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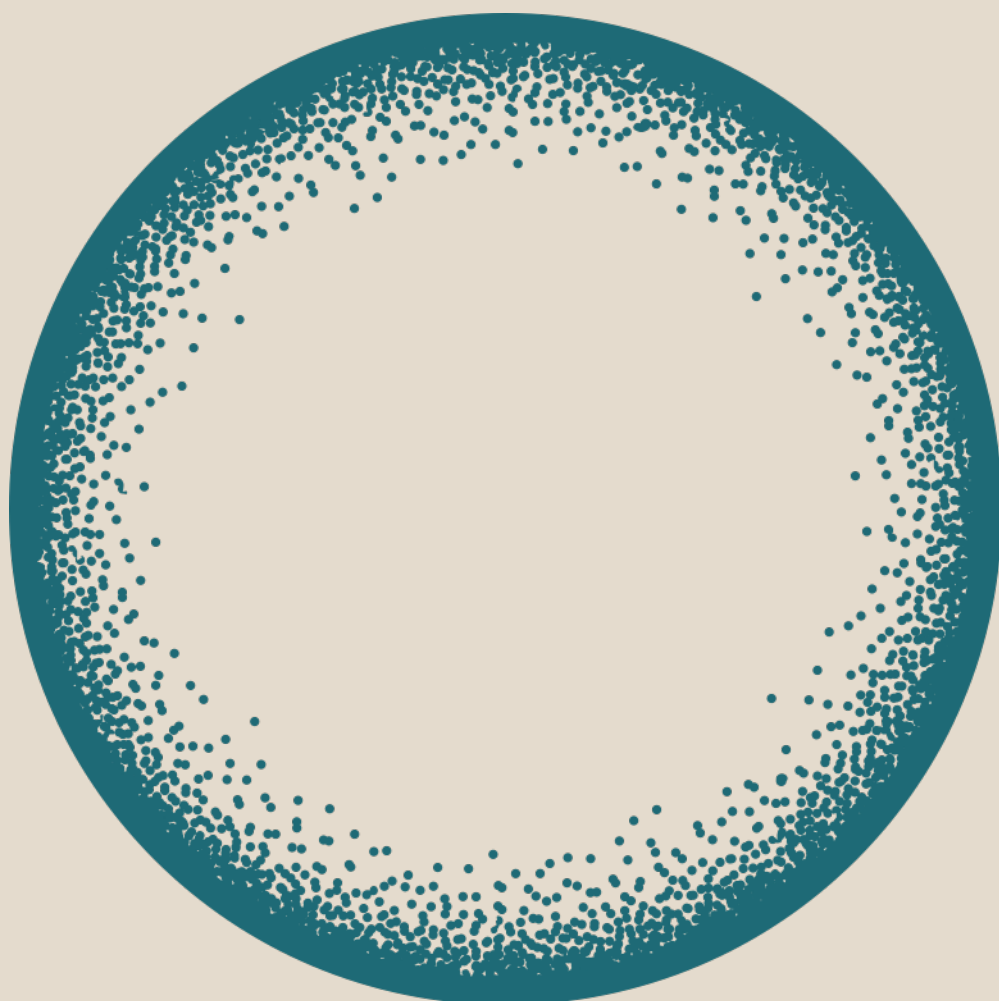
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**CAUGHT IN GEOPOLITICAL FRAGMENTATION:
HOW TO DE-RISK GERMANY'S ECONOMIC MODEL**

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Abstract

Stagnating globalisation, the possible weaponisation of dependencies by autocracies, and US-China tensions threaten to disrupt Germany's export-driven economic model. But German efforts to 'de-risk' that model remain underdeveloped, as does its policy toolkit. Germany's most important trade relationship is with China. Germany's import, export and investment exposure to an increasingly mercantilist and possibly aggressive China pose considerable risk to its comparative advantage and security. But the range of policy-levers required to address these— such as export controls or industrial policy - needs upgrading. Given Germany's deep integration into the European economy, they also need to be defined much more consistently across the state, federal, and EU level. Successfully managing China-related risks can serve as a template for an integrated EU de-risking policy toolkit to make Germany's model more resilient.

JEL codes: F13, F14, F21, F51, F33, F68, L52, O52

Keywords: Geoeconomics, International trade, De-risking, Germany-China relations, European Union, Industrial policy

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1. INTRODUCTION

For decades, Germany's economic strategy treated globalisation as an exercise in unleashing comparative advantage. Germany has been either agnostic to geopolitics or pursued ideas like '*Wandel durch Handel*', reducing political tensions through trade. Thus, it successfully rode the wave of international trade deepening that characterised the world economy from the end of the Second World War to the 2008 global financial crisis. Germany has since continued to benefit from the current period of stagnating globalisation, reaching record current account surpluses.

Concentration risk has been a feature, not a bug, of this model. Trade deficits prompted German support for European fixed exchange rate mechanisms in the 1970s and 1980s, to prevent devaluations against the Deutsche Mark. Intensifying competition with the Asian tigers (Hong Kong, Singapore, South Korea, and Taiwan) in the 1990s and 2000s underpinned German support for waves of eastward EU enlargement, in search for cheaper markets and labour to establish its industrial supply chains (James, 2012). Securing affordable energy, and in particular gas from Russia, was a central pillar of Germany's foreign policy until Putin's full-scale invasion of Ukraine in February 2022 put an end to it. A domestic policy of restrained wages and tight budgets to keep German products competitive rounded off the strategy – a doctrine Berlin advocated as the blueprint for the rest of the EU.

Strategic dependencies on autocratic countries, like Russia and China, grew along the way, but were ignored. Mephistopheles mocks Faust, the philosopher-turned-industrialist, in the finale of Goethe's tragedy: "*Du bist doch nur für uns bemüht // Mit deinen Dämmen, deinen Bühnen*": by seeking great power through industry, Faust grows ever more vulnerable to the devil's whims. As if acting the drama of its national literary hero, Germany now finds itself dangerously exposed to its chief competitors. In the span of three years, the perfect storm of a global pandemic, Russia's war against Ukraine, and an ensuing energy crisis, as well as growing Sino-American tensions, have laid bare the risks of this exposure being weaponised.

If the supply shocks of COVID-19 and Russia's invasion of Ukraine wake German policymakers up, the nation's economic relationship with China will be the far more daunting challenge. It is this challenge that we propose to address, as the stepping stone towards a new global trade strategy for Germany. The first part of this paper therefore focuses on Germany's economic relationship with China, situating it amidst wider trends of fragmenting geopolitics and globalisation.

The EU and Germany claim to have accepted the need to 'de-risk' trade, by diversifying suppliers in strategic sectors, although they want to avoid a full 'decoupling' from China. The German government's newly released 'strategy on China' takes a tougher stance on the country than before, indicating a readiness to take a further turn after losing access to Russian gas. But policy actions have so far been limited or have gone in the opposite direction. For example, Germany continues to rely

on Chinese technology for a majority of its 5G networks and sold a stake in the port of Hamburg to China's COSCO despite national security risks. German Chancellor Scholz and French President Macron both took an entourage of CEOs on their visits to China this year, signing new business deals (German Federal Foreign Office, 2023). And the European Commission's plans to launch an anti-subsidies investigation into Chinese electric vehicles producers has not been warmly received in Berlin. This shows EU member-states are unclear about de-risking or what they mean by it. The second section of this paper therefore distinguishes 'de-risking' from 'decoupling', and aims to turn these buzzwords into sensible, coherent and cohesive policy.

Germany's economy is profoundly interwoven with the rest of the EU, so there can be no effective China strategy outside a fully developed European strategy on China, which remains in flux and depends on negotiations with the US (Barkin, 2023). Building on the assumption that a successful de-risking policy depends on an accurate definition of risks by sector, the third and key section of our paper gives an overview of key German vulnerabilities to China, first in the context of exports, then imports, and finally for Germany's financial account, and lays how the country may address them through policies at the international, EU and national level. An overview of these central arguments features in Box 1.

Given its size and role as the industrial workbench of the world, China is Germany's riskiest trading relationship. But it is not the only partner with whom Germany has geopolitically risky economic ties. And if "de-risking" is to be a strategy at all, it must be a comprehensive strategy. Deserving particular focus are trade ties with the Gulf, considering increasing dependence on liquid national gas (LNG) imports, and the United States, given a looming second term for President Trump and an overall isolationist turn in Washington, which could easily lead to tariffs and other trade restrictive measures. By setting Germany's most sensitive trading relationship in geopolitical context, providing an analytical framework for "de-risking" and "de-coupling", and mapping key risks to policy solutions, we hope to provide a helpful template for treating these and other economic risks.

Box 1: We identify three core areas at risk as a result of Germany’s relationship with China: the comparative advantage of German industry, national security through critical dependencies, and political economy.

Risk to	Exposure	Summary	De-Risking Policy Levers	Pages
Comparative Advantage	German foreign direct investment (FDI) into China	German branches in China undermine competitiveness of German exports by disseminating skills and technology into a key competitor market.	<ul style="list-style-type: none"> - Investment screening - Bilateral investment treaty 	10-13
	Chinese FDI into Germany	Chinese acquisition of critical infrastructure along German supply chains (e.g., Ports of Hamburg or Trieste).		
National Security	Microchips	Material percentages of German microchips, critical raw materials and energy transition inputs come from China and/or Taiwan, creating exposure to conflict in the Taiwan Straits.	<ul style="list-style-type: none"> - Anti-subsidy investigations - The EU Critical Raw Materials Act - Import controls - Industrial policy 	13-24
	Critical Raw Materials			
	Energy transition			
Political Economy	Macroeconomic exposure to Chinese demand	German employment and output show overall sensitivity to Chinese growth and fiscal policy, with exposure highly concentrated in politically sensitive sectors and regions.	<ul style="list-style-type: none"> - The EU export control framework - State-level support in export transition - Strengthening international institutions and alternative markets 	24-28
	Concentrated sectoral and regional exposure to trade			

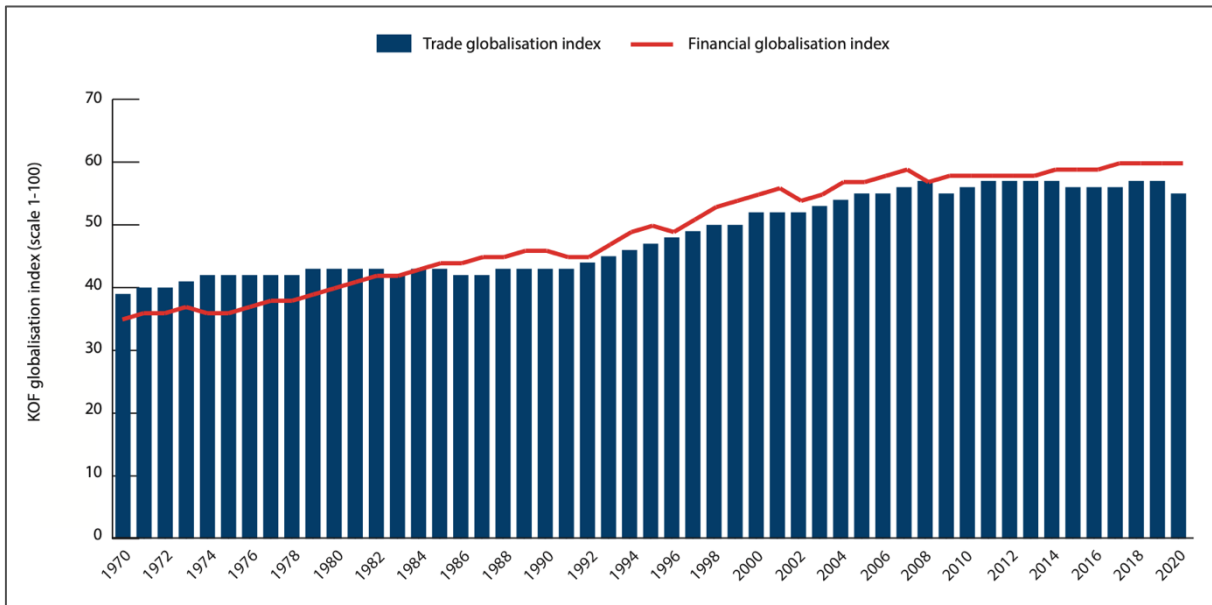
2. CHALLENGES TO THE GERMAN ECONOMIC MODEL

Today, three interwoven trade risks cast a long shadow over the future of the German economic model: a structural slowdown in globalisation; a lasting change in US international economic policy, with a clear retreat from the principles of multilateralism and unfettered trade; and escalating economic and political rivalry between China and the United States. As a country with critical dependencies on both, Germany’s economic model stands out as particularly exposed.

2.1. Globalisation is stalling

First, as the KOF index, a leading measure of wider globalisation published by ETH Zurich, shows, the Covid-19 pandemic caused trade globalisation to stall. The acute disruption in global trade triggered by the pandemic brought Europe to terms with its international dependency on such critical goods as healthcare products, protective masks, ventilators, or other essential supplies (Lebastard and Serafini, 2023). The concept of supply chain vulnerabilities took centre stage in policy thinking.

Chart 1: Globalisation is stalling



Source: ETH Zürich, KOF globalisation index, authors' calculations

Borrowing Hemingway's quip about bankruptcy, the stalling of globalisation hit Germany "gradually, then suddenly". First, the exports that powered German growth in the 2010s, propelled by Asian demand for German cars, machinery, and chemicals, ran out of steam by 2018. A cluster of minor crises precipitated this, including former US President Trump's trade wars, growing Chinese production and 'Dieselgate', in which carmakers abruptly divesting from diesel vehicles after tampering with EU emissions test. This period, which saw tariffs imposed on European steel, weakened Europe's competitiveness in US markets and raised fundamental doubts about transatlantic economic cooperation.

Then, after scraping through the pandemic on the back of its social market economy, generous furlough schemes and fiscal space, Germany was hit hard by Putin's war on Ukraine. The 2023 German economy has merely recouped its 2019 size, remaining far below its 2010-2019 trend growth. And the future of its energy-intensive sector hangs in the balance. Can it continue to lead in manufacturing while being structurally uncompetitive in energy-intensive sectors like steel, aluminium, and chemicals? To make matters worse, on November 15 2023, the German constitutional court struck down many of Berlin's creative extrabudgetary vehicles, originally designed to circumvent its constitutional debt brake. The court's decision imposes a need for further budget cuts in 2024 and 2025, even as the German economy is in recession. In the absence of a more ambitious constitutional reform, the ruling may also put at risk many of the funds meant to drive Germany's structural transformation in the energy transition and rebuilding the semiconductor industry (Lausberg, 2023).

2.2. The transatlantic policy consensus is shifting towards protectionism

The second risk to Germany's trade model stems from the shifting policy consensus in Washington, away from the rules-based global economic order. This shift arguably started under the Obama administration, was pursued in earnest under the Trump administration and has broadened and deepened since. Recent examples of this trend include such policies as trade tariffs, exports controls, inward investment screenings or the "Inflation Reduction Act" (IRA), in which the US opts for supply side expansion through state subsidies and local content rules that favour domestic production. The IRA, whilst a signature Democratic piece of legislation, biases investment towards several Republican states, making it a cohesive policy package with staying power.

These policy changes have started to change the nature of the economic policy discussion in the EU. This first clearly crystallised in a joint statement from President Biden and European Commission President Ursula von der Leyen (The White House, 2023a) on "Building the Clean Economies of the Future", issued on March 10th, which went largely unnoticed. The statement, foreshadowed by national security advisor Jake Sullivan (The White House, 2023b), deviated starkly from the old Washington consensus: *"The United States and the European Union share concerns about the challenges posed by, among other issues, economic coercion, the weaponization of economic dependencies, and non-market policies and practices. We will continue our work through the U.S.-EU Trade and Technology Council and the G7 to strengthen coordination with each other and other like-minded partners to diversify our supply chains, and to increase our collective preparedness, resilience, and deterrence to non-market policies and practices and to economic coercion (...)"*.

The message is clear: the US offers a truce in the subsidy race with Europe provided Europe discriminates against China in its economic and industrial policies. Perhaps the most revealing line is this one: *"We have a common interest in preventing our companies' capital, expertise, and knowledge from fuelling technological advances that will enhance the military and intelligence capabilities of our strategic rivals, including through outbound investment."*

In such an era of challenged goods globalisation, a bout of wage moderation and fiscal restraint— a successful formula in the past for Germany to capture market share— may be insufficient for export growth to buck the trend (Dullien et al., 2011). Indeed, as the IMF documented in its spring 2023 World Economic Outlook (WEO), a wave of restrictions that began with goods trade is increasingly also engulfing services and investment (IMF, 2023a). Moreover, Germany lags in services globalisation, an area that is still growing. Between 2010 and 2019, Germany's exports of services grew by an average annual rate of 3.4%, compared to an average of 4.6% for all high-income countries (World Bank, 2023).

2.3. Sino-American tensions are escalating

Third, tensions between the United States and China are increasing. Set against the crystallising backdrop of a US strategy for containment of China, the contested status of Taiwan is the riskiest flash-point in Sino-American relations. Yet even barring military action against Taiwan, which leaked US intelligence suggests could happen as soon as 2025 or 2027, tensions remain unsettlingly close to escalation (Ullman, 2023). For instance, the G7 has committed to strong retaliatory sanctions against China, if it should provide weapons to Russia for its war on Ukraine.

The US has been a first mover in response to this tail risk. In his first term, President Obama grew disillusioned with his interactions with China, and his generals worried about the build-up of Chinese military capacity. The Obama administration clearly and quickly positioned its landmark trade initiatives as Chinese containment strategies, including the Trans-Pacific Trade Partnership (TPP) with non-China Asian countries and the Transatlantic Trade and Investment Partnership (TTIP) with the EU.

President Trump reversed these trade agreements and embarked on a more aggressive policy of trade tariffs and deals with China, with a view to reducing the US bilateral trade deficit. President Trump's more transactional approach culminated in a trade deal signed in January of 2020. Over so-called 'phase 1' of the plan, US exports in goods and services to China were supposed to rise \$200 billion above the 2018 level (Office of the US Trade Representative, 2020). The objective was to reach \$268 billion in exports in 2020 and \$308 billion in 2021. The results of the purchase targets were disappointing, and actual exports came in at \$166 billion and \$192 billion in 2020 and 2021 respectively. Experts assessed that the approach distracted from the engagement necessary to address actual incompatibilities of the Chinese economic system with the more market-oriented economies of the US and its allies (Brown, 2021).

The Biden administration has kept Trump's tariffs in place but escalated its focus through a series of ongoing policy steps. They are meant to achieve what both Treasury Secretary Yellen and National Security Advisor Jake Sullivan have described as a 'policy of de-risking' – taking over the more moderate phrase from von der Leyen (US Department of the Treasury, 2023; The White House, 2023b). Their goal is to reduce the economic and geopolitical leverage that China could exert over the US by building a high protective “fence” around and small strategic “yard”. The US seems intent to act pre-emptively by broadening export controls and outward as well as inward investment screening and is trying to build a coalition of allies to achieve this in a more multilateral setting.

By contrast, the EU's acceptance of the need to 'de-risk' trade, by diversifying its suppliers in specific sectors, has been uneasy and disunited. Commissioner Dombrovskis recently raised con-

cerns about the EU's rapidly growing (almost) €400 billion trade deficit with China. Yet The Netherlands was persuaded by Washington to introduce export controls of high-end chip-making equipment to China, but it did so reluctantly and is trying to present its rules as non-discriminatory. Around the same time, Chancellor Olaf Scholz and French President Macron both took entourages of CEOs to China, promoting trade openness.

3. DE-RISKING VERSUS DE-COUPLING

Europe has charged the term “de-risking” with its characteristic policy ambiguity. In common political usage the term is a “get-out-of-jail-free” card, capable of meaning anything that falls between the status quo and a maximalist policy of “decoupling”. Needless to say, “de-risking” as a policy cannot have economic and geostrategic heft without a clear and somewhat quantifiable definition. As a contribution to that definition, we differentiate between three broad concepts:

- **Sudden stop:** A sudden stop would amount to an immediate and disorderly return to autarky, bringing bilateral trade and capital flows down to zero. Even the current conflict between Ukraine and Russia has not led to such an outcome. The EU has implemented sanctions targeting a wide range of goods, services, and capital flows. But in important sectors, trade has not ground to a halt. The price cap on Russian oil is widely seen as too high to avoid disrupting the oil market (Horowitz, 2022). And although Europe has significantly reduced Russian energy imports, there is no full embargo on Russian oil, nor on several other products such as nuclear fuel. Historical precedents are also very limited. Even the blockade of Germany during the First World War did not produce an absolute interruption of trade between Germany and all the allies.
- **Decoupling:** Decoupling should aim to achieve orderly but complete autarky in several critical areas, whilst maintaining trade openness in others. This is a far-reaching objective that requires clearly strategic objectives and well defined ring-fences. For example, it is possible to conceive of decoupling in advanced technology, but to maintain trade openness in agriculture. A true decoupling should, however, consider second order effects. Decoupling nominally from country A, and redirecting trade flows to country B, falls short of our definition, if country B remains highly dependent on country A for inputs.
- **De-risking:** De-risking requires authorities to define economic and strategic risks, the sectors that they consider crucial and the amount of risk they are willing to tolerate. De-risking therefore requires a degree of quantification, whilst decoupling is binary strategy. De-risking requires three important policy inputs: (i) defining the risks, (ii) determining the best sectors to address these risks and (iii) identifying discreet mechanisms to reduce direct and indirect risks.

The EU targets for critical raw materials partially meet this definition, although they fail to distinguish between raw materials and their processing.

Despite the Commission and Germany endorsing the notion of de-risking, and Scholz remarking to the press on 24 March 2023 “*We are against decoupling; we are for de-risking*”, neither authority has defined the risks, the sectors concerned or a coherent risk appetite (European Commission, 2023).

Indeed, Chancellor Scholz’s new China strategy falls short of this definition. Whilst an important first step, it remains general and ambiguous: treating risks at an aggregate level without detailed, quantified assessments; failing to clearly prioritise sectors with targeted de-risking measures; lacking attention to indirect risks; and, in having a primarily national and bilateral focus, falling short of a comprehensive and integrated multilateral approach.

4. HOW TO BUILD A “DE-RISKING” POLICY FRAMEWORK

As defined above, a robust de-risking policy depends on an accurate definition of thematic risks, sectoral treatment of those risks, and identifying targeted mechanisms to reduce them. To move the debate forward, we identify three central risks for Germany: the loss of intellectual property competitiveness to Chinese companies through bilateral investment; the creation of import dependencies in goods critical to key national interests and the energy transition; and the creation of export dependencies in sectors and regions of importance to Germany’s political economy, creating concentrated exposure to “China shocks”.

For each risk, we propose tools across the policy spectrum at the international, European, and national level. We see the coordination across policymaking hierarchies as a condition for effectiveness. In many cases, the policy apparatus to achieve a real strategy of de-risking requires a much greater European approach than is currently in place. The recent export controls imposed by the Netherlands on semiconductor lithography are a good example of a policy that is nominally undertaken under national competence, while being clearly an integral part of trade policy, and therefore requiring a European dimension (Allen and Benson, 2023).

4.1. Risk One: Loss of intellectual property competitiveness

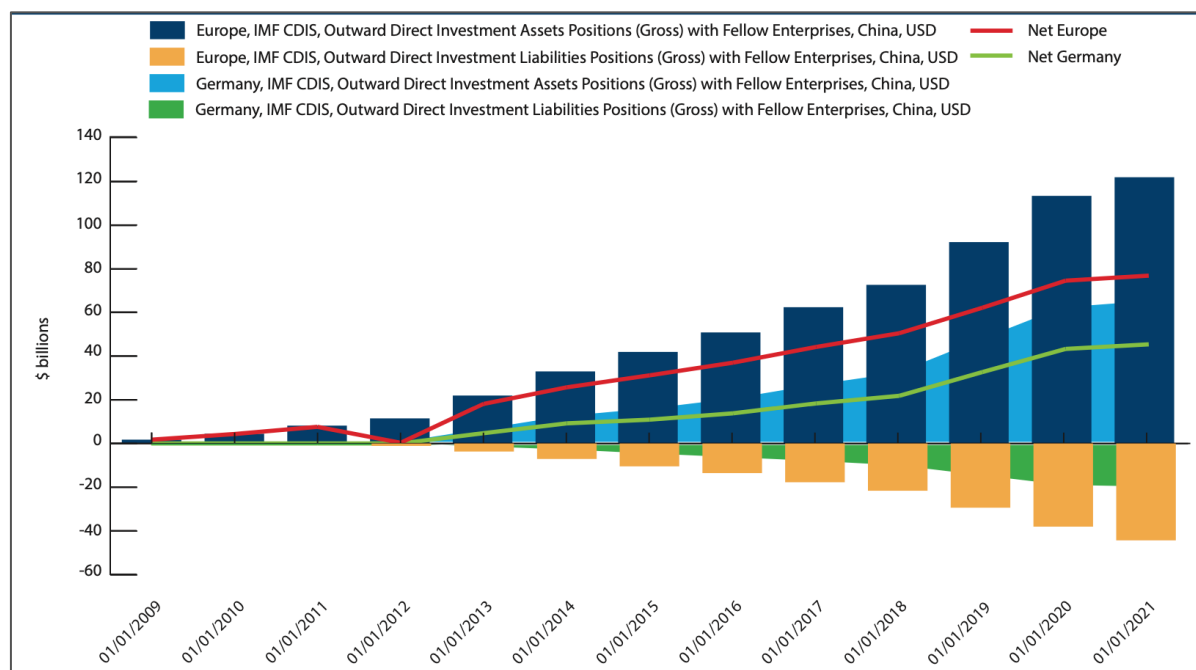
This section will explore how, as China’s economy has developed, it has started to replace high-value European manufactured products with domestic substitutes. Though German companies are subject to some industrial espionage, outright intellectual property theft is not the central issue. Rather, Germany’s divulgence of complex, high-end industrial processes to China is a phenomenon occurring mainly through bilateral investment. The disbursement of intellectual property and best-practice into the Chinese market without regard to strategic interests or a level playing-field is a significant risk.

Accordingly, we argue for a mix of increasing investment screening and bilateral investment treaty negotiation.

4.1.1. German FDI into China

Central to this risk is the fact that German companies recycle part of their exports earnings into China as greenfield foreign direct investment (FDI). The combination of imported German manufacturing equipment and the investment of German expertise and human capital through FDI helps China ascend the value-chain. As a result, China has increasingly entered competition with the German export sectors from which it draws most deeply. Critically, these processes did not happen through normal market dynamics. Berlin has exacerbated the competitive threat that it now faces with little regard for maintaining a level playing field with China. For years it let leading German companies plough foreign direct investment into China (FDI), enter joint ventures that were demanded by Beijing as the price of admission, and build factories to capture Chinese subsidies with local content requirements. This has fostered technology transfers that have raised the quality and competitive edge of Chinese cars and machines. This development has only recently slowed down, and Germany has been a laggard compared to other countries in cutting back on its FDI flows to China (see Chart 2).

Chart 2: Germany has been a lagging part of the recent trend of disinvestment from China



Source: Bundesbank and Macrobond, authors' calculations

4.1.2. Chinese FDI into Germany

Though Chinese net foreign investment into Germany itself is not material to national interests, the investment of euro proceeds by China into German's central and eastern European supply chains are. Chinese state-owned enterprises have taken dominant stakes in strategic ports across the Mediterranean (notably, Piraeus and Trieste), count among the principal investors in Serbian and Hungarian

heavy industry and manufacturing, and are key builders of infrastructure in the region, most notably railroads, motorways and bridges. The debate over a Chinese investment in the port of Hamburg has highlighted the lack of clear framework for approaching these risks. Indeed, after receiving advice from national security authorities against Chinese investment in the port of Hamburg, Chancellor Scholz decided to press ahead, and he may now be forced to backtrack given that the German economy ministry considers the Port of Hamburg a critical infrastructure (Brenner, 2023). Intellectual property-heavy investments are arguably even more risky than physical infrastructure because the latter remains in the receiving state and can be regulated if a Chinese owner misbehaves.

4.1.3. Policy solutions to losing intellectual property competitiveness

The EU is only as strong as its weakest link when it comes to its investment relationship with China. European economies are deeply integrated and the EU needs unanimity amongst the member-states in many areas of policy. So widely divergent approaches and investment exposures may undermine a coherent approach to China. A lack of EU unity is a clear source of concern when it comes to inward and outbound FDI. Ports are a case-in-point: Berlin may reject the Hamburg port transaction after European partners approved Chinese firms taking minority stakes in the port of Piraeus in Greece or Rotterdam in the Netherlands. The 17+1 initiative, a China-led format founded in 2012 in Budapest with an aim to expand economic cooperation and investments between Beijing and the countries in central and eastern Europe, is another source of possible EU disunity (Maurice, 2017). A comprehensive approach to de-risking therefore requires rethinking the policy toolkit and the interplay between different policy levers at the European level in investment screening policy and a bilateral investment treaty with China.

4.1.4. Outward and inward investment screening

An important development of the last few years has been to deepen investment screenings, mostly following US actions (UNCTAD, 2023). The EU has expanded its own investment screening framework. In 2017, the European Commission established a group of experts from member-states to discuss issues relating to investment screening and share best practices. It paved the way for a new Foreign Direct Investment (FDI) regulation designed to mitigate potential risks for security or public order. Since 2021, cooperation with the US on investment screening is also ongoing in Working Group 8 of the Trade and Technology Council (TTC) (European Commission, 2021).

But the EU FDI regulation encourages member-states and the Commission to cooperate on screening of foreign direct investments only on grounds of security and public order. National decisions still dominate with little consistency and coherence across Europe. The stepped-up cooperation has not prevented China from rolling out initiatives to build stakes in European strategic assets. For example, the rollout of the 17+1 initiative has slowed down but not unravelled entirely. Italy agreed

to join the Belt and Road Initiative (BRI) in 2019, although its membership was frozen by the government of Mario Draghi in 2021 and Meloni's government has withdrawn entirely. Meanwhile, Hungary is now buying two new nuclear reactors built by Russia's Rosatom, which is technically not under sanction (Reuters, 2023). So, Europe may end up refusing Chinese ownership of a German port while allowing Russia that of a nuclear power plant.

Inward investment screening has already been well covered by national legislation, which creates resistance to Europeanisation. Screening outward investment remains more of a tabula rasa. The US is significantly expanding its outward investment screening (The White House, 2023c). These new rules aim to hamper Chinese development of advanced technologies – including semiconductors, artificial intelligence, biotechnology, and quantum computing – tools which the administration believes have both commercial and military uses. But the EU has so far not actively engaged in such a policy. An EU setup could help Germany de-risk its outwards stock of FDI in China, without diverging from EU partners.

But without a European framework, national decisions will have to lead the way. Germany has already taken some steps. For example, in late 2022, the German government capped government insurance for investments abroad that are at risk of expropriation at €3 billion per company per country. Such measures will help to limit future damage from outward FDI. Moreover, Germany has deployed a great amount of public support in the last two years to achieve an accelerated energy transition. In doing so, it has mobilised new policy tools that could well be essential to achieve greater degree of independence in other areas than energy. The new EU state aid framework that is used for energy transition could potentially be expanded into a new de-risking exceptional state aid framework that would ensure that all countries share the same objectives and are encouraged to Europeanise their response. For example, recent Commission rulings against major Chinese procurement bids show that Germany enjoys the protection of EU competition laws against the accumulation of Chinese influence through foreign direct investment (FDI) (De Quant, 2019).

4.1.5. A bilateral investment treaty

Finally, the EU is faced with the question how to take a bilateral investment treaty with China forward. Before the Russian invasion of Ukraine, Germany pressed hard for the EU to undertake a bilateral investment treaty with China. On 30 December 2020, the EU and China concluded in principle the negotiations on the Comprehensive Agreement on Investment (CAI), which would have replaced existing member-states bilateral Treaties with China. In some areas, the agreement would have granted EU investors a greater level of access to China's market in exchange and provisions on sustainable investments and forced labour. Its main aim was to secure non-regression commitments for existing access, for example through a state-to-state dispute resolution for investment protection, and

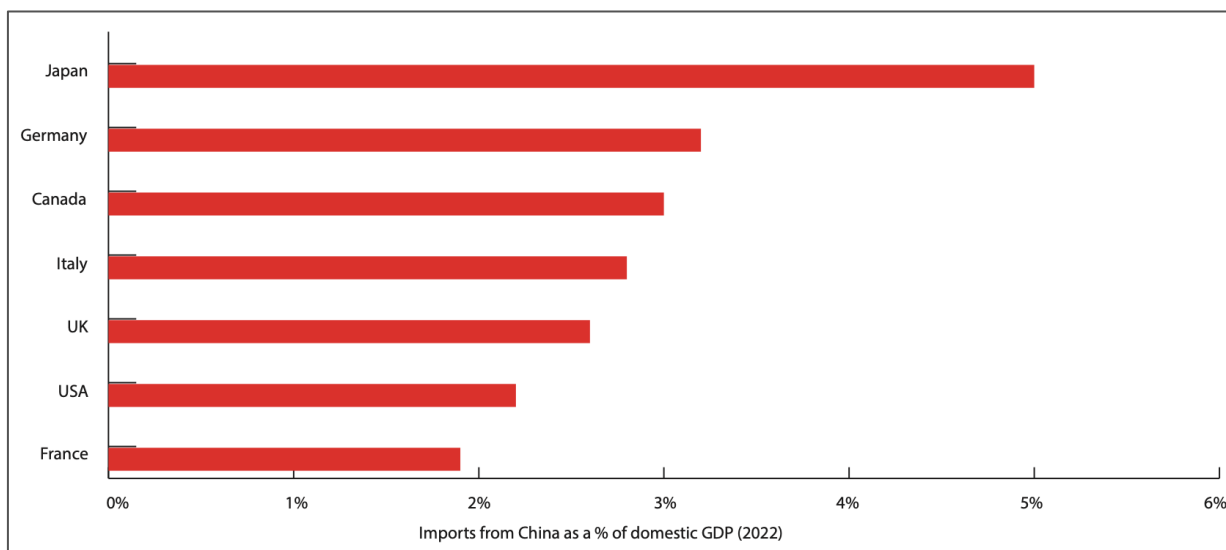
to work towards modernised protection standards akin to attempts by the United Nations Committee on International Trade Law (UNICTRAL) to establish a Multilateral Investment Court (Arato et al., 2023).

However, the CAI has not been finalised let alone ratified, a prospect that seems increasingly distant. Both the retention of existing investment structures and even more so an expansion of investments in China at this point appear to contradict a de-risking approach. But protecting EU investments in China could be achieved through a better dispute settlement mechanism than the current bilateral investment treaties of individual member-states. The EU may therefore still want to pursue a new and upgraded investment treaty with China, to protect its existing stakes in areas where it wants to continue to remain integrated.

4.2.Risk Two: Import dependence in critical goods and raw materials

Apart from investment risks, China is the EU's largest source of goods imports, and a conflict could result in China blocking exports of critical minerals used in countless industrial processes. This would pose significant challenges for European and German manufacturing. Germany has a slightly higher import dependence on China than most G7 countries except Japan, and its import dependence is substantially higher than the United States (see Chart 3) (Busch et al., 2023).

Chart 3: Germany's import dependence on China is marginally higher than most G7 peers



Source: The observatory of Economic complexity Index (ECI), IMF WEO, authors' computation

Direct threats arise from extreme one-sided dependency on specific sectors or products, a reliance on military or strategically vital goods, unavailability of substitutes, or an inability to build a domestic or European supply within a reasonable timeframe. China may have specific chokeholds in some strategic sectors that are relevant for the EU and Germany.⁴

There are several areas critical to German national interests that China dominates, and in which nominal de-risking would displace supply chains without changing dependencies on Chinese content. This is the case for microchips, critical raw materials, and inputs to Germany's energy transition. Policy solutions will need to address these dependencies, including indirect ones through EU partners.

4.2.1. Dependence on microchips

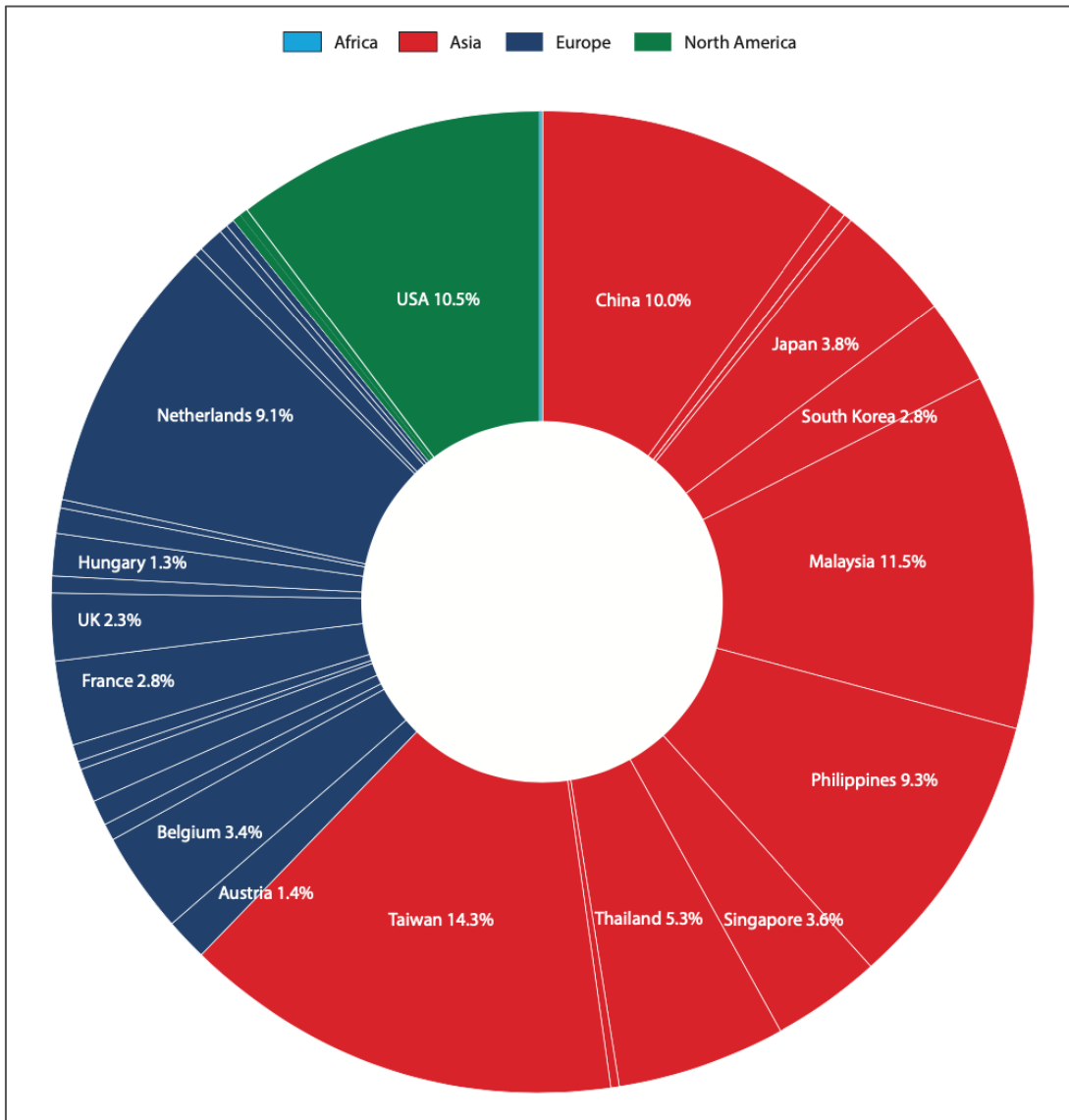
According to the Kiel Institute, China and Taiwan together dominate German imports of 221 products, often accounting for more than 80 per cent of the total share (Sandkamp et al., 2023). Computer chips, chemicals for industry, and certain low-carbon technologies stand out. For instance, China and Taiwan make up about 45 per cent of the EU's overall chip imports (see Chart 4).⁵ Although China now makes up about 35% of Germany's direct imports of lower-end semiconductor devices, the real number could be higher due to imports routed through other EU countries. If a dispute over Taiwan arises, disruption to these supply chains would throttle Europeans' access to digital technologies. EU

⁴ Not all trading close trading relationships can be considered "exposed". For instance, in the case of office and automatic data processing machines - the most substantial single import category from China - Germany exports even more to other countries than it imports from China, indicating a robust domestic production base. According to an analysis by the Kiel institute (Sandkamp et al., 2023), direct imports from China or other suppliers relying on Chinese imports constitute only about 1.5% of intermediate inputs to German production. Concerning end products consumed in Germany, 1.4% come directly from China, with this number rising to 2.7% when considering indirect links.

⁵ For more advanced chips such as integrated circuits, Taiwan is the key supplier. Taiwan produces more than 60 per cent of all semiconductors world-wide, including the most advanced computer chips found in everyday devices like smartphones.

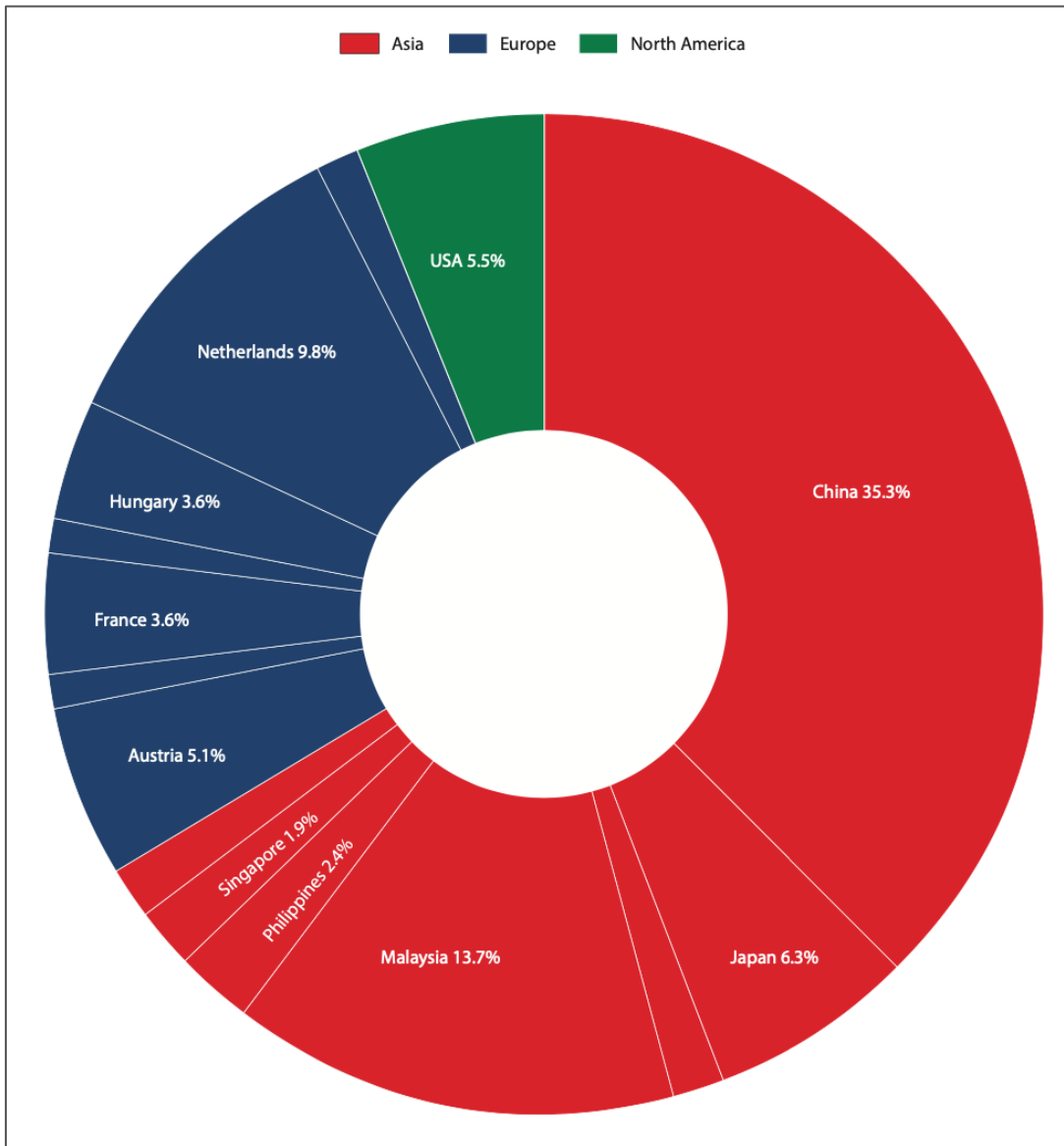
car manufacturers have already faced temporary shutdowns due to chip shortages caused by Covid-19. The shortage led to a cutback in over ten million vehicles being produced across the world (Straughan, 2023). The EU is expected to produce almost 700,000 vehicles less because of remaining chips shortages still in 2023 (Knauer, 2023). In the meantime, European manufacturers are becoming more, not less, reliant on advanced chips – which are necessary for more autonomous vehicles, for example – increasing Europe’s dependency on Taiwanese exports.

Chart 4: Import origins integrated circuits Germany (2021, total \$14.3 billion)



Source: The observatory of Economic Complexity Index (ECI), authors' own calculations

Chart 5: Exports of semiconductor devices to Germany 2021 (% of total, \$7.48 billion)



Source: The observatory of Economic complexity Index (ECI), authors' calculations.

As part of its Chips Act, the EU has recently reached a deal for billions in subsidies to the chip sector to double Europe's market share to 20 per cent, but little in new funds has been committed. Analysts are sceptical about whether the EU's ambitions are realistic, and its attempts to diversify its sources of raw materials for chip-making are unlikely to keep pace with its industrial needs (Meyers and Tordoir, 2023). Germany's court-induced budget crisis could also affect plans to hand out billions of euros in government subsidies to Intel and TSMC to build new factories in east Germany. The EU risks becoming more dependent on Chinese and Taiwanese materials than before, and its plans will have to compete with those of the US and Asian countries for scarce skills and resources.

European countries should instead coordinate efforts in return for guaranteed access to chips from allies like South-Korea, Japan, and the US rather than competing inside Europe or between Europe, the US and China in a head-to-head in a subsidy race with questionable results (Tordoir, 2023). It is

also important to note that despite intense and strict export restrictions by the US, including heavy pressure on European firms like ASML, China has been able to catch up technologically and reduce its technological gap in the semi-conductor space tremendously. This suggests that even in the areas where the US has deployed a very aggressive set of actions, their effectiveness has been very limited.

4.2.2. Dependence on critical raw materials

Other than chips, ten per cent of Germany's imports from China comprise prefabricated chemicals, suggesting heightened sectoral exposures. The Kiel Institute finds several such products amongst those with over one hundred million euro in trade and an import share over 50% from China and Taiwan. Specific examples include organic chemicals, painkillers, certain anaesthetics, and food supplements like Vitamin E and B6.

These dependencies have led most EU countries to rally behind an initiative to create a “Critical Medicines Act” to reduce Europe’s reliance on China, India, and other countries for key medicines as well as pharmaceutical ingredients and more basic chemical inputs. A Belgian position paper outlining this proposal from March 2023 was signed by eighteen other countries, including Germany and France (Politico, 2023). It stressed that 40 per cent of all pharmaceutical ingredients globally are sourced from China, while production is in the hands of just a few manufacturing sites.

4.2.3. Dependence on inputs into the energy transition

There are also specific areas of key renewable technologies where China is overwhelmingly dominant and Germany, like other countries, depends on it. Some specific chokeholds stand out across solar, wind and battery production. For example, with respect to solar, the International Energy Agency (IEA) estimates that China’s share in all the manufacturing stages of solar panels (such as polysilicon, ingots, wafers, cells, and modules) exceeds 80%, more than double its share of global PV demand (IEA, 2022). Moreover, China accounts for over 60% of global rare earth supply and 84% of processing capacity. Permanent magnets that are key for wind power and electric vehicle motors, in turn require rare earth materials. And while China only mines 13% of the world's lithium, it controls 44% global lithium chemical production and 78% of cathode production, making up more than 60% of the worldwide share of exports in lithium oxides used in car batteries (The Meghalayan, 2023).

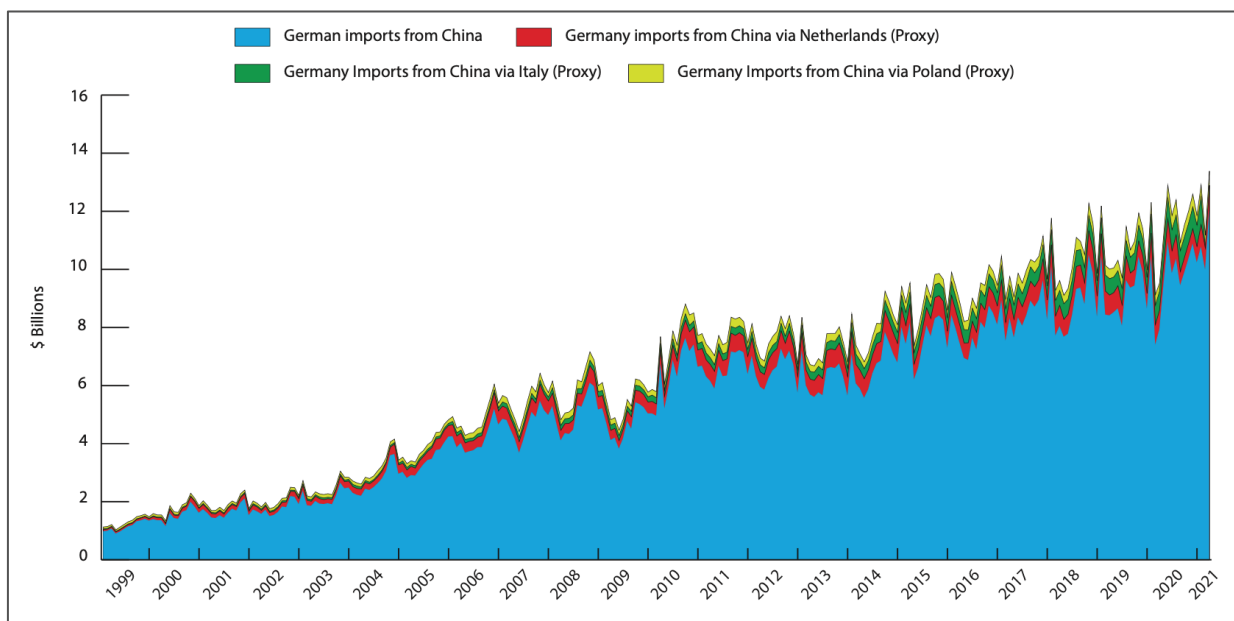
In these areas building up other suppliers would help Germany to de-risk, and it would align with the US approach. But efforts to mine or recycle critical minerals in Europe involve environmental, technological, and economic challenges that will take years to resolve. Europe’s trade strategy – which aims to develop free trade agreements with countries which can export competing raw materials – will not convince many European firms to switch suppliers unless those suppliers are cheaper than China.

In the meantime, the EU should not underestimate its own leverage to keep Chinese imports of key green inputs flowing. China holds a significant influence over several critical bottlenecks in green technologies, but the EU and Germany in particular, has a stronger competitive advantage in low-carbon technologies than commonly assumed. Across 220 low-carbon technology (LCT) products, defined by the IMF as technologies that emit fewer greenhouse gases, such as carbon dioxide (CO₂), throughout their lifecycle, Germany ranked second only to China in terms of global exports in LCTs in 2021 (Springford and Tordoir, 2023). In terms of exports as a percentage of GDP, Germany is by far the leading country among the G7. While Germany's import dependence on China for all LCTs is significant, it is a mutual dependence and China, including Hong Kong, runs a trade deficit with Germany in LCTs. Finally, breakthrough innovation by Northvolt to create sodium-ion batteries may cut Europe's dependence on China for batteries and battery raw materials (Lawson, 2023).

4.2.4. Import dependencies are larger than expected

Across specific chokeholds in chips, chemicals and lower carbon technologies, there are significant cascade risks via indirect exposure through other suppliers. As a rough proxy metric, up to 20% more exposure (around EUR 2bn in 2021) to China comes from Germany's top three other importers. Moreover, a 2019 report by IFO, a German research center, shows that imported intermediate inputs play a central role for the German export economy. For example, more than 95% of the total German trade in goods is accounted for by companies that both import and export, the highest in Europe (Flach et al., 2021). So far, the EU and Germany have only focused on direct imports from China – not the hidden dependencies that exist, for example when the EU has a variety of geographically diverse suppliers for a particular import, but all those suppliers ultimately rely on China for a key input. Only alignment with an EU strategy makes sense for Germany.

Chart 6: Germany is indirectly exposed to Chinese imports via EU partners



Source: The observatory of Economic Complexity Index (ECI), Bundesbank, authors' calculations.

4.2.5. Policy solutions for import dependence

Fixing these dependencies through hard decoupling, reshoring, or friend-shoring, will be expensive and seems impossible outside the EU context. The IFO report estimates such approaches would result in hits of between 4 and almost 10 per cent of German GDP. Such an approach is unlikely to be politically feasible, even if it were desirable. By contrast, a cost-minimizing, longer-term strategy on imports is possible, and more appropriate to the discrete risks faced. Such a strategy cannot revolve around single policy initiatives but involves building wholesale policy infrastructure, involving anti-subsidy forensics, legal objectives for raw material sourcing, targeted import controls, and industrial policy.

4.2.6. Anti-subsidy and anti-dumping investigations

The EU has long worried about the distortive use of foreign subsidies to trade. The World Trade Organisation (WTO) authorises actions against certain types of subsidies, but the EU took time before launching investigations and taking action. The reliance on the WTO dispute settlement mechanism as well as the difficulty in faulting China's subsidies have inhibited further action in Europe. In June 2020, after an extensive consultation process with stakeholders, the EU introduced a new anti-subsidy mechanism that aims at closing the gap. The idea is to address that subsidies granted by non-EU governments currently go unchecked, while subsidies granted by member-states are subject to scrutiny.

The Regulation proposes the introduction of three tools:

- A notification-based tool to investigate concentrations involving a financial contribution by a non-EU government;
- A notification-based tool to investigate bids in public procurements;
- A tool to investigate all other market situations and smaller concentrations and public procurement procedures, which the Commission can start on its own initiative (*ex-officio*) and may request *ad-hoc* notifications.

Where, based on its investigation, the Commission considers that subsidisation causing injury in the EU single market has occurred, anti-subsidy measures may be imposed on imports into the EU of the product concerned. These measures take the form of:

- an *ad valorem* duty — a percentage of the import value of the product concerned;
- specific duties — a fixed value for a certain amount of goods, e.g., €100 per tonne of a product; or
- a price undertaking — a commitment by an exporter to respect minimum import prices.

The EU has used anti-subsidy investigations more actively in the recent past and could use them far more proactively in sectors where the EU wants to actively restore a level playing field and rebuild its strategic autonomy. This could be the sharp edge of the EU's reshoring efforts. In 2023, the European Commission launched an investigation into subsidies for Chinese electric vehicles using this new tool.

4.2.7. Critical raw material act

The EU has recently embarked on the idea of establishing free trade-like agreements called 'critical raw material clubs' for certain commodities with a view of building and segmenting supply chains around a vertical integration. This effort was accelerated by the introduction in the US of the IRA, which introduces a strict provenance rule for eligibility to certain tax credits and subsidies. This is potentially a critical departure from historic economic practices. It forms the basis of local content rules that are a clear violation of WTO principles. The question is how binding these critical mineral material clubs will be and whether they will strictly focus on raw material or also on processing, which would profoundly restructure entire supply chains. The logic is consistent with one of the key import vulnerabilities of the EU and the German economy. But the EU is embarking quite aggressively in this direction with poor economic impact assessment of the full ramifications of the policy.

4.2.8. Import Controls

Restricting imports of technology or services that create dependencies and vulnerabilities is as important as export controls. But a unified European policy remains far off here too. The two most

recent cases related to Tik Tok, a social media platform, and 5G technology show that the European policy infrastructure requires upgrades. Europe does not have a unified position, nor common rules to decide of Huawei's presence in its telecommunication networks. Overall, the company has signed twenty-three commercial contracts in Europe, including smart city projects in Duisburg, Monaco, and Valletta in Malta. A Danish consulting company reviewing all European networks suggested that in 2020, 57% of Germany's 4G network came from Chinese vendors (Strand Consult, 2022). In 2022, 59% of the 5G network in Germany comes from Chinese vendors. Huawei would enjoy a higher market share in Berlin than in Beijing where it shares the market with ZTE and other vendors. As it stands, only Sweden and the UK have imposed an outright ban on Huawei for core 5G networks, and in the UK Huawei can only form up to 35 per cent of local access networks. The German interior ministry has only recently proposed to force telecom operators to cut back on their Huawei dependence.

Since 2019, the European Commission has recommended higher security standards that would potentially lead up to European certification for all network equipment, which was only recently formally legislated (European Parliament, 2019). Meanwhile, the EU's approach towards Tik-Tok has been highly inconsistent with an agreement with TikTok in June 2022 (European Commission, 2022) to meet European consumer protection and data standards in Europe and a ban for Commission staff and officials in March 2023 (Liboreiro & Huet, 2023).

4.2.9. Industrial policy

Industrial policy might become the central policy tool to strengthen European supply chains and achieve the right level of de-risking towards China and other suppliers. Putting its faith in the WTO solely does not seem to be a viable option for the EU, as the two superpowers are abandoning it. The European approach so far focuses on four critical areas:

- *Loosening national state aid rules*, to upgrade the industrial and manufacturing capacity for the green transition. These efforts are however largely decentralised and highly dependent on individual member-states industrial capacity and fiscal space available to support these developments. This may not only prove insufficient but could also undermine European unity.
- *The Net Zero Industrial Act* has set quite ambitious targets for reshoring several green industries to Europe. These objectives, however, set standards which attempt to benefit European producers in practice, without expressly discriminating against foreign suppliers in a manner contrary to WTO law. The idea here is to use non-price measures to favour European producers (soft local content rules) by mandating in public procurement that sustainability, innovation, system integration, and resilience contributions must weigh between 15-30 per cent of the award criteria. This should give European firms a competitive edge. However, unless non-

price criteria are weighted far above 50 per cent, cheaper Chinese bids may still override more sustainable and resilient, but pricier, European bids.

- *The Chips Act* has set the basis for European support for the semiconductor industry with some level of public support coming from the EU budget and encouragement to establish cross-border initiatives such as IPCEI, which would in theory leverage European and national resources. The bold objective of reaching a 20 per cent market share in semiconductors by 2030 seems unrealistic given international competition by the US and countries in Asia in this field for scarce resources and engineers.
- *Industrial Projects of Common European Interest* were introduced to allow member-states to support projects that were deemed strategic, provided they were truly European or at least cross-border with generous subsidies. This possibility for deploying industrial policy more fully has been underused so far and has been weakened by the decision to loosen state aid rules independent of the existence of cross-border projects.

These examples illustrate the degree to which the old structural and cohesion policy could be used more strategically to finance Europe's efforts to strengthen its industrial base and autonomy. This has been done through initiatives such as the European defence fund or more recently the ammunition supply agreement to Ukraine. But the future EU budget should highlight the need to reposition EU funds more radically to achieve the strategic objectives announced as part of a broader de-risking strategy.

Such an approach is needed for Germany's car industry, which is threatened by the ongoing shock of Chinese cars competing in Europe and in export markets, while EU electric vehicle exports to China are flat. Where competitor markets are walled off or there are concerns about subsidised goods hampering EU economies of scale, the EU should consider subsidising consumption of green technologies with a 'level playing field' content requirement.

A more integrated EU industrial policy could deliver better outcomes for European carmakers than higher tariffs would. And it could do so without deliberately breaching international trade law – a red line for Brussels if not for Beijing and Washington. Take France's recently announced changes to its EV subsidy scheme, for example, which in effect protect European carmakers without overtly breaching international trade rules. Consumer subsidies are only available to 'green' vehicles, and whether a vehicle is 'green' will consider factors like the emissions involved in transporting it from its place of manufacture, and whether the production facilities were powered by coal or the EU's greener sources of electricity. Under this approach, EVs made in China will struggle to qualify and those made in Europe will qualify for subsidies much more easily. If the EU as a whole applied a similar type of subsidy policy, it might have an equivalent effect to Washington's and Beijing's local

content requirements (Meyers et al., 2023). In practice, China and the US could barely complain about European subsidies disproportionately benefiting European manufacturing, when their own subsidy programs do the same in a more overtly discriminatory way.

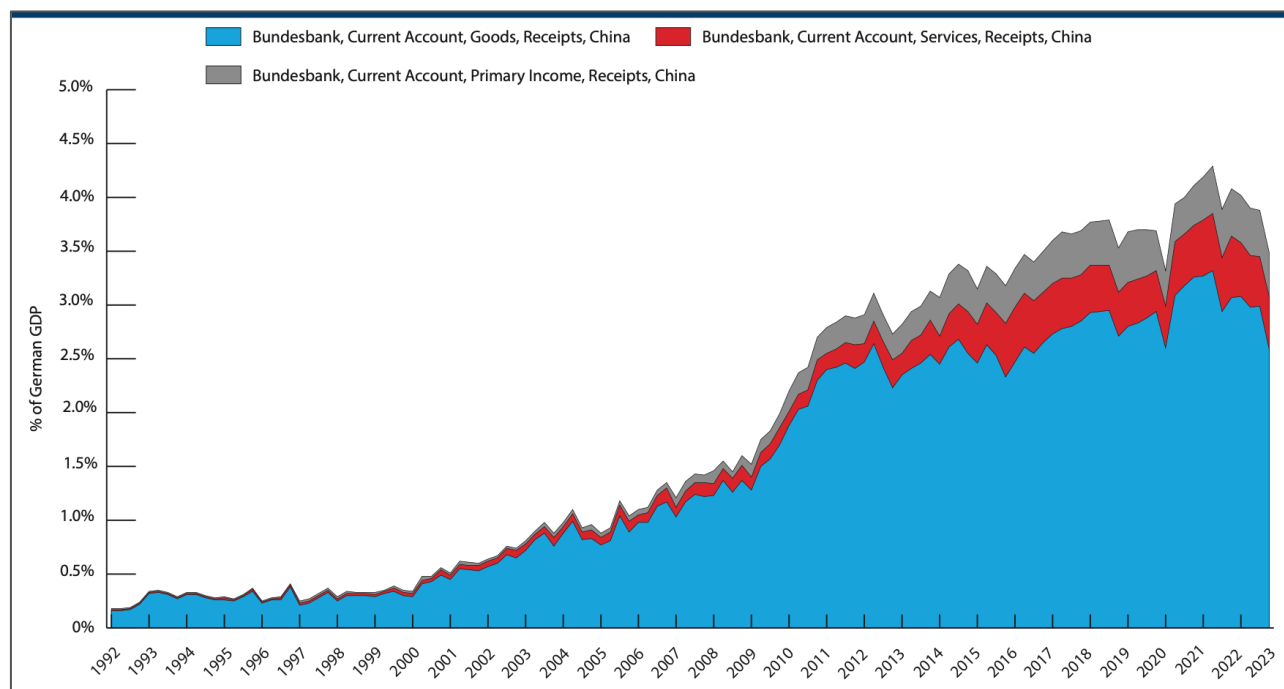
4.3. Risk Three: German regional and sectoral export concentration to China creates political economy headaches

Unlike the impact of the “China shock” on US trade, German export growth to China did not pick up materially in the 1990s, but experienced a step-change upon WTO accession, coinciding with the launch of the euro. Chinese demand for German finished products is a manageable share of total exports and growth (see chart 7). But it is concentrated in employment-intensive and politically sensitive sectors like pharmaceuticals and automobiles. This section reviews that exposure, in terms of its historical evolution, its sectoral breakdown, and its importance in Germany’s political economy. It then proposes coordinated policies to address it.

4.3.1. Exposure to Chinese demand

The growth of German exports to China has historically been sensitive to Chinese government spending. The exporting relationship has had three periods of rapid acceleration since China's WTO accession, each coinciding with robust fiscal intervention by the Chinese Communist Party (CCP). The first period was from 2001 to 2003, following the bursting of the ‘Dot Com’ bubble in 2001. The second period was from 2008 to 2012, tracking China's forceful post-financial crisis stimulus package and the launch of its "Belt and Road Initiative". During this time, exports to China surged from 1 to 3 per cent of German GDP in just three years. Growth resumed at record paces after a late-cycle slowdown in 2019, rising another 1.5 per cent of German GDP as the CCP supported its economy through successful pandemic management. However, it fell after 2021 as China locked down into its zero-Covid policy while the rest of the world re-opened from the pandemic in fits and starts. From a macro perspective, the dependence of German export growth on CCP fiscal policy, which German policy cannot control, can be considered a systemic political risk. This dependence subjects the German economy to large, idiosyncratic volatility. The fact that Beijing chooses to fix its ailing economy in 2023 by doubling down on exports rather than boosting domestic consumption, bodes ill for Germany in this respect (Setser, 2023).

Chart 7: China has become Germany's largest export partner



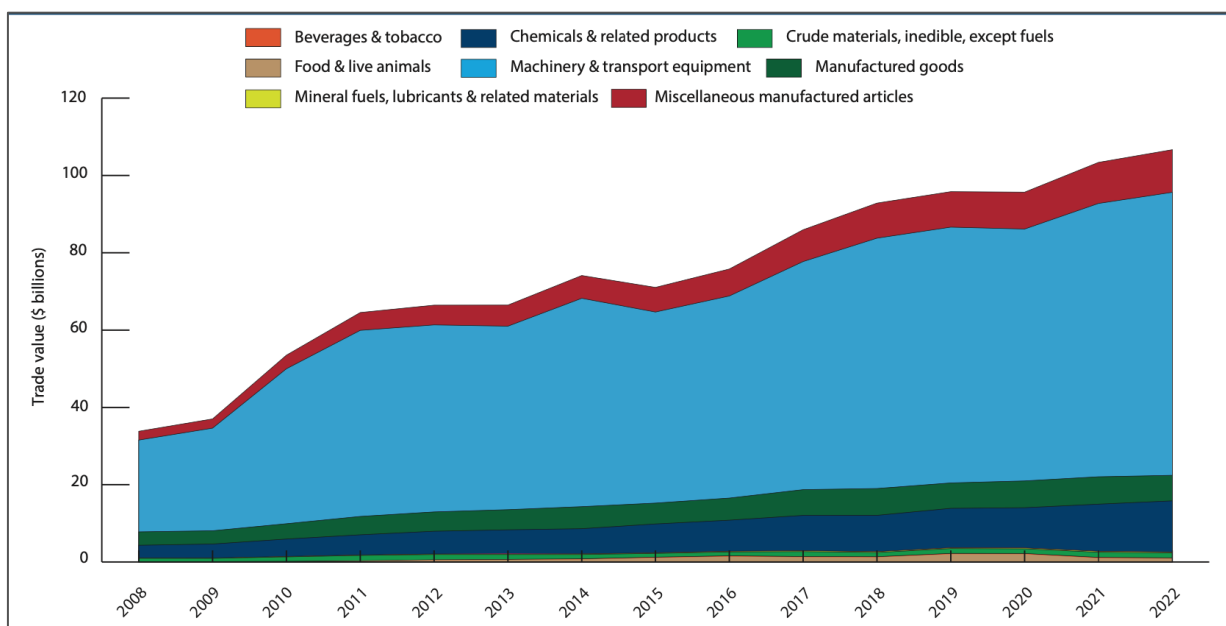
Source: Bundesbank, authors' calculations

4.3.2. Sectoral and regional concentration

These macro and geopolitical risks appear more severe when observed at the sectoral level, for two reasons: first, because of the high degree of concentration of Chinese demand in the manufacturing sector; and second because of the political and economic importance of that sector to the wider economy.

Germany's exports to China are overwhelmingly concentrated in manufacturing and transport goods. Although this sector makes up around 40 per cent of overall German exports and only around 25 per cent of total German GDP, it has accounted for about 75 per cent of exports to China for more than a decade. This puts the contribution of Chinese demand to the overall value of German manufacturing close to 10 per cent. The automobile industry comprises 25-30 per cent of that 75 per cent, with high end machinery and pharmaceuticals comprising most of the rest. Exports to China comprise between 5-10 per cent of total demand for the German automobile industry and an even higher percentage of its annual growth.

Chart 8: Industrial goods, in particular in the automotive and machinery sector, dominate Germany's exports to China



Source: Bundesbank, authors' calculations

Though these figures are indicative of a high exposure to Chinese demand, they also testify to the broader diversification of German exports. It is only when analysed at the regional level that the high sensitivity of this trading relationship comes into focus. Almost 60 per cent of receipts from exports to China flow into only three regions, for which the share of manufacturing and transport exports reaches over 90 per cent: Baden-Wurttemberg, Bavaria, and North-Rhine Westphalia. A heavy hit in certain states may lead to hysteresis effects if there is a lack of opportunities for capital and labour to be re-employed locally. An outsized shock to local public finances could erode the ability of public investment to prime growth in alternative areas.

4.3.3. Policy solutions to Germany's China-related political economy risks

To address these risks, Germany needs to embark on a series of long-term coordinated demand-side policies, including a large-scale investment program in domestic conditions like education, infrastructure, and digitalization, both to reduce its dependence on exports to China and to boost domestic growth (Tordoir & Vallée, 2023). Germany also needs to diversify its export markets.

4.3.4. The EU export control framework

Export controls have become an important instrument for the US to limit the spread and access to critical technologies to China. Indeed, the announcements made in the US by the Department of Commerce's Bureau of Industry and Security aimed at restricting China's ability to obtain, design,

and manufacture certain high-end semiconductor devices used in artificial intelligence (AI), super-computing, and related defence applications indicate that export controls are a central element of the US de-risking policy toolkit (US Department of Commerce, 2022).

While trade policy is an exclusive European competence, export controls can be fully national. Indeed, the EU's so-called 'Dual Use' regulation is generous and its Article 4 allows EU member countries to pursue controls on items member-states deem critical to preventing the proliferation of weapons of mass destruction. In addition, Article 9 enables member-states to impose controls "for reasons of public security, including the prevention of acts of terrorism, or for human rights considerations." Notifications are required under Article 9 but not under Article 4. In principle, the European Union's export controls are tied to the Wassenaar Arrangement, a 42-member multilateral export control regime from the early 1990s that governs international transfers of weapons and dual-use items (Shivakumar et al., 2023). The United States' own Commerce Control List (CCL) broadly aligns with the Wassenaar list (US Department of Commerce, 2023). However, the Department of Commerce retains the right to unilaterally impose controls on items not covered under the Wassenaar list.

The EU could improve the current frameworks by upgrading the export control framework and pledging to strengthen the European dual use regulation and the export control list outside of the Wassenaar agreement. That would help to reduce the risks that the US would exploit the gaps in the European framework by leaning on individual member-states. Defining a coherent list within the EU would be an important way to reach a multilateral agreement within Wassenaar and could restore some leverage vis-a-vis US unilateral actions.

4.3.5. Local support for the export transition

Federal states ('Länder') in Germany have more levers to underwrite critical economic policy choices that are usually assumed. Two important examples come to mind. First, regional innovation clusters can play an important role in fostering collaboration and innovation among companies in specific industries. Second, *Transformation funds* have been used recently to finance the acceleration of energy transition in landers that are particularly in need. Saarland approved the creation of a €3bn transformation fund to accelerate the green transition (industry, job retention, job creation and energy). It is focused on the automotive industry to reduce its CO2 footprint and prepare its transition towards electric vehicles. It is a clear example of industrial policy undertaken at the state level that could be replicated in other strategic sectors and states. These types of funds, however, are now wobbling and may be illegal, after the German constitutional court ruled that the debt authorisation of the federal climate and transformation fund was unconstitutional under the debt brake.

4.3.6. Strengthening international institutions and alternative markets

International institutions like the IMF and fora like the G7 are one area for Germany to pursue policies that will support a sensible de-risking strategy. Enabling the IMF and multilateral development banks to better support emerging markets and developing economies as they confront an era of fiscal and financial stress can help the EU and Germany win goodwill that will help it to diversify its economy through access to these markets. As a reliable donor, with a history of vocal support for multilateralism, Germany's voice carries a lot of weight on the international stage.

Fragmentation at the international level has become a source of concern for international organisations. The IMF suggests that FDI fragmentation—modelled as a permanent rise in cross-bloc barriers to importing investment inputs— could reduce global output by about 2% in the long term (IMF, 2023a).⁶ The ongoing discussions on the treatment of debt by multilateral and Chinese lenders to developing nations is just the latest iteration in a greater competition and frictions between multilateral development banks and competing lenders like China. According to the Kiel Institute, Chinese state-owned banks and enterprises have given out significant loans for balance of payments support in the last few years, amounting to nearly 20% of total IMF lending over the past decade (Horn et al., 2023).

The amounts low-income countries need for bailouts are growing fast but at the same time, the bailouts are not taking place or disbursed too late, as the necessary debt restructurings are delayed by tensions between the MDBs, the West and China. At the same time, the future of the Belt and Road Initiative (BRI) is less clear. China's main international lender realised sharp losses on its loans and while BRI will continue to be rolled out, it will be more targeted, and China will withdraw some funding for vulnerable unaligned countries. With alternative funding sources like bond markets in turbulence, the international community, the EU and the US have an opportunity to help cash-starved countries.

This raises important questions about the mandate and risk tolerance of the European Investment Bank as the IMF and World Bank and other multilateral institutions whose lending policy is likely to become an increasingly contested space. In the absence of reforms of these institutions, a bifurcated international lending apparatus for the developing world would undoubtedly force the EU to strengthen its own instruments. Is the EU prepared to use its lenders to help low-income countries on the brink of defaults and reinforce its international markets?

⁶ See Chapter 4 of the World Economic Outlook, 'Gеоeconomic Fragmentation and Foreign Direct Investment' (IMF, 2023a).

5. CONCLUSION

To conclude, we have argued that Germany is more economically exposed to China than any G7 and European partners. Germany's foreign direct investment into China has bolstered Chinese ascendance up the value-chain, into an unlevel playing-field competition with German firms. Moreover, a cluster of strategic imports from China and Taiwan, such as semiconductors or rare earth materials which are key inputs for industry, represent chokeholds for the European and German economy. Finally, German exports to China are subject to China's inward-focused macro policy, and are drawn disproportionately from employment-intensive and politically high-profile sectors.

To achieve de-risking, Germany needs to define what it entails in the EU's context. Replacing China as a trade partner is impossible in many sectors, will take a very long time, and is pointless if it is to be replaced by EU countries that are importing and re-exporting embedded Chinese content. In addition, a coherent approach should not only focus on China but treat dependencies across the board as a source of vulnerability.

De-risking will not be risk-free. It will encourage China to accelerate the indigenisation of technology, something it seems to be doing rather successfully in EV, semiconductors, and defence. But China's business model relies heavily on Europe's large and wealthy consumer market, and Beijing also wants to fragment the West. That means Beijing will be reluctant to retaliate against Europe so long as the EU remains even mildly more open to China than the US.

The policy levers available require upgrading and centralising at the EU level. Export controls or investment screening are currently national initiatives with limited European cooperation. Industrial policy levers in Europe can be improved to reinforce intra-European supply chains rather than favour renationalisation, which would undermine the EU single market. More fundamentally, Europeans cannot avoid a real debate about the precise objectives and contours of a de-risking policy, so that they can better mobilise the right tools.

Most important, to resist forced concessions either to China or to the US, and to defend a multipolar world order, Europe needs to remain united and coherent. As Europe's largest and most China-exposed economy, Germany should take the leading role. And since other trade partnerships are by no means risk-free, policies applied to China should be scalable. The toolkit we propose to identify and moderate the accumulation of sensitive exposures over time would be a first step in that direction.

In a geopolitically fragmenting 21st century, geopolitical shocks to trade will only increase in frequency. Successful mitigation of China-related geopolitical risks can and should build a template for setting other trade relationships on a sounder geopolitical footing: whether they be new energy ties to the Gulf states, or tensions over trade tariffs or subsidies with a second Trump administration.

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