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China, Europe, and the Pandemic Recession: Beijing's Investments and Transatlantic Security

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COLLABORATIVE STUDY

CHINA, EUROPE, — AND THE — PANDEMIC RECESSION

Beijing's Investments and
Transatlantic Security

Study Lead

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Lauren Speranza

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STRATEGIC STUDIES INSTITUTE

**CHINA, EUROPE, AND THE PANDEMIC
RECESSION: BEIJING'S INVESTMENTS AND
TRANSATLANTIC SECURITY**

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FOREWORD

To the relief of many residents in the United States, China's investment activities in Europe have been attracting increased scrutiny. Europeans seem keen to avoid making the mistakes of a decade ago, when China took advantage of Europe's economic weakness in the wake of the eurozone sovereign debt crisis and the Great Recession. Through state-owned enterprises, state-affiliated entities, and nominally private investors and companies, China provided the funds necessary for capital-hungry European firms and governments to last through the worst of the dual-economic crises of the late 2000s and early 2010s.

Given the unfolding recession induced by the coronavirus disease 2019 pandemic, legitimate concerns exist that China might repeat this part of its playbook. These concerns apply especially to Chinese investment in Europe that strengthens Beijing's control of militarily relevant infrastructure; its access to dual-use, defense-related technology; and its political influence across the continent. Although European awareness of the risks posed by Chinese investment has increased substantially over the last few years, gaps in the defenses remain.

This study—written in support of United States European Command and the United States Department of Homeland Security—identifies the latest Chinese investment practices and trends, the most critical sectors and countries at risk, and the gaps in European defenses. Additionally, and beyond merely admiring the problem, the interdisciplinary research and writing team assembled and led by Dr. John R. Deni presents an array of policy recommendations for decisionmakers on both sides of the Atlantic. The

Strategic Studies Institute is proud to publish this important contribution to the understanding of the unfolding strategic competition playing out between China and the United States.

Carol V. Evans

DR. CAROL V. EVANS

Director

Strategic Studies Institute and

US Army War College Press

EXECUTIVE SUMMARY

The coronavirus disease 2019 pandemic has unleashed an immense shock to the global economy. In Europe, gross domestic product has fallen, and unemployment has risen. China might take advantage of the crisis—just as it did in the wake of the global financial crisis a decade ago. As part of its broader national security strategy, China might again use its sovereign wealth fund, government-affiliated companies, and nominally private Chinese firms to provide necessary liquidity in Europe. In doing so, Beijing could take advantage of Europe’s economic difficulties to obtain sensitive technologies, build soft power, and acquire militarily significant infrastructure.

Admittedly, the situation in 2021 is not a mirror image of the early to mid-2010s. Pressure on Chinese foreign reserves and concerns about excessive risk taking overseas caused authorities in Beijing to impose limitations on currency outflows, leading to a downturn in overall Chinese outbound foreign direct investment over the last several years. And some data from 2020 indicate concerns over another round of distressed European asset purchases by China in the wake of the pandemic-induced recession might be unfounded.

At the same time, European attitudes toward China have changed significantly in recent years, thanks in part to China’s repression of Uyghur Muslims, its snuffing out of democracy in Hong Kong, its poor handling of coronavirus disease 2019, and its aggressive diplomacy in Europe. Having viewed the EU-China relationship as a “maturing partnership” in 2003, the EU today sees China as a “systemic rival.”

In the policy realm, the European Commission issued additional guidelines on safeguarding strategic European assets and technologies, and several European states have strengthened their investment screening laws. To address liquidity needs, the EU developed a €750 million pandemic recovery proposal in mid-2020 that holds the prospect of providing grants and loans to European governments and companies in distress. So, given the decline in Chinese outbound foreign direct investment in Europe since 2016 and Europe's slow but steady awakening to the threats posed by Chinese investment, perhaps the West has little cause for concern today.

A yearlong examination of this subject by an interdisciplinary team of experts from the US Army War College, private think tanks, and academia has revealed, despite the clear differences with the situation a decade ago, several reasons for serious concern about predatory Chinese economic statecraft in Europe today. First, Beijing's strategy remains exploiting economic ties with Europe for China's national security objectives. Through investment in Europe as well as an array of complementary policies—public diplomacy, cyber operations, trade, cultural exchanges, and media operations—China aims to expand the economic benefits it derives from Europe, acquire European technology for both economic and military purposes, and increase China's influence in Europe.

Additionally, the increased European skepticism toward China has not necessarily been uniform across the continent. Some Europeans appear less concerned with Beijing's influence and have been more open to Chinese investment, allowing China to leverage the EU's open market.

Thirdly, the regulatory, legal, and policy responses to Chinese investment across the continent vary widely in terms of the kinds of investments screened, the sectors deemed worthy of protecting, and the design of the screening procedures. Several EU countries lack foreign direct investment screening mechanisms altogether, and efforts to strengthen existing tools remain somewhat flawed, leaving Europe vulnerable to Chinese economic statecraft (economic statecraft is the use of economic policy to achieve national security goals).

Finally, the most recent data indicate Chinese investment in Europe is rebounding from the downturn of 2020 and becoming increasingly sophisticated. In short, the complete story of China's role in exploiting the pandemic-induced crisis is far from over.

Given these risks, the United States and Europe should aggressively parry Chinese efforts to acquire control over or access to militarily relevant infrastructure and sensitive, dual-use technologies in Europe as well as Beijing's efforts to strengthen its influence in capitals across the continent. The risks to European and, hence, US security are most acute in the European countries that are leaders in dual-use technology, home to infrastructure relevant to US and allied military operations and training, or likely to play leading or otherwise important roles vis-à-vis national security in partnership with Washington. These countries include Belgium, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, and the United Kingdom.

To achieve these goals and safeguard American and allied security vis-à-vis predatory Chinese investment, US and European policymakers can take

the following steps, which are explained in greater detail in the final chapter of the study.

- Tighten investment screening requirements.
- Make investment screening retroactive.
- Apply a national security lens to advanced technology.
- Ensure contingency access to infrastructure.
- Offer liquidity alternatives.
- Complicate NATO exercises with infrastructure-related hurdles.
- Provide alternatives and promote more domestic innovation.
- Screen some investments, regardless of national origin.
- Leverage NATO.
- Magnify China's shortcomings through public diplomacy.
- Mandate transparency.
- Increase staffing at US embassies in Europe.
- Enhance shared transatlantic understanding.
- Routinize EU-US coordination and cooperation.

Although not necessarily foolproof, implementing these policies could help ensure Europe is better able to defend itself from predatory Chinese investment activity as the pandemic recession unfolds.

ACKNOWLEDGMENTS

This study is the result of a yearlong research and analysis effort led by the US Army War College Strategic Studies Institute and sponsored by both United States European Command and the Department of Homeland Security Economic Security Mission Center. The project lead is grateful to United States European Command and the Economic Security Mission Center for their interest in this topic, their assistance in shaping and guiding the study, their willingness to facilitate research necessary for the study, and their review of earlier drafts of the study. Sponsorship of Strategic Studies Institute studies by US government entities entails no budgetary costs, either direct or implied, beyond staff time in the aforementioned activities.

The authors are grateful to the dozens of unnamed Foreign Service officers, military officers, civilian government officials, think-tank experts, academics, and other personnel on both sides of the Atlantic and in East Asia. These individuals gave generously of their time to inform and educate the study authors. Their insights, expertise, and anecdotes were invaluable in the research for this study.

The study lead would also like to thank several US Army War College interns who contributed to the research necessary for this study. Carter Gallahue, Violette Hosey, Maya Peck, Jake Shatzer, and Hadley Starr were amazingly persistent and creative in their research efforts. Their support was critical in enabling the successful completion of the study.

Finally, the study authors would like to thank several project mentors and consultants, including Theresa Fallon, Gale Mattox, and Jeff Van Sickle. They

participated regularly in research team meetings, provided useful input on the nature and scope of the study, and reviewed earlier drafts of the study. Their behind-the-scenes contributions have greatly strengthened the study and enriched its findings.

1. INTRODUCTION

John R. Deni

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With most of Europe suffering the effects of a pandemic-induced recession, will China repeat the role it played in the wake of the 2009-12 European sovereign debt crisis, essentially acting as a lender of last resort for countries and firms in need of liquidity? A decade ago, in the wake of the global financial crisis, Chinese investment in Europe exploded. In 2008, Chinese outbound foreign direct investment in Europe totaled just €700 million in completed transactions. By 2016, this amount had grown to €37.3 billion in completed transactions. At the time, Chinese investments brought much-needed capital to the cash-strapped continent.

Chinese investors have been drawn to Europe for several reasons, including the undervaluation of European assets, the appeal of technologically advanced industry, and a friendlier investment climate relative to the United States. During the 2010s, Chinese investments were mostly concentrated in the most advanced economies of Europe, with the United Kingdom (30 percent), France (18 percent), Germany (13 percent), and Italy (11 percent) leading the way.

Most of these investments were made by Chinese state-owned enterprises or China's sovereign wealth fund, which are directly tied to the central government and, hence, to the Chinese Communist Party. Ostensibly private Chinese firms have increasingly invested in Europe as well, displacing the role of state-owned enterprises over the last several years. China's 2017 national intelligence law,

however, further blurred the line between private entities and the Chinese state and provided a fig leaf of legality for government interference in the activities of private companies. The law states, “All organizations and citizens shall support, assist, and cooperate with national intelligence efforts in accordance with law.”¹ Most China experts in the West believe Chinese companies, organizations, and individuals do not have a choice in this matter.

From a traditional national security perspective, much of this investment was relatively harmless. But some investments led to Chinese ownership and operation of infrastructure relevant to military operations and exercises in or through Europe. Additionally, some of these investments provided Beijing with access to technologies and research vital to current and future European defense capabilities. More broadly, Chinese investment also strengthened Beijing’s hand in several capitals across Europe, augmenting China’s soft power and influence.

The purpose of this study is to assess whether and how China is repeating the role it played in the aftermath of the sovereign debt crisis and the Great Recession, to identify related national security risks for the United States and key allies, and to offer recommendations on how to reduce these risks. The framework of analysis, as just foreshadowed, comprises three risk categories, including:

- infrastructure necessary for military operations, exercises, and contingency and crisis response in and through Europe;

1. China Law Translate, “National Intelligence Law of the P.R.C. (2017),” China Law Translate, June 27, 2017, <https://www.chinalawtranslate.com/en/national-intelligence-law-of-the-p-r-c-2017/>.

- advanced, dual-use technologies and related raw materials and other components necessary for defense capability development; and
- political influence in European capitals over matters related to national security.

In terms of military operations and exercises in and through Europe, moving forces from North America and forward-stationed locations in Belgium, Germany, Italy, Spain, and the United Kingdom to potential crisis zones in northeastern Europe, the Black Sea littoral, the Middle East, and much of Africa is vital for the protection of US interests. In the event of a crisis in Europe, Canada and the United Kingdom would likely send additional forces to the continent. As a result, Chinese investment in European infrastructure is most concerning in likely transit countries, in countries that host US forces or pre-positioned US military equipment, and in countries that are critical to supplying the energy necessary for operations in Europe—especially Germany, Italy, and the Benelux countries. Chinese ownership or operation of infrastructure in these countries could give Beijing leverage, impact freedom of military movement, and jeopardize operational security.

For defense capability development and manufacturing, Chinese investments in the most technologically advanced economies in Europe are especially worrisome from Washington's perspective, given Beijing's track record of stealing technology and intellectual property. Chinese investments could put defense capability research, development, and manufacturing at risk, particularly for several priority, dual-use technologies.

Finally, Washington is keen to ensure Chinese investments do not build decisive influence through economic statecraft in Europe. Increased Chinese influence in European capitals could undermine—and, arguably, already has undermined—Western solidarity on national security-related issues.

By assessing Chinese investment activity in these three categories—militarily relevant infrastructure, dual-use technology, and diplomatic leverage—this study identifies the greatest risks to US and allied interests. First, though, the study will outline the contours of the pandemic-induced economic recession now gripping Europe. Its breadth, depth, and anticipated outcomes are all assessed in chapter 2, with a particular eye toward comparisons to the sovereign debt crisis and the Great Recession of a decade or more ago.

This scene setting is then followed in chapter 3 with an examination of China’s strategy toward Europe and its policies there. Understanding what China is after in Europe is the first step for both European and US policymakers to begin thinking about how best to parry Beijing’s efforts. This chapter also includes an assessment of whether and how Chinese activity in Europe has been on the rise since the onset of the pandemic—especially, investment activity, broadly defined.

After examining how China’s approach to Europe may be evolving, in chapter 4, the study analyzes how Europe has evolved. Perceptions toward Beijing have shifted dramatically in recent years, and this chapter describes and explains the changes. Chapter 5 extends this analysis of perception by looking at changes in European policies. Investment screening, liquidity alternatives (“liquidity” is the

cash available to firms), and other steps taken by Europeans in recent years mean the continent is not quite as open to China as it once was. Nonetheless, Europe's defenses have gaps, and this chapter seeks to identify them.

Chapters 6 and 7 dive into the details of the risks Chinese investment poses to relevant military infrastructure in Europe and dual-use technology and related raw materials. Throughout the research for this study, the third category of risk—the political and diplomatic influence Beijing achieves through Chinese investment in Europe—emerged as a recurring theme. This third category of risk, therefore, is addressed in both chapters 6 and 7 and elsewhere in the study (especially in chapters 3 and 4).

Given the ubiquity of Chinese investment across Europe, some parameters were necessary for the scope of the countries addressed in this study. Europe comprises 40 countries (28 of which are in NATO and 27 of which are in the EU). This study will not examine all of these countries. Instead, the writing team assessed the most important countries across each of the risk categories. Some—France, Germany, and Italy—fall into all three risk categories, and two—Belgium and Hungary—are only in one category. Together, these nine countries—Belgium, France, Germany, Greece, Hungary, Italy, the Netherlands, Poland, and the United Kingdom—represent the focus countries for this study. Other European countries are discussed occasionally, but the focus throughout is largely on these nine countries. See figure 1-1 for a Venn diagram showing the focus countries.

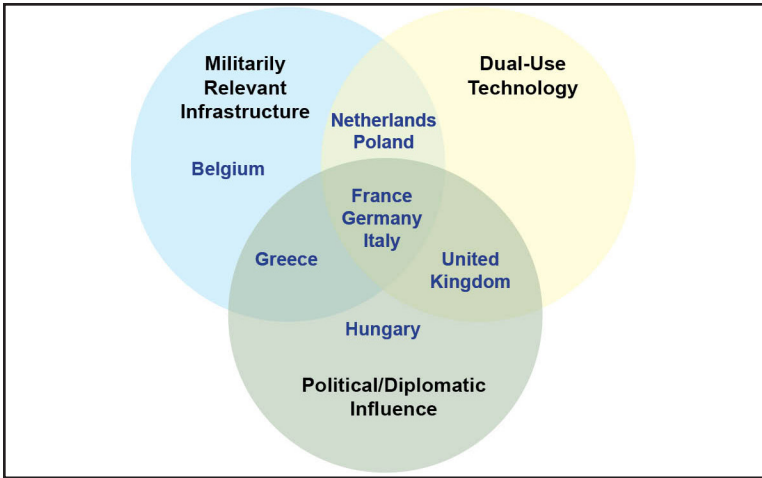


Figure 1-1. Venn diagram showing focus countries

Europe has not been the only extraterritorial destination for Chinese investment and attention in recent decades. Africa and Latin America have both been the objects of sustained and substantial attention from Chinese investors. Chapters 8 and 9 examine Chinese engagement with these regions to draw lessons Europe could apply in parrying Beijing’s economic statecraft.

Finally, Chapter 10 offers concluding analysis and practical recommendations for policymakers in Europe and North America. From better protecting indigenous technologies to leveraging NATO, this chapter outlines over a dozen feasible and actionable recommendations to reduce risk and safeguard American and European interests from predatory Chinese investment in Europe.

Methodological Note

The research for this multiauthor monograph was based on a variety of primary and secondary sources. The primary sources included semistructured research discussions with more than five dozen US civilian and military officials, European civilian and military officials, industry experts, trade association officials, think-tank experts, investment bankers, and legal experts. Due to the pandemic's impact on travel, nearly all discussions were conducted by phone or via video call. Without exception, these discussions were not for attribution. Researchers employed a common list of open-ended, guiding questions for the semistructured discussions. The researchers, however, tailored some of the questions according to the discussant's expertise or responsibilities. Responses to questions were documented by researchers in real time through note-taking. In some cases, follow-up or clarifying research discussions were conducted, primarily by e-mail.

Other primary sources included public-opinion, economic, fiscal, and intergovernmental organization data; official government pronouncements and rhetoric; and contemporary news reports. These sources are noted with appropriate citations and, in the case of graphs and charts, with captions. The secondary sources included a wide array of analyses and studies by leading think tanks, academically oriented articles in peer-reviewed journals, authoritative websites and blogs, and other monographs and books.

Together, the secondary and primary sources were assessed through a mixed methodology

that blended several types of qualitative analysis, including content analysis, narrative analysis, and case-study analysis. The content analysis was primarily applied to official pronouncements and rhetoric as the research team distilled these sources for key messages, themes, and policy directions. This methodology helped inform the narrative analysis, which was both deductive and inductive and primarily applied to the research discussions referenced earlier in this chapter. The case studies examined key European countries based on economic, political, and military factors, as referenced earlier in this chapter and spelled out in greater detail in chapters 6 and 7.

After developing and editing an initial draft of the study, the writing team produced a coordinating draft for external review. Next, United States European Command and the Department of Homeland Security Economic Security Mission Center, the cosponsors of the study, reviewed and commented on the coordinating draft. Additionally, all individuals interviewed as part of the research process were given the opportunity to review and comment on the coordinating draft.

2. ECONOMIC IMPACT OF COVID-19 IN EUROPE

Mark Duckenfield

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The sudden onset of the coronavirus disease 2019 (COVID-19) pandemic in the spring of 2020 in Europe created a sharp economic downturn that has the potential to produce opportunities for Chinese investors. This chapter outlines the scope of this crisis, contrasting it with the Great Recession of 2007–09 and the eurozone sovereign debt crisis of 2009–12 and highlighting the responses of European governments. Although the pandemic-induced crisis is very different from the Great Recession and the eurozone crisis, and even though European governments have responded much more aggressively than they did a decade ago, this chapter points out how China might still attempt to acquire European assets, especially through the purchase of “zombie firms,” which are firms that are unable to generate enough profits to cover debt-servicing costs and need to borrow to “stay alive.”¹

Following the Great Recession and the eurozone crisis, the pandemic-induced recession is the third major economic crisis to impact the EU significantly in the past 13 years. European national governments and EU institutions are better prepared to address the economic fallout now than they were in the two previous crises. Having learned lessons and addressed problems from the stagnant recovery of the early

1. Giovanni Favara, Camelia Minoiu, and Ander Perez-Orive, “US Zombie Firms: How Many and How Consequential?” FEDSNotes(website), July 30, 2021, <https://www.federalreserve.gov/econres/notes/feds-notes/us-zombie-firms-how-many-and-how-consequential-20210730.htm>.

2010s, European governments made institutional adjustments that facilitated economic cooperation while their policymakers held more relaxed political attitudes toward borrowing in a crisis.

The previous two crises were the result of several factors, including:

- lax regulation;
- poor corporate governance and risk management;
- excessive borrowing and leveraging;
- securitization of risky subprime assets;
- a large, interlinked, vulnerable shadow banking sector;
- unsustainable debt and current account deficits incompatible with a common currency;
- thinly capitalized banks;
- the European Central Bank's unwillingness to address immediately and fully the weakened capital structure of European banks; and
- the absence of a European lender of last resort.²

The pandemic-induced crisis, in contrast, was not the result of bad economic behavior governments would need to bail out. Consequently, the crisis posed few political impediments to massive

2. Financial Crisis Inquiry Commission, *The Financial Crisis Inquiry Report* (Washington, DC: US Government Printing Office, 2011), xviii–xxv; Howard Davies, *The Financial Crisis: Who is to Blame?* (Cambridge: Polity Press, 2010); Jeffrey Frieden and Stefanie Walter, “Understanding the Political Economy of the Eurozone Crisis,” *Annual Review of Political Science* 20 (2017): 371–90; and Giancarlo Corsetti et al., “The Euro Crisis in the Mirror of the EMS: How Tying Odysseus to the Mast Avoided the Sirens but Led Him to Charybdis,” *Open Economies Review* 31, no. 2 (April 2020): 219–36.

government intervention and expenditures for European governments.³

While government support and legal restrictions have kept many businesses viable that would otherwise have failed, this assistance has created the risk many “zombie firms” will enter the economic recovery from the pandemic unable to compete and invest effectively.⁴ These firms, depending on their sector and the scope of their assets, could either serve as a drag on economic growth or pose a vulnerability should firm ownership change to a non-European entity, especially one from China.

Impact of the Pandemic: Reduced Economic Activity and Shutdowns

The COVID-19 outbreak in Europe in February and March 2020 came as an exogenous shock to economies that had been anticipating modest growth in 2020, with the major uncertainty being the final contours of the British exit from the EU.⁵ The deterioration in macroeconomic statistics was mainly observed in a collapse in growth during the first half of 2020. European state support staved off or deferred insolvencies and limited increases in unemployment.

3. Sam Fleming, Miles Johnson, and Ian Mount, “EU Rescue Package: Borrowing to Prevent a North-South Split,” *Financial Times*, July 24, 2020.

4. Ryan Banerjee, Joseph Noss, and Jose Maria Vidal Pastor, “Liquidity to Solvency: Transition Cancelled or Postponed?” *BIS Bulletin*, no. 40 (March 2021): 1.

5. International Monetary Fund (IMF), *Tentative Stabilization, Sluggish Recovery?* (Washington, DC: IMF, January 2020), 9; European Central Bank, *Eurosystem Staff Macroeconomic Projections for the Euro Area* (Frankfurt: European Central Bank, December 2019), 3-5; and Bank of England, *Monetary Policy Report* (London: Bank of England, January 2020), 3, 5-6.

The European economic collapse did not occur in a vacuum: Worldwide economic growth was negative for the first three quarters of 2020, with the most serious drags being large decreases in consumption and investment in the advanced economies. The only positive contributor to world growth in the second and third quarters was Chinese economic activity, though some doubt the Chinese economy grew in 2020 as Beijing claimed it had.⁶ See table 2-1 for the gross domestic product of major European economies, 2020–21.⁷

Table 2-1. Gross domestic product for major European economies, 2020–21

Country	Gross Domestic Product						Unemployment	
	IMF 2020 (Proj.)	2020 Actual	2020 Q1 Actual	2020 Q2 Actual	2020 Q3 Actual	2020 Q4 Actual	Mar. 2020	Jan. 2021
Euro area	1.3	-6.6	-3.4	-10.5	11.3	0.3	7.1	8.2
Germany	1.1	-4.9	-2.0	-9.7	8.7	0.5	3.8	4.5
France	1.3	-8.2	-5.9	-13.2	18.5	-1.5	7.4	7.9
Italy	0.5	-8.9	-5.7	-12.9	15.9	-1.8	7.5	10.3
United Kingdom	1.4	-9.9	-3.0	-18.8	16.0	1.3	4.0	4.9

Labor-intensive industries with a heavy in-person component—such as retail, entertainment, recreation,

6. IMF, *Policy Support and Vaccines Expected to Lift Activity* (Washington, DC: IMF, January 2021), 2; and Shehzad H. Qazi, “The Great Chinese Rebound? Not So Fast,” *Barron’s*, January 26, 2021, <https://www.barrons.com/articles/the-great-chinese-rebound-not-so-fast-51611622798>.

7. IMF, *Tentative Stabilization*, 9; IMF, *World Economic Outlook: Managing Divergent Recoveries* (Washington, DC: IMF, April 2021), 35; and “FRED Economic Data,” Federal Reserve Bank of St. Louis (website), n.d., <https://fred.stlouisfed.org>.

accommodations, and services—suffered serious financial losses during the pandemic.⁸ These industries require high levels of face-to-face contact, making transitioning to remote or virtual operations difficult. Transport, the one capital-intensive industry to suffer losses on a similar scale, had major in-person elements and linkages to the hard-hit tourism, leisure, and recreation industries.⁹ The automotive and airline industries were idled for an extended period, with production stoppages lasting more than a month and a suspension of most commercial flights across Europe.¹⁰

Other related industries have experienced a more varied response. In the ports sector, the initial curtailment of domestic consumption, cancellation of cruises, and decrease in trade led to a reduction in capacity use at European ports.¹¹ Container port traffic at some of Europe’s busiest and largest ports—Le Havre, Zeebrugge, Antwerp, Rotterdam,

8. Natalia Martin Fuentes and Isabella Moder, “The Scarring Effects of COVID-19 on the Global Economy,” VoxEU (website), February 5, 2021, <https://voxeu.org/article/scarring-effects-covid-19-global-economy>.

9. Fuentes and Moder, “Scarring Effects.”

10. Jan Maarten de Vet et al., *Impacts of the COVID-19 Pandemic on EU Industries*, PE 662.903 (Luxembourg: European Parliament, Directorate General for Internal Policies, Policy Department for Economic, Scientific, and Quality of Life Policies, March 2021), 17–21.

11. Mike Wackett, “Antwerp Weathers the Pandemic Storm—Benelux Box Ports Report Mixed Results,” Loadstar (website), July 29, 2020, <https://theloadstar.com/antwerp-weather-the-pandemic-storm-benelux-box-ports-report-mixed-results/>; and UN Conference on Trade and Development, *COVID-19 and Maritime Transport: Impact and Responses*, Transport and Trade Facilitation Series no. 15 (Geneva: UN Conference on Trade and Development, 2021).

Bremerhaven, and Hamburg—dropped 10 percent between July 2019 and May 2020.¹² The port of Amsterdam closed to passenger traffic in March 2020, leading to a 94.6 percent decline in its cruise-ship subsidiary's turnover and a 91 percent reduction in cruise ships serviced, including the cancellation of 100 percent of the port calls for the profitable sea-cruise segment.¹³ At the Port of Hamburg, tonnage dropped across all categories of shipping, including container vessels (-8 percent) and cruise ships (-74 percent).¹⁴

On the whole, capital-intensive sectors where direct human interaction was less essential to operations, such as agriculture, public administration, and information and communications technology, experienced a comparatively lower reduction in profitability because they were able to mitigate the effects of the pandemic.¹⁵ The pandemic still affected operations, particularly as normally taut supply chains proved to be inadequately resilient to sudden alterations. Though information and technology companies as a group showed modest gains in the pandemic, hardware sales, particularly for networks and storage, declined.¹⁶

When the first wave of the pandemic began to recede somewhat during the summer of 2020,

12. Institute of Shipping Economics and Logistics, "RWI/ISL-Container Throughput Index," May 2021, https://www.isl.org/public/containerumschlag-index/202-5/containerumschlag-Index_20210527.xlsx.

13. Port of Amsterdam, *2020 Annual Report* (Amsterdam: Port of Amsterdam, 2021), 12-13, 21, 25, 76.

14. "Vessel Calls," Port of Hamburg (website), 2020, <https://www.hafen-hamburg.de/en/statistics/calls/>.

15. Fuentes and Moder, "Scarring Effects."

16. de Vet et al., *Impacts*, 33.

European demand began to rebound. Though gross domestic product remained down, it had begun to recover year-on-year in the third quarter of 2020 while unemployment stabilized. Ports began to make a comeback, albeit more strongly in some activities than others. By September 2020, port capacity use among some of Europe's largest and busiest ports had returned to its pre-pandemic levels, with north European ports recovering three months later.¹⁷ Notably, though container traffic recovered as product demand reasserted itself, other sectors of the maritime infrastructure sector remained depressed.

Government Responses

European policy responses to the COVID-19 pandemic have fallen into two phases. In the first phase, reactive, governments responded to the social and economic fallout of the sudden emergence and rapid progression of the disease. This response focused on ensuring emergency health-care funding, supporting employment, and alleviating financial pressures on endangered firms.

In the second phase, proactive, governments are attempting to take a strategic approach to the recovery so they can best situate their economies for future competition. This strategy has many of the hallmarks of an embryonic industrial policy aimed at providing a range of state supports to crucial sectors and objectives. At a minimum, this strategy promises a range of EU and national state support for environmentally focused infrastructure and information technologies. The strategy also hints at

17. Institute of Shipping Economics and Logistics, "Throughput Index."

the prospect of developing deeper capacity to limit non-EU encroachment in EU markets and ownership of EU-developed technologies.

The response to the pandemic thus contrasts with the aftermath of both the Great Recession and the eurozone crisis in which many European companies and governments, hungry for capital, welcomed external investment from foreign companies and external state-owned enterprises. The proportion of foreign-controlled listed companies by asset value in the EU jumped from 20 percent in 2009 to over 40 percent by 2014.¹⁸ Due to long-standing economic linkages and large accumulations of assets over decades, the lion's share of foreign direct investment in the EU came from the United States, Canada, Norway, and Switzerland. But the share of Chinese foreign direct investment stocks in the EU grew rapidly, from 0.3 percent in 1995 to 1 percent in 2005, 2 percent in 2015, and past 3 percent in 2018 (€202 billion), and the majority is from Chinese state-owned firms.¹⁹

European leaders could simply allow the market to limit employment and rely upon the state's unemployment system to aid workers in dealing with the economic consequences of the pandemic. But most European states responded to the pandemic-induced recession by implementing various furlough, short-work, and payroll compensation schemes to maintain ties between workers and their employers.

18. European Commission, *Foreign Direct Investment in the EU*, Staff Working Document no. 108 (Brussels: European Commission, March 2019), 8.

19. European Court of Auditors, *The EU's Response to China's State-Driven Investment Strategy*, Review no. 3 (Luxembourg: European Court of Auditors, 2020), 20–22.

These policies accepted the fundamental soundness of the economic system before the exogenous shock of the pandemic. This acceptance provided a temporary cushion whereby firms could retain access to skilled workers and avoid the transaction costs entailed in recruiting and hiring new workers.²⁰

At the intergovernmental level, the European Commission, in cooperation with member states' economics ministers, swiftly suspended European restrictions on annual deficits and public debt, relaxed restrictions on state aid to businesses, and broached the controversial idea of collective borrowing at the European level for the first time.²¹ In just over a month, individual European governments approved €1.9 trillion in state aid, with the majority coming from Germany.²² See figure 2-1 for the extent of

20. Delphine Strauss and Chris Giles, "Applications for UK's Job Retention Scheme Slow," *Financial Times*, April 23, 2020.

21. Council of the EU, "Statement of EU Ministers of Finance on the Stability and Growth Pact in Light of the COVID-19 Crisis," press release, March 23, 2020, <https://www.consilium.europa.eu/en/press/press-releases/2020/03/23/statement-of-eu-ministers-of-finance-on-the-stability-and-growth-pact-in-light-of-the-covid-19-crisis/>; Javier Espinoza, "Brussels Lays Out Terms for Companies Handed State Aid: Competition Concerns," *Financial Times* (website), April 16, 2020, 2; and "EU-Kommission will corona-eurobonds," *Frankfurter Allgemeine Zeitung*, March 21, 2020, 17.

22. Sam Fleming and Javier Espinoza, "EU Members Clash Over State Aid as Richer Countries Inject More Cash," *Financial Times*, May 1, 2020.

state fiscal measures in 2020 in response to the COVID-19 pandemic.²³

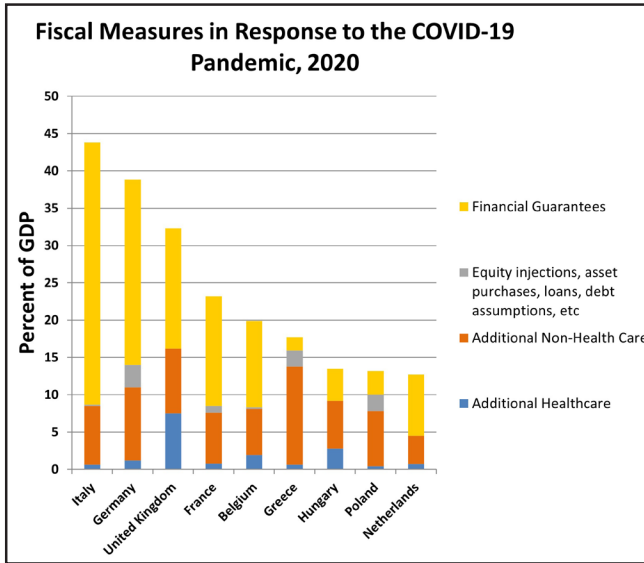


Figure 2-1. Fiscal measures in response to the COVID-19 pandemic, 2020

Across Europe, the aviation industry received large amounts of state funding and guarantees for beleaguered airlines and grounded fleets. Germany spent €9 billion bailing out Lufthansa, receiving 20 percent ownership in exchange. France took an equity stake of 13 percent in Air France-KLM Group, which was later expanded to 30 percent in exchange for a €4.7 billion cash injection. And British Airways PLC received a £300 million government-backed loan,

23. IMF, “Fiscal Monitor: Database of Country Fiscal Measures in Response to the COVID-19 Pandemic,” IMF (website), April 2021, <https://www.imf.org/en/Topics/imf-and-covid19/~media/Files/Topics/COVID/FM-Database/SM21/revised-april-2021-fiscal-measures-response-database-publication-april-2021-v3.ashx>.

with similar measures taken in many other European countries.²⁴ Though other support tended to be less targeted, many EU members deferred taxes and social insurance contributions from companies, temporarily lowered their value-added taxes (similar to sales tax in the United States), and made arrangements to limit insolvencies and debt collection.²⁵ In contrast, though European governments engaged in a range of monetary and fiscal interventions in the Great Recession, they did not impose insolvency holidays. Naturally, the result was a typical recessionary surge in insolvencies.²⁶

The potential disparity between wealthier countries like Germany and France that are able to bail out their domestic industries and more financially pressed EU member states like Italy and Spain that might not have similar means to subsidize their firms threatened to undermine efforts at European solidarity. Coupling additional European-level spending with more liberal attitudes toward national spending enabled the EU to address the immediate concerns about mitigating the economic consequences

24. CAPA—Centre for Aviation, “COVID-19 Prompts Dramatic Increase in State Aid to (Some) European Airlines,” *Airline Leader*, September 8, 2020, <https://centreforaviation.com/analysis/airline-leader/covid-19-prompts-dramatic-increase-in-state-aid-to-some-european-airlines-536591>; and Reuters, “France to Become Biggest Air France Shareholder with Capital Hike,” CNBC (website), April 6, 2021, <https://www.cnbc.com/2021/04/06/france-to-become-biggest-air-france-shareholder-with-capital-hike.html>.

25. IMF Fiscal Affairs Department, “Fiscal Monitor: Database of Country Fiscal Measures in Response to the COVID-19 Pandemic,” IMF (website), April 2021, <https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19>.

26. Banerjee, Noss, and Pastor, “Liquidity to Solvency,” 2.

of the pandemic as well as allowing individual members the flexibility to use their own resources to address national concerns. Alongside the €1.1 trillion budget for 2021–27 approved in July 2020, leaders of the EU agreed on a €750 billion recovery fund, dubbed “Next Generation EU,” that was funded for the first time by mutualized EU debt—so-called “corona bonds.”²⁷

This extensive array of traditional and emergency state support for businesses has had the desired effect. Firms have remained in business, typically with their workers on their payrolls, even as they have little turnover. Direct government payments have subsidized wages and sustained operations; loose financing terms have kept open lines of credit; and payment holidays for utilities, rents, and other costs have reduced outflows of cash. Governments have also taken equity positions in companies that have begun to experience financial distress. Increasingly liberal insolvency regulations, including a suspension of bankruptcy procedures for certain periods of time, have combined to reduce the rate of insolvencies in major European countries. So far at least, all of these measures have prevented non-EU investors, especially those from China, from acquiring European assets at bargain prices or from governments desperate for debt reduction.

27. Ben Hall, “Brussels Trades Tricky Path between ‘Resilience’ and Protectionism,” *Financial Times*, June 4, 2020, 5; and Tobias Tesche, “The European Union’s Response to the Coronavirus Emergency: An Early Assessment,” LEQS Paper no. 157/2020, London School of Economics and Political Science, June 2020, 22, <https://www.lse.ac.uk/european-institute/Assets/Documents/LEQS-Discussion-Papers/LEQSPaper157.pdf>.

Emerging Economic Challenges

As the European economy begins to recover, many components of governments' supportive policies are beginning to relax. As government spending and regulations taper off, whether companies will be able to return to a path of profitability or the debt loads and financial delays have merely deferred their days of financial reckoning remains an open question. Are Europe's businesses ready to be resurrected with a consolidation of their financial positions and a return to vibrant competition, or are they "zombie" corporations, still operating but with unsustainable debt loads and an avalanche of promised obligations that will sap them of the capital needed for reinvestment?²⁸

Initially used as a means of ensuring corporate survival during the pandemic, European governments have sought to use capital injections, equity stakes, and direct grants to ensure their companies are well capitalized with competitive products and reliable customer bases. The intent is to allow companies to prepare to emerge from the pandemic in a position at least as strong as when they entered it. In addition, support from the EU recovery fund provides an avenue for cheap access to capital and reduces the need for companies to look for both private and foreign sources of investment. In turn, this option addresses European concerns that non-EU enterprises might take advantage of weakened companies to obtain inexpensive access to European technology. These worries were particularly apparent at the start of

28. "The Corporate Undead," *Economist* 436, no. 9213 (September 26, 2020): 69–70.

the pandemic crisis and especially focused on foreign state-owned enterprises, such as those from China.²⁹

Receding Threats or Rise of the Zombies?

During the pandemic, restrictions on insolvencies and extensive state intervention led to the development of a “bankruptcy gap” between the unemployment rate and corporate insolvencies.³⁰ Historically, unemployment and corporate failures have tended to move in tandem: Unemployment and bankruptcies have declined during periods of economic growth and risen during downturns. The massive scope of government assistance to firms led to a break in this relationship during the pandemic-related economic lockdowns. Despite far-reaching measures to preserve employment, the unemployment rate in the eurozone pushed rapidly upward from 7.1 percent in March 2020 to a peak of 8.7 percent by August 2020.³¹ One year into the pandemic recession, even greater state intervention on behalf of firms was so successful, insolvencies across a sample of 13 advanced economies were down 28 percent from the start of the crisis.³² This contrasted with the traditional surge in bankruptcies expected during a typical recession, which on average increased 13 percent one year after the downturn commenced; this was a dramatic contrast with the

29. Sam Fleming, Javier Espinoza, and Michael Peel, “EU Seeks to Curb State-Backed Foreign Rivals,” *Financial Times*, June 2, 2020, 1.

30. Banerjee, Noss, and Pastor, “Liquidity to Solvency,” 2.

31. Eurostat, “Unemployment by Sex and Age—Monthly Data,” European Commission (website), n.d., https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=une_rt_m&lang=en.

32. IMF, *Policy Support*, 8–9.

26 percent explosion in business failures during the global financial crisis of a decade ago.³³

Germany's experience exemplified this trend. In February 2021, German insolvencies were down 24 percent from where they had been 12 months previously; see figure 2-2 for German unemployment and insolvencies from 2003 to 2021.³⁴ Though many companies were saved from unnecessary bankruptcy, several companies that were facing insolvency under normal conditions also experienced a reprieve from their creditors. Simply based on the average pre-pandemic enterprise insolvency rate, Germany likely has a backlog of at least 3,000 insolvencies as it exits the crisis, and Spain and Italy are each expected to have more than Germany.³⁵ Similarly, France experienced a drop of 40 percent in corporate bankruptcies in the year after March 2020, with an equally large proportion of potentially delayed insolvencies.³⁶ Similar deferrals of financial judgment occurred across Europe, with European

33. IMF, *Policy Support*, 8–9.

34. "52411-0002: Insolvency Proceedings: Germany, Months, Proceedings Filed," Statistisches Bundesamt (website), n.d., <https://www-genesis.destatis.de/genesis//online?operation=table&code=52411-0002&bypass=true&levelindex=0&levelid=1622235621324#abreadcrumb>; and "Registered Unemployment Rate for Germany," Federal Reserve Bank of St. Louis (website), updated December 14, 2021, <https://fred.stlouisfed.org/series/LMUNRRTTDEM156S>.

35. Chris Bryant, "We Can't Hold Off the Bankruptcy Wave Forever," Bloomberg (website), May 5, 2021, <https://www.bloomberg.com/opinion/articles/2021-05-05/europe-can-t-hold-off-the-bankruptcy-wave-forever>.

36. Bank of France (Banque de France), "Corporate Bankruptcies—France, April 2021," Stat Info (website), May 2021, <https://www.banque-france.fr/en/statistics/business-failures-france-2021apr>.

Central Bank chief Christine Lagarde comparing the reduction in insolvencies to the receding sea water just before the arrival of a tsunami.³⁷ With European fiscal restrictions suspended through 2022, EU governments still have latitude to support strategic industries and companies.³⁸

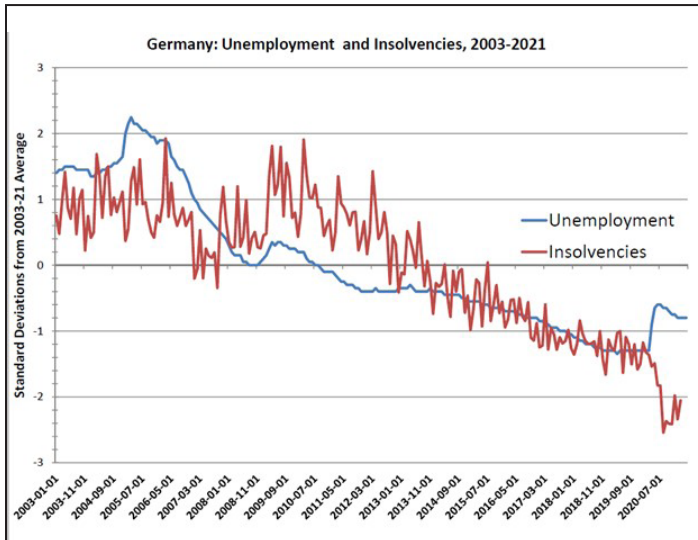


Figure 2-2. The German bankruptcy gap

But the duration of this support is clearly finite. Whenever the insolvency reprieve ends, the tidal wave foreseen by Lagarde may make landfall as companies that would have failed regardless of the pandemic-induced recession face an inevitable reckoning. This mass failing may create opportunities for non-EU investors like China to obtain European

37. Martin Arnold, "EU Warned About Insolvency 'Tsunami'," *Financial Times*, April 29, 2021, 4.

38. Sam Fleming, "Brussels to Keep Stability and Growth Pact on Ice for Another Year," *Financial Times*, March 3, 2021, 4.

assets at bargain prices. These risks may be less formidable in cases where European governments took equity positions in companies; such a role provides a degree of direct influence over operations and potential future partners that did not previously exist. During the 2007–09 financial crisis, for example, the US government used a variety of financial and legal mechanisms to restructure General Motors and Chrysler to consolidate product lines; encourage cost savings and debt reduction; promote the development of more fuel-efficient automobiles; and, in the case of Chrysler, find an acceptable strategic investment partner in Fiat SpA.³⁹

Summary

The COVID-19 pandemic created both a public health crisis and an economic crisis in Europe. In the early 2010s, a combination of institutional shortcomings, divergent national interests, and policy preferences across the EU and its member states were impediments to resolving the financial and euro crises. Furthermore, these impediments contributed to a slow, stagnant recovery, creating space for extraterritorial actors such as China to play an important role in the recapitalization of struggling companies and in bailing out European governments looking to shed inefficient public sector capabilities to reduce debt.

39. Barack Obama, “Remarks by the President on the American Automotive Industry,” Office of the Press Secretary, White House (website), March 30, 2009, <https://obamawhitehouse.archives.gov/the-press-office/remarks-president-american-automotive-industry-33009>; and Thomas Klier and James Rubenstein, “Detroit Back from the Brink? Auto Industry Crisis and Restructuring 2008-11,” *Economic Perspectives* 36, no. 2 (July 2012): 35–54.

The pandemic-induced economic crisis developed differently. Many of the institutional limitations that had prevented effective collective action before have now been resolved. Lessons learned a decade ago enabled the vast exercising of governments' fiscal, monetary, regulatory, and policing powers in support of workers and firms over the last year and a half. The nature of the public-health crisis largely aligned national interests in opposition to the virus. Although public officials' attitudes toward different policies varied, they were usually subordinated to resolving the common, overarching health and economic crises.

As the pandemic recedes, weaning some companies from public support will pose difficulties for European governments and create potential financial vulnerabilities for some heavily indebted companies. With an expected tightening of state-aid rules in late 2021, some EU governments will begin unwinding the positions they took in companies during the crisis, which will place them under pressure to find buyers for their stakes and which could open the door to Chinese investment. As Europe moves forward on its path to recovery, its policymakers must be careful how they tread, particularly as China aspires to fulfill a carefully crafted strategy vis-à-vis Europe, which is the subject of the next chapter.

3. CHINA'S STRATEGY AND POLICY TOWARD EUROPE TODAY

Roger Cliff

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The most fundamental goal of China's leadership in Beijing is to maintain their position as the rulers of China. Leadership's principal strategy for achieving this goal consists of two main elements: ensuring the people of China experience ever-rising standards of living and creating the perception leadership are restoring China to its supposed rightful place in the world as one of the most powerful, wealthiest, most advanced, and most respected nations. Implementing this strategy entails ensuring continued robust growth rates for China's economy, transforming China into a world leader in technology, developing an increasingly capable military, making progress toward recovering territories viewed as part of China but lost during its period of weakness during the nineteenth and early twentieth centuries (Taiwan most importantly as well as the islands of the South and East China Seas), and increasing China's prestige and influence in the international community.¹

1. Roger Cliff, *A New US Strategy for the Indo-Pacific* (Seattle: National Bureau of Asian Research, 2020), 34–46; Minxin Pei, *Exploring Emerging Domestic Drivers of Chinese Foreign Policy* (Washington, DC: German Marshall Fund of the United States, April 2014); Yang Jiemian, *From Geo-Strategy to Omni-Strategy: Interactions between China, Europe and the United States* (Washington, DC: German Marshall Fund of the United States, February 2014); and Ties Dams, Xiaoxue Martin, and Vera Kranenburg, ed., *China's Soft Power in Europe: Falling on Hard Times* (Brussels: European Think-Tank Network on China, April 2021), 5.

Europe has the potential to affect all of these goals. China's leadership, moreover, appears to perceive Europe as increasingly important to the achievement of the goals because the amounts of resources, personnel, and attention China has devoted to Europe have increased substantially over the past decade.²

The principal objectives of China's strategy and policy toward Europe appear to be to expand the economic benefits China derives from Europe, acquire European technology for both economic and military purposes, and increase China's influence in Europe. Increased influence, in turn, can be used to affect European policy on issues important to Beijing. These issues include international recognition of Taiwan, the South China Sea, and criticism of China's human-rights record as well as European policy toward other regions of the world, such as the Middle East and Central Asia, that also affect China's interests. Increased influence can also be used to derive additional economic benefits for China or to increase the willingness of European governments to allow the sharing of European technology with China.³

Beijing seeks to achieve these objectives through a range of mechanisms, including official diplomatic relations; public diplomacy; trade; scientific, educational, and cultural exchanges; Chinese media operations; funding of public policy organizations and events in Europe; cultivating relations with influential Europeans; investment; construction and

2. Francois Godement and Abigail Vasselier, *China at the Gates: A New Power Audit of EU-China Relations* (London: European Council on Foreign Relations, 2017), 21-22; and Francois Godement, "China's Relations with Europe," in *China and the World*, ed. David Shambaugh (New York: Oxford University Press, 2020), 266.

3. Jiemian, *Geo-Strategy to Omni-Strategy*.

operation of infrastructure; and cyber operations. Many nongovernmental interactions involving China are simply the result of individual people and organizations pursuing their own personal and organizational interests.

In other cases, however, individuals and organizations may be taking actions at the behest of the Chinese government, or at least in the belief their actions are consistent with the Chinese government's desires and intentions. This assessment appears to be increasingly accurate: In recent years, the Chinese government has been reining in the activities of private companies and individuals, arresting many of the heads of private companies, as well as causing these heads to otherwise disappear from public view.⁴

Official Government-to-Government Relations

China's diplomatic relations primarily seek to broaden and enhance China's other interactions with Europe, including trade; investment; and scientific, educational, and cultural exchanges. Since 2012, for example, China has been seeking to reach a Comprehensive Agreement on Investment with the EU.⁵ An agreement in principle was reached in December 2020, but, due to a deterioration in EU-China

4. Frederico Mollet, *China's Industrial Grand Strategy and What It Means for Europe* (Belgium: European Policy Centre, 2021); Fergus Ryan, "China Takes on Its Tech Leaders," *War on the Rocks*, August 26, 2021, <https://warontherocks.com/2021/08/china-takes-on-its-tech-leaders/>; and Emily Feng, "The Latest Target in China's Crackdown on Entrepreneurs is an Outspoken Billionaire," NPR (website), May 15, 2021, <https://www.npr.org/2021/05/15/996241784/>.

5. "EU-China Agreement: Milestones and Documents," European Commission (website), January 22, 2021, <https://trade.ec.europa.eu/doclib/press/index.cfm?id=2115>.

relations, in May 2021 the European Parliament voted to suspend the ratification of the agreement.⁶ Another important focus of China's official diplomatic relations with Europe is pressuring Europe and deflecting criticism over issues such as Taiwan, Tibet, Xinjiang, Hong Kong, and human rights.⁷

Public Diplomacy and Influence Operations

Aside from its diplomats' direct interactions with European governments, China has increasingly engaged in public diplomacy efforts in Europe. Chinese diplomats write op-eds and letters to the editor for publication in European media outlets and sit for interviews with European media. The Chinese government also sometimes takes out advertisements in European media. More recently, Chinese diplomats have become highly active on social-media platforms such as Twitter and Facebook. Their postings are often amplified by thousands of fake accounts that repost the statements. Whether these activities can accurately be characterized as diplomatic efforts may be arguable, however, as the aggressive tone of many

6. Jorge Liboreiro, "MEPs Vote to Freeze Controversial EU-China Investment Deal," Euronews (website), updated June 24, 2021, <https://www.euronews.com/2021/05/20/european-parliament-votes-to-freeze-controversial-eu-china-investment-deal>.

7. Godement and Vasselier, *China at the Gates*, 84–86; Godement, "China's Relations with Europe," 255–56, 267–68; Dams, Martin, and Kranenburg, *China's Soft Power in Europe*, 13; and Rudolf Furst, "China's Soft Power in the Czech Republic: Almost a Fiasco," in Dams, Martin, and Kranenburg, *China's Soft Power in Europe*, 24.

of the postings seems more likely to alienate rather than persuade European audiences.⁸

Cyber Operations

China also seeks to achieve its goals in Europe through cyber operations. China is well known for using cyber operations for industrial espionage and intellectual property (IP) theft.⁹ These operations are also possibly being used to lay the groundwork for potential future sabotage. In addition, China uses cyber operations to track Chinese dissidents and fugitives living in Europe.¹⁰

China is less well known than Russia for using cyber operations to influence politics and policies in Europe. China's use of cyber operations is less well known not because it is less active in this area, but because its style is less oriented toward disinformation and undermining partner-nation governments. If China's cyber-enabled influence operations follow the pattern seen in North America and Australia, they are primarily targeted at overseas Chinese communities via Chinese-language social media. These operations include efforts to discredit pro-democracy activists, vilify the Taiwan independence movement, and mobilize support for political candidates seen as more favorable toward China. Because these operations

8. Dams, Martin, and Kranenburg, *China's Soft Power in Europe*, 7, 9-13; Furst, "Czech Republic," 23; and Godement, "China's Relations with Europe," 259.

9. European Commission, Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs, *The Scale and Impact of Industrial Espionage and Theft of Trade Secrets Through Cyber* (Luxembourg: Publications Office of the EU, 2019).

10. Godement and Vasselier, *China at the Gates*, 86-87.

are primarily conducted in Chinese-language media, European observers may be unaware of them.¹¹

Trade

One of the most substantial aspects of China-Europe relations is trade. In 2020, overall trade in goods between China and Europe amounted to \$930 billion—20 percent of China’s overall trade and equivalent to about 6 percent of China’s gross domestic product. Thus, trade with Europe is an important source of wealth for China. The volume of this trade appears to result primarily from individual businesses in both places seeking market opportunities, rather than from policies of the Chinese government targeted at Europe.

The only Europe-wide trade agreement China has reached, for example, is the 1985 Agreement on Trade and Economic Cooperation between the European Economic Community and the People’s Republic of China, which contains no concrete provisions other than a general declaration both parties will accord each other “most-favoured-nation” treatment. Under the principle of “most favoured nation” and as spelled out in World Trade Organization agreements, countries cannot normally discriminate between their trading partners. If one country is granted a lower customs duty rate for one of its products, all World Trade Organization members must receive the same treatment for the product in question.¹²

11. Godement and Vasselier, *China at the Gates*, 60–61, 80, 86; and Cliff, *New US Strategy*, 43.

12. Agreement on Trade and Economic Cooperation between the European Economic Community and the People’s Republic of China, European Economic Community-P.R.C., April 3, 1978, L. 250/2.

The only European countries with which China has reached free-trade agreements are non-EU countries Switzerland, Iceland, and Georgia, which collectively represent less than 4 percent of China's total trade with the continent.¹³ Although China's Belt and Road Initiative (BRI) incorporates Asia, Africa, and Oceania, it is explicitly intended to strengthen China's economic linkages with Europe by expanding transportation capacity and capabilities to facilitate trade.¹⁴

Though the magnitude of China's trade with Europe may be driven primarily by economic factors, the Chinese government leverages the importance to Europe of this trade. Specifically, Beijing exerts political influence by denying or threatening to deny European countries access to the Chinese market in retaliation for actions to which the Chinese government objects. These actions include hosting visits by the Dalai Lama, criticizing China over human rights, and engaging in high-level governmental interactions with Taiwan. After a visit by the Dalai Lama to the president of Lithuania in 2013, for example, China imposed restrictions on the import of Lithuanian

13. Council of the European Communities and Government of the People's Republic of China, "Agreement on Trade and Economic Cooperation Between the European Economic Community and the People's Republic of China," *Official Journal of the European Communities*, L 250, 19.9 (1985): 2-7; National Bureau of Statistics of China, *China Statistical Yearbook* (Beijing: China Statistics Press, 2020); International Monetary Fund (IMF), "Direction of Trade Statistics (DOTS)," IMF Data (website), updated November 23, 2021, <https://data.imf.org/?sk=9D6028D4-F14A-464C-A2F2-59B2CD424B85>; and "China FTA Network," Ministry of Commerce, People's Republic of China (website), n.d., http://fta.mofcom.gov.cn/english/fta_qianshu.shtml.

14. Nadège Rolland, *China's Eurasian Century? Political and Strategic Implications of the Belt and Road Initiative* (Seattle, WA: National Bureau of Asian Research, 2017).

agricultural products. Similarly, after Ireland signed a US-led statement criticizing China's human-rights record in 2016, Beijing threatened sanctions on Irish beef exports.¹⁵

This tactic has been generally effective, even though trade with the EU is more important to China than trade with China is to the EU; although goods trade with Europe represents about 15 percent of China's overall exports, goods trade with China represents only about 4 percent of the EU's total exports.¹⁶ Beijing has convinced European governments not to host official visits by the Dalai Lama, and a number of European countries no longer confront China over human-rights issues. Six years after the Norwegian Nobel Committee awarded the Nobel Prize for Peace to jailed Chinese dissident Liu Xiaobo, the Norwegian government effectively promised not to do such a thing again by declaring it "attaches high importance to China's core interests and major concerns, will not support actions that undermine them, and will do its best to avoid any future damage to the bilateral relations."¹⁷

Apart from explicit pressure by the Chinese government and its diplomats, European companies that do business with China are often Beijing's most influential agents. The main pro-China lobby in the Czech Republic, for example, is said to be the Czech

15. Furst, "Czech Republic," 24; Godement, "China's Relations with Europe," 255-56; Godement and Vasselier, *China at the Gates*, 75, 79, 80, 84-86.

16. IMF, "Exports, FOB to Partner Countries," IMF Data (website), updated June 25, 2021, <https://data.imf.org/regular.aspx?key=61013712>; Furst, "Czech Republic," 24; Godement, "China's Relations with Europe," 255-56; and Godement and Vasselier, *China at the Gates*, 75, 79, 80, 84-86.

17. Godemont, "China's Relations with Europe," 256.

company PPF Group N.V., which has significant business interests in China. As another example, European book publishers often self-censor—for example, by not publishing content Beijing may perceive as being politically sensitive—to ensure their products will have access to the Chinese market.¹⁸

Scientific, Educational, and Cultural Exchanges

Scientific, educational, and cultural exchanges are an important mechanism by which China acquires European technology, access, and influence. In practice, most of these exchanges are unidirectional, with China acquiring European knowledge or talent while sharing little of its own and disseminating its political and cultural perspectives in Europe while preventing European countries from doing so in China.¹⁹

Chinese companies with varying levels of ties to the Chinese Communist Party (CCP) have established a rapidly growing number of research and development (R&D) partnerships in Europe.²⁰ These partnerships range from R&D collaborations with European companies to partnerships with European universities and involvement in EU research programs. Sometimes collaboration also

18. Tom Phillips, “Cambridge University Press Accused of ‘Selling Its Soul’ Over Chinese Censorship,” *Guardian* (website), August 18, 2017, <https://www.theguardian.com/world/2017/aug/19/cambridge-university-press-accused-of-selling-its-soul-over-chinese-censorship>; and Furst, “Czech Republic,” 23.

19. Godement and Vasselier, *China at the Gates*, 47–49.

20. “Is China a Global Leader in Research and Development?” *China Power* (blog), Center for Strategic International Studies, updated January 28, 2021, <https://chinapower.csis.org/china-research-and-development-rnd/>.

occurs through EU-China governmental entity partnerships, foreign R&D centers in Europe or China, joint laboratories, or special grants or fellowships for individual researchers.²¹ Although this cooperation can benefit Europe through the joint development of new products, services, and knowledge, China often manipulates these arrangements to access European IP, technologies, and talent—sometimes unbeknownst to European officials. This manipulation provides another way for China to build up its firms as global leaders in emerging industries or to cultivate indigenous technologies in place of foreign ones.

These strategic initiatives often target advanced technology, such as aerospace and artificial intelligence, packaged as fundamental advancements to benefit all societies involved. But these dual-use capabilities have military and strategic implications, allowing China to undermine Europe's economic competitiveness and its military and technological edge. Sometimes, entities involved in R&D are directly or indirectly linked to China's People's Liberation Army.²² Because these Chinese R&D investments are not included in most European regulatory regimes, they can be used to mask conflicts of interest, undesirable commercial activity, and even national security risks posed by Chinese involvement.²³

Similarly, Chinese companies and state-backed entities invest in talent acquisition, recruitment,

21. Agatha Kratz et al., *Chinese FDI in Europe: 2019 Update* (Berlin: Mercator Institute for China Studies, April 2020).

22. Evan S. Medeiros et al., *A New Direction for China's Defense Industry* (Santa Monica, CA: RAND Corporation, 2005).

23. "China's R&D Strategy," European Commission (website), n.d., https://knowledge4policy.ec.europa.eu/foresight/topic/expanding-influence-east-southindustry-science-innovation_en.

and development programs; the CCP treats this investment as a form of technology transfer.²⁴ The Chinese government claims to have recruited almost 60,000 overseas professionals from 2008 to 2016.²⁵ In Europe, the United Kingdom, Germany, and France are primary targets because of their leading talent pools, advanced industries, and cutting-edge technologies. These programs, including the Thousand Talents Plan, use grants and other funding to draw in highly specialized foreign scientists and technology experts to work on dual-use technologies at Chinese research institutions, including those with ties to the Chinese military to deepen civil-military fusion.²⁶ The programs also provide opportunities for European scientists to work with Chinese companies, raising concerns over research and the improper acquisition of IP by China, with commercialization of the subsequent products undercutting the companies or individuals that developed it in Europe.

24. James Jin Kang, "The Thousand Talents Plan is Part of China's Long Quest to Become the Global Scientific Leader," *Conversation* (website), August 31, 2020, <https://theconversation.com/the-thousand-talents-plan-is-part-of-chinas-long-quest-to-become-the-global-scientific-leader-145100>; Godement and Vasselier, *China at the Gates*, 22-23, 40, 45, 47; and Godement, "China's Relations with Europe," 258.

25. Alex Joske, "Hunting the Phoenix: The Chinese Communist Party's Global Search for Technology and Talent," Australian Strategic Policy Institute (website), August 20, 2020, <https://www.aspi.org.au/report/hunting-phoenix>.

26. Ellen Barry and Gina Kolata, "China's Lavish Funds Lured US Scientists. What Did It Get in Return?," *New York Times* (website), February 6, 2020, <https://www.nytimes.com/2020/02/06/us/chinas-lavish-funds-lured-us-scientists-what-did-it-get-in-return.html>; and Kratz et al., *Chinese FDI in Europe*.

In many cases, such programs are facilitated through Chinese investment in “overseas talent recruitment workstations” designed to exploit the open scientific communities in Europe.²⁷ The CCP has a highly centralized control mechanism for these centers and often contracts individuals or front organizations (for example, community centers) to manage these facilities inside European countries.²⁸ This methodology generally allows the centers to evade traditional investment screening. The centers offer attractive incentives, including substantial financial bonuses for successful recruitment. According to anecdotal evidence, after becoming involved, European participants have been manipulated, coerced, or bribed by Chinese actors to steal technology, facilitate espionage, or influence their home institution on China’s behalf through a range of overt and covert means.²⁹

In the cultural realm, China has established China Cultural Centers in most European countries. These centers promote Chinese culture through activities such as art exhibitions, calligraphy classes, and festivals during traditional Chinese holidays. In addition to these generic activities, Beijing organizes social and cultural exchanges specific to individual European countries. For example, China has promoted an Ancient Civilizations Forum with Greece, Italy, and other countries. In the case of Portugal, China has emphasized its long-standing relationship with the country through Macao, formerly a Portuguese colony. The Chinese government also promotes interactions at the subnational level. For example, many cities in

27. Joske, “Hunting the Phoenix.”

28. Joske, “Hunting the Phoenix.”

29. Joske, “Hunting the Phoenix.”

China have established “sister city” relationships with European cities.³⁰

One of China’s best-known cultural exchange vehicles is its Confucius Institutes. Currently, Europe has over 170 Confucius Institutes. In 2017, the National Association of Scholars counted 103 Confucius Institutes in the United States. But as of August 2021, this number had dwindled to just 38.³¹ The institutes are programs on university campuses that focus primarily on Chinese-language instruction, although they also sponsor some cultural programs. The Chinese government pays for the instructors and administrators at Confucius Institutes and provides the teaching materials they use. As a result, the Chinese government controls the content of the courses taught by instructors and administrators, shaping European university students’ understanding of China. In addition, because Confucius Institutes allow universities to offer Chinese-language classes at no cost to the university, they provide China with a degree of financial leverage over the host universities. For example, if a European university that hosted a Confucius Institute wished to hold a conference on a topic that was objectionable to Beijing (such as conceptions of national identity in Taiwan), China could threaten to defund the institute and withdraw its instructors.³² Most recently, Chinese state employees

30. Dams, Martin, and Kranenburg, *China’s Soft Power in Europe*, 8.

31. “How Many Confucius Institutes Are in the United States?” National Association of Scholars (website), updated December 10, 2021, https://www.nas.org/blogs/article/how_many_confucius_institutes_are_in_the_united_states.

32. Godement, “China’s Relations with Europe,” 259; Godement and Vasselier, *China at the Gates*, 80–81; and Dams, Martin, and Kranenburg, *China’s Soft Power in Europe*, 7–8.

of Confucius Institutes in Europe have been accused of espionage. In some cases, these incidents have led European universities to curtail or cut ties with Confucius Institutes.³³

Chinese Media Operations

Another means by which Beijing seeks to influence discourses about China in Europe is through its government-controlled media organizations, which include China Global Television Network, China Radio International, and Xinhua News Agency. These media organizations broadcast in local languages in several European countries, including France, Germany, Poland, Romania, and the Czech Republic.³⁴

A related, and probably more effective, approach involves China providing content to European media outlets, which then broadcast or publish it as if China's news providers were just another independent news source like the Associated Press or the BBC. Deutsche Presse-Agentur, for example, has an arrangement with Xinhua whereby Xinhua pays to post its articles on Deutsche Presse-Agentur platforms. The official news agencies and television stations of several other European countries, including Italy, Greece, Malta, and Romania, have content exchange relationships

33. Stuart Lau, "Belgian University Closes Its Chinese State-Funded Confucius Institute after Spying Claims," *South China Morning Post* (website), December 11, 2019, <https://www.scmp.com/news/china/diplomacy/article/3041617/belgian-university-closes-its-chinese-state-funded-confucius>; and "Parliamentary Questions," European Parliament (website), December 10, 2020, https://www.europarl.europa.eu/doceo/document/E-9-2020-006751_EN.html.

34. Dams, Martin, and Kranenburg, *China's Soft Power in Europe*, 7-10; Furst, "Czech Republic," 23; and Godemont, "China's Relations with Europe," 259.

whereby Chinese media organizations provide a significant portion of these outlets' coverage of China. Any content these organizations provide to China, on the other hand, is carefully edited and censored. *China Daily*, China's official English-language newspaper, gets its *China Watch* supplement placed in newspapers and magazines throughout Europe, including the *Daily Telegraph* in the United Kingdom, *Le Figaro* in France, *Handelsblatt* in Germany, *El País* in Spain, *Le Soir* and *De Standaard* in Belgium, and *Zemias* in Bulgaria. In addition, Chinese investors have purchased local media outlets in some European countries, ensuring they will provide China-friendly coverage. Reciprocal activities by European news organizations are impossible in China.³⁵

Funding of Public Policy Organizations and Events

Another way in which Beijing attempts to influence policies and perceptions in Europe is through the funding of public-policy organizations and events. In Brussels, for example, think tanks, conferences, and seminars dealing with international relations and economics or Asia often receive sponsorship from China's EU diplomatic mission.³⁶ Similarly, a June 2017 report entitled *EU-China: Mending Differences*, which was issued on the eve of an EU-China summit

35. Dams, Martin, and Kranenburg, *China's Soft Power in Europe*, 9–10; Furst, "Czech Republic," 23; Godement, "China's Relations with Europe," 259–60; and Godement and Vasselier, *China at the Gates*, 81–82.

36. "Follow the New Silk Road: China's Growing Trail of Think Tanks and Lobbyists in Europe," Corporate Europe Observatory (website), April 8, 2019, <https://corporateeurope.org/en/2019/04/follow-new-silk-road-chinas-growing-trail-think-tanks-and-lobbyists-europe>.

by Euractiv, an independent, pan-European media network, was sponsored by China's mission to the EU in Brussels. In Hungary, China has even established the first Chinese-controlled think tank to be registered in Europe, the China-CEE Institute in Budapest.³⁷

Cultivating Relations with Influential Individuals

China's funding of European think tanks is related to another way in which it seeks to develop influence in Europe: cultivating relations with prominent Europeans. China accomplishes this feat through several means. One is offering positions at Chinese corporations and Chinese-funded think tanks to former high-ranking European officials. Such officials have included former prime ministers, foreign ministers, defense ministers, ambassadors, and EU commissioners. Another way of cultivating influential individuals is to invite academics, think-tank members, and regional politicians on multiday tours of China in which they visit high-tech corporations and laboratories, meet with government officials important to their work, travel to scenic tourist destinations, and receive high-quality accommodations and food.³⁸

Investment

One of China's most important mechanisms for acquiring economic benefits, technology, and influence in or from Europe is investment. Europe is a major destination for China's outbound investment.

37. Godement and Vasselier, *China at the Gates*, 65, 78, 110; Furst, "Czech Republic," 22.

38. Godement, "China's Relations with Europe," 260; Godement and Vasselier, *China at the Gates*, 77-78, 85; and Furst, "Czech Republic," 22.

Excluding investment in Hong Kong and the British Virgin Islands (on the grounds they are not the final destination of most Chinese funds invested in them), 28 percent of China's outbound direct investment in 2019 went to Europe—more than any other continent besides Asia. Chinese corporations and individuals are estimated to have bought or invested a total of \$335 billion in European assets between 2008 and 2019.³⁹

Chinese investment in Europe appears to be focused on acquisitions in strategic technology areas, including integrated circuits, broadband communications, machine tools, robots and artificial intelligence, biopharmaceuticals, shipbuilding, automobiles, space, and the aviation industry. Most of these areas are targets of the Made in China 2025 initiative, a state-led industrial initiative that seeks to make China dominant in global high-tech manufacturing.⁴⁰ China's focus on these areas suggests acquiring technology in sectors in which the Chinese government seeks to improve China's capabilities is often one of the motivations for Chinese acquisitions in Europe.⁴¹

In some cases, however, the goal of Chinese acquisitions in Europe may be to acquire a strategic business advantage or to acquire technology by more indirect means. For example, in 2013, a company owned by the city of Yantai purchased a French company, Manoir Industries, that specializes in steel

39. National Bureau of Statistics of China, *China Statistical Yearbook*; and Godement, "China's Relations with Europe," 258.

40. Scott Kennedy, "Made in China 2025," Center for Strategic and International Studies (website), June 1, 2015, <https://www.csis.org/analysis/made-china-2025>.

41. Godement and Vasselier, *China at the Gates*, 40, 43–44, 46, 52; and Cliff, *New US Strategy*, 36.

tubing and needles for the civilian nuclear industry. After buying other industry-critical companies in Europe and India, by 2017, Manoir Industries was close to having a monopoly on the supply of critical parts in nuclear-waste treatment plants, a capability China had long sought to acquire from France. This position could be used to extract monopoly rents or to convince the government of France to license nuclear-waste treatment technology to China.

As another example, in 2016, HNA Group, the corporate parent of Hainan Airlines, acquired Avolon, an Irish aircraft leasing company. The following year, Avolon bought US-based CIT Group's aircraft leasing business, thereby becoming the world's third-largest aircraft leasing company. The resulting buying power may have enabled Avolon to negotiate more favorable aircraft purchase terms from the Boeing Company and Airbus SE.⁴² In addition, Chinese investment in Europe might be used to promote Chinese standards in areas such as 5G cellular technology, transport, and business arbitration.⁴³

Beijing also uses investment in Europe, or the promise of such investment, to exert political influence. This influence is used for different purposes. One purpose is to affect directly the policies of European governments on issues important to Beijing. In response to a visit to Belgium by the Dalai Lama and visits to Taiwan by local Belgian officials in 2016, for example, Chinese officials threatened to withdraw investments from the country.

The influence derived from actual or promised investment is also used to circumvent or weaken the EU by offering investment to individual European

42. Godement and Vasselier, *China at the Gates*, 41.

43. Godement and Vasselier, *China at the Gates*, 16, 39, 46, 51.

countries rather than competing in transnational or EU-wide tenders. This strategy has been used to soften or prevent criticism of China over issues such as human rights or the South China Sea as well as for purely economic purposes, such as obtaining more favorable terms for Chinese investments than would be possible if China went through EU public tender processes.⁴⁴

Chinese investment-related activities in Europe include state-led and ostensibly private foreign investment and acquisitions, joint ventures with European and US firms, complex webs of Chinese venture capital (VC), and forced technology transfer. The following subsections provide an overview of some of the primary Chinese investment tactics. Though these categories are not comprehensive, for the purpose and scope of this analysis, they capture China's most frequent and impactful investment activities in Europe.

Direct Investments and Acquisitions by Chinese State-Owned Entities

Dating back to the late 1990s and early 2000s, China has used explicitly state-owned entities, such as sovereign wealth funds and so-called "national champion companies," to carry out investments and acquisitions proactively in Europe.⁴⁵ Though Chinese capital may appear welcoming to European companies

44. Godement and Vasselier, *China at the Gates*, 16, 18, 50, 65–68, 77, 85.

45. Daniel Michaels, "Behind China's Decade of European Deals, State Investors Evade Notice," *Wall Street Journal* (website), September 30, 2020, <https://www.wsj.com/articles/behind-chinas-decade-of-european-deals-state-investors-evade-notice-11601458202>.

and countries in need of stimulus, China's deals often come with strings attached. The deals usually give Chinese stakeholders full or partial ownership or influence over IP, related resources, and know-how. As part of these deals, large sums or market access to China are often offered in exchange for production control over key components, operating control of facilities, or forced technology transfer to the Chinese stakeholders.⁴⁶ The terms sometimes also mandate the use of Chinese labor, which both undercuts the benefits to the local European economy and places often-sensitive technology and operations directly in Chinese hands.⁴⁷

In the United States, similar initiatives have allowed Chinese entities—and, by extension, the Chinese government—to access facility operations information, product designs, sensitive technological or operational data, and key techniques via explicit and implicit information sharing or people-to-people exchanges.⁴⁸ In the case of technology, China's typical strategy is to reverse engineer or replicate the targeted IP or capability and reproduce it as the country's own.⁴⁹ This strategy can involve replacing

46. Kratz et al., *Chinese FDI in Europe*.

47. Jakob Hanke Vela, "Trade Deal Allows Chinese Staff to Work in EU for 3 Years," *Politico* (website), January 13, 2021, <https://www.politico.eu/article/eu-china-investment-deal-allows-chinese-staff-work-3-years/>.

48. Keith Bradsher, "How China Obtains American Trade Secrets," *New York Times* (website), January 15, 2020, <https://www.nytimes.com/2020/01/15/business/china-technology-transfer.html>.

49. China Innovation Project, "Made in China 2025 Explained," *Newsletter* (blog), Harvard University, accessed May 24, 2021, <https://projects.iq.harvard.edu/innovation/made-china-2025-explained>.

the European company that originated the IP in the Chinese domestic market and subsequently displacing it in the global market with its new, often cheaper, version of the capability.⁵⁰

As part of a decade-long pattern, the Chinese government has been directly involved in the acquisition of hundreds of European companies, including some in the high-tech, transportation, infrastructure, and energy sectors.⁵¹ But this model of overt, state-led foreign direct investment has been dropping sharply in Europe, partly due to China's retrenchment and partly due to Europe's recognition of China's predatory investment tactics (which will be addressed in depth in chapter 4 of this study).⁵²

The risks of these explicitly state-driven activities are now widely understood in Europe. Many European countries and the EU have introduced new screening procedures and restrictions on large foreign investments and acquisitions in strategic sectors, including sensitive technologies (which will be

50. Stew Magnuson, "DSEI JAPAN NEWS: Expert Details What China Does after Stealing IP," *National Defense Magazine*, November 22, 2019, <https://www.nationaldefensemagazine.org/articles/2019/11/22expert-details-what-china-does-after-it-steals-ip>.

51. Michaels, "European Deals"; and "The Future of Chinese Investment in Europe," Stratfor Worldview, February 25, 2021, <https://worldview.stratfor.com/article/future-chinese-investment-europe>.

52. GP Bullhound, Inc., "Asia Insights: Q1 Wrap-Up from One of the First Markets to Reopen" (PowerPoint presentation, GP Bullhound, Inc., London, UK, May 2020), <https://docsend.com/view/55r4qmv6s5wnf3h5?hsCtaTracking=320f4359-fd0b-4be1-ac0b-29402daada8e%7C4338ba75-0a0d-4cce-b3d5-ea569358eff5>.

addressed in greater detail in chapter 5 of this study).⁵³ Nevertheless, and as suggested in the preceding chapter, China's exploitation of the adverse impact of the coronavirus disease 2019 (COVID-19) pandemic on European economies and companies to buy distressed European assets at bargain rates remains a risk.⁵⁴

Investments by Chinese Entities Not Explicitly Tied to the State

China also allows nominally private companies to play an important role in the government's plans to access foreign technology.⁵⁵ By using Chinese companies not directly or explicitly tied to the state to negotiate investments and acquisitions, the Chinese government has been able on occasion to evade greater scrutiny in Europe. Through these companies,

53. Sarah Erickson, "Recent Developments in EU Foreign Investment Screening," *Strategic Technologies Blog*, Center for Strategic and International Studies (website), April 19, 2021, <https://www.csis.org/blogs/strategic-technologies-blog/recent-developments-eu-foreign-investment-screening>.

54. Elisabeth Braw, "China Is Bargain Hunting—and Western Security Is at Risk," *Foreign Policy*, April 15, 2020, <https://foreignpolicy.com/2020/04/15/china-is-bargain-hunting-and-western-security-is-at-risk/>.

55. Loletta Chow, "Transformation and Opportunities: How Chinese Enterprises Go Abroad amid the New Normal of COVID-19?," Ernst and Young (website), October 19, 2020, https://www.ey.com/en_cn/china-overseas-investment-network/how-chinese-enterprises-go-abroad-amid-the-new-normal-of-covid-19.

China targets acquisitions that appear commercial on the surface but that could have military applications.⁵⁶

The Chinese government influences these companies at various levels.⁵⁷ Independent reports and investigations have illuminated government pressure for companies to build backdoors into products, networks, or facilities for data theft or government use.⁵⁸ The rise in commercial Chinese acquisitions has continued alongside the Chinese government's state-directed industrial and cyber espionage. These practices have further blurred the lines between state-controlled and state-influenced firms, making doing business with Chinese companies more challenging for Europe.

Chinese Venture Capital in Europe

As scrutiny of Chinese companies with both direct and indirect ties to the state has increased, China has adapted its investment activity in Europe to obscure its

56. Peter Chase and Justus Windwehr, "The EU, Export Controls, and Minding the National Security Gap," German Marshall Fund of the United States (website), January 29, 2021, <https://www.gmfus.org/news/eu-export-controls-and-minding-national-security-gap>.

57. Liisi Karindi, "How China Is Buying Influence in Europe," China Observers in Central and Eastern Europe (website), July 7, 2020, <https://chinaobservers.eu/how-china-is-buying-influence-in-europe/>.

58. Catalin Cimpanu, "FBI Warns US Companies about Backdoors in Chinese Tax Software," ZDNet (website), July 24, 2020, <https://www.zdnet.com/article/fbi-warns-us-companies-about-backdoors-in-chinese-tax-software/>; and Swati Khandelwal, "China Demands Tech Companies to Give Them Backdoor and Encryption Keys," Hacker News (website), February 3, 2015, <https://thehackernews.com/2015/02/iphone-china-backdoor.html>.

sources of capital further and enhance the appearance of independence from the state. Chinese investors are becoming more selective, in part to dodge the CCP's clamp down on risky investments abroad by Chinese firms and in part to avoid backlash from European governments and media.⁵⁹ Instead of large, attention-grabbing investments, Chinese companies are focusing on investments into and acquisitions of smaller European companies that give them access to underrated or nascent technologies, components of technologies, processes, facilities, or talent.

A growing trend in the technology sector involves using multiple layers of Chinese VC firms to invest in European start-ups, which are particularly attractive given their outsize role in innovation and rapid technology development. Because European start-ups require significant external capital to grow, they offer China opportunities to influence and penetrate them early in their growth cycle. Such VC investments could allow China to access nascent technology that could have military applications before these start-ups can be formally acquired and spotted by European investment screening tools or before the technology can be incorporated into European defense systems and considered classified.⁶⁰

Many Chinese VC firms also invest in European start-ups through Western VC firms, in which they participate as limited partners. As limited partners, Chinese entities sometimes have access to the

59. Laurens Cerulus et al., "Chinese Tech Companies Could Face Trouble in Europe," Politico (website), August 8, 2020, <https://www.politico.eu/article/meet-china-inc-s-firms-that-could-face-trouble-in-europe-2/>.

60. Sabrina Korreck, *Exploring the Promises and Perils of Chinese Investments in Tech Startups: the Case of Germany* (New Delhi: Observer Research Foundation, March 10, 2021).

technology in which they invest without having their names made public at any stage.⁶¹ Because these Western firms are not always obliged to disclose their limited partners, determining how many or which European start-ups have received Chinese VC is difficult.

More examples are also surfacing in which big Chinese firms acquire smaller Chinese companies and use the smaller companies to make acquisitions of even smaller European companies in possession of key technologies.⁶² In some cases, Chinese companies make incremental investments or reinvestments in their European subsidiaries that are not included in the original transaction value to avoid most investment thresholds and screenings (the proposed United Kingdom investment screening system, discussed in chapter 5, may be an emerging exception to

61. Elisabeth Braw, "How China Is Buying Up the West's High-Tech Sector," *Foreign Policy* (website), December 3, 2020, <https://foreignpolicy.com/2020/12/03/how-china-is-buying-up-the-wests-high-tech-sector/>; Heather Somerville, "China's Penetration of Silicon Valley Creates Risks for Startups," Reuters (website), June 28, 2018, <https://www.reuters.com/article/us-usa-china-techinvesting-insight/chinas-penetration-of-silicon-valley-creates-risks-for-startups-idUSKBN1JP08V>; and China International Capital Corporation Limited and Rhodium Group, *Reaching New Heights: an Update on Chinese Investment into Europe* (Washington, DC: Baker & Mackenzie, March 2016).

62. Ding Han and Nikolaus Von Jacobs, "Chinese Investment in Post-Pandemic Europe," *M&A Review* (website), September 16, 2020, <https://ma-review.com/chinese-investment-in-post-pandemic-europe/>; and Don Weinland, "Chinese Firms Are Quietly Pursuing a New Global Strategy," *Economist*, November 8, 2021, <https://www.economist.com/the-world-ahead/2021/11/08/chinese-firms-are-quietly-pursuing-a-new-global-strategy>.

this trend).⁶³ Because many of these deals involve relatively small amounts of money, European industry and officials have struggled to grasp the scale of this issue.

Finally, a relatively newly emerging trend among top Chinese VC and private equity firms is to set up separate entities that invest in publicly traded stocks, particularly in the United States and Europe.⁶⁴ The threat here is twofold. First, Chinese stakeholders use their shares to exert influence over companies and organizations, including silencing their leaders on political and public-policy issues. This phenomenon could have spillover effects in the security realm. For example, a company could be coerced to refuse to comply with Western security investigations, resilience requirements, or other national security-related requests from allied governments. Second, for larger investments, companies could be pressured to engage in the technology transfer of, sharing of, or even theft of IP against their best interests.⁶⁵

63. Thilo Hanemann, Rhodium Group, and Mikko Huotari, *EU-China FDI: Working Towards More Reciprocity in Investment Relations* (Berlin: Mercator Institute for China Studies, April 17, 2018).

64. Juro Osawa, "China Qiming Venture Launches \$500 Million Fund to Invest in Listed Companies," Information (website), May 25, 2021, <https://www.theinformation.com/articles/chinas-qiming-venture-launches-500-million-fund-to-invest-in-listed-companies>.

65. Carlos Tejada, "Beg, Borrow, or Steal: How Trump Says China Takes Technology," *New York Times* (website), March 22, 2018, <https://www.nytimes.com/2018/03/22/business/china-trump-trade-intellectual-property.html>.

Penetration of Raw Material Supply Chains

Over the past two decades, China has developed a quasimonopoly on the provision of rare-earth elements (REEs) to the European market through both mining and refinement. These elements include 15 lanthanides on the periodic table as well as scandium and yttrium. Although the United States dominated the REE market 40 years ago, China's strategic emphasis on developing the REE supply chain, growing US environmental concerns over REE extraction and processing, and the manufacturing base's shift from the United States to other countries has shifted REE supply chains abroad.⁶⁶ Since then, China has flooded the market with cheap prices and labor, nearly eliminating competition.⁶⁷ Now, China controls more than 80 percent of global REE production.⁶⁸

China possesses more natural reserves of rare-earth elements than any other country in the world. In addition, to expand its control of supply, Chinese state-backed companies have acquired or made major investments in mines across other REE-rich nations

66. Sabri Ben-Achour, "The US Is Trying to Reclaim Its Rare-Earth Mantle," April 30, 2021, Minnesota Public Radio Marketplace (website), hosted by Kai Ryssdal, podcast, <https://www.marketplace.org/2021/04/30/the-u-s-is-trying-to-reclaim-its-rare-earth-mantle/>.

67. Reuters Staff, "Explainer: China's Rare Earth Supplies Could Be Vital Bargaining Chip in US Trade War," Reuters (website), May 30, 2019, <https://www.reuters.com/article/us-usa-china-rareearth-explainer-idUSKCN1T00EK>.

68. NetworkNewsWire, "Importance of Rare Earth Elements (REEs) Soars as Demand Increases," Cision PR Newswire (website), March 16, 2021, <https://www.prnewswire.com/news-releases/importance-of-rare-earth-elements-rees-soars-as-demand-increases-301248259.html>.

in Africa, South America, and Asia.⁶⁹ China has also invested heavily in its refinement capabilities and facilities.⁷⁰ Currently, only three major REE production facilities are located outside of China. Because Europe lacks any indigenous capability to produce REE products, it completely relies on China for both supply and production and refinement.

Without these raw materials, major European companies and governments cannot produce or operate critical technologies. This reliance on REEs has a disproportionate impact on European countries with large or fast-growing high-tech and manufacturing sectors, namely Germany, Ireland, the Netherlands, Sweden, and the United Kingdom.

Knowing the stakes, China uses its access to and domination of REE supply chains for political and economic coercion in Europe. For example, by threatening to cut off REE supplies, China has pressured foreign governments and companies not to publicly criticize the Chinese government on

69. K.M. Goodenough et al., "Europe's Rare Earth Element Resource Potential: an Overview of REE Metallogenetic Provinces and Their Geodynamic Setting," *Ore Geology Reviews* 72, no. 1 (September 2015).

70. Elliot Smith, "Why Europe Needs to Monitor China's Rare Earths Threat," *CNBC* (website), June 6, 2019, <https://www.cnbc.com/2019/06/06/rare-earths-why-europe-needs-to-monitor-chinas-threat.html>; and June Teufel Dreyer, "China's Monopoly on Rare Earth Elements – and Why We Should Care," Foreign Policy Research Institute (website), October 7, 2020, <https://www.fpri.org/article/2020/10/chinas-monopoly-on-rare-earth-elements-and-why-we-should-care/>.

policy issues, such as human-rights abuses.⁷¹ China also uses this advantage to sway large trade and commercial deals in its favor.⁷² Increasingly, Chinese REE producers—the six major producers are China Minmetals Rare Earth Co. Ltd.; Chinalco Rare Earth & Metals Co.; Guangdong Rising Nonferrous Metals Group Co., Ltd.; China Northern Rare Earth Group High-Tech Co. Ltd.; China Southern Rare Earth Group; and Xiamen Tungsten Co., Ltd. — are engaging in cartel-like behavior to set prices artificially and limit foreign consumers’ access to supply for China’s economic and security benefit.⁷³

Use of Selective Forums

Two important vehicles for translating potential investment into political influence have been China’s BRI and its 16+1 format with Central and Eastern European countries. (In 2019, the 16+1 format became 17+1 when Greece joined, but the format reverted to 16+1 in 2021, when Lithuania withdrew.)⁷⁴ Launched in 2013, the BRI is China’s much-touted

71. Panos Mourdoukoutas, “China Threatens to Cut Rare Earths Supplies to the US—Bad Idea,” *Forbes* (website), March 16, 2019, <https://www.forbes.com/sites/panosmourdoukoutas/2019/05/16/china-threatens-to-cut-rare-earths-supplies-to-the-us-bad-idea/?sh=340fa7d27486>.

72. Reuters Staff, “China’s Rare Earth Supplies.”

73. Tom Daly and Shivani Singh, “China Rare Earth Prices Soar on Their Potential Role in Trade War,” Reuters (website), June 6, 2019, <https://www.reuters.com/article/us-usa-trade-china-rareearths/china-rare-earth-prices-soar-on-their-potential-role-in-trade-war-idUSKCN1T70IB>.

74. Stuart Lau, “Lithuania Pulls Out of China’s ‘17+1’ Bloc in Eastern Europe,” Politico (website), May 21, 2021, <https://www.politico.eu/article/lithuania-pulls-out-china-17-1-bloc-eastern-central-europe-foreign-minister-gabrielius-landsbergis/>.

effort “to strengthen China’s economic linkages with the rest of Asia, Europe, Africa, and Oceania,” explains Roger Cliff. According to Cliff, “Although the initiative entails a range of activities such as free trade agreements, currency-swap agreements, policy coordination, and people-to-people exchanges, most attention has been given to its infrastructure projects in areas such as transportation, energy, and telecommunications. Banks controlled by the Chinese government have pledged nearly \$1 trillion in loans for BRI projects.”⁷⁵

The 16+1 format (officially known as the “Cooperation between China and Central and Eastern European Countries”) refers to interactions between China and 16 Central and Eastern European countries. The centerpiece of the relationship is annual summits that have been held since 2012 among the heads of government of the participating countries, but many other activities and enterprises involving China and the other countries are also billed as being part of the initiative. These activities and enterprises include ministerial and technical dialogues and meetings; joint conferences; a Virtual Technology Center in Nanjing; and a Technology Transfer Center in Bratislava, Slovakia; as well as sports, music, films, martial arts, books, theaters, and folk-art events. Central and Eastern European countries have been eager to participate in these activities because of the promise of China investing its considerable capital in their economies as well as China’s potential as a market for their exports. In addition, Chinese banks have been willing to loan money to Central and Eastern European governments for projects the EU and

75. Cliff, *New US Strategy*, 36.

Western commercial banks have assessed as being too risky or not profitable.⁷⁶

The influence derived from these programs appears to be limited and waning, at least in some parts of Europe, primarily because participating countries have not reaped significant benefits. The BRI projects that have been proposed in Europe, for example, are far less ambitious than the huge infrastructure investments announced for countries elsewhere in the world. Likewise, the dialogues and cultural events associated with the 16+1 mechanism have not been accompanied by significant actual investment in these countries. Nevertheless, both China and the Central and Eastern European governments have attempted to exaggerate the magnitude of the investments by including previously announced investment plans and loans that were never implemented. Since 2013, for example, China has been repeating a pledge for a \$10 billion (now \$11 billion) credit line, but very few funds have been disbursed.⁷⁷ Indeed, the majority of Chinese investment in Europe is in Western

76. Emilian Kavalski, "China's '16+1' Is Dead? Long Live the '17+1,'" *Diplomat* (website), March 29, 2019, <https://the-diplomat.com/2019/03/chinas-161-is-dead-long-live-the-171/>; Dams, Martin, and Kranenburg, *China's Soft Power in Europe*, 8-9; Godement and Vasselier, *China at the Gates*, 48, 64-66, 70-71, 83; and Malgorzata Jankowska, *The Great Puzzle: China in Central and Eastern Europe* (Garmisch-Partenkirchen, DE: George C. Marshall European Center for Security Studies, March 2019).

77. Godement and Vasselier, *China at the Gates*, 18-19, 32, 38, 66-67, 72, 79; Furst, "Czech Republic," 24; Tamas Matura, *Chinese Investment in Central and Eastern Europe: a Reality Check* (Budapest: Central and East European Center for Asian Studies, April 2021); Jankowska, *The Great Puzzle*; Godement, "China's Relations with Europe," 259; National Bureau of Statistics of China, *China Statistical Yearbook*; and Stuart Lau, "Lithuania Pulls Out."

European countries such as France, Germany, Italy, and the United Kingdom, not Central and Eastern European countries.

Chinese Investment Trends in Europe Today

Starting in the early 2010s, Chinese investment in Europe began to increase significantly. This increase was part of a broader trend in Chinese investment: By 2014, Chinese outbound foreign direct investment (OFDI) had exceeded inbound foreign direct investment for the first time, which was significant given China's status at the time as a developing country.⁷⁸ Nonetheless, Europe was particularly attractive because it represented a relatively friendlier investment environment compared to the United States, which has increasingly viewed Chinese investment through a national security lens, and because Europe comprised advanced economies that were useful to Beijing's strategy, as outlined earlier in this chapter. Additionally, Chinese investors found significantly undervalued assets in Europe because governments there were forced to privatize in the name of shedding debt. In sum, Chinese investment in Europe rose from roughly €700 million in completed transactions in 2008 to a peak of €37.3 billion in completed transactions in 2016, before once again declining to €11.7 billion by 2019.⁷⁹

These investments – especially in terms of mergers and acquisitions (M&A) – were mostly concentrated in a few key countries, with the United Kingdom (30

78. Alicia García-Herrero, "China's Outward Foreign Direct Investment," Bruegel (website), *Blog Post*, June 28, 2015, <https://www.bruegel.org/2015/06/chinas-outward-foreign-direct-investment/>.

79. Kratz et al., *Chinese FDI in Europe*.

percent), France (18 percent), Germany (13 percent), and Italy (11 percent) receiving the lion's share.⁸⁰ Nonetheless, Hungary, the Netherlands, Portugal, Slovakia, Spain, Sweden, and other smaller countries also saw Chinese investment grow significantly in the wake of the Great Recession and eurozone crises. Moreover, although most Chinese investment in Europe before the Great Recession was concentrated in the financial services sector (50 percent) and the natural resources industry (35 percent), Chinese investment since then has been far more diversified. For example, utilities infrastructure received the largest portion—roughly 18 percent—while electronics and electrical equipment rose from 0.3 percent (\$33 million) in the years before the Great Recession to 5.6 percent (\$2 billion) in the years afterward. This shift aligned well with Chinese strategic objectives and policies, including Made in China 2025.

Most of these investments—roughly 60 percent—were made by Chinese state-owned enterprises, which are directly tied to the central government and, hence, to the CCP.⁸¹ The same applies to investments in Europe made by the Chinese sovereign wealth fund, known as the China Investment Corporation. Ostensibly, private Chinese firms have increasingly invested in Europe as well. But the 2017 National Intelligence Law of the People's Republic of China

80. Yuan Ma and Henk Overbeek, "Chinese Foreign Direct Investment in the European Union: Explaining Changing Patterns," *Global Affairs* 1, no. 4–5 (October 2015): 441–54.

81. Matt Schrader, "China Is Weaponizing Globalization," *Foreign Policy* (website), June 5, 2020, <https://foreignpolicy.com/2020/06/05/china-globalization-weaponizing-trade-communist-party/>; and Felicity M. Yost, "Divisive Economic Device? Understanding China's Choice to Create a Sovereign Wealth Fund," *Cornell International Affairs Review* 4, no. 2 (2011).

further blurred the line between private entities and the Chinese state, obliging the former to be a potential espionage tool of the latter.⁸²

Chinese OFDI into Europe began to decrease after 2016 though, as Chinese authorities began to scrutinize such investments more closely. This higher scrutiny occurred in part to ensure investments were aligned with national interests and in part to avoid or eliminate irrational risk taking, investments in “trophy assets” like sports clubs, and investments made to move funds offshore.⁸³ Ultimately, and somewhat belatedly, Chinese authorities unveiled regulations in October 2017 that were designed to codify these restrictions, resulting in the classification of OFDI into three categories: encouraged, restricted, and prohibited transactions. These regulations, jointly issued by the National Development and Reform Commission of the People’s Republic of China, the Ministry of Commerce of the People’s Republic of China, the People’s Bank of China, and the Ministry of Foreign Affairs of the People’s Republic of China, were known as “the Opinions on Further Guiding and Regulating the Direction of Outbound Investments.”

82. Murray Scot Tanner, “Beijing’s New National Intelligence Law: from Defense to Offense,” *Lawfare* (blog), July 20, 2017, <https://www.lawfareblog.com/beijings-new-national-intelligence-law-defense-offense>.

83. Cindy Lo et al., “China’s New Restrictions on Outbound Investments and Remittance,” Allen & Overy, December 30, 2016, <https://www.allenoverly.com/en-gb/global/news-and-insights/publications/chinas-new-restrictions-on-outbound-investments-and-remittance>; and David M. Blumental et al., *China Issues Formal Guidance for Outbound Direct Investments* (Hong Kong: Latham & Watkins, August 30, 2017).

Encouraged investments included:

- projects related to the BRI;
- high-tech businesses, advanced manufacturing enterprises, and overseas R&D centers;
- oil, gas, mineral, and energy resource projects;
- agriculture, forestry, animal husbandry, and fisheries; and
- service sectors, such as commerce, culture, and logistics.

Restricted investments included:

- real estate, hotels, cinemas, the entertainment sector, and sports clubs;
- equity investment funds or investment platforms that lacked an underlying operating business; and
- outdated and obsolete manufacturing equipment and technologies.

Finally, prohibited investments included:

- the export of core military technologies and products without Chinese approval; and
- technologies, techniques, and products that were banned for export from China.

These new controls as well as the imposition of investment screening mechanisms by some European countries (which chapter 5 addresses in detail) led to a drop in Chinese OFDI in Europe and elsewhere through the late 2010s.⁸⁴ The downturn in

84. Derek Scissors, *China's Global Investment Vanishes under COVID-19* (Washington, DC: American Enterprise Institute, July 2020).

Chinese OFDI in Europe brought about by these two factors was then compounded by the onset of the COVID-19 pandemic.

As a result, Chinese investment in the EU plus the United Kingdom fell in 2020 to \$6.5 billion (completed foreign direct investment), down from \$11.7 billion in 2019, which was already lower than in 2018. Overall, both the value and the number of Chinese investment deals in the EU were lower than they had been in previous years. (The figures for all of Europe—that is, including non-EU members—were slightly larger in 2020 at \$7.2 billion, down from \$13.4 billion in 2019.)⁸⁵ These annual figures, however, are somewhat deceiving. The figures cited above are aggregate, year-on-year comparisons. If the data is disaggregated by quarter, Chinese investment in Europe appears to begin to rebound starting in the fourth quarter of 2020.⁸⁶

The late 2020 rebound in Chinese investment in Europe resulted from several factors. First, the overall cost for Chinese entities to invest overseas fell after the US Federal Reserve Board introduced a massive monetary stimulus to boost the US economy.⁸⁷ Specifically, the board cut the federal funds rate to lower the cost of borrowing; made up to \$2.3 trillion

85. Agatha Kratz, Max Zenglein, and Gregor Sebastian, *Chinese FDI in Europe: 2020 Update* (Berlin: Mercator Institute for China Studies, June 2021); and Alicia Garcia Herrero and Jianwei Xu, “China’s M&A Activity Enlivens with Clear Focus on EU,” *Asia Times* (website), March 30, 2021, <https://asiatimes.com/2021/03/chinas-ma-activity-enlivens-with-clear-focus-on-eu/>.

86. Asia-based economist employed by a European investment bank, interview by the author, April 9, 2021.

87. Asia-based economist employed by a European investment bank, e-mail message to author, July 8, 2021.

n lending available to support US households, employers, financial markets, and state and local governments; and took several other steps to ensure adequate liquidity in the US economy.⁸⁸ These moves had spillover effects beyond the United States' borders. Like those of other countries, Chinese companies tend to finance their acquisitions in big offshore markets in US dollars. Increased dollar liquidity and lowered dollar borrowing costs functioned as a rising tide that lifted many boats, not simply those in the United States. Officials at the Federal Reserve have indicated they may begin the process of ending stimulus policies in late 2021, after which borrowing costs will increase.⁸⁹ When financing their investments in US dollars, Chinese firms (as well as those of other countries) found it cheaper to borrow, incentivizing investment abroad.

Additionally, China's fast domestic recovery and much laxer global financial conditions and the buying opportunities in COVID-19-hit countries contributed to the turnaround in Chinese investment in Europe in late 2020.⁹⁰ As a result, both the value and number of the announced deals during the fourth quarter of 2020 were only moderately lower than in the last quarter of 2019.

Chinese acquisitions in Europe in the last year have tended to target medium-sized enterprises, and they have tended to be more strategic – that is, deals

88. Jeffrey Cheng et al., *What's the Fed Doing in Response to the COVID-19 Crisis?* (Washington, DC: Brookings Institution, March 30, 2021).

89. Nick Timiraos, "Fed Signals Asset Purchases Likely to Slow This Year," *Wall Street Journal* (website), updated August 18, 2021, <https://www.wsj.com/articles/fed-debated-timing-mechanics-of-stimulus-pullback-at-july-meeting-11629309648>.

90. Herrero and Xu, "China's M&A Activity."

have been concentrated in a limited number of key sectors, mostly involving higher-end technology as well as infrastructure and some industrial sectors that rely on advanced technology, such as robotics and auto manufacturing. (The EU defines “medium-sized” as companies that have fewer than 250 employees and annual turnover below €50 million or a balance sheet below €43 million.)⁹¹ Notable deals in 2020 included GLP’s acquisition of the Goodman Group logistics and warehouse portfolio in Poland and other Central European countries; the China Evergrande Group’s acquisition of National Electric Vehicle Sweden; Tianjin Zhonghuan Semiconductor’s acquisition of a 29 percent stake in Maxeon Solar Technologies, Ltd., in France; and the China Railway Construction Corporation Limited’s acquisition of the Spanish engineering and construction firm Aldesa Group.⁹² Geographically, the top European recipients of Chinese investment in 2020 were France, Germany, Poland, Sweden, and the United Kingdom.

In terms of the Chinese entities buying up European assets, state-owned enterprises have become less important over time. From 2014 to 2017, state-owned investment typically made up more than half of total Chinese investment in Europe. Since then, investment by state-owned enterprises has been more

91. Tracy Wut et al., *Reassessing the Landscape for Chinese Investment in North America and Europe* (Chicago: Baker & McKenzie, April 2021); Asia-based economist employed by a European investment bank, interview by the author, April 9, 2021; Herrero and Xu, “China’s M&A Activity”; and Kratz, Zenglein, and Sebastian, *Chinese FDI in Europe*.

92. Wut et al., *Reassessing the Landscape for Chinese Investment*; and Asia-based economist employed by a European investment bank, interview by the author, April 9, 2021.

muted.⁹³ But this distinction is largely meaningless, considering the 2017 national intelligence and security law referenced previously.

Looking ahead to 2022 and beyond, the outlook among experts is mixed. Some expect the slower momentum of M&A activity seen during most of 2020 to continue, at least initially, in part thanks to somewhat high asset valuations, which make investments more expensive. Other factors that may contribute to a slower pace of M&A activity include the gradual strengthening of regulatory barriers in Europe and continued disruption caused by COVID-19.⁹⁴ Moreover, more liquidity is available in the European market today thanks to expansionary fiscal policies, including tax cuts and increased government spending on projects such as infrastructure improvements. These policies are meant to boost the economy and fend off an even deeper recession, meaning public and private entities may feel less pressure to secure a non-European lender of last resort, at least over the next two years.⁹⁵

In contrast, others expect the rebound seen in late 2020 to continue, perhaps robustly, especially if the Chinese economy continues to emerge strongly from the pandemic and Beijing continues to view its OFDI in Europe as beneficial to export ties and a means to

93. Wut et al., *Reassessing the Landscape*.

94. Wut et al., *Reassessing the Landscape*; and Kratz, Zenglein, and Sebastian, *Chinese FDI in Europe*.

95. Atlantic Council, *Trends in 2020 & Beyond: Assessing Chinese Investment in North America and Europe*, Atlantic Council (website), April 19, 2021, <https://www.youtube.com/watch?v=A1mslscq8qU>.

other ends, such as technology transfer.⁹⁶ Already, evidence suggests Beijing is loosening controls on capital outflows, primarily to reduce the possibility of speculative bubbles (a speculative bubble is a sharp, steep rise in prices fueled by market sentiment and momentum) in China as well as to make Chinese companies more competitive abroad.⁹⁷ This loosening of controls makes it more likely Chinese entities will look overseas for investment opportunities, including among the advanced economies of Europe.

On a related point, any increase in Chinese OFDI flows into Europe is likely to be in terms of M&A activity, even though not many bargains are available, at least in Western Europe, given the stronger position of most Western European governments and firms. Less likely is significant investment in new productive capacity or so-called “greenfield investments,” given Chinese desires to buy mature, advanced European

96. Derek Scissors, *China's Coming Global Investment Recovery: How Far Will It Go?* (Washington, DC: American Enterprise Institute, 2021); Herrero and Xu, “China’s M&A Activity”; “Global M&A Industry Trends: Fierce Competition Ahead for Dealmakers Shaping the Post-Pandemic Economy,” PwC (website), January 3, 2021, <https://www.pwc.com/gx/en/services/deals/trends.html>; and Atlantic Council, *Trends in 2020 and Beyond*.

97. Bloomberg News, “China Mulls Easing Capital Controls on Offshore Investments,” BloombergQuint (website), updated February 21, 2021, <https://www.bloombergquint.com/markets/china-mulls-easing-capital-controls-on-offshore-investments>; Asia-based economist employed by a European investment bank, interview by the author, April 9, 2021; Alexis Crow, “Trends in 2020 & Beyond”; and Karen Yeung, “China’s Strict Capital Controls May Be Eased to Allow Investment Abroad As Bubble Risks Grow,” *South China Morning Post* (website), March 4, 2021, <https://www.scmp.com/economy/china-economy/article/3124029/chinas-strict-capital-controls-may-be-eased-allow-investment>.

companies in furtherance of Beijing's national security goals. Paradoxically, as European sensitivity to Chinese investment grows—a subject the next chapter addresses in depth—greenfield investment may attract less scrutiny, but this kind of Chinese investment is more likely in developing economies. Most global M&A activity in the coming year or two is expected in the technology and health-care sectors; here, European companies are set to attract more than 60 percent of the technology deals in value terms.⁹⁸

Summary

Based on the significant resources, personnel, and attention China has devoted to Europe over the last decade, Beijing perceives Europe as increasingly important to the achievement of the former's goals. These goals include maintaining robust growth rates for China's economy, transforming China into a world technology leader, developing an increasingly capable military, making progress toward recovering territories that are viewed as part of China but were lost during the nineteenth and early twentieth centuries, and increasing China's prestige and influence in the international community. More specifically, Chinese leaders apparently hope to expand the economic benefits China derives from Europe, acquire European technology for both economic and military purposes, and increase China's influence in Europe.

China pursues these goals and objectives through several policies, including official diplomatic relations; public diplomacy; cyber operations; trade;

98. UN Conference on Trade and Development, *Investment Trends Monitor*, no. 38 (Geneva: UN Conference on Trade and Development, January 2021).

scientific, educational, and cultural exchanges; Chinese media operations; the funding of public policy organizations and events in Europe; cultivating relations with influential Europeans; and investment. Chinese investment in Europe focuses on integrated circuits, broadband communications, machine tools, robots and artificial intelligence, biopharmaceuticals, shipbuilding, automobiles, space, the aviation industry, and infrastructure. Not coincidentally, many of these industries are part of the Made in China 2025 initiative, through which Beijing hopes to dominate global high-tech manufacturing.

Chinese investment in Europe peaked in 2016 and has fallen since then. The outlook for 2022 and beyond is mixed. Some expect the slower momentum of Chinese investment activity to continue, thanks to high asset valuations and the gradual strengthening of regulatory barriers in Europe. In contrast, others expect recent signs of a rebound to continue, especially if the Chinese economy continues to emerge strongly from the pandemic, Beijing continues to pursue technology transfer in Europe, and Chinese authorities continue to loosen capital outflows and as Beijing develops tactics to elude European regulations. Even if a recent rebound appears to be underway—with Chinese investment and related activity in Europe expanding in the wake of the pandemic-induced recession—European sensitivity toward and concern over the same is likely to continue. The next chapter examines the shift in European attitudes toward China over the last several years.

4. SHIFTING EUROPEAN ATTITUDES TOWARD CHINA

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Just as China's economic relationship with Europe has blossomed over the last decade and looks set to grow once again in some respects, European attitudes toward China have significantly evolved over the same period. Overall, Europeans have become more skeptical of China, especially during the coronavirus disease 2019 (COVID-19) pandemic. Though the main driver of this change is economic and has to do with the changing calculus of the benefits of commercial engagement with China, several other external factors have also contributed. These factors include European dissatisfaction with the country's increasingly authoritarian turn under President Xi Jinping, the country's deteriorating human-rights record, and Beijing's growing assertiveness abroad against the backdrop of deepening Sino-American competition.

A crucial turning point in the evolving European debate came in March 2019 when an official EU strategy document labeled China for the first time as a "systemic rival" (in addition to calling it an "economic competitor" and a "partner").¹ The same month, French President Emmanuel Macron declared "the time of European naivete" toward Beijing's ambitions

1. Filip Šebok, "Partner, Competitor, Rival. How to Understand EU's Conflicting China Policy?," MapInfluence (website), May 4, 2021, <https://mapinfluence.eu/en/partner-competitor-rival-how-to-understand-eus-conflicting-china-policy/>.

was over.² In 2020, China's uncertain handling of the initial phase of the COVID-19 outbreak and Beijing's assertiveness in its aftermath further reinforced skepticism toward China in Europe. But the pandemic and the finalization of negotiations between Brussels and Beijing on the aforementioned Comprehensive Agreement on Investment (CAI) in December 2020 have highlighted the widening gap between those in the European debate who still favor continued pragmatic engagement on trade and those who wish to see a more robust approach toward China.

Europe's Evolving Perceptions of China

Historically speaking, European public opinion of China has been either slightly positive or slightly negative, not extreme in either way. China's fast economic rise and its culture have tended to be perceived as nonthreatening to most Europeans, a factor that has likely been amplified by China's geographical distance and a long-held European belief in the inevitability of liberal democracy spreading the world over.

Even so, views of China have tended to vary somewhat within Europe. Until around 2017, perceptions of China were positive, especially in many Central, Eastern, and Southern European countries. Among Central and Eastern European countries, many hoped China would fund infrastructure projects—for example, through the 16+1 format. Similarly, in Southern Europe, China's rise was initially greeted as an important new source of foreign direct investments

2. Michael Peel, "Macron Hails 'End of Europe Naïveté' towards China," *Financial Times* (website), March 22, 2019, <https://www.ft.com/content/ec9671ae-4cbb-11e9-bbc9-6917dce3dc62>.

after the global financial crisis. Though most Europeans still generally regard trade with China as positive, countries in Central and Eastern Europe and Southern Europe tend to have more favorable views of Chinese investments and the Belt and Road Initiative (BRI) than those in Western Europe. As recently as 2018, in a survey of perceptions among business and political elites in the Czech Republic, Greece, Portugal, and Serbia, China's growing business presence was still seen as overwhelmingly positive.³

This view has changed. Across the board, Europeans have gradually become more skeptical of China in recent years. One pan-European poll from late 2020 found views of China in 13 European countries were predominantly unfavorable (the 13 countries were the Czech Republic, France, Germany, Hungary, Italy, Latvia, Poland, Russia, Serbia, Slovakia, Spain, Sweden, and the United Kingdom).⁴ Western and Northern European countries tend to have the most negative views, and Central and Eastern Europeans have the most positive views, with Southern Europeans somewhere in the middle. Countries with the most negative views included the Czech Republic, France, Germany, Sweden, and the United Kingdom. On the opposite end were Latvia, Poland, Slovakia, and Spain. Even among countries like Hungary, whose government has sought to maintain close diplomatic ties to Beijing, public opinion has turned more negative. Moreover,

3. Philippe Le Corre, *China's Rise as a Geoeconomic Influencer: Four European Case Studies* (Washington, DC: Carnegie Endowment for International Peace, October 2018).

4. Richard Q. Turcsányi et al., *European Public Opinion on China in the Age of COVID-19: Differences and Common Ground across the Continent* (Olomouc, CZ, and Bratislava, SK: Palacký University Olomouc and Central European Institute of Asian Studies, 2020).

European publics generally have low regard for Xi Jinping’s leadership. According to the Pew Research Center, most survey respondents have no confidence at all in Xi’s actions in the global arena, with Sweden and Denmark being the most skeptical; see figure 4-1 for the percentage of Europeans with unfavorable views of China categorized by country.⁵ Even so, Europeans overwhelmingly still think cooperation with China is necessary to tackle global issues such as climate change, pandemics, and underdevelopment in Africa.

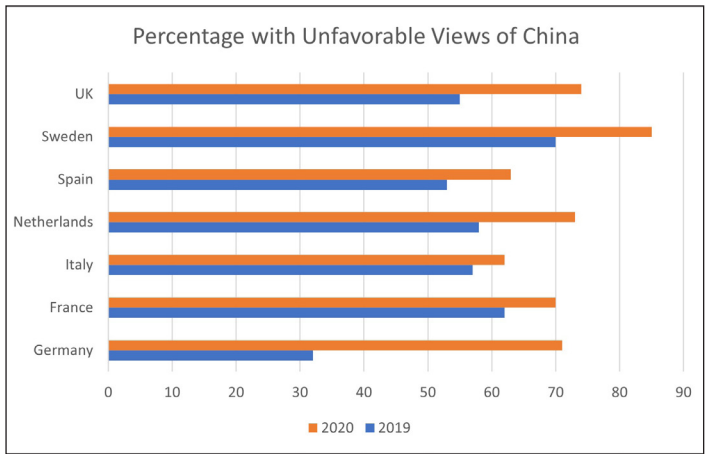


Figure 4-1. Percentages of Europeans with unfavorable views of China

5. Laura Silver, Kat Devlin, and Christine Huang, *Unfavorable Views of China Reach Historic Highs in Many Countries* (Washington, DC: Pew Research Center, October 6, 2020); and Laura Silver, Kat Devlin, and Christine Huang, *People around the Globe Are Divided in Their Opinions of China* (Washington, DC: Pew Research Center, December 5, 2019).

European Attitudes toward Chinese Economic Statecraft

Until around 2016, most European industrial and political leaders still predominantly viewed China through a commercial lens, expecting deeper economic integration and believing the impact of globalization would eventually lead to greater economic and political openness. Since China joined the World Trade Organization in 2001, European trade with China has rapidly expanded. China's fast economic growth—becoming the world's second biggest economy in 2010 and even surpassing the United States as the EU's biggest trading partner in goods in 2020—means selling to and accessing the Chinese market became a key imperative for many European export businesses during the past two decades.⁶ This change in dynamics especially affected German auto manufacturers, for whom China is today the leading export market. Similarly, in the United Kingdom, this period of forging deepening trade ties with China was heralded as the “golden era” of Sino-British relations.⁷

Europeans were not completely unaware of the economic challenges posed by China's rise. For instance, the EU Chamber of Commerce in China in its annual reports has for many years raised the issue of the unlevel playing field European businesses operating in China are facing compared with Chinese companies in Europe. In Europe, Chinese companies,

6. “China Overtakes US as EU's Biggest Trading Partner,” *BBC News* (website), February 17, 2021, <https://www.bbc.com/news/business-56093378>.

7. Reuters Staff, “China, Britain to Benefit from ‘Golden Era’ in Ties - Cameron,” *Reuters* (website), October 17, 2015, <https://www.reuters.com/article/us-china-britain/china-britain-to-benefit-from-golden-era-in-ties-cameron-idUSKCN0SB10M20151017>.

which are often subsidized by Beijing to begin with, have largely unfettered access to the common market. Meanwhile, in China, European companies suffer from delayed information relative to domestic companies, tenders announced via obscure channels, and unfair and corrupt awarding and appeals processes.

Moreover, the EU's strategy toward China from 2016 pointed to several bilateral economic challenges. Concerns cited were forced technology transfers, excessive state subsidies, intellectual property theft, and limited market access for European companies in many industries. The EU has gradually lost patience with China's inability to deliver on better market access for European companies while simultaneously developing a greater consciousness of Chinese predatory economic practices in Europe.

Two oft-cited wake-up calls were Chinese appliance company Midea Group's takeover of the German robotics firm KUKA and the China National Chemical Corporation's acquisition of the Swiss agrichemical company the Syngenta Group, both in 2016. These and other similar takeovers highlighted the long-term risks to European competitiveness in critical technology areas that are part of Beijing's ambitious Made in China 2025 initiative. Particularly in Western European countries with a strong research and innovation base and high-tech industries, China's deliberate targeting of strategic sectors and infrastructure for political, economic, and military gains has come to be seen as constituting an almost existential economic challenge, fundamentally undermining European economic strength.

Reflecting this sentiment, a seminal report from the German business lobbying group Bundesverband der Deutschen Industrie in January 2019 called

China a “systemic competitor.” The Bundesverband der Deutschen Industrie, or Federation of German Industries, is the umbrella organization of German industry and industry-related service providers. The organization represents 38 industrial-sector federations and has 15 regional offices in the German federal states. The organization speaks for more than 100,000 private enterprises that employ around eight million people.⁸ Echoing these shifting attitudes, the EU labeled China as a “systemic rival” in a March 2019 strategy paper referenced earlier in this chapter. Along similar lines, in 2020, a report from the Confederation of European Business, a pan-European business lobbying group in Brussels, also mentioned China’s “systemic challenges” and the need for a level economic playing field with China.⁹

The BRI represents another instance of Europe’s changing perceptions of China’s economic rise. Both the EU and many of its member states have grown more cautious and apprehensive about Beijing’s intentions behind the BRI and about how some of its projects are being implemented. This wariness is especially prevalent in vulnerable Balkan countries such as Montenegro, which has assumed unhealthy levels of Chinese debt, and Serbia, which has become a political ally of China.

Concerns leveled against BRI projects have to do with China’s lack of respect for labor, environmental,

8. Bundesverband der Deutschen Industrie, “Strengthen the European Union to Better Compete with China,” Bundesverband der Deutschen Industrie (website), January 10, 2019, <https://english.bdi.eu/article/news/strengthen-the-european-union-to-better-compete-with-china/>.

9. BusinessEurope, *The EU and China—Addressing the Systemic Challenge: a Comprehensive EU Strategy to Rebalance the Relationship with China* (Brussels: BusinessEurope, 2020).

and human-rights standards; insufficient transparency and open procurement; and debt sustainability.¹⁰ Moreover, Brussels views the 16+1 format as a tool for Beijing to divide EU countries and influence EU decision making. China has had some isolated successes in this regard. For example, in June 2017, Greece—then led by a leftist government—blocked an EU statement at the UN Human Rights Council criticizing China’s human-rights record, and in July 2016, Greece and Hungary sought to block an EU statement on the South China Sea.¹¹ More recently, in the spring of 2021, Hungary attempted to block two EU statements on human-rights abuses in Xinjiang and Hong Kong.¹²

Some of the governments that willingly signed up for the BRI are now growing dissatisfied with the lack of Chinese follow-through and specific construction project terms. For example, six regional leaders

10. Jyrki Katainen, “European Commission Vice-President Jyrki Katainen Speech at Belt and Road Forum Leaders’ Round Table,” press release no. 170516_17, Delegation of the European Union to China (website), May 16, 2017, https://eeas.europa.eu/delegations/china/26154/european-commission-vice-president-jyrki-katainen-speech-belt-and-road-forum-leaders-round_en.

11. Robin Emmott and Angeliki Koutantuo, “Greece Blocks EU Statement on China Human Rights at UN,” Reuters (website), June 18, 2017, <https://www.reuters.com/article/us-eu-un-rights/greece-blocks-eu-statement-on-china-human-rights-at-u-n-idUSKBN1990FP>; and Robin Emmott, “EU’s Statement on South China Sea Reflects Divisions,” Reuters (website), July 15, 2016, <https://www.reuters.com/article/southchinasea-ruling-eu-idUSL8N1A130Y>.

12. John Chalmers and Robin Emmott, “Hungary Blocks EU Statement Criticizing China over Hong Kong, Diplomats Say,” Reuters (website), April 16, 2021, <https://www.reuters.com/world/asia-pacific/hungary-blocks-eu-statement-criticising-china-over-hong-kong-diplomats-say-2021-04-16/>.

decided to skip the most recent 16+1 summit chaired by Xi in February 2021, and, as noted, Lithuania recently left the group altogether.¹³ In Greece, China Ocean Shipping Company, Limited also recently encountered strong local opposition from shipowners, labor unions, and local politicians, even though port capacity in Piraeus has expanded under the company's auspices.¹⁴ Countries that hoped to benefit from BRI investments in underserved areas, such as infrastructure, energy, and transportation, have been disappointed with China's lack of results.

One notable exception to this trend is Hungary, which remains China's closest partner inside the EU, even though few examples of successful Chinese infrastructure projects in the country are discernible and nascent opposition to closer Hungarian-Chinese ties has emerged.¹⁵ The highly touted \$1.1 billion railway between Budapest and Belgrade has encountered numerous problems, resulting in delays and corruption allegations.¹⁶ But the main reason for Hungary's close relations with China has less to do

13. Stuart Lau, "China's Eastern Europe Strategy Gets the Cold Shoulder," *Politico* (website), February 9, 2021, <https://www.politico.eu/article/china-xi-jinping-eastern-europe-trade-agriculture-strategy-gets-the-cold-shoulder/>.

14. Jens Kastner and Giannis Seferiadis, "COSCO Faces Backlash As It Moves to Tighten Grip on Greek Port," *Nikkei Asia* (website), December 29, 2020, <https://asia.nikkei.com/Business/Transportation/COSCO-faces-backlash-as-it-moves-to-tighten-grip-on-Greek-port>.

15. "Budapest Protest against China's Fudan University Campus," *BBC News* (website), June 5, 2021, <https://www.bbc.com/news/world-europe-57372653>.

16. Andreea Brînză, "China and the Budapest-Belgrade Railway Saga," *Diplomat* (website), April 28, 2020, <https://thediplomat.com/2020/04/china-and-the-budapest-belgrade-railway-saga/>.

with any affection for Beijing and more to do with Chinese investments enabling Prime Minister Viktor Orbán's kleptocratic regime.¹⁷ Additionally, Budapest occasionally leverages its ties to China against Brussels, pointing out it has political alternatives.

Today, few in the EU have any remaining illusions about China's economic rise. As a result, desire is growing to shore up the continent's trade defenses against unfair Chinese practices in the name of bolstering European sovereignty. Efforts to fulfill this vision include tightening investment screening mechanisms, which the next chapter addresses in depth, as well as curbing Chinese subsidies, limiting Chinese access to the European procurement market, and restricting technology transfers.¹⁸ Even member states that are traditionally known to be staunch free traders, such as the Netherlands and Sweden, have eventually come around to at least tolerating these somewhat more protectionist measures.

At the same time, European businesses are not keen to abandon lucrative trade and investment deals with China either. Given China's role as a leading global economic powerhouse and concerns about US economic nationalism, many in European business and political establishments favor continued engagement with China on trade, albeit with a greater emphasis on reciprocity and a level playing field. These voices

17. Erik Brattberg et al., *Chinese Influence in Southeastern, Central, and Eastern Europe: Vulnerabilities and Resilience in Four Countries* (Washington, DC: Carnegie Endowment for International Peace, October 13, 2021).

18. Philippe Le Corre and Erik Brattberg, "How the Coronavirus Pandemic Shattered Europe's Illusions of China," Carnegie Endowment for International Peace, July 9, 2020, <https://carnegieendowment.org/2020/07/09/how-coronavirus-pandemic-shattered-europe-s-illusions-of-china-pub-82265>.

also reject the notion of economic decoupling, which has become increasingly popular among some policymakers in Washington.¹⁹

Leading the proengagement camp in Europe is Germany, the only European country with a sizable trade surplus with China. Former German Chancellor Angela Merkel was the instrumental force behind bringing the negotiations on the CAI to a close in late December 2020.²⁰ Pressure on Berlin, however, is mounting both from other member-state capitals who are concerned with Germany and France—the largest and most important economies in the EU—pursuing their own China strategy on behalf of the EU and from within the German political system, especially the Green Party of Germany.

Backlash during the COVID-19 Pandemic

Without a doubt, China's image in Europe has been severely damaged during the COVID-19 pandemic. Beijing's poor handling of the initial outbreak, attempts to deny the origin of the virus, and aggressive diplomacy during the pandemic have

19. Daniel Michaels, "European Business Leaders Want a Stronger Hand With China, Not Decoupling," *Wall Street Journal*, July 4, 2021, <https://www.wsj.com/articles/european-business-leaders-want-a-stronger-hand-with-china-not-decoupling-11625454000>; and European Union Chamber of Commerce in China and Mercator Institute for China Studies, *Decoupling: Severed Ties and Patchwork Globalisation*, January 2021, https://merics.org/sites/default/files/2021-01/Decoupling_EN.pdf.

20. Hans Von Der Burchard, "Merkel Pushes EU-China Investment Deal Over the Finish Line Despite Criticism," *Politico* (website), December 29, 2020, <https://www.politico.eu/article/eu-china-investment-deal-angela-merkel-pushes-finish-line-despite-criticism/>.

reinforced unfavorable opinions of China across the continent.

The COVID-19 pandemic provided both an early challenge and an opportunity for China in Europe. In early 2020, as Europe became one of the pandemic's earliest epicenters, China actively stepped in to provide assistance to bolster its soft power, promote itself as a generous and responsible international actor, demonstrate the West's relative inability to respond to the virus, and distract Europe from China's own handling of the virus. These Chinese "mask diplomacy" efforts in Europe included donations of plane loads of masks, ventilators, testing kits, and other medical equipment to the European countries that had been hit hardest by the pandemic initially, such as Italy and Spain.²¹ Although China scored some isolated early diplomatic wins, such as generating praise from European leaders like Italy's Minister of Foreign Affairs Luigi di Maio and Spanish Prime Minister Pedro Sánchez, its tactics mostly backfired as more European leaders began to push back against China's public relations offensive.²²

21. Brian Wong, "China's Mask Diplomacy," *Diplomat* (website), March 25, 2020, <https://thedi diplomat.com/2020/03/chinas-mask-diplomacy/>.

22. Matthew Karnitschnig, "China Is Winning the Coronavirus Propaganda War," *Politico* (website), March 18, 2020, <https://www.politico.eu/article/coronavirus-china-winning-propaganda-war/>; Jacopo Barigazzi, "Italy's Foreign Minister Hails Chinese Coronavirus Aid," *Politico* (website), March 13, 2020, <https://www.politico.eu/article/italys-foreign-minister-hails-chinese-caronavirus-aid/>; and Martin Arostegui, "Chinese Virus Aid to Europe Raises Long-Term Concerns," *Voice of America*, March 23, 2020, <https://www.voanews.com/science-health/coronavirus-outbreak/chinese-virus-aid-europe-raises-long-term-concerns>.

More recently, China has also engaged in so-called “vaccine diplomacy,” consisting primarily of vaccine donations, a strategy that has served to increase Chinese leverage, especially in some already China-friendly countries like Hungary and Serbia.²³ China has also conditioned the delivery of COVID-19 vaccines on favorable foreign policy decisions in recipient countries. For instance, evidence has emerged Beijing threatened to withhold vaccines unless Ukraine dropped its support for an investigation into human-rights violations in Xinjiang.²⁴

The pandemic has also corresponded with a sharp uptick in Chinese so-called “wolf warrior diplomacy” efforts in Europe as part of a global public relations campaign.²⁵ These efforts have included more overt Chinese influence operations and disinformation tactics with sinister narratives, such as the virus originated in Italy or the United States.²⁶ Chinese diplomatic spokespersons, ambassadors, and mouthpiece media outlets have also waged an assertive and oftentimes even aggressive pushback against European

23. Grzegorz Stec and Lucrezia Poggetti, “Beijing’s Vaccine Diplomacy Bears Fruit in Central and Eastern Europe,” in *MERICS EU-China Briefing* (Berlin: Mercator Institute for China Studies, February 24, 2021).

24. Jamey Keaten, “AP Exclusive: Diplomats Say China Puts Squeeze on Ukraine,” AP News (website), June 25, 2021, <https://apnews.com/article/united-nations-china-europe-ukraine-health-a0a5ae8f735b92e39c623e453529cbb9>.

25. Kathy Gilsinan, “How China Is Planning to Win Back the World,” *Atlantic* (website), May 28, 2020, <https://www.theatlantic.com/politics/archive/2020/05/china-disinformation-propaganda-united-states-xi-jinping/612085/>.

26. Javier C. Hernández, “China Peddles Falsehoods to Obscure Origin of COVID Pandemic,” *New York Times* (website), January 14, 2021, <https://www.nytimes.com/2020/12/06/world/asia/china-covid-origin-falsehoods.html>.

governments, media, nongovernmental organizations, and experts Beijing disagrees with. These tactics have clearly backfired and have turned both European public and elite opinions toward China even more negative. For example, the EU's High Representative of the Union for Foreign Affairs and Security Policy, Josep Borrell Fontelles, spoke about the need for the EU to engage in a "battle of narratives" against China, and European Commission President Ursula von der Leyen publicly criticized China for carrying out cyberattacks against European hospitals during the pandemic.²⁷

At the same time, the EU has showed a lack of resolve by allegedly watering down the findings of a special report on disinformation and propaganda produced by the European External Action Service during the pandemic and by allowing an op-ed from the EU ambassadors in Beijing to be censored by Chinese authorities.²⁸ Key leaders such have also been hesitant in publicly condemning China's targeting

27. European External Action Service, *EEAS Special Report: Disinformation on the Coronavirus – Short Assessment of the Information Environment* (Brussels: European External Action Service, March 19, 2020); and Laurens Cerulus, "Von der Leyen Calls Out China for Hitting Hospitals with Cyberattacks," *Politico* (website), June 22, 2020, <https://www.politico.eu/article/eu-calls-out-china-for-hitting-hospitals-with-cyberattacks/>.

28. "EU Waters Down Report on China's Coronavirus Propaganda," *New York Times* (website), updated April 30, 2020, <https://www.nytimes.com/2020/04/24/world/coronavirus-world-tracker.html>; and Michael Birnbaum, "EH defends Handling of China Relations after Beijing Censors Op-Ed Written by Bloc's Ambassadors," *Washington Post* (website), May 7, 2020, https://www.washingtonpost.com/world/europe/eu-defends-handling-of-china-relations-after-beijing-censors-op-ed-by-blocs-ambassadors/2020/05/07/fd2ac638-9066-11ea-9322-a29e75effc93_story.html.

of prominent European civil society groups, like the Mercator Institute for China Studies, a German think tank.

According to a mid-2020 Pew Research Center study, more than half of surveyed European countries were critical of China's handling of the COVID-19 pandemic.²⁹ Most critical were countries like Denmark, Sweden, and the United Kingdom, whereas Southern European countries like Italy and Spain were split evenly. According to a May 2020 poll conducted by Körber-Stiftung, 36 percent of Germans viewed China less favorably after the outbreak of the virus than they had before.³⁰ Along similar lines, a study by the European Council on Foreign Relations found 48 percent of respondents in nine European countries thought their views of China had become more negative during the pandemic, with several countries depicting the highest level of negative opinions toward China ever recorded.³¹ The slightly less negative views in Southern Europe could be explained by these countries having been hit the hardest by the pandemic and China stepping in early to provide assistance. Even so, China's assistance there has misfired too, with local concerns about Chinese propaganda and

29. Silver, Devlin, and Huang, *Unfavorable Views of China*.

30. Joshua Webb and Ronja Scheler, "Adapting to a New Normal, German Foreign Policy and Public Opinion in Times of COVID-19," in *The Berlin Pulse: German Foreign Policy in Times of COVID-19* (Berlin: Körber-Stiftung, May 2020).

31. Ivan Krastev and Mark Leonard, "Europe's Pandemic Politics: How the Virus Has Changed the Public's Worldview," European Council on Foreign Relations (website), June 24, 2020, https://www.ecfr.eu/publications/summary/europes_pandemic_politics_how_the_virus_has_changed_the_publics_worldview.

faulty Chinese products highlighting the risks of overreliance on China for critical medical supplies.

China, the Uyghurs, and Hong Kong

China's appalling human-rights record has increasingly come into the spotlight in the European debate and currently serves as another key driver of more negative perceptions of the country. Commensurate with the deteriorating human-rights situation within China, European media and nongovernmental organizations have devoted more attention to reporting on the suppression of the Uyghur population in Xinjiang and China's far-reaching state surveillance system. During 2020, the introduction of a new national security law and the curtailing of civil liberties in Hong Kong sparked an outcry in Europe.³²

Moreover, China's belligerent response to European criticism of its human-rights record, including attempts to silence independent critics and threats, intimidation, and fabricated allegations, has clearly backfired. As a result, pressure on European leaders to take a firmer line against Beijing on human rights is growing. Lawmakers in the Netherlands, Sweden, the United Kingdom, and the European Parliament have been speaking up more about China's dismal human-rights record and pushing for new sanctions against responsible officials and greater supply-chain due diligence. For instance, in Germany, both the Green Party and prominent members of the Christian Democratic

32. Grace Tsoi and Lam Cho Wai, "Hong Kong Security Law: What Is It and Is It Worrying?," BBC News (website), June 30, 2020, <https://www.bbc.com/news/world-asia-china-52765838>.

Union party have become outspoken critics of Berlin's tendency to publicly downplay human-rights issues to avoid provoking Chinese retaliation against European companies.³³

In March 2021, when the EU followed the United States, Canada, and the United Kingdom in imposing Magnitsky Act-style sanctions (in 2012, following the death of Sergei Magnitsky in Russia in 2009, the United States enacted a law sanctioning foreign individuals who have committed human-rights abuses or been involved in significant corruption) against Chinese officials over human-rights abuses in Xinjiang, Beijing immediately responded with its own countersanctions against European officials, including five members of the European Parliament.³⁴ This move was interpreted in Europe as completely nonproportional and unacceptable. For some experts, this event was a watershed moment that highlighted the limits of the approach favored by European Commission trade negotiators and some European leaders of pragmatically engaging China on trade issues through efforts like the CAI with the hope of gradually transforming China's behavior. As a result of the strong backlash against China's sanctions, and as noted earlier, the CAI is currently moribund

33. Noah Barkin, "Rethinking German Policy towards China," Chatham House (website), May 26, 2021, <https://www.chathamhouse.org/2021/05/rethinking-german-policy-towards-china>.

34. Council of the European Union, "EU Imposes Further Sanctions over Serious Violations of Human Rights around the World," press release, March 22, 2021, <https://www.consilium.europa.eu/en/press/press-releases/2021/03/22/eu-imposes-further-sanctions-over-serious-violations-of-human-rights-around-the-world/>.

following a vote in the European Parliament in May 2021 to freeze the agreement.

China as a Security Challenge

European capitals increasingly see China as a direct challenge to the rules-based international order and, in some cases, a security threat against European interests—though not in the same way Washington sees China (that is, as a rising military rival). This view of China is driven by growing Chinese assertiveness in the Indo-Pacific—for example, claims of sovereignty over the South China Sea and Taiwan, the debate over 5G security risks pertaining to Chinese technology giant Huawei, the rise in Chinese state-sponsored cyberattacks and espionage activities, and the quest of Chinese state-owned companies for control over critical infrastructure. At the same time, according to a survey administered by the European Council on Foreign Relations, most EU member states still prefer to view China as a competitor rather than as a rival (or partner, for that matter).³⁵

Though China is not seen as a direct military threat against European security in the same way Russia is, the growing security concerns over China are nevertheless reflected in the number of European national security documents, foreign policy declarations, and annual reports of national intelligence services that mention China as a security challenge. For example, the February 2021 annual report of the Estonian Foreign Intelligence Service published identified a “growing threat” from Chinese intelligence.³⁶ In addition, NATO

35. Krastev and Leonard, “Europe’s Pandemic Politics.”

36. Estonian Foreign Intelligence Service, *International Security and Estonia 2021* (Tallinn, EE: Välisluureamet, 2021).

has identified China as a potential future threat, with Secretary General Jens Stoltenberg calling on the alliance to help confront China's growing power.³⁷ In the 2021 Brussels summit communiqué, the alliance for the first time referred to China as constituting a "challenge."³⁸ The closer strategic ties between Russia and China also constitute a major worry, especially among countries in Northern and Central and Eastern Europe, which view Russia as their dominant security threat. Finally, several European countries – including the United Kingdom, France, and more recently, Germany – have begun thinking more about how they can contribute to security in the Indo-Pacific.

Summary

European attitudes toward China have changed dramatically over the last five to 10 years. This shift is the result of Chinese actions within Europe and beyond. In many respects, the Chinese have sown the seeds of their own declining soft power across most European countries. This downward trend is not necessarily destined to continue. As discussed in chapter 9, "Learning from Latin America," and chapter

37. Stuart Lau, "NATO Report Says China Could Pose Military Threat to Europe and US," *South China Morning Post*, December 2, 2020, <https://www.scmp.com/news/china/diplomacy/article/3112179/nato-report-says-china-could-pose-military-threat-europe-and>; and Catherine Philip, "We Must Confront Threat of China, Says NATO Chief Jens Stoltenberg," *Sunday Times* (website), March 25, 2021, <https://www.thetimes.co.uk/article/we-must-confront-threat-of-china-says-nato-chief-jens-stoltenberg-fv36m2rr5>.

38. NATO HQ, "Brussels Summit Communiqué," press release no. 086, NATO (website), June 14, 2021, https://www.nato.int/cps/en/natohq/news_185000.htm.

10, "Learning from Africa," Beijing is very capable of learning and adapting to overcome obstacles.

With evolving European attitudes toward China on the issues of security, human rights, the pandemic, and predatory statecraft, political leaders have slowly and steadily adapted their policy approaches toward China. The next chapter provides a brief overview of how European leaders at the state and intergovernmental level have shifted their approach toward Chinese investment in Europe in particular.

5. SHIFTING EUROPEAN POLICIES TOWARD CHINA

John R. Deni

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As a result of the changes in European attitudes toward China, countries across the continent as well as intergovernmental organizations like the EU have had a variety of regulatory, legal, and policy responses. This chapter focuses on how European countries and the EU have responded to Chinese investment across the continent.

Providing Liquidity Alternatives

Recently, the EU and its member states have arguably made substantial progress in providing a liquidity alternative to China for the European countries confronting rising debt. For example, Germany established a €100 billion fund to provide liquidity in exchange for equity stakes in companies that are in danger of imminent takeover.¹ At the collective level, a landmark 2020 EU budget deal will provide €312 billion in grants and €360 billion in loans for cash-strapped member states.²

But EU budget negotiators discarded a proposal for a €26 billion solvency fund that would have

1. European Commission, “Commission Approves German Fund to Enable up to €500 Billion of Liquidity and Capital Support to Enterprises Affected by the Coronavirus Outbreak,” press release, July 8, 2020, https://ec.europa.eu/commission/presscorner/detail/en/ip_20_1280.

2. Laura Greenhalgh and Lili Bayer, “Politico’s Guide to the EU Budget Deal,” Politico (website), July 21, 2020, <https://www.politico.eu/article/politico-guide-to-the-eu-budget-deal-mff-2021-2027/>.

directly benefited distressed European companies. Nonetheless, the roughly €750 billion in recovery funds is a marked shift from the austerity approach adopted in the 2010s in response to the eurozone sovereign debt crisis, as discussed in chapter 2. One study estimated the recovery fund would add between 1.5 percent and 4.1 percent to gross domestic product over the next five years.³ In late 2020, the recovery fund was approved by EU institutions in conjunction with the 2021–27 multiyear budget, but it then had to be approved by all member states. By May 2021, all 27 EU member states had completed their national approval processes.

Due to the depth of the pandemic-induced recession in Southern Europe and the size of their respective economies, Italy and Spain will be the largest beneficiaries of the recovery fund, each receiving nearly €70 billion.⁴ The funds will pay for major infrastructure work and environmental projects, such as developing a network of recharging stations for electric vehicles. Money has also been set aside to improve high-speed telecommunications and data-storage facilities.

3. Sylvain Broyer et al., “Next Generation EU Will Shift European Growth into a Higher Gear,” S&P Global Ratings (website), April 27, 2021, <https://www.spglobal.com/ratings/en/research/articles/210427-next-generation-eu-will-shift-european-growth-into-a-higher-gear-11929949>.

4. Agence France-Presse, “European Union Approves Covid-19 Recovery Plan to Launch in June,” France24 (website), January 6, 2021, <https://www.france24.com/en/europe/20210531-european-union-to-launch-covid-19-recovery-plan-in-june>.

Fending Off Foreign Subsidies

Members of the EU providing financial support—that is, state subsidies—to European companies (if the aid undermines fair competition in the European market) has been illegal for many years. But the same EU rules have not applied to foreign-subsidized companies or entities. In practice, this disparity in the application of rules means Chinese governmental authorities have been relatively free to subsidize Chinese entities that are buying up European companies or bidding on public procurement offerings.

Although the extent of foreign subsidies in Europe is not entirely known—largely thanks to a lack of transparency—subsidies of one form or another are significant and widespread. An Organisation for Economic Co-operation and Development study of the worldwide semiconductor industry found of 21 large firms examined, total government support—including grants, tax concessions, below-market loans, and below-market equity investment (particularly common in the case of China)—between 2014 and 2018 totaled over \$50 billion.⁵

At the same time, non-EU, non-North American investment in Europe has grown in recent years, including investment by state-owned enterprises. If these entities are subsidized in some way, they gain unfair and distorting advantages when they look to invest in European companies or compete in public procurement offerings. For example, these entities may be able to offer lower-cost bids. From

5. Trade and Agriculture Directorate Trade Committee, *Measuring Distortions in International Markets: The Semiconductor Value Chain*, TAD/TC(2019)9/FINAL (Paris: Organisation for Economic Co-operation and Development, November 21, 2019), 8.

the EU's perspective, lower-cost bids undermine competitiveness, harm innovation, and possibly result in lost European jobs.⁶

After studying this issue in depth, the European Commission released a proposed regulation in May 2021 that would give it the power to investigate financial contributions granted by public authorities of a non-EU country that benefit companies engaging in an economic activity in the EU.⁷ The regulation would also give the commission the power to fine offending entities, accept redressive plans proposed by entities, and prevent deals from closing and bids from being accepted. The commission would rely on notifications from member states of pending acquisitions and public procurements above certain value thresholds, but it would also have the power to initiate its own investigations regardless of value if it suspected a subsidy had been granted. The regulation would apply to both non-EU companies and European subsidiaries of non-EU companies.

Investment Screening Tools

Investment screening is a process by which a governing authority examines a prospective investment against a given set of criteria to judge whether the investment should be approved. Today, the US investment screening system is arguably the most rigorous such system in the West. The process

6. European Commission, "White Paper on Levelling the Playing Field as Regards Foreign Subsidies" (white paper, European Commission, June 17, 2020), 22.

7. Silvia Amaro, "EU Announces New Powers to Restrict Takeover Bids by Foreign Entities," CNBC (website), May 5, 2021, <https://www.cnbc.com/2021/05/05/eu-announces-new-powers-to-restrict-takeover-bids-by-foreign-entities.html>.

involves a thorough examination by a group of representatives from nine US government agencies and other government observers known as the Committee on Foreign Investment in the United States (CFIUS). These agencies are the Department of the Treasury (chair), the Department of Justice, the Department of Homeland Security, the Department of Commerce, the Department of Defense, the Department of State, the Department of Energy, the Office of the United States Trade Representative, and the Office of Science and Technology Policy. In addition, the White House participates via the Office of Management and Budget, the Council of Economic Advisors, the National Security Council, the National Economic Council, and the Homeland Security Council. The committee investigates when a foreign entity or US entity with significant foreign ownership or investment attempts to acquire or make a significant investment in a US company.⁸

A CFIUS filing and review process are required for any foreign investments, regardless of whether the prospective investment will provide the investor with a controlling stake or a noncontrolling stake, in certain US businesses that “[p]roduce, design, test, manufacture, fabricate, or develop one or more critical technologies” in 28 specified categories (see table 5-1).⁹

8. Reuters Staff, “US National Security Panel Killed Eight Deals in 2019, Trump Ended One,” Reuters (website), July 30, 2020, <https://www.reuters.com/article/us-cfius-2019-report/u-s-national-security-panel-killed-eight-deals-in-2019-trump-ended-one-idUSKCN24V3KK>.

9. Regulations Pertaining to Certain Investments in the United States by Foreign Persons, 31 U.S.C. § 800 (2020).

Table 5-1. Critical technology categories of the Committee on Foreign Investment in the United States

1. Internet protocol or telecommunications service	15. Certain refineries
2. Certain Internet exchange points	16. Certain crude-oil storage facilities
3. Submarine cable systems	17. Certain liquified natural gas import or export terminals or certain natural gas underground storage facilities
4. Submarine cable landing systems	18. Systemically important financial market utilities
5. Data center at a submarine landing facility	19. Certain financial market exchanges
6. Satellites or satellite systems servicing the DoD	20. Technology providers in the significant service provider program
7. Industrial resources manufactured or operated for a Major Defense Acquisition Program	21. Any rail line designated as part of the DoD Strategic Rail Corridor Network
8. Any industrial resource manufactured pursuant to a DX priority-rated contract	22. Certain interstate oil pipelines
9. Any facility that manufactures certain specialty metals, chemical weapons, carbon alloy and steel plates, and other specified materials	23. Certain interstate natural gas pipelines
10. Any industrial resource that had been funded by the Defense Production Act, Industrial Base Fund, Rapid Innovation Fund, Manufacturing Technology Program, Defense Logistics Agency Warstopper Program, or Defense Logistics Agency surge and sustainment	24. Any industrial control system used by interstate oil or natural gas pipelines
11. Electric energy storage systems	25. Certain airports
12. Any electric storage system linked to the bulk electric system	26. Certain maritime ports or terminals
13. Electric energy generation, transmission, or distribution for military installations	27. Public water systems
14. Any industrial control system used by bulk power systems or a facility directly supporting a military installation	28. Any industrial control system used by public water systems or treatment works

The committee also has the responsibility to review and address any national security concerns that arise from certain noncontrolling investments involving foreign persons.¹⁰ Noncontrolling investments are subject to a review if they would grant the foreign investor board observer rights; access to technical material not available to the public; or substantive decision-making authority in a US company in the technology, data, or infrastructure sectors.¹¹ Finally, the CFIUS also has the authority to review and address certain real-estate transactions in close proximity to a military installation or US government facility or property that is related to national security.

Because an equivalent process does not yet exist in many European countries, a significant portion of Chinese venture capital (VC) investments in European technology start-ups has gone unchecked, especially when multiple layers of Western and non-Western firms are involved. Furthermore, although the EU has recently expanded overall investment scrutiny, only limited coordination occurs bilaterally between member states and at the NATO or EU level, particularly for companies in advanced technology

10. "CFIUS Overview," Cooley (website), updated May 25, 2021, <https://www.cooley.com/services/practice/export-controls-economic-sanctions/cfius-overview>.

11. Private-sector Washington-based lawyer handling CFIUS cases, interview by the author, April 20, 2021.

sectors.¹² Consequently, many European countries lack an appropriate vetting regime and must “reinvent the wheel” and duplicate efforts.

Eighteen of the 27 EU member states (up from 14 in summer 2020) plus the United Kingdom have some type of investment-screening process or mechanism in place.¹³ The 18 countries include most of the EU’s larger economies – France, Germany, Italy, the Netherlands, and Poland – and several of the smaller ones. The following sections outline the screening processes of the focus countries in this study.

Belgium

In recent months, Belgium has made progress toward complying with European Commission guidance and establishing a countrywide foreign investment screening mechanism, which it currently lacks.¹⁴ The Federal Public Service Justice and Federal

12. David Meyer, “With an Eye on China, Europe Mulls Restrictions on Foreign Takeovers and Investments,” *Fortune* (website), May 5, 2021, <https://fortune.com/2021/05/05/eu-china-europe-restrictions-foreign-takeovers-investments-margrethe-vestager/>; and Sarah Erikson, “Recent Developments in EU Foreign Investment Screening,” *Strategic Technologies Blog*, April 19, 2021, <https://www.csis.org/blogs/strategic-technologies-blog/recent-developments-eu-foreign-investment-screening>.

13. European Commission, “List of Screening Mechanisms Notified by Member States,” European Commission (website), updated December 3, 2021, <http://trade.ec.europa.eu/doclib/html/157946.htm>.

14. European Commission, “Guidance to the Member States Concerning Foreign Direct Investment and Free Movement of Capital from Third Countries, and the Protection of Europe’s Strategic Assets, Ahead of the Application of Regulation (EU) 2019/452 (FDI Screening Regulation)” (Communication from the Commission, C-2020-1981, Brussels, March 25, 2020).

Public Service Economy (Belgium's ministry of justice and ministry of the economy, respectively) have led efforts to build a countrywide process, and legislation to create an Investment Screening Commission was introduced in the lower chamber of the Belgian Federal Parliament in February 2021.¹⁵ The proposed law would organize a committee of representatives led by the Federal Public Service Economy and including representatives from the Federal Public Service Foreign Affairs, Federal Public Service Mobility and Transport, Ministry of Defence, Federal Public Service Finance, and Federal Public Service Health to protect Belgium's sensitive industries, such as health care, critical infrastructure, and advanced technology. In addition, the committee would be joined by two representatives from the region of the country in which the proposed investment would occur.

The proposed screening process would include mandatory notification of any proposed investment from a non-EU member state. The proposed process would not be retroactive, however, so major Chinese investments in Belgian transportation infrastructure – discussed in the next chapter – would remain in place, despite the national security risks they have generated.

The proposed committee would be responsible for designating the investments that warranted further investigation and the ones that would be approved

15. Lars Bové, “*La Belgique va passer au crible les investissements étrangers*,” *L’Echo* (website), April 30, 2021, <https://www.lecho.be/economie-politique/belgique/economie/la-belgique-va-passer-au-crible-les-investissements-etrangers/10302439.html>; and “Future Screening of Foreign Direct Investments Takes Shape in Belgium,” Osborne Clarke (website), May 11, 2021, <https://www.osborneclarke.com/insights/future-screening-foreign-direct-investments-takes-shape-belgium>.

upon reception of the notification. If the committee found closer review was necessary, the proposed investment would undergo a six-month investigation. Once the investigation ended, the committee would rule to approve, add conditions to, or block the investment. If a ruling were not made within the six-month time frame, the investment would be automatically approved.

Although investment screening does not yet exist at the central government level in Belgium, the Belgian region of Flanders has established its own processes, reflecting the highly devolved nature of Belgian government. The Flemish screening process, however, is rudimentary and not comprehensive. For instance, the government of Flanders screens only foreign investments in the public sector.¹⁶ Moreover, the Flemish screening process occurs after the investment has occurred.¹⁷ Additionally, screening by the Flemish government occurs only if the Flemish Parliament deems an investment a potential threat to public order and security. Finally, the screening process follows no schedule and has no deadlines for the investment to be approved or rejected.¹⁸

France

Foreign investment screening in France targets investments in companies that concern “public

16. *Screening buitenlandse directe investeringen* (Brussels: Sociaal-Economische Raad van Vlaanderen, May 2020), 13–15.

17. “Future Screening of Foreign Direct Investments Takes Shape in Belgium,” Osborne Clarke (website), May 11, 2021, <https://www.osborneclarke.com/insights/future-screening-foreign-direct-investments-takes-shape-belgium>.

18. *Screening buitenlandse*, 13–15.

order, public safety or national defense interests.”¹⁹ Proposed investments are screened if they involve the acquisition of 25 percent or more of a French company.²⁰ Once an investment application is filed with the Ministry of the Economy and Finance, the French government conducts an informal interagency analysis. If the proposed investment passes this initial screening, it then proceeds to a second, more formal screening phase aimed at assessing any threat posed to public safety or security.

The French screening process exempts proposed investments from EU or European Free Trade Association countries, even if they exceed the 25 percent threshold. The European Free Trade Association includes Iceland, Liechtenstein, Norway, and Switzerland.²¹ In 2020, French authorities added biotechnology companies to those subject to foreign direct investment (FDI) screening. The authorities also amended the threshold from 25 percent to 10 percent for companies that fall under critical sectors or produce critical technologies, such as

19. European Trade Commission, “Monetary and Financial Code: Legislative Section,” European Trade Commission (website), n.d., https://trade.ec.europa.eu/doclib/docs/2020/march/tradoc_158692.pdf.

20. *Screening buitenlandse*, 21–22.

21. “COVID-19: Control of Foreign Direct Investments in France,” Morgan Lewis (website), May 7, 2020, https://www.morganlewis.com/pubs/2020/05/covid-19-control-of-foreign-direct-investments-in-france-cv19-lf#_ftn3.

biotechnology, but this change was only temporary and expired in December 2021.²²

France has no mandatory screening for proposed investments outside the critical sectors. For example, advanced manufacturing companies are not deemed critical. The first phase of the investment screening process lasts up to 30 business days, during which time the Ministry of the Economy and Finance reviews the initial notification. If further analysis is necessary, the ministry has an additional 45 business days to investigate and notify the prospective investor.

Germany

In Germany, the Foreign Trade and Payments Act and Ordinance outline different review processes for different kinds of foreign investment, all overseen by the Federal Ministry for Economic Affairs and Climate Action. Investment screening is triggered according to the given industry, the given types of products or services, and the degree of voting rights the investor would acquire. So-called “cross-sectoral screening” covers acquisitions wherein a non-EU resident would gain direct or indirect control of at least 25 percent or more of the voting rights in a German company. For certain companies in the health-care sector and emerging technologies, such as semiconductors,

22. William Horobin, “France Moves to Stop Foreign Investors Preying on Weakened Firms,” Bloomberg Quint (website), April 29 2020, <https://www.bloombergquint.com/onweb/france-moves-to-stop-foreign-investors-preying-on-weakened-firms>; and Reuters Staff, “France Extends Tougher Screening on Foreign Investments through 2021,” Reuters (website), December 18, 2020, <https://www.reuters.com/business/finance/exclusive-france-extends-tougher-screening-foreign-investments-through-2021-2020-12-18/>.

artificial intelligence, additive manufacturing, and quantum technology, the threshold triggering an investigation drops to 20 percent, and for critical infrastructure and certain media companies, the threshold is even lower, at 10 percent.

So-called “sector-specific screening” covers all acquisitions in which a foreigner—including persons or companies from other EU member states, Iceland, Liechtenstein, or Norway—would gain direct or indirect control of at least 10 percent of any German company that produces a limited set of listed goods—particularly, certain military equipment. In both cases, the Federal Ministry for Economic Affairs and Climate Action, in addition to any other federal ministries that may be relevant to the case at hand, decides to approve, amend, or prohibit the proposed transaction.

Germany’s screening mechanisms are more oriented around safeguarding critical industries and defense interests than most. The process for screening cross-sectoral investments suffers from a major weakness—the exclusion of EU member states from the screening process. Nonetheless, German officials maintain they have systems in place to detect predatory indirect acquisitions in which the direct acquirer does not deal in the purchased company’s business operations but passes the control to an individual or entity from a third, non-EU country.²³

Greece

Greece lacks a formal FDI screening mechanism, which reflects in part the Greek government’s desire to

23. Geoffrey P. Burgess et al., *Foreign Direct Investment Rules in Selected European Countries—An Overview* (New York: Debevoise & Plimpton LLP, June 16, 2020), 4–6.

use investment to improve the economy. Despite EU pressure, Athens has made no moves toward adopting investment screening mechanisms. That said, Greece has placed equity restrictions on airport operations and limits on foreign ownership in electricity and media that are more restrictive than those of most other EU countries.²⁴

Nonetheless, and considering the contraction of the Greek economy in the wake of the eurozone debt crisis, the government in Athens has been keen to promote investment aggressively. For example, Greece has enacted laws designed to allow the government to expedite licensing for investments to promote job growth.²⁵ To reduce the burdens of bureaucracy as well as corruption, the Greek government established an Investor's Ombudsman program under the auspices of the Ministry of Foreign Affairs. For investment projects exceeding €2 million, the ombudsman helps to overcome delays or obstacles in the way of investment.²⁶

For investments deemed "strategic," the General Secretariat for Strategic and Private Investments manages licensing procedures to make the process easier and more attractive for FDI.²⁷ Strategic investments are investments related to infrastructure,

24. Bureau of Economic and Business Affairs, *2020 Investment Climate Statements: Greece* (Washington, DC: Department of State, 2020).

25. Enterprise Greece, *Brief Guide of the Procedure of Acceleration and Transparency of Implementation of Private Strategic Investments* (Athens: Enterprise Greece, 2017).

26. "Investor's Ombudsman—Service Description," Enterprise Greece, n.d., <https://www.enterprisegreece.gov.gr/en/invest-in-greece/ombudsman/investor-ombudsman>.

27. Bureau of Economic and Business Affairs, *Investment Climate Statements*.

manufacturing, energy, tourism, transport and communications, health services, waste management, high-end technology and innovation, education, the culture sector, and any other sector in which the total investment cost exceeds €100 million.²⁸

Hungary

Hungary employs its investment screening processes to protect a wide range of sensitive industries, such as dual-use technology, sector-specific manufacturing, and various infrastructure operations related to public order and security.²⁹ The review process begins with a mandatory notification of planned investment submitted to the Ministry of Interior, which oversees the screening process and can issue approvals or prohibitions.

Hungarian law applies the screening process to any proposed investment that would provide an investor 25 percent control or more; the threshold is lowered to 10 percent in the case of public companies. Investors subject to screening include only those from outside the EU, Iceland, Liechtenstein, or Norway.³⁰ If the Ministry of Interior determines an acquisition violated the terms of Hungary's screening process, it may impose a noncompliance fine and reverse the transaction.³¹

In June 2020, the Hungarian government enacted measures intended to strengthen its screening

28. Enterprise Greece, *Brief Guide*, 5.

29. "Foreign Direct Investment: Hungary," Van Bael & Bellis (website), August 1, 2021, <https://www.vbb.com/insights/FDI/Hungary>.

30. Act LVII of 2018 on Controlling Foreign Investments Violating Hungary's Security Interests, 2018, 1(a)-1(b).

31. "Foreign Direct Investment."

processes. Administered by the minister for innovation and technology, the new, temporary screening process examined any investments in industries of “strategic” importance that exceeded 350 million Hungarian forint (roughly \$1.2 million). These industries included a wide variety of commercial activities—chemical production, motor vehicle repair, telecommunications, weapons and ammunition, air conditioning, food production, health services, construction, sewerage services, building materials production, air transport services, and tourist accommodation services.³² The new measures applied to all investments, both foreign and domestic. These strengthened measures, however, expired in June 2021, and Hungary’s previous screening system was reinstated.

Italy

The permanent primary law for FDI screening in Italy is *Decreto-Legge 15 marzo 2012, no. 21*, often called “the Golden Power.”³³ The Golden Power law allows the Italian government to block non-EU-based investors from acquiring 10 percent or more of any Italian asset in defense or national security, transportation, energy, telecommunications, critical

32. “Government Decree 289/2020 (17 June): Defining the Activities Required for the Economic Protection of Companies Having Their Seat in Hungary,” *Hungarian Official Gazette*, no. 145 (2020), unofficial translation, reprinted in European Commission (website), n.d., https://trade.ec.europa.eu/doclib/docs/2020/july/tradoc_158834.pdf.

33. “Decreto-Legge 15 marzo 2012: Norme in materia di poteri speciali sugli assetti societari nei settori della difesa e della sicurezza nazionale, nonché per le attività di rilevanza strategica nei settori dell’energia, dei trasporti e delle comunicazioni,” *Gazzetta Ufficiale Della Repubblica Italiana* 63, no. 21 (March 2020).

infrastructure, sensitive technology, nuclear or space technology, and 5G technology.³⁴

More recently, Italy enacted *Decreto-Legge 8 aprile 2020, no. 23*, a law that tightened investment screening provisions by including the financial sector and all other sectors identified in 2019 by the EU, extending screening provisions to certain transactions by EU-based investors, and giving the government new authorities to investigate nonnotified transactions.³⁵ The second of these three new provisions expired on June 30, 2021, because it was tied directly to the coronavirus disease 2019 (COVID-19) pandemic.

Notification of the transaction filing must be made to the Department for Administrative Coordination. An interagency group led by the prime minister's office reviews acquisition applications and makes recommendations for the Council of Ministers' decisions. The review cycle lasts 45 business days and can be extended by 10 business days if additional information is required from the filing entity or by 20 business days if the information is required from

34. Bureau of Economic and Business Affairs, *Investment Climate Statements*.

35. European Parliament and Council of the EU, Regulation (EU) 2019/452 of the European Parliament and of the Council of 19 March 2019 Establishing a Framework for the Screening of Foreign Direct Investments into the Union, LI 79/1 (March 19, 2019); "Decreto Legge 23/2020: Misure urgenti in materia di accesso al credito e di adempimenti fiscali per le imprese, di poteri speciali nei settori strategici, nonché interventi in materia di salute e lavoro, di proroga di termini amministrativi e processuali," *Gazzetta Ufficiale Della Repubblica Italiana* 161, no. 94 (April 8, 2020); and Simon Clark and Ben Dummett, "Coronavirus Accelerates European Efforts to Block Foreign Takeovers," *Wall Street Journal* (website), April 10, 2020, <https://www.wsj.com/articles/coronavirus-accelerates-european-efforts-to-block-foreign-takeovers-11586516403>.

a third party. The Italian government can approve, completely block, or impose conditions on the proposed transaction.

Netherlands

In April 2020, the Netherlands updated its investment screening process by passing the Implementation Act on Foreign Direct Investment.³⁶ Previously, investment screening was relatively limited and conducted under the terms of the Electricity Act, the Gas Act, and the Dutch Telecommunications Act.³⁷

Under the terms of the 2020 law, an investment approval request is mandatory for transactions involving vital processes, infrastructure, or processes related to sensitive technologies, but no standard notification threshold for screening exists. Examples of sectors subject to this screening are nuclear and defense, mining, electricity, and drinking water. For investments in these sectors, a prospective investor must submit an approval request to the minister of economic affairs and climate policy, regardless of the investor's nationality. This latter point is a unique feature relative to most other European countries' FDI screening mechanisms, which generally focus on nondomestic or non-EU investors.

36. "Screening Regulation Implementing Act for Foreign Direct Investments," Government of the Netherlands (website), n.d., <https://wetten.overheid.nl/BWBR0044449/2020-12-04>.

37. "Electricity Act 1998," Government of the Netherlands (website), n.d., <https://wetten.overheid.nl/BWBR0009755/2019-01-01>; "Gas Law," Government of the Netherlands (website), n.d., <https://wetten.overheid.nl/BWBR0011440/2019-01-01>; and "Telecommunications Act," Government of the Netherlands (website), n.d., <https://wetten.overheid.nl/BWBR0009950/2020-10-01/#Hoofdstuk14a>.

The review process, overseen by the Ministry of Finance, lasts eight weeks and can extend to six months if an in-depth review is needed. The process is also retroactive; the government may review all relevant investments from June 2, 2020.³⁸ Most recently, the Dutch government proposed a new bill – the Investments, Mergers and Acquisitions Safety Assessment Act – on June 30, 2021, to protect sensitive technologies more broadly from foreign investment.³⁹

Poland

Poland’s FDI screening mechanism is based on the 2015 Act on the Control of Certain Investments.⁴⁰ An additional amendment to combat predatory investment activity stemming from the pandemic recession came into force in mid-2020 and will remain so only until July 24, 2022.⁴¹ The amended law now

38. Burgess et al., *Foreign Direct Investment Rules*.

39. “Wet veiligheidstoets investeringen, fusies en overnames” [Investment, Mergers and Acquisitions Safety Assessment Act], Tweede Kamer [Dutch House of Representatives], June 30, 2021, <https://www.tweedekamer.nl/kamerstukken/wetsvoorstellen/detail?id=2021Z12360&dossier=35880>; and Reuters, “Netherlands to Introduce ‘Security Check’ for Takeovers,” Reuters (website), June 25, 2021, <https://www.reuters.com/world/europe/netherlands-introduce-security-check-takeovers-2021-06-25/>.

40. “Ustawa z dnia 24 lipca 2015 r. o kontroli niektórych inwestycji,” *Internetowy System Aktów Prawnych*, 2015, <http://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20150001272>.

41. “Ustawa z dnia 19 czerwca 2020 r. o dopłatach do oprocentowania kredytów bankowych udzielanych przedsiębiorcom dotkniętym skutkami COVID-19 oraz o uproszczonym postępowaniu o zatwierdzenie układu w związku z wystąpieniem COVID-19,” *Internetowy System Aktów Prawnych*, 2015, <https://isap.sejm.gov.pl/isap.nsf/DocDetails.xsp?id=WDU20200001086>.

requires approval for FDI from outside the EU, Iceland, Lichtenstein, or Norway in certain publicly traded Polish firms involved in critical infrastructure, software development, energy, oil and gas, chemicals, defense, telecommunications, medicine, and food.⁴² An investment approval request is necessary for any investment that would provide an investor with 20 percent control or more of a listed company.

The Polish Competition Authority is responsible for receiving investment approval requests. The authority conducts an initial review for up to 30 days, during which it clears the transaction or decides to issue a formal control procedure. If necessary, a secondary review known as a “formal control procedure” lasts up to 120 days and results in a decision on whether to permit or deny the requested investment.⁴³

Depending on the field of activity, different government ministers may be drawn into the review process. The three usually included are the minister of state assets, the minister of national defence, and the minister of maritime economy and inland navigation. Additionally, Poland has a consultative committee of 22 authorities, mostly ministers appointed by the prime minister, that provides nonbinding recommendations on investment screening to the competition authority.⁴⁴

42. Marcin Alberski and Piotr Dynowski, “Poland Adopts Restrictions on Certain Foreign Investments,” Bird & Bird (website), June 2020, <https://www.twobirds.com/en/news/articles/2020/poland/poland-adopts-restrictions-on-certain-foreign-investments>.

43. Alberski and Dynowski, “Poland Adopts Restrictions.”

44. “Foreign Direct Investment: Poland,” Van Bael & Bellis (website), October 15, 2020, <https://www.vbb.com/insights/FDI/Poland>.

United Kingdom

The United Kingdom updated its FDI screening process with the passage of the National Security and Investment Act 2021, which will enter into force on January 4, 2022. This latest update makes screening mandatory for many sectors, which are expected to include advanced materials, advanced robotics, artificial intelligence, civil nuclear, communications, computing hardware, critical suppliers to government, critical suppliers to emergency services, cryptographic authentication, data infrastructure, defense, energy, military and dual-use, quantum information technology, satellite and space technology, synthetic biology, and transportation.⁴⁵ For other sectors, notification of a proposed investment is voluntary.

If the prospective investor will acquire 25 percent or more of the voting rights in a company, it must notify the government. Moreover, if an existing shareholder proposes to acquire more control and will therefore surpass the 25, 50, or 75 percent threshold, the shareholder must notify the government. Finally, if a prospective investor will acquire sufficient voting rights to enable or prevent the passing of a company resolution, the investor must notify the government.

In any case, the United Kingdom's government can still intervene in the public interest to initiate an investigation for up to six months following initial notification, and the government may do so regardless of whether the investment is from foreign

45. United Kingdom Department for Business, Energy & Industrial Strategy, "Guidance: Check If You Need to Tell the Government about an Acquisition That Could Harm the UK's National Security," Gov.uk, July 20, 2021, <https://www.gov.uk/guidance/national-security-and-investment-act-guidance-on-acquisitions>.

or domestic sources. If the United Kingdom's government decides to scrutinize a transaction further following an initial notification, the government has up to 30 working days to complete a detailed national security assessment. This deadline can be extended further by 45 working days or even longer, if necessary.

The 2021 law also created a new government agency, the Investment Security Unit within the Department for Business, Energy and Industrial Strategy, to oversee the review process.⁴⁶ Initial investigations last 30 business days, and the secretary of state may issue an intervention notice if he or she has reason to suspect additional investigation is necessary in the public interest. The Investment Security Unit reports to the secretary of state, who decides to either permit the transaction or make a referral for additional investigation. This more in-depth investigation lasts up to 24 weeks and can be extended an additional 45 days; thereafter, the secretary makes a final decision on whether to permit or block the proposed investment.⁴⁷

Elsewhere in Europe

Elsewhere in Europe, investment screening mechanisms vary widely in terms of the kinds of investments screened, the sectors deemed worthy of screening, the threshold that triggers a review,

46. National Security and Investment Bill, H.C. Bill 210 (November 11, 2020).

47. "National Security and Investment Bill Guide: How the Regime Functions," National Security and Investment Regime (website), n.d., https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/934438/process-flow-chart-for-businesses.pdf.

and the design of the screening procedures.⁴⁸ For example, according to John R. Deni and Jake Shatzer, “Denmark’s regulations apply only to companies that manufacture war materiel or those that own electrical cables or hydrocarbon pipelines.”⁴⁹ Similarly, “Latvia’s regulations apply to companies involved in electronic communications, broadcast television and radio, natural gas, electricity, or heating networks.”⁵⁰

In Slovakia—a known target of China’s efforts to transfer technology, especially through universities—the new investment screening law only covers energy, pharmaceuticals, metallurgy, and chemicals.⁵¹ Transport and infrastructure are left out. Moreover,

48. Ashley Feng and Sagatom Saha, “The EU Needs a Better Way to Screen Chinese Investment. It Should Look to France,” *World Politics Review* (website), February 28, 2019, <https://www.worldpoliticsreview.com/articles/27532/the-eu-needs-a-better-way-to-screen-chinese-investment-it-should-look-to-france>.

49. John R. Deni and Jake Shatzer, “China’s Economic Statecraft in Europe during the Pandemic,” *War on the Rocks*, October 16, 2020, <https://warontherocks.com/2020/10/chinas-economic-statecraft-in-europe-during-the-pandemic/>; “Bekendtgørelse af lov om krigsmateriel m.v.,” *Retsinformation*, October 22, 2012, [https://www.retsinformation.dk/eli/lta/2012/1004](https://www.retsinformation.dk/eli/lta/2012/1004;); and “Bekendtgørelse af lov omkontinentalsoklen og visse rørledningsanlæg på søterritoriet,” *Retsinformation*, September 21, 2018, <https://www.retsinformation.dk/eli/lta/2018/1189>.

50. Deni and Shatzer, “China’s Economic Statecraft”; and “Nacionālās drošības likums,” *Likumi*, January 12, 2001, <https://likumi.lv/doc.php?id=14011>.

51. Matej Šimalčík, “Slovak Universities Have a China Problem . . . And They Don’t Even Know It,” *China observers in Central and Eastern Europe* (website), March 15, 2021, <https://chinaobservers.eu/slovak-universities-have-a-china-problem-and-they-dont-even-know-it/>; and “Časová verzia predpisu účinná od 01.03.2021,” *Slov-Lex*, updated March 1, 2021, <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2011/45/20210301.html>.

the law places the responsibility for initial screening decisions in the hands of the Ministry of Economy of the Slovak Republic, which may review whether a foreign investment in Slovakia disrupts public order or national security.

Spain recently passed legislation requiring government approval for any foreign investment exceeding 10 percent in domestic assets in strategic industries.⁵² Most of these restrictions do not apply to investors that appear to be from the EU, Iceland, Liechtenstein, or Norway.

Several other EU members, such as Sweden and Ireland, still lack FDI screening mechanisms, and both countries are home to advanced technological industry and manufacturing.⁵³ The Swedish Defence Research Agency found 56 companies in high-tech, heavy manufacturing, and other relevant sectors had been sold to Chinese entities since 2018, all of which is consistent with *Made in China 2025*.⁵⁴ And Ireland

52. Juan Manuel de Remedios and Carlos Daroca, "Restrictions on Foreign Investments Imposed by the Spanish Government," White & Case (website), March 23, 2020, <https://www.whitecase.com/publications/alert/restrictions-foreign-investments-imposed-spanish-government>.

53. Jonas Hallberg, "Foreign Investment Screening in Finland, Norway, Sweden and Denmark," in *YSEC Yearbook of Socio-Economic Constitutions*, eds. Steffen Hindelang and Andreas Moberg (New York: Springer Science+Business Media, May 2020), 209-26; and Dennis Mitzner, "Sweden Is a Tech Superstar from the North," *TechCrunch* (blog), January 26, 2016, <https://techcrunch.com/2016/01/26/sweden-is-a-tech-superstar-from-the-north/>.

54. American official at the US Embassy in Stockholm, interview by the author, February 19, 2021.

hosts some of the world's leading artificial intelligence academic and research centers.⁵⁵

In an attempt to address the patchwork of investment screening tools across the continent, the EU introduced an investment screening framework in April 2019 designed to add additional scrutiny “over purchases by foreign companies that target Europe’s strategic assets.”⁵⁶ This new approach is largely advisory. The framework does not empower the EU to block investments coming into the member states, nor does the framework require the member states to screen incoming foreign investments at the national level or coordinate their policies or approaches. Additionally, the EU can only examine investment activity reported to the EU by member states. To date, the reporting has yielded little consistency, and the information provided to the European Commission is highly dependent on the member state and the relevant industry sector.⁵⁷

Table 5-2 captures the status of national investment screening regulations and processes across Europe. Although European countries have improved over the last several years, gaps clearly remain.

55. David Gaule, “The New Cel-Tech Tiger: How Ireland Emerged as a European Technology Leader,” *Nerd Life* (blog), New Relic, March 17, 2017, <https://newrelic.com/blog/nerd-life/dublin-ireland-european-technology-leader>.

56. European Commission, “EU Foreign Investment Screening Regulation Enters into Force,” press release, April 10, 2019, https://ec.europa.eu/commission/presscorner/detail/en/IP_19_2088.

57. American official assigned to the US Mission to the EU, interview by the author, November 13, 2020.

Table 5-2. Assessment of screening mechanisms in focus countries

Country	National Investment Screening System?	Investment Threshold(s)	Protected Sectors	Mandatory Notification for Protected Sectors?	Applies to Investors from within EU/EEA Also?	Deciding Authority	Investing Screening Risk Assessment
Belgium	No	Proposed: 10 percent	Proposed: health, energy, transportation, data processing and storage, critical technology, nanotechnology, biotechnology, AI, and the aerospace industry, energy, raw materials, and food safety the access to and control of sensitive information; and media.	Proposed: Yes, when thresholds met	No	Proposed: Ministry of Economy	High (until proposed law enters into force, then Medium)
France	Yes, but tightened system expires December 2022	25 percent control (10 percent until December 31, 2021 for investments in listed companies)	Defense- and security-related sectors; water supply; gas; electricity; transportation; AI; robotics; semiconductors; media and press activities; food safety; quantum IT; and energy storage	Yes, when thresholds met	No	Ministry of Economy and Finance	Medium
Germany	Yes	25, 20, or 10 percent, depending on sector	Healthcare; semiconductors; AI; additive manufacturing; quantum IT; critical infrastructure; media	Yes, when thresholds met	Yes, but only in limited set of circumstances (for example, military hardware)	Ministry for Economic Affairs and Energy	Medium
Greece	No	NA	Some equity restrictions on airport operations and limits on foreign ownership in electricity and media	NA	NA	NA	High
Hungary	Yes	25% percent (lowered to 10 percent in the case of public companies)	Dual-use technology, sector-specific manufacturing, and various infrastructure operations relating to public order and security	Yes, when thresholds met	No	Ministry of the Interior	Medium

Table 5-2. Assessment of screening mechanisms in focus countries (continued)

Country	National Investment Screening System?	Investment Threshold(s)	Protected Sectors	Mandatory Notification for Protected Sectors?	Applies to Investors from within EU/EEA Also?	Deciding Authority	Investing Screening Risk Assessment
Italy	Yes	10 percent	Defense/national security, transportation, energy, telecommunications, critical infrastructure, sensitive technology, nuclear and space technology, 5G technology, finance, et al.	Yes, when thresholds met	No	Council of Ministers	Low
Netherlands	Yes	ALL investments in protected sectors must be notified	Defence, energy, telecommunication, drinking water, nuclear energy, mining, underground gas storage	Yes	Yes	Ministry of Finance	Low
Poland	Yes, but tightened system expires June 2022	20 percent for listed companies (through June 2022)	Listed companies involved in critical infrastructure, software development, energy, oil and gas, chemicals, defense, telecommunications, medicine, and food	Yes, when thresholds met	No (through June 2022)	Competition Authority	Medium
United Kingdom	Yes (new law effective Jan 2022)	25 percent (and again at 50 percent and 75 percent)	Proposed: advanced materials, advanced robotics, AI, civil nuclear, communications, computing hardware, critical suppliers to government, critical suppliers to the emergency services, cryptographic authentication, data infrastructure, defense, energy, military and dual-use, quantum IT, satellite and space technologies, synthetic biology, and transportation	Yes, when thresholds met	Yes	Department for Business, Energy and Industrial Strategy	Low (as of Jan 2022)

Summary

Due to shifting perceptions across Europe and some improvements at the state and intergovernmental levels, the European investment environment has changed significantly over the last decade. Tightening investment screening tools, making European liquidity available for European companies, and cracking down on subsidized competitors from outside the EU have helped Europe strengthen its stance relative to China's predatory statecraft.

Serious flaws remain in the approaches of the EU and many of its member states. The most glaring shortcomings are the investment screening tools available to member-state governments, the strength and durability of these tools, and the lack of EU-wide outbound foreign direct investment (OFDI) requirements and regulations. These shortcomings provide Beijing vectors through which to undermine European security—especially the security of European infrastructure that is relevant to US and allied military operations in and through Europe as well as European defense technology and related raw materials. The next two chapters address these areas of risk.

6. SECURITY RISK: INFRASTRUCTURE

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Infrastructure is the physical and organizational structures and facilities needed for the operation of a society or enterprise. Examples include transportation systems, water supply and sewage management systems, and power and heating generation and distribution systems.

The EU defines critical infrastructure as assets, systems, or parts thereof that are “essential for the maintenance of vital societal functions, health, safety, security, economic, or social well-being of people, and the disruption or destruction of which would have a significant impact in a Member State of the EU as a result of the failure to maintain those functions.”¹ The EU further defines European critical infrastructure as infrastructure of a member state, especially in the energy or transportation sectors, that, if disrupted or destroyed, “would have a significant impact on at least two Member States.”² Member states of the EU have the responsibility to identify their own critical infrastructure.

The Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency identifies 16 infrastructure sectors as critical. The critical infrastructure sectors are the ones that have assets, systems, and networks that “are considered so

1. Council of the European Union, “On the Identification and Designation of European Critical Infrastructures and the Assessment of the Need to Improve Their Protection,” European Union Council Directive 2008/114/EC, *Official Journal of the European Union*, no. 114 (December 8, 2008): 75–82, <http://data.europa.eu/eli/dir/2008/114/oj>.

2. “Directive 2008/114/EC.”

vital to the United States that their incapacitation or destruction would have a debilitating effect on security, national economic security, national public health or safety, or any combination thereof.”³ See table 6-1 for the critical infrastructure sectors in the United States.

Table 6-1. Critical infrastructure sectors in the United States

Chemical	Dams	Financial Services	Information Technology
Commercial Facilities	Defense Industrial Base	Food and Agriculture	Nuclear Reactors, Materials, and Waste
Communications	Emergency Services	Government Facilities	Transportation Systems
Critical Manufacturing	Energy	Healthcare and Public Health	Water and Wastewater Systems

To one degree, each of these sectors is important from a defense and security perspective. For example, military enterprises rely on the civilian health system for training, some routine medical care, maintaining health-care provider standards, and support in the event of large-scale contingency operations or a war. Perhaps more significantly, military personnel rely on the food and agriculture sector for sustenance and nutrition.

When one examines the European infrastructure that might impact US and allied defense and security if disrupted and that might be the object of acquisition or investment by Chinese entities, some sectors matter more than others. For instance, the

3. “Critical Infrastructure Sectors,” Cybersecurity & Infrastructure Security Agency (website), n.d., <https://www.cisa.gov/critical-infrastructure-sectors>.

ability of military personnel and equipment to move into and through Europe is vital for the defense of NATO and US military operations beyond Europe. Similarly, US and allied military authorities rely on energy sources in Europe to conduct operations in and through the continent.

US military forces and its allies also rely on European water and wastewater systems when operating in or through Europe. This sector is almost entirely publicly owned, unlikely to be privatized, and therefore not very susceptible to Chinese investment.

US military forces that operate in or through Europe use European information technology networks—especially 5G technology—as well. This sector has seen increasing privatization over the last several years and has been subject to the increased involvement of Chinese entities, including Huawei and ZTE Corporation. Debates over 5G, however, have been the subject of extensive closed-door, transatlantic discussion, policy community deliberations, and

epistemic community treatment in recent years.⁴ Given the thorough treatment of the 5G issue elsewhere—as well as the growing success the United States has had in getting European allies and partners to keep Chinese companies out of their 5G networks—this study does not devote significant attention to the issue.⁵

Countries of Concern

Some European countries' infrastructure is more likely to impact US national security than others. This section briefly discusses the infrastructure that would have the greatest impact on US national security,

4. US military officer assigned to the US Military Delegation to the NATO Military Committee, interview by the author, December 14, 2020; Janka Oertel, "Why the German Debate on 5G and Huawei Is Critical," German Marshall Fund of the United States (website), February 15, 2019, <https://www.gmfus.org/news/why-german-debate-5g-and-huawei-critical>; Andrea Gilli and Francesco Bechis, "NATO and the 5G Challenge," *NATO Review* (blog), September 30, 2020, <https://www.nato.int/docu/review/articles/2020/09/30/nato-and-the-5g-challenge/index.html>; Erik Brattberg and Philippe Le Corre, "Huawei and Europe's 5G Conundrum," *National Interest* (website), December 27, 2018, <https://nationalinterest.org/feature/huawei-and-europe%E2%80%99s-5g-conundrum-39972>; and Julianne Smith, "Germany's 5G Debate Ought Not Be a Referendum on Donald Trump," *War on the Rocks*, February 16, 2020, <https://warontherocks.com/2020/02/germanys-5g-debate-ought-not-be-a-referendum-on-donald-trump/>.

5. Nick Wadhams, "US Sees More Support for 'Clean Network' Plan to Counter China," *Bloomberg* (website), October 30, 2020, <https://www.bloombergquint.com/politics/u-s-sees-more-support-for-clean-network-plan-to-counter-china>; and Rob Noel, "MOUs Secure 5G Networks in European Countries," *State Magazine*, January 2021, <https://statemag.state.gov/2021/01/0121itn02/>.

based largely on extant, planned, or likely military presence, activities, or lines of communication.

Germany

From the perspective of the United States, Germany is arguably the most important European country because of its militarily relevant infrastructure. Germany is host to the largest number of American military personnel based in Europe. The Kaiserslautern Military Community in southwestern Germany is one of the largest overseas US military communities, comprising 40,000 servicemembers, military dependents, and Department of Defense civilians.⁶ The US Army 2nd Stryker Cavalry Regiment, 12th Combat Aviation Brigade, and 41st Field Artillery Brigade are based in Germany, along with the US Air Force 52nd Fighter Wing:

Germany is also home to the following vital overseas military infrastructure.

- Ramstein Air Base – One of the largest overseas military facilities and home to the 86th Airlift Wing.
- Landstuhl Regional Medical Center – The largest overseas US military medical facility. The center played a vital role in caring for servicemembers injured in Iraq and Afghanistan, and it serves military personnel (and their families) stationed throughout Europe, the Middle East, and Africa.
- 7th Army Training Command in Grafenwöhr and Hohenfels – The only overseas American

6. “Visitor Information,” US Army Garrison Rheinland-Pfalz (website), updated July 23, 2020, <https://home.army.mil/rheinland-pfalz/index.php/about/visitor-information>.

military combat training center and home to advanced, instrumented, live-fire ranges and maneuver areas.

- Army prepositioned stock sites in Mannheim and Dülmen—Home to the equipment of a division headquarters, division artillery brigade, and armored brigade.
- Command headquarters—The headquarters of the Army component command for Europe and Africa (Wiesbaden), the Air Force component command for Europe and Africa (Ramstein), and United States European Command and United States Africa Command (Stuttgart).

These units and facilities are well connected to each other and to ports and airports of embarkation by extensive road, rail, and river networks. In particular, the German port of Bremerhaven has played a critical role in recent years when US forces have deployed to Central and Eastern Europe for exercises or rotational deployments.⁷ The nearby port of Nordenham, also on the North Sea, has been used to transport military materiel, such as ammunition and other specialized goods.

7. Benjamin Northcutt, "DEFENDER-Europe 20 Begins With 1st Combat Power Arrival," US European Command (website), February 20, 2020, <https://www.eucom.mil/article/40182/defender-europe-20-begins-with-1st-combat-pow>; Corinna Baltos, "Vehicles Roll into Poland for Atlantic Resolve," US Army (website), January 9, 2017, https://www.army.mil/article/180429/vehicles_roll_into_poland_for_atlantic_resolve; and Betty Y. Boomer, "Equipment Arrival Improves Signal Readiness in Europe," US Army (website), May 30, 2017, https://www.army.mil/article/188455/equipment_arrival_improves_signal_readiness_in_europe.

Belgium and the Netherlands

In addition to Germany, the militarily relevant infrastructure of Belgium and the Netherlands plays particularly important roles. Although these countries do not host US combat maneuver units, they are home to infrastructure facilities important for military operations and exercises, US military support units that facilitate the movement of materiel, and allied command-and-control units. For example, the Netherlands is home to Rotterdam, the largest container port in Europe and an important point of embarkation and debarkation for US military forces traveling to or from Germany and points east. The US armed forces have also used the port of Vlissingen in the southwestern corner of the country. Additionally, Eindhoven Airport, which is used by both civilian and military aircraft and is home to the Royal Netherlands Air Force transport fleet, has played an important role in facilitating the transit of US military materiel between Rotterdam and other locations in Europe.⁸ The Netherlands is also host to an Army prepositioned stock site in Eyselshoven that has been slated for modernization and expansion.⁹

Belgium hosts an Army prepositioned stock site in Zutendaal, which stores and maintains equipment

8. Dutch Aviation Society, "US Army's 101st AD CAB Will Move Out Via Rotterdam," *Scramble*, March 4, 2021, <https://www.scramble.nl/military-news/us-army-s-101st-ad-cab-will-move-out-via-rotterdam>.

9. Cameron Porter, "Dutch Government Pledges 38 Million Euros to Upgrade US Army APS-2 Site in Netherlands," US Army (website), March 25, 2021, https://www.army.mil/article/244624/dutch_government_pledges_38_million_euros_to_upgrade_u_s_army_aps_2_site_in_netherlands.

for a sustainment brigade.¹⁰ Additionally, Belgium plays host to a US Air Force unit assigned to Chièvres Air Base, near NATO's military headquarters in Mons. This unit supports NATO's Supreme Allied Commander Europe, who is also the commander of United States European Command; the rest of the alliance's military headquarters; and NATO transient aircraft. Additionally, the air base recently played an important role in the facilitation of rotational deployments and exercises, including as a staging area for equipment flowing into or out of Europe through the nearby Belgian port of Zeebrugge.¹¹ Both Zeebrugge and the larger port of Antwerp, Europe's second-largest container port, are important ports of embarkation and debarkation for US military forces traveling to and from Central and Eastern Europe.

Italy

Italy is host to significant Army, Air Force, and US Navy forces. For example, Aviano Air Base, Caserma Ederle in Vicenza, Naval Support Activity Naples, and Naval Air Station Sigonella are in Italy. In sum, these facilities and others in Italy are home to

10. Rabia Coombs, "APS-2 Zutendaal Talks Support Equipment with Belgium Land System Section," US Army (website), July 12, 2018, https://www.army.mil/article/208378/aps_2_zutendaal_talks_support_equipment_with_belgium_land_system_section.

11. Savannah L. Waters, "Helos Galore: 424th ABS Hosts 1st ACB in Support of Atlantic Resolve," Ramstein Air Base (website), October 31, 2017, <https://www.ramstein.af.mil/News/Article-Display/Article/1358535/helos-galore-424th-abs-hosts-1st-acb-in-support-of-atlantic-resolve/>; and Jacek Siminski, "USAF Deploys Major Fighter Component to Poland," *Aviationist* (blog), April 20, 2021, <https://theaviationist.com/2021/04/20/usaf-deploys-poland/>.

roughly 13,000 military personnel. The Vicenza-based 173rd Airborne Brigade has played an important role in recent years in conducting rotational deployments to Eastern Europe in support of deterrence operations vis-à-vis Russia.

Poland

In recent years, Poland has played an increasingly important role as a host nation. The country is slated to expand its role even further thanks to a bilateral US-Polish basing agreement signed in 2019.¹² Although few US forces are based in Poland on a permanent basis, the United States and allied countries such as Croatia, the United Kingdom, and Romania have sent troops to Poland for rotational deployments in support of deterrence operations. The Army V Corps maintains a forward operating element in Poznan, and the US-led Enhanced Forward Presence battlegroup is based in Orzysz.¹³ Additionally, the 33rd Air Base in Powidz is host to an Army prepositioned supply site, and Drawsko Pomorskie is slated to host a US-Polish combat training center. Elsewhere, Poland hosts US air defense, combat aircraft, and unmanned systems (UxSs) on a rotational basis. Gdynia and Gdansk on the Baltic Sea and Polish rail lines to Germany facilitate the movement of US troops and materiel into Poland.

12. Jaroslaw Adamowski, "US, Polish Presidents Sign Pact to Boost American Military Presence in Poland," *Defense News* (website), September 24, 2019, <https://www.defensenews.com/global/europe/2019/09/24/us-polish-presidents-sign-pact-to-boost-american-military-presence-in-poland/>.

13. John Vandiver, "V Corps Takes Up Position at New Poland Headquarters," *Stars and Stripes* (website), November 20, 2020, <https://www.stripes.com/news/europe/v-corps-takes-up-position-at-new-poland-headquarters-1.652807>.

France

France no longer hosts US military forces as it did during the early years of the Cold War, but the country has begun to play an increasingly important role as home to alternative transshipment options if US forces are unable to use ports elsewhere for exercises or operations.¹⁴ In particular, US military forces have recently used the ports of Radicatel (near Le Havre) and Dunkirk on the English Channel for exercises and deployments.¹⁵

Greece

Finally, US forces have also used Greece, a gateway to US allies in southeastern Europe, in recent years for exercises and deployments. In particular, US forces have used the ports of Alexandroupoli, Volos, and Thessaloniki for rotational deployments to Eastern Europe.¹⁶ Greece is also home to the port of Piraeus, which has become the exemplar for Chinese infrastructure investment in Europe. In Piraeus, a Chinese firm operates two of the port's three terminals through its wholly owned subsidiary, Piraeus Container Terminal. The same Chinese firm has operational control of the third terminal via its 51 percent stake in the Piraeus Port Authority. Both the US Navy (including embarked US Marines) and the

14. US civilian official assigned to the 598th Transportation Brigade, interview by the author, December 14, 2020.

15. Benjamin Northcutt, "1 ID CAB Arrives in Dunkirk, France for Atlantic Resolve," US Army (website), March 8, 2021, https://www.army.mil/article/244047/1_id_cab_arrives_in_dunkirk_france_for_atlantic_resolve.

16. US civilian official serving at the American embassy in Athens, interview by the author, October 5, 2020.

US Coast Guard have made recent port visits to Piraeus.¹⁷

Chinese Investment in Infrastructure

Through state-owned enterprises and nominally private entities, China has invested significantly in European infrastructure over the last decade. Most observers contend this investment was motivated by economic interests. For example, infrastructure investments often provide long-term, stable returns, which has been the focus of many Chinese investors.¹⁸ Additionally, some the Chinese investments in European infrastructure occurred under the auspices of the Belt and Road Initiative (BRI), enabling China to bring its goods to European markets more efficiently.¹⁹ Moreover, infrastructure asset valuations were particularly attractive in the wake of the eurozone sovereign debt crisis and the Great Recession of the early 2010s, when European governments looked

17. Sam Stephenson, "USS New York, 26th MEU Depart Piraeus, Greece," *America's Navy* (website), June 12, 2018, <https://www.navy.mil/Press-Office/News-Stories/Article/2249669/uss-new-york-26th-meu-depart-piraeus-greece/>; and Coast Guard News Wire, "US Coast Guard Visits Partners in Athens, Greece," Defense Visual Information Distribution Service, April 29, 2021, <https://www.dvidshub.net/news/395239/us-coast-guard-visits-partners-athens-greece>.

18. Thilo Hanemann and Daniel H. Rosen, *China Invests in Europe: Patterns, Impacts and Policy Implications* (New York: Rhodium Group, June 2012), 39; and Baker & McKenzie, *Bird's Eye View: Comparing Chinese Investment into North America and Europe* (New York: Rhodium Group, 2016).

19. Keith Johnson, "Why is China Buying up Europe's Ports?" *Foreign Policy*, February 2, 2018, <https://foreignpolicy.com/2018/02/02/why-is-china-buying-up-europes-ports/>.

to shed state-owned infrastructure assets.²⁰ For these reasons, from 2000–15, energy and transport infrastructure were two of the leading sectors in which China invested in Europe.

Although Chinese foreign direct investment (FDI) in Europe peaked in 2016, European infrastructure continues to attract Chinese investment more heavily than other sectors. For example, in 2019, infrastructure was the fourth most important sector in Europe for Chinese investment, just behind Chinese investment in European consumer products and services, information and computer technology, and the automotive sector.²¹ The following year, although total Chinese investment in Europe dropped from \$13.4 billion to \$7.2 billion, logistics and transportation infrastructure ranked first, attracting 23 percent of Chinese outbound foreign direct investment (OFDI) in Europe.²² More broadly, and in terms of specific countries in Europe, Germany (\$2 billion), France (\$0.7 billion), Poland (\$0.8 billion), Sweden (\$0.7 billion), and the United Kingdom (\$0.4 billion) received the most investment from China in 2020 across all sectors.

Economic considerations alone do not drive Chinese investment in European infrastructure. Given China's goals in Europe as discussed in chapter 3, geopolitics underpin China's infrastructure investments, incentivizing both state-owned enterprises and

20. Asia-based economist employed by a European investment bank, interview by the author, April 9, 2021.

21. Agatha Kratz et al., *Chinese FDI in Europe: 2019 Update* (Berlin: Mercator Institute for China Studies, April 2020).

22. Tracy Wut et al., *Reassessing the Landscape for Chinese Investment in North America and Europe* (Chicago: Baker & McKenzie, April 2021).

nominally independent Chinese companies.²³ Chinese investment in infrastructure is often opaque, even to government officials in the recipient country.²⁴ Among other geopolitical objectives, Beijing evidently hopes to garner political leverage through its infrastructure investments. In some cases, Chinese infrastructure investments overseas can be seen as defensive in nature and designed to give Beijing more control over supply chains, to increase its self-reliance, and to reduce the potential leverage of other states.²⁵ Regardless of the offensive or defensive nature, Chinese investment in European infrastructure has the potential to strengthen China's national security at the West's expense.

Chinese ownership or operation of infrastructure in Europe yields three primary types of national security risk. First, Chinese ownership or operation of key infrastructure nodes could provide Chinese officials with intelligence collection opportunities. These opportunities are not insignificant, and, given the ubiquity of Chinese investment in Europe, the scale and size of Chinese collection efforts are

23. Frans-Paul van der Putten, *European Seaports and Chinese Strategic Influence: the Relevance of the Maritime Silk Road for the Netherlands* (Den Haag, NL: Clingendael Institute, 2019); and Christopher R. O'Dea, "Asia Rising: Ships of State?" *Naval War College Review* 72, no. 1 (Winter 2019).

24. US military officer assigned to US European Command, interview by the author, January 7, 2021.

25. Wade Shepard, "China's Seaport Shopping Spree: What China is Winning By Buying Up the World's Ports," *Forbes* (website), September 6, 2017, <https://www.forbes.com/sites/wadeshepard/2017/09/06/chinas-seaport-shopping-spre-Whats-happening-as-the-worlds-ports-keep-going-to-china/?sh=5a88f9274e9d>.

potentially unprecedented.²⁶ Observing activity at transport nodes used by US or allied militaries or detecting changes in utility usage on or near military facilities could provide Chinese authorities—or others Beijing is willing to cooperate with—useful insights into ongoing or pending military operations.

The second risk, although somewhat less probable given the current geopolitical environment, is that Chinese ownership or operation of infrastructure elements in Europe could be weaponized in some way to frustrate, limit, or prevent US or NATO use. For example, the weaponization of infrastructure could happen through the denial of services, the slowing of the provision of services, or sabotage. Increasing the difficulty of the United States or its allies' use of European infrastructure for operations in or through Europe could present serious challenges to Western security. Such actions could fundamentally affect the ability of US and allied military forces to travel into, across, or through Europe; stage for operations; refuel and replenish supplies; and communicate.

The third risk is Chinese infrastructure investment in Europe could facilitate greater operational reach and influence for the Chinese military. Supporting combat vessels through commercial cargo terminals is not without its challenges, including the standards terminals are constructed to as well as the depth of berths, but Chinese military academics have examined this problem set.²⁷ For the moment, the Chinese

26. Cristina Gallardo and Stuart Lau, "UK Tools Up against China's Intel Gathering," Politico (website), April 29, 2021, <https://www.politico.eu/article/uk-seeks-to-build-great-wall-against-chinese-and-russian-espionage/>.

27. Isaac Kardon, "Research & Debate—Pier Competitor: Testimony on China's Global Ports," *Naval War College Review* 74, no. 1 (Winter 2021).

military seems most focused on ensuring it has operational freedom of action within the airspace and waters immediately adjacent to mainland China—specifically, the airspace and waters around Taiwan and in spite of any US intervention.²⁸ Nevertheless, given the 2017 visit to Piraeus by a Chinese naval force comprising two surface combatants and a supply ship, Beijing may make such deployments more common in the future in an attempt to exploit China’s overseas holdings for logistical and intelligence value.²⁹ Even if this risk seems less probable than the previous two, it could further increase China’s influence and leverage in Europe.³⁰

The following sections of this chapter try to discern the extent of these risks for the various types of infrastructure in which China has invested. These sections examine seaports and cargo terminal first, given their importance for moving military vehicles, fuel, and materiel and hosting naval combatants.

Seaports

In Europe, as in the United States, most seaports are publicly owned. (As a note, this chapter uses the terms “seaport” and “port” interchangeably).

28. Office of the Secretary of Defense, *Military and Security Developments Involving the People’s Republic of China 2020: Annual Report to Congress* (Washington, DC: Office of the Secretary of Defense, August 21, 2020), 9.

29. Xinhua News Agency, “Chinese Naval Fleet Arrives in Greece for Friendly Visit,” XinhuaNet, July 23, 2017, http://www.xinhuanet.com/english/2017-07/23/c_136466322.htm; and Kardon, “Research & Debate,” 144–45.

30. Jacob J. Lew and Gary Roughead, *China’s Belt and Road Implications for the United States* (New York: Council on Foreign Relations, March 2021), 63–64.

By one estimate, 87 percent of European ports are owned by central, regional, or municipal government authorities; 7 percent are held by joint public-private partnerships; and 6 percent are privately held.³¹ Completely privately held ports are more common in the United Kingdom than on the continent. Unlike airports in Europe, the eurozone debt crisis did not spark privatization in European seaports. But, since the eurozone debt crisis, European port authorities have increasingly been structuring themselves as independent commercial entities. This trend means most European port authorities are becoming increasingly driven by financial sustainability, if not outright profitability.

A port typically has many terminals that are each designed to handle different types of cargo. Some port authorities operate all or some of their terminals, but most ports lease or grant concessions to one or more port management companies to operate their terminals.

China is home to three of the world's 11 largest port management companies: Hutchison Port Holdings Limited, China Ocean Shipping Company, Limited (COSCO), and China Merchants Port Holdings Company Limited (CMP).³² These companies and their main competitors from Dubai, Germany, the Netherlands, Singapore, Taiwan, Switzerland, the United States, and elsewhere load, unload, and deal with transshipments. Many terminal operators,

31. European Sea Ports Organisation, *Trends in EU Ports Governance 2016* (Brussels: European Sea Ports Organisation, 2016), 7.

32. Ajay Menon, "11 Major Container Terminal Operators in the World," Marine Insight (website), updated December 14, 2021, <https://www.marineinsight.com/know-more/11-major-container-terminal-operators-in-the-world/>.

however, have also purchased stakes in major global ports, distribution centers, and other parts of the logistics services supply chain, a trend that began in the 1990s and continues today. Many shipping companies have also resorted to alliances and other forms of horizontal integration with competitors as another means of lowering costs.³³ This vertical integration facilitates profit maximization and allows providers to offer more services to customers in an industry facing low operating margins.³⁴

For example, COSCO—the world’s largest overall shipping company, third-largest container carrier, and fifth-largest port terminal operator—owns minority stakes in container terminals in Antwerp and Rotterdam. In nearby Zeebrugge, Belgium, COSCO owns 100 percent of the former APM Terminal, which is the largest and primary container terminal in Zeebrugge. In Spain, on which this chapter does not focus, COSCO also owns stakes in Las Palmas (minority), Valencia (majority), and Bilbao (majority). Most recently, COSCO has entered into talks to buy a minority stake in Hamburg’s Container Terminal Tollerort, which would make COSCO the first non-German operator at the country’s main container port.³⁵ All these ports have been used by US forces in the recent past.

33. European Sea Ports Organisation, *Trends*.

34. Theo E. Notteboom and Hercules E. Haralambides, “Port Management and Governance in a Post-COVID-19 Era: Quo Vadis?,” *Maritime Economics & Logistics* 22, no. 3 (September 2020): 330.

35. Andrew Cox, “Cosco in Negotiations to Buy Minority Stake in Hamburg Container Terminal,” *Splash 247.com* (website), June 9, 2021, <https://splash247.com/cosco-in-negotiations-to-buy-minority-stake-in-hamburg-container-terminal/>.

The most (in)famous presence of COSCO in Europe is in the Greek city of Piraeus, near Athens. In Piraeus, COSCO operates two of the port's three terminals through its wholly owned subsidiary Piraeus Container Terminal and it has operational control of the third terminal via its 51 percent stake in the Piraeus Port Authority. Over the last decade, Chinese investment and container throughput have vaulted Piraeus from a relatively small port into the fourth busiest port in Europe today.

Officials of the US military who are based in Europe—at military commands such as United States European Command, US Army Europe and its subordinate logistics commands, NATO, and defense attaché offices in US embassies—are increasingly aware of expanding Chinese ownership of seaports and other militarily relevant infrastructure facilities on the continent. Chinese infrastructure investments in Europe have been a frequent topic of unclassified and classified briefings for US military leaders in Europe.³⁶ These leaders may not be able to list specific infrastructure elements owned by Chinese entities, but the leaders are increasingly aware of growing Chinese acquisitions in Europe. Moreover, the Military Surface Deployment and Distribution Command—the Army component command under United States Transportation Command—has a vetting procedure in place to ascertain foreign influence in ports.³⁷ Additionally, US military operators on the ground

36. Department of Defense (DoD) official based in Europe, e-mail message to author, September 28, 2020; and Officer assigned to US Military Delegation to NATO Military Committee, interview by author, December 14, 2020.

37. US military official assigned to the 598th Transportation Brigade, interview by author, December 8, 2020.

are regularly consulted about prospective Chinese investment in European infrastructure, feeding their concerns and recommendations to counterparts at US embassies who can subsequently attempt to influence the host-nation authorities who are in charge of approving such investments.³⁸ In practice, and on some occasions, this knowledge and the vetting procedures in place have caused US military officials to avoid using terminals owned and operated by Chinese companies.³⁹

From a fiscal perspective, shifting the embarkation or debarkation of US military forces from one port or one terminal to another would appear to increase costs. In fact, such changes create an administrative burden that requires more man-hours to address and troubleshoot.⁴⁰ Given the structure of military shipping contracts and payment terms, shifting from one seaport facility to another typically does not add significant contractual cost for US military forces.⁴¹

From a capacity perspective, US military officials maintain they have a wide variety of locations to choose from in Western Europe for normal, steady-state operations, including exercises and rotational deployments associated with standing operations, such as Operation Atlantic Resolve. According to

38. US civilian official assigned to 598th Transportation Brigade, interview by author, December 14, 2020.

39. DoD official based in Europe, e-mail message to author, September 28, 2020; DoD official based in Europe, e-mail message to author, October 30, 2020; and US military official assigned to 21st Theater Sustainment Command, interview with author, December 8, 2020.

40. US military official assigned to US embassy in Brussels, interview by author, August 3, 2020.

41. US civilian official assigned to 598th Transportation Brigade, interview by author, December 14, 2020.

one official, scores of European ports can receive a US armored brigade.⁴²

Broadly speaking, independent analyses on port capacity corroborate the availability of port space. For instance, one reputable study found container ports in most parts of the world, including Europe, suffer from significant overcapacity.⁴³ This situation is likely to persist over the coming decades because of planned capacity expansions. The expansion of port capacity is good news to US military officials who need a variety of seaport options to avoid reliance on terminals or ports owned or operated by Chinese companies.

In the event of a large-scale contingency crisis requiring significant US force projection into Europe, US forces might be challenged to avoid ports or terminals owned or operated by Chinese firms or their subsidiaries. In theory, such a crisis might increase competition for commercial, humanitarian, and military access to European ports and require US forces to use most of the major ports available to them, which could subsequently provide an intelligence collection opportunity to Chinese officials and present other risks, such as those outlined earlier in the chapter.⁴⁴

42. US civilian official assigned to 598th Transportation Brigade, interview by author, December 14, 2020.

43. Jari Kauppila et al., *Capacity to Grow: Transport Infrastructure Needs for Future Trade Growth* (Paris: International Transport Forum, 2016), 33.

44. US military official assigned to American embassy in Brussels, interview by author, August 3, 2020; US military officer assigned to United States European Command, interview by author, January 7, 2021; and US official assigned to US Embassy in London, interview by author, April 26, 2021.

Airports

China has also sought to invest in airports across the continent over the last decade. Some of the high-profile investments are China's 10 percent stake in London's Heathrow Airport (2009); HNA Group's purchase of 82.5 percent of Frankfurt-Hahn Airport in Germany (2017); and Alibaba Group's effort to build a logistical hub around Liège Airport in Belgium (2018).

Not all Chinese investment in European airports has endured or been successful. For example, in late 2019, the Chinese company China Aerospace International Holdings sold its 49.9 percent stake in Toulouse-Blagnac Airport in France, which it had held since 2015 under a privatization deal. In 2016, China Everbright Limited acquired 100 percent of Tirana International Airport Nënë Tereza in Albania, promising to expand the facility.⁴⁵ Instead, despite consistent passenger growth until 2020, Everbright sold the concession in December 2020 to an Albanian company rather than deepen its commitment.⁴⁶

Elsewhere, in September 2019, China expressed interest in the storage facilities at Lajes Air Base in

45. Tirana International Airport, "China Everbright Limited Acquires 100% of the Shares in TIA," press release, July 10, 2016, <https://www.tirana-airport.com/d/133/china-everbright-limited-acquires-100-of-the-shares-in-tia>.

46. "Albanian Company Takes On the Concession for Tirana Rinas Airport," CAPA (website), February 24, 2021, <https://centreforaviation.com/analysis/reports/albanian-company-takes-on-the-concession-for-tirana-rinas-airport-548563>.

the Azores.⁴⁷ This facility was under lease to the US Air Force, which was not using it for the most part. The formerly designated military airport has one of the largest runways in Europe, capable of supporting strategic bombers and airlift platforms. The United States used the airport extensively to support operations in Afghanistan and Iraq, but the US presence there has declined in recent years.⁴⁸ Despite apparent Chinese interest, Portugal appears unlikely to permit Beijing to gain a foothold there—in part, because of US concerns.⁴⁹

Despite Chinese investment in some European airports, the security threat associated with actions such as intelligence collection, the hindering of US or allied military operations, and the facilitation of greater Chinese military operational activity remains minimal, primarily because most US and allied defense establishments rely on military air bases, which typically remain in government control.

47. Eduardo Baptista, “China-US Tension: Portugal Feels Washington’s Ire as Beijing Comes Wooing with an Eye on Strategic Azores,” *South China Morning Post* (website), November 2, 2020, <https://www.scmp.com/news/china/diplomacy/article/3106844/china-us-tension-portugal-feels-washingtons-ire-beijing-comes>; and Ruairi Kavanagh, “China Eyes Azores as Possible Commercial Hub Amid US Concerns,” *South EU Summit*, October 11, 2019, <https://southeusummit.com/europe/portugal/china-eyes-azores-as-possible-commercial-hub-amid-us-concerns/>.

48. US official assigned to US embassy in Lisbon, interview by author, April 19, 2021.

49. Paul Ames, “China’s Atlantic Stopover Worries Washington,” *Politico* (website), September 29, 2016, <https://www.politico.eu/article/chinas-atlantic-stopover-terceira-worries-washington-li-keqiang-united-states/>; and US official assigned to US embassy in Lisbon, interview by author, April 19, 2021.

In theory, scanning equipment used at airports, ports, and border crossings could pose a threat by revealing cargo container contents and offering an intelligence collection opportunity. The Chinese Nuctech Company, Ltd., which is directly tied to the Chinese government, provides scanning equipment, including the necessary services, systems, and software to scan people, baggage, supplies, cargo, and mail.⁵⁰ Nuctech systems are connected to databases containing the personal data of millions of travelers transiting European airports, including American servicemembers.

Only a small percentage of containers are scanned at seaports—perhaps 3 to 5 percent.⁵¹ Moreover, because US military shipments are not taxed at ports, the commercial scanning of military materiel is even less likely.

Energy and Other Utilities

In addition to seaports, Western military forces operating in or through Europe rely to some degree on civilian energy infrastructure. Although NATO allies have an extensive pipeline system for petroleum resources for military forces and facilities, electricity

50. Laurens Cerulus, “Meet the Huawei of Airport Security,” Politico (website), February 11, 2020, <https://www.politico.eu/article/beijing-scanners-europe-nuctech/>.

51. US officer assigned to NATO’s Joint Sustainment and Enabling Command, interview by author, February 22, 2021; and Congressional Budget Office, *Scanning and Imaging Shipping Containers Overseas: Costs and Alternatives* (Washington, DC: Congressional Budget Office, June 2016), 9.

needs are met almost entirely through the civilian electrical grid.⁵²

From a subsector perspective, Chinese entities have invested in European fossil-fuel plants, renewables, nuclear facilities, and power distribution. Geographically, most Chinese investment in the European energy sector has focused on the larger, wealthier countries, such as France, Germany, and the United Kingdom. But Chinese energy sector investment has also been rising in Southern Europe, especially in Greece and Portugal, where pressure to reduce debt over the last decade compelled (and continues to compel) the sale or partial sale of state-owned energy infrastructure assets.

For instance, in 2012, State Grid Corporation of China acquired 25 percent of *Redes Energéticas Nacionais*, the national Portuguese electrical grid operator, for €387 million.⁵³ This acquisition followed the state-owned China Three Gorges Corporation (CTG) 2011 purchase of 21 percent of EDP Group, which was highly indebted and had a virtual monopoly on the residential retail energy market in Portugal and parts of Spain.⁵⁴ More recently, in April

52. "NATO Pipeline System," NATO (website), March 9, 2017, https://www.nato.int/cps/en/natohq/topics_56600.htm.

53. Reuters Staff, "Factbox: Chinese Investments in Portugal," Reuters (website), May 14, 2018, <https://www.reuters.com/article/us-edp-m-a-china-investment-factbox/factbox-chinese-investments-in-portugal-idUSKCN1IF24M>.

54. Philippe Le Corre, "Chinese Investments in European Countries: Experiences and Lessons for the 'Belt and Road' Initiative," in *Rethinking the Silk Road: China's Belt and Road Initiative and Emerging Eurasian Relations*, ed. Maximilian Mayer (Singapore: Palgrave Macmillan, 2018), 161–76.

2019, non-Chinese shareholders blocked a €9 billion offer from CTG to take over all of EDP Group.⁵⁵

A similar story appears to be playing out in Greece, where State Grid Corporation of China purchased a 24 percent stake in Independent Power Transmission Operator, usually referred to as “ADMIE,” in 2017. In addition, the Chinese corporation is now involved in the construction of a high-voltage underwater link between Crete—home to a US naval facility at Crete Naval Base—and mainland Greece.⁵⁶ China would like to increase its stake in Greece’s energy sector, and Athens is hoping to sell more of ADMIE as well as a 49 percent stake in Hellenic Electricity Distribution Network Operator.⁵⁷ Athens, however, is unlikely to permit a greater Chinese role in the sector to avoid creating a monopoly, even though the Greek government faces an existential need for FDI.⁵⁸

China has also been active in the renewables subsector. In August 2020, CTG acquired 13 solar stations in Spain with a total generating capacity of just over 500 megawatts, enough to power roughly

55. “Energias de Portugal Shareholders Block Takeover Bid by China Three Gorges,” France24 (website), April 24, 2019, <https://f24.my/4pA8>.

56. US civilian official assigned to United States European Command, interview by author, November 19, 2020.

57. Public Power Corporation, *Invitation to Submit an Expression of Interest for the Acquisition of 49% of the Hellenic Electricity Distribution Network Operator S.A.* (Athens, GR: Public Power Corporation, December 15, 2020), 23.

58. US civilian official serving at US embassy in Athens, interview by author, October 5, 2020; and Γιώργος Φιντικιάκης, “Γιατί η ΔΕΗ «έκοψε» τους Κινέζους από την διεκδίκηση του ΔΕΔΔΗΕ,” *Liberal Markets*, January 21, 2021, <https://www.liberal.gr/economy/giati-i-dei-ekopse-tous-kinezous-apo-tin-diekdikisi-tou-deddie/350573>.

half-a-million homes.⁵⁹ In 2016, CTG bought a majority interest in WindMW GmbH, an offshore wind-power joint venture in Germany. According to Reuters, “WindMW owns Meerwind, a 288-megawatt project in the North Sea and one of Germany’s largest offshore windfarms.”⁶⁰ In July 2018, China General Nuclear Power Group acquired 75 percent of a 650-megawatt onshore wind project in Sweden. In December 2017, China Resources Power Holdings Company Limited acquired 30 percent of the Dudgeon Offshore Wind Farm in the United Kingdom. And in November 2017, Shenhua Group Corporation Limited (now part of China Energy Investment Corporation) acquired a 75 percent stake in four Greek wind farms. Analysts view these acquisitions as a key element of Beijing’s Made in China 2025 technology acquisition initiative because they promote Chinese expansion into renewables and the advanced technologies that underpin them.⁶¹

59. Reuters Staff, “China Three Gorges Enters Spanish Energy Market with Solar Plants Buy,” Reuters (website), August 18, 2020, <https://www.reuters.com/article/spain-china-renewables-idUKL8N2FK4M9>.

60. Reuters Staff, “China Three Gorges to Buy German Wind Park Meerwind from Blackstone,” Reuters (website), June 13, 2016, <https://www.reuters.com/article/us-blackstone-group-wind-farm-china-thre/china-three-gorges-to-buy-german-wind-park-meerwind-from-blackstone-idUSKCN0YZ1DC>.

61. Jost Wübbecke et al., *Made in China 2025: the Making of a High-Tech Superpower and Consequences for Industrial Countries* (Berlin: Mercator Institute for China Studies, December 2016), 18; and Simon Nicholas, *China Is Investing Heavily in European Wind* (Lakewood, OH: Institute for Energy Economics and Financial Analysis, August 2018).

In Poland, the government in Warsaw has agreed to pay for most of the infrastructure necessary to permit an expansion of the US military presence there. How Poland will handle the development of the surrounding infrastructure necessary to support the expansion has not been determined yet.⁶² The existing electrical grid, water and sewer lines, roads, and rail lines are insufficient to support the planned growth. Polish officials have told US counterparts if Chinese firms bid on the tenders, they will likely be the lowest bidder and therefore stand a good chance of winning the work.

On a related point, some risk may be associated with Chinese technology that ends up in electrical grids and other public utility networks through public procurement. Of the six or seven largest smart-meter manufacturers in the world, only one—Holley Technology—is Chinese. A smart meter is like a traditional meter insofar as it measures and records energy consumption data. The smart meter differs in that it is a digital device that can communicate remotely with the energy provider. The device sends consumption information directly to the energy provider, eliminating the need for a human meter reader.⁶³ If Chinese-built smart meters are used around or on a NATO or US military facility, Chinese authorities could potentially sense abnormal activity and gather intelligence that could threaten operational security. Since European smart-meter

62. US official assigned to US embassy in Warsaw, interview by author, February 25, 2021.

63. Katie Fehrenbacher, "A Smart Meter Giant You've Never Heard Of: Holley Metering," *GigaOm* (blog), August 3, 2010, <https://gigaom.com/2010/08/03/a-smart-meter-giant-youve-never-heard-of-holley-metering/>.

manufacturers like Landis+Gyr and Siemens AG tend to dominate the market in Europe, this risk may be relatively low.

Additional Risk Considerations

Even though US and European officials have become increasingly aware of, and wary of, Chinese investment in European energy and transportation infrastructure, Chinese entities have attempted to adapt to the shifting landscape in Europe. For example, Chinese entities appear to be using third-party companies to expand ownership stakes, including in militarily relevant infrastructure.⁶⁴ The case of joint venture Terminal Link SAS is illustrative.

Terminal Link SAS was formed in 2001 between France's CMA CGM—the world's third-largest container shipping company, ranking just ahead of China's shipping giant COSCO—and CMP. CMA CGM owns 51 percent, and 49 percent is owned by CMP, the state-owned public-port operator in China (the sixth largest such entity in the world, and a major beneficiary of the BRI).⁶⁵ Terminal Link owns terminals in Antwerp, Dunkirk, Le Havre, and Thessaloniki, and US forces have used all of them.

64. US official assigned to US Mission to the EU, interview by author, November 13, 2020; US official assigned to US embassy in Warsaw, interview by author, February 11, 2021; US official at US embassy in Stockholm, interview by author, February 19, 2021; US official assigned to US embassy in Lisbon, interview by author, April 19, 2021; and national security expert, interview by author, November 10, 2020.

65. "Top 10 Box Port Operators 2020," *Lloyd's List* (blog), December 4, 2020, <https://lloydslist.maritimeintelligence.informa.com/LL1135004/Top-10-box-port-operators-2020>.

In late 2019, CMA CGM agreed to sell its stakes in 10 terminals around the world to Terminal Link, including Rotterdam World Gateway in the Netherlands and Odessa Terminal in Ukraine. The others were CMA CGM PSA Lion Terminal (Singapore), Mundra Terminal (India), Kingston Freeport Terminal (Jamaica), Gemalink (Cai Mep, Vietnam), Qingdao Qianwan United Advance Container Terminal (China), Vietnam International Container Terminal (Ho Chi Minh City, Vietnam), Laem Chabang International Terminal (Thailand), and Umm Qasr Terminal (Iraq). The French company sold its stake in these terminals to Terminal Link primarily to reduce its debt and increase its liquidity.⁶⁶ This purchase, which the European Commission approved in March 2020 after reviewing for anticompetitiveness, increased Terminal Link's global holdings to 23 terminals.⁶⁷

Both the Rotterdam World Gateway terminal—one of Europe's most advanced terminals—and the Odessa terminal on the Black Sea have been used by the United States in recent years. The former has been used for small amounts of sustainment cargo for

66. Chris Dupin, "CMA GGM in Binding Agreement to Sell Terminals to Terminal Link," *American Shipper* (website), December 20, 2019, <https://www.freightwaves.com/news/cma-ggm-in-binding-agreement-to-sell-terminals-to-terminal-link>; and "CMA CGM Signs Binding Agreement with China Merchants Port to Sell a Portfolio of Ten Port Terminals to Terminal Link," *Hellenic Shipping News* (website), December 23, 2019, <https://www.hellenicshippingnews.com/cma-cgm-signs-binding-agreement-with-china-merchants-port-to-sell-a-portfolio-of-ten-port-terminals-to-terminal-link/>.

67. "EU Approves Terminal Acquisitions by CMA CGM and CMPorts," *Maritime Executive* (website), March 19, 2020, <https://www.maritime-executive.com/article/e-u-approves-terminal-acquisitions-by-cma-cgm-and-cmports>.

US forces in Europe, and the latter has been used for shipments of military materiel sold to Ukraine under the Foreign Military Sales program.⁶⁸

The Chinese company CMP reportedly has no operational or managerial role at Terminal Link's ports.⁶⁹ Evidence indicates CMP personnel have been assigned to work in senior positions in Terminal Link offices in Europe.⁷⁰ The Chinese company having personnel in senior Terminal Link positions may not represent an imminent operational risk to Western military forces, but it could form an intelligence collection risk.

In addition to concealing Beijing's hand through minority stakes in ostensibly European companies, Chinese entities often base themselves in or route investment activity through seemingly more benign locations like the Cayman Islands, an overseas British territory. When investment in an entity in the British home isles appears to originate from the Cayman Islands—because such a direct investment is not technically considered foreign—the operative investment screening tools are never triggered or employed.⁷¹

Similarly, Chinese investors have frequently funneled investments into Europe through Hong Kong, which until recently was deemed less of a security risk than investment from mainland China. But, given China's systematic dismantling of

68. US official based in Europe, e-mail message to author, May 6, 2021.

69. Kardon, "Research & Debate," 129.

70. CMHI Finance (BVI) Co., Ltd., *Preliminary Offering Memorandum* (Hong Kong: CMHI Finance [BVI] Co., Ltd., September 28, 2020), 36.

71. US official assigned to US embassy in London, interview by author, April 26, 2021.

Hong Kong's democracy, perceptions are changing in Europe. Several observers interviewed for this study agreed companies operating from Hong Kong are no different today in terms of the security threat they pose than those based in Shanghai or Guangzhou.⁷²

Despite this changing perception, some older investments from Hong Kong-based entities are inexplicably treated as still benign today. For instance, Britain's largest and busiest container port—Felixstowe in Suffolk—has been wholly owned since 1994 by Hutchison Port Holdings Limited, a subsidiary of Hong Kong-based CK Hutchison Holdings Limited, and this potential issue has not been subject to significant attention by US officials. In other cases, US officials are aware of the risk to Western security posed by Hong Kong firms like CK Hutchison: In 2020, the United States reportedly pressured Israel to prevent the company from winning a tender for a desalination plant, and some in the United States have long been concerned with Hutchison's operations in Panama.⁷³ See table 6-2 for an assessment of infrastructure risks in relevant countries.

72. US official assigned to US embassy in London, interview by author, April 26, 2021; and Asia-based economist employed by a European investment bank, interview by author, April 9, 2021.

73. Shirley Zhao and Ivan Levingston, "Li Ka-Shing Hong Kong Group Loses Israel Deal Amid US Push," Bloomberg (website), May 26, 2020, <https://www.bloomberg.com/news/articles/2020-05-26/israel-s-ide-wins-tender-to-build-desalination-plant>; and Steven Mufson, "In Panama, Ports in a Storm," *Washington Post* (website), December 8, 1999, <https://www.washingtonpost.com/wp-srv/WPcap/1999-12/08/008r-120899-idx.html>.

Table 6-2. Assessment of infrastructure risks in relevant countries

Country	US Reliance for Basing	US Reliance for Transit	Chinese Investment in Mil-Relevant Infrastructure	Overall Infrastructure Risk Assessment
Belgium	Low	High	High	High
France	NA	Moderate	Low	Medium
Germany	High	High	Low	Medium
Greece	Low	Moderate	High	Medium
Italy	High	Low	Low	Medium
Netherlands	Low	High	Medium	Medium
Poland	Moderate	Moderate	Low	Medium

Mitigating Elements?

The risks outlined in the preceding sections are mitigated to some degree by China’s own missteps. Across Europe, Chinese investment in energy and transportation infrastructure today is increasingly viewed with a jaundiced eye, reflecting the broader trends outlined in chapter 4. In many cases, European officials are reluctant to permit additional acquisitions or the expansion of existing infrastructure investments. For instance, Greek authorities appear reluctant to allow an expansion of Chinese ownership at the Piraeus seaport. To expand its ownership stake from 51 percent to 67 percent, COSCO was obligated to make additional investments in the port, including the construction of a fourth terminal. But COSCO has been unable to implement these investments because

locals have raised environmental concerns.⁷⁴ Whether intentionally or not, Greek bureaucracy has slowed, for the time being, China's advance in Piraeus.

Similarly, in Poland, China has built a poor reputation by overpromising and underdelivering. In 2009, the China Overseas Engineering Group Co., Ltd. won the tender to build two sections of Poland's main east-west highway—primarily, by severely undercutting other competitors—and, according to critics, the company used subsidies from Beijing to do so. The then-cash-strapped Polish government welcomed the bargain price tag, while China hoped to use Poland as a springboard to break into Europe's construction sector.⁷⁵ Instead, the Chinese company was unable to meet the technical requirements, leading to quality-control delays.⁷⁶ Ultimately, the Poles cancelled the contract, resulting in an embarrassing scandal for the government in Warsaw.

Today, Poland is still eager for investment from China, but not at the price of allowing Chinese entities to run roughshod over Polish rules and regulations. For example, Warsaw has approved plans to build a large transport hub, including a new airport, rail lines, and highways, in the middle of the country,

74. US civilian official serving at US embassy in Athens, interview by author, October 5, 2020; and Angeliki Koutantou, "China's Cosco Hopes for Greek Deal on Piraeus Despite Delay—Official," Reuters (website), May 28, 2021, <https://www.reuters.com/article/us-cosco-ship-hold-greece-piraeus/chinas-cosco-hopes-for-greek-deal-on-piraeus-despite-delay-official-idUSKCN2D91H7>.

75. Jan Cienski, "Poland to China: You're Fired," *Financial Times* (website), June 14, 2011, <https://www.ft.com/content/77f1d8c3-d258-3760-b035-6edee87cb6c2>.

76. US official assigned to US embassy in Warsaw, interview by author, February 11, 2021.

just over 20 miles west of Warsaw.⁷⁷ The centerpiece will be a new \$10 billion airport intended to compete with other major European gateway cities, such as Amsterdam Frankfurt, and Paris. Chinese entities were eager to get involved, but Polish officials appeared reluctant to permit their involvement.⁷⁸

Elsewhere, in some cases, Chinese investors in European infrastructure have simply failed to deliver on contractual arrangements. For example, Everbright's contract to operate Tirana airport required the Chinese to invest in the airport by expanding it, but they refused to do so, leading to a confrontational situation. At one point in discussions with Albanian officials, Chinese officials reportedly suggested they would expand the airport's capacity by using tents.⁷⁹

These examples and others indicate the Chinese approach in Europe is unrefined and inconsistent. Although this lack of quality and consistency may provide some mitigation, neither Europe nor the United States, which has a significant stake in the security and reliability of European infrastructure, can afford to rely solely on Chinese mistakes. The next chapter examines how and where Chinese investments in advanced technology and related raw materials represent a challenge to the development of defense capabilities and capacity in Europe.

77. "Poland Approves an Ambitious National Transport Programme," *Railway Pro* (website), November 3, 2020, <https://www.railwaypro.com/wp/poland-approves-an-ambitious-national-transport-programme/>.

78. US official assigned to US embassy in Warsaw, interview by author, February 11, 2021.

79. US official serving at US embassy in Tirana, interview by author, April 21, 2021.

7. SECURITY RISKS: DUAL-USE TECHNOLOGY IN EUROPE

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Chinese penetration of Europe's growing technology sector is on the rise. Despite initial dips in other types of Chinese investment in the wake of the coronavirus disease 2019 (COVID-19) pandemic, the volume of Chinese technology investments in Europe increased 25 percent from the fourth quarter of 2019 to the first quarter of 2020.¹ The rising demand for virtual innovation during lockdowns created new openings for technology investors in Europe, but China has long been pursuing such strategic opportunities as part of its climb to great-power status.

Emerging and disruptive technologies such as artificial intelligence (AI), autonomous systems, Internet of Things (IoT) components, and space-enabled capabilities have been the targets of many Chinese state-backed investors in Europe seeking to sharpen China's competitive edge with foreign technology and know-how.² Many of these dual-use technologies have both civilian (that is, commercial) and military applications, increasing their value to Beijing. The risks would grow for European

1. GP Bullhound, Inc., "Asia Insights: Q1 Wrap-Up from One of the First Markets to Reopen" (PowerPoint presentation, GP Bullhound, Inc., London, UK, May 2020), <https://docsend.com/view/55r4qmv6s5wnf3h5?hsCtaTracking=320f4359-fd0b-4be1-ac0b-29402daada8e%7C4338ba75-0a0d-4cce-b3d5-ea569358eff5>.

2. Henrik B. L. Larsen, "Europe's Awakening to China's Tech Dominance," *Harvard International Review* (website), October 16, 2020, <https://hir.harvard.edu/europe-awakening-china-tech-dominance/>.

governments and their allies if these technologies ended up in the wrong hands or became subject to foreign, malign influence.

As strategic competition between China and the West has intensified, many European governments have introduced new measures to limit Chinese investment in sensitive technologies—particularly, those that have explicit security and defense implications.³ But as Europe’s preventative measures have advanced, so too have China’s investment practices for accessing foreign intellectual property (IP) and technological capabilities. Beyond simple state-owned investment and acquisitions, China is leveraging commercial companies, complex webs of venture capital (VC), and even international research and talent programs to benefit from European dual-use technology without detection. China is also manipulating critical supply chains to control access to key raw materials, such as rare-earth elements (REEs), required to produce and operate such technologies.⁴ These actions by China could result in significant consequences for the security of Europe; its closest ally, the United States; and the NATO alliance that binds them.

This chapter explores the primary risks to allied security posed by Chinese investment in dual-use technologies and related materials in Europe. Beginning with China’s approach to technology investment in Europe, this chapter outlines seven

3. Sarah Erikson, “Recent Developments in EU Foreign Investment Screening,” *Strategic Technologies Blog*, April 19, 2021, <https://www.csis.org/blogs/strategic-technologies-blog/recent-developments-eu-foreign-investment-screening>.

4. Agatha Kratz et al., *Chinese FDI in Europe: 2019 Update* (Berlin: Mercator Institute for China Studies, April 8, 2020).

priority dual-use technologies at risk: AI, quantum information technology (IT), semiconductors, space and space-enabled capabilities, additive manufacturing (AM), robotics, and unmanned and autonomous systems. These technologies were identified based on two key factors: (1) China's significant focus on these technologies through its policies, investments, and related activities in Europe; and (2) the transformative potential of these technologies for the strategic and military capabilities of both China and the transatlantic alliance. The chapter also looks at China's efforts to influence and control access to the REEs necessary to make and use these technologies.

This analysis details China's activities and tactics for acquiring IP, penetrating supply chains, and manipulating these technologies in Europe, offering the following five primary categories for conceptualizing and monitoring China's influence in this space.

- Direct investments and acquisitions in Europe by Chinese state-owned entities
- Investments and acquisitions in Europe by commercial Chinese companies not directly linked to the government
- Investments in VC, especially in European start-ups, by Chinese VC firms and Chinese limited partners in non-Chinese VC firms
- The penetration of raw material supply chains (particularly REEs)
- Research and development collaborations and talent programs between Chinese and European companies and academic institutions

The chapter then illustrates examples of these Chinese activities across six key European countries as case studies: the United Kingdom, Germany, France, Italy, the Netherlands, and Poland. These cases were selected because of their advanced defense technology industries, manufacturing bases, talent pools, and related raw materials as well as their strong track records of deploying or partnering with the United States for security and defense operations through NATO. The chapter concludes by highlighting three primary risks to allied security posed by China's dual-use technology investment activities in Europe.

China's Approach to Dual-Use Technology in Europe

As discussed in chapter 3, Beijing views technological innovation and eventual supremacy as key pillars of China's rise as a great power. For the Chinese Communist Party (CCP), technology is necessary to support an advanced economy, government control of society, and a capable military, all of which the party views as being interconnected.⁵ To facilitate the achievement of these goals, the government has initiated a series of top-down, whole-of-government policies and programs at home, such as Made in China 2025, that are designed to jump-start the development of dual-use technologies and achieve military-civil fusion. Military-civil fusion is a strategy designed to build China into an economic, technological, and military superpower by fusing the

5. Meia Nouwens and Helena Legarda, "China's Pursuit of Advanced Dual-Use Technologies," *Research Paper* (blog), December 18, 2018, <https://www.iiss.org/blogs/research-paper/2018/12/emerging-technology-dominance>.

country's military and civilian industrial, science, and technology resources.⁶

The state has orchestrated sector-specific industrial and innovation plans, targets for productivity and market shares, domestic market protection policies, the creation of national champions, and large-scale R&D programs. One key tool is the Five-Year Plan for national economic and social development, which the Chinese government adapts incrementally to shape commercial and technology goals for China's advancement through 2035.⁷ Another tool is China Standards 2035, a 15-year blueprint for China's government agencies and technology companies aimed at driving international standards for next-generation technologies and increasing China's global technology clout.⁸ Still another tool is China's military modernization strategy that involves efforts to increase the innovation and global competitiveness of large, defense state-owned enterprises and to work with the civil and commercial sectors for inspiration.⁹ This strategy underscores the importance of dual-use technologies for future battles, which are increasingly

6. Audrey Fritz, "China's Evolving Conception of Civil-Military Collaboration," *CSIS China Innovation Policy Series* (blog), August 2, 2019, <http://www.csis-cips.org/blog/2019/8/2/chinas-evolving-conception>; and Congressional Research Service, "Made in China 2025" *Industrial Policies: Issues for Congress*, IF10964 (Washington, DC: Congressional Research Service, updated August 11, 2020).

7. Congressional Research Service, *China's 14th Five-Year Plan: A First Look*, IF11684 (Washington, DC: Congressional Research Service, updated January 5, 2021).

8. Naomi Wilson, "China Standards 2035 and the Plan for World Domination," Council on Foreign Relations (website), June 3, 2020, <https://www.cfr.org/blog/china-standards-2035-and-plan-world-domination-dont-believe-chinas-hype>.

9. Nouwens and Lagarda, "China's Pursuit."

playing out through unconventional means in the cyber and information domains.

Though China prioritizes technology independence and indigenous innovation, the extent to which the country can generate dual-use technology domestically to achieve its goal of leapfrogging the United States as a technological superpower is limited. Some of the limits China faces are time, difficulty, cost, infrastructure, and talent. To fill these gaps, China relies on a variety of approaches, especially those outlined in chapter 3.

Priority Dual-Use Technologies at Risk

This study identifies seven advanced, dual-use technologies as priority risk areas based on two key factors: (1) China's significant focus on these technologies through its policies, investments, and related activities in Europe; and (2) the transformative potential of these technologies for the strategic and military capabilities of both China and the transatlantic alliance. The technologies include AI, quantum IT, semiconductors, space and space-enabled capabilities, AM, robotics, and unmanned and autonomous systems. The following sections examine the relevance of these technologies.

Most recently, in its 14th Five-Year Plan for 2021-25, the Chinese government outlined seven "frontier technologies" that heavily characterize its

investment activities in Europe.¹⁰ Four of these dual-use technologies are particularly transformative for defense and pose significant risks for European allies' security and technology.

Artificial Intelligence

According to IBM Cloud Education, "AI leverages computers and machines to mimic the problem-solving and decision-making capabilities of the human mind."¹¹ Though AI has numerous commercial applications, including e-commerce, workplace communication, and health care, the technology is a potential game changer, affecting a wide range of military capabilities. The technology can empower autonomous and high-speed weapons and defensive systems across the land, air, sea, space, and cyber domains. The technology also provides stark advantages in logistics; exercising and training; target recognition; situational awareness; data processing; planning; and, for China, population surveillance and control.¹²

10. Arjun Kharpal, "In Battle with U.S., China to Focus on 7 'Frontier' Technologies from Chips to Brain-Computer Fusion," *CNBC* (website), March 5, 2021, <https://www.cnbc.com/2021/03/05/china-to-focus-on-frontier-tech-from-chips-to-quantum-computing.html>; and Benjamin Cooper, "China's 14th Five-Year Plan (2021-2025) Report," *Hill+Knowlton Strategies* (website), April 1, 2021, <https://www.hkstrategies.com/en/chinas-14th-five-year-plan-2021-2025-report/>.

11. IBM Cloud Education, "What Is Artificial Intelligence," *IBM* (website), June 3, 2020, <https://www.ibm.com/cloud/learn/what-is-artificial-intelligence>.

12. Forrest E. Morgan et al., *Military Applications of AI: Ethical Concerns in an Uncertain World* (Santa Monica, CA: RAND Corporation, 2020).

China has an ambitious set of policies and national initiatives that have fueled its indigenous leaps forward in AI. But China continues to benefit from international R&D partnerships and underrated AI-related investments in Europe.¹³ As it refines its AI and AI-enabled technologies, China could be positioned to sell them for security cooperation and other geopolitical purposes that could undercut alliance capabilities. China is also leveraging these advances to set global AI standards and terms of use in its favor, which could affect allies' ability to apply the technology in operations.¹⁴ China manipulates standards through its large-scale physical control of production, exchange, and consumption of AI products as well as its foothold in international governance bodies like the UN's International Telecommunication Union and the World Trade Organization.¹⁵ As underscored by its National Security Commission on Artificial Intelligence, the United States and its allies are at risk of losing AI leadership to China in the next decade.¹⁶ Given the close and high-stakes competition

13. Nouwens and Lagarda, "China's Pursuit."

14. Valentina Pop, Sha Hua, and Daniel Michaels, "From Lightbulbs to 5G, China Battles West for Control of Vital Technology Standards," *Wall Street Journal* (website), February 8, 2021, <https://www.wsj.com/articles/from-light-bulbs-to-5g-china-battles-west-for-control-of-vital-technology-standards-11612722698>.

15. Emily de La Bruyère and Nathan Picarsic, "China's Next Plan to Dominate International Tech Standards," *TechCrunch* (website), April 11, 2020, <https://techcrunch.com/2020/04/11/chinas-next-plan-to-dominate-international-tech-standards/>.

16. Eric Schmidt et al., *Final Report* (Washington, DC: National Security Commission on Artificial Intelligence, March 1, 2020).

between the alliance and China in AI, the technology represents a key risk area for allied security.¹⁷

Quantum Information Technology

Quantum IT provides new forms of computing, sensing, and communications to revolutionize the processing and transmission of data.¹⁸ In the commercial space, quantum IT could be applied to enhance everything from engineering and medicine to banking and environmental science. Across military missions, these capabilities can provide significant advantages in sensing, timing, detection, synchronization, data encryption, and even precision navigation.¹⁹ The navigation capability is particularly critical to future operations, which are likely to take place in denial-of-service environments in which space-based Global Positioning Systems are disrupted or disabled. Quantum IT can also provide advanced sensing and tracking that can undermine traditional allied military capabilities, such as anti-submarine warfare.²⁰

17. Sam Shead, "US Is 'Not Prepared to Defend or Compete in the A.I. Era,' Says Expert Group Chaired by Eric Schmidt," *CNBC* (website), March 2, 2021, <https://www.cnbc.com/2021/03/02/us-not-prepared-to-defend-or-compete-in-ai-era-says-eric-schmidt-group.html>.

18. Timothy Spiller, "Quantum Information Technology," *Materials Today* 6, no. 1 (January 2003): 30-36.

19. Jon Harper, "Pentagon Trying to Manage Quantum Science Hype," *National Defense* (website), December 10, 2020, <https://www.nationaldefensemagazine.org/articles/2020/12/10/pentagon-trying-to-manage-quantum-science-hype>.

20. Tom Simonite, "China Stakes Its Claim to Quantum Supremacy," *Wired* (website), December 3, 2020, <https://www.wired.com/story/china-stakes-claim-quantum-supremacy/>.

In addition to national subsidies and large-scale investment programs, China has supported its indigenous quantum advances by manipulating international R&D partnerships, including in Europe, to access foreign know-how.²¹ As China continues to push toward quantum supremacy, Beijing could become the global supplier of quantum technologies. Quantum technology is another top risk area for Europe and the alliance.

Semiconductors

Semiconductors or microchips have a huge range of commercial applications, including IoT devices such as smartphones, automobiles, televisions, cameras, household appliances, and even light-emitting diode bulbs.²² Semiconductors are also used in a variety of defense electronics and platforms, such as computers, sensors, amplifiers, switches, weapons, military aircraft, tanks, armored personnel carriers, and more.²³ Semiconductors are integral to the way modern militaries fight and conduct operations.

China has traditionally lagged behind leading competitor semiconductor developers, such as the United States and South Korea. Because China lacks

21. Tom Stefanick, "The State of US-China Quantum Data Security Competition," *TechStream* (blog), Brookings Institution, September 18, 2020, <https://www.brookings.edu/techstream/the-state-of-u-s-china-quantum-data-security-competition/>.

22. "What is a Semiconductor?," Semiconductor Industry Association (website), updated May 25, 2021, <https://www.semiconductors.org/semiconductors-101/what-is-a-semiconductor/>.

23. Industrial College of the Armed Forces, *Electronics Industry Study Report: Semiconductors and Defense Electronics* (Washington, DC: National Defense University, 2003).

domestic companies that can design and produce tools its chip manufacturers need, it has relied on Europe and other countries for key materials and know-how.²⁴ China has pumped billions of dollars into developing its own semiconductor industry, a move accelerated after the United States blacklisted Chinese technology giant Huawei for espionage and banned key component exports to China.²⁵ Despite US pressure on Europe, China has doubled down on its activities on the continent in search of key IP, subcomponents, processes, and materials. As a result, semiconductors are a significant risk area for Europe and North America.²⁶

24. Arjun Kharpal, "SMIC, China's Largest Chipmaker, Plunges 23% After US Says It Could Blacklist the Firm," *CNBC* (website), September 7, 2020, <https://www.cnbc.com/2020/09/07/shares-of-chinese-chipmaker-smic-plunge-amid-potential-us-blacklist.html>; and Arjun Kharpal, "China Is Pushing to Develop Its Own Chips—But the Country Can't Do Without Foreign Tech," *CNBC* (website), October 24, 2021, <https://www.cnbc.com/2021/10/25/china-pushes-to-design-its-own-chips-but-still-relies-on-foreign-tech.html>.

25. Arjun Kharpal, "Google Cuts Ties with Huawei. That May Be a 'Kill Switch' for the Chinese Firm's Global Smartphone Ambition," *CNBC* (website), May 20, 2019, <https://www.cnbc.com/2019/05/20/google-stops-some-business-with-huawei-could-hit-its-global-smartphone-ambitions.html>; and Arjun Kharpal, "China Is Pushing to Develop Its Own Chips—but the Country Can't Do Without Foreign Tech," *CNBC* (website), October 24, 2021, <https://www.cnbc.com/2021/10/25/china-pushes-to-design-its-own-chips-but-still-relies-on-foreign-tech.html>.

26. Kharpal, "SMIC, China's Largest Chipmaker."

Space and Space-Enabled Capabilities

Space capabilities, such as geospatial intelligence, the Global Positioning System, launch vehicles, and satellite communications, have many commercial uses, from transportation to data analytics. For governments and militaries, space capabilities provide better, more real-time intelligence to decisionmakers; enable military headquarters to manage battlespaces effectively; and connect platforms and warfighters across the globe.²⁷ In fact, most allied capabilities rely on access to and the freedom to act in space.

China has recently prioritized space exploration and dominance as a strategic objective and made significant strides in anti-satellite and counterspace capabilities that could disrupt or disable NATO capabilities.²⁸ To make these strides, China has partially relied on access to foreign technology and talent, in addition to national programs.²⁹ Because space is central to enabling much of the defense innovation among great powers, space capabilities

27. Tom Wilson, *Threats to United States Space Capabilities* (Washington, DC: Commission to Assess United States National Security Space Management and Organization, 2001).

28. Liane Zivitsky, "China Wants to Dominate Space and the US Must Take Countermeasures," *Defense News* (website), June 23, 2020, <https://www.defensenews.com/opinion/commentary/2020/06/23/china-wants-to-dominate-space-and-the-us-must-take-countermeasures/>.

29. Neel Patel, "China's Surging Private Space Industry Is Out to Challenge the US," *MIT Technology Review* (website), January 21, 2021, <https://www.technologyreview.com/2021/01/21/1016513/china-private-commercial-space-industry-dominance/>.

represent a core risk area for allied technology and defense capabilities.³⁰

The 14th Five-Year Plan also emphasized three additional areas of technological development China may not consider as leading-edge but that it still prioritizes across its investment activities, including as part of Made in China 2025.³¹ These areas pose a variety of risks to allied security and defense.

Additive Manufacturing

This technology represents a transformative approach to industrial production that uses “software or 3D object scanners to direct hardware to deposit material, layer upon layer, in precise geometric shapes.”³² The technology enables the creation of strong, light parts and systems, often more quickly than traditional methods. The technology can be widely used across commercial sectors, including in the aerospace, automotive, construction, health-care, and

30. “The Space Ambitions of China, Russia and USA,” American University School of International Service (website), August 13, 2018, <https://ironline.american.edu/blog/space-ambitions-china-russia-usa/>.

31. Xinhua News Agency, “Proposal of the Central Committee of the Chinese Communist Party on Drawing Up the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2030,” trans. Etcetera Language Group, Inc., Georgetown Center for Security and Emerging Technology (website), December 7, 2020, https://cset.georgetown.edu/wp-content/uploads/t0237_5th_Plenum_Proposal_EN-1.pdf.

32. “What is Additive Manufacturing?,” GE (website), updated May 25, 2021, <https://www.ge.com/additive/additive-manufacturing>.

entertainment industries.³³ For security and defense, additive manufacturing can be used to produce spare parts quickly for key platforms like space launch vehicles, fighter jets, submarines, and tanks; medical supplies for personnel; materials like concrete and metal; and even entire structures, like submersible hulls or drones.³⁴ More broadly, additive manufacturing is likely to encourage localized, on-demand production, which could threaten China's leading position in global supply chains.³⁵ To strengthen Beijing's production base at home and expand its ability to exploit weakened manufacturing sectors abroad, the CCP provides tax benefits; credit support; and other incentives, including for international collaboration, to support the development and adaptation of AM technology for Chinese entities.³⁶ These measures put European allies' AM intellectual property, manufacturing sectors, and supply chains at substantial risk of Chinese manipulation.

33. Aaron Chen, "How 3D Printing is Being Used in Different Industries," *C-Mac Industries Pty Ltd* (blog), December 15, 2018, <https://www.cmac.com.au/blog/how-3d-printing-used-in-different-industries>.

34. Jen Owen, "3D Printing Uses in the Military," *3D Universe*, October 21, 2020, <https://3duniverse.org/2020/10/21/3d-printing-uses-in-the-military/>.

35. Tess Boissonneault, "50% of Chinese Manufacturers Believe AM Could Challenge China's Leading Position in Manufacturing," *3D Printing Media Network* (website), November 11, 2019, <https://www.3dprintingmedia.network/50-percent-chinese-manufacturers-materialise-survey/>; and Economist Intelligence Unit Country Analysis Service, "Manufacturing Makes a Comeback in the 14th Five-Year Plan," *Economist Intelligence Unit* (website), March 17, 2021, <https://onesite.eiu.com/manufacturing-makes-a-comeback-in-the-14th-five-year-plan/>.

36. Nouwens and Lagarda, "China's Pursuit."

Robotics

Robots perform tasks done traditionally by humans, either autonomously or with human input.³⁷ Robots have been widely incorporated across commercial industries, such as manufacturing, mining, and health care. In the defense sector, robots can provide transformative advantages related to armor, transportation and logistics, emergency response, remote-controlled vehicles, information collection, and more while minimizing risk to personnel.³⁸ For China, robotics has been a major innovation priority for use in its military and in commercial industries.³⁹ Following massive investments and subsidies under Made in China 2025, China's robotics capabilities have advanced significantly in both areas.⁴⁰ Despite buying and building more robots than any other country, China still depends on robotics manufacturing and technology from Europe and Japan. Most Chinese robot manufacturers lack the expertise to build key components, such as encoders, or to coordinate

37. "What Is Robotics?" NASA (website), November 9, 2009, https://www.nasa.gov/audience/forstudents/5-8/features/nasa-knows/what_is_robotics_58.html.

38. Heba Soffar, "Army Robots Types, Advantages, Disadvantages & How Do Artificial Soldiers Change the Future of War?," *Online Sciences*, June 22, 2019, <https://www.online-sciences.com/robotics/army-robots-types-advantages-disadvantages-how-do-artificial-soldiers-change-the-future-of-war/>.

39. Adam Minter, "Are Robots the Next Investment Bubble in China?," *IndustryWeek* (website), June 9, 2016, <https://www.industryweek.com/technology-and-iiot/robotics/article/21973472/are-robots-the-next-investment-bubble-in-china>.

40. Elsa Kania, *AI Weapons in China's Military Innovation* (Washington, DC: Brookings Institution, April 2020).

multiple robots for integrated manufacturing; thus, China does not yet make enough technologically advanced industrial robots to meet domestic manufacturing demand.⁴¹ As China explores new ways—both legal and illicit—to close this gap, European allies’ robotics intellectual property and capabilities remain at risk.

Unmanned Systems and Autonomy

These systems are fundamentally changing industries and warfare across all physical domains (land, sea, air, and space). The most proliferated uninhabited systems (UxS) at present are unmanned aerial systems (UASs), commonly known as “drones.” These aircraft systems are designed to operate autonomously or to be controlled remotely without a pilot on board, drawing on technology used in robots.⁴² These systems have several valuable civil and commercial uses, including delivering packages and

41. Fumie Yaku, “China’s Tech Spending Surges as It Strives to Be Robotics Superpower,” *Nikkei Asia* (website), July 24, 2019, <https://asia.nikkei.com/Business/China-tech/China-s-tech-spending-surges-as-it-strives-to-be-robotics-superpower>; and Eugene Demaitre, “China Robotics Outlook: A State of the Industry 2019,” *Robot Report*, November 19, 2019, <https://www.therobotreport.com/china-robotics-outlook-state-industry-2019/>.

42. “Unmanned Aerial Systems (UAS),” SKYbrary, December 8, 2020, [https://www.skybrary.aero/index.php/Unmanned_Aerial_Systems_\(UAS\)](https://www.skybrary.aero/index.php/Unmanned_Aerial_Systems_(UAS)).

supplies and transporting critical medical aid.⁴³ For militaries, UASs have traditionally been key sources of intelligence, surveillance, and reconnaissance capabilities, and, more recently, the systems have provided the ability to strike targets directly. The systems provide this capability at a cost that is an order of magnitude lower than that of manned aerial assets as well as minimize the risk to pilots' lives.

The use of unmanned aerial systems has been increasingly transformative because they have had a significant force-multiplying effect when paired with other assets.⁴⁴ In addition to their prospects for aiding in population surveillance, these systems are particularly attractive to China for upending the high-end capabilities of the alliance due to their low-cost, low-risk, high-reward nature. Furthermore, the asymmetrical use of UASs by adversaries exploits gaps in NATO's traditional doctrine.⁴⁵

43. Annie Palmer, "Amazon Prime New Drone Delivery Fleet Gets FAA Approval," CNBC (website), August 31, 2020, <https://www.cnbc.com/2020/08/31/amazon-prime-now-drone-delivery-fleet-gets-faa-approval.html>; and Jake Bright, "Zipline Begins US Medical Delivery with UAV Program Honed in Africa," TechCrunch (website), May 27, 2020, <https://techcrunch.com/2020/05/26/zipline-begins-us-medical-delivery-with-uav-program-honed-in-africa/>.

44. Shaan Shaikh and Wes Rumbaugh, "The Air and Missile War in Nagorno-Karabakh: Lessons for the Future of Strike and Defense" Center for Strategic and International Studies (website), December 8, 2020, <https://www.csis.org/analysis/air-and-missile-war-nagorno-karabakh-lessons-future-strike-and-defense>.

45. Dave Barnhill, "Manned-Unmanned Teaming: Where's the Doctrine?" *Proceedings* (blog), March 2019, <https://www.usni.org/magazines/proceedings/2019/march/manned-unmanned-team-wheres-doctrine>.

The 13th Five-Year Plan (2016–20) brought significant progress (largely carried by commercial unmanned aerial systems) to China’s traditionally underdeveloped general aviation industry, however, the country still relies on foreign aviation technology.⁴⁶ Though international investment and acquisition in the broader European aviation sector are already restricted due to national security concerns, to avoid screenings, especially in Europe, China has pursued smaller and seemingly commercial investments associated with UASs and autonomy.⁴⁷ At the same time, Chinese drone companies, principally SZ DJI Technology Co., Ltd., have effectively seized the European hobby drone market—the company currently boasts over 70-percent market share. China could adapt these commercial capabilities for military use with other foreign or domestic intellectual property, exposing a significant risk area for allied security.

Priority Raw Materials at Risk

China is also interested in investing in a variety of raw materials (particularly REEs) that are required to produce and use the technologies discussed

46. Jean Deville, “Overview of Chinese Investments in the Western Aviation Industry,” *China Aerospace Blog*, October 17, 2018, <https://china-aerospace.blog/2018/10/17/overview-of-chinese-investments-in-the-western-aviation-industry/>.

47. “Civil Aviation Administration of China: During the ‘14th Five-Year Plan’ Period, Four New Situations Will Be Explored to Promote the Construction of Smart Civil Aviation,” *Newsdirectory3.com*, January 12, 2021, <https://www.newsdirectory3.com/civil-aviation-administration-of-china-during-the-14th-five-year-plan-period-four-new-situations-will-be-explored-to-promote-the-construction-of-smart-civil-aviation/>.

previously. For the manufacturing and production of high-tech products, rare earth elements are crucial.⁴⁸ These elements have magnetic and conducting properties that make products lighter, stronger, and more effective compared to traditional inputs. For example, the Internet of Things, unmanned aerial systems, robots, quantum computers, additive-manufacturing technologies, and many AI-enabled devices require REEs for key components like lenses, lights, screens, computers, audio components, batteries, electrical functions, and even petroleum and steel-part refinement.⁴⁹

Neodymium and praseodymium are some of the most sought-after light REEs most commonly used in technology, and demand for them has spiked in recent years as technology has advanced. Although neodymium is classed as an REE, it is common and widely distributed in the Earth's crust, however, more than 80 percent of the world's neodymium is produced in China. The element is critical in the manufacturing of permanent magnets that are necessary for electric motors.

Praseodymium, as abundant in the Earth's crust as boron, is the fourth most common REE. The element is commonly used as an alloying agent with magnesium to create high-strength metals that are used in aircraft

48. "What Are Rare Earth Elements and Why Are They Important?," American Geosciences Institute (website), n.d. <https://www.americangeosciences.org/critical-issues/faq/what-are-rare-earth-elements-and-why-are-they-important>.

49. "How Do We Use Rare Earth Metals?," American Geosciences Institute (website), n.d., <https://www.americangeosciences.org/critical-issues/faq/how-do-we-use-rare-earth-elements>.

engines.⁵⁰ In the defense sector, heavy REEs such as dysprosium and terbium are commonly used in electronic displays, jet engines, satellites, guidance systems, lasers, and radar and sonar systems.⁵¹ Access to terbium, one the most difficult REEs to acquire, is almost entirely dominated by China. Though large portions of these technologies may not physically comprise these elements, they are often required for functionality.⁵²

Because rare earth elements naturally occur in other minerals, they must be mined, extracted, and refined before use. After this process, REEs must be transported to processing and manufacturing facilities and incorporated into high-tech products.⁵³ While this process is costly, time-intensive, and environmentally damaging, it provides valuable access to whoever controls it. China has sought to gain a global monopoly on REEs for two core purposes. First, access to these materials will fuel China's growth and position in the high-tech sector. Second, China uses its near-monopoly on REEs as leverage over foreign countries

50. Hobart King, "Rare Earth Elements and Their Uses," Geology.com, accessed May 20, 2021, <https://geology.com/articles/rare-earth-elements/>.

51. Reuters Staff, "Explainer: China's Rare Earth Supplies Could Be Vital Bargaining Chip in US Trade War," Reuters (website), May 30, 2019, <https://www.reuters.com/article/us-usa-china-rareearth-explainer-idUSKCN1T00EK>.

52. "How Do We Use Rare Earth Metals?," American Geosciences Institute (website), n.d., <https://www.americangeosciences.org/critical-issues/faq/how-do-we-use-rare-earth-elements>.

53. Bradley S. Van Gosen, Philip L. Verplanck, Keith R. Long, Joseph Gambogi, and Robert R. Seal, II, *The Rare-Earth Elements – Vital to Modern Technologies and Lifestyles*, Fact Sheet 2014-3078 (Washington, DC: US Geological Survey, November 2014).

and companies, including in Europe, for both political and economic coercion.⁵⁴ The EU imports 98 percent of its REEs from China. This dependence puts EU technologies, economies, supply chains, and security at risk.⁵⁵

Case Studies

To understand more specific examples of how Chinese technology investments are unfolding in Europe and how security risks vary among key countries, this study undertook case studies of six NATO allies: the United Kingdom, Germany, France, Italy, the Netherlands, and Poland. These cases were selected based on their advanced defense technology industries, manufacturing bases, talent pool, related raw materials, and strong track records of deploying or partnering with the United States through NATO for security and defense operations. Though the following case studies are not comprehensive analyses, they provide illustrative examples of Chinese investment in each country's technology sector with a view toward assigning a general level of security risk to each.

United Kingdom

Over the last two decades and following the eurozone crisis, the United Kingdom has gradually

54. "Does China Pose a Threat to Global Rare Earth Supply Chains?," *China Power* (blog), July 17, 2020, <https://chinapower.csis.org/china-rare-earths/>.

55. Finbarr Bermingham, "China's Rare Earth Dominance Casts Shadow over Europe's Ambitious Climate Targets," *South China Morning Post* (website), February 25, 2021, <https://www.scmp.com/news/china/diplomacy/article/3123162/chinas-rare-earth-dominance-casts-shadow-over-europes>.

increased its cooperation with China to cultivate a deeper economic relationship. For China, the United Kingdom has been an extremely attractive market due to its highly advanced technology sector, robust education system, and intellectual pool. From 2017–19, China’s direct investments in the United Kingdom technology sector totaled \$5.53 billion.⁵⁶ These investments spanned a range of technologies—most notably, space and aerospace, semiconductors, and data-centric capabilities related to artificial intelligence and quantum IT.

Growing more sophisticated over time, Chinese transactions in the United Kingdom have typically involved multiple layers of investments and acquisitions. For example, in 2017, leading British chipmaker Imagination Technologies Limited was acquired by a commercial Chinese company owned by a larger, state-controlled Chinese firm.⁵⁷ As another example, in 2018, Britain’s Northern Aerospace was bought by Gardner Aerospace, a subsidiary of China’s Shaanxi Ligeance Mineral Resources Co. Ltd.⁵⁸ The year before, Shaanxi had acquired Gardner from United Kingdom-based firm BECAP Fund LP. More recently, Gardner attempted to buy

56. American Enterprise Institute and Heritage Foundation, “China Global Investment Tracker,” American Enterprise Institute (website), updated May 25, 2021, <https://www.aei.org/china-global-investment-tracker/>.

57. Guy Faulconbridge and Paul Sandel, “Imagination Tech IPO Years Away, but China Listing a Top Option,” Reuters (website), April 28, 2020, <https://www.reuters.com/article/us-imaginationtechnologies-ipo-britain-c-idUSKCN22A2BG>.

58. Barney Cotton, “Aerospace Firm Agreed to Be Sold for £44m,” *Business Leader* (website), June 11, 2018, <https://www.businessleader.co.uk/aerospace-firm-agreed-to-be-sold-for-44m/46211/>.

Britain's Impcross Ltd., which manufactures and assembles components for civil and military aircraft, but the former retreated following pressure from the United Kingdom government.⁵⁹ In the same year, Gardner successfully acquired a 100 percent stake in British additive manufacturing firm FDM Digital Solutions.⁶⁰ In another significant transaction in 2019, Chinese steelmaker Jiangsu Shagang Group Company Limited became the largest shareholder of the United Kingdom-based commercial data center operator Global Switch, which manages 13 data centers across Europe, Hong Kong, Singapore, and Sydney.⁶¹

Several Chinese companies, including China's main space contractor China Aerospace Science and Technology Corporation, have R&D collaborations with Queen Mary University of London. Their joint research center focuses on space terahertz radiation technology, the outcomes of which are designed to be transferred to Chinese industry for

59. Dominic Perry, "Gardner Commits to Steer Clear of Impcross Acquisition after National Security Concerns," Flight Global (website), September 10, 2020, <https://www.flightglobal.com/aerospace/gardner-commits-to-steer-clear-of-impcross-acquisition-after-national-security-concerns/140124.article>.

60. "Gardner Aerospace Announces Acquisition of FDM Digital Solutions Limited and Creation of Gardner Technology Centre," Gardner Aerospace (website), November 29, 2019, <https://www.gardner-aerospace.com/gardner-aerospace-announces-acquisition-of-fdm-digital-solutions-limited-and-creation-of-gardner-technology-centre/>.

61. Tanishaa Nadkar, "Chinese Steel Maker Picks Additional 24% Stake in Global Switch ahead of IPO," Reuters (website), August 27, 2019, <https://www.reuters.com/article/us-global-switch-stake-shagang-group/chinese-steel-maker-picks-additional-24-stake-in-global-switch-ahead-of-ipo-idUSKCN1VH1V2>.

commercialization.⁶² Terahertz radiation can penetrate fabrics and plastics, and the People's Liberation Army is experimenting with terahertz radiation technology to develop antistealth radar. Similarly, CloudWalk Technology Co. Ltd.—a Chinese developer of facial recognition technology—and South China University of Technology have a R&D partnership with Britain's University of Warwick that was launched in 2019 and that focuses on artificial intelligence. CloudWalk Technology's AI facial recognition software is already used by the Chinese government for domestic surveillance across its smart cities.⁶³ The Chinese Academy of Engineering Physics has also explicitly acknowledged its United Kingdom talent recruitment program, which is designed to bring advanced technologies back to China (the academy is responsible for the research, development, and testing of China's nuclear weapons; it is essentially China's equivalent of Los Alamos National Laboratory).⁶⁴

Over time, the UK government has introduced a variety of investment review powers and regulatory procedures.⁶⁵ Some of these efforts were inspired by Britain's desire to align more closely with the harsh US stance on Chinese investment, especially after Brexit. The United Kingdom mirroring the United States was particularly underscored by the banning of Huawei from the UK 5G infrastructure

62. Kratz et al., *Chinese FDI in Europe*.

63. Kratz et al., *Chinese FDI in Europe*.

64. Joske, "Hunting the Phoenix."

65. Marc Israel and Kate Kelliher, "UK Outlines Its Plans for Wide-Ranging New Investment Review Powers," White & Case (website), November 11, 2020, <https://www.whitecase.com/publications/alert/uk-outlines-its-plans-wide-ranging-new-investment-review-powers>.

in 2020 following US sanctions on the Chinese technology giant.⁶⁶ Public opinion toward China has generally followed.

Nevertheless, China has already deeply penetrated the UK technology sector in many ways, and its interest in the British market remains high.⁶⁷ China's increasingly complex investment tactics signal Chinese investors will continue to exploit gaps in British regulatory regimes to expand their footprint in smaller yet meaningful ways. Finally, due to its robust technology sector, the United Kingdom remains moderately vulnerable to China's monopoly on REEs.

Germany

Since the early 1980s, Germany has seen China as key to fueling long-term economic growth. China continues to drive Germany's export growth, even throughout the pandemic, and many German companies produce locally in China, too.⁶⁸ In addition to Germany being a large market for its products, Beijing sees the country as its preferred technology partner, especially in terms of helping China modernize its manufacturing industry. The only partner mentioned in an official document published in 2020 by the Ministry of Industry and Information Technology of the People's Republic of China is

66. Luke McGee, "Britain Might Like to Follow Trump's Lead on China. But It's Hardly in a Position to Call the Shots", CNN (website), July 18, 2020, <https://www.cnn.com/2020/07/18/uk/britain-trump-china-intl-gbr/index.html>.

67. McGee, "Britain Might Like to Follow."

68. Matthew Karnitschnig, "How Germany Opened the Door to China—and Threw Away the Key," Politico (website), September 10, 2020, <https://www.politico.eu/article/germany-china-economy-business-technology-industry-trade-security/>.

Germany; the document focuses on Chinese-German cooperation on additive manufacturing and robotics.

The CCP has actively supported Chinese companies, industrial associations, and scientific research institutes that invest in Germany to grow domestic Chinese skills and eventually move high-tech production to China.⁶⁹ As one example, in 2016, a Chinese firm bought Germany's leading industrial robotics firm, KUKA.⁷⁰ China's battery giant Contemporary Amperex Technology Co. Limited also opened a battery cell plant in Germany to infiltrate an EU manufacturing chain.⁷¹

Other Chinese priorities in Germany include the Internet of Things, microchips, and data-centric technologies. China is particularly interested in Berlin, which has blossomed into one of the most diverse and inclusive start-up ecosystems in the world, welcoming talent and capital from "everywhere."⁷² In 2019, China's e-commerce giant Alibaba Group bought Berlin-based Data Artisans to access large quantities of data, which could help to power artificial intelligence

69. Henrik Bork and Steffen Donath, "Germany Is China's Preferred Technology Partner," *ETMM* (website), November 13, 2020, <https://www.etmm-online.com/germany-is-chinas-preferred-technology-partner-a-979693/>.

70. Nikolaus Doll and Gerhard Hegmann, "The Kuka Case Fuels Fear of China," *Die Welt* (website), November 27, 2018, <https://www.welt.de/wirtschaft/article184525100/Midea-Fall-Kuka-wird-zum-Suendenfall-fuer-den-Standort-D.html>.

71. Nikolaus von Jacobs and Nicholas Jupp, "The Future of Chinese Investment in Post-Pandemic Europe," *National Law Review* 10, no. 356 (December 2020).

72. Bojana Trajkovska, "Berlin's Startup Ecosystem at a Glance," *EU-Startups*, December 11, 2018, <https://www.eu-startups.com/2018/12/berlins-startup-ecosystem-at-a-glance/>.

and quantum IT.⁷³ In 2018, China's Shenzhen Goodix Technology Co., Ltd. acquired German cellular IoT firm CommSolid to accelerate China's development of microchips.⁷⁴

In addition, Chinese-German corporate technology R&D partnerships are strong because they usually come as a mandate for German companies seeking access to Chinese markets. For example, China Electronics Technology Group Corporation has a strategic partnership with Germany's Siemens AG for collaboration on AI, IT, and AM. China Electronics Technology Group Corporation is one of China's 10 state-owned defense conglomerates. The corporation produces most of the electronic components used in Chinese military systems.⁷⁵ In addition, the corporation previously developed a surveillance platform used on the Uyghurs in Xinjiang.⁷⁶ As another example,

73. Nadine Schimroszik, Thomas Seythal, and Douglas Busvine, "Alibaba Buys German Data Analysis Start-Up," Reuters (website), January 9, 2019, <https://www.reuters.com/article/us-data-artisans-m-a-alibaba/alibaba-buys-german-data-analysis-start-up-idUSKCN1P30F0>.

74. Chris Burt, "Goodix Acquires Cellular IP Company CommSolid," BiometricUpdate.com (website), February 26, 2018, <https://www.biometricupdate.com/201802/goodix-acquires-cellular-ip-company-commsolid>.

75. "Siemens Seals Strategic Cooperation Agreement with China Electronics Technology Group Corporation," Siemens (website), updated 2016, https://w1.siemens.com.cn/news_en/news_articles_en/6780.aspx; and "China Electronics Technology Group Corporation (CETC)," GlobalSecurity.org, n.d., <https://www.globalsecurity.org/military/world/china/cetc.htm>.

76. Ralf Bosen and Christoph Strack, "China Cables: Germany Under Pressure to Respond to Beijing's Uighur Internment," Deutsche Welle (website), November 25, 2019, <https://www.dw.com/en/china-uighurs-siemens-germany-partnership/a-51405883>.

Chinese company Tencent Holdings Ltd. partners with Germany's BMW to provide the IT architecture, AI, tools, and platforms supporting its entire R&D process for autonomous and electric vehicles.⁷⁷

Despite the security risks, these deep interdependencies between the Chinese and German economies have in many instances disincentivized German political leaders from restricting Chinese technology investments. Indeed, Germany was the leading force behind the Comprehensive Agreement on Investment (CAI) with China, despite discouragement from the United States and some European countries.⁷⁸ Germany remains a strong advocate for economic cooperation with China and continues to maintain openings for Chinese capital flows to fuel the German economy. Unlike other European nations, Germany has avoided explicitly banning Huawei from critical 5G investments in the country.⁷⁹

Public opinion toward these policies varies based on the issue. According to a Pew survey, 71 percent of Germans had an overall unfavorable view

77. Rita Liao, "After Baidu Tie-Up, BMW Taps Tencent for Autonomous Driving in China," TechCrunch (website), July 19, 2019, <https://techcrunch.com/2019/07/19/baidu-bmw-partnership-autonomous-driving/>.

78. Jakub Jakóbowski, "CAI and the Fate of the China-Germany-CEE Industrial Triangle," China Observers in Central and Eastern Europe (website), June 2, 2021, <https://chinaobservers.eu/cai-and-the-fate-of-china-germany-cee-industrial-triangle/>.

79. William Boston and Stu Woo, "Huawei Gets Conditional Green Light in Germany as Government Approves Security Bill," *Wall Street Journal* (website), December 16, 2020, <https://www.wsj.com/articles/huawei-gets-conditional-green-light-in-germany-as-government-approves-security-bill-11608117504#:~:text=The%20German%20bill%20now%20goes,transparent%20to%20network%2Dsecurity%20authorities.>

toward China.⁸⁰ Yet, in a technology-specific survey, 53 percent of Germans responded, “I don’t know” when asked whom they would side with in the growing technological competition between the United States and China.⁸¹ This widespread opinion leaves questions over how Germany’s future government may shift China policy. Finally, Germany’s heavy economic reliance on its large manufacturing sector and growing high-tech industries makes it exceptionally susceptible to Chinese dominance of REE imports.⁸²

France

French President Emmanuel Macron has pushed to make France a leader in new technologies.⁸³ In a broader geopolitical context, this push is part of France’s ambition to develop more “strategic autonomy” and, in some ways, reduce reliance on the United States.⁸⁴ Meanwhile, France’s strategic cooperation with China has been growing, particularly

80. Laura Silver, Kat Devlin, and Christine Huang, *Large Majorities Say China Does Not Respect the Personal Freedoms of Its People* (Washington, DC: Pew Research Center, June 30, 2021).

81. Oscar Jonsson and Carlos Luca de Tena, *European Tech Insights 2021, Part II: Embracing and Governing Technological Disruption* (Madrid: IE Center for the Governance of Change, 2021).

82. Korreck, “Exploring the Promises.”

83. Arjun Kharpal, “Op-Ed: Macron’s Vision to Make France a ‘Country of Unicorns’ Requires a Big Shift in Mentality,” *CNBC* (website), June 20, 2017, <https://www.cnbc.com/2017/06/20/french-tech-emmanuel-macron-vision.html>.

84. Poala Tamma, “Europe Wants ‘Strategic Autonomy’ – It Just Has to Decide What That Means,” *Politico* (website), October 15, 2020, <https://www.politico.eu/article/europe-trade-wants-strategic-autonomy-decide-what-means/>.

on R&D and innovation.⁸⁵ France's recent efforts to lure young specialists from educational institutions in other countries or through immigration; to attract VC investments; and to support start-up growth have made Paris an enticing scene for Chinese investors.⁸⁶ From 2017-20, China invested roughly \$2.8 billion in France's technology sector.⁸⁷ According to the French Ministry for Europe and Foreign Affairs, nearly 700 subsidiaries of Chinese companies operating in France employ about 45,000 people.⁸⁸ Priority industries include space, aerial systems, and semiconductors, although the two countries also cooperate on biotechnology and shipbuilding.⁸⁹

For example, in the area of aerial systems, the countries collaborated on the assembly of the Airbus A320 aircraft and the completion of the A330 in Tianjin.⁹⁰ In space, state-driven ventures include the

85. Xinhua News Agency, "China, France Pledge to Promote Bilateral Cooperation, China-EU Strategic Partnership," XinhuaNet, August 29, 2020, http://www.xinhuanet.com/english/2020-08/29/c_139326734.htm.

86. Michal Rejman, "2021 Guide to Paris Startup Scene: Events, Accelerators and VCs," *Ideamotive* (blog), February 1, 2021, <https://www.ideamotive.co/blog/guide-to-paris-startup-scene-events-accelerators-and-vcs>.

87. American Enterprise Institute and Heritage Foundation, "China Global Investment Tracker."

88. "France and China, Bilateral Relations," French Ministry for Europe and Foreign Affairs (website), updated March 2019, <https://www.diplomatie.gouv.fr/en/country-files/china/france-and-china/>.

89. Andrea Braun Střelcová, "Engaged, Not Married: The Past, Present, and Future of Europe's Research Collaboration with China," Max Planck Institute for the History of Science (website), February 18, 2021, <https://www.mpiwg-berlin.mpg.de/observations/engaged-not-married-past-present-and-future-europes-research-collaboration-china>.

90. "France and China."

Chinese-French Oceanography Satellite and Space Variable Objects Monitor satellite projects.⁹¹ Notably, People's Liberation Army Unit 61486 was accused in 2012 of stealing data from France's National Centre for Space Studies. Unit 61486 is a People's Liberation Army unit dedicated to cyberattacks on US, Japanese, and European corporations in the satellite and communications technology industry.⁹² Important acquisitions have also occurred, such as the 2018 purchase by China's state-owned Tsinghua Unigroup of French microchip maker Linxens for \$2.6 billion.⁹³

Talent and R&D programs are also robust. The countries maintain approximately 60 joint public research structures with around 600 research units and 3,000 researchers. Academic cooperation extends both ways, and Chinese students make up the second largest group of foreign students in France (around 37,000).⁹⁴ More than 40 Chinese overseas recruitment stations operate in France, recruiting French scientists in support of research projects that ultimately benefit Beijing.⁹⁵

91. "France and China."

92. CrowdStrike Global Intelligence Team, *CrowdStrike Intelligence Report* (Sunnyvale, CA: CrowdStrike, 2014); and Don Weinland, Harriet Agnew, and Javier Espinoza, "China's Unigroup Buys French Chipmaker Linxens for \$2.6bn," *Financial Times* (website), July 25, 2018, <https://www.ft.com/content/f919b032-8fe5-11e8-b639-7680cedcc421>.

93. CrowdStrike Global Intelligence Team, *CrowdStrike Intelligence Report*; and Weinland, Agnew, and Espinoza, "China's Unigroup."

94. "France and China."

95. Zhang Yu, "The Thousand Talents Plan Is Part of China's Long Quest to Become the Global Scientific Leader," *Conversation* (website), August 31, 2020, <https://theconversation.com/the-thousand-talents-plan-is-part-of-chinas-long-quest-to-become-the-global-scientific-leader-145100>.

Though France has worked with Germany and Italy through the EU to protect Europe's largest and most critical technologies from foreign influence, France's legislative review powers have not been fully used. Macron's probusiness government has typically encouraged Chinese and other foreign investment, especially for innovation.⁹⁶ Public sentiment has generally supported these investments. Though overall public opinion is largely unfavorable toward China according to Pew, 55 percent of French respondents replied, "I don't know" when asked whether they would side with the United States or China in their technology competition.⁹⁷ France's strong manufacturing sector and expanding technology development add to the country's risk because REEs under Chinese control are key inputs for both.

Italy

Italy has traditionally welcomed Chinese investment to open new opportunities for trade and to support its long-troubled economy. For China, Italy provides access to advanced technologies and traditional industries. Though China's primary focus in Italy has been infrastructure investment, between 2017 and 2020, China's investment in Italy's technology sector totaled \$1.25 billion. China's activities have spanned the IoT, robotics, AI, and semiconductors. Although not covered in this study, energy and automobiles are also key focus

96. "Entrepreneurship and Investing in France," French Ministry for Europe and Foreign Affairs (website), updated July 2019, <https://www.diplomatie.gouv.fr/en/french-foreign-policy/economic-diplomacy-foreign-trade/entrepreneurship-and-investing-in-france/>.

97. Jonsson and Luca de Tena, *European Tech Insights 2021*.

areas for China in Italy that can have defense and dual-use applications.⁹⁸ Significant investments have included China's State Administration of Foreign Exchange's purchase of a 2 percent stake in Prysmian SpA, a major Italian manufacturer of cables, telecommunications components, and optical fibers. The State Administration of Foreign Exchange drafts rules and regulations governing foreign exchange market activities and manages the state foreign exchange reserves.⁹⁹ Chinese technology giant Huawei has also invested substantially in Telecom Italia SpA and Vodafone Italia SpA to build Italy's 5G technology.¹⁰⁰ In addition, in 2021, Chinese company Shenzhen Investment Holding Corporation attempted to buy a 70 percent stake in LPE SpA, a Milan-based semiconductor firm, however, the Italian government ultimately blocked the transaction.¹⁰¹ Chinese R&D partnerships are also prevalent in Italy's academic

98. Chad Bray, "China National Chemical Unit Nears Deal for Tire Maker Pirelli," *New York Times* (website), March 22, 2015, <https://www.nytimes.com/2015/03/23/business/dealbook/china-national-chemical-unit-nears-deal-for-tire-maker-pirelli.html>.

99. Rachel Sanderson, "China Swoops in on Italy's Power Grids and Luxury Brands," *Financial Times* (website), October 7, 2014, <https://www.ft.com/content/1bd60160-4496-11e4-bce8-00144feabdc0>.

100. Elvira Pollina, "Huawei to Invest \$3.1 Billion in Italy but Calls for Fair Policy on 5G: Country CEO," Reuters (website), July 15, 2019, <https://www.reuters.com/article/us-huawei-italy/huawei-to-invest-3-1-billion-in-italy-but-calls-for-fair-policy-on-5g-country-ceo-idUSKCN1UA11V>.

101. Giuseppe Fonte, "Italy Vetoes Takeover of Semiconductor Firm by Chinese Company Shenzhen," Reuters (website), April 9, 2021, <https://www.reuters.com/article/china-italy-semiconductors/refile-italy-vetoes-takeover-of-semiconductor-firm-by-chinese-company-shenzhen-sources-idUSL8N2M22LS>.

ecosystem. For instance, CRS4 in Sardinia opened a joint innovation center in 2016 with Huawei focused on AI and facial-recognition solutions. The Chinese police in Xinjiang are applying the same technologies for public surveillance.¹⁰² Huawei has also proposed a Segrate R&D center in cooperation with the University of Pavia to focus on next-generation complementary metal-oxide-semiconductors and fin-shaped field-effect transistors (both have defense applications in microsatellites).¹⁰³ The center has since been held up by the Italian government due to US blacklisting.¹⁰⁴

Italy's embrace of Chinese investment has moderated in recent years, in part because of mounting pressure from the United States and the EU as well as Chinese assertiveness. Public opinion has generally followed.¹⁰⁵ The pandemic has struck the Italian economy hard, raising concerns among officials that Italy's distressed companies might be purchased by Chinese players at cheap prices.¹⁰⁶ China is now looking to acquire small and medium-sized enterprises for rates below €100 million, which could escape notice.

Finally, in terms of REEs, certain sectors of the Italian economy rely on these elements, making Italy

102. Kratz et al., *Chinese FDI in Europe*.

103. Kratz et al., *Chinese FDI in Europe*.

104. Lauly Li and Cheng Ting-Fang, "US Hits at Huawei Innovation with Blacklist of R&D Centers," *Nikkei Asia* (website), August 21, 2019, <https://asia.nikkei.com/Spotlight/Huawei-crackdown/US-hits-at-Huawei-innovation-with-blacklist-of-R-D-centers>.

105. Silver, Devlin, and Huang, *Large Majorities Say*.

106. Debalina Ghoshal, "China Buying Italy amid the Covid Crisis?," *Global Dynamics* (blog), April 29, 2020, <https://defense.info/global-dynamics/2020/04/china-buying-italy-amid-the-covid-crisis/>.

moderately vulnerable to Chinese control. Italy has relatively low levels of venture-backed start-ups and a limited high-tech sector, both of which help reduce major risks of Chinese influence.

Netherlands

The Dutch government has prioritized innovation as a key pillar of its modernization and development strategy. Part of this innovation prioritization has involved deep cooperation with China, including through investments. For China, the Netherlands represents a gateway for broader investments in Europe.¹⁰⁷ The Netherlands offers a highly skilled workforce, advanced digital infrastructure, an innovative culture, and tax and R&D incentives.¹⁰⁸ China is the Netherlands' second-largest investor following the United States, and Chinese investment in the Dutch technology sector between 2017–20 totaled \$2.14 billion.¹⁰⁹ Key industries have included AI, robotics, unmanned aerial systems, semiconductors, additive manufacturing, and data-centric capabilities related to quantum IT.¹¹⁰

107. Xinhua, "Dutch PM Sees Fruitful Results, Broad Prospects in Cooperation with China," XinhuaNet, November 1, 2021, http://www.news.cn/english/2021-11/01/c_1310282037.htm.

108. Netherlands Foreign Investment Agency, "The Digital Gateway to Europe: The Netherlands Is a Digital Leader," Invest in Holland, n.d., <https://investinholland.com/doing-business-here/industries/it-tech/>.

109. American Enterprise Institute and Heritage Foundation, "China Global Investment Tracker."

110. Li Xuanmin, "Dutch, Chinese Firms Eyeing High-Tech Cooperation," *Global Times* (website), November 20, 2011, <https://www.globaltimes.cn/content/1128147.shtml>.

Notable acquisitions have included a subsidiary of China's Suzhou-based Jingfang Optoelectronics' purchase of a 73 percent stake in Anteryon BV, a spinoff of Philips.¹¹¹ Independent analysts concluded the buyer in this 2019 transaction was controlled through "multiple layers of interlinked shareholders who are ultimately in the hands of state entities."¹¹² In March 2019, Guangzhou Hanxin Aviation Technology, a company significantly influenced by the Chinese state, acquired a 100 percent stake in Dutch aviation firm Direct Maintenance Holding BV for access to aerial technology.¹¹³ The same year, China's Shenzhen Goodix Technology Co., Ltd. bought the Voice and Audio Solutions portion of NXP Semiconductors, gaining access to critical human-machine interaction technology and a highly skilled engineering team.¹¹⁴ In

111. Anteryon Wafer Optics BV, "Jingfang Optoelectronics Completed Its Acquisition of Anteryon International B.V and Anteryon Wafer Optics B.V," press release, Cision PR Newswire, January 23, 2019, <https://www.prnewswire.com/news-releases/jingfang-optoelectronics-completed-its-acquisition-of-anteryon-international-b-v-and-anteryon-wafer-optics-b-v-873170838.html>.

112. "The Acquisition of Anteryon," Datenna (website), n.d., <https://www.datenna.com/the-acquisition-of-anteryon/>; and Daniel Michaels, "Behind China's Decade of European Deals, State Investors Evade Notice," *Wall Street Journal* (website), September 30, 2020, <https://www.wsj.com/articles/behind-chinas-decade-of-european-deals-state-investors-evade-notice-11601458202>.

113. Kratz et al., *Chinese FDI in Europe*.

114. Paul van Gerven, "NXP Sells Audio Business to Chinese Firm," *Bits & Chips*, August 19, 2019, <https://bits-chips.nl/artikel/nxp-sells-audio-business-to-chinese-firm/>.

addition, in 2020, China's Wingtech Group acquired Dutch semiconductor business Nexperia.¹¹⁵

Furthermore, more than 680 Chinese companies have set up logistics hubs, headquarters, and research centers in the Netherlands.¹¹⁶ For example, Xi'an Bright Laser Technologies and Northwestern Polytechnical University established an R&D partnership with Airbus in the Netherlands that focuses on additive manufacturing for unmanned and aerial system components. The Chinese government considers Northwestern Polytechnical University to be a National Defense School; as a result, the university is subordinate to the State Administration for Science, Technology, and Industry for National Defense, rather than the Ministry of Education of the People's Republic of China. The primary purpose of Northwestern Polytechnical University is to develop technology for defense applications, but it also commercializes R&D findings on weapons, navigation, aviation, and aerospace for Chinese industry.¹¹⁷ Also, the Royal Netherlands Academy of Arts and Sciences maintains a range of joint research projects, talent and exchange programs, and even industrial cooperation programs that bring Chinese and Dutch industry

115. Reuters Staff, "China's Wingtech to Acquire Dutch Semiconductor Firm Nexperia for \$3.6 Bln," Reuters (website), October 25, 2018, <https://www.reuters.com/article/nexperia-ma-wingtech/chinas-wingtech-to-acquire-dutch-semiconductor-firm-nexperia-for-3-6-bln-idINL3N1X51ZN>.

116. Li, "Dutch, Chinese Firms."

117. Kratz et al., *Chinese FDI in Europe*.

partners together with Chinese and Dutch academic institutions to commercialize R&D.¹¹⁸

Like many other European countries, the Dutch government has recently sought a more balanced approach to economic investment and related security implications.¹¹⁹ Public opinion is clear on this point, with 72 percent of Dutch citizens having a negative view toward China.¹²⁰ A major move underscoring this trend was the government's decision, following intense US pressure, not to renew the export license of Dutch microchip maker ASML Holding N.V. to sell its most advanced machine to a Chinese customer after initially having granted it. Ultimately, none of ASML's extreme ultraviolet equipment was shipped to China.¹²¹

Since then, the Dutch government has initiated new review efforts, including critical conversations about Chinese influence in Dutch universities and research institutions. In terms of implementation, somewhat limited progress has been made thus far.¹²²

118. "Scientific Cooperation China–Netherlands," Royal Netherlands Academy of Arts and Sciences (website), n.d., <https://www.knaw.nl/en/international/scientific-cooperation-with-china>.

119. Netherlands Ministry of Foreign Affairs, *The Netherlands and China: A New Balance*, LR124102 (Amsterdam: Netherlands Ministry of Foreign Affairs, October 2019).

120. Silver, Devlin, and Huang, *Large Majorities Say*.

121. Alexandra Alper, Toby Sterling, and Stephen Nellis, "Trump Administration Pressed Dutch Hard to Cancel China Chip-Equipment Sale," Reuters (website), January 6, 2020, <https://www.reuters.com/article/us-asml-holding-usa-china-insight/trump-administration-pressed-dutch-hard-to-cancel-china-chip-equipment-sale-sources-idUSKBN1Z50HN>.

122. Netherlands Ministry of Defense, *Vooruitziend vermogen voorrede & veiligheid* (Hague: Netherlands Ministry of Defense, April 30, 2020).

Though parts of the Netherlands' technology sourcing require REE inputs, their need is comparably lower than that of other EU countries. Thus, the Netherlands is only moderately at risk from China's monopoly.

Poland

Poland has generally considered China to be an important part of its economic development, embracing substantial trade with and investment from Beijing. China is now the country's second-largest source of imports.¹²³ In 2020, Poland was the third top market for Chinese investment behind Germany and France.¹²⁴ Though the majority of this investment was funneled into manufacturing and logistics, China has also eyed Poland's growing high-tech scene. The Polish government has capitalized on digitization to fuel its development, providing various start-up initiatives and accelerators and cultivating one of the largest technology talent pools in Europe.¹²⁵ As a gateway to the rest of Central and Eastern Europe for Chinese companies seeking to grow abroad, Poland has also attracted more than 800 Chinese companies

123. Chen Meiling, "Poland Looking to Bolster Trade with China under BRI," *China Daily* (website), updated May 28, 2019, http://www.chinadaily.com.cn/cndy/2019-05/28/content_37474473.htm.

124. Mateusz Kucharczyk, "Poland among China's Main EU Investment Sites," Euractiv (website), April 12, 2021, https://www.euractiv.com/section/politics/short_news/poland-among-chinas-main-eu-investment-sites/.

125. Pawel Czech, "Forget Silicon Valley: Poland Is Creating Its Own Deep-Tech Startup Hub," Nasdaq (website), August 18, 2020, <https://www.nasdaq.com/articles/forget-silicon-valley%3A-poland-is-creating-its-own-deep-tech-startup-hub-2020-08-18>.

to operate locally, including Huawei and equipment manufacturer Liugong.¹²⁶

Chinese IoT and data-enabled companies Huawei, TikTok, and ByteDance Ltd. have invested in Poland.¹²⁷ In addition, China's Liugong was acquired the civilian arm of Poland's steel mill and military equipment manufacturer Huta Stalowa Wola.¹²⁸ Much of China's investment has focused on Polish companies with access to advanced manufacturing capabilities, many of which have defense applications.

Though these high-tech risks may not be immediate, China's tactics in Poland in this industry are worthy of examination. For example, in 2017, the China Investment Corporation acquired Logikor, a logistics company headquartered in the United Kingdom with major facilities in Poland, from private equity firm the Blackstone Group LP. The transaction was filed in the United Kingdom, but the deal gave the Chinese sovereign fund control of nearly 30 of Logikor's logistics parks and 900,000 square meters of facilities in Poland without having ever purchased a

126. Luther de Lange, "China's High-Tech Investment in Poland Reaches \$33.47 Billion," Independent Online, July 21, 2019, <https://www.iol.co.za/business-report/belt-and-road/watch-chinas-high-tech-investment-in-poland-reaches-3347-billion-29624440>.

127. Xinhua News Agency, "Interview: China-Poland Cooperation on High-Tech Advancing under BRI, Expert Says," XinhuaNet, May 27, 2021, http://www.xinhuanet.com/english/2019-04/01/c_137940262.htm.

128. "Guangxi Liugong to Acquire Polish Steel Mill and Manufacturer," *Rental Equipment Register* (website), February 4, 2011, <https://www.ermag.com/news-analysis/international-news/article/20938304/guangxi-liugong-to-acquire-polish-steel-mill-and-manufacturer>.

Polish company.¹²⁹ Furthermore, Chinese companies have made several reinvestments and incremental investments in their Polish subsidiaries that were not included in the original transaction values.¹³⁰

In Poland, R&D is a large investment focus for China. Chinese electronics and telecommunications corporation TCL Technology opened an R&D center in Poland in 2018.¹³¹ But the United States accused TCL Technology of building backdoors into their electronic and technological devices for espionage in foreign markets.¹³² Liugong also established an R&D center in Stalowa Wola, Poland, associated with its acquisition of Huta Stalowa Wola's civil manufacturing arm.¹³³ In addition, the two countries established the Shanghai-Warsaw AI Scientific Joint Lab, which focuses on AI, machine learning, and big data.¹³⁴ As another example, Poland's National Science Centre and the National Natural Science Foundation of China have established the SHENG 2 funding initiative to support science and

129. Łukasz Sarek, "Chinese FDI in Poland: Still Just Wishful Thinking," *Sinopsis*, August 25, 2018, <https://sinopsis.cz/en/chinese-fdi-in-poland-still-just-wishful-thinking/>.

130. Sarek, "Chinese FDI in Poland."

131. De Lange, "China's High-Tech Investment."

132. Paul Wagenseil, "Department of Homeland Security: China Using TCL TVs to Spy on Americans," *Tom's Guide*, December 2020, <https://www.tomsguide.com/news/tcl-wolf-dhs-china-bashing>.

133. David Lubach, "LiuGong Opens European Distribution Center in Poland," *Diesel Progress* (website), October 2, 2017, <https://www.dieselprogress.com/news/LiuGong-Opens-European-Distribution-Center-In-Poland/5019872.article>.

134. Li Quan, "Scientists from China and Poland Form AI Research Lab," *SHINE* (website), April 15, 2019, <https://www.shine.cn/news/metro/1904153042/>.

technology projects carried out by Chinese and Polish joint research teams.¹³⁵

Over the past three years, however, Poland has recalibrated its investment policies toward China. As a staunch ally of the United States, Poland has been sympathetic toward US appeals to restrict sensitive Chinese investments. Polish leaders have become frustrated with the lack of fruit from China's 16+1 initiative and taken Washington's security concerns over Huawei's infiltration of Poland's 5G technology to heart.¹³⁶ In addition, Poles' generally favorable public opinion of China has begun to shift, especially since the onset of the pandemic.¹³⁷ In a recent study by the Central European Institute of Asian Studies, nearly 42 percent of respondents had a negative attitude toward China, with 34 percent saying their views worsened in the last three years.¹³⁸

Though Poland's technology sector offers growing opportunities for China, deal values in Poland tend to fall below the typical threshold of Chinese investors'

135. "SHENG 2 Call Announcement," National Science Center Poland (website), December 15, 2021, <https://www.ncn.gov.pl/ogloszenia/konkursy/sheng2?language=en>.

136. Marcin Przychodniak, "The Rough 'Strategic Relationship' between Poland and China," China Observers in Central and Eastern Europe (website), January 25, 2021, <https://chinaobservers.eu/the-rough-strategic-relationship-between-poland-and-china/>.

137. Alicja Bachulska and Krzysztof Iwanek, "Growing Duality: Polish Opinions on China and Why They Matter," *Diplomat* (website), April 1, 2021, <https://thediplomat.com/2021/04/growing-duality-polish-opinions-on-china-and-why-they-matter/>.

138. Adrian Brona et al., *Polish Public Opinion on China in the Age of COVID-19: Desirable Partner Versus a Source of Concern* (Bratislava, SK: Central European Institute of Asian Studies, 2021).

interests.¹³⁹ Furthermore, Poland's key sectors are minimally impacted by China's dominance of REEs, which places them in a less vulnerable position compared to the countries profiled earlier.

Case Studies Summary

These case studies elicit cause for concern. China has made significant inroads across many of these six countries, each an important ally that contributes key technologies and capabilities (for example, through intelligence, operations, and training) in support of NATO's shared interests. China's investments in these countries' technologies allow it to enhance its capabilities—capabilities that could be used against allied interests. Additionally, these investments provide the CCP leverage to influence or potentially force European governments and companies to act in a manner contrary to US interests to avoid significant economic consequences. Germany, France, and the Netherlands are particularly at risk, although the latter two are in the process of trying to enhance protections for critical industries and technologies. The United Kingdom and Italy are at a lower risk level, followed by Poland, which has the least risk. See table 7-1 for an assessment of technology risks in case-study countries.

139. "Chinese M&A in Poland Could See Push Once the Dust Settles," Mergermarket (website), March 20, 2021, <https://events.mergermarket.com/chinese-ma-in-poland-could-see-push-once-the-dust-settles>.

Table 7-1. Assessment of technology risks in case-study countries

Country	Chinese State Investment Risk	Chinese Company Investment Risk	Exposure	Rare-Earth Elements Reliance	Overall Technology Risk Assessment
France	High	Extensive Chinese Acquisitions and Joint Ventures	Strong Manufacturing and Technology	Moderate	Medium-High
Germany	High	Extensive Chinese Acquisitions and Joint Ventures	Robust Manufacturing, Technology, and VC Investment	Heavy	High
Italy	Moderate	Some Chinese Acquisitions, Mostly in Non-critical Industries	Limited VC Investment	Moderate	Medium
Netherlands	High	Extensive Chinese Acquisitions in Critical Industries	Robust Tech Sector	Moderate	Medium-High
Poland	Low	Limited	Limited VC Investment	Limited, but Growing	Low
United Kingdom	Extremely High	Significant Chinese Acquisitions, but Declining	Robust Technology Sector and VC Investment	Moderate	Medium

The absence of a European or NATO standard for vetting, tracking, or illuminating supply chains for critical technologies, REEs, and related R&D programs is a significant weakness for the transatlantic community. As a result, the allies are duplicating efforts, and the countries’ national regulatory frameworks contain gaps that make all European NATO partners more vulnerable due to

the cross-border nature of industry and technology, particularly in the Schengen area.

Implications for Transatlantic Security

Looking ahead, Chinese investment in European dual-use technology poses three primary risks to allied security.

First, Chinese investment presents a direct threat to the alliance military's technological superiority. China's investment practices leave European defense and dual-use technology companies exposed to undesirable foreign exploitation. China's possession, replication, and reverse engineering of key technologies degrades critical innovation on the European continent and erodes cutting-edge industries crucial to the alliance's technological and military edge. China's investment activities have allowed it to leverage Europe's technology to develop its own innovative asymmetric capabilities, such as small unmanned aerial systems, that can offset NATO's traditionally high-end capability advantages. For example, the alliance would not want to defeat a \$200 drone with a \$3-million missile.¹⁴⁰ Ultimately, in some areas, including artificial intelligence and quantum IT, NATO risks losing its technological superiority to China.

Second, Chinese investment in European technology risks a broader undermining of allied security and economic competitiveness. When foundational technologies related to artificial

140. Andrew Liptak, "A US Ally Shot Down a \$200 Drone with a \$3 Million Patriot Missile," *Verge* (website), March 16, 2017, <https://www.theverge.com/2017/3/16/14944256/patriot-missile-shot-down-consumer-drone-us-military>.

intelligence, quantum IT, and autonomy are acquired by Chinese stakeholders, China can advance in a wide range of other areas. This technology can be employed by the CCP for political purposes or extremely profitable commercial applications, which could strengthen China's power at home and abroad at the West's expense. In some areas, including quantum IT and AI, China is positioned to become a global supplier of these technologies soon for security cooperation and other geopolitical and commercial purposes. If such developments are not prevented, they could further displace European and US companies, undercutting allied economies. In turn, this would reduce stability, prosperity, and defense budgets in Europe, ultimately weakening the alliance.

China's growing technological prowess is also enabling the CCP to set global standards and terms of use for critical technologies, including AI, in its favor. China accomplishes this task through its investment-enabled control of technology production and its sway in international organizations. In a strategic sense, China's accomplishment of this task undermines the alliance's global leadership role in shaping the rules-based order in accordance with its own values and principles. In a practical sense, China's accomplishment of this task could affect the allies' ability to apply technologies like AI in operations to defend their interests.

Finally, Chinese investment in European technology risks creating obstacles to interoperability and allied defense cooperation. Chinese infiltration via technology investment in the United States' closest allies could preclude the US government or military from investing in, communicating securely with, or cooperating with a given country should the United

States determine its own forces, equipment, networks, or intelligence would be at too great a risk of foreign malign influence. Such a preclusion could create problematic barriers in the ways in which the alliance shares intelligence, engages in defense planning, and conducts exercises and operations. Any obstacles in these areas would reduce the alliance's overall readiness, deterrence posture, and defense capability.

Diverging investment strategies of European countries, depending on who is willing to work with China, could lead to different levels of innovation on the continent, increasing the difficulty of advanced and unadvanced allies working together. The proliferation of various Chinese and non-Chinese technology-enabled systems across Europe could also create a significant interoperability gap, both among European countries and between European countries and the United States. Additionally, European countries that use Chinese-influenced technology may also be prohibited from counting these capabilities toward NATO defense planning targets or deploying them for allied operations. Such a prohibition would have a detrimental impact on burden sharing, an already contentious issue threatening allied cohesion.

8. LEARNING FROM LATIN AMERICA

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This chapter examines Chinese engagement in Latin America and draws insights from patterns as well as possible connections with European companies and institutions—insights and connections that may be useful in understanding the strategic impact of Chinese engagement in Latin America on Europe.

In Latin America, as elsewhere, the People's Republic of China (PRC) is pursuing a principally economically oriented strategy, although the PRC also pursues goals in the political, institutional, and security spheres to support those economic objectives. Chinese companies, with the support of the Chinese government, are engaging in Latin America to secure sources of commodities and foodstuffs as well as access to markets for Chinese goods and services, particularly in value-added, strategic sectors.¹ These efforts are consistent with Chinese initiatives such as Made in China 2025.²

In pursuing its goals in Latin America, the PRC implicitly, and often self-consciously, employs the lure of its enormous markets as well as its power as a lender and investor. China leverages its government in multiple ways, both facilitating multisector deals and leveraging its control of access to the PRC

1. R. Evan Ellis, *Chinese Engagement in Latin America in the Context of Strategic Competition with the United States* (Washington, DC: US-China Economic and Security Review Commission, June 24, 2020).

2. "'Made in China 2025' Plan Issued," State Council of the People's Republic of China (website), May 19, 2015, http://english.www.gov.cn/policies/latest_releases/2015/05/19/content_281475110703534.htm.

domestic market as an implicit or explicit tool to help its companies secure contracts and other objectives.

Many of China's investments and other activities in the region focus on dominating the connectivity fundamental to Latin America's economies as a complement to achieving secure sources of supply and access to markets. This strategy includes building and operating physical infrastructure, such as roads, railroads, ports, and riverways, and engaging in power generation and transmission, telecommunications, e-commerce, and banking.

Profile of Chinese Engagement in Latin America

China's economic presence in Latin America and the Caribbean began to take off after the country's acceptance into the World Trade Organization in 2001, with PRC bilateral trade with the region reaching \$314 billion by 2019.³ China's physical presence in Latin America expanded rapidly following the 2008 financial crisis, reflecting increased PRC need for markets and factor inputs, increased contacts in the region, and sophistication in international operations.⁴

Structure of China's Advance

China's advance in Latin America includes the following three mutually reinforcing areas of focus.

1. Purchases, and other activities that provide the PRC reliable access to sources of supply

3. International Monetary Fund (IMF), "Exports, FOB to Partner Countries," IMF Data, n.d., <https://data.imf.org/regular.aspx?key=61013712>.

4. R. Evan Ellis, *China on the Ground in Latin America* (New York: Palgrave, 2014).

of factor inputs for manufacturing, capital formation, and urbanization.

2. Reliable access to markets for Chinese goods and services in strategically valued, high-value sectors.
3. Connectivity, including physical infrastructure, telecommunications, electricity, banking, and e-commerce.

Reliable Access to Resources

To guarantee resources in Latin America, the PRC has been increasing its presence in the petroleum mining, agricultural, and forestry sectors. As in Europe, China continues to use minority shares to maintain a seat at the table, acquire technology, and learn. Principal examples include its minority positions in the oil and gas company Perenco, the energy multinational Galp Energia, metals company Companhia Brasileira de Metalurgia e Mineração, and chemical company Sociedad Química y Minera de Chile S.A.⁵

In mining, the PRC has a significant presence in strategic minerals across Latin America, including lithium and rare earths, impacting European countries and companies that use these items in defense goods and advanced batteries and other items for electric vehicles and power generation. China-based companies have a significant presence in lithium, including a minority stake by Tianqi Lithium Corp.

5. Judy Hua, Wan Xu, and Ken Wills, "Sinopec Signs \$3.5 Billion Deal for Galp's Brazil Oil Asset," Reuters (website), November 11, 2011, <https://www.reuters.com/article/us-galp-brazil-sale/sinopec-signs-3-5-billion-deal-for-galps-brazil-oil-asset-idUSTRE7AA0ZF20111111>.

in the Sociedad Química y Minera de Chile S.A. operation in Chile, a majority stake by Ganfeng Lithium Co. Ltd. in the Cauchari-Olaroz project in Argentina, and a partnership between Bolivia and the Xinjiang TBEA Co., Ltd. in the Uyuni Salt Flat.⁶ As of August 2021, TBEA and Ganfeng were positioned to compete for Bolivia's lithium in a new bidding process being conducted by its new government. In addition, Ganfeng is developing a lithium operation in the Sonoran Desert in Mexico that could become the largest in the region.⁷

In the rare-earth sector, China Molybdenum Company Limited owns a niobium mine in Brazil, where 85 percent of the world's commercial niobium is produced.⁸ The Chinese firm Baosteel Group has a 15 percent stake in Companhia Brasileira de Metalurgia e Mineração, also in Brazil.

6. Dalilia Ouerghi, "China's Ganfeng Completes Majority Stake Acquisition in Argentina Lithium Project," *Metals Bulletin*, August 28, 2020, <https://www.metalbulletin.com/Article/3948479/Chinas-Ganfeng-completes-majority-stake-acquisition-in-Argentina-lithium-project.html>; and Miriam Telma Jemio, "Bolivia Rethinks How to Industrialize Its Lithium amid Political Transition," *Diálogo Chino*, May 19, 2020, <https://dialogochino.net/en/extractive-industries/35423-bolivia-rethinks-how-to-industrialize-its-lithium-amid-political-transition/>.

7. Reuters Staff, "Ganfeng Lithium Increases Stake in Bacanora's Sonora Project to 50%," Reuters (website), November 13, 2020, <https://www.reuters.com/article/bacanora-lithium-ganfeng/ganfeng-lithium-increases-stake-in-bacanoras-sonora-project-to-50-idUSL8N2HZ54S>.

8. Jake Spring, "Hands off Brazil's Niobium: Bolsonaro Sees China as Threat to Utopian Vision," Reuters (website), October 25, 2018, <https://www.reuters.com/article/us-brazil-election-china-niobium/hands-off-brazils-niobium-bolsonaro-sees-china-as-threat-to-utopian-vision-idUSKCN1MZ1JN>.

Pursuit of Strategic Markets and Infrastructure

Although the Belt and Road Initiative (BRI) focused on connecting the PRC to its near abroad and markets in Europe, the Chinese government extended the initiative to Latin America with the inclusion of Panama in 2018. Today, 19 Latin American countries have committed to participating, with Argentina expected to become the twentieth. The extension of the BRI to Latin America highlights China's attempts to dominate global logistics and other forms of connectivity as a complement to expanding Chinese positions in strategic markets, commodities, and the agricultural sector.

A major example of Chinese physical infrastructure operations in Latin America is Hutchison Port Holdings Limited port operations: The company has four ports in Mexico, two in Panama, one in Buenos Aires, and one in Freeport, Bahamas. In addition, China Harbour Engineering Company Ltd. is constructing the port of Posorja, Ecuador.⁹ Other Chinese ports include the \$3-billion, 15-dock Chancay minerals port in Peru; four ports in Brazil, including the São Luis megaport project; and China Merchants Port Holdings Company Limited's (CMP's) operation

9. Michele Labrut, "DP World Launches Construction of Deepwater Port in Posorja, Ecuador," *Seatrade Maritime News*, September 28, 2017, <https://www.seatrade-maritime.com/americas/dp-world-launches-construction-deepwater-ports-posorja-ecuador>.

of the port of Kingston, Jamaica.¹⁰ In addition, PRC-based firms have explored major port operations in La Unión, El Salvador; Puerto de Manzanillo, Dominican Republic; and Berbice, Guyana, where a Chinese firm may construct a commercial port.

China-based companies have become increasingly successful in moving beyond the loan-based construction of highways, bridges, and railroads in small states and countries with friendly, populist regimes to employing public-private partnerships (PPPs) to win projects from governments with relatively strong and transparent institutions, including Colombia and Chile. Chinese companies may be able to make inroads in European infrastructure projects through similar strategies.

Major PRC advances in Colombia through PPP programs include a highway from Medellín to the Gulf of Urabá and the construction of the Bogotá Metro in Colombia.¹¹ In Chile, in April 2021, the

10. BNamericas, “Cosco Sees 2020 Construction Start for US \$3 Bn Chancay Port,” BNamericas (website), June 26, 2019, <https://www.bnamericas.com/en/news/cosco-sees-2020-construction-start-for-us3bn-chancay-port>; Marcela Ayres, “China to Announce Billion-Dollar Investment in Brazilian Port of Sao Luis: Sources,” Reuters (website), November 13, 2019, <https://www.reuters.com/article/us-brazil-brics-china-investment/china-to-announce-billion-dollar-investment-in-brazilian-port-of-sao-luis-sources-idUSKBN1XN2NM>; and “Chinese Firm Takes Over Kingston Freeport Management Company,” *Stabroek News* (website), April 25, 2020, <https://www.stabroeknews.com/2020/04/25/news/regional/jamaica/chinese-firm-takes-over-kingston-freeport-management-company/>.

11. Jorge Valencia, “By Building Bogotá Metro, China Makes a New Breakthrough in Latin America,” *World* (website), November 5, 2020, <https://theworld.org/stories/2020-11-05/building-bogot-metro-china-makes-new-breakthrough-latin-america>.

government awarded the Talca-Chillán segment of Route 5 to China Railway Construction Corporation Limited.¹² The acquisition of a 30 percent stake by China Communications Construction Company, Ltd. in the Portuguese firm Mota-Engil, with a strong presence in Latin America and experience with PPP projects, will likely advance Chinese capability to win more such PPP projects.¹³ Examples of PRC firms' riverine projects include CCCC Shanghai Dredging Co., Ltd. being poised to displace Belgian firm Jan De Nul Group in the dredging and operation of a riverine toll route along the Paraguay-Paraná Waterway, which connects Brazil, Bolivia, Paraguay, Argentina, and Uruguay.¹⁴

In Latin America, with parallels to Europe, China has also focused on synergies between related economic activities, as seen in the São Luis megaport project, which combines the financing, construction, and operation of ports, railroads, and other infrastructure. In Costa Rica, El Salvador, the Dominican Republic, Panama, and Trinidad and Tobago, the PRC has also sought to establish free-trade zones, which give privileged access

12. David Arminas, "Chile Awards CRCC Major Talca-Chillán Upgrade," *World Highways* (website), April 14, 2021, <https://www.worldhighways.com/wh12/news/chile-awards-crcc-major-talca-chillan-upgrade>.

13. Mat Youkee, "Chinese Expansion with a Portuguese Face," *Diálogo Chino*, November 20, 2020, <https://dialogochino.net/en/infrastructure/38445-cccc-mota-engil-chinese-expansion-with-a-portuguese-face/>.

14. "China Competes in the Dredging of Paraguay/Parana Waterway Which Handles 90 Million Tons of Grains," *Mercopress* (website), November 25, 2020, <https://en.mercopress.com/2020/11/25/china-competes-in-the-dredging-of-paraguay-parana-waterway-which-handles-90-million-tons-of-grains>.

to Chinese companies for the warehousing and distribution of items.¹⁵ Free-trade zones help Beijing advance its position by allowing it to sell its products in the region and dominate the associated value chain.

In the electricity sector, China has made important advances in building and operating generation, transmission, and distribution infrastructure, with a concentration on South America. European companies such as AES Global Power Holdings BV; Endesa, S.A.; and Naturgy Energy Group S.A. have been among the principal sellers – and competitors – as PRC-based companies have advanced in these sectors.

Examples of Chinese electricity generation construction projects in Latin America include six hydroelectric facilities in Ecuador, three in Bolivia, and two in Honduras. In addition, PRC firms are advancing to construct two hydroelectric projects

15. Tico Times, “Costa Rica, China to Explore Creation of ‘Special Economic Zones,’” *Tico Times* (website), January 6, 2015, <https://ticotimes.net/2015/01/06/costa-rica-china-to-explore-creation-of-special-economic-zones>; Benjamin Russel, “What a Controversial Deal in El Salvador Says about China’s Bigger Plans,” *Americas Quarterly* (website), April 12, 2019, <https://www.americasquarterly.org/article/what-a-controversial-deal-in-el-salvador-says-about-chinas-bigger-plans/>; and Multimedia Desk, “China to Fund Phoenix Park Industrial Estate,” *Daily Express* (website), June 20, 2018, https://trinidadexpress.com/business/local/china-to-fund-phoenix-park-industrial-estate/article_31be9880-7498-11e8-aa35-134f694d9978.html.

on the Santa Cruz River in Argentina and own the Chaglla facility in Peru.¹⁶

Chinese firms are also active in building a range of wind and solar facilities, including the Cauchari facility in Jujuy, Argentina, the region's largest photovoltaic facility, often either working with Europe-based companies or using technology the PRC firms originally pioneered.¹⁷

In the nuclear sector, China is supplying its Hualong One experimental reactor to the Atucha Nuclear Complex in Argentina and is pursuing construction of a new reactor for the Angra Nuclear Power Plant in Brazil.¹⁸

Examples of PRC companies investing in electricity transmission and distribution in Latin America include the State Grid Corporation of China, China Three Gorges Corporation (CTG), and China Southern

16. R. Evan Ellis, "New Directions in the Deepening of China-Argentine Engagement," *Global Americans* (blog), February 11, 2021, <https://theglobalamericans.org/2021/02/new-directions-in-the-deepening-chinese-argentine-engagement/>; and "China's SGCC Offers to Construct HidroAysen Power Line," *Global Transmission Report*, January 4, 2012, <https://www.globaltransmission.info/archive.php?id=10056>.

17. Luis Colqui, "Jujuy. Cauchari: El parque solar más grande de América Latina comenzó a vender energía al país," *La Nación* (website), September 26, 2020, <https://www.lanacion.com.ar/economia/jujuy-cauchari-parque-solar-mas-grande-america-nid2461924/>.

18. Sofia Diamante, "La energía nuclear, una herencia a resolver con China," *La Nación* (website), January 22, 2020, <https://www.lanacion.com.ar/economia/la-energia-nuclear-una-herencia-a-resolver-con-china-nid2326138/>; and David Dalton, "Angra-3 / Brazil Plans to Choose Partner by End of Year, Says Minister," *NucNet* (website), August 24, 2020, <https://www.nucnet.org/news/brazil-plans-to-choose-partner-by-end-of-year-says-minister-8-1-2020>.

Power Grid Company Limited, which have expanded their presence in the region since 2010, investing tens of billions of dollars there and acquiring 13 percent of the country's long-distance power transmission lines.¹⁹ Chinese companies have exploited experience with specialized technologies for high-voltage, long-distance transmission to win projects such as State Grid's construction of a 2,539-kilometer line from the Belo Monte hydroelectric facility to Brazil's population centers in the southeast.²⁰

Chinese companies have further expanded their positions in energy transmission and distribution in Peru with China Yangtze Power Co., Ltd.'s September 2019 acquisition of Luz del Sur, valued at approximately \$3.6 billion.²¹ In Chile, through the acquisition of European firms such as Transelec S.A., Atiaia Energia S/A, Chilquinta Energia, and Compañía General de Electricidad, PRC-based companies have acquired control of 57 percent of Chilean energy distribution.²²

19. R. Evan Ellis, "China's Bid to Dominate Electrical Connectivity in the Americas," *China Brief* 21, issue 10 (May 2021).

20. May Zhou, "State Grid Helps Brazil Harness Power," *China Daily* (website), November 24, 2019, <https://www.chinadaily.com.cn/a/201911/14/WS5dccc8604a310cf3e35577345.html>.

21. BNAmericas, "China Yangtze Power Completed Its Acquisition of Peruvian Power Company, Luz Del Sur," BNAmericas (website), April 24, 2020, <https://www.bnamericas.com/en/news/china-yangtze-power-completed-its-acquisition-of-peruvian-power-company-luz-del-sur>.

22. Reuters, "Regulador chileno aprueba sin condiciones compra de eléctrica CGE por china State Grid," Infobae, March 31, 2021, <https://www.infobae.com/america/agencias/2021/03/31/regulador-chileno-aprueba-sin-condiciones-compra-de-electrica-cge-por-china-state-grid-2/>; and Ellis, "China's Bid to Dominate."

Examples of Chinese telecommunications infrastructure activities in Latin America include the supply of devices and infrastructure by Huawei and, to a lesser extent, ZTE Corporation to the region's major commercial operators, including Spain's Telefónica S.A. Huawei and others have been key builders and contributors of components to the region's 3G and 4G networks and are now positioned to play a major role in 5G in Brazil, the Dominican Republic, El Salvador, and other countries.²³

Companies from the PRC have also built strategically important fiber-optic lines in Latin America, including one connecting Europe to Brazil across the Atlantic Ocean and through Cameroon, Africa.²⁴ Chinese companies have similarly constructed the Fiber Optic Austral network in Chile, fiber-optic cables off the coast of the Guyanas, and a network connecting Venezuela to Jamaica and Cuba.²⁵

23. Reuters Staff, "Brazil's Bolsonaro to Allow China's Huawei in 5G Auctions: Newspaper," Reuters (website), January 16, 2021, <https://www.reuters.com/article/us-brazil-huawei-tech-idUSKBN29L0JM>; Loop News (website), "Huawei to Be Included in Dom Rep 5G Network Auction," Loop News, February 15, 2021, <https://www.loopjamaica.com/content/huawei-be-included-dom-rep-5g-network-auction>; and R. Evan Ellis, *Chinese Engagement in El Salvador: An Update* (Washington, DC: Center for Strategic and International Studies, March 2021).

24. Jeremy Page, Kate O'Keeffe, and Rob Taylor, "America's Undersea Battle with China for Control of the Global Internet Grid," *Wall Street Journal* (website), November 12, 2019, <https://www.wsj.com/articles/u-s-takes-on-chinas-huawei-in-undersea-battle-over-the-global-internet-grid-11552407466>.

25. Reuters Staff, "Venezuela, Cuba Outfox US with Fiber Optic Cable," Reuters (website), January 18, 2011, <https://www.reuters.com/article/cuba-internet/venezuela-cuba-outfox-u-s-with-fiber-optic-cable-idUSN1814550420110118>.

In addition, PRC companies have been increasingly important suppliers of smart cities, digital surveillance and public security systems, cameras in the Colón Free Trade Zone in Panama, and Uruguay's border surveillance cameras, among others. China also leveraged coronavirus disease 2019 (COVID-19) to donate thermal cameras subsequently installed in Latin American airports, government facilities, and other strategically important and sensitive spaces.

The PRC has also been playing an increased role in Latin America's financial infrastructure. Such activities have included the provision of loans that advance Chinese work in the region and the financing of trade and investment between Latin America and Asia through commercial banks, such as China Construction Bank and the Industrial and Commercial Bank of China. These activities have also included the backing of currency swaps, which strengthens the international position of China's currency vis-à-vis the established positions of the dollar and euro.

In the arena of e-commerce, the PRC firm Alibaba Group operates in Latin America, and the ride-sharing company Didi Chuxing Technology Co. has established itself in Brazil, the Dominican Republic, and Panama, among others, although its progress has been hampered by COVID-19.

Chinese Soft Power in Latin America

China's use of soft-power tools in Latin America provides insight into the PRC's potential coopting of business and political elites in Europe. The two most important and most comparable dimensions are the expectation of benefit and people-to-people diplomacy.

In the case of the former, Latin American leaders and businesspeople invest resources and accommodate China by accepting questionable, nontransparent loan terms or even changing diplomatic recognition in hopes of selling their products to the PRC, receiving Chinese loans, or partnering with China-based companies for local Chinese investment.²⁶ Such expectations sometimes have a personal dimension, including kickbacks or partnerships for the family or partners of the leaders involved. To avoid putting their businesses at risk, these elites sometimes self-censor on issues of sensitivity and importance to the Chinese state, such as Hong Kong, Taiwan, Tibet, and Xinjian. Such currying of favor and self-restraint undermines the articulation of the Chinese threat and the formation of more effective strategies by Latin American governments for obtaining the benefits they hope to secure from China.

Examples of the PRC engaging in people-to-people diplomacy include its establishment of 39 Confucius Institutes and 18 Confucius Classrooms in Latin America. These institutions identify and recruit the small number of future Latin American elites with sufficient aptitude and interest to learn Mandarin Chinese successfully, bringing them to study in China on Hanban scholarships.

Beyond scholarships for Latin American students, the PRC also brings political party leaders and government bureaucrats, journalists, and think-tank professors from Latin America to China on trips sponsored through the International Liaison

26. R. Evan Ellis, "The Evolution of Chinese Soft Power in Latin America," in Ying Zhu et al., ed., *Soft Power with Chinese Characteristics: China's Campaign for Hearts and Minds* (Abingdon-on-Thames, UK: Routledge, 2020).

Department of the Chinese Communist Party (CCP).²⁷ The PRC further expands its presence through media activities such as the purchasing of regular supplements in Latin American newspapers—for example, *La Tercera* in Chile—as well as the provision of free China Global Television Network feeds to Latin American television and radio.²⁸ This propaganda is often presented without a qualifier it is produced by the Chinese state.

Work with and through Multilateral Institutions

China has engaged with and sometimes participated in multilateral institutions in Latin America to advance its strategic objectives in ways that resemble its activities in Europe. The PRC has chosen to use the weekly institutionalized Community of Latin American and Caribbean States forum as its preferred vehicle for advancing its multilateral agenda in the region, resembling its decision to use the similarly weekly institutionalized 16+1 format to engage with Central and Eastern Europe.

Insights for Europe from China in Latin America

In the face of such challenges, China's advance in Latin America offers Europe several important lessons for managing its own relationship with the PRC.

27. Linda Zhang and Ryan Berg, "An Overlooked Source of Chinese Influence in Latin America," *China Brief* 21, no. 3 (February 2021).

28. R. Evan Ellis, "Chinese Advances in Chile," *Global Americans* (blog), March 2, 2021, <https://theglobalamericans.org/2021/03/chinese-advances-in-chile/>.

Limits of Institutional Fixes

In the economic realm, Latin America offers a cautionary tale of what can happen where governments have less-developed tools to limit China's growing role in their connectivity through investment screening. Although the PRC presently has influence in only a limited number of Latin American ports, electrical systems, telecommunications networks, and financial infrastructures, this position gives its leaders knowledge of economic leverage through, and, in extreme circumstances, a "trojan horse" position inside these architectures.

At the same time, China's success in gaining a foothold in countries like Brazil, Chile, and Colombia shows PRC-based companies can still succeed in countries with reasonably strong screening tools in place. These conditions bode poorly for countries that lack truly robust investment screening mechanisms and engaged governmental entities and individuals.

Populism with Chinese Characteristics

Beyond strategic economic issues, Latin America also provides Europe with useful insights into China's threat to the democratic order through Beijing's enabling of populist governance. While the PRC may not actively seek to establish politically subservient client states as the Soviet Union did during the Cold War, Chinese economic support for populist regimes in Argentina, Bolivia, and Venezuela, decreased these countries' dependence on Western economic ties as authoritarian leaders consolidated power against democratic opponents and institutions and moved their countries away from the West.

The resultant propagation of undemocratic regimes working against US interests bears uncomfortable, if imperfect, parallels with the embrace of China by European populist regimes in Hungary and Serbia.

Soft Power as a Muzzle

Examination of Latin America suggests, even in nonpopulist regimes, the most significant risk from the PRC may be the ever-strengthening web of influence it exercises. In part, this influence manifests itself through China having stakes in the businesses of political leaders and other actors.

In some cases, Chinese soft power in Latin America extends into the public discourse when Beijing shows it has the power to truncate discussion about the nature of the PRC challenge. In Europe, as in Latin America, such influence may undercut the ability of the region's governments to diagnose and coordinate an effective resistance to the China challenge.

9. LEARNING FROM AFRICA

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As with Chinese engagement in Latin America, China's engagement in Africa holds significance for our understanding of the evolution of the country's economic statecraft, offering potential lessons for Europe in dealing with an increasingly active participant in the global system. Beijing's approach to securing African resources starting in the mid-1990s lays out the key themes that came to characterize its Going Global strategy, including the country's positioning in new markets, its view of risk, and the ideological framing of its engagement.

Moreover, the modalities of Chinese engagement were devised during this period in Africa, including the use of development finance as a point of entry into target economies, the use of Chinese loans tied to Chinese-built infrastructure in exchange for the stable delivery of resources, the appeal of ideas like "no strings attached" to prospective African partners, and the use of high-profile diplomacy.¹ These modalities were revised and adjusted over time and proved to be successful in securing China, in a relatively short period, a significant position in trade, resources, and the infrastructure sector in Africa.

At the same time, Africa's enthusiasm for China as an alternative to Western sources only began to temper as the longer term implications of economic

1. Xiaojun Li, "China Is Offering 'No Strings Attached Aid' to Africa. Here's What That Means," *Washington Post* (website), September 27, 2018, <https://www.washingtonpost.com/news/monkey-cage/wp/2018/09/27/china-is-offering-no-strings-attached-aid-to-africa-heres-what-that-means/>.

dependency on Beijing became clear. And, with the onset of the Libya Revolt of 2011, Chinese leadership discovered instability in Africa could hold costly ramifications for its interests abroad, producing a recalibration of risk.

Today, levels of public protest tied to Chinese projects in local communities are on the rise. Formal security commitments with African partners followed from these protests, as did deepening involvement in multilateral peacekeeping operations involving the deployment of a small contingent of combat-ready Chinese troops. Even private security companies, including newly formed Chinese security firms, were increasingly used to protect companies and citizens abroad.

This chapter outlines the broad parameters of China's evolving ties with Africa and how this experience over time has helped to shape Chinese policies, modalities, and instruments of engagement with the outside world. In short, Beijing's involvement in a marginal region in the international economy provided a relatively benign environment in which Chinese enterprises, policy banks, and even diplomacy could "learn" to operate as a global power. These experiences have shaped, and continue to influence, the conduct of China and its firms as it develops policies to secure resources and markets abroad. The chapter concludes with reflections on the lessons the African case holds for Europe.

Unpacking China's Engagement in Africa

Though much has been written assessing the rationale behind China's upsurge of interest in Africa, at the core, several factors drove the process. In the first

instance, the economic sources of Chinese interests were to be found in its deepening involvement in the international economy. Since the late 1970s, China's reform and opening-up policy under Deng Xiaoping had transformed the closed socialist economy into a top investment destination and global manufacturing hub.² Integration into global value chains, however, was, still partial in 1992, and Deng's decision to join the World Trade Organization led to extended negotiations that lasted over a decade and saw the US government press for tough conditions for Chinese membership.³ This process was accompanied by the domestic consolidation of tens of thousands of state-owned enterprises into a few hundred "state champions" in key sectors like energy and mining.⁴ Expansion into overseas markets followed in the wake of consolidation through the Go Out policy, which sought to position China's new energy and mining giants abroad in resource markets.⁵ Africa's abundant and underused resources placed it at the forefront of Chinese interest at the time, all the more so as subsequent events were to demonstrate how African elites responded positively to Chinese entreaties.

2. Jonathan Fenby, *Will China Dominate the 21st Century?* (Cambridge, UK: Polity, 2014).

3. Hongyi Harry Lai, "Behind China's World Trade Organisation Agreement with the US," *Third World Quarterly* 22, no. 2 (2001): 237-55.

4. WU Zengxian, "How Successful Has State-Owned Enterprise Reform Been in China?," *Europe-Asia Studies* 49, no. 7 (1997): 1237-62.

5. Paula Bellabona and Francesca Spigarelli, "Moving from Open Door to Go Global: China Goes on the World Stage," *International Journal of Chinese Culture and Management* 1, no. 1 (2007): 97-102.

The Go Out policy involved two important strands: resource seeking and market seeking. On resources, the Chinese state had determined in the early 1990s its existing domestic pool of energy and mineral resources were insufficient to sustain the double-digit growth crucial to the industrialization of its economy. State-owned enterprises such as China National Petroleum Corporation and Sinopec were given mandates to secure licenses in energy markets outside China. In this context, Africa proved to be a region underexploited by Western firms and interested in diversifying away from reliance on the West.

Western-imposed, internal governance-focused conditionalities on economic activities were particularly disliked by African governments and viewed as brazen interference into their domestic affairs. Finding alternatives, especially external sources of aid and investment not adhering to these practices, would dilute the Western stranglehold over African governments and broaden the ambit for action on their part. Equally important was the market-seeking imperative, which sought to incentivize Chinese firms to position themselves in global markets and hone their capabilities, compete with foreign peers for business, and learn to globalize their brands. These objectives were to be achieved through the Exim Bank of China and, after 2006, the China Development Bank effectively underwriting the expansion of Chinese firms into unfamiliar markets abroad as part of the tied aid that accompanied large-scale loans to African governments. The convergence of China's oversupplied domestic infrastructure sector and the well-recognized infrastructure gaps in Africa, which continued to rely on colonial-era transportation

and communication, provided ideal conditions for China to expand into the market.

This convergence led to one of the most iconic forms of Chinese engagement in Africa—big-ticket agreements to borrow high levels of Chinese financing in exchange for Chinese-built infrastructure backed by fixed commitments of African commodities. Angola’s securing of a \$4-billion concessional loan in 2004 (to rebuild its war-battered infrastructure) in exchange for the timely construction of roads, railways, airports, ports, public buildings, and—in a follow-up loan—housing came in the wake of the refusal of Western governments to provide finance until the government accounted for the disappearance of \$1 billion in national revenue.⁶ Christened “the Angola mode” by the Exim Bank of China, this form of engagement soon became routinized as other African governments sought to attract the unprecedented funds available from Beijing for infrastructure development.

Notably, the use of Chinese firms to build infrastructure is known as “tied aid,” a procedure considered inimical by many in the development business to the fostering of local employment and transferring of skills and, as a result, much reduced by Organisation for Economic Co-operation and Development Development Assistance Committee countries.⁷ The African attraction to China reached

6. Ana Cristina Alves and Sergio Chichava, “Neopatrimonialism and Extraversion in China’s Relations with Angola and Mozambique: Is Beijing Making a Difference?” in Chris Alden and Dan Large, ed., *New Directions in Africa-China Studies* (London: Routledge, 2019), 250.

7. Vivian Foster et al., *China’s Emerging Role in Africa: Part of the Changing Landscape of Infrastructure Finance*, Gridlines Note no. 42 (Washington, DC: Public-Private Infrastructure Advisory Facility, October 2008), 1–2.

its pinnacle in Gabon, where the leadership broke the existing resource contract for iron ore with Brazilian firm Companhia Vale do Rio Doce (later renamed Vale S.A.) in 2008 and awarded it to Chinese mining firms on the strength of their promise to cobble together a consortium to build a transport corridor and port facilities (they were never built, and the contract expired).⁸

Africa as an emerging global actor, therefore, came to serve as a zone of foreign policy experimentation for China. This experimentation enabled the Chinese state and its economic actors in key, strategic sectors to learn the substantive practices and risks of operating outside the domestic environment or in the more familiar East and Southeast Asian milieu. Learning globalization in Africa was guided by a different calibration of risk from that of Western actors. For instance, when addressing the problems of political risk, Beijing appeared to rely on building relationships with local elites coupled with its policy of noninterference, which, in combination, would insulate its companies operating in an unknown environment from all but the worst local political machinations.

While China claims a commitment to noninterference in the domestic affairs of other countries, the country routinely violates this commitment. Usually, Beijing commits a violation on the side of the ruling regime; for example, China might provide such a regime with tools of repression

8. Ana Cristina Alves, *China and Gabon: A Growing Resource Partnership*, China in Africa Report no. 4 (Johannesburg, SA: South African Institute of International Affairs, 2008), 1–24.

and surveillance. The selection of Chinese firms for China-funded projects using known factors – Chinese labor, management, and supplies – would largely offset performance risk that might otherwise occur when relying on unknown local firms to deliver Chinese-funded projects. Concerns of local corruption would also be mitigated as disbursement of actual funds would remain in China and not involve transfer to African governments. And, the multimillion-dollar infrastructure loans to African governments were seen to be secure because they were backed by agreements for the purchase of commodities at a fixed price (meeting China’s resource security imperative). These measures were ultimately underwritten by the deep financial pockets of the Chinese state, providing effective sovereign guarantee on loans.

Chinese investment in Sudan’s oil sector in 1996, abandoned by Western majors after the ongoing civil war with the southern separatists rendered the concession too dangerous and subject to Western sanctions for human-rights violations, demonstrated Beijing’s willingness to carve its own path in Africa based on this different assessment of risk. China National Petroleum Corporation’s concession, held in conjunction with minority shareholders (which included the Sudanese national oil company, Malaysia’s Petronas, and India’s Oil and Natural Gas Corporation), was contested by armed insurgents. China subsequently embarked on a major infrastructure program that included the construction of an oil refinery and pipeline from the upstream sources to Port Sudan as well as transportation,

housing, and commercial buildings in Khartoum.⁹ For a period in the early 2000s, Sudan provided the equivalent of 9 percent of China's overall foreign petroleum imports. Subsequent events showed China National Petroleum Corporation was not selling its oil directly to the Chinese domestic market as strict price controls applied to imports; rather, the corporation chose to sell oil on the spot market, where the corporation could accrue more revenue.

Diplomacy learning experiences in Africa involved both innovation and imitation that would shape China's outreach in other regions. In 2000, the establishment of the Forum on China-Africa Cooperation (FOCAC), which was loosely based on preexisting diplomatic arrangements, such as the Franco-African summit and Japan's Tokyo International Conference on African Development process, involved minister-level meetings every three years between Chinese officials and their African counterparts. Alternatively held in Beijing and an African capital, this gathering provided an opportunity to build elite political and commercial networks, to develop a better understanding of respective development concerns, and to set a mutual agenda for action; a forum for resolving disputes informally; and, finally, an opportunity to build consensus on international issues.¹⁰ Most importantly, the FOCAC set the precedent—later pursued in

9. Luke Patey, "Learning in Africa: China's Overseas Oil Investments in Sudan and South Sudan," *Journal of Contemporary China* 26, no. 107 (2017): 756–68.

10. Li Anshan and Liu Haifang, *FOCAC Twelve Years Later: Achievements, Challenges and the Way Forward* (Uppsala, SE: Nordic Africa Institute, 2018); and Ian Taylor, *Forum on China-Africa Cooperation (FOCAC)* (London: Routledge, 2011).

regional forum diplomacy in other regions like Latin America, Central and Eastern Europe, and the Middle East—of excluding Western participation and, in this way, paving the foundation for an engagement framework unburdened by Western norms and interests.¹¹ This intensification of ties through “Sino-centric” regional forums would hold implications for the building of consensus positions and the management of regional and international issues in the established multilateral organizations.

Though the economic rationale dominated the China-Africa relationship, it alone did not fully capture the dynamics of Chinese involvement on the continent.¹² With several African countries still formally recognizing Taiwan in the 1990s, the diplomatic imperative of dislodging the rebel province meant Beijing periodically pressured governments to switch ties. On the bilateral diplomacy front, the singular neglect of African leaders by successive US administrations was contrasted with the annual tour of the continent every January by China’s foreign minister and the regular visits by Chinese leaders. The commensurate attention showered on African leaders and officials when they visited China both enhanced their status and lay the foundation for strengthening bilateral ties.

Finally, as China expanded its involvement in African economies, so too did its exposure to the

11. Chris Alden and Ana Cristina Alves, “China’s Regional Forum Diplomacy in the Developing World: Socialization and the Sinosphere,” *Journal of Contemporary China* 26, no. 103 (2017): 151–65.

12. Ian Taylor, *China in Africa: Engagement and Compromise* (London: Routledge, 2006).

vagaries of local conditions increase, including corruption, crime, and political instability. As the situation on the ground changed and revealed the shortcomings in risk assessment held in Beijing, Africa would serve as an ideal terrain for learning how to securitize Beijing's global reach under complex conditions. One avenue for managing political instability was through the UN, where China's position as a permanent member of the Security Council offered it opportunities—although limited due to the requirement of consensus among the five permanent members—to set agendas and steer processes that conformed to its national interests. Its growing participation in multilateral peacekeeping operations and antipiracy missions off coastal Africa, however, proved to be inadequate for preserving Chinese interests when Beijing was confronted by the outbreak of civil war in Libya and obliged to enlarge its role in security further.

Africa's Scorecard on China

Assessing the first decade and a half of China's active economic engagement with Africa—which could be called “the honeymoon period”—provides a clear picture of the role of incentives and accompanying achievements that enabled the relationship to thrive in a relatively short time span. China's achievements during this period included becoming Africa's largest bilateral trading partner from 2009 onwards, with two-way trade reaching \$190 billion in 2012; becoming a leading bilateral creditor for Africa with \$148 billion in loan commitments between 2000 and 2018; and securing

over 60 percent of all African infrastructure projects since 2012.¹³

At a macroeconomic level, African development experienced an unprecedented boom from the largely Asian-driven commodity demand, making discernible development improvements that created the conditions for an African middle class to emerge from poverty and enabled even relatively resource-poor economies like Kenya, Ethiopia, and Senegal to grow.¹⁴ But the concerns of segments of African society over China's role lingered and, when aligned with Chinese conduct as a creditor toward African governments in recent years, contributed to a more ambivalent assessment of the relationship.

On the positive side of the ledger were the following.

New sources of development finance and diversifying markets. Africa pointed to the Chinese focus on funding construction in the neglected infrastructure sector, which was critical to the functioning of markets in terms of the transportation of goods and the flow of information. Provisions for finance were remarkably free of the constraints imposed by Western donors and multilateral banks, though, interestingly, the nontransparent nature of these agreements obscured the fact loans were sometimes not concessional but, rather, at commercial rates. Concurrently, African

13. Eleanor Albert, "Backgrounder: China in Africa," Council on Foreign Relations (website), July 12, 2017, <https://www.cfr.org/backgrounder/china-africa>; and Hong Zhang, *Understanding the Structural Sources of Chinese International Contractors' Market Power in Africa*, Policy Brief no. 56 (Washington, DC: China-Africa Research Initiative, 2021), 1.

14. African Development Bank, *The Middle of the Pyramid: Dynamics of the Middle Class in Africa* (Washington, DC: China-Africa Research Initiative, 2011), 1-24.

governments were excited about opening new market opportunities for their resources and the accompanying expansion of revenue. The willingness of Chinese sources to pay well over the usual fees and bonuses to obtain licenses, driving up the bidding for more marginal concessions in some cases, was welcomed.

Lack of conditionalities. The absence of conditionalities in Chinese lending practices was much celebrated by African governments and Beijing. Characterized as “the Beijing Consensus,” this absence of conditionalities was key to China’s rapid expansion into resource and infrastructure sectors in Africa. This stands in contrast to the Washington consensus on the necessity of adhering to neoliberal prescriptions on internal governance or the use of environmental impact statements for developing countries borrowing from Western sources. Notably, political concessions were applied to Chinese loans—the recognition of Beijing over Taipei—and the use of the tied-aid principle in Chinese lending required African governments to use Chinese firms, management, labor, and supplies in providing services. These issues were initially offset, however, by the speed with which infrastructure projects were built, thus enabling African governments to deliver tangible outcomes to their populations in a relatively short period. Moreover, concerns about Chinese labor were somewhat addressed over time as African governments increasingly imposed requirements on projects for the use of local content. Indeed, these big-ticket infrastructure projects often featured in the election campaigns of African leaders seeking another term in office.

The appeal of China's development model. More generally, African governments and some policy communities responded positively to the breaking of the Western-led development “donor cartel” and, in particular, China’s emphasis on social factors (for example, public health and the environment) over provisions for infrastructure development. Behind this positive response was the concrete experiences of China, which had in the lifetime of most African politicians transformed from a poor, developing country into an emerging power. China has followed its own path toward integration into the global system without compromising single-party rule, a significant factor for many African leaders and governing parties.

Providing recognition and respect through diplomacy. For African leaders, to be feted by the leadership of the world’s second-largest economy, a member of the UN Security Council, and a growing military power was a huge boost for prestige and international recognition. This boost especially applied to the governments that had run afoul of the West and consequently needed diplomatic support to strengthen their legitimacy. Moreover, for African leaders unfamiliar with China, this engagement provided the basis for strengthening bilateral ties.

On the negative side of the ledger were the following.

Debt burdens. Though not initially acknowledged, the rise in bilateral debt to China became a growing problem for African governments. In part, this debt was exacerbated by a fall in commodity prices in 2014 and the concomitant scarcity of foreign reserves to pay off dollar-denominated debt. Though debt forgiveness had featured as part of the bilateral

loan packages, it was nominal and concerned small sums accumulated during the 1980s; as African governments were to find out, Beijing proved to be reluctant to restructure loans. Part of this resistance is due to an unwillingness to be seen joining a Western-led donor initiative like the Paris Club, a move that would both tarnish China's developing-country credentials and restrict its ad hoc, bilateral approach to lending. Moreover, though much is made of the possibility of asset seizure of the kind that took place in Sri Lanka, Chinese officials have recognized belatedly the damage such an approach would inflict on their image. For this reason, officials are unlikely to pursue this option again, at least in such a blatantly public form. Evidence from China's bargaining with Western-designated "pariah governments" like Zimbabwe has illustrated one of the alternatives: the imposition of International Monetary Fund-like monitoring within government ministries to insure against corruption and to facilitate loan repayment.¹⁵

Nontransparent lending practices. Examples of Chinese nontransparent lending practices include the provisions for large-scale loans negotiated with China, virtually all of the agreements for which feature nondisclosure clauses, as well as the avoidance of collective restructuring initiatives, such as the Paris Club.¹⁶ When parliamentary processes or other forms of public disclosure have occurred, as was the case with Kenya's standard-gauge railway, the terms

15. Staff Reporter, "China Puts Screws on Zim," *Mail & Guardian* (website), January 23, 2015, <https://mg.co.za/article/2015-01-23-china-puts-screws-on-zim/>.

16. Anna Gelpern et al., *How China Lends: A Rare Look into 100 Debt Contracts with Foreign Governments*, CGD Working Paper 573 (Washington, DC: Center for Global Development, March 31, 2021), 6-9.

have proved to be unsatisfactory and have instigated a reworking of the agreement to allow for more local subcontractors and suppliers.¹⁷ More generally, this lack of transparency has fueled the suspicions of society and translated into a conventional anti-Chinese trope that has readily featured in opposition politics across the continent—ironically, potentially destabilizing China’s overall diplomatic gains.

Economic competition. Low-cost Chinese imports and services have created steep competition for African firms that compete directly with Chinese firms. Except for the cases of South African construction, steel production, textiles, and data services, the talk of China deindustrializing Africa was largely overblown. Nonetheless, competition from Chinese firms has resulted in market-share and contract losses that have been especially unwelcome.¹⁸ In northern Nigeria, for instance, Chinese apparel imports have gradually replaced local production by factories, throwing thousands out of work.¹⁹ At a more parochial yet socially significant level, the arrival of Chinese workers in many African countries, many of

17. Oscar Meywa Otele, “China’s Belt and Road Initiative and Intra-Regional Dynamics in Africa,” *African Studies Quarterly* 19, issues 3–4 (October 2020): 53–74.

18. Richard Grabowski, “Deindustrialization in Africa,” *International Journal of African Development* 3, no. 3 (Fall 2015): 51–67.

19. Mathis Agri Eneji et al., “Impact of Foreign Trade and Investment on Nigeria’s Textile Industry: The Case of China,” *Global Journal of Sociology and Anthropology* 9, issue 1 (January 2020): 1–12; and Murtala Muhammad, Mansur Ibrahim Mukhtar, and Gold Kafilah Lola, “The Impact of Chinese Textile Imperialism on Nigeria’s Textile Industry and Trade: 1960–2015,” *Review of African Political Economy* 44, no. 154 (2017): 673–82.

whom have opened small retail shops in urban and rural areas, has posed direct competition for local retailers, a situation that has sometimes spilled over into protests.²⁰

Poor conduct or quality delivery by Chinese firms. The failure to incorporate an independent (or any at all, in some instances) environmental and social impact evaluation into Chinese-financed projects has had a notable influence on project implementation. So too has the weak regulatory regimes of African countries, which have proved to be unable to provide oversight. At the implementation level, the conduct of Chinese firms in some instances has violated local labor regulations, even impinging on human rights and producing negative environmental impacts that have affected local communities in several documented cases. Indeed, the findings of one study link the rise in public protests to the number of Chinese projects set up in each area and community.²¹ Concurrently, without the resources necessary to conduct a proper review of adherence to regulatory standards in the delivery of infrastructure projects in the host country or of imported goods from China, the outcome has been uneven at best. Some spectacular construction failures—for example, a Chinese-built hospital in Luanda that had to be evacuated and closed after cracks were discovered in

20. Romain Dittigen, *From Isolation to Integration? A Study of Chinese Retailers in Dakar*, Occasional Paper no. 57 (Johannesburg, SA: South African Institute of International Affairs, March 2010), 1-14.

21. Franco Iacoalla et al., “Chinese Official Finance and Political Participation in Africa,” *European Economic Review* 136 (July 2021): 1-2.

its walls—have tarnished China’s image as a credible economic partner.²²

Crisis and New Realism

For China, the collapse of Libya, which forced Beijing to evacuate its 35,000 citizens living there, acted as a catalyst to ramping up Chinese involvement in African security as well as a more general review of the exposure of firms and interests abroad.²³ These events propelled China formally into the security sector, and, at the triennial FOCAC summit in 2012, the China-Africa Cooperative Partnership for Peace and Security was launched. Security and defense issues became one of the five pillars of the relationship, and intelligence sharing and commitments to expand military training programs featured in subsequent FOCAC action agendas.²⁴ In September 2015, China’s president Xi Jinping announced a billion-dollar contribution over 10 years to support UN peacekeeping operations and authorized an unprecedented contingent of combat-ready Chinese peacekeepers

22. Louise Redvers, “Safety Fears for a Chinese Built Hospital in Angola,” BBC News (website), July 7, 2010, https://www.bbc.co.uk/worldservice/africa/2010/07/100707_angolahospital.shtml.

23. Gabe Collins and Andrew S. Erickson, “Implications of China’s Military Evacuation of Citizens from Libya,” *China Brief* 11, no. 4 (March 2011); and Shaio H. Zerba, “China’s Libya Evacuation Operation: A New Diplomatic Imperative—Overseas Citizen Protection,” *Journal of Contemporary China* 23, no. 90 (2014): 1093–1112.

24. Chris Alden and Yixiao Zheng, “China’s Changing Role in Peace and Security in Africa,” in Chris Alden et al., ed., *China and Africa: Building Peace and Security Cooperation on the Continent* (Basingstoke, UK: Palgrave, 2018), 52.

to UN peacekeeping missions in South Sudan and Mali. In addition, the same year, China finalized long-standing discussions with the government of Djibouti over opening its first overseas “logistics facility” or military base.²⁵

For Africa, the catalyst for reassessing the relationship was found in the economic sector, not the security sector. China’s growing economic dominance and power on the continent had raised domestic debates on Chinese neocolonial intentions. China’s role as a creditor nation and, more specifically, its conduct in this capacity as it sought to ensure African governments met their debt obligations, continued to stoke concerns of neocolonialism, as reflected in private conversations and public media.²⁶ The launching of an ambitious infrastructure development program on the continent by Premier Li Keqiang in 2014 coupled with China’s much-publicized investments in special economic zones aimed at fostering Africa’s industrialization—a much-cherished development ambition—was further reflected in the FOCAC 2015 action plan.²⁷ These initiatives, however, were increasingly overshadowed by the harsh realities

25. Sarah Zheng, “China’s Djibouti Military Base: ‘Logistics Facility’ or Platform for Geopolitical Ambitions Overseas?,” *South China Morning Post* (website), October 1, 2017, <https://www.scmp.com/news/china/diplomacy-defence/article/2113300/chinas-djibouti-military-base-logistics-facility-or>.

26. Mpumelelo Mkhabela, “ANC Is Selling Our Country to China,” *Sowetan Live* (website), October 5, 2015, <https://www.sowetanlive.co.za/news/2015-10-05-anc-is-selling-our-country-to-china/>.

27. Shannon Tiezzi, “In Africa, Li Keqiang Refutes Charge of Chinese ‘Neo-Colonialism,’” *Diplomat* (website), May 13, 2014, <https://thediplomat.com/2014/05/in-africa-li-keqiang-refutes-charge-of-chinese-neo-colonialism/>.

of restructuring or suspending debt payments and the impact these actions would have on the national growth prospects of African economies, a situation that the onset of the coronavirus disease 2019 (COVID-19) pandemic in 2020 only exacerbated.

At the same time, given all the financial difficulties experienced in Africa, including the critical revenue shortcomings of newly constructed railway projects like the Addis Ababa-Djibouti Railway and Kenya's standard-gauge railway, Beijing began a quiet recalibration of risk in Africa. At the FOCAC summit in 2018, Xi himself acknowledged too many "vanity projects" had been supported by China and would no longer automatically receive Chinese backing.²⁸ Concurrently, the Chinese government instituted changes to its lending practices to promote a public-private partnership (PPP) model, much as Beijing has pursued in Latin America in recent years. Participating Chinese firms are required to put up some of the financing to ensure their stake in producing a better-quality project and encourage a stronger emphasis on revenue generation after project completion.²⁹

Insights for Europe from China in Africa

The African experience with China holds several lessons, but most of these lessons readily apply to other commodity-dependent, developing economies, rather

28. Abdi Latfi Dahir, "Why 2018 Marks a Critical Milestone in China-Africa Relations," *Quartz Africa* (website), September 10, 2018, <https://qz.com/africa/1384079/china-africa-relations-make-a-crucial-turning-point-in-2018/>.

29. Chris Alden and Lu Jiang, "Brave New World: Debt, Industrialisation and Security in China-Africa Relations," *International Affairs* 95, no. 3 (May 2019): 641–57.

than the sophisticated and diversified, industrialized economies found in much of Europe. Nonetheless, the African experience offers insights and lessons for European countries in some key areas.

As in Latin America, the most noteworthy aspect of China's engagement in Africa is its extreme dexterity in seeking out opportunities and repositioning itself in response to obstacles, whether they be market related or the result of local regulatory constraints. Equally notable is the opportunistic character of African governments seeking development resources from any corner of the globe and their lack of concern about undue Chinese influence in their economies. Potentially strong parallels could be drawn between African countries and less-developed Central, Eastern, and Southern European countries. More specifically, several applicable lessons for all of Europe emerge from China's experience in Africa.

Ostensibly Chinese Commercial Infrastructure Becoming Dual-Use

Port facilities in Djibouti; currently developing port facilities in Beira, Mozambique; and prospective port facilities like Bagamoyo Port, Tanzania, illustrate the range of possible projects and outcomes. The allure of modern facilities coupled with logistics and expanding transshipment networks, all of which are linked to transport corridors to the interior, are the common thread among these projects. In addition, all of these projects represent unabashed development gains from the African perspective. The latter applies particularly to coestablished industrial parks and free-trade zones, into which Chinese firms are invited, offering new employment opportunities for

locals, among other benefits. The potential for such infrastructure to serve military purposes, especially if such facilities are linked to new revenue streams for the government when operationalized, is unlikely to disturb most African governments.

Chinese Firms Stifling Domestic Competition

South Africa is the most diversified economy in continental Africa and, as a result, the country has lost market share to Chinese products through imports (textiles, appliances, electronic goods, and machinery) both domestically and in third-country markets. Equally as important have been the losses in contracts on international tenders for large-scale infrastructure projects where Chinese firms have been able to undercut higher-costed South African bids and exclude the South African firms from additional supply contracts linked to the original contract.

Some firms have sought to enter a consortium with Chinese firms to bid for international contracts. As Chinese dominance of infrastructure has increased, African governments have been introducing requirements that effectively encourage Chinese firms to incorporate African companies into bids. Even in the case of Chinese-financed infrastructure projects, recipient countries have sometimes insisted deals include clauses requiring local subcontractors and local suppliers. For example, Kenya insisted on this clause, but only after receiving public pressure from parliament and business interests.

Restrictive domestic policies on the use of labor unions have limited, at least initially, Chinese investment into domestic markets like South Africa and Zambia. But Chinese firms as diverse as Hisense

Group (appliances) and BAIC Group (automotive) have expanded previously opened factories as they have learned how to navigate and profit in the local market and address the issue of labor and environmental regulatory regimes. Evidence from a comprehensive study of African protests and Chinese projects indicates the establishment of Chinese projects, especially in African democracies with relatively strong cellular networks and distribution, is linked to the upsurge in local community protests.³⁰ The possibility of local unrest in parts of the EU where Chinese projects have been set up, following from the African experience, is very real because of the preconditions of democracy, civil society, and high levels of cellular connectivity.

China's Regional Forum Diplomacy as Sowing Division

With two decades behind it, the FOCAC's enduring success can be attributed to Beijing's careful, nonconfrontational diplomacy coupled with a close reading of African priorities and practices at the African Union (AU). Africa and China have occasionally disagreed on policy matters. For example, when China was involved in the Darfur conflict in the early years of the FOCAC and the AU took a punitive approach toward the Sudanese regime, Beijing shifted away from the defense of Sudan toward mediation to allow for AU (and, later, UN) peacekeepers. The AU denied Sudan's president, Omar al-Bashir, the right to serve as AU president, in accordance with the annual AU leadership rota. This shift marked a considerable departure from Beijing's stated foreign policy principle of nonintervention.

30. Iacoalla et al., "Chinese Official Finance," 1-2.

Had Beijing not shifted its policy stance, however, China likely would have witnessed a major split within its African government support. The incorporation of the AU as a member of the FOCAC in 2018—another sticking point for African governments Beijing had resisted until Morocco rejoined the AU in 2017—illustrates the tug and pull intra-African politics can have over the relationship.

At its core, the FOCAC's development focus is hugely appealing to African governments. Despite occasional and even strong differences, regional forums are welcome because they lead to development assistance, a showcase of diplomacy, and an opportunity to exchange views and vet initiatives on a wide range of topics. Beijing has been successful in leveraging the FOCAC as an avenue for Chinese development in Africa, leading to the unwillingness of African governments to critique China's internal affairs. This dynamic offers a cautionary tale for China's use of the 16+1 format and Beijing's continuing efforts to get 16+1 countries to undermine EU criticism of China's domestic human-rights policies.

Chinese Loans as a Potential Lever . . . for Europe

China's position as a creditor holding African debt has, more than any other factor, begun to change the contours of the relationship in directions that are problematic for Beijing. Simply put, the narrative of a shared Chinese-African global identity (as developing countries historically exploited by Western imperialists) is unraveling as China's conduct in managing debt exposes African governments to pressures to fulfill payment obligations in a timely manner. The once-celebrated resources for

infrastructure, predicated on a relatively high price for commodities, has turned into a payment dilemma for Beijing.

At the same time, nontransparent negotiated loans have fueled speculation in Africa and elsewhere that China is set to seize national assets as part of the deal. Evidence culled recently in a study of nontransparent loans demonstrated the Chinese concerns were aimed at countering Organisation for Economic Co-operation and Development and Paris Club involvement, presumably as Beijing feared public disclosure of nonconcessionality of terms and perhaps even a backlash domestically from the Chinese public already unhappy with their country's overseas aid policies.³¹ The EU, along with the United States, could continue the policy of requiring African governments to reveal their actual debt and accompanying requirements to China as a price for restructuring loans and obtaining any additional loans. Such transparency provides the basis for comparative assessment of the Chinese loans and their overall impact on the national balance of payments.

31. Gelpern et al., *How China Lends*, 6–7, 34–37; Chen Zhiming and Russell Smyth, *Why Give It Away When You Need It Yourself? Understanding Public Support for Foreign Aid in China* (Wollongong, AU, and Melbourne, AU: University of Wollongong and Monash University, October 3, 2014), 10–13; and Yun Sun, “The Domestic Controversy over China’s Foreign Aid and the Implications for Africa,” *Brookings* (blog), October 8, 2015, <https://www.brookings.edu/blog/africa-in-focus/2015/10/08/the-domestic-controversy-over-chinas-foreign-aid-and-the-implications-for-africa/>.

10. CONCLUSION AND RECOMMENDATIONS

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Beijing employs a wide range of mechanisms to pursue its interests in Europe. Moreover, the amount of resources, personnel, and attention China has devoted to Europe has increased substantially over the past decade. The European political environment, however, appears to be becoming increasingly challenging for Beijing. Many Central and Eastern European countries have soured on the perceived promise of the Belt and Road Initiative (BRI) and 16+1 format, and European countries are becoming more concerned about China's predatory economic statecraft and its attempts to acquire political influence and more in Europe through investment.

As a result, many European countries are beginning to implement investment review processes and to shut down Confucius Institutes and other Chinese influence channels. Meanwhile, Chinese diplomats in Europe are not becoming more conciliatory; rather, they are becoming more belligerent. These trends would seem to suggest Beijing needs to adjust its strategy toward Europe—and, as the last two chapters have shown, China has a track record of adaptability in the face of geopolitical challenge. But no indications exist as to whether China will adapt its diplomacy in or strategy toward Europe anytime soon, much less what form such an adjustment would take.¹

1. Ties Dams, Xiaoxue Martin, and Vera Kranenburg, ed., *China's Soft Power in Europe: Falling on Hard Times* (Brussels: European Think-Tank Network on China, April 2021), 10–13.

Meanwhile, China is adapting to overcome European defenses against predatory investment. To evade investment screening procedures European countries have introduced to prevent large foreign investments and hostile takeovers in strategic industries, China appears to be engaging in smaller-value transactions, taking noncontrolling stakes, and routing investments through ostensibly more benign subsidiaries or third countries or locales. In many cases, China is focused on deals that give its stakeholders access to key transportation nodes, utilities, intellectual property (IP), materials, or know-how related to dual-use technologies that do not necessarily have strategic importance but may have military applications.

Across its investments in Europe, China is using more ostensibly private sector actors, complex webs of venture capital (VC) funds, and multilayered transactions that obscure sources of funding and their connections to the Chinese state. Discerning whether China is taking a centralized or otherwise coordinated approach or whether profit and market share are the primary motivating factors is sometimes difficult. Likely, given the nature of the Chinese economic model and the ubiquitous political patronage system at work there, both factors play important roles.

In infrastructure, Chinese stakeholders appear to prioritize seaports; logistical distribution hubs, such as airports, with strong linkages to road and rail transport; and energy generation (especially renewable energy) and distribution. For defense-related technology, Chinese investors are prioritizing investments in start-ups to access nascent technology and penetrate supply chains early, before screenings can catch formal acquisitions. Establishing

and supporting research and development (R&D) centers and university partnerships, which are not typically covered by European investment screenings, is also becoming a more common tactic for accessing technology, IP, and talent. China continues to leverage its control of Europe's rare-earth element (REE) supply chains, alongside new investments in REE transportation infrastructure and facilities in Europe, for political and economic coercion.

Table 10-1 provides an overview of the risk assessments for each of the focus countries in this study.² This assessment is based on type and intensity of Chinese activities in the given country, the country's rigor of investment regulation and screening, and the country's public opinion toward China (as an indicator of whether public policy might be accommodating toward Chinese investment activity). The situation in some countries represents a significant risk to both the country's security and to US and allied security more broadly.

2. Laura Silver, Kat Devlin, and Christine Huang, *Large Majorities Say China Does Not Respect the Personal Freedoms of Its People* (Washington, DC: Pew Research Center, June 30, 2021); Adrian Brona et al., *Polish Public Opinion on China in the Age of COVID-19: Desirable Partner Versus a Source of Concern* (Bratislava, SK: Central European Institute of Asian Studies, 2021); and Richard Q. Turcsanyi and Matej Šimalčík, "Hungarian Policy toward China Might Be Facing a Seismic Shift," *Diplomat* (website), June 9, 2021, <https://thediplomat.com/2021/06/hungarian-policy-toward-china-might-be-facing-a-seismic-shift/>.

Table 10-1. Overview of risk assessments for each focus country³

Country	Investment Screening Risk Assessment	Infrastructure Risk Assessment	Technology Risk Assessment	Political/Diplomatic Risk Assessment	Popular Sentiment toward China (Percent Favorable/Percent Unfavorable)	Overall Risk Assessment
Belgium	High (until proposed law enters into force, then Medium)	High	NA	NA	28/67	Medium-High (after proposed screening law enters into force)
France	Medium	Medium	Medium-High	Medium	29/66	Medium
Germany	Medium	Medium	High	High	21/71	Medium-High
Greece	High	Medium	NA	High	52/42	High
Hungary	Medium	NA	NA	High	25/50	Medium-High
Italy	Low	Medium	Medium	Medium	38/60	Medium
Netherlands	Low	Medium	Medium-High	NA	24/72	Medium
Poland	Medium	Medium	Low	NA	32/42	Medium
United Kingdom	Low (as of Jan. 2022)	NA	Medium	Medium	27/63	Low (as of Jan. 2022)

3. Public opinion data in table comes from Laura Silver, Kat Devlin, and Christine Huang, "Large Majorities Say China Does Not Respect the Personal Freedoms of Its People," Pew Research Center (website), June 30, 2021, https://www.pewresearch.org/global/wp-content/uploads/sites/2/2021/06/PG_2021.06.30_Global-Views-China_FINAL.pdf; Adrian Brona, Richard Q. Turcsányi, Matej Šimalčík, Kristína Kironská, and Renáta Sedláková, "Polish Public Opinion on China in the Age of COVID-19," Central European Institute of Asian Studies (website), accessed May 25, 2021, <https://ceias.eu/wp-content/uploads/2021/03/PL-poll-report.pdf>; and Richard Q. Turcsányi and Matej Šimalčík, "Hungarian Policy toward China Might Be Facing a Seismic Shift," *Diplomat* (website), June 9, 2021, <https://thediplomat.com/2021/06/hungarian-policy-toward-china-might-be-facing-a-seismic-shift/>.

Most broadly, Chinese investment—or, sometimes, merely the promise of investment—continues to form a lever of influence for Beijing in chancelleries and trade ministries across the continent. On the other hand, the current trajectory of more skeptical European attitudes toward China is unlikely to change, at least in the short run. This trend is shaped by a growing perception of China as constituting an economic competitor and systemic rival, disillusion with Chinese economic promises, Chinese assertiveness abroad, concerns with the country's human-rights record, and a backlash against Beijing's behavior during the coronavirus disease 2019 (COVID-19) pandemic. This more skeptical attitude toward China has been instrumental in driving the debate on the need to shore up European sovereignty through more robust trade defense mechanisms. Nonetheless, some prominent European leaders still cling to pragmatic engagement with Beijing on trade issues while avoiding outright confrontation for fear of economic retaliation. Yet, this approach appears to be reaching its limits considering the strong recent backlash against China's willingness to sanction European politicians as well as the growing pressure from within European capitals to take a firmer stance against Beijing's international assertiveness.

These evolving European attitudes can in principle provide a sound basis for stronger transatlantic cooperation in the coming years, although they do not necessarily mean European capitals will always align themselves perfectly with Washington. At the same time, China's experience in Latin America and Africa mean Europe and the United States should expect an adaptive approach toward predatory economic statecraft on the part of Beijing. The real question,

then, is how the current political climate can translate into redefining the European approach toward Beijing in the coming years, including with the support, encouragement, and assistance of the United States.

In its great-power competition with China, Washington has a vital interest in preventing Europe from becoming a contested space. Only with allies and partners can the United States successfully push back against China's promotion of its state authoritarian model. Moreover, US security remains intricately tied to stability, security, and prosperity in Europe. For all these reasons, this chapter outlines a series of recommendations for policy makers on both sides of the Atlantic as they seek to navigate the challenges and threats posed by China's statecraft.

Tighten Investment Screening Requirements

Current screening mechanisms across Europe vary greatly in their scope, duration, and thresholds. Although the EU has attempted to provide a set of best practices, its efforts in this area are largely advisory because the responsibility for investment screening resides at the member-state level.

European governments, in coordination with the United States and the EU, should introduce additional, more rigorous screening mechanisms and regulatory procedures to protect transportation and energy infrastructure, existing indigenous innovation, and dual-use technology from foreign malign influence and takeovers. As China seeks smaller-value transactions and noncontrolling ownership stakes, current thresholds for screenings should be lowered.

Moreover, the responsibility for leading investment screening processes should be removed from the

realm of economy, finance, and trade ministries. These bureaucracies tend to lack the incentives and expertise necessary to identify and defend allied security interests threatened by predatory Chinese statecraft effectively. Ideally, European allies would establish interagency panels—like the United States’ Committee on Foreign Investment in the United States (CFIUS) mechanism or the United Kingdom’s Investment Security Unit—that draw on expertise from across government. Security-related agencies, such as ministries of defense or interior, ought to lead national security investment screening efforts in any case.

Furthermore, to address existing gaps China is exploiting, regulatory processes should be expanded to cover additional dual-use and commercial areas, such as additive manufacturing (AM) and investments in REE-related facilities and related transportation infrastructure. Review measures should also extend to other types of activities beyond equity investments, such as academic and R&D partnerships.

Nevertheless, as seen in the case of Latin America, stronger institutions and more effective bureaucratic processes are no panacea. Only in combination with other measures will European states effectively protect infrastructure, dual-use technology, and other sensitive economic sectors from predatory Chinese behavior.

Make Investment Screening Retroactive

Investment screening tools can be very effective in highlighting and blocking predatory economic activity, and European governments have taken steps in the last year or more to strengthen the screening tools at their disposal. But many of these recent

improvements do not permit European authorities to reexamine investments in sensitive, dual-use technology companies or critical infrastructure, including investments made during the 2016–17 high point of Chinese activity.

Making screening mechanisms retroactive—as is the case in the United Kingdom under the terms of the recently enacted National Security and Investment Act 2021—would allow European governments to retroactively assess Chinese investments that government authorities are not initially notified of but are later determined to place national security at risk.

In the United Kingdom, officials in charge of investment screening can review completed transactions that the government was not previously notified of for up to six months from the date on which the government became aware of the transaction. The government has this authority for up to five years from the date of the transaction’s completion.⁴

Screen Some Investments, Regardless of Nationality

Even though European investment screening mechanisms have improved to some extent, determined entities can still skirt them. One way of skirting these mechanisms is to mask ownership using subsidiaries based in the EU, which can help non-European entities such as those from China evade scrutiny.

To prevent this evasion, European investment screening processes should be applied to all

4. Bernardine Adkins and Claire Bradwell, “The UK’s Investment Screening Regime Is Coming—What Should Businesses Be Doing Now?,” *Gowling WLG* (website), March 8, 2021, <https://gowlingwlg.com/en/insights-resources/articles/2021/uk-investment-screening-regime/>.

investments, whether from within the EU or not, in a limited set of industries or sectors. These most critical industries or sectors should include, but not be limited to, seaports, airports, telecommunications infrastructure and services, utilities, artificial intelligence (AI), quantum information technology (IT), semiconductors, space and space-enabled capabilities, AM, robotics, and unmanned and autonomous systems. Tightening investment screening procedures in these sectors to avoid reference to nationality would enable European countries to catch companies that are using third-party, offshore fronts, including in the overseas territories of European countries.

Leverage NATO

The primary transatlantic forum for security collaboration and cooperation, NATO, has finally taken notice of China. The June 2021 NATO summit in Brussels was the first meeting of alliance heads of state and government to address China in a significant way, building on initial efforts at the December 2019 summit.⁵ Although engaging China through the alliance remains contentious among allies, NATO can and should act as the geostrategic policy forum that aligns transatlantic objectives that address the impact of Chinese economic statecraft on common security interests in Europe. Although the

5. David M. Herszenhorn and Rym Momtaz, "NATO Leaders See Rising Threats from China, but Not Eye to Eye with Each Other," Politico (website), June 14, 2021, <https://www.politico.eu/article/nato-leaders-see-rising-threats-from-china-but-not-eye-to-eye-with-each-other/>; and Jens Ringsmose and Sten Rynning, "China Brought NATO Closer Together," War on the Rocks (website), February 5, 2020, <https://warontherocks.com/2020/02/china-brought-nato-closer-together/>.

EU currently has a more expansive toolbox to deal with China's influence in Europe, only a transatlantic approach will be sufficient to protect vital Western interests. Under the auspices of article 2 (on economic cooperation) and article 4 (on security consultations) of the North Atlantic Treaty, allies can build a common transatlantic strategy toward China, identify the risks posed by Beijing's exercising of its economic statecraft, and share intelligence on the same.⁶

Second, NATO has the logistical knowledge and planning skills to help to identify assets that might be important for operations in or through Europe. The alliance also has defense capability insights, science cooperation networks, and defense investment expertise that could help to highlight risks in dual-use technology that are relevant to the military. Additionally, NATO's recently established Joint Support and Enabling Command, based in Germany, could help to identify the infrastructure necessary for reinforcement and sustainment in Europe. An enablement study is underway within the alliance that could help NATO develop a more coherent approach in this area. Ultimately, the Joint Support and Enabling Command could have the expertise to identify critical infrastructure necessary for sustainment and enabling operations; the new command has indeed examined critical infrastructure from a broad perspective in

6. Ian Brzezinski, "NATO's Role in a Transatlantic Strategy on China," *New Atlanticist* (blog), June 1, 2020, <https://www.atlanticcouncil.org/blogs/new-atlanticist/natos-role-in-a-transatlantic-strategy-on-china/>; and Bloomberg, "China Muscles onto NATO's Turf, Roiling Alliance Frayed by Trump," *BloombergQuint* (website), August 4, 2020, <https://www.bloombergquint.com/global-economics/china-s-expanding-footprint-roils-a-nato-reluctant-for-showdown>.

Belgium, France, Germany, and the Netherlands.⁷ Presently, the authority to coordinate with allies on critical infrastructure is at the Supreme Allied Commander Europe/Supreme Headquarters Allied Powers Europe level.⁸ At some future point, however, Joint Support and Enabling Command could receive the authority to engage directly with individual allies and their military logistics experts.

Third, NATO can help to align policies by facilitating the exchange of information and promulgating best practices for legislation, regulations, and organizational procedures, especially for European allies that are not part of the EU. These activities can be accomplished through routine North Atlantic Council meetings, under the auspices of NATO's recently revived economic analysis capacity, or through relevant NATO Centres of Excellence that focus on logistics or energy security.⁹

Offer Liquidity Alternatives

The EU's effort to provide liquidity in the face of the pandemic-induced recession is a welcome and marked shift in its policy response, relative to the economic crises of a decade ago. Mutualized debt and other assistance should go far in filling liquidity gaps. But the United States can assist more as well. Specifically, Washington could more aggressively employ the US International Development Finance

7. Civilian official at NATO's Joint Sustainment and Enabling Command, interview by the author, March 19, 2021.

8. US officer assigned to NATO's Joint Sustainment and Enabling Command, interview by the author, February 22, 2021.

9. "Economic Analysis at NATO," NATO (website), updated November 25, 2019, https://www.nato.int/cps/en/natohq/topics_76400.htm.

Corporation (DFC) and the Export-Import Bank of the United States as lenders of last resort for distressed state-owned assets in Europe.

The DFC has traditionally been used to provide debt financing, equity investment, and other forms of advice and assistance to less economically advanced countries. But several European countries are eligible for assistance, including Greece, Portugal, the Baltic states, and several other Central and Eastern European allies and partners. Moreover, the European Energy Security and Diversification Act of 2019 granted the DFC the authority to work in Europe on energy and energy-related investments, regardless of a country's income status.¹⁰ Finally, the corporation could collaborate with the development finance institutions of wealthier European countries to address liquidity gaps in middle-income European countries, such as those mentioned above.¹¹

The export-import bank facilitates the export of American goods and services by providing financing to US companies when private sector lenders are unable or unwilling to do so. Washington could leverage the export-import bank to encourage or incentivize US firms to purchase or invest in European assets. Although the export-import bank and the DFC may require additional staffing capacity and expertise to accomplish the goal set out here, both could prove useful in helping state-run, indebted facilities. Moreover, these institutions could

10. "Where We Work," International Development Finance Corporation (website), n.d., <https://www.dfc.gov/what-we-offer/eligibility/where-we-work>.

11. Conor M. Savoy, Paddy Carter, and Alberto Lemma, *Development Finance Institutions Come of Age: Policy Engagement, Impact, and New Directions* (Washington, DC: Center for Strategic and International Studies, October 2016), 22–23.

be particularly helpful to European partners that have fewer options. Beijing is likely to step in in areas with less resistance, so helping these two US entities to do more with other countries in Europe would provide an alternative to Chinese solutions.

Magnify China's Shortcomings through Public Diplomacy

Europeans are already becoming increasingly concerned about the inability or unwillingness of Beijing to deliver on its commitments. Washington should showcase the widening gap between Chinese promises and the reality on the ground. For example, in the Czech Republic, the Czech president said Chinese investment has not panned out as Prague had hoped, and China has not delivered to the extent Chinese investment had promised. According to one US official, billions of dollars in promised investment have not materialized.¹²

Similarly, Italy has not seen its involvement in China's BRI pay off. Even though Italy is the only Group of Seven country to sign onto the BRI, Rome has yet to see any increases in market share in China for its exports.¹³

Showcasing China's failure to live up to its promises as well as its diplomatic missteps and its efforts to spread corruption would strengthen the arguments of bureaucratic and political actors in European states who are interested in reducing Beijing's influence. Evidence from Latin America and Africa points to the necessity of pushing back aggressively

12. US civilian official assigned to the US embassy in Prague, interview by the author, October 6, 2020.

13. US military official assigned to the US embassy in Rome, interview by the author, October 8, 2020.

on Beijing in this way, lest a creeping self-censorship take hold in Europe's public discourse.

From a multilateral perspective, pointing out China's propensity to overpromise and underdeliver may also help to undermine Beijing's use of regional formats: the Forum on China-Africa Cooperation (FOCAC), the Community of Latin American and Caribbean States, and the 16+1 format. As seen in Latin America, Africa, and now Europe, Beijing's use of such forums can undermine US leverage by causing countries in these regions to peel away from Washington.

Ensure Contingency Access to Infrastructure

American officials across Europe should revisit all military and defense cooperation agreements between the US military and European allies and partners to ensure US and NATO priority access to infrastructure during crises. In recent years, the Department of Defense has begun addressing this topic in new military construction projects overseas, requiring agreements pertaining to these facilities to have a clear statement ensuring US operational access. Nonetheless, a lack of consistency among these agreements across Europe remains—particularly, the agreements governing older facilities. For example, to access the Greek port in Alexandroupoli, American officials can make a request for in extremis access with as little as 48 hours' notice. Similarly, Belgian government officials have told their US and allied counterparts if Chinese ownership of the terminal at Zeebrugge presented a serious security issue during a crisis or otherwise, Brussels would simply

nationalize the facility.¹⁴ In contrast, though, the military cooperation agreement between the United States and the Czech Republic—an important transit country between southeastern Germany, where many US troops are forward stationed, and Poland—does not address this issue whatsoever.

Additionally, American officials should encourage European officials to ensure any agreements regarding foreign investment in infrastructure include provisions for nationalization in the event of a national security crisis. Such provisions exist currently regarding China Ocean Shipping Company, Limited's (COSCO's) concession to operate the Greek port of Piraeus. These caveats are vital to protect European and US security in the event of a national security emergency.

Mandate Transparency

As seen in both Africa and Latin America, less-than-transparent financing agreements offered by China often obscure concessionary loan rates' complete lack of transparency. Furthermore, classifying Chinese loan terms that would otherwise be available to public scrutiny can mask kickbacks and payoffs, helping some corrupt regimes promote their own longevity.

The EU should require its member states to publicize the financing terms for any projects in key critical infrastructure and related sectors. These terms might include energy and other utilities, transportation, logistics, and IT networks. Requiring

14. US military officer assigned to the US military delegation to the NATO Military Committee, interview by the author, December 14, 2020.

this disclosure would help to shed needed light on China's predatory statecraft, level the playing field for non-Chinese lenders and financing mechanisms, and promote an informed public.

Apply a National Security Lens to Advanced Technologies Now

Work on 6G, the successor telecommunications technology to today's still unfolding 5G, has already begun within private industry.¹⁵ In the case of 5G, US government officials did not begin to understand the extent of the security risks posed by 5G equipment originating from China fully until after the rollout of the technology. This delayed recognition led to a painful diplomatic process of trying to convince allies to abandon Chinese 5G equipment. Similarly, the EU has recently begun drafting a law on the appropriate use of AI, with an eye toward limiting human-rights abuses by law enforcement and other government agencies.¹⁶ But this technology is already in use across Europe, from metro stations to grocery stores, and trying to backfit any new laws onto existing practices may prove challenging.

Rather than waiting until 6G and other advanced technologies are fielded, the Department of Defense, the Department of Homeland Security, the Department of Commerce, the Department of State, the National Security Council, and potentially others should become engaged in technology-related

15. Laurens Cerulus and John Hendel, "Hologram Wars: The Race to 6G," Politico (website), April 11, 2021, <https://www.politico.eu/article/6g-race-eu-united-states-china/>.

16. Melissa Heikkilä, "Cities Want to Make AI Rules Too," Politico (website), June 28, 2021, <https://www.politico.eu/article/cities-ai-rules-eu/>.

discussions and standard setting now. Engaging in interagency and intra-alliance discussions on standards for 6G and other advanced technologies now will make it far more likely the efforts of the United States and its allies to reduce China's role in implementation will be coordinated. The relatively new US-EU Trade and Technology Council could play an important role here.

Increase Staffing at US Embassies

The national security challenge China poses is not simply a function of its willingness to violate international law and norms; rather, this challenge also stems from the scale of the threat from Beijing. To counter this threat in Europe and elsewhere, US embassies need significantly more Foreign Service officers and other US government officials. Increased personnel resources would help to enable embassy efforts more effectively in two areas.

First, additional US embassy personnel devoted to countering Chinese influence could facilitate pushing back on planned Chinese investments in Europe earlier and more aggressively. Evidence indicates pressure from US officials has helped to dissuade European officials from permitting Chinese entities to invest in European infrastructure. For example, when a Chinese entity expressed interest in investing in the port of Gdansk, US officials relayed concerns to counterparts in Warsaw. Though ascribing causality to this interaction is difficult, Poland ultimately turned down the Chinese effort.¹⁷

17. US official assigned to the US embassy in Warsaw, interview by the author, February 11, 2021.

Second, additional personnel resources at US embassies would enable more counterprogramming in response to Chinese propaganda and outreach. At present, the sheer volume of Chinese activity in European countries means most US Foreign Service officers spend most of their time simply trying to keep up with the reporting requirements and drafting cable traffic for Washington and others. These efforts usually result in thorough reporting, but they also result in diminished programmatic pushback and information operations.

The current approach of assigning regional China watchers to a limited set of US embassies is inadequate because the watchers cannot cover all of this territory, literally or figuratively. Instead, the State Department should assign at least one (and possibly more) China watcher to every embassy in Europe, and these personnel should have language skills in both Mandarin and the language of their country assignment.

The State Department's acquisition of the fiscal resources and development of the personnel resources necessary to achieve these goals will take time. In the meantime, a short-term or interim step could be to implement a China working group at each US embassy in Europe, as already exists in some locations, such as Paris and the US Mission to the International Organizations in Vienna, and much like the working groups that already exist, such as those on the rule of law and counterterrorism. This strategy could at least better synchronize the efforts of the many US government agencies working at the country-team level on Chinese efforts and influence in host nations. Additionally, American embassy officials could develop similar working

groups among counterparts from other allied embassies to share information and synchronize responses, as is the case for crisis response situations.

Complicate NATO Exercises

In the event of a crisis in European security, European infrastructure will be put to the test. Described by one expert as “in the autumn of its lifespan,” most European infrastructure would struggle to handle the extreme demands of a major crisis.¹⁸ Such a situation would likely entail US, British, and Canadian military forces as well as humanitarian relief organizations trying to get into Europe; other continental allies trying to get their forces and equipment across Europe; and refugees and commercial interests flowing in the opposite direction. Layered on top of this flurry of activity would be complications arising from Chinese operations or overwatch of several parts of the infrastructure network necessary to make all of the movements into, across, and out of Europe. Such a situation would be extremely chaotic.

To reduce the chaos and identify the most vulnerable elements of the infrastructure network, NATO should exercise infrastructure use in the context of a major contingency crisis. Conducting such exercises would enable NATO to simulate what would happen if military, commercial, humanitarian, and refugee demand for access to European lines of communication were to increase substantially in the context of potentially compromised infrastructure.

18. US officer assigned to NATO’s Joint Sustainment and Enabling Command, interview by the author, February 22, 2021.

Forces from the United States and NATO allies conducted a similar exercise in recent years: the Joint European Time-Phased Force Flow and Sustainment rehearsal of concept.¹⁹ This effort should be expanded into an exercise that includes nongovernmental aid organizations as well as relevant commercial entities, and it should better reflect the real world through consideration of China's role in European infrastructure.

Enhance Shared Understanding

In some cases, national or intergovernmental institutions in Europe are not motivated by the same incentives because they lack a shared understanding of the security environment. This lack of understanding can create vulnerabilities for Chinese entities to exploit. For example, in November 2020, Albania launched a tender for the construction of a 100-megawatt solar power plant in Durrës in the western-central part of the country. The second of two short-listed bidders was China-based Universal Energy Co., Ltd., a company with clear ties to the Chinese Communist Party (CCP). The Albanian government has concerns about Chinese investment in critical infrastructure, but European Bank for Reconstruction and Development rules did not allow Tirana to place restrictions on the tender. Because Albanian officials could not afford to ignore the wishes of the European Bank for Reconstruction and Development, which was supporting the

19. United States European Command, JETS ROC Drill (Stuttgart, DE: United States European Command, 2019), YouTube video, <https://www.youtube.com/watch?v=FdmxspRKR94>.

tender with technical assistance, the Chinese bid was permitted.²⁰

Ultimately, the other short-listed bidder won the tender thanks to a lower-priced offering. But this example shows the potential problems that can result from European entities at the state or intergovernmental levels not being motivated by the same incentives. These incentives can be shaped in part by increasing access to the same scope and scale of information on Chinese statecraft.

The EU and NATO can help to facilitate a more concerted multinational effort to illuminate supply chains and financing sources in infrastructure, dual-use technology, and raw materials industries. These efforts could be facilitated through a dedicated workstream within NATO's Joint Intelligence and Security Division or the EU's Hybrid Fusion Cell.

Relatedly, the United States, which arguably has the most rigorous apparatus for examining these vulnerabilities, should further amplify the outcomes of its investigations of the companies of foreign countries and adversaries by downgrading this information to the lowest classification level possible. This measure would make this information more widely releasable to NATO allies and other European nations facing similar risks.

20. Axel Reiserer, "EBRD-Supported Tender in Albania Delivers Competitive Price for Solar Power," European Bank for Reconstruction and Development (website), March 30, 2021, <https://www.ebrd.com/news/2021/ebdrsupported-tender-in-albania-delivers-competitive-price-for-solar-power.html>.

Provide Alternatives and Promote More Domestic Innovation

One of the major obstacles to Europe's ability and willingness to restrict Chinese technology and infrastructure investment has been the lack of available alternatives. In the technology sector, leveraging the collective power, common funding, and budgetary incentives of the EU and NATO, member governments should provide more start-up funds and accelerators that are accessible only to companies in EU and NATO countries to promote indigenous innovation and R&D in dual-use technology. Though these initiatives may not provide long-term solutions for competing with VC funding from abroad, they can make an important impact if orchestrated collectively.

In the infrastructure sector, although the United States is home to two private port operations companies, neither is very active internationally. Moreover, the United States lacks major shipping companies; meanwhile, of the world's top 20 largest shipping companies, four are Chinese. Europe has some major players in these sectors, including APM Terminals (Netherlands), Maersk (Denmark), and Eurogate Terminals (Germany).

Additionally, allied governments and NATO should increase efforts to seed their domestic dual-use and defense technology markets. This effort should involve connecting to the private sector early and often; clearly communicating capability priorities and requirements; and providing accessible opportunities for industry, including nontraditional companies, to readily sell into the alliance. Too often, national and international defense establishments

do not provide discernable paths to revenue for dual-use technology companies and start-ups, offering unattractive or unfeasible project timelines and forcing them to pursue alternative or foreign funding. To remedy this problem, allied countries should look to the Department of Defense, which has succeeded in attracting start-ups and nontraditional companies to its ecosystem through rapid awards, proof-of-concept contracts, and matching VC funds for start-ups.

To offset China's domination of critical minerals and raw material supply chains, the EU should establish a European joint investment fund to secure alternative sources of REEs and develop indigenous abilities to refine and process REEs. European leaders should also explore the potential for Europe to engage in the early stages of REE supply chains through the continent's primary resources (for example, metallogenic belts). All of these efforts should be coordinated with the US government—especially, considering the Biden administration's renewed push to develop secure and independent REE supply chains.

Routinize US-EU Coordination and Cooperation

Washington and Brussels have much room for improvement in transatlantic coordination on fending off China's predatory economic statecraft. In particular, the United States and the EU should look to bolster transatlantic dialogue, leverage and synchronize the soft power and regulatory power of both parties, engage in more joint planning sessions, and share strategic assessments about the implications of China's investment activity and other economic statecraft. The newly reenergized, high-level US-EU Dialogue on

China could provide one potentially useful avenue for discussing policy approaches between Brussels and Washington on a range of different issues. These discussions could address the alignment of foreign investment screening and technology export control regulations, the curbing of Chinese subsidies and theft of IP, pushing back against economic coercion, the diversification of supply chains, holding China accountable for its human-rights violations, and the coordination of a response to malign Chinese influence in international organizations. The trick would be for this new format to meet on a regular basis and at a sufficiently senior level.

In addition to engaging with Brussels, the United States should also use its bilateral relationships with individual European capitals and regional formats with groups of countries to carry out strategic conversations about China. For instance, as countries in Central and Eastern Europe are becoming more skeptical of China, platforms like the Visegrad Group and the Bucharest Nine could be particularly useful for US officials to emulate. Similarly, the EU three group of Germany, France, and the United Kingdom could be another helpful grouping for the United States to engage in on strategic issues pertaining to China as part of a reenergized, transatlantic Quad format.

Besides meetings at the leadership level, more frequent and extensive transatlantic policy planning sessions devoted to China and great-power competition are necessary to share strategic assessments and outlooks. The challenges China poses to Europe and the United States are becoming increasingly complex, difficult, and parallel. Only through careful coordination can the two partners effectively counter these challenges.

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