U.S. trade with Canada and Mexico will grow even more, by \$466 billion, and that the U.S. and the EU will each expand goods trade considerably with ASEAN countries, Africa, the Middle East, and India.²⁷

Services Trade

Many commentators equate international commerce only with trade in goods. Trade between countries, however, does not just consist of trade in goods. It also includes trade in services, which most media accounts do not include. Services trade has been growing faster than goods trade, and as we explain in Chapter 2, services are a source of U.S. and European strength. More European and American jobs depend on services than on goods, and the United States and the EU remain by far each other's top services trade partner. EU27 services trade with the United States totaled \$703.74 billion in 2022, the last year of available data, according to Eurostat. That was 4.6 times more than EU-China services trade of \$153.78 billion.

EU27 exports of services to the United States in 2022 of \$315.24 billion accounted for 22% of all EU services exports outside the bloc. The next largest destinations were the UK (\$270.75 billion, 19%) and Switzerland (11%). China accounted for only 5% (\$68.13 billion). The United States was also the top services supplier to the EU – \$417.19 billion, equivalent to 34% of total EU services imports from non-EU countries. The next highest shares were from the UK (\$221.90 billion, 18%) and Switzerland (\$85.63 billion, 7%). China accounted for only 4% (\$50.88 billion).

Putting goods and services together, EU-US trade totaled \$1.61 trillion in 2022, the last year of available data. EU-China trade of \$1.06 trillion was only 66% as large, and U.S.-China trade of \$758.42 billion was only 47% as large.²⁸ China-Germany trade in goods and services of \$348.45 billion was 12% less than U.S.-Germany trade of

\$394.15 billion. And as we mentioned, both U.S.-China trade and EU-China trade weakened in 2023, while EU-U.S. trade strengthened. If you look at overall trade flows and not just one kind of flow, it is clear that the largest trading partner for the EU is actually the United States, and the largest trading partner for the United States is the EU, as it has been for decades.

Investment Ties

Moreover, just as trade is more than just flows of goods, international commerce is more than just trade. Reducing complex commercial ties to just trade in goods and services ignores the importance of a host of additional economic ties that bind Europe and the United States in far deeper ways than those that bind either to China.²⁹

U.S. and European commercial ties with China are each akin to a two-lane highway, whereas their commercial ties with each other are more like a twelve-lane *Autobahn*.

The highways to and from China are full of goods. They are busy, and they are crowded. Any type of accident on a two-lane highway can really snarl traffic – as we saw when supply chains were disrupted by the pandemic and by the U.S.-China tariff war.

Alongside the China goods highway is another lane for trade in services, but that remains narrow, as we have shown.

A further lane for investment has been under construction for some years, but it continues to face many roadblocks, as U.S. and European officials sanction China for human rights abuses, express security concerns about Chinese investments, tighten investment screening and export control procedures, and unveil new laws and directives aimed at boosting their respective competitive positions vis-à-vis China. The EU-China Comprehensive Investment Agreement (CAI), inked in December 2020, remains in the deep freeze. The European Chamber of Commerce in China recently made more than 1,000 recommendations for improving the treatment of foreign companies in China.

U.S-European investment lanes, in contrast, are wide and they are open; they drive a huge amount of transatlantic commerce. The total stock of U.S. foreign direct investment (FDI) in Europe in 2022 was \$4 trillion – more than four times the amount of comparable U.S. investment

in the entire Asia-Pacific region (\$951 billion). U.S. investment stock in the EU of \$2.7 trillion in 2022 was 21 times greater than U.S. FDI stock in China of \$126.1 billion. U.S. investment stock in the UK alone (\$1.08 trillion) was 8.5 times greater. Total European investment stock in the United States of \$3.4 trillion in 2022 was over three times the level of comparable investment from all of Asia. The UK's investment stock in the U.S. of \$663.4 billion in 2022 was 23 times Chinese investment stock in the U.S. of \$28.7 billion. Germany's investment stock of \$431 billion was 15 times greater.

In 2023, China experienced a massive reversal in foreign investment flows, triggered by a host of factors, including Beijing's onerous restrictions on foreign ownership, its forced technology transfer rules, its opaque and politically-influenced regulatory procedures – such as a new national security law and restrictions on cross-border data flows – and its closure of foreign consultancy and due diligence firms. This adds to the country's structural economic challenges, sluggish growth prospects and geopolitical tensions, including its own sanctions on Western officials and legislators. JPMorgan estimates that half of the roughly \$250-300 billion of international money that flowed into Chinese bonds since 2019 has now left. Nearly nine-tenths of the foreign money that flowed into China's stock market in 2023 had already left by year's end. In the third quarter of 2023, so much money flowed out of China that net FDI actually went negative for the first time since record-keeping began. Foreign firms are not just declining to reinvest their earnings, for the first time ever they are large net sellers of their existing investments to Chinese companies and repatriating the funds. For the first time in six years, net inflows from foreign investors into other Asian emerging markets (\$41 billion) exceeded those into mainland Chinese equities (\$33 billion) in 2023.³⁰

The bellwether country for this turn away from China is Germany, which accounted for 52% of EU+UK FDI in China in 2022 but registered falling FDI to China in 2023. According to Germany's central bank, total FDI outflows from Germany in the first three quarters of 2023 dropped 30% to \$8.5 billion. Reinvested earnings by German companies in China exceeded FDI inflows, indicating further consolidation of German investment in China by a few large companies – notably VW, BMW, Daimler and BASF. Recessionary pressures at home, and new limits on investment guarantees for German companies, are further factors limiting overall German FDI outflows.³¹

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FDI from China to the U.S. and Europe is also meager. Chinese FDI in the United States is very modest: just 7 deals worth \$1.8 billion in 2023 and 5 deals valued at \$2.6 billion in 2022. Both are far below the 2016 peak of 63 deals worth \$53.5 billion.³² The value of Chinese investments and takeovers in Europe fell to a 12-year low of just \$2 billion in 2023, a far cry from the record \$86 billion Chinese investors plowed into Europe in 2016, according to accounting firm EY. Chinese mainland investments in Europe were dwarfed by those announced by Taiwan, notably in Germany, where Taiwan's TSMC announced plans to invest in a \$10.74 billion chip fabrication plant in Dresden – the most most capital intensive project announced anywhere in the world last year.³³

Low and declining Chinese FDI in the U.S. and Europe contrasts greatly with overall Chinese greenfield FDI, which hit a record \$110 billion in 2023, according to estimates by fdi Markets. Some of China's investment outflows are being driven by overcapacity and slowing domestic economic growth; others can be understood as a kind of low-risk 'geopolitical arbitrage' that enables Chinese firms to circumvent tariffs, and possible sanctions, by rerouting supply chains via third country destinations. Chinese FDI in Vietnam and in Mexico are two notable examples, as we discuss later in this chapter.

China's arbitrage strategy has transatlantic implications. China is capitalizing on the fact that European investment restrictions are far less extensive than those in the United States. Chinese investments in European strategic infrastructure like ports and electricity grids, for instance, have no equivalents in the United States. Currently, the most prominent example of this divergence is the EV industry. In the U.S., high tariffs have essentially blocked direct auto exports from China. Chinese investors are only bit players in the FDI boom in America's EV sector, due to provisions that exclude them from U.S. subsidies and that restrict other companies from using certain components sourced from China. Some of the few investments that have been announced, like an EV battery plant in Michigan

to be built by Ford, using technology supplied by Chinese battery maker CATL, have been scaled back after fire from U.S. lawmakers.³⁴

In Europe, in contrast, Chinese firms wary of scrutiny of their M&A investments are turning to greenfield investments as a low-risk way of gaining entry to the Single Market, and to use their presence to export their “Made in the EU” products throughout Europe and elsewhere. Chinese EV firms are leading the way. CATL started to produce battery cells in Germany in December 2022, BYD is building a mega-factory in Hungary, Ningbo Shanshan plans to construct a anode factory in Finland, and Shanghai Putailai New Energy Technology has announced plans for a Swedish plant.³⁵ Moreover, since there are no “Buy European” rules for European EV subsidies, EVs imported from China can qualify for those handouts.

The Two-Lane Highway vs. the Twelve-Lane *Autobahn*

As we have explained in previous editions and outline elsewhere in this report, not only are transatlantic investment lanes bigger and busier than those with China, they are joined by transatlantic innovation lanes hosting research and development flows that are the most intense between any two international partners. Jobs lane provide employment for 16 million Europeans and Americans. And transatlantic digital lanes carry the most global digital content. In short, the commercial highway connecting Europe with the United States looks less like a two-way road than a twelve-lane *Autobahn*, with busier traffic and fewer speed limits.

When one compares the full spectrum of commercial relations between the U.S. and Europe with those each partner has with China – or with any other partner – it becomes clear that the transatlantic partners are each other’s most significant commercial partners, as they have been for decades. Even though European and American companies developed their trade, investment, and innovation connections with less geopolitically aligned countries after the Cold War, those connections remained relatively thin compared to the dense arteries carrying services activities and investment projects between the transatlantic partners and related like-minded countries. Now countries big and small are reviewing their ties to geopolitical rivals, particularly in sectors where economic dependencies could be security liabilities.

This Is How You Do It: Derisking Made in China, America and Europe

Derisking with Chinese Characteristics

Derisking began in Beijing, not Brussels or Washington. In the early 2000s, the Chinese leadership launched several industrial plans to reduce the nation’s dependence on imported technology to 30% or less by 2020. Beijing’s “Made in China 2025” program, announced in 2015, sought to free China from dependence on Western technologies and to direct massive government support to make the country a world-beater in several critical sectors. It has since adjusted some aspects of this effort, but the essentials remain.

Washington likes to break de-risking down into three parts: “protect, promote, and partner.” While Beijing does not use this phrasing, for years it is also been trying to “protect, promote and partner” – albeit with Chinese characteristics.

Protect

China’s “protect” agenda has two prongs. The first aims to lessen China’s dependence on Western technology while making the West more dependent on Chinese products and materials. It has registered successes: China’s imports as a share of GDP have fallen to slightly more than 15% today, compared to 30% in 2005.³⁶ The second part of the agenda seeks to protect the Chinese Communist Party (CCP) from its own people. China’s “Great Firewall” of censorship and digital controls blocks domestic and foreign content the government considers to be dangerous and prevents mass organizing online.³⁷ As geopolitical tensions have risen, Chinese authorities have also acted to rein in Western companies through a series of restrictive actions, including arbitrary fines, raids on businesses, counter-espionage law changes, data localization rules and local content requirements. Beijing has approved only about a quarter of applications to export data since the introduction of new data security laws in September 2022, creating uncertainty for many companies. It has created an “unreliable entity list” to “punish companies that act contrary to Chinese interests” and to retaliate against U.S. measures. It has expanded “national security” investment reviews and ordered the removal of foreign computer equipment and software from all public institutions. It has also threatened or employed coercive economic measures against countries ranging from Australia, Japan, the

Philippines, South Korea and Taiwan to the U.S. and Canada, Czechia, France, Germany, Lithuania, the Netherlands, Norway, Sweden, and the UK.³⁸

According to the OECD, Beijing increased the number of restrictions on critical raw materials needed for electric cars and renewable energy, such as lithium, cobalt and manganese, by a factor of nine in the 11 years to 2020. Last year, ostensibly in response to U.S. technology restrictions, Beijing imposed export restrictions on gallium, germanium and related compound metals, materials essential for electric vehicles, optical fiber, renewable energy, semiconductors, and military tech. It then banned the export of technology for making rare earth magnets and tightened export controls on rare earths, requiring exporters to report rare-earth types and their export destinations, and it introduced export controls on graphite, which is used in electric vehicle batteries. As discussed earlier, all these markets are highly dependent on China.

China uses export restrictions on critical raw materials to limit foreign competitors while privileging Chinese companies. For instance, China stopped exporting graphite for battery anodes to Sweden for roughly three years through 2022, hindering Swedish battery startup Northvolt's access to materials. At the same time, Beijing encouraged Chinese businesses to build anode production facilities in Sweden. As a result, Chinese companies built a supply chain that made European companies more dependent on them.³⁹

China is also establishing its own raw materials trading hubs and benchmarks priced in renminbi, as part of its effort to lessen commodities market reliance on the U.S. dollar. China's drive to convert its dominance over the flow of commodities into global pricing power faces substantial hurdles, including using a currency that cannot be freely traded, and the absence of a global warehousing network for any of China's five domestic futures exchanges.⁴⁰

Promote

China's "promote" agenda includes massive government subsidies for home-grown industries as well as state-sponsored efforts to acquire foreign technologies – through joint ventures, strategic takeovers of foreign companies, or outright theft. It is estimated that China spends up to 5% of its GDP on directed industrial support.⁴¹ Beijing's current 5-year plan emphasizes industrial strategies to catch up and lead in critical technology domains. It has prioritized the capability to master "choke point" technologies.

Its "military-civil fusion strategy" is intended to use technological advances to build synergies between its commercial and defense sectors. These policies are having an effect: according to a study by the Australian Strategic Policy Institute, China now leads the world in 37 of 44 critical technologies, including advanced materials, synthetic biology, and quantum communications.⁴²

Beijing's "protect and promote" agendas are synergistic: the state favors priority industries with subsidies and protection from foreign competition, enabling them to develop quickly and at scale, with production exceeding the needs of the domestic market. Those industries then surge their production further to become export juggernauts that squeeze out international competition to become globally dominant. The pattern has become familiar in industries ranging from steel and aluminum to shipbuilding and solar panels.⁴³

China's position in the solar industry is particularly dramatic. In 2005, European companies were the global leaders; Germany accounted for a fifth of global solar manufacturing. Today, indigenous European production has largely vanished in favor of imports from China, which manufactures 83% of the world's supply of solar panels, 85% of solar cells, 91% of solar-grade polysilicon, and 97% of the silicon ingots and wafers that form the core of solar cells.⁴⁴ In 2023, China commissioned as much solar photovoltaics (PV) as the entire world did in 2022, according to the IEA. China accounts for almost 60% of new renewable capacity expected to become operational globally by 2028. Despite the phasing out of national subsidies in 2020 and 2021, deployment of onshore wind and solar PV in China is accelerating.

The American Chamber of Commerce in China says the country's industrial overcapacity is "here to stay," and is likely to lead to "spillover distortions on a global scale." As Beijing faces sluggish growth at home, Western observers are concerned it is trying to replicate its tried-and-true pattern in other industries – notably "foundational" semiconductors, electric vehicles and battery technologies, and wind power.

In the semiconductor industry, Beijing formed the China Integrated Circuit Industry Investment Fund in 2014 to foster its indigenous capabilities and reduce its heavy reliance on imports. Chinese subsidies of \$290.8 billion in 2021 and 2022 were vastly greater than those of the U.S., the EU and Japan combined. Despite this massive state support, Chinese companies have been unable to produce leading-edge semiconductors



and remain completely dependent on Western suppliers, who themselves are under pressure from their governments to limit deliveries of their highest-end products. Chinese firms are evading Western restrictions via shell companies, smuggling and the creative use of old machines. The extent of their success became evident last summer, when Huawei launched the 5G-capable Mate 60 Pro smartphone, powered by an advanced chip seemingly made entirely in China by SMIC, a Chinese company on the U.S. sanctions list. Just a few months later, Huawei released a laptop that features a chip a generation beyond the one in the Mate 60 Pro smartphone.⁴⁵

China is also engaged in a massive build-out of foundational processor chips, also known as “mature” or “legacy” chips, which are widely used in household goods, transportation, consumer devices, and military systems. The country’s chip production capacity could grow 60% in the next three years, and could double over the next five, according to estimates. Western companies and policymakers are concerned that China is applying its solar industry playbook to foundational chips – selling huge amounts of heavily-subsidized products at a discount to price out foreign competitors and to create new dependencies on Chinese components.⁴⁶

EVs and batteries tell a similar tale. After designating EVs a “strategic emerging industry” in 2009, Beijing doled out more than \$125 billion in support schemes over the next 12 years. Electric battery makers were offered subsidies that could account for more than 50% of the cost of their product. By 2022, China was spending nearly \$80 billion on clean-energy manufacturing, around 90% of all such investment worldwide. Beijing ended a 13-year subsidy scheme for EV purchases that year, but it extended consumer tax credits, and local authorities continue to offer subsidies and rebates to consumers and producers.⁴⁷

The results have been striking. China produced 78% of the world’s batteries and almost 60% of EVs in 2022. China is surging overcapacity in EVs and battery plants to nearly four times what the country needs by 2027.⁴⁸

Now Beijing has brought EV battery rivals CATL and BYD together with other firms, government

officials, and researchers into a “whole of nation” consortium called the China All-Solid-State Battery Collaborative Innovation Platform (CASIP), which aims to build a supply chain for next-generation solid-state batteries by 2030.

Faced with a bloated home market and still enjoying sizable subsidies, Chinese companies are ramping up their exports. Europe is the biggest prize, given growing demand for EVs, the continent’s need to accelerate the energy transition, and its open market, which contrasts with U.S. tariffs of 27.5% on imported EVs from China and restrictions on purchase subsidies to vehicles made in America. China’s share of EVs sold in the EU has grown from 1% in 2019 to 8% today, and could reach 15% in 2025, according to the European Commission. Fearing that European EV and battery makers could suffer the same fate as European solar producers, the European Commission has launched an investigation into Chinese EV subsidies.

China’s EV challenge comes with a transatlantic twist: most China-based EVs being sold in Europe are made by U.S. automaker Tesla. Tesla’s EV gigafactory in Shanghai accounts for more than half of all Tesla EVs produced worldwide. Two-thirds of those vehicles are made for the China market; the other third is exported to Europe and other markets. European automakers BMW and Renault also sell vehicles in Europe that are produced in China, and VW has announced plans to do the same. But Tesla already accounts for 40% of China’s EV exports, both to Europe and to the world.⁴⁹

Since Tesla began production in China in 2018, the company has enjoyed tax breaks, cheap loans, and other forms of state support. These have been important enablers for the company, even if they are not likely to have been as generous as the subsidies enjoyed by China’s indigenous EV-makers. This has introduced some drama into the European Commission’s current investigation into Chinese EV subsidies. The Commission excluded Tesla from its probe, choosing instead to focus on Chinese carmakers BYD, SAIC and Geely. If the Commission determines that these three companies benefitted from unfair state subsidies, it will calculate the level of countervailing duty to be imposed on all Chinese EV exports to Europe based on those higher subsidies. Tesla, and most likely China-based European car exporters, would thus face the same high levies as the Chinese companies, even though the Chinese state support they receive is lower. Some analysts suggest that this could be a tactic by the EU

China produced 78% of the world’s batteries and almost 60% of EVs in 2022.

to pressure Tesla and European carmakers to produce more cars in Europe than in China.⁵⁰

Wind energy looms as another potential Chinese challenge. All told, the European Commission has said that China's public support programs are likely to have a larger impact on the competitiveness of the EU clean tech sector than the U.S. Inflation Reduction Act.⁵¹

Partner

China's "partner" agenda aims to secure access to foreign markets and critical resources, circumvent Western tariffs, offer an alternative to Western-centric norms and institutions, and position Beijing as champion of the non-Western world. China has spent a trillion dollars on its flagship network, the Belt and Road Initiative, to expand its influence across Asia, Africa and Latin America. Between 2013 and 2020 BRI countries voted with the Chinese position at the UN 75% of the time.⁵² Initiatives like the BRI and the Asian Infrastructure Investment Bank have made China the world's largest creditor. While many BRI projects have been successful, some have gone sour, embroiling participating countries in heavy debt, and prompting Beijing to step back and repackage the BRI within a newly unveiled Global Development Initiative.

As mentioned earlier, China has worked hard to lock in its position as "refinery to the world" by partnering with producers of critical raw materials to feed their products into Chinese-owned refineries, where raw materials from around the world are processed into the high-grade materials needed for advanced manufacturing.⁵³

Beijing is also partnering with other countries to expand use of the Chinese RMB to challenge the dollar-dominated monetary system. It launched its Cross-Border Interbank Payment System (CIPS) in 2015 to promote the internationalization of its currency and as a rival to the U.S. CHIPS payment system. It uses shell companies and bilateral arrangements with authoritarian countries like Russia and Iran to bypass Western sanctions. It has signed bilateral trade agreements with countries ranging from Singapore, South Korea and Australia to Georgia, Serbia, Nicaragua and Ecuador. It has joined trade groupings where the US is not present, like the Regional Comprehensive Economic Partnership (RCEP) and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) to build regional supply chains and markets. These efforts have been accompanied by Beijing's Global Security Initiative, a budding alternative international defense framework to

Western-led institutions and alliances, one that connects various groupings where China plays a major role, such as the expanded BRICS and the Shanghai Cooperation Organization, and that downplays human rights principles and promotes favored Chinese foreign policy concepts like non-interference in domestic affairs.⁵⁴

The U.S. Protect, Promote and Partner Agenda

The United States seeks to give content to "derisking" by what it informally calls the "protect, promote and partner" agenda.

Protect

The "protect" element of the policy seeks to impede technological and military advances in countries of concern, like China, Russia, North Korea and Iran. Washington's tools are tougher export controls, stricter inbound and outbound investment screening, and human rights measures such as the Uyghur Forced Labor Prevention Act and forced labor bans in the US-Mexico-Canada Agreement (USMCA). As part of the "protect" agenda, the Biden administration has left in place Trump-era tariffs on roughly \$300 billion of Chinese goods (and suspended, without retracting, tariffs on EU). Beyond that, the agenda is shaped by what U.S. National Security Advisor Jake Sullivan has dubbed "small yard, high fence:" intensified efforts to stop China from accessing a limited number of key technologies, while allowing much non-critical commerce to continue flowing. One key tool is the "Entity List" of companies which must apply for permission to buy goods with potential military uses. The number of firms on this list has grown dramatically from 130 in 2018 to over 1,400 today, 600 of which are Chinese. A second tool is investment screening. The measures Washington has introduced to curb U.S. outbound investments, particularly in advanced technologies in China, is the first time the U.S. federal government has ever exerted such authority over U.S. industry.⁵⁵

A third tool, the Foreign Direct Product Rule (FDPR), restricts sales of items using U.S. technology, even if they are designed and manufactured abroad. The Trump administration used the FDPR to cut Chinese company Huawei off from American technology, and the Biden administration issued additional FDPRs to cut off Russia from all U.S. elements of global technology supply chains. It has followed these actions with severe FDPR restrictions that block U.S. firms from shipping high-end microchip manufacturing equipment to China, expand the geographic scope of those restrictions to 21 other countries

covered by U.S. arms embargoes. It has created a “gray list” requiring companies producing less advanced chips to submit notification of sales to China and other countries of concern.⁵⁶

In addition to these actions, the U.S. Federal Communications Commission (FCC) in November 2022 barred Huawei and Chinese tech company ZTE from selling equipment in the United States – the first time the FCC banned electronics equipment on national security grounds. The U.S. Commerce Department has issued rules prohibiting CHIPS funds recipients from expanding material semiconductor manufacturing capacity in foreign countries of concern for ten years, and restricting recipients from certain joint research or technology licensing efforts with foreign entities of concern.⁵⁷

In February 2024, the Biden administration suspended export licenses for U.S. suppliers of SMIC’s most advanced factory; issued an executive order to control bulk transfers of sensitive personal data to China and other countries of concern; and announced a probe whether connected vehicles made with Chinese parts could capture sensitive personal data from Americans.

Promote

These measures are proceeding in tandem with the “promote” agenda, a \$2 trillion overhaul of the U.S. economy that seeks to do many things at once: address climate change, boost manufacturing, accelerate innovation, curb dependence on China, and revive regions of the country that had been lagging. The “promote” strand seeks to maintain


“as large of a lead as possible” in sectors where there is a “national security imperative,” including semiconductors, quantum computing, artificial intelligence, biotechnology and clean energy.⁵⁸ It comprises the largest set of U.S. industrial policies since the New Deal, embodied in three major pieces of legislation: the \$1.2 trillion Infrastructure Investment and Jobs Act; the \$280 billion CHIPS and Science Act; and the Inflation Reduction Act (IRA), which was valued initially at \$396 billion, yet could be much more, since some of the tax credits it offers are not capped. The CHIPS and Science Act has triggered \$200 billion of private investment in U.S. chipmaking capacity. The Biden administration wants the U.S. to produce a fifth of the world’s most advanced logic chips by 2030, up from zero today, supported by a complete domestically-based supply chain. The IRA could spur \$1.7 trillion in public and private investments, according to Credit Suisse. We discuss the IRA in Chapter 4. In addition to these initiatives, the U.S. Defense Department helped to reopen rare earth production at California’s Mountain Pass Mine, moving the U.S. from zero percent of global rare earth mining to 15% in 2022. These federal outlays, which are already reshaping supply chains, are being complemented by subsidies offered by some individual states.

Partner

The “partner” element seeks to harness existing alliances and partnerships, and to build new ones, to form a broader base of support for these efforts. It has resulted in closer G7 coordination on derisking issues; bilateral technology and economic security partnerships with such capitals as Tokyo, Seoul, Taipei and London; closer defense supply chain ties with Japan and India; bilateral Security of Supply Arrangement deals with Tokyo, Seoul and Singapore; formation of the Pacific Quadrilateral Dialogue with Australia, Tokyo and India and its related Quad Investors Network, and incremental progress by the Indo-Pacific Economic Framework. Washington designated certain firms in the UK and Australia as domestic sources under the Defense Production Act, opening the door to subsidies for those companies to produce critical minerals and other strategic materials. The CHIPS Act provides \$500 million to expand U.S. chipmaker links with selected low- and middle-income countries. The U.S.-Vietnam Comprehensive Strategic Partnership signed in September 2023 promises to facilitate investment in Vietnam’s rich rare earth reserves.

In North America, Washington and Ottawa have agreed to a Joint Action Plan on Critical Minerals Collaboration. Across the Atlantic, Washington and Brussels have turned to their Trade and Technology Council (TTC) to facilitate joint efforts to enhance the

Strategic sectors with vulnerable supply chains for both the U.S. and the EU

-  **Artificial intelligence**
-  **Batteries**
-  **Critical materials**
-  **Defense-related technologies**
-  **ICT and cloud technologies**
-  **Pharmaceuticals**
-  **Semiconductors**

resiliency and robustness of their respective supply chains, especially in highly-vulnerable ecosystems. Additional areas of shared concern include COVID-19-related goods and active pharmaceutical ingredients (APIs, including vitamins, antibiotics, and hormones), semiconductors, ICT and cloud technologies, artificial intelligence, and defense-related technologies.

The U.S., EU, and other like-minded countries created the Mineral Security Partnership to prioritize the development of key critical-minerals projects as another way to build alternative sources of supply than can lessen China's dominant position in critical raw materials supply chains. They are developing climate financing programs with Indonesia, Senegal, South Africa, Vietnam, and India. Further examples include the India–Middle East–Europe Economic Corridor, a project co-founded by the United States that is meant to boost economic connections across Asia, the Persian Gulf, and Europe, as well as the Lobito Corridor project, which connects Angola, the Democratic Republic of Congo, and Zambia to global markets and is funded by the U.S., the European Commission, and several development banks. The Partnership for Atlantic Cooperation, signed by 32 Atlantic coastal countries in September 2023, provides a forum for members to collaborate on economic, energy, environmental, and maritime issues.

The Biden administration has balanced these efforts with attempts to partner with China on climate change, and to form several bilateral working groups to tackle dangerous narcotics flows, address financial and economic issues, and exchange information about their respective export controls.

The EU's Protect, Promote, and Partner Agenda

While the EU and its member states do not use the phrase “protect, promote, and partner” to describe their derisking agenda, essentially this is also what they, and the UK, are doing.

The European Commission has become increasingly hawkish on China, due to concerns about Beijing's support for Moscow, its challenges to Taiwan and other neighbors, Europe's critical dependencies on China for critical materials, and a widening bilateral trade deficit. It has released two economic security documents that outline a de-risking strategy intended to lessen EU dependence on China and to promote EU competitiveness, including by working with other like-minded partners.⁵⁹

Washington and Brussels have turned to their Trade and Technology Council (TTC) to facilitate joint efforts to enhance the resiliency and robustness of their respective supply chains, especially in highly-vulnerable ecosystems.

Protect

The EU's “protect” agenda includes assessments of risks in supply chains, critical infrastructure, technology leakage, and coercion. In 2023 the EU conducted its first set of collective risk assessments, beginning with four key technologies: advanced semiconductors, artificial intelligence, bio- and quantum technologies. Six additional areas, including energy, robotics and manufacturing technology, could be subject to review in 2024.

The “protect” agenda is complicated because member states, not the European Commission, retain authority over many sensitive areas, such as screening investments or restricting exports for national security reasons. Member states closely guard their prerogatives, and each tends to address dependency issues differently. This has been particularly true regarding China, in part because of diverging degrees of reliance. For instance, despite agreement on excluding high-risk vendors from technology investments, only a third of EU countries have banned Huawei from critical parts of their 5G communications, prompting debate whether the Commission should move to impose a mandatory ban if member states continue to delay.

Nevertheless, the EU does have tools at its disposal. It has long had the ability, if not always the will, to use trade defense instruments to impose anti-subsidy and antidumping duties on unfairly cheap imports. It has opened anti-dumping investigations in several sectors. These include Chinese electric vehicle subsidies and Chinese biodiesel exports. It has developed a toolkit to identify and tackle foreign interference in research and innovation. It has imposed a broad range of export controls on Russia, as we discuss in Chapter 1, and is working on an EU-wide export controls regime. Member states have extended the Xinjiang sanctions they first imposed in March 2021. In 2023 they agreed to an Anti-Coercion Instrument that empowers the Commission to impose trade controls, customs



duties and other measures against companies or countries determined to be engaged in coercive behavior. The EU can also now block investment by companies funded by non-EU governments and cut businesses out of procurement contracts if their own domestic market is closed to EU bidders. It is investigating a Chinese trainmaker under these provisions. While the rule was originally intended with China in mind, it could negatively affect U.S. companies deemed to be enjoying state subsidies under the IRA or related legislation.⁶⁰ The EU Critical Raw Materials Act, which passed the European Parliament in December, sets an overarching target that no third country should provide more than 65% of the EU's annual need for a strategic raw material, and contains provisions for coordinated strategic stockpiling, incentives for recycling, and investment in research and development.

Moreover, at the urging of the Commission, nearly all member states now have inward investment screening mechanisms, and some have tightened the laws they already had, as has the UK. This year, the Commission is looking at ways to screen outbound investments, although there is no consensus for an EU-wide mechanism.

Despite their differences, member states have shown a willingness to act when serious challenges arise. In the year following Russia's full-scale invasion of Ukraine in February 2022, European governments spent \$600 billion to shield their own societies from the energy shocks generated by the war.⁶¹ The Netherlands joined the U.S. and Japan to stop exports of high-end chipmaking machines to China. It also issued a blanket warning on apps from countries that have an "offensive cyber program," citing China by name. France has tweaked the terms of its EV subsidy program in a way that excludes most Chinese makers from eligibility. Italy's government used its "golden power" to limit a Chinese shareholder's influence over tiremaker Pirelli in June, deeming tire sensors a "critical technology of strategic national importance." Rome withdrew from China's Belt and Road Initiative in December 2023. Germany's Supply Chain Due Diligence Act requires companies to meet extensive obligations to ensure human rights and environment best practices in their supply chains.

Still, EU-wide agreements can be elusive. For instance, member states have blocked approval of the EU Corporate Sustainability Due Diligence intended to vet human rights and environmental abuses in supply chains.

Promote

The EU's "promote" agenda has centered on NextGenerationEU, a \$917 billion funding program to help EU member states recover and revive from the pandemic. It is the largest stimulus package ever financed in Europe. The funds are being reinforced by elements of the EU's long-term budget, bringing the total of deployable funds to \$2.38 trillion in current prices, to help create, in the EU's words, a "greener, more digital and more resilient" Europe.

Elements of the package have been reshaped in response to ongoing events, particularly the need to reduce energy dependencies on Russia. Debates about repurposing the funds were further reenergized by European concerns over massive cleantech subsidies being offered by China and the United States, as we discuss in Chapter 4. In response, in February 2023 the Commission unveiled the Green Deal Industrial Plan to enhance EU competitiveness in the energy transition. Notably, the Plan proposes to temporarily loosen state aid rules until the end of 2025, and to allow member states to draw on \$243 billion of loans and \$22 billion of grants remaining under NextGenerationEU. The Plan includes three key initiatives; electricity market reform; the Critical Raw Materials Act; and the Net-Zero Industry Act.

The EU's Critical Raw Materials Act eases financing and permitting for new mining and refining projects at home to help the EU meet a target to extract 10%, recycle 25% and process 40% of its annual consumption by 2030 for 18 strategic raw materials. The Net-Zero Industry Act aims to ensure that at least 40% of the EU's demand for clean tech is made domestically by 2030. The European Parliament added a goal for the EU to produce 25% of the entire world's clean technology by 2030. The legislation includes incentives to help the EU hit these goals, including fast-track permitting and easier access to funding for certain industries. Since the EU still relies heavily on China for key ingredients for the green transition, the legislation would effectively lock Chinese firms out of public contracts for relevant technologies. It remains unclear how much funding might be allocated under the Act; earlier ambitions have been tempered. Supporters hope both Acts will survive the EU's multi-institutional approval process and be enacted by June 2024.

The "promote" agenda also includes the European Chips Act, which provides subsidies to strengthen semiconductor value chains within the EU, with a goal of achieving 20% of worldwide production capacities, compared to 9% today.

While the Act boasts a budget of more than \$45 billion, much of the money is drawn from existing EU programs, from member states, or assumed private investments.

With the EU's General Data Protection Regime, Digital Services Act, Digital Markets Act, and AI Act, the bloc has also been pushing its role as a global standard-setter on technology regulation, often called the "Brussels effect."

Partner

The EU's "partner" agenda has included enhanced coordination among G7 members, cooperation with the U.S. and with India as part of their respective Trade and Technology Councils (TTC), and a dedicated workstream on economic security as part of the EU – Japan High Level Economic Dialogue. Like the U.S., it has established several working groups directly with China. Brussels has sought on its own, as well as with Washington and others, to invigorate its Global Gateway, and the Partnership for Global Infrastructure Investments. It is seeking to finalize additional free trade agreements, sign bilateral raw materials and Just Transition partnerships, promote the Minerals Security Partnership, and create a "Critical Raw Materials Club" of like-minded actors to enhance security of raw materials supply. It has signed trade agreements with Japan (2019), New Zealand (2022) and Chile (2023). However, its most ambitious goal – a trade deal with South America's Mercosur trade bloc – remains in limbo.

Corporate Strategies

Companies are adapting their supply chain strategies to ongoing geopolitical tensions and economic uncertainties. While headline disruptions have been linked to Russia's war against Ukraine and the Israel-Hamas conflict, the epicenter of the supply-chain earthquake is China.

Most firms not already active in China are simply not coming, while others have opted to leave. In 2023, the President of the European Union Chamber of Commerce in China said he had not seen a single European company entering China since COVID-19 began, and called business confidence in China the lowest on record. Quitting China completely is a path being chosen by such prominent firms as AirBnB, Carrefour, Gap, Yahoo, Epic Games, Hasbro and Microsoft-owned LinkedIn. Amazon.com closed its official app store, and IBM closed its China Research Laboratory after a quarter of a century. This year, Dell will stop using chips made in China, and it


Many corporations are shifting from supply chains to supply webs. They are replacing single-sourcing of critical components with multiple, and sometimes geographically diverse, suppliers to prioritize reliable deliveries over just-in-time efficiencies – a practice known as "multishoring."

has told its suppliers to significantly reduce the amount of other "made in China" components that go into its computers. U.S. company Teradyne, a manufacturer of testing equipment for chip fabrication, has relocated its key production facility from China to Malaysia. The share of non-Chinese companies in 14 of 20 industries with sizable multinational presence has declined over the past three years.⁶²

Many corporations are shifting from supply chains to supply webs. They are replacing single-sourcing of critical components with multiple, and sometimes geographically diverse, suppliers to prioritize reliable deliveries over just-in-time efficiencies – a practice known as "multishoring." For most companies active in China, this has meant diversifying their supply chains via "China plus one" or "China plus many" strategies. Some firms are adopting separate supply chains for the China and non-China markets. Apple, AstraZeneca, McDonald's, Sequoia Capital, STMicroelectronics and Yum! Brands are among the companies that have split out parts of or all their China business. Consultancies such as McKinsey, Boston Consulting Group and Oliver Wyman are among the firms separating their Chinese IT systems in response to Beijing's tightened anti-espionage and data protection laws.⁶³

According to the Asian Development Bank, more than 83% of North American businesses and about 90% of European firms have announced plans to relocate at least part of their supply chains away from China. Some are engaged in "nearshoring" operations to countries closer to key markets or "friendshoring" their sourcing to more reliable partners. Companies plowed more than \$82 billion into 15 nearshoring locations close to western Europe between 2022 and 2023 - the highest two-year figure ever.⁶⁴

There is also evidence that some finishing stages of production within supply chains are



being “reshored” back to the U.S. and Europe. According to Kearney’s annual reshoring index, U.S. gross manufacturing output rose faster in 2022 than U.S. manufacturing imports from China and 13 other Asian countries, a trend that likely continued in 2023.⁶⁵

As a result, China’s share of U.S. manufacturing imports from low-cost countries in Asia fell from nearly 70% in 2013 to less than 50% in 2023. According to Deutsche Bank, 95% of products for which the U.S. relies on China could be supplied from elsewhere in Asia.⁶⁶

Semiconductors, fueled by offers of massive government subsidies, lead the field when it comes to friend-shoring initiatives. Intel, TSMC, and Samsung, the world’s three biggest chipmakers, have announced commitments to invest at least \$380 billion over the next decade to build new factories in Germany, Ireland, Israel, Japan, Poland, South Korea, Taiwan, and the United States. Intel says its goal is to reduce Asia’s share of its global semiconductor manufacturing from 80% to 50% by the end of the decade, with the U.S. accounting for 30% and Europe for 20%. Intel is building government-subsidized chip plants in the U.S. states of Arizona and Ohio. It also plans to expand its global production capacity with new or bigger facilities in Germany, Poland, Israel, Malaysia, and other places.⁶⁷

Vietnam is profiting greatly from the friendshoring trend. U.S. manufacturing imports from Vietnam have doubled in the past five years and tripled over the past ten, while China’s share has fallen significantly. The United States accounts for nearly a quarter of Vietnam’s goods exports. Half of Google’s newest Pixel phones will be made in

Vietnam this year. In 2022, Dell said it would move at least 20% of laptop production to Vietnam. Apple is supplementing its operations in China by producing iPads, MacBooks, AirPods and smartwatches in Vietnam, and for the first time is allocating product development resources for the iPad to Vietnam. Its many suppliers are following.⁶⁸

India is also benefitting from shifting supply chains. It has gone from making 9% of the world’s smartphone headsets in 2016 to a projected 19% in 2023. Apple plans to shift 18% of its global iPhone production to India and says the country will be a “major focus.” J.P. Morgan estimates India will produce a quarter of all iPhones by 2025. India is the key Asian R&D base for top European chipmaker Infineon, which is expanding its activities there. In fact, India supplanted the U.S. as the top global R&D FDI destination in 2022. These investments are powering the country’s electronics exports, which have tripled since 2018. India’s domestic electronics production is expected to grow rapidly at a 30% compound annual growth rate in the next five years to reach \$400 billion.⁶⁹

India must still overcome entrenched problems that have kept it a bit player in global supply chains. Its labor force remains mostly poor and unskilled, infrastructure is underdeveloped and the business climate, including regulations, can be burdensome. Manufacturing remains small relative to the size of India’s economy. Those tariffs discourage industries that import many components. Nonetheless, after decades of disappointment, the country is making progress.⁷⁰

Mexico is another big beneficiary of reshuffled supply chains, as we discuss in Box 1.

Box 1. Mexico's "Geopolitical Planetary Alignment"

Mexico is the new face of nearshoring, as companies seeking to avoid China tensions and supply chain disruptions relocate production facilities just outside the United States but very much inside the integrated North American market created by the U.S.-Mexico-Canada free trade agreement. In 2023 Mexico became the U.S.' top trading partner and largest source of imports, winning ground lost by China.

Mexico has become a choice destination for nearshoring projects looking at the U.S. market, which absorbs nearly 80% of Mexico's exported goods. The overall value of the investment projects announced by foreign investors rose to a record \$40.2 billion in 2022, led by those from the U.S. (41% share), Asia and Europe (27.9% each), according to FDI Markets. U.S. investors have put more money into Mexico than into China in each of the past three years.

Nearshoring has the potential to boost the growth of Mexican manufacturing exports to the U.S., from \$455 billion today to an estimated \$609 billion in the next five years. New investment driven by nearshoring could help to boost Mexico's annual GDP growth to around 3% in 2025 to 2027. These trends reflect the deeply intertwined nature of supply chains across the North American market; roughly 40% of the value of Mexico's exports to the U.S. consists of parts and components made at U.S. factories. This contrasts greatly with U.S. imports from China, only 4% of which are U.S.-made.⁷¹

These moves are refashioning supply chains within North America. Rather than offloading containers from Asia at Southern California ports, more U.S. - and Chinese - companies are using Mexico's Pacific port of Manzanillo. A significant number of those containers are then transported to the Mexican border state of Nuevo Leon, where their contents are either further processed or brought across the border to Texas. "Nuevo Leon is having a geopolitical planetary alignment," says the state's governor.⁷²

These new dynamics are also reconfiguring supply routes within the United States, as more goods flow to America's largest inland port of Laredo, Texas, and from there on to the U.S. Midwest and East Coast. Previously, Midwest/

East Coast demand accounted for two-thirds of the shipments out of Southern California ports.

There is also evidence that China is trying to sidestep U.S. tariffs and other restrictions by using Mexico's USMCA membership as a back door to the U.S. market. Chinese investment in Mexico grew by more than 200% in the last two years. Accurate statistics are hard to come by but, according to some estimates, Chinese foreign direct investment in Mexico increased from a total of \$500 million in 2000-04 to \$2.5bn in 2022 alone. That is below a peak of nearly \$6 billion in 2016, but more than twice the figure in 2018, and rising.⁷³

Six years ago, Chinese carmakers were largely absent from the Mexican market. Now three of China's largest electric-vehicle makers – MG, BYD and Chery – are preparing to build factories there. Chinese companies account for nearly a fifth of Mexico's auto sales, a fifth of Mexico's car imports, and 40% of investment in auto parts. Chinese companies exported \$9 billion in parts to Mexico in 2023. Many of these components are assembled into products destined for the United States. Producing parts, components and final products in Mexico helps Chinese firms meet the USMCA's rules-of-origin requirements. And while the U.S. IRA stipulates that no EV parts or components can come from China or other "foreign entities of concern," EVs and related parts made in Mexico are covered by the IRA's consumer tax credit. Chinese companies based in Mexico exported \$1.1 billion in parts to the U.S. in 2023.⁷⁴

Under U.S. pressure, Mexico has announced tariffs ranging from 5-25% on goods from China and other countries, and signed an agreement with Washington to conduct national security reviews of foreign investments, including planned new Chinese EV plants.⁷⁵

Back Doors, Workarounds, and Transshipments

Even though Western companies are reducing direct sourcing from China, many remain indirectly bound to China via supply chain links with third countries. This is most evident in Asia, but also apparent in Europe, and now noticeable in Mexico. China is sidestepping U.S. tariffs and other U.S. and EU restrictions by exporting goods or intermediate products to third countries, which then send final goods to the North American and European markets. These transshipments make it look like Chinese exports to Western markets are falling, even though many are just being re-routed through other countries. During the past five years, China's share of Vietnam's imports has gone from a quarter to a third, while Vietnam's share of exports to the U.S. has risen from 20% to just under 30% – an indication that Vietnam is becoming an important intermediary in China-U.S. commerce.

This means that when Americans or Europeans buy from factories in places such as Vietnam, they could be buying from Chinese companies, or from Vietnam-based firms utilizing intermediate goods sourced from China. For example, even though Apple has moved production to Vietnam, 9 of its 25 suppliers in Vietnam are Chinese enterprises. Chinese producers of solar panel materials tried to escape U.S. tariffs by rerouting their components

for final assembly in Vietnam, Cambodia, Malaysia, and Thailand, and then shipping the products to the United States. After uncovering the subterfuge, the U.S. slapped new tariffs as high as 254% on foreign solar panel makers.⁷⁶

Investment trends are similar. Western companies are investing to replace China's role in supply chains with allies or friendly nations; Chinese companies are moving plants and other facilities to third countries to facilitate exports to the U.S. and Europe. These efforts are reflected in FDI figures. Foreign direct investment in 11 Southeast Asian countries, for example, grew 40% between 2017 and 2022, when it reached a record \$222.5 billion. U.S. firms are the leading investors, spending \$74.3 billion on plant construction and other projects between 2018 and 2022. They are followed by Chinese firms, which invested \$68.5 billion in the same period.⁷⁷

In addition, while China's share in U.S. imports has fallen, its share in Europe's imports has risen. A portion of those imports are intermediate parts and components that are assembled into final products exported to countries around the world, including the United States. For instance, over the past decade China's share of central and eastern EU member states' imports of car parts has risen from 2% to 10%, more than any other country outside the EU.⁷⁸



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