

Transatlantic Economic Statecraft

Different Approaches,
Shared Risk



By Kimberly Donovan, Maia Nikoladze, Nicole Goldin,
Mrugank Bhusari, Sarah Bauerle Danzman,
Ambuj Sahu, Daniel McDowell

Transatlantic Forum on GeoEconomics

This report was launched at the Transatlantic Forum on GeoEconomics in Berlin on September 22, 2023. In the heart of Berlin, the Atlantic Council's GeoEconomics Center and Atlantik-Brücke convened economic and financial leaders from both sides of the Atlantic to outline a way forward on the use of economic statecraft in foreign policy. This report offers the first step in developing a common operating picture on economic statecraft among transatlantic partners and understanding how economic and financial tools are used for achieving national security objectives, by whom, when, and what their impacts are.

Atlantic Council

The Atlantic Council is a nonpartisan organization that galvanizes US leadership and engagement in the world, in partnership with allies and partners, to share solutions to global challenges. The Atlantic Council provides an essential forum for navigating the economic and political changes defining the twenty-first century by informing its network of global leaders. Through the papers it publishes and the ideas it generates, the Atlantic Council shapes policy choices and strategies to create a more free, secure, and prosperous world.

The Atlantic Council's GeoEconomics Center works at the nexus of economics, finance, and foreign policy with the goal of helping shape a better global economic future. The Center is organized around three pillars – Future of Capitalism, Future of Money, and the Economic Statecraft Initiative.

Atlantik-Brücke

Founded in 1952, Atlantik-Brücke is a non-profit and non-partisan association committed to deepening cooperation between Germany, Europe and America. Transatlantic cooperation remains pivotal for global order and stability, now more than ever. With nationalist tendencies gaining popularity worldwide, Atlantik-Brücke has doubled down on its mission to solidifying relations across the Atlantic among policy-makers, industry leaders, journalists, academics, and civil society by offering a platform for different perspectives and lively debate. Atlantik-Brücke also fosters ties between young professionals and representatives of civil society through annual conferences and exchanges. The approximately 500 members of Atlantik-Brücke are decision-makers from business, politics, science and the media on both sides of the Atlantic.

ISBN: 978-1-61977-288-5

Cover: Image of the Oberbaum Bridge in Berlin, during a dramatic sunset. RudyBalasko via iStock.

TABLE OF CONTENTS

Introduction	2
Chapter I: Building Common Ground: Assessing US	4
and European Tools of Economic Statecraft	
Capabilities and Organizational Structures of the	6
US, EU, and UK's Sanctions Authorities	
Equities and Vulnerabilities: When Transatlantic	13
Economic Statecraft Approaches May Not Align	
A Common Narrative: Areas of Foreign Policy	15
and Sanctions Regime Alignment	
Building Common Ground: The Need for	16
Multilateralism in Economic Statecraft	
Chapter II: Positive Economic Statecraft:	17
Wielding Hard Outcomes with Soft Money	
What is (and What is Not) Positive Economic Statecraft	18
Why it Matters Now	18
How is Positive Economic Statecraft Operationalized?	20
Path Forward for Positive Economic Statecraft	23
Chapter III: Networked Power:	26
Export Control Policy Across the G7	
How Networks Model Power and Dependency	29
Hierarchical Networks are Easier to Leverage	30
The US, Japan, and the Netherlands	31
Jointly Have Supplier Centrality	
No Evidence that Export Controls Have	33
Eroded the US' Central Position	
Appendix: Data and Methodology	36
Chapter IV: New Era of Financial Sanctions:	38
Adapting to Anti-Dollar Policies	
The Sanctions Obsession	39
Russia's Anti-Dollar Strategy	40
China Seeks to Internationalize its Yuan	45
Adjusting Sanctions Policy to the Anti-Dollar Era	48
Conclusion	50
Acknowledgments	51



INTRODUCTION

Economic statecraft, or leveraging economic power to achieve foreign policy and national security objectives, dates back to Greco-Roman times. Modern economic statecraft and its associated tools, including financial sanctions and export controls, as well as positive inducements, were born out of World War I and refined by the Allies during World War II to protect their assets held in Nazi-occupied territory and eventually to bolster European economies that were devastated during the war. Since then, governments and multilateral organizations have expanded their authorities and capabilities to leverage economic statecraft tools to protect their nation's security, advance foreign policy and economic objectives, and stabilize partners and allies' governments and economies.

Viewed as more than diplomacy, but short of military intervention, economic statecraft has become the West's tool of first resort to address national security threats and change an adversary's behavior. Sanctions are used to disrupt terrorist groups, transnational criminal organizations, and illegal traffickers as well as deny regimes access to the international financial system and restrict their ability to move funds. Economic statecraft has gained significant attention over the past year and a half as a result of the Group of Seven (G7) and broader coalition's economic response to Russia's invasion of Ukraine. G7 and coalition partners levied significant coordinated sanctions and export controls on Russia to freeze Russian assets, reduce their economic dependency on Russia, and degrade Russia's ability to import military grade components needed to pursue its war.

The economic statecraft landscape is becoming more complex as transatlantic partners increasingly leverage the tools to counter transnational threats. There is a growing need to understand how these tools are used, by whom, and when, as well as their intended and real impacts worldwide.

This report offers the first step in developing a common operating picture on economic statecraft and how it is used in practice by transatlantic partners. The first half of the report focuses on coercive and



Image of the Oberbaum Bridge in Berlin, during a dramatic sunset. RudyBalaska via iStock.

positive tools of economic statecraft. The second half is organized around the effects and potential implications of export controls and financial sanctions.

In chapter one, "Building Common Ground: Assessing US and European Tools of Economic Statecraft," Kimberly Donovan and Maia Nikoladze examine how the United States, the United Kingdom, and the European Union (EU) are organized to develop sanctions and export controls and identify critical aspects that are needed for successful coordination and implementation of statecraft tools.

In chapter two, "Positive Economic Statecraft: Wielding Hard Outcomes with Soft Money," Nicole Goldin and Mrugank Bhusari define positive economic statecraft (PES) from the US and EU perspectives and offer a way forward to leverage PES as an approach for achieving foreign policy, national security, and economic objectives.

Sarah Bauerle Danzman and Ambuj Sahu use network analysis techniques to assess the effect of export controls and related tools on the global semiconductor supply chain in chapter three, "Networked Power: Export Control Policy Across the G7."

And, in chapter four, "New Era of Financial Sanctions: Adapting to Anti-Dollar Policies," Daniel McDowell examines anti-dollar policies and encourages Washington to reconsider when and how it uses financial sanctions to avoid weakening the coercive capabilities that the US derives from the preeminence of the dollar in the global economy.

Transatlantic partners will continue to use economic statecraft tools to advance foreign policy and economic objectives and counter transnational threats. We must understand these tools, their impact, and potential risks so we may anticipate how they may be applied in the future.



Ursula von der Leyen, Joe Biden, Rishi Sunak, Charles Michel, and Volodymyr Zelenskyy (from right to left) meet at the 2023 G7 Summit in Hiroshima, Japan on May 20, 2023. EC-Audiovisual Service/Dati Bendo.

CHAPTER I

BUILDING COMMON GROUND: ASSESSING US AND EUROPEAN TOOLS OF ECONOMIC STATECRAFT

by Kimberly Donovan and Maia Nikoladze

Within days of invading Ukraine, Russia was locked out of the global financial system in an unprecedented act of coordinated economic statecraft. The European Union (EU), the United Kingdom, and the United States, in collaboration with their Group of Seven (G7) allies, executed major multilateral sanctions against Russia to try and change Vladimir Putin's behavior and drain Russia's war chest. As a result of these sanctions, Russian sovereign assets were immobilized and Russian companies and individuals facilitating Russia's war effort were denied access to the global financial system. These wide-ranging economic measures would not have been possible without Western allies' alignment on foreign policy objectives, their dominant role in the international financial system, and the preeminence of their currencies in the global economy. However, transatlantic alignment is not a foregone conclusion: Success going forward requires careful consideration of the legal and political constraints that limit policy makers and which could undermine future coordination.

A successful transatlantic approach to economic statecraft depends on three critical pillars: (1) the authorities, capabilities, and organizational structure of the competent authorities within each jurisdiction to levy

Table 1: Major US, UK, and EU Sectoral Sanctions and Export Controls Against Russia
■ ANNOUNCED OR IMPLEMENTED ■ NOT ANNOUNCED

Restriction	United States	United Kingdom	European Union
Russian oil imports, oil price cap	Yes	Yes	Yes
Maritime services for Russian oil exports	Yes	Yes	Yes
Russian gas imports	Yes	Yes	No
Russian coal imports	Yes	Yes	Yes
Russian gold imports	Yes	Yes	Yes
Russian metals imports (iron and steel)	No	Yes	Yes
Export of metals to Russia	No	No	No
Export of luxury goods to Russia	Yes	Yes	Yes
Import of luxury goods to Russia	Yes	Yes	Yes
Export of technology to Russia	Yes	Yes	Yes
Broadcasts by Russian state-owned media	Yes	Yes	Yes
Export of professional services to Russia	Yes	Yes	Yes
Russian access to IMF/World Bank Funds	Yes	Yes	Yes
Restrictions on Sovereign Debt	Yes	Yes	Yes
Russian banks' correspondent banking accounts	Yes	Yes	No
Russian banks' access to SWIFT	Yes	Yes	Yes
Revocation of Most Favored Nation status	Yes	Yes	Yes

NOTES: The table reflects restrictions in place as of April 11, 2023.

SOURCE: Maia Nikoladze, Charles Lichfield, and Kimberly Donovan. Russia Sanctions Database, Atlantic Council, September 8, 2022. <https://www.atlanticcouncil.org/blogs/econographics/russia-sanctions-database/>; Castellum.AI. Accessed August 28, 2023. <https://www.castellum.ai>. The database was last updated on April 17, 2023.

and enforce economic tools, (2) an understanding and recognition of transatlantic partners' equities and vulnerabilities associated with implementing economic measures, and, most importantly, (3) a common narrative or shared understanding of transnational threats and alignment in the foreign policy objectives to address them.

All three pillars will be required to reduce the risk of sanctions evasion. While sanctions evasion persists, officials on both sides of the Atlantic have lauded the development and implementation of multilateral sanctions to counter Russia's invasion of Ukraine as a successful example of economic statecraft—the use of economic power for achieving foreign policy objectives.

This chapter provides an overview of the US, the EU, and the UK's organizational approaches to economic statecraft, focusing on financial sanctions and export controls. This is a first step in identifying where and when approaches diverge and align so that we may level set expectations and continue building common ground on what may be achievable through the multilateral use of economic statecraft going forward.

Capabilities and Organizational Structures of the US, EU, and UK's Sanctions Authorities

The United States' approach to economic statecraft

Economic statecraft is the means by which a government can apply economic measures to protect national security and advance foreign policy goals. In the United States, the economic statecraft toolkit includes restrictive measures pursuant to legislation, executive orders, and regulation, that are generally applied to change an actor's behavior. These mechanisms include, but are not limited to, financial and economic sanctions, export controls, investment screening, trade agreements and embargoes, and regulatory and law enforcement action. The US toolkit also includes positive measures and inducements, such as foreign aid and capacity building to bolster partners' capabilities, develop their economies, and promote democratic ideals.¹

Through legislative action, the US Congress can create new sanctions authorities or issue exemptions on existing sanctions designations.² As an example, the International Emergency Economic Powers Act (IEEPA) provides the president of the United States the authority to declare a national emergency and direct the Department of the Treasury, in consultation with the Departments of State and Justice, to issue sanctions to block property and freeze assets to disrupt, deter, or degrade the national security threat.³ The IEEPA, and other US laws, provided the president the authority to issue Executive Order 13660 on March 6, 2014, from which Treasury's Office of Foreign Assets Control derived powers to designate foreign entities and individuals involved in violating the sovereignty and territorial integrity of Ukraine.⁴ Meanwhile, in addition to its Bank Secrecy Act regulatory responsibilities, Treasury's Financial Crimes Enforcement Network exercises regulatory powers under the USA Patriot Act to identify money-laundering threats to the US financial system.⁵ The Department of Commerce administers US laws and regulations, such as the Export Administration Regulations on the export of goods and technology, to protect national security interests and advance US foreign policy.⁶ The authority to enforce these actions resides within components of the Departments of the Treasury, Commerce, and Justice, among others.

The US' approach to financial sanctions

While the United States has leveraged its economic power to advance foreign policy objectives and protect its national security for decades, the US sanctions regime, specifically economic and financial sanctions as we know them today, were developed out of the US response to the September 11, 2001, terrorist attacks and the creation of the Office of Terrorism and Financial Intelligence within the Treasury. Following the money and disrupting the financing and financial ties of terrorist groups, such as al-Qaeda, the Islamic State of Iraq and al-Sham, and Lebanese Hezbollah, and their facilitators became a primary objective within the US counterterrorism strategy. Targeting these individuals and networks with financial sanctions denied them access to the international financial system and disrupted their ability to raise, move, and use funds, which degraded their ability to carry out attacks and recruit fighters.

Targeted financial designations, as part of broader, whole-of-government strategies, proved to be an effective measure by which to counter terrorism as well as proliferation networks, narcotic traffickers,



President of the European Commission Ursula von der Leyen speaks with US President Joe Biden at the meeting of G20 leaders on November 15, 2022, in Bali, Indonesia. Leon Neal/Pool via REUTERS

transnational criminal organizations, cyber criminals, and adversarial regimes that posed a threat to US national security. These tools expanded over the years and became more sophisticated as illicit actors developed ways to circumvent and evade sanctions. New tools were developed and old tools were applied in new ways to use the power of the US financial system and strength of the US dollar and economy to advance US foreign policy and national security objectives.

The United States promotes and implements United Nations (UN) sanctions and issues unilateral sanctions to disrupt illicit actors that pose a threat to its national security and to protect the US financial system from abuse by these actors.⁷ Recognizing the success of sanctions in denying illicit actors access to the financial system, the United States often encourages its partners to join in US sanctions or issue their own restrictive economic measures when foreign policy objectives align. In several instances, the United States helped partner nations create the tools and authorities they needed to issue sanctions of their own.

Short of military engagement but more than diplomacy, financial sanctions have been most successful in cases where objectives were clearly and narrowly defined. According to the Treasury's assessment, sanctions succeeded in bringing Iran to the negotiating table on its nuclear program in 2015, dismantling the Cali Cartel, protecting Libyan assets from misappropriation by government officials after Moammar Gadhafi's fall in 2011, and disrupting Lebanese Hezbollah's funding streams.⁸

The US' approach to export controls

Export controls became more prominent in the US economic statecraft toolkit following Russia's invasion of Ukraine in 2022 and the US technology competition with China. While financial sanctions cut off designated entities and individuals from the global financial system, export controls aim to prevent adversaries or competitors from physically acquiring components. The United States and its G7 allies leveraged multilateral export controls to restrict the flow of dual-use technology to Russia and curb Russia's military production. Further, the United States, the Netherlands, and Japan have levied export controls to prevent sophisticated technology that could be used for military purposes from getting to China.⁹

Apart from being a member of multilateral export control regimes, such as the Wassenaar Arrangement, the Nuclear Suppliers Group, the Australia Group, and the Missile Technology Control Regime, the United States also maintains autonomous export control authorities.¹⁰ The Commerce Department's Bureau of Industry and Security (BIS) administers US regulations governing the export of dual-use technologies and other commodities. It maintains a list of items that should not be exported without obtaining a license, also known as the Commerce Control List.¹¹ BIS also maintains an Entity List, which includes the names of entities and individuals that are subject to specific license requirements for the export of specified items.¹²

Against the backdrop of escalating technological competition between the United States and China, the Commerce Department has come under scrutiny for its ability to enforce its authority and for being unsuccessful in tightening the export of foundational technologies to the countries of concern.¹³ Some members of Congress have gone as far as to suggest shifting export control authorities to the Department of Defense. Admittedly, BIS' budget has not increased commensurate with its role in national security.¹⁴ Nevertheless, the Commerce Department has taken action to address some of these concerns. For example, it recently launched the Disruptive Technology Strike Force jointly with the Department of Justice to prevent adversarial states such as Russia and China from getting their hands on advanced US technology.¹⁵

Export control is a powerful tool, capable of degrading an entire nation's technological progress. The US government should ensure that this tool evolves in conjunction with European and British allies while taking into account their perspectives and concerns.

The European Union's approach to economic statecraft

The European approach to economic statecraft is dominated by the EU's position on a free market and fair competition, but it also acknowledges that the current rules-based order is being challenged by the weaponization of energy and supply chains by countries like Russia and China.¹⁶ While the conversation on US economic statecraft tends to be dominated by sanctions and coercive measures, the EU has historically put more emphasis on open trade as a key element of its foreign policy and has not leveraged financial sanctions to the extent that Washington has for advancing foreign policy objectives. However, over the course of developing sanctions and other economic measures in response to Russia's invasion of Ukraine, the EU has shown a willingness to leverage its economic power to address transnational threats and also an appreciation of economic statecraft as necessary tool if the EU is to play a greater role as a global strategic actor.

The EU's doctrine of economic statecraft is based on four pillars: (1) protecting the level playing field between the internal market and third countries, (2) ensuring reciprocity, (3) deploying assertive instruments against coercion and aggression, and (4) developing partnerships. The first pillar is focused on trade defense instruments. The EU, in fact, launched one hundred and sixty anti-dumping and twenty anti-subsidy measures just in 2021.¹⁷ The second pillar of the doctrine establishes that just as the EU gives foreign companies access to its public procurement, third countries should also open their procurement markets to European companies. The third pillar, which is perhaps most similar to US economic statecraft, focuses on assertive measures such as sanctions and strong industrial policy. Meanwhile, the fourth pillar focuses on developing partnerships and increasing development aid to third countries, which is an area the United States also needs to work more on, and thus presents an opportunity for collaboration between Washington and Brussels.

While the United States can be quick to take action and impose restrictive measures to address national security threats, the nature of the EU and its twenty-seven member states generally requires that it take a more strategic and thoughtful approach to economic statecraft and prioritize developing solid frameworks that account for member state equities before taking action. That said, the EU, rather uncharacteristically, acted quickly in response to Russia's invasion of Ukraine on February 24, 2022, and executed substantial restrictive economic measures to freeze and block Russian assets within the EU's jurisdiction. The EU's actions toward Russia demonstrated its willingness and ability to move fast when there is common view of the threat and foreign policy alignment.

The EU's approach to financial sanctions

The EU's process of developing sanctions packages and enforcing them is more complex than that of the United States. In the United States, although the legislative branch passes laws from which the executive branch derives authorities, designation, implementation, and enforcement of sanctions packages is the responsibility of the executive branch. The EU's process is legislative—member states must unanimously agree on a designation, then the states' domestic agencies have to implement it. As a result, any policy divergences among the twenty-seven EU member states can lead to delays in sanctions designations and implementation or refraining from sanctions altogether.¹⁸

Similar to the United States, the EU's financial sanctions primarily developed as a means to counter the financing of terrorism. In December 2001, the EU adopted Common Council Position 2001/931/CFSP outlining criteria for designating those involved in terrorism and adopted Council Regulation (EC) No 2580/2001 to freeze terrorist assets within the EU's jurisdiction in order to implement UN Security Council Resolution 1373.¹⁹ Since then, EU sanctions programs have expanded and currently count forty different sanctions regimes, including those mandated by the UN as well as the EU's autonomous lists.²⁰

Officially, several steps are necessary for the EU to impose an "Autonomous Restrictive Measure" independent of the UN. The EU's Common Foreign and Security Policy procedure demands that the measure be proposed by the high representative for foreign affairs, then examined by member states' representatives in several working groups, and then adopted unanimously by the European Council.²¹ The unanimity requirement can make the sanctions designation process especially challenging for the council.

In addition to the EU-level approach, some EU member states, including, but not limited to, France, Poland, and the Czech Republic, are individually taking steps to develop unilateral economic statecraft capabilities to further protect their national interests and financial systems and address areas where they deem the EU process to be insufficient.

While EU sanctions regulations leave little room for interpretation, member states are still responsible for their implementation. This creates discrepancies in sanctions enforcement across the EU member states' jurisdictions. The European Commission is currently working on making sanctions evasion an EU crime with a harmonized penalty structure and a new mandate for the European Public Prosecutor's Office.²²

The EU's approach to export controls

Similar to the United States, the EU is a member of multilateral export controls regimes, such as the Wassenaar Arrangement. EU member states can volunteer to implement export controls on items agreed upon by the Wassenaar Arrangement. They also have a competency to impose additional controls on items not covered by the arrangement. Unlike the United States, the EU has maintained a country-agnostic approach to export controls and has not created EU-level authorities to impose export controls against specific countries like Russia and China.²³ This is why the EU leveraged its Russia sanctions regime to impose controls on technology exports to Russia in 2022 instead of using export control authorities.



US Secretary of Commerce Gina Raimondo and European Commission Executive Vice-President Margrethe Vestager participate in a US - EU Stakeholder Dialogue during the Trade and Technology Council (TTC) Ministerial Meeting at the University of Maryland in College Park, Maryland, US, December 5, 2022. Saul Loeb/Pool via REUTERS

While the United States continues to leverage export controls as a means to ensure fair competition with China over technology innovations, the EU is concerned about being dominated by Washington's tech export control policy vis-à-vis China.²⁴ Hence, the EU acknowledges that being part of multilateral regimes such as the Wassenaar Arrangement, where Russia is a member state with veto power, is no longer adequate for dealing with the potential threat of being caught in the cross fire between Washington and Beijing. Brussels needs to develop a doctrine to identify which technologies it is willing to export and where, as well as legal and administrative capacities for export controls implementation.²⁵ To this point, the EU's most recent Economic Security Strategy states that the member states and the European Commission will deepen their analysis of the resilience of supply chains and emerging technology security threats.²⁶

The United Kingdom's approach to economic statecraft

The UK's economic statecraft system is similar to that of the United States. A legislative framework, the Sanctions and Anti-Money Laundering Act of 2018 (SAML), provides government ministries with authorities to leverage sanctions and protect the UK's financial system.²⁷ Before Brexit, the UK developed sanctions through the EU's process and implemented EU sanctions regimes. After Brexit, the UK leveraged its domestic authorities to develop its own sanctions lists and processes for issuing sanctions.

Although its unilateral sanctions process is relatively new, the UK has leveraged its experience in developing and implementing EU sanctions to create a new economic statecraft structure and refine its approach. As part of its 2023 Integrated Review, the UK outlined its goals related to economic statecraft, seeking an approach to deterrence and defense against transnational threats and economic coercion, while managing systemic competition, ensuring economic resilience, and shaping an open global economy and free trade.²⁸

The UK's approach to financial sanctions

SAML provides UK government ministries the authority to develop country-specific or thematic, such as counterterrorism or anti-corruption, sanctions regulations and designations, which may include financial, immigration, and trade sanctions. The UK's financial sanctions authority resides in the Sanctions Unit in the Foreign, Commonwealth and Development Office (FCDO). The Sanctions Unit holds primary responsibility for the use of sanctions as part of British foreign policy and maintains the UK Sanctions List.²⁹ The UK Sanctions List includes unilateral sanctions issued by the UK as well as UN sanctions and the sanctions it implemented when the UK was part of the EU.

Meanwhile, the Office of Financial Sanctions Implementation (OFSI) within His Majesty's Treasury is responsible for designing, implementing, and enforcing asset freezes and capital market restrictions using civil enforcement procedures. Individuals and entities subject to these restrictions are included in OFSI's Consolidated List.³⁰ Further, enforcement of financial sanctions within the UK is managed through investigative and prosecutorial agencies, including the National Crime Agency, the Serious Fraud Office, and the Crown Prosecution Service, among others.

In designing SAML, the UK accounted for lessons learned from its experience developing and implementing EU sanctions and created efficiencies for its own system. For example, SAML provides a lower threshold for imposing sanctions than EU law. The UK can issue sanctions, including asset freezes and



British Prime Minister Rishi Sunak and European Commission President Ursula von der Leyen shake hands as they hold a news conference at Windsor Guildhall, Britain, February 27, 2023. Dan Kitwood/Pool via REUTERS

travel bans, when there are “reasonable grounds to suspect” that an individual is involved in a sanctioned activity.³¹

The UK continues to refine its sanctions authorities to create flexibility and efficiencies in how it leverages and enforces its tools. For example, the UK passed the Economic Crime (Transparency and Enforcement) Act of 2022 (ECA) to provide OFSI the authority to issue civil monetary penalties for sanctions violations, similar to the US approach. The ECA also created the ability for the UK to sanction individuals and entities if they have already been designated by another government, such as the United States, the EU, Australia, or Canada, on a temporary basis and until the relevant ministry can follow its standard process to issue a designation. Further, in the 2023 Integrated Review, the UK announced a new Economic Deterrence Initiative (EDI) to advance the impact of its economic statecraft toolkit by expanding resources and capabilities to implement and enforce UK trade, transport, and financial sanctions.

The UK’s approach to export controls

The legal framework for the UK’s export control regime is primarily derived from the Export Control Act 2002 and Export Control Order 2008.³² In 2016, the UK established the Export Control Joint Unit under the Department for International Trade, now the Department for Business and Trade (DBT). The DBT, in coordination with the Ministry of Defence and the FCDO, maintains the authority to implement prohibitions on the export of certain goods or technologies and issue export licenses consistent with the Strategic Export Licensing Criteria.³³ His Majesty’s Revenue and Customs is responsible for enforcing the export and trade controls.

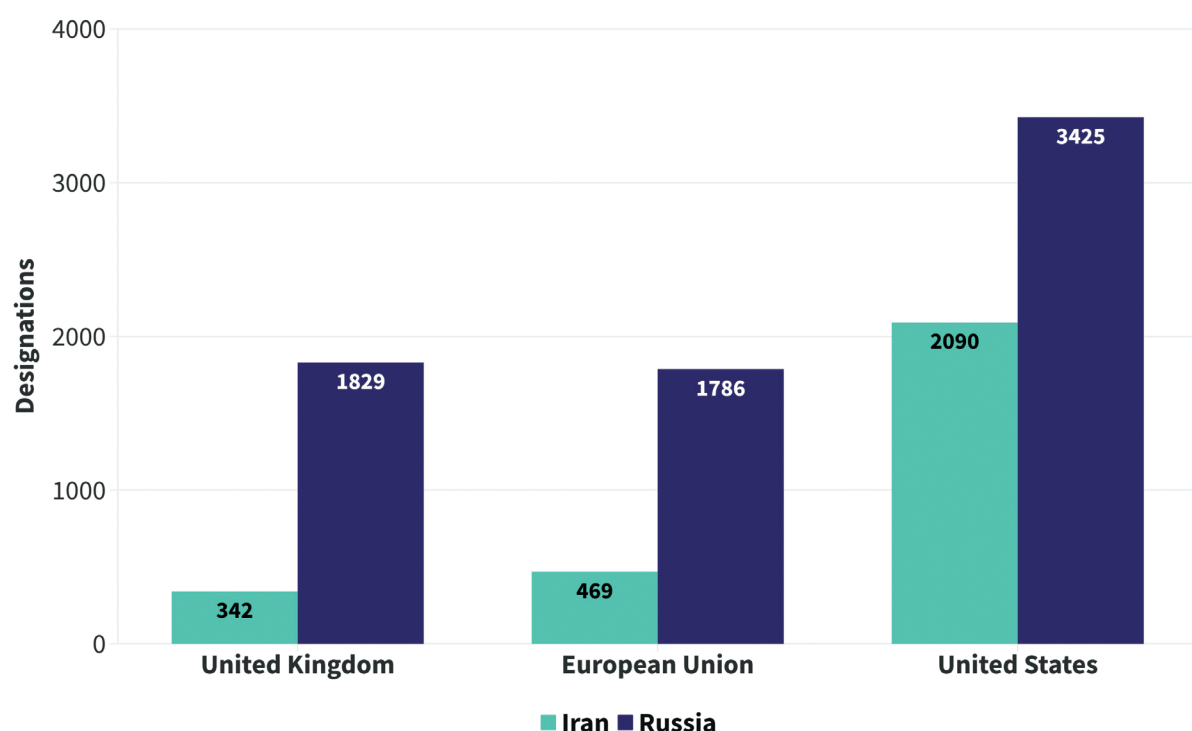
The UK recognizes more can be done to improve its export controls toolkit and through the EDI is seeking to update its regime to address sensitive technology and increase collaboration with international partners to ensure multilateral controls are effective.

Equities and Vulnerabilities: When Transatlantic Economic Statecraft Approaches May Not Align

Transatlantic partners frequently find ways to work together on economic statecraft initiatives when policies and goals align. However, recent history provides examples when transatlantic approaches to economic statecraft have diverged and created or exposed partners' economic vulnerabilities, potentially harming their equities.

In some cases, friction has emerged between the EU and the United States over Washington's use of economic tools that have adversely impacted European businesses. For example, after the Trump administration withdrew from the Iran nuclear deal, formally known as the Joint Comprehensive Plan of Action, in 2018, and the United States imposed secondary sanctions on Iran, European businesses operating in Iran were given a choice of either staying in Iran and risk sanctions or maintain access to the dollar-dominated financial system.³⁴ Since losing access to the dollar was more harmful than losing access to the Iranian market, European companies complied with US sanctions. However, this created anti-dollar sentiment in Europe and in 2019, the EU agreed to be invoiced by the Russian energy giant Gazprom in euros instead of dollars.³⁵

Figure 1: US-UK-EU Sanctions against Russia and Iran



Notes: The chart reflects the number of designations of Russian and Iranian entities and individuals on June 30th, 2023.

Source: Castellum.AI. Accessed August 18, 2023. <https://www.castellum.ai>

More recently, in October 2022, the United States invoked the extraterritorial Foreign Direct Product Rule (FDPR) to limit the export of highly advanced semiconductors to China.³⁶ The FDPR requires companies, even those outside the United States, to obtain a license before exporting high-end semiconductors to China if they used US software or hardware in the production process. The FDPR affected European companies that had to comply with US export controls and created tension among the United States and its European allies. The EU became concerned that Washington would increasingly use extraterritorial measures to pressure allies into aligning with its China policy.³⁷

Also in 2022, the United States adopted the Inflation Reduction Act (IRA), which includes elements that are concerning to the EU and the UK, such as local-content requirements prohibited under the World Trade Organization's rules.³⁸ The EU is vehemently opposed to the IRA's protectionist elements, such as subsidies that discriminate against foreign companies, and it worries that it will trigger protectionism among other countries, countering the EU's strategy of trade openness and reciprocity among countries.

Meanwhile, the EU's Anti-Coercion Instrument (ACI), which will enter into force this fall, could be used against the United States and the UK, in addition to China.³⁹ The ACI enables the European Commission to impose tariffs and restrictions on foreign direct investment and procurement in response to third countries' coercive measures after diplomatic means have been exhausted.⁴⁰ The commission will be in charge of determining whether a third country's behavior is coercive. Once member states agree with the determination, the commission, the European Parliament, and member states will prepare a package of countermeasures against the coercing country.⁴¹

The lack of transparency over the criteria for the ACI's application, along with the EU's new unilateral approach to economic statecraft, was criticized by scholars in the UK as a potential harm to the rules-based global trading order.⁴² Also, the EU could use the ACI against the United States if Washington continues threatening it with tariffs. For example, in 2021, Washington threatened to impose tariffs against France, Italy, Spain, Austria, and the UK if they refused to withdraw newly introduced digital taxes on US tech giants. The European states eventually agreed to end taxes.⁴³ Although the goal of the ACI is to deter the United States and third countries from making such threats, application of the instrument could quickly turn into a cascade of tit-for-tat measures imposed by Western allies against one another.

Concerns about the EU's unilateral approach to economic statecraft are valid; however, the EU could argue that no event has shaken the foundations of transatlantic unity as Brexit has. Brexit reduced bilateral trade between the EU and the UK by an estimated 20 percent as of October 2022 and took out the UK, a major influencer, from the EU's sanctions designation and implementation process.⁴⁴ The UK helped shape the EU's cyber and chemical weapons sanctions regimes. It also played a major role in developing the EU's sanctions response to Russia after Russia annexed Crimea in 2014.⁴⁵ After Brexit, the UK created autonomous sanctions authorities while the EU lost a significant contributor to the sanctions designation and implementation process. In the future, as the UK develops its sanctions enforcement framework independently from the EU, UK-EU cooperation on enforcement may become even more challenging.⁴⁶

A Common Narrative: Areas of Foreign Policy and Sanctions Regime Alignment

Despite divergences and frictions, Washington, Brussels, and London have been successful in developing and implementing well-coordinated, multilateral economic measures when they have shared a common narrative and their foreign policy objectives were fully aligned. The most recent example is Russia, where both sides of the Atlantic came together to levy unprecedented financial sanctions to deny Russia access to the funds it needs to pursue its war in Ukraine and imposed export controls to curb Russia's access to the materials and weapon components it needs for waging the war.

Transatlantic partners were able to take fast, coordinated action against Russia because they had a common narrative and understanding of the transnational threat Russia's actions posed to the accepted international rules-based order. They also agreed that something had to be done. Partners used existing mechanisms to share information on Putin's intentions and expanded or created new channels for sharing actionable financial information to develop and implement coordinated economic measures.⁴⁷

Partners used their financial sanctions authorities to target Russian assets within their jurisdictions and made it more difficult for designated individuals and entities to move or transfer funds. Partners also worked together to share best practices and build capacity for implementing sanctions and export controls. Importantly, partners took their time and strategically approached actions that exposed their countries' vulnerabilities. For example, the oil price cap was rolled out over several months to prevent spikes in oil prices and provide countries time to develop alternative solutions to Russian oil.

Beyond Russia, the United States, the UK, and the EU have a history of collaborating on countering illicit finance and financial crime such as ransomware, human trafficking, and transnational organized crime—areas where their policies happen to be fully aligned. All sides agree that the threats emanating from letting illicit actors abuse the global financial system are substantial and require coordination in sanctions designation and implementation.

Interagency coordination on implementing sanctions against terrorists, cybercriminals, narcotics traffickers, and transnational criminal organizations has built a strong framework of cooperation on sanctions enforcement across the Atlantic. For example, in 2022, the US Treasury designated Russia-based Hydra, the world's largest darknet market, and Garantex, a ransomware-enabling digital currency exchange. US agencies, including the US Treasury, Departments of Justice and Homeland Security, teamed up with German Federal Criminal Police to shut down Hydra servers in Germany and seize their \$25 million in Bitcoin. Similarly, the Treasury coordinated with Estonia's Financial Intelligence Unit to reveal connections between Garantex and digital wallets used by criminals and designated the exchange for operating in Russia's financial services sector.⁴⁸ The history of cooperation on sanctions against transnational threat actors has built a strong foundation for transatlantic partners to cooperate on sanctions designations and enforcement in the future.

Building Common Ground: The Need for Multilateralism in Economic Statecraft

Economic statecraft as a means to advance foreign policy and protect national security below the threshold of armed conflict continues to evolve as transnational threats arise. Although transatlantic partners' economic statecraft tools and procedures are in different stages of development and are built and executed in very different structures, the G7 and allies' response to Russia's invasion of Ukraine demonstrated how multilateral economic statecraft can be leveraged against transnational threats when there is a common narrative, partners' equities and vulnerabilities are accounted for, and foreign policy objectives align.

The interconnectedness of the global economy and financial system require coordinated multilateral action if economic tools continue to be leveraged for advancing foreign policy objectives. However, this multilateral action cannot be meaningfully developed and implemented without greater transatlantic coordination on the strategic use of these tools and mechanisms to deconflict equities and objectives.

A common narrative and shared understanding of the transnational threat and how transatlantic partners will address it is integral for the successful development and execution of economic statecraft tools. Developing this common ground requires greater information sharing among partners and ensuring appropriate channels exist to enable the consistent and real-time sharing of actionable information with the relevant authorities in each jurisdiction.

In addition to greater coordination on strategy and information sharing, transatlantic partners must understand and consider their unique and shared vulnerabilities associated with the implementation of economic statecraft tools. Partners must develop the capabilities to assess the potential impact of economic statecraft tools on themselves, allies, the broader international community, and the global economy. Otherwise, they run the risk of overextending these tools, unintentionally damaging their own or partners' economies and populations, and potentially degrading the strength of the US dollar, the British pound sterling, and the euro.⁴⁹

Further, greater coordination on sanctions and export controls enforcement is needed to ensure these actions are consistently implemented and carry consistent penalties so illicit actors cannot abuse individual jurisdictions to evade or circumvent multilateral sanctions.



US Secretary of State Antony Blinken visits a UN Logistics Center Warehouse accompanied by USAID/Ethiopia Mission Director Sean Jones and Ethiopian Minister of Finance Ahmed Shide, in Addis Ababa, Ethiopia March 15, 2023. REUTERS/Tiksa Negeri/Pool

CHAPTER II

POSITIVE ECONOMIC STATECRAFT: WIELDING HARD OUTCOMES WITH SOFT MONEY

by Nicole Goldin and Mrugank Bhusari

As discussed across the chapters of this volume, economic statecraft is the use of economic instruments in foreign policy and national security.⁵⁰ Though not new, it has been gaining traction as a framework for analysis and policymaking in international relations discourse and practice since the 1970s. However, as economic statecraft has come of age, it has largely focused on sanctions, controls, and tariffs. While such “sticks” may necessarily take prominence, the global landscape and nature of strategic competition calls for more “carrots.” Punishment tends to inspire resentment, resistance, and a “rally around the flag” effect within the target state, particularly in authoritarian regimes, while rewards are unlikely to produce defensive reactions.⁵¹ Positive economic statecraft (PES) aggregates diverse economic techniques and instruments of statecraft associated with rewards and incentives under one umbrella. This chapter suggests fundamentals of PES from the perspectives of the United States and the European Union (EU) and offers a way forward to amplify such statecraft as an approach to achieving foreign policy, national security, and economic objectives.

What is (and What is Not) Positive Economic Statecraft

PES is the deployment of economic tools by a government to influence the actual or potential behavior of another government by providing or promising it rewards and benefits. In essence, PES aims to alter the cost-benefit calculations of another state's given policy option by augmenting the benefits of that policy option. Common instruments of PES come from official international assistance or humanitarian aid (grants, capacity building, technical, budget support); development finance (loans, credit or guarantees, public-private partnerships); providing access to currency, trade, preferential tariffs, and subsidies. These tools can be used to impact both the intentions and the capabilities of the target state. Most commonly, one state seeks a behavior or policy change in another, though PES can be deployed multilaterally as well.

This conceptualization of PES emphasizes both means and ends, and there are limiting factors of the approach. Only economic or financial policy instruments (means) are considered, and they must be applied to either provide or promise inducements (ends).

Similarly, in the context of "statecraft," only government actors wield PES in an effort to elicit a particular response or behavior from another government. Non-state actors, including individuals, multinational corporations, international organizations, and nongovernmental organizations, are not the direct subject of influence under PES but can be both contributors to or indirect beneficiaries of such statecraft. This conception is broad so that it can capture the myriad of ways a state may attempt to use economic incentives to influence the actual or potential behavior of another state.

Another limitation on PES is that the reversal or withdrawal of punitive measures does not constitute such statecraft, even when it is framed as the bestowal of a reward because withdrawal of punitive measures is part of the logic of those measures. The imposition of costs is not intended to be permanent. Once an undesired policy option is dropped by the target, the costs imposed in association with the (potential) adoption of the undesired policy are also to be withdrawn. Hence, such reversals do not fit within the parameters of PES.

Many of these tools have traditionally been analyzed through the lens of soft power, and there is indeed overlap. A key difference between soft power and PES, however, is that under the latter paradigm, such endeavors must be actively undertaken by a government and with the intention of achieving a specific behavior or outcome. Soft power, in contrast, includes actions undertaken by non-government actors. It does not require intentionality in achieving particular policy, behavioral, or attitudinal outcomes.

Why it Matters Now

Responding to polycrisis and mitigating global risks: The full fallout in terms of economic and societal upheaval as a result of the COVID-19 pandemic and conflict is only starting to become clear. Inflation is just starting to cool from record highs that undermined inclusive growth in advanced and developing economies alike and historically declining global poverty has been reversed as more than seventy million people were pushed into extreme poverty in 2020.⁵² Russia's full-scale invasion of Ukraine in 2022 then sent global prices of food, fuel, and fertilizer skyrocketing. Extreme weather events, such as droughts, floods, heat, and dryness, are leaving a deep impact on agriculture, livelihoods, and physical infrastructure. Inequality within and between countries has worsened and existing socioeconomic divides have been exacerbated. Youth and women disproportionately bear the costs of the crisis.⁵³ Governments

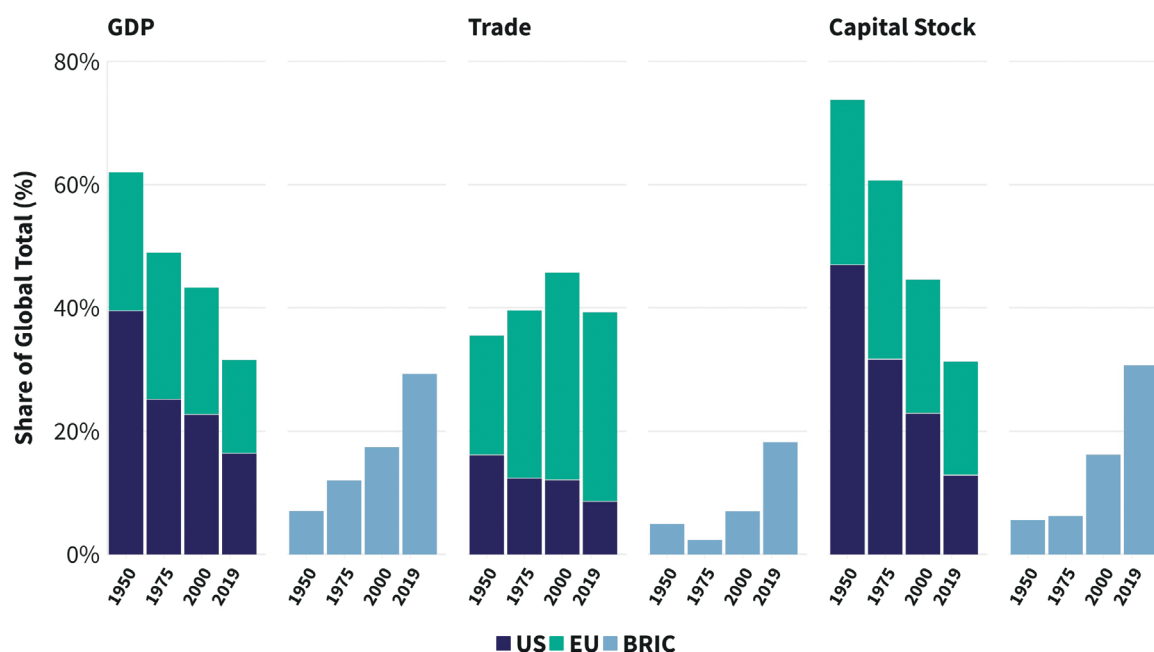
eased the crises through stimulus and subsidies resulting in the diversion of resources needed to fulfill domestic development goals and to hedge against other global public risks and megatrends, such as migration, digitization, and urbanization. The resources for these concurrent priorities are simply insufficient now and the need to align foreign and domestic interests is pressing. Reflecting a “foreign policy for the middle class,” the US’ 2022 National Security Strategy articulates “the United States must once again rally partners around rules for creating a level playing field that will enable American workers and businesses—and those of partners and allies around the world—to thrive.”⁵⁴

Emerging economic competitors: The United States and European countries collectively accounted for dominant shares of global gross domestic product, trade, and capital stock in the decades following World War II. They promoted economic recovery and international development worldwide to prevent the spread of communism and channeled aid and concessional loans primarily through the World Bank Group’s International Bank of Reconstruction and Development and later its International Development Association. The resources provided through the World Bank were often the only, if not the easiest, available and accessible at the time, at least until the United States Agency for International Development (USAID) was established in 1961 and a new era and channel for international assistance commenced. Less-developed or transitioning countries were hence eager to partner with the United States and Europe to secure large-scale development or humanitarian assistance and finance, sell debt securities, and access larger markets. There are, however, new donors and more financing options now available to support countries since the turn of the twenty-first century. Brazil, China, India, Indonesia, Mexico, and Russia have become prominent actors in the global economy, with China emerging as the world’s largest official bilateral creditor.⁵⁵ Remittance flows dwarf official development assistance.⁵⁶ The \$5 billion in new commitments of the BRICS’ New Development Bank in 2021,⁵⁷ the China-led Asian Infrastructure Investment Bank’s \$10 billion,⁵⁸ and the Asian Development Bank’s \$22 billion⁵⁹ are individually far smaller than the World Bank’s \$100 billion that year;⁶⁰ yet the operations and membership of these newer institutions are expanding rapidly.⁶¹ Sovereign wealth funds, pension funds, and impact investors also provide alternate sources of financing. The United States and the EU are thus no longer automatic partners for achieving economic advancement; they now need to show countries that they remain valuable partners.

Countering China and malign influence: China has already developed a far-reaching web of geopolitical and geo-economic access and levers of influence by offering economic inducements through its Belt and Road Initiative (BRI). The BRI has offered its partners assistance with financing and construction of dual-use hard infrastructure, such as ports, roads, and railways; soft infrastructure, such as economic institutions; and digital infrastructure on a massive scale: projects that drive employment and economic growth (though not necessarily in an inclusive or sustainable manner as discussed further below).⁶² The United States, the EU, and their allies must provide an alternative at scale to the BRI for developing countries. Competition will complicate China’s ability to use the BRI as a geopolitical instrument, as countries needing large development finance and capital will have alternatives.⁶³ Lacking an explicit blending of strategic interests with international commerce and aid promoting mutual benefits, US and EU efforts to compete in infrastructure development programs so far have failed to generate a strategic impact comparable to the BRI for China. At the same time, China has slowed the pace of new projects to hedge against warnings that several countries may default on its debt.⁶⁴ Countries are also becoming wary of turning over-reliant on China, seeing how it failed in Pakistan and Sri Lanka among other BRI participants, and thus could be more receptive to deeper and positive economic engagement with the United States and the EU.

PES provides a framework to align these urgent foreign policy goals with the flows of international trade and finance. Moreover, within the context of the current global economy and polycrisis, countries will be eager to partner on large economic projects, providing fertile ground for PES to have a real impact.

Figure 2: New Players in the Game: BRIC Economies Constitute an Increasing Share of Global Economic Activity



Notes: The "BRIC" grouping includes Brazil, Russia, India, and China. Values for GDP measure real gross domestic product at purchasing power parity (PPP) as a share of the global total. Values for trade measure the value of annual merchandise exports as a share of the global total. Values for capital stock measure capital stock in constant 2017 USD as a share of the global total. Data from 1952 following the founding of the People's Republic of China is used instead of 1950 data for China. Data for Russia not included prior to 1990.

Source: Penn World Tables, United Nations Conference on Trade and Development Statistics (UNCTADstat). Robert C. Feenstra, Robert Inklaar, and Marcel P. Timmer. "The Next Generation of the Penn World Table." *American Economic Review* 105, no. 10 (October 1, 2015): 3150–82. <https://doi.org/10.1257/aer.20130954>. ; "UNCTAD Statistics." United Nations Conference on Trade and Development. Accessed August 18, 2023. <https://unctadstat.unctad.org/EN/Index.html>.

How is Positive Economic Statecraft Operationalized?

Comparative institutional architectures: Divergent institutional architectures are apparent in how the United States and the EU go about applying PES in practice. PES tools and instruments in the United States are dispersed among numerous agencies in a web of budgets, authorizing legislation, procurement mechanisms, and governance arrangements. ForeignAssistance.gov, for example, lists US aid spending across more than twenty agencies, though dominated by USAID.⁶⁵ At least fifteen different agencies are included on the US Trade Representative's (USTR's) list.⁶⁶ And the still new US International Development Finance Corporation (USDFC) gets its funding from US Department of the Treasury authorization but is also under State Department governance in that the secretary of state is chair of its board. While individual agencies are seeing success with PES (see Table 2), PES-based interagency or "whole-of-government" initiatives are not routine and have a mixed track record (see discussion of Partnerships for Growth, for example, below).

PES in the EU manifests by the membership as a whole alongside individual member's bilateral or multilateral efforts (this essay focuses on the EU as an actor). In the EU, each of the principal governing institutions has PES equities and tools in their purview. The European Council and the European Parliament have

principal policy and budgetary authority, while the European Commission helps to shape the EU's overall strategy, monitors policy and legislative implementation, and manages the EU budget, thus also having a key role in supporting international development and delivering aid through a variety of instruments, such as the Neighbourhood, Development, and International Cooperation Instrument and the European Fund for Sustainable Development Plus. While there are divisions of labor within institutions, the authorities are arguably clearer, with less fragmentation than the United States, enabling a more coherent platform for PES. Both the United States and the EU utilize the common set of PES tools described above. Contrary to the United States, however, the EU offers direct budget support in its development aid and makes use of trust funds among its member nations. Both also continue to wield PES activities through their budget allocations to and votes in multilateral fora and multilateral development banks.

Tools and mechanisms: Across institutions and instruments, both the EU and the United States seek to achieve PES goals through two mechanisms: tactical and structural. Tactical linkages operate at a more immediate level, where a reward for the target state is tied to particular desired policy outcomes. For instance, in July 2023, the EU agreed to provide Tunisia with more than €1 billion in trade, investment, and energy cooperation as long as Tunis stepped up efforts to stem migrant departures from the country toward Europe.⁶⁷ With its strict compact eligibility requirements, the US Millennium Challenge Corporation (MCC) can point to specific “MCC Effect” reforms.⁶⁸ For example, in 2006, when the MCC's first compact for \$320 million was on the line in Lesotho, adult married women were considered legal minors, restricting their economic rights and participation—also undermining economic growth.⁶⁹ To ensure more equal reach and benefit, as well as impact, the MCC and the government of Lesotho came to agree, with civil society support, that compact signing would be contingent upon the government guaranteeing gender equality in economic rights. As such, the Legal Capacity of Married Persons Act 9 of 2006 was passed which untied minority status from marital status. The compact was signed in July 2007.

Over the longer term, structural PES aims to better align dominant domestic political interests, capabilities, and actions with those of the PES-wielding country through ongoing rewards for particular activities and actors. The Marshall Plan, which incentivized the removal of trade barriers and prevented the expansion of communism in Europe through the provision of \$13 billion in assistance, is perhaps the earliest post-World War II instance of an attempt to reorient political and economic policy abroad.⁷⁰ Often less qualified in nature, structural and tactical mechanisms are complementary and can be applied simultaneously in an integrated PES approach. The EU's Global Gateway initiative, launched in 2021 and set to run through 2027, brings together EU-wide institutions and members to jointly mobilize up to €300 billion in investments for values-driven, sustainable, and high-quality infrastructure projects.⁷¹ While promoting markets and investment opportunities for the EU, Global Gateway is also based on and seeks to advance EU interests in cooperating countries: rule of law, human rights, and international norms and standards. Since 2000, the US' African Growth and Opportunity Act (AGOA) has been led by USTR, with capacity-building support from USAID and other agency engagement.⁷² AGOA was enacted by Congress in 2000 to allow duty-free goods entry from eligible countries in sub-Saharan Africa, driving numerous policy reforms and mutual benefits that have led to reauthorization in 2015. The act authorizes the president to designate countries as eligible to receive the benefits of AGOA if they are determined to have established, or are making continual progress toward establishing, the rule of law and political pluralism; protection of intellectual property; efforts to combat corruption; policies to reduce poverty, increasing availability of healthcare and educational opportunities; protection of human rights and worker rights; and elimination of certain child labor practices in addition to other external policies. Table 2 provides additional examples of how the United States and the EU have deployed a variety of PES instruments across the globe to achieve a wide range of foreign policy goals.

Table 2: Examples of PES initiatives taken by the US and the EU

	Tactical linkage	Structural linkage
Grants, technical assistance, and aid	<ul style="list-style-type: none"> From 2016 to 2021, the EU provided budget support to the government of Colombia to promote conservation and sustainable management agreements between the authorities and rural communities of protected areas—contributing to the rehabilitation or recovery of nearly twenty-eight thousand hectares of forest—and incentivized the Colombian government to increase its own financial support to parks and land preservation.⁷³ Nonmilitary US aid to Pakistan in the early 2010s was explicitly and legally conditioned on Pakistan's cooperation with the United States on counterterrorism efforts.⁷⁴ In 2016, the EU provided Turkey with €6 billion in grants to support refugees conditional on increased border security along Turkey's maritime borders with Greece.⁷⁵ 	<ul style="list-style-type: none"> As part of the Presidential Initiative for Democratic Renewal announced in 2021, USAID is implementing the Democracy Delivers Initiative, surging financial support and technical assistance to select “bright spot” countries experiencing democratic breakthroughs by helping reformist leaders show that democracy is delivering concrete economic and social benefits to their people.⁷⁶ Since 2015, the EU Emergency Trust Fund (EUTF) for Africa has been providing a coordinated and integrated response to the diverse causes of instability, irregular migration, and forced displacement. The EUTF for Africa provides a new impetus for EU cooperation on migration by creating a platform to reinforce political engagement and dialogue with partner countries and encouraging governments' own efforts to improve security.⁷⁷
Credit, investment, and finance	<ul style="list-style-type: none"> The US authorized in 2003 a sovereign bond guarantee to Turkey of up to \$8.5 billion as long as it cooperated with the US on Operation Iraqi Freedom and did not unilaterally deploy troops into northern Iraq.⁷⁸ After Moldova joined the EU's sanctions against Russia in 2023, the European Commission announced a support package for Moldova which included finance for small and medium-sized enterprises, trade, and human capital development.⁷⁹ In 2021, the Export-Import Bank of the United States signed a contract with Lithuania's Ministry of Foreign Affairs for export guarantees or direct loans worth up to \$600 million after China blocked Lithuanian imports in response to the opening of a Taiwanese representative office in Vilnius, thus allowing Lithuania to persist with its policy despite steep costs.⁸⁰ 	<ul style="list-style-type: none"> Since 2010, the European Investment Bank's Eastern Partnership Technical Assistance Trust Fund has provided investment financing alongside advisory services to advance shared objectives for private sector development, social and economic infrastructure development, and climate change mitigation and adaptation.⁸¹ The USDFC aims to incentivize governments and the private sector to improve technology infrastructure development practices and is leading the US' participation in the Blue Dot Network, which will evaluate and certify infrastructure projects based upon adherence to commonly accepted principles and standards. Over time, the network will aim to raise standards in global infrastructure development, serve as a market signal for quality, and promote policy and practices to obtain Blue Dot Network certification.⁸²

	Tactical linkage	Structural linkage
Trade	<ul style="list-style-type: none"> • The ratification of a Tax Information and Exchange Agreement between the United States and Panama in 2011, which would cover tax haven, money laundering, and other illicit financing issues, was a prerequisite to the free trade agreement between the two countries which came into force in 2012.⁸³ • In March 2023, following the 2019 elections and additional advances toward democratization, the EU resumed free trade agreement negotiations with Thailand that began in 2013. Negotiations had been suspended in 2014 following a military coup. The EU will also commission a Sustainability Impact Assessment in support of the negotiations to carry out an analysis of the possible economic, environmental, human rights, and social impacts of the agreement, and to provide recommendations on how to maximize the expected positive effects, while minimizing potential negative ones.⁸⁴ 	<ul style="list-style-type: none"> • The Nepal Trade Preference Program implemented by the United States since 2016 provides Nepal, a country land-locked between India and China, non-reciprocal, duty-free access to the US market for textiles and other goods otherwise ineligible under the Generalized System of Preferences program. This Nepal-specific program gives the country an alternative to dependence on China.⁸⁵ • Established in 2001, the EU's Everything but Arms scheme allows least-developed countries as defined by the United Nations Committee for Development Policy with a commitment to respecting human and labor rights to export all products into the EU single market without tariffs and quota restraints. In 2019, the EU suspended Cambodia's access to the scheme citing the deterioration of democracy, human rights, and rule of law in the country.⁸⁶

Both the EU and the US generally apply and implement PES in a manner distinct from China's oft criticized, self-interested, and relatively opaque model of exploitive contracting;⁸⁷ offering grants or concessional finance rather than contracts, engaging and employing local communities, and tending (or at least aspiring) to be more inclusive, sustainable, and people and planet friendly, while increasingly aligned with domestic interests as well.

Path Forward for Positive Economic Statecraft

Increase and improve coordination on PES within and across governments. A failure to coordinate frequently plagues governance effectiveness. Improving the application of PES can, for example, strengthen interagency policy coherence; align short- and long-term objectives; and streamline communications, procurement, consultation, co-finance, and other processes within and between agencies as well as with other allies and partners. This includes employing "whole-of-government" approaches that utilize best practices and avoid past mistakes. In the United States, for example, the Obama administration's Partnership for Growth (PFG) initiative sought to unite tools of economic assistance and development from various agencies to forge new, mature economic cooperation relationships with good-governed states and committed leaders.⁸⁸ While many view PFG to be successful in several respects—advancing transparency, analytical rigor, and cooperating country participation—there were also coordination challenges that undermined effectiveness, such as aligning budgets and implementation mechanisms.⁸⁹ In April 2022, US Sen. Bob Menendez (D-NJ) introduced the Economic Statecraft



US Federal Reserve Board Chairperson Janet Yellen chats with Finance Minister of Cameroon Alamine Ousmane Mey before the start of the International Monetary and Financial Committee (IMFC) meeting, as part of the IMF and World Bank's 2017 Annual Spring Meetings, in Washington, US, April 22, 2017. REUTERS/Mike Theiler

for the Twenty-First Century Act that expressly seeks to improve coordination.⁹⁰ PES coordination and cooperation can also be amplified with geographic focus. The EU's immediate neighborhood, for example, is fertile ground for PES to counter Russian influence, while the United States has natural advantages and critical goals in Latin America and the Caribbean.

Advance PES in multilateral fora. PES experience to date has not optimized or relied on multilateral coordination to be effective. European states had an inherent advantage in pursuing such unilateral economic statecraft through the deep trade, finance, and aid networks they developed over centuries of colonization in Asia and Africa—for example, France in Africa. The former colonies of Belgium, France, Germany, Portugal, Spain, and the United Kingdom remain the largest recipients of their official development aid which in turn allows the former imperial powers to maintain influence over governments that rely on the aid for achieving development goals.⁹¹ At the same time, the scale and potential impact of PES could be significantly expanded when the collective reach and resources of multilaterals are brought to bear. Given their influence and leadership in the global multilateral financial institutions and diplomatic systems—the UN, Bretton Woods institutions, the Group of Seven, the Organisation for

Economic Co-operation and Development—the EU and the United States are well positioned to promote PES approaches toward shared objectives, such as preserving democracy in and rebuilding Ukraine, reducing food insecurity, mitigating inequality, or adapting to climate change. For example, together, the EU and the United States comprise a significant share—approximately 40 percent—of votes in the World Bank and the International Monetary Fund, as well as in the regional development banks. With reform agenda and “evolution” underway, this is an opportune time to elevate and advance new approaches in the Bretton Woods institutions and beyond.⁹²

Develop sectoral PES strategies. While PES can be applied in a sector-neutral manner, there may be additional benefit from targeting certain sectors, complementing industrial policy objectives as well economic and national security goals. For example, amid supply chain disruptions caused by the COVID-19 pandemic, critical minerals have emerged in the United States as pivotal to economic and national security.⁹³ Similarly, driven higher by Russia’s war in Ukraine and climate-change-induced droughts and heatwaves, food, fuel, and fertilizer inflation surged and created even more urgency among US and EU leaders and organizations worldwide around food security and the need to promote a resilient agriculture and food sector.⁹⁴

While PES is primarily the realm of the state, private sector partnership and engagement to induce investment, capital mobilization, or blended finance will be important elements of sectoral PES strategies to ensure alignment with, rather than distortion of, market dynamics.

Advance a PES research and learning agenda to build the evidence base. As with many “new” approaches or theories, there may be more questions than answers when it comes to PES. While PES is not necessarily “new,” it is not commonplace in the development and diplomacy discourse and arguably underutilized. Researchers and policy practitioners should collect more case studies, data, and best practice evidence to improve the “business” and “geo-economic” cases for PES. Outstanding questions for research include, for example:

1. What are the biggest hurdles in implementing PES, and how can those hurdles be overcome?
2. How can subnational or local governance actors apply PES?
3. While they are not direct players in formal statecraft, how should non-state actors—corporations, philanthropies, nongovernmental organizations/international nongovernmental organizations—be engaged in PES?
4. How can PES be used to support the Just Transition?⁹⁵
5. How can PES be used to target and mitigate inequality, especially along gender, generational, or geographic lines and promote inclusive growth?
6. How does PES deployed by the BRICS+ economies—an expanded grouping which now includes Brazil, Russia, India, China, South Africa, Argentina, Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates—and other emerging Global South nations compare/differ to that of the United States and the EU (or individual EU member countries)?



Shipping containers are stacked up on a container ship at Pusan Newport Terminal in Busan, South Korea, July 1, 2021. REUTERS/Kim Hong-Ji

CHAPTER III

NETWORKED POWER: EXPORT CONTROL POLICY ACROSS THE G7

by Sarah Bauerle Danzman and Ambuj Sahu

In September 2022, US National Security Advisor Jake Sullivan delivered a speech at the Global Emerging Technologies Summit in which he articulated a new, bold policy framework for maintaining US technological supremacy in the twenty-first century.⁹⁶ One component of this strategy is protecting US technology advantages, largely through a more assertive use of export controls. In particular, Sullivan announced that the United States would move beyond a strategy of using export controls to maintain *relative* advantages in advanced dual-use technologies over strategic competitors to instead using such tools to “maintain as large of a lead as possible.” In doing so, he pointed to the unprecedented, multilateral semiconductor export controls that the United States, the European Union (EU), and other major partners imposed on Russia after its invasion of Ukraine as an example of how export controls on key technologies can not only work to impede the technological capabilities of competitors, but also as “strategic asset(s) in the U.S. and allied toolkit to impose costs on adversaries, and even over time degrade their battlefield capabilities.”

Less than a month later, the United States announced a sweeping set of export controls designed to cut off China-based entities' access to advanced semiconductors, technologies necessary to manufacture these high-end microelectronics, and supercomputers to the extent that any of these items rely on US technology.⁹⁷ The rules also prevented US persons from aiding Chinese companies in their pursuit of these kinds of technologies. After several months of negotiations, Japan⁹⁸ and the Netherlands⁹⁹—the other two countries that produce most advanced semiconductor manufacturing equipment (SME) technologies—introduced similar, though perhaps less stringent, controls.

These export controls are only one component of a multifaceted policy to deny China the ability to develop indigenous advanced semiconductor technology capabilities. The US government has also strengthened oversight and prohibition authority over Chinese investment into US critical technology companies, provided subsidies to re-shore semiconductor fabrication and catalyze further research and development investments in frontier technologies through the CHIPS and Science Act, and placed new regulations on outbound investment to China in activities involving advanced, dual-use technology.¹⁰⁰ And it has sought to convince allies and partners to implement similar measures, whether through the US-EU Trade and Technology Council¹⁰¹ or the Chip 4 alliance between the United States, Taiwan, South Korea, and Japan.¹⁰² Given its status as a relatively minor player in the semiconductor supply chain, the EU has been especially keen to reduce its dependency on foreign suppliers, most notably through the \$47 billion European Chips Act,¹⁰³ which seeks to double EU market share in the industry from 10 percent to 20 percent by 2030 (for comparison, US market share is 46 percent, South Korea's is 19 percent, and China's is 7 percent).¹⁰⁴

The Biden administration's willingness to develop these increasingly complex authorities is striking for two reasons. First, it illustrates how rapidly core beliefs have changed over the wisdom of market fundamentalism versus greater government intervention in markets that may generate security externalities. These shifting attitudes have led to a greater willingness to embrace increasingly restrictive forms of economic statecraft. Second, the novelty of these regulations makes it challenging to assess their benefits and costs. Even if commentators agree that China presents a security threat to the United States and its allies, there are substantial concerns about the enforceability of sanctions, whether and when they can effectively slow down the technological development of competitors, their costs to home-country innovation and economic growth, and whether such controls may actually diminish the home country's technological advantages over time by encouraging targets to more quickly develop their own technologies or shift their consumption to items produced in third countries.¹⁰⁵ This has led to an increasingly fierce debate over whether the United States—individually or working in concert with its partners and allies—can “weaponize” choke-point technology in the semiconductor supply chain¹⁰⁶ and, relatedly, whether the United States, the EU, and other advanced democracies can effectively diversify their semiconductor supply chains out of China.¹⁰⁷ After all, a new semiconductor fabrication plant can cost between \$10 billion and \$20 billion and take two to five years to build.¹⁰⁸

In this chapter, we use network analysis techniques to provide an initial assessment of the effect of the increasing imposition of export controls and related tools on the global semiconductor supply chain. Key findings from our analysis include:

- Semiconductor supply chains are hierarchical networks, with a few key producers holding central positions. This is important because the United States and its allies' export controls are more likely to successfully slow China's dual-use technological advances when they are imposed on hierarchical networks in which they hold central producer positions.

- China's role as the predominant buyer in several segments of the semiconductor production network makes the politics of building and maintaining a strong export control alliance more challenging because consumers have more power when producers rely on one primary buyer rather than multiple, roughly equal consumers. The United States and its allies' export controls will be more effective in networks where China's consumer centrality is less pronounced.
- The United States does not occupy an overwhelmingly central role in these supply chains but shares its powerful position with other key countries, including Japan, South Korea, Taiwan, and the Netherlands. These countries all occupy central producer roles in at least one major facet of the global semiconductor production network. This, combined with the fact that in some market segments—notably SMEs for assembling, testing, and packaging (ATP)—China is the overwhelmingly dominant buyer, means that the United States will need to choose technologies to control carefully, and will need to act in concert with other major producers to be effective.
- The network structures of these supply chains have been surprisingly resilient in the face of substantial upheaval over the past five years—a period that includes trade wars, escalating use of list-based sanctions and export controls on semiconductor technologies, a global pandemic, and the fallout of a land war in Europe.
- Preliminary evidence suggests that the United States' most recent round of semiconductor export controls have led to a steep decline in China's position as a buyer in these global markets.



From this analysis, the following key policy recommendations emerge:

- Export controls on advanced semiconductors and the components needed to fabricate them are likely to effectively limit Chinese access to these technologies with little risk of backfilling by other countries—provided that Japan and the Netherlands impose and enforce similar and complementary controls.
- However, the United States does not have a powerful centrality position in all critical supply chain networks, and the Chinese government can similarly use its position in other important supply chains, such as some critical minerals, to impose short- to medium-term costs on the United States and its allies in the export control alliance. These tactics will likely be used to try to break the resolve of the control coalition.
- As the United States and its allies consider more assertive use of network positions in the supply chains and technology systems they do control, they will simultaneously need to consider their own vulnerabilities in other critical supply chains. Policy makers will need to balance these risks and continue to pursue strategies to restructure critical networks away from China if they wish to continue the assertive use of export controls with minimal blowback. In the future, policy makers should continue to monitor not the overall value of trade flows between countries, but how these trade systems create, maintain, and revise network structures, as it is the network structures—rather than bilateral economic flows—that confer power and signify vulnerabilities in global supply chains.

How Networks Model Power and Dependency

Most research and commentary on trade focuses either on unilateral or bilateral metrics. That is, they assess how much an individual country imports and exports to the world or how much two countries import and export to and from each other. Such analysis provides a useful first approximation of a country's trade dependencies and points of potential leverage.

However, to understand the nature of power and interdependence in complex supply chains, we need to model trade flows as a network. We do this by constructing mathematical relationships of “nodes” and how they connect to each other through network “ties” or “edges.” In our case, countries are our nodes, and they are tied through trade of specific items that comprise the semiconductor supply chain. This approach allows us to understand not just a country's overall share of the market (either as buyer or seller), or how much it depends on trade from a particular third country, but also the structure of the supply chain as a whole, the role each country plays in stitching together the global supply chain, and what would happen to the system structure if a country was removed: Would the network collapse? Would other countries quickly backfill the role previously performed by the removed country?

We can uncover how network structure, and countries' positions in them, impact whether and how export controls influence outcomes by examining three things:

1. Network structure
2. Country positions within these networks
3. Whether specific events dislodge countries' structural positions

Hierarchical Networks are Easier to Leverage

First, we can analyze the shape and performance of each network as a whole by inspecting patterns of trade ties between countries. The “typology” of a network helps explain how resilient it is to disturbances, or, conversely, how easily networks can adapt and change as ties are broken. Resilience and adaptation are functions of how hierarchical the network is.

The term “resilience” operates slightly differently in network theory than in common parlance. While the word “resilience” might sometimes refer to a person who is adaptable, “resilience” in a network means that the network *does not* change easily. Resilience for a network is more like the resilience of a building that stays standing during a storm: Resilient networks withstand disturbances and still look the same. And a network’s resilience is a function of how hierarchical the network is.

Hierarchical networks are ones in which most hubs have very few connections, but they all tend to connect to the same small set of actors. For example, the international banking system is highly hierarchical because most countries are connected to few other countries through cross-border financial obligations, but almost all countries are connected to the United States.¹⁰⁹ These networks have become hierarchical because actors in these systems are motivated by “preferential attachment.” That is, part of the value of connecting to the US banking system is that lots of other countries are connected to the US banking system as well. That means that the US system is large and liquid, and the costs of connection are small because there is ample infrastructure to connect to it. The currency network is also a hierarchical system (with the US dollar at its core) as are most social media networks. Indeed, the resiliency of X, formerly known as Twitter, to retain users and resist being overthrown by startup microblogging alternatives, despite widespread frustration with the site, is an illustration of preferential attachment and network resiliency.

In contrast, other networks are much less hierarchical. Here, the average number of connections per node is closer to the maximum number of connections the most highly connected node has formed. These are random, or flat, networks. Flat networks are more able to adapt quickly to perturbations in the system because there are no huge positive externalities associated with connecting to any particular node, and so actors can more easily find substitute nodes to connect to if one node is no longer available to them. Many commodity markets function closer to flat networks because commodities are undifferentiated and interchangeable, so it is less costly to switch to a different supplier.

Our statistical analysis finds that all seven semiconductor networks we examined display hierarchical tendencies—they have a few countries that are highly connected while most countries do not sell semiconductor items to other countries. Across each of these networks, we see that only a small number of countries are highly connected as producers. These producers, then, have substantial power in the network, particularly if they work in coordination. This is because their dominant position within a hierarchical network makes it more possible for them to control access to these semiconductor technologies without fear that subordinate actors within the network could find alternative sources of these technologies.

The US, Japan, and the Netherlands Jointly Have Supplier Centrality

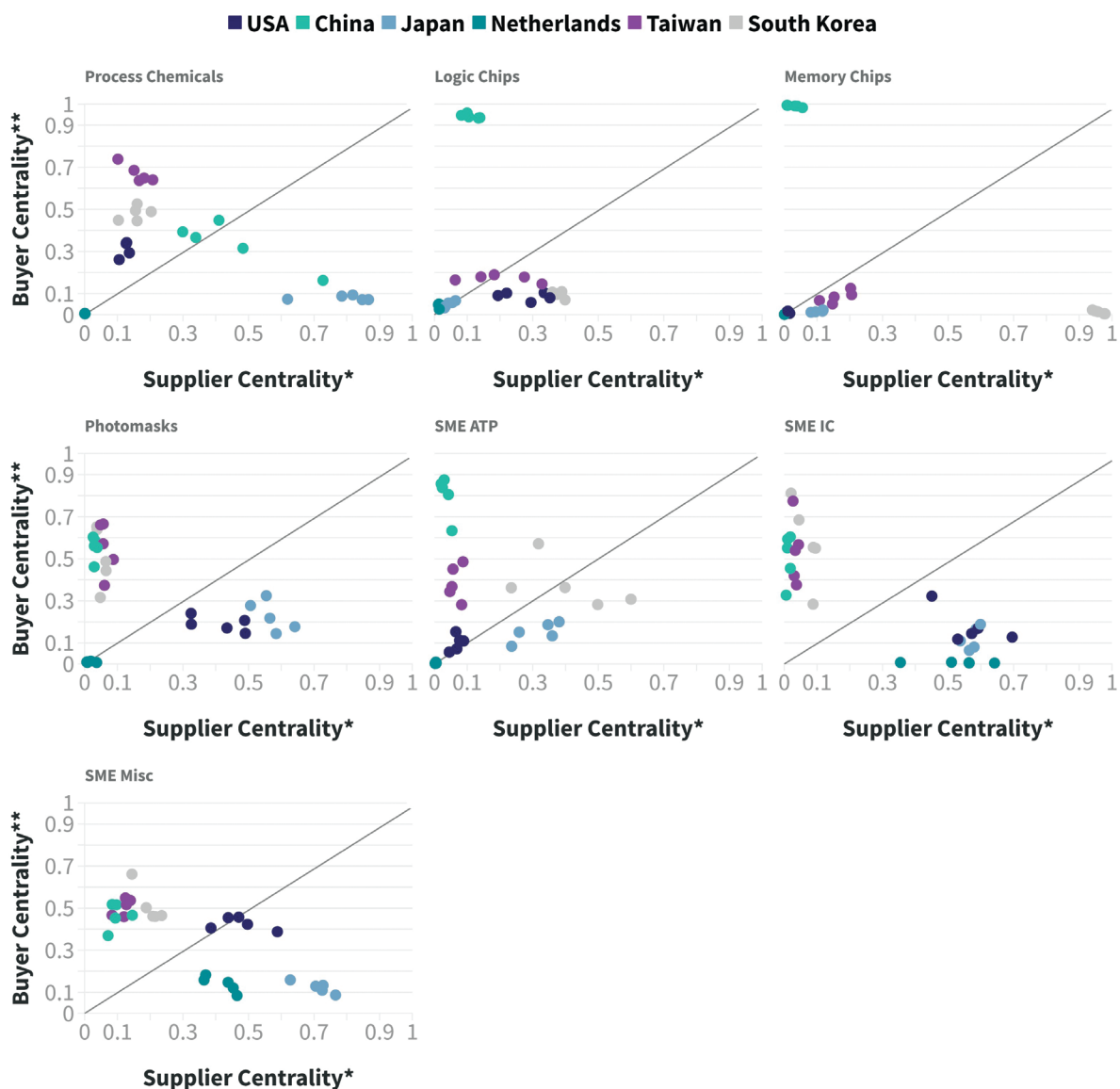
If hierarchical networks provide opportunities to assert leverage, the question then is for whose benefit? To evaluate which actors can exert control over a particular network, we need to calculate measures that assess the centrality of each actor in the network. Conceptually, centrality helps identify which nodes are most important to the functioning of the entire system. For example, in the case of the global banking network, the United States has high centrality because most countries in the network connect to it. Most other countries have very low centrality because hardly any other actors connect to them. This confers enormous power on the United States—as the central node in the global banking system it can use access to its banks, and US dollars, as leverage. Because the hierarchical structure of the network renders it highly resilient to disturbances, the United States can freeze individuals or more isolated states from the system without worrying that the network could reorganize around other nodes, reducing its importance. Of course, there are limits to how far the United States can use its central position in this way, but the logic of preferential attachment makes it challenging for actors to develop rival systems.

Because centrality measures importance, and because there are many ways to conceptualize what makes an actor important, there are also many ways to measure centrality. In this analysis, we focus on parameters that capture whether a country is a central supplier and/or whether it is a central buyer in the network. A country is a *central supplier* if it sells many of its semiconductor products to countries that are central buyers of those products. Similarly, a country is a *central buyer* if it obtains many of the semiconductor products in imports from countries that are central suppliers in the network. Because we are able to model the supply chains of multiple components of the semiconductor supply chain, we can measure countries' supplier and buyer centrality across each of these supply chain segments.¹¹⁰

Determining countries' supplier and buyer centrality provides important insight into their structural position in specific semiconductor component networks. This allows us to understand when and how countries have the power to use these network positions to exert influence over others. Countries' ability to engage tools of economic statecraft such as export controls to coerce or control the behavior or capabilities of others is higher when they are more central, and higher still when the network is hierarchical. In such systems, it is harder for targeted countries to defeat export controls by finding alternative countries with which to trade, and network resiliency means central countries can control access to their technologies without the system easily reorienting away from these central countries.

Conceptually, countries with high supplier centrality are greatly influential as producers of semiconductor items. They control the underlying technology and know-how to produce these goods for export, and others are reliant on them. Countries with high buyer centrality are influential consumers of semiconductor items. They are dependent on others for these goods, but they also may have substantial power to set standards if sellers are dependent on exporting to their markets. When a country has high buyer centrality, it will have the most power in that network if no individual country simultaneously has high supplier centrality. In that case, the country is a dominant buyer that has many options for sellers. Conversely, when a country is a central supplier, it will have the most power in a network when no individual country simultaneously has high buyer centrality. In that case, the country is a dominant seller and has many options for buyers.

Figure 3: Major Economy Buyer and Supplier Centrality, Semiconductor Supply Chains, 2017-2021



Notes: *High supplier centrality implies that a country exports many goods to many countries which are major importers of those goods (central to global semiconductor production networks as suppliers). **High buyer centrality implies that a country imports many goods from many countries which are major exporters of those goods (central to global semiconductor production networks as consumers). Abbreviations include semiconductor manufacturing equipment used for manufacturing integrated circuits (SME IC), assembling, testing, and packaging (SME ATP), and parts and servicing of SME equipment (SME Misc). Because of the concerns about the veracity of data reporting, we use mirror data for the PRC. China reports its data separately for mainland, Hong Kong SAR, and Macau SAR. For our analysis, we have aggregated the values of these three entities. In the case of Taiwan, the database does not explicitly report data as a distinct country for political reasons. Instead, Taiwan is included in the category "Other Asia, not elsewhere specified."

Source: Author calculations based on UN Comtrade data (exports and imports). "UN Comtrade Database." United Nations, August 18, 2023. <https://comtradeplus.un.org/>.

Figure 3 plots the network positions of China, Japan, the Netherlands, South Korea, Taiwan, and the United States in the global trade networks for seven semiconductor supply chain items, measured annually from 2017 to 2021.¹¹¹ The x-axis plots countries' supplier centrality and the y-axis plots their buyer centrality.

Clear patterns quickly emerge. China stands out as a central buyer for chips and ATP SMEs. This position could confer China a great deal of leverage as a buyer, as their continued consumption of these products is essential to producer profits. In other contexts, governments can use their market power as consumers to influence regulatory standards.¹¹²

But the effectiveness of such tactics also depends on the structural positions of major producers. The logic chip networks are a highly diversified producer market, with no one country dominating. In these networks, we can expect that consumer power has greater potential to be effective. It also means that China's position in these networks may be particularly threatening to the United States and its allies precisely because its market position generated so much power. In contrast, South Korea's dominant hub position in memory chips, and its position along with Japan as a broker in the network for SMEs for ATP, dulls China's ability to exploit its network position because producer concentration shifts more power to dominant supplier countries.

Inspection of network positions across other components of the supply chain further reveals where countries have, either individually or jointly, latent power capabilities. In the networks for integrated circuit (IC)-making SMEs and miscellaneous SMEs, Japan, the Netherlands, and the United States are jointly dominant suppliers, with the United States especially occupying a central position as both a producer and a consumer of miscellaneous SME items. These positions have largely strengthened over time. No one country dominates as a consumer, meaning the United States, Japan, and the Netherlands have the most opportunity to control these supply chains with minimum network adaptation, as long as they act in concert. Japan and the United States similarly enjoy a dominant producer position in photomasks. The process chemicals network is the only supply chain where China operates a brokering position as both a central producer and consumer, but Japan's dominant producer position means China would likely only be able to successfully leverage this central position if it were able to do so in coordination with Japan.

No Evidence that Export Controls Have Eroded the US' Central Position

The above exercise provides insight into which parts of the semiconductor supply chains are more conducive to control, and by whom. But that exercise only provides insight into latent power capabilities. In this section, we study the monthly trade data to show the persistence or change in producer and buyer centrality from January 2017 to March 2023. In doing so, we examine whether there are any structural breaks in these time series and map the structural breaks we find to real-world events.

A structural break can be defined as a sudden change in time series data because of an arbitrary interruptive event.¹¹³ After calculating the structural breaks in the time series, we were able to correlate the time stamps with global and domestic developments that affected the global semiconductor supply chain. Table 3 lists all such events.

Table 3: Structural Breaks in Semiconductor Networks Matched to Real-World Events (January 2017 to March 2023)

Event No.	Event	Date
1	Trump administration announces Section 301 investigation against China	August 18, 2017
2	Section 301 tariffs on China (List – 1): Tariffs on select electrical and electronic machinery	July 6, 2018
3	Section 301 tariffs on China (List – 2): Tariffs on IC chips and SMEs	August 23, 2018
4	Section 301 tariffs on China (List – 3): Tariffs on process chemicals	September 24, 2018
5	US Department of Commerce’s Bureau of Industry and Security (BIS) puts Huawei on Entity List	May 21, 2019
6	Section 301 tariffs on China (List – 4A)	July 21, 2019
7	Global onset of COVID-19	March 2020
8	US BIS puts the Chinese chipmaker SMIC on Entity List	December 22, 2020
9	China relapses into COVID-19 lockdown	April 2021
10	First round of sanctions on Russia after invasion of Ukraine	February 27, 2022
11	US BIS implements additional export controls and modifies Entity Lists on semiconductor-related products against China	October 7, 2022

Overall, we see that producer and buyer centrality is relatively stable across this time, even though it is quite a tumultuous period.¹¹⁴ This period includes a US-China trade war that imposed additional tariffs on all seven semiconductor networks we analyzed, the initial onset of COVID-19 and subsequent relapse of COVID Zero policies in China, entity listings of the Chinese telecommunications firm Huawei and Chinese chipmaker SMIC, and the multilateral export controls on semiconductor chips to Russia following its invasion of Ukraine in 2022. Monthly data are a bit noisy due to cyclical fluctuations in quarterly trade invoicing in many transactions, but relative positions in most networks stay stable, except in SMEs for IC and miscellaneous SMEs. Here the United States, Japan, and the Netherlands maintain rough parity through the period. The relative stability of these scores over time reflects the fact that these networks display high levels of resiliency.

The most interesting shifts in the time series appear in early 2023, after the announcement of the October 7 controls and reports that Japan and the Netherlands would implement their own complementary controls. Because the time series ends in March 2023, we do not have enough data to determine if these structural breaks are statistically significant. However, in the first quarter of 2023, Japan's producer centrality for ATP and IC SMEs shoots up. The United States registers a significant jump in its producer centrality for logic chips. These changes indicate that the United States and Japan became more central producers after the imposition of controls.

The effect on buyer centrality—that is, the central consumers in the network—is even more interesting. China's consumer position in logic chips plummets. This is exactly what we would expect would result from the October 7 controls, which created a presumption of denial for logic chips to China.¹¹⁵ However, China's buyer centrality scores for IC and ATP SMEs increased, meaning it became a more central consumer after the imposition of export controls. The October 7 controls do not involve SMEs for ATP, so we had no prior expectation about how this supply chain would react to the controls. However, advanced IC SMEs are covered by these controls. We will need more months of data to determine the longer-term trend. It may be that this increase in SMEs for IC is only for tooling equipment for trailing-edge chips. Conversely, it could be indicative of some backfilling by other producers before their own controls were implemented along with stockpiling by the Chinese. This is a component supply chain that is important to monitor closely as technological breakthroughs in IC SMEs would be necessary if China were to develop indigenous advanced semiconductor manufacturing capabilities.

Conclusion

The increased use of export controls has raised questions about whether more aggressive attempts to deny China access to dual-use advanced semiconductor technology can effectively stymie its indigenous capabilities or backfire by providing Chinese firms and China's government with incentives to redouble research and development efforts to achieve technological autonomy. Such assessments are complicated by the novelty of the current US approach and a lack of useful historical examples on which to evaluate the benefits and costs of such controls.

By modeling the semiconductor supply chain as a multilayered network, we can better understand the structures of these systems and, therefore, their relative resilience versus adaptive capacity. The United States and its allies are more likely to achieve success when they occupy positions of producer centrality within networks characterized by substantial hierarchy. In these contexts, they have ownership over narrowly held technology within networks that are resilient and, therefore, unlikely to provide countries

denied access to these technologies with reasonable alternatives to their procurement. In contrast, flatter networks are harder to control because imposing export controls is much more likely to only lead to the network reorienting around alternative producers, pushing US producers and US-controlled technology to obsolescence.

Overall, we find that semiconductor supply chains are hierarchical networks that display surprising resilience despite the tumult of policy and exogenous shocks in recent years. The structure of these networks makes it possible for central producers to impose controls on their technology with little immediate reorientation and backfilling of these networks. However, many of these supply chains are not organized around one central node (as is the global financial system around the US dollar). Instead, the Netherlands, Japan, South Korea, and Taiwan all hold important producer positions in various parts of these supply chains. This means that US efforts to limit leakage of advanced semiconductor technology to China will need to be coordinated with these other central actors to be effective.

While the United States and a handful of allies are central players in these particular supply chains, other countries, including China, are central in other important supply chains, such as processing of critical minerals that are used in the production of certain kinds of advanced chips and electric vehicle batteries. As the United States and its allies consider more assertive use of network positions in the supply chains and technology systems they do control, they will simultaneously need to consider their own vulnerabilities in other critical supply chains. The Chinese government's recent announcement that it will require licenses for export of two key critical metals—gallium and germanium—is an illustration of this risk.¹¹⁶ So long as the United States can maintain a coalition among key advanced semiconductor producers, it is unlikely that the Chinese will be able to quickly, or easily, restructure these supply networks in their favor. However, it is more likely that the short- to medium-term costs of US policies to limit China's access to advanced technology will be in Beijing's retaliatory, reciprocal actions to leverage supply chains in which it has a dominant position.

In the future, policy makers should continue to monitor not the overall value of trade flows between countries, but how these trade systems create, maintain, and revise network structures. Doing so will provide insight into when export controls are more likely to achieve strategic objectives, when they are likely to be counterproductive, and when they must be applied only within a cooperative framework with partners and allies to be able to effectively prevent strategic competitors and military adversaries from gaining access to dual-use technological capabilities.

Appendix: Data and Methodology

This paper uses trade data from the United Nations' Comtrade database to create directed and weighted networks, decomposed across five different segments of the semiconductor supply chain and two categories of finished chips: process chemicals; SMEs used for manufacturing integrated circuits (IC SMEs); assembling, testing, and packaging (ATP SMEs); and miscellaneous SMEs (typically, parts and servicing of SME equipment); photomasks; logic chips; and memory chips.¹¹⁷ For most countries, we use the values of imports and exports they report to the UN. Because of concerns about the veracity of China's data reporting, we use mirror data for China, meaning that we construct their imports by summing all exports to China that third countries report and their exports by summing all of the imports from China that third countries report. China reports data separately for the mainland, Hong Kong Special Administrative Region (SAR), and Macau SAR; we aggregate the values of these three entities. In the case of Taiwan,

the database does not explicitly report data as a distinct country for political reasons. Instead, Taiwan is included in the category “Other Asia, not elsewhere specified.”

We calculate hub and authority scores, which we refer to as supplier centrality and buyer centrality in the chapter, to increase accessibility for non-technical readers. In network terms, the hub score of a node is directly proportional to the authority scores of its outgoing connections. Similarly, the authority score of a country is proportional to the hub scores of its incoming connections.

Complete annual data is not yet available for 2022. Ending analysis in 2021 allows us to examine the structure of these supply chains prior to Russia’s invasion of Ukraine in February 2022 and the Biden administration’s imposition of increasingly restrictive export controls on chips in October of that year.

For analysis requiring monthly data, we only include the United States, China, Japan, and the Netherlands. Unfortunately, South Korea and Taiwan have not reported monthly data for the entirety of the studied period, so we must exclude them from analysis. This makes our empirical exercise a less accurate reflection of the actual supply chain. However, we focus particularly on the relative positions of the United States, China, Japan, and the Netherlands over time. Our interest in the effect of export controls on centrality means that the focus on these four countries is justified.



Sheets of US one-dollar bills are seen during the production process at the Bureau of Engraving and Printing in Washington, November 14, 2014. REUTERS/Gary Cameron

CHAPTER IV

NEW ERA OF FINANCIAL SANCTIONS: ADAPTING TO ANTI-DOLLAR POLICIES

by Daniel McDowell

According to a popular legend in US history, George Washington refused an offer to become the United States' first king as the Continental Army was poised to defeat British forces in the American Revolutionary War. Though Washington never assumed the throne as a monarch, his appearance on the US one-dollar bill has made him a powerful symbol of US *financial* royalty. Indeed, the dollar is often described as the “king” of all currencies, and rightly so.

Across the full spectrum of international roles that a national currency can play—the reserve currency role, cross-border payments and trade settlement, turnover in foreign exchange markets, and so on—the US' currency outcompetes all comers and lacks a true rival.

Dollar preeminence means that the US banking system is at the center of the global economy, giving the US government legal control over the financial plumbing that the world economy depends on to function.

Through the simple issuance of a presidential executive order, or by congressional action, Washington can employ financial sanctions to impose enormous economic costs on targeted foreign entities—including individuals, firms, and state institutions—by freezing their dollar-denominated assets or cutting

them out of the banking network through which dollars flow. The costs for individual targets, known as Specially Designated Nationals (SDNs), are immense, greatly curtailing a target's ability to participate in international trade, investment, debt repayment, and depriving them of access to their wealth.

Since the turn of the century, in response to a long list of international issues—including human rights violations, democratic backsliding, and threats to US national security—the US government has steadily increased the frequency with which it reaches for the tool of financial sanctions.

Washington's growing reliance on the tool has provoked US adversaries—as well as some of its friends—to pursue anti-dollar policies in response. Often, these efforts to reduce reliance on the dollar have failed; however, in other instances, policies produced modest levels of de-dollarization. Recent responses by China and Russia in this space, described below, are especially notable. While the dollar's position as top international currency is unlikely to be upended by these steps, over time such policies could weaken the coercive capabilities that the United States derives from dollar centrality.

In response, policy makers in Washington should rethink the guidelines around when, and how, financial sanctions are deployed. Those new guidelines should emphasize coordination with allies, reconsider the use of so-called symbolic sanctions, and insist on a higher bar of scrutiny for financial sanctions against issuers of potential rival currencies.

The Sanctions Obsession

Financial sanctions emerged as a popular new tool of economic statecraft around the turn of the century as policy makers were growing disillusioned with traditional economic sanctions, like trade embargoes, which often harmed civilians while leaving dictators unscathed. In contrast, financial sanctions could impose economic costs on specific targets with great precision. In the same way that smart bombs were changing the dynamics of military combat, “smart” sanctions were revolutionizing economic warfare.

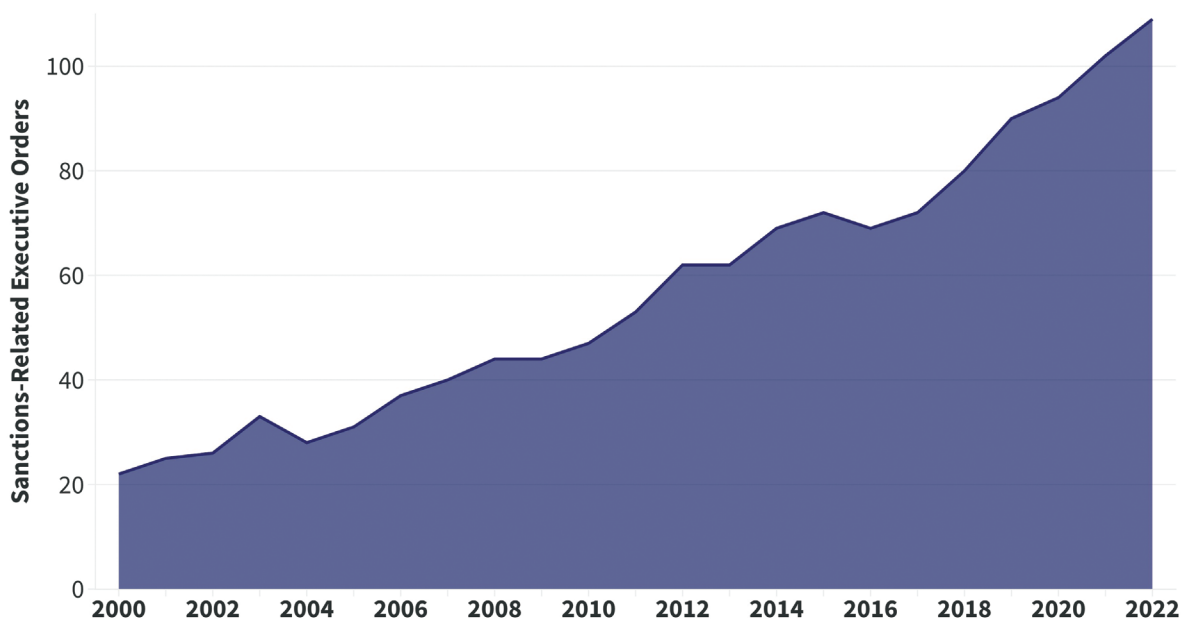
Policy makers' emergent enthusiasm for financial sanctions also reflected the fact that traditional commercial sanctions were not usable against terrorist organizations which, in the post-9/11 moment, represented the security threat that posed the greatest concern for many in government.

Finally, the appeal of financial sanctions increased because they are precise yet scalable. At the low end of the spectrum, they can be used to punish a single individual, while at the other extreme, entire financial systems can be isolated through the imposition of blocking sanctions. If US policy makers wish to obtain maximum effect, secondary sanctions, which compel financial institutions from third countries to enforce US sanctions law, allow for the further ramping up of a coercive program.

The primary way that the United States initiates a new round of financial sanctions is through a presidential executive order directing the Office of Foreign Assets Control (OFAC) at the US Department of the Treasury to add additional SDNs to its “blacklist.” In response, all banks operating in the US market are required to end financial services on behalf of listed individuals and entities.

Over the last two decades, the United States has used financial sanctions with increasing frequency. In 2000, there were just twenty-two active sanctions-related executive orders; by 2022, this had increased to 109, a nearly fivefold increase.¹¹⁸ In 2000, just four foreign governments were targeted under a Treasury country program.¹¹⁹ Today, that number is greater than twenty—meaning almost one in ten sovereign states is presently under a US financial sanctions program.

Figure 4: US Sanctions-Related Executive Orders, 2000-2022



Source: US Treasury Office of Foreign Assets Control (OFAC). “Sanctions Programs and Country Information.” US Department of the Treasury, Office of Foreign Assets Control, February 25, 2022. <https://ofac.treasury.gov/sanctions-programs-and-country-information>.

The more the United States has reached for financial sanctions, the more it introduces “political risk” into the international currency system. That is, it has made adversaries in foreign capitals (and, sometimes, friends and allies) more aware of the strategic vulnerability that stems from dependence on the dollar.

Some governments have responded by implementing anti-dollar policies—measures that are designed to reduce an economy’s reliance on the US currency for investment and cross-border transactions. Russia’s response to years of increasing US sanctions pressure illustrates this point well.

Russia’s Anti-Dollar Strategy

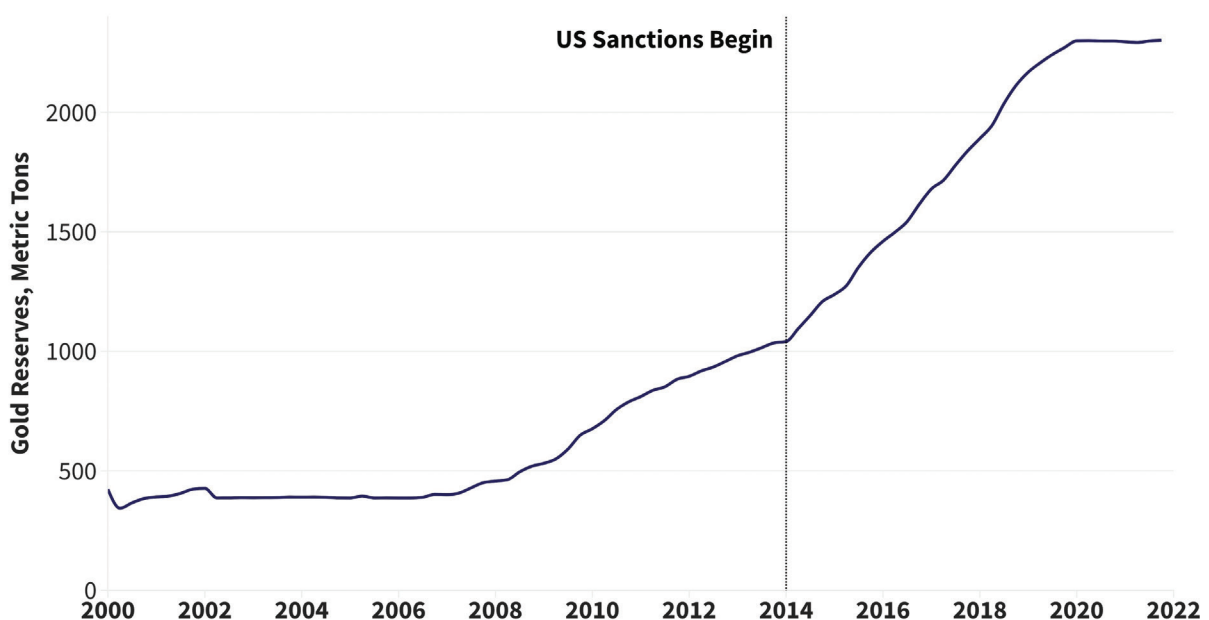
For the last year and a half, observers have watched to see how Vladimir Putin’s Russia is adapting to Western economic sanctions imposed following its unprovoked invasion of Ukraine on February 24, 2022. Though the West’s response has included a variety of economic penalties, financial sanctions have played an outsized role. Russia’s biggest commercial banks, its wealthiest oligarchs, its highest-ranking government officials (including Putin himself), and even the Central Bank of the Russian Federation (CBR) have been blacklisted by US Treasury as well as the US’ key allies in Europe and Asia.¹²⁰

While the world’s attention to the Russian economy’s struggle under sanctions is of recent vintage, in Moscow, concern about a weaponized dollar is fast approaching the ten-year mark.

Russia's experience with US financial sanctions is both long and layered. First targeted in 2014, following its illegal annexation of Crimea, the Kremlin watched as the Obama and Trump administrations continued to pile on Treasury-backed sanctions programs. Penalties were levied in response to a variety of offenses, including Russia's meddling in the 2016 US presidential election, cyberattacks against US businesses, human rights violations, and ongoing destabilizing actions in eastern Ukraine.¹²¹

Moscow reacted by launching an ambitious anti-dollar policy agenda. The first observable steps came in 2014 when, following the Crimea sanctions, CBR immediately increased its pace of physical gold purchases.¹²² As a store of value, what gold lacks in liquidity it makes up for in security—short of a military invasion, bullion in Russian vaults is safe from Western confiscation.

Figure 5: Russian Central Bank Gold Reserves, Metric Tons, Q1 2000-Q4 2021

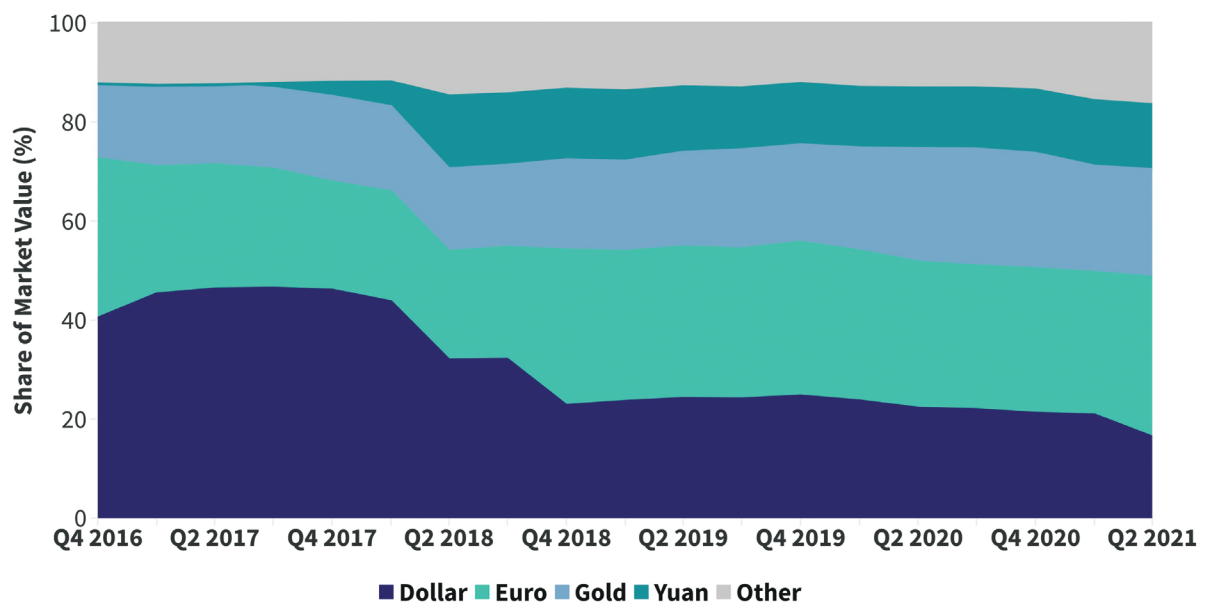


Source: Central Bank of Russia (CBR) Foreign Exchange and Gold Asset Management Reports, No. 3 (31)–No.1 (61). “BoR Operations, Foreign Exchange and Gold Asset Management Report.” Central Bank of Russia, 2022. https://www.cbr.ru/eng/analytics/oper_br/.

Russia's biggest moves came in 2018, following the harshest round of US financial sanctions to date. That tranche targeted seven oligarchs, seventeen Russian state officials, and twelve major firms, including some in key export sectors.¹²³ Following the Trump administration's move, CBR again adjusted its foreign exchange reserves, cutting its dollar holdings from roughly 44 percent to 23 percent over the course of 2018. In place of dollars, the monetary authority shifted assets into euros and Chinese yuan.

While central banks often adjust the currency composition of their reserves over time, such a dramatic move in such a short period is unprecedented.

Figure 6: Currency Share of Russian Central Bank Reserves, Q4 2016-Q2 2021

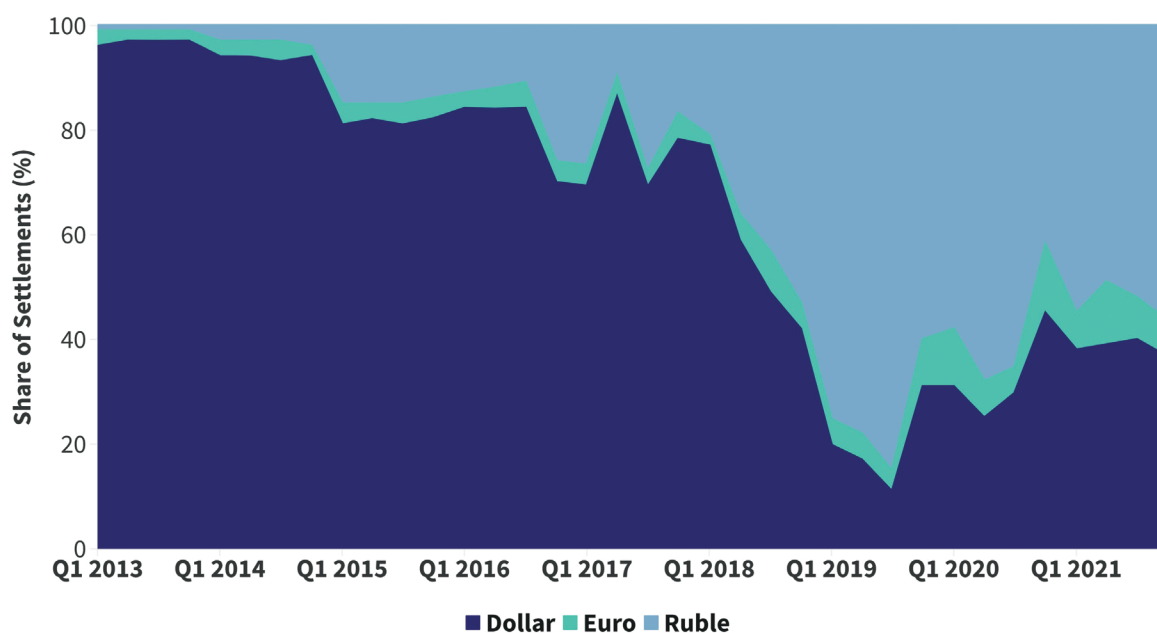


Notes: Currency share of reserves measured as percent of market value. The data takes into account unsettled currency transactions as of reporting date.

Source: Central Bank of Russia (CBR) Foreign Exchange and Gold Asset Management Reports, No. 3 (31)–No.1 (61). “BoR Operations, Foreign Exchange and Gold Asset Management Report.” Central Bank of Russia, 2022.
https://www.cbr.ru/eng/analytics/oper_br/.

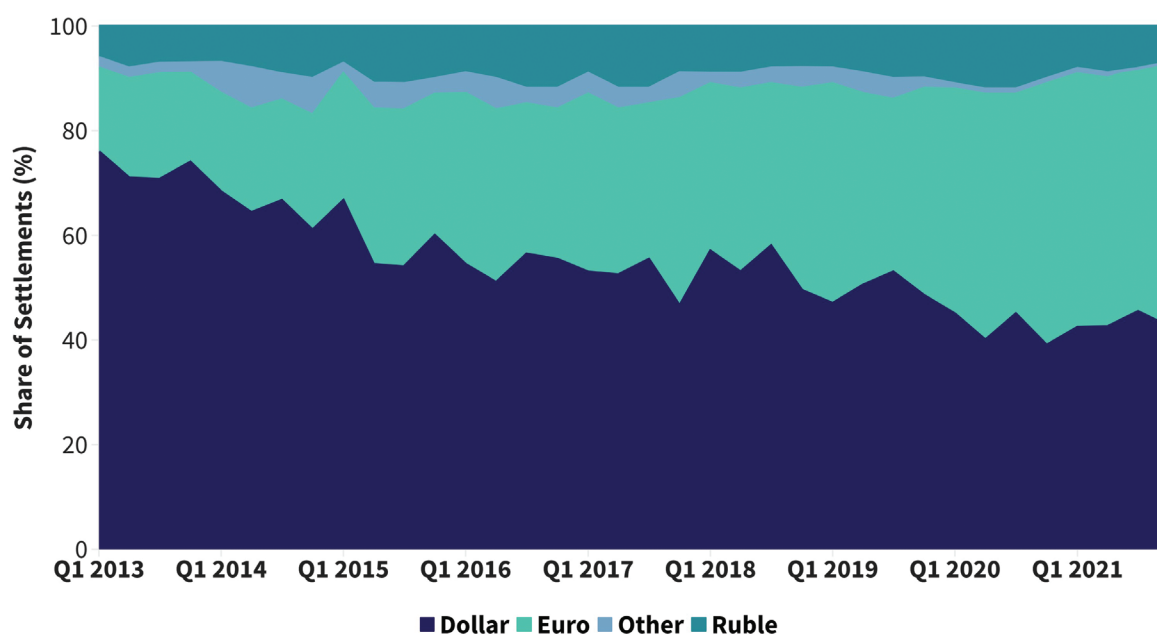
Russia’s response was not limited to shifts in reserve allocations. Moscow also cut its reliance on the dollar as a trade settlement currency with key trading partners in the years before its invasion of Ukraine in 2022. In 2014, over 90 percent of Russian exports to China and India were paid for in the US currency; by 2021, the dollar’s share had fallen to below 40 percent in each case, as euros and rubles replaced the greenback’s once dominant role. The currency composition of Russian export settlement with the European Union (EU) underwent a similar transformation, with the dollar’s role falling from over 70 percent to around 40 percent over the same period, supplanted by the euro.

Figure 7: Currency Structure of Settlements, Goods and Services, Russian Exports to India, Q1 2013-Q4 2021



Source: Central Bank of Russia (CBR) External Sector Statistics. “External Sector Statistics, Currency Composition for Settlement of Goods and Services.” Central Bank of Russia, July 7, 2022. https://www.cbr.ru/eng/statistics/macro_itm/svs/.

Figure 8: Currency Structure of Settlements, Goods and Services, Russian Exports to the EU, Q1 2013-Q4 2021



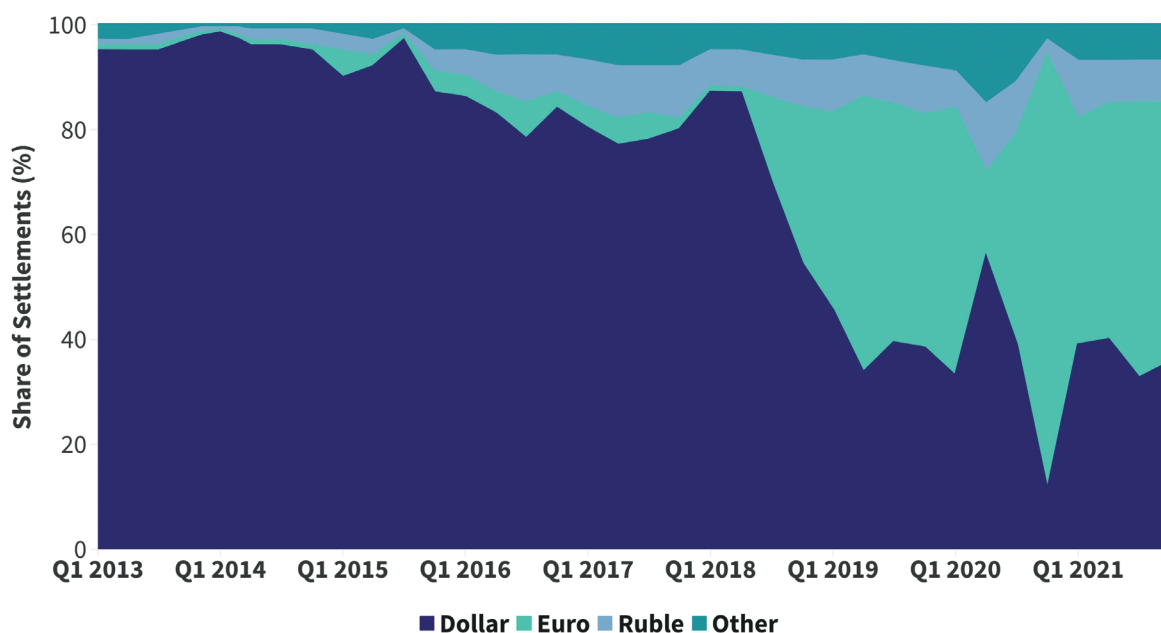
Source: Central Bank of Russia (CBR) External Sector Statistics. “External Sector Statistics, Currency Composition for Settlement of Goods and Services.” Central Bank of Russia, July 7, 2022. https://www.cbr.ru/eng/statistics/macro_itm/svs/.

Russian de-dollarization has only intensified since the start of the war.¹²⁴ Indeed, the severity of the sanctions levied against Russia has left it little choice. Moreover, because the EU joined the United States in 2022 by blacklisting key Russian state and economic targets, the Kremlin has given up on the notion that the euro could act as a sanctions safe haven.

Because of the multilateral nature of the most recent wave of sanctions, the dollar, along with the euro, yen, and pound sterling, comprise what Moscow now labels “toxic currencies.”¹²⁵ With few remaining options, Russia is growing more dependent on the Chinese yuan.¹²⁶

In April 2023, the yuan supplanted the dollar to become the most traded currency on the Moscow Exchange.¹²⁷ Russian citizens are increasingly opening savings accounts in the currency. The yuan has also assumed a larger role in Russian cross-border trade settlement, accounting for 16 percent of Russia’s exports and 23 percent of imports at the end of 2022, up from 0.5 and 4 percent, respectively, before the war.¹²⁸ The lion’s share of this is taking place in direct trade with China, where the yuan now accounts for roughly 60 percent of commercial payments between the countries, according to recent remarks from Russian Finance Minister Anton Siluanov.¹²⁹ However, there is growing evidence that Russia is using the yuan as a cross-border payment currency with third countries, including Bangladesh, India, and even Japan.¹³⁰

Figure 9: Currency Structure of Settlements, Goods and Services, Russian Exports to China, Q1 2013-Q4 2021



Source: Central Bank of Russia (CBR) External Sector Statistics. “External Sector Statistics, Currency Composition for Settlement of Goods and Services.” Central Bank of Russia, July 7, 2022. https://www.cbr.ru/eng/statistics/macro_itm/svs/.

On one hand, these trends are evidence that Western sanctions are working: Large portions of the Russian economy have been forced out of the dollar and euro systems, complicating Moscow's ability to participate in the world economy. On the other hand, these moves also signal that Russia is working with partners, China in particular, to develop sanctions workarounds. Moreover, as sanctions force an increasing amount of economic activity in the yuan, this contributes to building economies of scale and experience in alternative financial systems. The development of such alternatives poses risks to sanctions efficacy in the medium term. In time, this could frustrate Western attempts to use the threat of financial sanctions to deter Chinese aggression in the Asia-Pacific.

China Seeks to Internationalize its Yuan

The notion that the US' use of sanctions will provoke a global shift away from the dollar into the yuan reached a fever pitch in the spring of 2023, when Brazil and China inked a deal aimed at increasing the use "local" currencies in transactions between the two BRICS economies.¹³¹ (Brazil and China are part of a grouping that includes Russia, India, and South Africa, together known as the BRICS.) Shortly thereafter, during an official visit to China, Brazilian President Luiz Inácio Lula da Silva provocatively asked, "Why should every country have to be tied to the dollar for trade?... Who decided the dollar would be the [world's] currency?"¹³²

In truth, China's interest in internationalizing the yuan long predates the Russo-Ukraine war. Following the 2007–08 Global Financial Crisis, Beijing began to (slowly) implement a series of policies and financial reforms aimed at enhancing its currency's international use. At that time, Beijing's efforts were motivated by concerns about economic vulnerabilities stemming from dollar dependence. In recent years, though, geopolitical risks have become the dominant force propelling China's internationalization efforts forward.

Officials in Beijing have carefully watched and learned from Washington's growing use of the dollar as a weapon against the US' adversaries. For instance, when the Trump administration pulled out of the Iran nuclear deal in 2018 and reinstated sweeping financial sanctions on the country, financial elites in China characterized it as a moment of opportunity for the yuan. With more countries openly complaining about the misuse of dollar dominance—including US allies in Europe—Beijing could capitalize on growing anti-dollar sentiment by floating the yuan as an alternative.

In 2020, in response to Beijing's crackdown on pro-democracy protests in Hong Kong, the Trump administration sanctioned then Hong Kong chief executive Carrie Lam and ten other Chinese Communist Party officials in the special administrative region.¹³³ Following this move, officials and elites in China began to see US sanctions as a direct threat to China. Former People's Bank of China (PBOC) governor Zhou Xiaochuan noted in public remarks that promoting the international use of China's own currency was the only way that the country could "effectively resist" US sanctions pressure.¹³⁴ Elsewhere, Shuang Ding, a former PBOC economist, summed it up this way: "[Yuan] internationalization was a good-to-have. It's now becoming a must have."¹³⁵

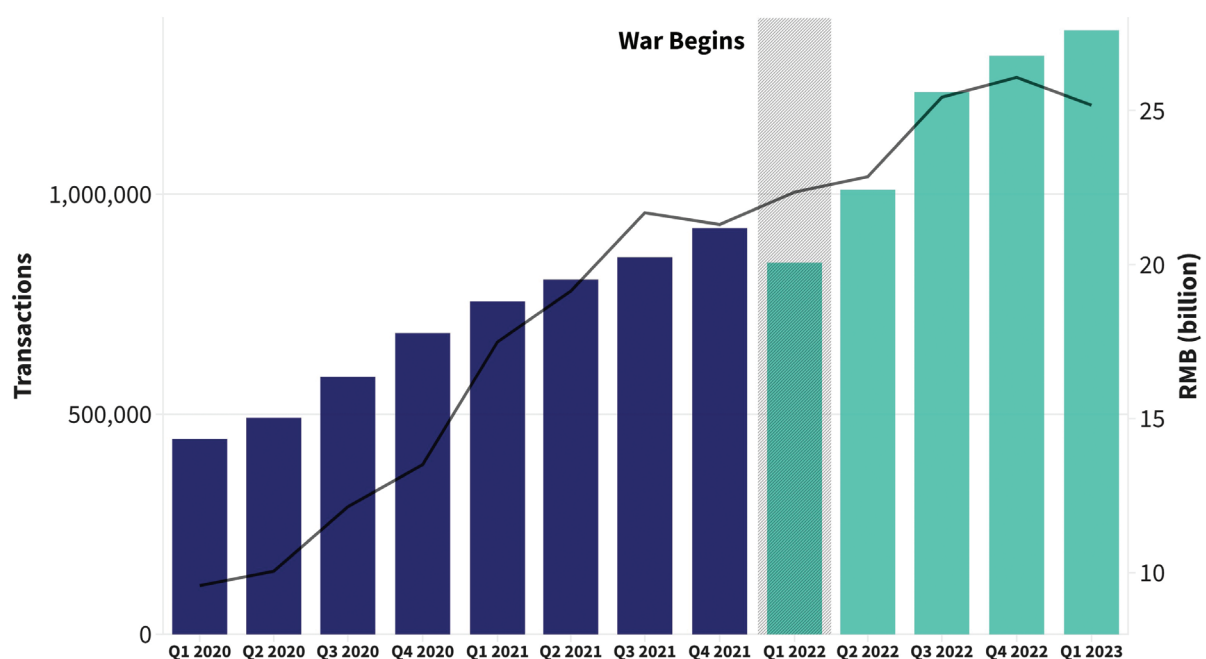
Though there is limited appetite in China to greatly increase the yuan's role as a reserve currency because of the (potentially destabilizing) financial market reforms this would require, developing the yuan's use as a cross-border payments currency has fast become a priority of the central government.

Most worrisome for China's leadership is the prospect that Washington could cut off core export sectors from access to the banks that finance its firms' involvement in international trade or disrupt its ability to pay for energy and other raw material imports. Beijing is keenly aware of how dollar dependence left vulnerable the commercial relations of Iran, Russia, and Venezuela, and it wishes to avoid a similar fate.

To do so, China is working to stitch together an alternative financial network, based on its own currency with Chinese banks at the core. Launched in 2015 to little fanfare, the Cross-Border Interbank Payment System (CIPS) is a critical element of China's play for enhanced financial autonomy and resilience.¹³⁶ Today, more than eighty Chinese banks are "direct participants" in the scheme, serving as the financial hubs to which nearly one thousand four hundred "indirect participant" banks in over one hundred countries are connected through shared accounts. The system is designed to move yuan across borders without touching the dollar or the US financial system, making it difficult for Washington to monitor and disrupt.

Though CIPS remains far smaller than its dollar-based counterpart (known as CHIPS, the Clearing House Interbank Payments System), the daily volume of yuan cleared on the system has more than doubled since the first quarter of 2020. Foreign interest seems high, too, as nearly five hundred new banks joined as indirect participants during that span.¹³⁷

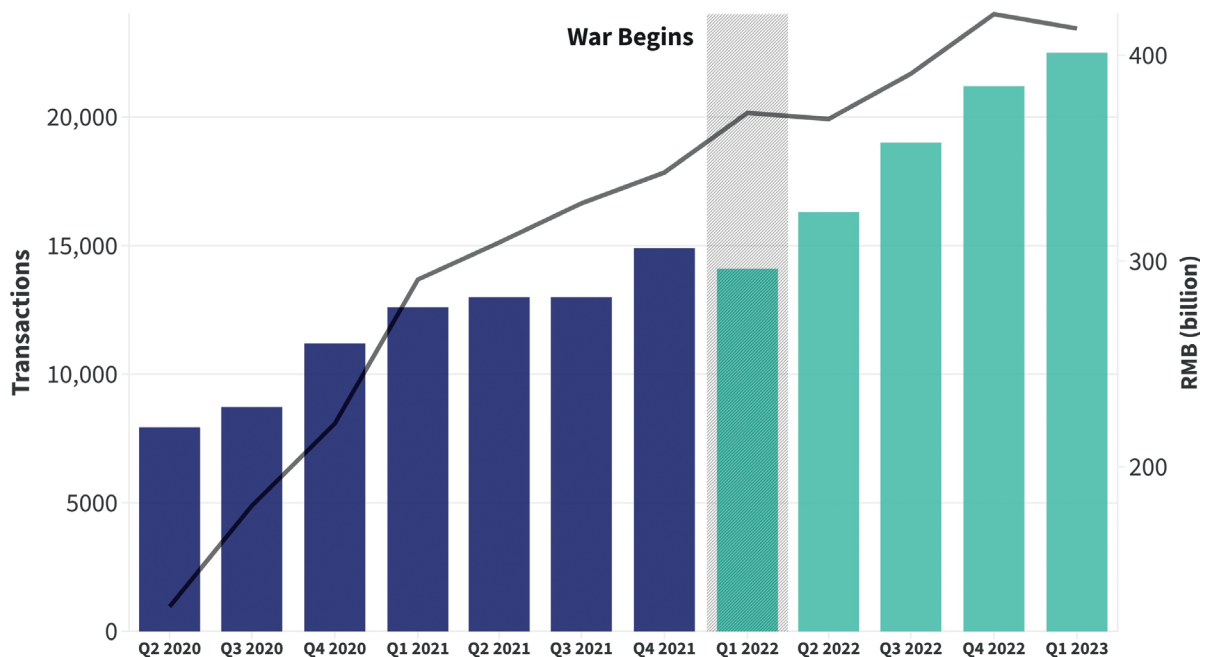
Figure 10: CIPS Transaction Volume and Value (Quarterly Totals), Q1 2020-Q1 2023



Notes: Bars represent number of transactions, line represents value of transactions (quarterly totals).

Source: People's Bank of China (PBOC) Financial Services. "Financial Services, Payment and Settlement Systems, Statistics, Research, and Reports." People's Bank of China, June 20, 2023. <http://www.pbc.gov.cn/en/3688241/3688663/3688681/index.html>.

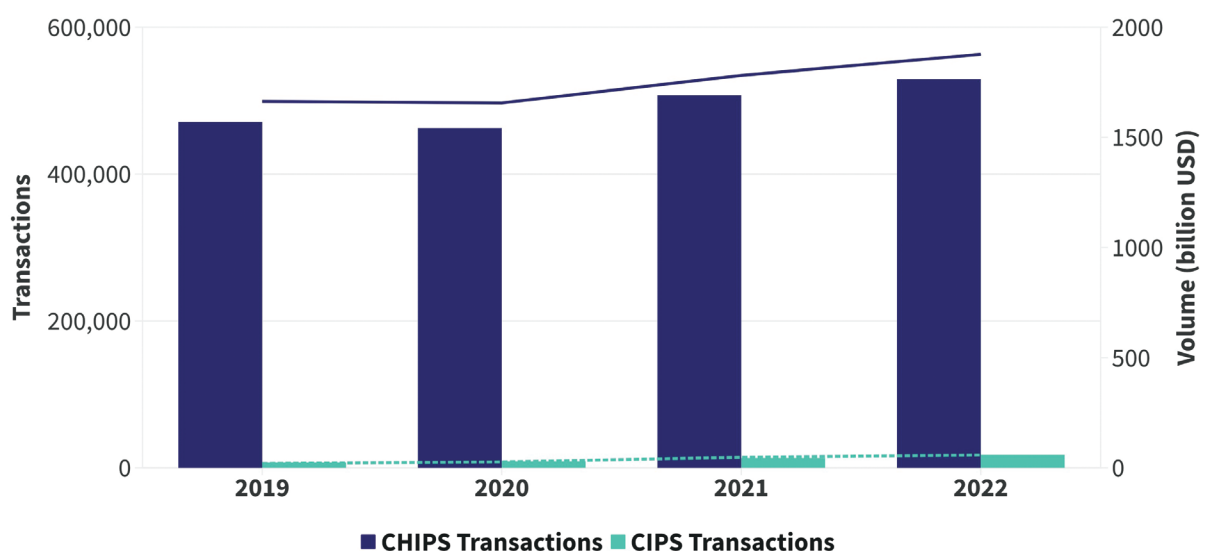
Figure 11: CIPS Transaction Volume and Value (Quarterly Daily Averages), Q1 2020-Q1 2023



Notes: Bars represent number of transactions, line represents value of transactions (quarterly daily averages).

Source: People's Bank of China (PBOC) Financial Services. "Financial Services, Payment and Settlement Systems, Statistics, Research, and Reports." People's Bank of China, June 20, 2023. <http://www.pbc.gov.cn/en/3688241/3688663/3688681/index.html>.

Figure 12: CHIPS (USD) vs CIPS (RMB): Transaction Volume and Value (Daily Averages), 2019-2022



Notes: Bars represent number of transactions, lines represent value of transactions (daily averages).

Source: People's Bank of China (PBOC) Financial Services, CHIPS Annual Statistics. "Financial Services, Payment and Settlement Systems, Statistics, Research, and Reports." People's Bank of China, June 20, 2023.

<http://www.pbc.gov.cn/en/3688241/3688663/3688681/index.html> ; "CHIPS, Annual Statistics." CHIPS, April 30, 2023.

https://media.theclearinghouse.org/-/media/New/TCH/Documents/Payment-Systems/chips_volume_value_YTD_April_2023.pdf?rev=598189592e8849dabcf9967b3b71351.

The critical point is this: For CIPS to be a success, China need not topple the dollar's global dominance as the world's preferred cross-border payment currency, it need only extricate itself from the dollar's grip on its bilateral cross-border payments.

Here there are signs of progress. The share of China's trade settled in its own currency has risen from 10 percent in 2017 to nearly 25 percent in 2023.¹³⁸ Assuming the system continues to develop over the next decade, its existence will diminish the deterrent effect that the threat of US financial sanctions has on Chinese behavior.

Adjusting Sanctions Policy to the Anti-Dollar Era

Despite click-baiting predictions of its imminent demise, the dollar remains the world economy's indispensable currency and maintains economic and political advantages over all alternatives. Still, the number of states espousing anti-dollar viewpoints or adopting anti-dollar policies is growing and extends beyond the actions of China and Russia alone.

For instance, sanctions have played a key role in the revival of gold, that old "barbarous relic," as a monetary asset.¹³⁹ Central banks, which have been net buyers every year since 2010, bought more yellow metal in 2022 than any year on record.¹⁴⁰ A recent World Gold Council survey found that "geopolitical concerns" and "concerns about sanctions" were important factors driving interest in the commodity.¹⁴¹

Meanwhile, Europe's trust in the dollar still carries the scars of the Trump administration's 2018 decision to withdraw from the Iran deal. The move, which reinstated secondary sanctions and forced European banks and businesses to cut ties with Iran, led many policy makers and elites on the continent to advocate for a more internationalized, muscular euro system. Multilateral cooperation on Russia sanctions has functioned as a salve on the Iran wound, yet French President Emmanuel Macron's April 2023 pledge—while on a visit to China, no less—that Europe should pursue "strategic autonomy" from the United States by reducing dependence on the "extraterritoriality of the US dollar" suggests that all is not forgiven or forgotten.¹⁴²

Financial sanctions remain a potent coercive tool and should retain an important place in Washington's foreign policy toolkit. However, the significance of these anti-dollar reactions should not be lost on US policy makers. This moment presents US officials with an important opportunity to develop improved guidelines for when, and how, to employ financial sanctions. Such guidelines should be developed with an eye toward protecting the dollar's status and preserving the tool's effectiveness for moments when the interests of the United States and its allies are most gravely threatened.

First, whenever possible, leaders in Washington should work to coordinate the use of financial sanctions with US allies in Europe and Asia. The US' partners should feel as if they are critical stakeholders in the dollar system, not vassals to it. Coordinating efforts will reduce the chances that the US' allies feel victimized by the dollar and seek to conduct business with US adversaries outside of the dollar system. Just as importantly, multilateral responses also send a strong message to the world that moving activities into secondary currencies like the euro or yen is not a safe haven from sanctions.

Second, the United States should approach the use of so-called symbolic financial sanctions with great caution. If the main objective of a tranche of sanctions is to send a political message to the world or a

domestic audience that Washington condemns a foreign government's policy choices, other measures that send a similar signal but do not politicize the dollar system ought to be utilized first.

Finally, employing financial sanctions against issuers of potential rival currencies—in particular China and its yuan—should face a higher bar of scrutiny. In such cases, even small, targeted sanctions programs provide information to US adversaries about their vulnerabilities, giving them time to prepare for a future event when a comprehensive financial sanctions program may be called upon as part of a major security crisis, when such measures will be critically important.



CONCLUSION

The Group of Seven (G7) and broader coalition's response to Russia's invasion of Ukraine demonstrates a new dimension of transatlantic economic statecraft coordination. The levers of sanctions, export controls, and asset freezes have been pulled to pursue foreign policy and national security objectives. The economic statecraft landscape is becoming increasingly complex as these tools are used unilaterally and multilaterally by transatlantic partners and the targets of these actions come up with new and sophisticated ways to evade and circumvent them.

While the chapters of this report focus on different aspects of economic statecraft, two common themes present themselves: (1) there is a need for greater coordination among transatlantic partners on the strategic use of economic statecraft tools, and (2) there is a need for greater understanding of partners' vulnerabilities as they relate to the coercive application of economic power. The authors call on policy makers to balance the risks of economic statecraft as they continue to depend on these tools and develop coordinated, multilateral strategies to address transnational threats.

This report is the first step in understanding how economic statecraft is used by transatlantic partners and the impact these actions have on the global economy and the US dollar. As transatlantic partners consider how to leverage economic statecraft in the future, more work is needed to better understand the benefits, risks, and vulnerabilities associated with the coercive and positive aspects of these tools.



Image of the Oberbaum Bridge in Berlin, during a dramatic sunset. RudyBalasko via iStock.

Acknowledgements

Publication of this timely report on economic statecraft was possible under the guidance and direction of Kimberly Donovan, Director of the Economic Statecraft Initiative within the Atlantic Council's GeoEconomics Center. The authors would like to thank the Economic Statecraft team, Kimberly Donovan, Maia Nikoladze, and Ryan Murphy for managing this publication. The authors also thank the Atlantic Council and Atlantik-Brücke teams: Josh Lipsky, Julia Friedlander, Walter Frick, Charles Lichfield, Niels Graham, and Cate Hansberry.

This report is written and published in accordance with the Atlantic Council Policy on Intellectual Independence. The authors are solely responsible for its analysis and recommendations. The Atlantic Council and its donors do not determine, nor do they necessarily endorse or advocate for, any of this report's conclusions.

ENDNOTES

- 1 See Chapter 2, "Positive Economic Statecraft: Wielding Hard Outcomes with Soft Money."
- 2 Edward J. Collins-Chase, *U.S. Sanctions: Legislation in the 117th Congress*, Congressional Research Service, December 20, 2022, <https://sgp.fas.org/crs/misc/R47344.pdf>.
- 3 International Emergency Economic Powers, USC 50 Ch. 35 § 1701. Accessed August 31, 2023. <https://uscode.house.gov/view.xhtml?path=/prelim@title50/chapter35&edition=prelim>;
"Office of Foreign Assets Control," US Department of the Treasury, accessed August 16, 2023, <https://ofac.treasury.gov/>; "Economic Sanctions Programs - United States Department of State," US Department of State, accessed August 16, 2023, <https://www.state.gov/economic-sanctions-programs/>.
- 4 Barack Obama. "Executive Order 13660—Blocking Property of Certain Persons Contributing to the Situation in Ukraine ." Executive Office of the President, March 10, 2014. <https://www.federalregister.gov/documents/2014/03/10/2014-05323/blocking-property-of-certain-persons-contributing-to-the-situation-in-ukraine>.
- 5 The Bank Secrecy Act authorizes the US Department of the Treasury to impose reporting and other requirements on financial institutions and other businesses to help detect and prevent money laundering. "The Bank Secrecy Act," Financial Crimes Enforcement Network, accessed August 16, 2023, <https://www.fincen.gov/resources/statutes-and-regulations/bank-secrecy-act>; "The USA PATRIOT Act: Preserving Life and Liberty," US Department of Justice, accessed July 28, 2023, <https://www.justice.gov/archive/ll/highlights.htm#:~:text=Congress%20enacted%20the%20Patriot%20Act,from%20across%20the%20political%20spectrum>; Section 311 of the USA Patriot Act is a special measure targeting specific money-laundering and terrorist financing risks. "311 Actions," US Department of the Treasury, accessed August 16, 2023, <https://home.treasury.gov/policy-issues/terrorism-and-illicit-finance/311-actions#:~:text=Section%20311%20of%20the%20USA,terrorist%20financing%20risks%20most%20effectively>.
- 6 "Export Administration Regulations," Bureau of Industry and Security, US Department of Commerce, accessed August 16, 2023, <https://www.bis.doc.gov/index.php/regulations/export-administration-regulations-ear>.
- 7 The US Department of the Treasury's Office of Foreign Assets Control publishes and maintains the Specially Designated Nationals and Blocked Persons (SDN) list of designated individuals, entities, and companies owned or controlled by, or acting for or on behalf of, targeted countries. Their assets are blocked and US persons are generally prohibited from dealing with them. "Specially Designated Nationals And Blocked Persons List (SDN) Human Readable Lists," Office of Foreign Assets Control, US Department of the Treasury, accessed August 16, 2023, <https://ofac.treasury.gov/specially-designated-nationals-and-blocked-persons-list-sdn-human-readable-lists>.
- 8 US Department of the Treasury, *The Treasury 2021 Sanctions Review*, October 2021, <https://home.treasury.gov/system/files/136/Treasury-2021-sanctions-review.pdf>.
- 9 See chapter 3, "Networked Power: Export Control Policy Across the G7."
- 10 "Multilateral Export Control Regimes," Bureau of Industry and Security, US Department of Commerce, accessed July 28, 2023, <https://www.bis.doc.gov/index.php/policy-guidance/multilateral-export-control-regimes>.
- 11 "Commerce Control List (CCL)," Bureau of Industry and Security, US Department of Commerce, accessed July 28, 2023, <https://www.bis.doc.gov/index.php/regulations/commerce-control-list-ccl>.
- 12 "Entity List," Bureau of Industry and Security, US Department of Commerce, accessed July 28, 2023, <https://www.bis.doc.gov/index.php/policy-guidance/lists-of-parties-of-concern/entity-list>.
- 13 Giovanna M. Cinelli, "Congress Considers Legislation to Shift Export Control Jurisdiction from the Department of Commerce," Morgan Lewis, November 7, 2022, <https://www.morganlewis.com/pubs/2022/11/congress-considers-legislation-to-shift-export-control-jurisdiction-from-the-department-of-commerce>.
- 14 Gregory C. Allen, Emily Benson, and William Alan Reinsch, "Improved Export Controls Enforcement Technology Needed for U.S. National Security," Center for Strategic & International Studies, November 30, 2022, <https://www.csis.org/analysis/improved-export-controls-enforcement-technology-needed-us-national-security>.
- 15 Office of Public Affairs, US Department of Justice, "Justice Department Announces Five Cases as Part of Recently Launched Disruptive Technology Strike Force," press release, May 16, 2023, <https://www.justice.gov/opa/pr/justice-department-announces-five-cases-part-recently-launched-disruptive-technology-strike>.
- 16 Laurence Boone. "A European Approach to Economic Statecraft." Peterson Institute for International Economics, March 28, 2023. <https://www.piie.com/events/european-approach-economic-statecraft>.
- 17 Ibid.
- 18 "Jan Strupczewski. "EU Approves 11th Sanctions Package against Russia over Ukraine." Reuters, June 21, 2023, sec. Europe. <https://www.reuters.com/world/europe/eu-approves-11th-sanctions-package-against-russia-over-ukraine-2023-06-21/>

- 19 "The EU List of Persons, Groups and Entities Subject to Specific Measures to Combat Terrorism ." Factsheet. Council of the European Union, January 15, 2015. <https://www.government.se/contentassets/29f8d11a200f413c89cb6ef398562cd6/eu-fact-sheet-on-terrorism.pdf>. United Nations Security Council, "Resolution 1373 (2001)," September 28, 2001, https://www.unodc.org/pdf/crime/terrorism/res_1373_english.pdf.
- 20 Overview of Sanctions and Related Resources." European Commission, August 2, 2023. https://finance.ec.eu-and-world/sanctions-restrictive-measures/overview-sanctions-and-related-resources_en.
- 21 "Adoption and Review Procedure for EU Sanctions." Council of the European Union, accessed August 31, 2023. <https://www.consilium.europa.eu/en/policies/sanctions/adoption-review-procedure/>.
- 22 European Commission, "Questions and Answers: Commission Proposes to Criminalize Evasion of EU sanctions," December 2, 2022, https://ec.europa.eu/commission/presscorner/detail/en/qanda_22_7373.
- 23 Tobias Gehrke, and Julian Ringhof. "The Power of Control: How the EU Can Shape the New Era of Strategic Export Restrictions." Policy Brief. European Council on Foreign Relations, May 17, 2023. <https://ecfr.eu/publication/the-power-of-control-how-the-eu-can-shape-the-new-era-of-strategic-export-restrictions/>.
- 24 Ibid.
- 25 Boone, "A European Approach."
- 26 European Commission, "An EU Approach to Enhance Economic Security," Press Release, June 20, 2023, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3358.
- 27 "Sanctions and Anti-Money Laundering Act 2018," legislation.gov.uk, accessed August 17, 2023, <https://www.legislation.gov.uk/ukpga/2018/13/contents>.
- 28 GOV.UK, *Integrated Review Refresh 2023: Responding to a More Contested and Volatile World*, May 16, 2023, <https://www.gov.uk/government/publications/integrated-review-refresh-2023-responding-to-a-more-contested-and-volatile-world>.
- 29 Foreign, Commonwealth & Development Office, "The UK Sanctions List," GOV.UK, August 10, 2023, <https://www.gov.uk/government/publications/the-uk-sanctions-list>.
- 30 "OFSI Consolidated List Search," Office of Financial Sanctions Implementation, HM Treasury, accessed August 17, 2023, <https://sanctionssearchapp.ofsi.hmtreasury.gov.uk/>.
- 31 Elizabeth Robertson, Zahra Mashhood, and Jason Williamson. "The Future Landscape of the UK Sanctions Regime." Insights. Skadden, Arps, Slate, Meagher & Flom LLP, July 11, 2022. <https://www.skadden.com/insights/publications/2022/07/the-future-landscape-of-the-uk-sanctions-regime>.
- 32 Department for Business and Trade and Export Control Joint Unit, *UK Strategic Export Controls Annual Report 2022*, GOV.UK, July 19, 2023, <https://www.gov.uk/government/publications/uk-strategic-export-controls-annual-report-2022>.
- 33 Export Control Joint Unit and Department for Business and Trade, "Consolidated List of Strategic Military and Dual-Use Items that Require Export Authorisation," GOV.UK, August 1, 2023, <https://www.gov.uk/government/publications/uk-strategic-export-control-lists-the-consolidated-list-of-strategic-military-and-dual-use-items-that-require-export-authorisation>; Anne-Marie Trevelyan, "Trade Policy Update," UK Parliament, December 8, 2021, <https://questions-statements.parliament.uk/written-statements/detail/2021-12-08/hcws449>.
- 34 Daniel McDowell, *Bucking the Buck: US Financial Sanctions and the International Backlash against the Dollar* (Oxford University Press, 2023).
- 35 Ibid.
- 36 Charles Lichfield, Maia Nikoladze, and Castellum.AI, "Global Sanctions Dashboard: What's Coming in 2023?" *Econographics*, November 17, 2022, <https://www.atlanticcouncil.org/blogs/econographics/global-sanctions-dashboard-whats-coming-in-2023/>.
- 37 Gehrke and Ringhof, *The Power of Control*.
- 38 David Kleimann et al., *How Europe Should Answer the US Inflation Reduction Act*, Bruegel, February 23, 2023, <https://www.bruegel.org/policy-brief/how-europe-should-answer-us-inflation-reduction-act>.
- 39 Erika Szyszczak, *Trade and Security: The EU's Unilateral Approach to Economic Statecraft*, Briefing Paper 70, UK Trade Policy Observatory, University of Sussex, October 2022, <https://blogs.sussex.ac.uk/uktpo/files/2022/10/BP-70.pdf>.
- 40 European Commission, "Political Agreement on New Anti-Coercion Instrument to Better Defend EU Interests on Global Stage," Press Release, June 6, 2023, https://ec.europa.eu/commission/presscorner/detail/en/IP_23_3046.
- 41 János Allenbach-Ammann, "EU Agrees on Anti-Coercion Instrument to Fight Foreign Interference," *Euractiv*, April 26, 2023, <https://www.euractiv.com/section/economy-jobs/news/eu-agrees-on-anti-coercion-instrument-to-fight-foreign-interference/>.
- 42 Szyszczak, *Trade and Security*.

- 43 Deutsche Welle, "US Reaches Agreement to End European Digital Taxes," October 22, 2021, <https://www.dw.com/en/us-reaches-agreement-to-end-european-digital-services-taxes/a-59584827#:~:text=France%2C%20Austria%2C%20Italy%2C%20Spain,will%20drop%20retaliatory%20punitive%20tariffs>.
- 44 "Brexit Reduced Overall EU-UK Goods Trade Flows by Almost One-Fifth," Economic & Social Research Institute, October 19, 2022, <https://www.esri.ie/news/brexit-reduced-overall-eu-uk-goods-trade-flows-by-almost-one-fifth>.
- 45 Matthew Moran, "Brexit and Beyond: UK Sanctions Policy," King's College London, January 20, 2021, <https://www.kcl.ac.uk/uk-sanctions-policy>.
- 46 Sunny Mann, Tristan Grimmer, and Courtney Mackness, "Blog Series: Sanctions Enforcement around the G7, the UK Perspective," *Sanctions & Export Controls Update*, March 10, 2023, <https://sanctionsnews.bakermckenzie.com/blog-series-sanctions-enforcement-around-the-g7-the-uk-perspective/>.
- 47 US Department of the Treasury, "Russian Elites, Proxies, and Oligarchs Task Force Joint Statement," press release, June 29, 2022, <https://home.treasury.gov/news/press-releases/jy0839>; US Department of the Treasury, "Joint Statement from the REPO Task Force," press release, March 9, 2023, <https://home.treasury.gov/news/press-releases/jy1329>; Financial Crimes Enforcement Network, US Department of the Treasury, "Russia-related illicit finance and sanctions FIU Working Group statement of intent," press release, March 16, 2023, <https://www.fincen.gov/news/news-releases/russia-related-illicit-finance-and-sanctions-fiu-working-group-statement-intent>.
- 48 US Department of the Treasury, "Treasury Sanctions Russia-Based Hydra, World's Largest Darknet Market, and Ransomware-Enabling Virtual Currency Exchange Garantex," press release, April 5, 2022, <https://home.treasury.gov/news/press-releases/jy0701>.
- 49 Jacob J. Lew and Richard Nephew, "The Use and Misuse of Economic Statecraft," *Foreign Affairs*, October 15, 2018, <https://www.foreignaffairs.com/articles/world/2018-10-15/use-and-misuse-economic-statecraft>.
- 50 Michael Mastanduno, "Economics and Security in Statecraft and Scholarship," *International Organization* 52 (4) (1998): 825–54, DOI:10.1162/002081898550761.
- 51 Sebastian Hellmeier, "How Foreign Pressure Affects Mass Mobilization in Favor of Authoritarian Regimes," *European Journal of International Relations* 27, no. 2 (June 2021): 450–77. <https://doi.org/10.1177/1354066120934527>.
- 52 World Bank, *Poverty and Shared Prosperity 2022: Correcting Course*, October 6, 2021, <https://doi.org/10.1596/978-1-4648-1893-6>.
- 53 Nicole Goldin, *Generational Dynamics of Economic Crisis and Recovery: Prospects for Younger and Older Persons*, Atlantic Council, November 23, 2021, <https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/generational-dynamics-of-economic-crisis-and-recovery-prospects-for-younger-and-older-persons/>; Luisa S Flor, Joseph Friedman, Cory N Spencer, John Cagney, Alejandra Arrieta, Molly E Herbert, Caroline Stein, et al. "Quantifying the effects of the COVID-19 pandemic on gender equality on health, social, and economic indicators: a comprehensive review of data from March, 2020, to September, 2021," *Lancet* 399 (10344) (June 25, 2022): 2381–97, [https://doi.org/10.1016/s0140-6736\(22\)00008-3](https://doi.org/10.1016/s0140-6736(22)00008-3).
- 54 White House, *National Security Strategy*, October 2022, <https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf>.
- 55 Oyintarelado Moses, Cecilia Springer, and Kevin P. Gallagher, "Demystifying Chinese Overseas Lending and Development Finance," GCI Policy Brief 018, Global Development Policy Center, Boston University, April 2023, https://www.bu.edu/gdp/files/2023/04/GCI_PB_018_Chinas_OLDF_FIN.pdf.
- 56 Dilip Ratha, Vandana Chandra, Eung Ju Kim, Nyasha Kurasha, and Baran Pradhan, *Migration and Development Brief 38: Remittances Remain Resilient but Are Slowing*, World Bank Group and Global Knowledge Partnership on Migration and Development (KNOMAD), June 2023, https://knomad.org/sites/default/files/publication-doc/migration_development_brief_38_june_2023_0.pdf.
- 57 New Development Bank, *Annual Report 2021: Expanding Our Reach and Impact*, 2022, <https://www.ndb.int/annual-report-2021/>.
- 58 Asian Infrastructure Investment Bank, *2021 AIIB Annual Report*, 2022, https://www.aiib.org/en/news-events/annual-report/2021/_common/pdf/2021_AIIBAnnualReport_web-reduced.pdf.
- 59 Asian Development Bank, *Annual Report 2021: Toward a Green and Inclusive Recovery*, 2022, <https://www.adb.org/sites/default/files/institutional-document/788046/adb-annual-report-2021.pdf>.
- 60 World Bank Group, *World Bank Group Annual Reports 2021: Executive Summary*, 2022, <https://thedocs.worldbank.org/en/doc/8d5e2ee0bac72a1d938d5cf94ceff751-0090012021/original/WBG-AR-2021-Executive-Summary-Presentation.pdf>.
- 61 Carien du Plessis, Anait Miridzhanian, Bhargav Acharya, Anait Miridzhanian, and Bhargav Acharya. "BRICS Welcomes New Members in Push to Reshuffle World Order." Reuters, August 25, 2023, sec. World. <https://www.reuters.com/world/brics-poised-invite-new-members-join-bloc-sources-2023-08-24/>.
- 62 Christoph Nedopil Wang, *China Belt and Road Initiative (BRI) Investment Report 2022*, Green Finance & Development Center, February 3, 2023, <https://greenfdc.org/china-belt-and-road-initiative-bri-investment-report-2022/#:~:text=Chinese%20engage-ment%20through%20financial%20investments,7%20billion>.

- 63 William C. Pacatte, "Competing to Win: A Coalition Approach to Countering the BRI," Center for Strategic & International Studies, December 19, 2019, <https://www.csis.org/analysis/competing-win-coalition-approach-countering-bri>.
- 64 Joanna S. Kao, Hannah Murphy, and Kathrin Hille, "China Applies Brakes to Africa Lending," *Financial Times*, January 18, 2022, <https://www.ft.com/content/3639f210-2f72-4cbf-a01f-5cc41a13fb5c>.
- 65 "U.S. Foreign Assistance By Agency," [ForeignAssistance.gov](https://www.foreignassistance.gov/agencies), accessed August 8, 2023, <https://www.foreignassistance.gov/agencies>.
- 66 "U.S. Government Trade Agencies," Office of the United States Trade Representative, accessed August 4, 2023, <https://ustr.gov/about-us/trade-toolbox/us-government-trade-agencies>.
- 67 Jones Hayden, "EU Finalizes Migrant Deal with Tunisia," *Politico*, July 16, 2023, <https://www.politico.eu/article/eu-migration-deal-tunisia-migrants-africa-european-commission/>.
- 68 "MCC Effect," Millennium Challenge Corporation, accessed August 4, 2023, <https://www.mcc.gov/who-we-select/mcc-effect#:~:text=The%20MCC%20Effect%20in%20Action,various%20stages%20of%20a%20continuum>.
- 69 Michelle Adato and Limpho Maema, "With MCC Support, 10-Year Local Advocacy Effort for Women's Rights on Target for Success," Millennium Challenge Corporation, August 26, 2022, <https://www.mcc.gov/blog/entry/blog-082522-womens-rights-lesotho>.
- 70 Curt Tarnoff, *The Marshall Plan: Design, Accomplishments, and Significance*, Congressional Research Service, January 18, 2018, <https://sgp.fas.org/crs/row/R45079.pdf>.
- 71 "Global Gateway," European Commission, accessed August 4, 2023, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/stronger-europe-world/global-gateway_en.
- 72 "African Growth and Opportunity Act (AGOA)," Office of the United States Trade Representative, accessed August 4, 2023, <https://ustr.gov/issue-areas/trade-development/preference-programs/african-growth-and-opportunity-act-agoa>.
- 73 *Budget Support - Trends and Results 2022*, European Commission, 2022, https://international-partnerships.ec.europa.eu/system/files/2022-10/budget-support-trends-and-results-2022_en.pdf.
- 74 Susan B. Epstein and K. Alan Kronstadt, *Pakistan: U.S. Foreign Assistance*, Congressional Research Service, July 1, 2013, <https://sgp.fas.org/crs/row/R41856.pdf>.
- 75 "What is the EU-Turkey Deal?" International Rescue Committee, March 18, 2022, <https://www.rescue.org/eu/article/what-eu-turkey-deal>.
- 76 White House, "Fact Sheet: The Biden-Harris Administration's Abiding Commitment to Democratic Renewal at Home and Abroad," March 29, 2023, <https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/29/fact-sheet-the-biden-harris-administrations-abiding-commitment-to-democratic-renewal-at-home-and-abroad/>.
- 77 "Emergency Trust Fund for Africa," European Union, accessed August 14, 2023, https://trust-fund-for-africa.europa.eu/index_en.
- 78 "Public Law 108–11," 108th Congress, April 16, 2003, <https://www.congress.gov/108/plaws/publ11/PLAW-108publ11.pdf>.
- 79 European Commission, "The EU Presents a Support Package for the Republic of Moldova," Press Release, June 28, 2023, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3562.
- 80 "A Contract for Guarantees for Bilateral Business Development Worth 600 Million Dollars Signed with the U.S.," Consular Information of Ministry of Foreign Affairs of the Republic of Lithuania, November 24, 2021, <https://keliauk.urm.lt/en/news/view/a-contract-for-guarantees-for-bilateral-business-development-worth-600-million-dollars-signed-with-the-us>.
- 81 "Eastern Partnership Technical Assistance Trust Fund," European Investment Bank, accessed August 14, 2023, <https://www.eib.org/en/products/mandates-partnerships/donor-partnerships/trust-funds/eastern-partnership-technical-assistance-trust-fund>.
- 82 "Blue Dot Network," US International Development Finance Corporation, accessed August 14, 2023, <https://www.dfc.gov/our-work/blue-dot-network>.
- 83 *The U.S.-Panama Free Trade Agreement*, Congressional Research Service, November 8, 2012, https://www.everycrsreport.com/files/20121108_RL32540_3401c4db88881712cf0b1cee1d02c386f540bcef.pdf.
- 84 European Commission, "EU and Thailand Relaunch Trade Negotiations," Press Release, March 15, 2023, https://ec.europa.eu/commission/presscorner/detail/en/ip_23_1628.
- 85 "2022 USTR Annual Report to Congress on the Implementation of the Nepal Trade Preference Program (NTPP)," Office of the US Trade Representative, accessed August 13, 2023, <https://ustr.gov/sites/default/files/assets/reports/2022/ntpp/2022-nepal-tpp-report-to-congress-final.pdf>.
- 86 European Commission, "Cambodia: EU Launches Procedure to Temporarily Suspend Trade Preferences," Press Release, February 11, 2019, https://ec.europa.eu/commission/presscorner/detail/en/IP_19_882.
- 87 *The Economist*, "Chinese Loans and Investment in Infrastructure Have Been Huge." May 20, 2022. <https://www.economist.com/special-report/2022/05/20/chinese-loans-and-investment-in-infrastructure-have-been-huge>.
- 88 "Partnership for Growth," Archived Content, US Agency for International Development, accessed August 4, 2023, [https://2017-2020.usaid.gov/news-information/fact-sheets/partnership-growth#:~:text=Partnership%20for%20Growth%20\(PFG\)%20is,Policy%20Directive%20on%20Global%20Development](https://2017-2020.usaid.gov/news-information/fact-sheets/partnership-growth#:~:text=Partnership%20for%20Growth%20(PFG)%20is,Policy%20Directive%20on%20Global%20Development).

- 89 Jeri Jensen, *Toward a New Paradigm of Sustainable Development: Lessons from the Partnership for Growth*, Center for Strategic & International Studies, September 2013, https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/130912_Jensen_TowardNewParadigm_WEB.pdf.
- 90 United States Senate Foreign Relations Committee, "Chairman Menendez Introduces Economic Statecraft for the Twenty-First Century Act," Press Release, April 28, 2022, <https://www.foreign.senate.gov/press/dem/release/chairman-menendez-introduces-economic-statecraft-for-the-twenty-first-century-act>.
- 91 Cécile Barbière, "Europe's Former Imperial Powers Continue to Target Aid to Ex-Colonies," *The Guardian*, April 22, 2015, sec. Global development. <https://www.theguardian.com/global-development/2015/apr/22/europes-former-imperial-powers-target-aid-ex-colonies>.
- 92 World Bank Group, "World Bank Group Statement on Evolution Roadmap," January 13, 2023, <https://www.worldbank.org/en/news/statement/2023/01/13/world-bank-group-statement-on-evolution-roadmap>.
- 93 White House, "Fact Sheet: Securing a Made in America Supply Chain for Critical Minerals," February 22, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/02/22/fact-sheet-securing-a-made-in-america-supply-chain-for-critical-minerals/>.
- 94 Dorothy Neufeld, "Inflation: How are Rising Food and Energy Prices Affecting the Economy?" World Economic Forum, September 7, 2022, <https://www.weforum.org/agenda/2022/09/inflation-rising-food-energy-prices-economy>; US Department of State, "Joint Statement on Global Food Security," November 14, 2022, <https://www.state.gov/joint-statement-on-global-food-security/>; International Monetary Fund, Joint Statement by the Heads of the Food and Agriculture Organization, International Monetary Fund, World Bank Group, World Food Programme and World Trade Organization on the Global Food and Nutrition Security Crisis, press release no. 23/35, February 8, 2023, <https://www.imf.org/en/News/Articles/2023/02/08/pr2335-joint-statement-by-the-fad-imf-wbg-wfp-and-wto-on-food-and-nutrition-security-crisis>.
- 95 International Labour Organization, "Frequently Asked Questions on Just Transition," accessed August 6, 2023, https://www.ilo.org/global/topics/green-jobs/WCMS_824102/lang--en/index.htm.
- 96 White House, "Remarks by National Security Advisor Jake Sullivan at the Special Competitive Studies Project Global Emerging Technologies Summit," September 16, 2022, <https://www.whitehouse.gov/briefing-room/speeches-remarks/2022/09/16/remarks-by-national-security-advisor-jake-sullivan-at-the-special-competitive-studies-project-global-emerging-technologies-summit/>.
- 97 Bureau of Industry and Security, US Department of Commerce, "Advanced Computing and Semiconductor Manufacturing Controls Final Rule," Press Release, October 7, 2022, <https://www.bis.doc.gov/index.php/documents/about-bis/newsroom/press-releases/3158-2022-10-07-bis-press-release-advanced-computing-and-semiconductor-manufacturing-controls-final/file>.
- 98 Hideki Tomoshige, "Key Differences Remain between U.S. and Japanese Advanced Semiconductor Export Control Regulations," Center for Strategic & International Studies, May 25, 2023, <https://www.csis.org/blogs/perspectives-innovation/key-differences-remain-between-us-and-japanese-advanced-semiconductor>.
- 99 Toby Sterling, "Dutch Curb Chip Equipment Exports, Drawing Chinese Ire," Reuters, June 30, 2023, <https://www.reuters.com/technology/amid-us-pressure-dutch-announce-new-chip-equipment-export-rules-2023-06-30/>.
- 100 White House, "Executive Order on Addressing United States Investments in Certain National Security Technologies and Products in Countries of Concern," August 9, 2023, <https://www.whitehouse.gov/briefing-room/presidential-actions/2023/08/09/executive-order-on-addressing-united-states-investments-in-certain-national-security-technologies-and-products-in-countries-of-concern/>.
- 101 "U.S.-EU Trade and Technology Council (TTC)," US Department of State, accessed August 21, 2023, <https://www.state.gov/u-s-eu-trade-and-technology-council-ttc/>.
- 102 See, for example, Economist Intelligence Unit, "The Chip 4 alliance will struggle to find cohesion in 2023," December 8, 2022, <https://country.eiu.com/article.aspx?articleid=1182633901#:~:text=The%20US%20proposed%20the%20Chip,on%20chips%20made%20in%20China>.
- 103 "European Chips Act," European Commission, accessed August 21, 2023, https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/europe-fit-digital-age/european-chips-act_en.
- 104 Semiconductor Industry Association, *2022 State of the U.S. Semiconductor Industry*, November 2022, https://www.semiconductors.org/wp-content/uploads/2022/11/SIA_State-of-Industry-Report_Nov-2022.pdf.
- 105 Sarah Bauerle Danzman and Emily Kilcrease, "The Illusion of Controls," *Foreign Affairs*, December 30, 2022, <https://www.foreignaffairs.com/united-states/illusion-controls>.
- 106 Henry Farrell and Abraham L. Newman, "Choke Points," *Harvard Business Review*, January-February 2020, <https://hbr.org/2020/01/choke-points>.
- 107 Ana Swanson, "One Reason the U.S. Can't Quit China? Chips," *New York Times*, July 8, 2023, <https://www.nytimes.com/2023/07/08/business/economy/us-china-chips-janet-yellen.html>.
- 108 Joel Hruska, "Why We Can't Build Our Way Out of the Semiconductor Shortage," *ExtremeTech*, May 11, 2021, <https://www.extremetech.com/computing/322695-why-we-cant-build-our-way-out-of-the-semiconductor-shortage>.

- 109 Thomas Oatley, W. Kindred Winecoff, Andrew Pennock, and Sarah Bauerle Danzman, "The Political Economy of Global Finance: A Network Model," *Perspectives on Politics* 11 (1), 133–153, DOI:10.1017/S1537592712003593.
- 110 These include five semiconductor components: process chemicals; SMEs used for manufacturing integrated circuits (IC SMEs); assembling, testing, and packaging (ATP SMEs); and miscellaneous SMEs (typically, parts and servicing of SME equipment), and photomasks as well as two finished items: logic chips and memory chips.
- 111 These countries were chosen because they are the most important countries in the global semiconductor supply chain.
- 112 Richard Perkins and Eric Neumayer, "Does the 'California Effect' Operate Across Borders? Trading- and Investing-up in Automobile Emission Standards," *Journal of European Public Policy*, vol. 12, no. 2, 2012, <https://www.tandfonline.com/doi/abs/10.1080/13501763.2011.609725>.
- 113 The intuition of this exercise is to identify the time stamps where structural breaks are observed in different chipmaking components' networks, after which we would map them onto real-world events affecting the global supply chain. Unfortunately, South Korea and Taiwan have not reported monthly data for the entirety of the period studied, so we must exclude them from analysis.
- 114 Structural break analysis data and visualizations are available at <https://www.sarahbauerledanzman.com/data.html>.
- 115 We also found some evidence, through examining chip trade by both value and volume, that the Chinese became more central buyers of chips after the US-organized coalition imposed semiconductor export bans to Russia, and that their sales to Russia also increased. We see this as evidence that Chinese firms did engage in backfilling chip sales to Russia. However, this presumed carry trade stopped after the imposition of the October 7 controls, suggesting that an additional outcome of these controls is that they made it harder for China to aid Russia in skirting the ban.
- 116 Reuters. "China Gallium, Germanium Export Curbs Kick in; Wait for Permits Starts." August 1, 2023, sec. Commodities. <https://www.reuters.com/markets/commodities/chinas-controls-take-effect-wait-gallium-germanium-export-permits-begins-2023-08-01/>.
- 117 These components are identified on the basis of the six-digit Harmonized System code classification.
- 118 "Sanctions Programs and Country Information," Office of Foreign Assets Control, US Department of the Treasury, accessed August 17, 2023, <https://ofac.treasury.gov/sanctions-programs-and-country-information>.
- 119 Daniel McDowell, *Bucking the Buck: US Financial Sanctions and the International Backlash against the Dollar* (New York, NY: Oxford University Press, 2023), 33.
- 120 White House, "Fact Sheet: The United States Continues to Target Russian Oligarchs Enabling Putin's War of Choice," March 3, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/03/03/fact-sheet-the-united-states-continues-to-target-russian-oligarchs-enabling-putins-war-of-choice/>; White House, "Fact Sheet: United States, G7 and EU Impose Severe and Immediate Costs on Russia," April 6, 2022, <https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/06/fact-sheet-united-states-g7-and-eu-impose-severe-and-immediate-costs-on-russia/>; US Department of the Treasury, "Treasury Prohibits Transactions with Central Bank of Russia and Imposes Sanctions on Key Sources of Russia's Wealth," press release, February 28, 2022, <https://home.treasury.gov/news/press-releases/jy0612>.
- 121 US Department of the Treasury, "Treasury Sanctions Additional Individuals and Entities in Connection with the Conflict in Ukraine and Russia's Occupation of Crimea," press release, January 26, 2018, <https://home.treasury.gov/news/press-releases/sm0266>; US Department of the Treasury, "Treasury Sanctions Russian Cyber Actors for Interference with the 2016 U.S. Elections and Malicious Cyber-Attacks," press release, March 15, 2018, <https://home.treasury.gov/news/press-releases/sm0312>; US Department of the Treasury, "Treasury Targets Individuals Involved in the Sergei Magnitsky Case and Other Gross Violations of Human Rights in Russia," press release, December 20, 2017, <https://home.treasury.gov/news/press-releases/sm0240>.
- 122 McDowell, *Bucking the Buck*, 44.
- 123 US Department of the Treasury, "Treasury Designates Russian Oligarchs, Officials, and Entities in Response to Worldwide Malign Activity," press release, April 6, 2018, <https://home.treasury.gov/news/press-releases/sm0338>.
- 124 Bloomberg News, "Russia Doubles Yuan, Gold Share in Wealth Fund Holdings," Bloomberg, December 30, 2022, <https://www.bloomberg.com/news/articles/2022-12-30/russia-to-raise-yuan-share-in-wealth-fund-to-60-gold-to-40>; George Lei, Tania Chen, and Jacob Gu, "China Takes the Yuan Global in Bid to Repel a Weaponized Dollar," Bloomberg, May 3, 2023, <https://www.bloomberg.com/news/articles/2023-05-03/world-s-top-currency-china-takes-yuan-global-in-bid-to-repel-us-dollar-usd>.
- 125 Bank of Russia, *Q4 2022 – Q1 2023 Financial Stability Review*, 2023, 25, https://cbr.ru/collection/collection/file/45029/en_4q_2022_1q_2023.pdf.
- 126 Chelsey Dulaney, Evan Gershkovich, and Victoria Simanovskaya, "Russia Turns to China's Yuan in Effort to Ditch the Dollar," *Wall Street Journal*, February 28, 2023, <https://www.wsj.com/articles/russia-turns-to-chinas-yuan-in-effort-to-ditch-the-dollar-a8111457>.
- 127 Bloomberg News, "China's Yuan Replaces Dollar as Most Traded Currency in Russia," Bloomberg, April 3, 2023, <https://www.bloomberg.com/news/articles/2023-04-03/china-s-yuan-replaces-dollar-as-most-traded-currency-in-russia>.
- 128 Lei, Chen, and Gu, "China Takes the Yuan Global."

- 129 Anton Siluanov, “Министр финансов РФ Антон Силуанов - о ключевых трендах мировой экономики,” [Minister of Finance of the Russian Federation Anton Siluanov on Key Trends in the Global Economy], St. Petersburg International Economic Forum, June 14, 2023, <https://rg.ru/2023/06/14/zelenyj-zheltyj-krasnyj.html>.
- 130 Shivangi Acharya and Riddhima Talwani, “Indian Refiners Used Yuan to Pay for Some Russian Oil Imports, Official Says,” Reuters, July 14, 2023, <https://www.reuters.com/world/india/india-cenbank-give-banks-guidance-resolve-rupee-trade-issues-official-2023-07-14/>; Ruma Paul, “Bangladesh to Pay Russia in Yuan for Nuclear Plant,” Reuters, April 17, 2023, <https://www.reuters.com/business/energy/bangladesh-pay-russia-yuan-nuclear-plant-2023-04-17/>; Akira Yamashita and Kosuke Takami, “Russia Pays Sakhalin Dividends in Chinese Yuan,” *Nikkei Asia*, June 15, 2023, <https://asia.nikkei.com/Politics/Ukraine-war/Russia-pays-Sakhalin-dividends-in-Chinese-yuan>.
- 131 Bloomberg News, “Brazil Takes Steps to Transact in Yuan as China Ties Grow,” Bloomberg, March 30, 2023, <https://www.bloomberg.com/news/articles/2023-03-30/brazil-takes-steps-to-transact-in-yuan-as-ties-with-china-grow>.
- 132 “Brazil’s Lula Criticises US Dollar and IMF during China Visit,” France 24, April 14, 2023, <https://www.france24.com/en/americas/20230414-brazil-s-lula-criticises-us-dollar-and-imf-during-china-visit>.
- 133 US Department of the Treasury, “Treasury Sanctions Individuals for Undermining Hong Kong’s Autonomy,” press release, August 7, 2020, <https://home.treasury.gov/news/press-releases/sm1088>.
- 134 McDowell, *Bucking the Buck*, 139.
- 135 Samuel Shen, Winni Zhou, and Kevin Yao, “In China, Fears of Financial Iron Curtain as U.S. Tensions Rise,” Reuters, August 13, 2020, <https://www.reuters.com/article/us-usa-china-decoupling-analysis-idCAKCN2590NJ>.
- 136 Reuters, “China Launches Yuan Cross-Border Interbank Payment System,” October 8, 2015, <https://www.reuters.com/article/uk-china-economy-yuan-idUKKCN0S204320151008>.
- 137 Data collected by author from Cross-Border Interbank Payment System’s website: <https://www.cips.com.cn/en/index/index.html>.
- 138 Gerard DiPippo and Andrea Leonard Palazzi, “It’s All About Networking: The Limits of Renminbi Internationalization,” Center for Strategic & International Studies, April 18, 2023, <https://www.csis.org/analysis/its-all-about-networking-limits-renminbi-internationalization>.
- 139 Benn Steil, *The Battle of Bretton Woods: John Maynard Keynes, Harry Dexter White, and the Making of a New World Order* (Princeton: Princeton University Press, 2013), 75–76.
- 140 “Global Demand Trends Full Year 2022,” World Gold Council, February 7, 2023, <https://www.gold.org/goldhub/research/gold-demand-trends/gold-demand-trends-full-year-2022/central-banks>.
- 141 “2023 Central Bank Gold Reserves Survey,” World Gold Council, May 30, 2023, <https://www.gold.org/goldhub/data/2023-central-bank-gold-reserves-survey>.
- 142 Jamil Anderlini and Clea Caulcutt, “Europe Must Resist Pressure to Become ‘America’s Followers,’ Says Macron,” *Politico*, April 9, 2023, <https://www.politico.eu/article/emmanuel-macron-china-america-pressure-interview/>.



Kimberly Donovan is the director of the Economic Statecraft Initiative within the Atlantic Council's GeoEconomics Center. She is an expert in US national security, AML/CFT, sanctions programs, and regulatory actions. Prior to joining the Council, Donovan served in the US federal government for fifteen years in the Department of the Treasury, White House National Security Council, and US Intelligence Community.



Maia Nikoladze is an assistant director of the Economic Statecraft Initiative within the Atlantic Council's GeoEconomics Center. She manages the center's flagship sanctions trackers—the Global Sanctions Dashboard and Russia Sanctions Database—publishes articles on sanctions and economic statecraft, and analyzes and visualizes data on economic indicators.



Dr. Nicole Goldin is a nonresident senior fellow with the Atlantic Council's GeoEconomics Center and global head, inclusive economic growth at Abt Associates, a global consulting and research firm. Her strategy, policy, and programmatic career at the intersection of economics, development, foreign affairs, finance, and social impact has included the World Bank, United Nations, Department of State, USAID, Gerson Lehrman Group, and other public and private sector organizations.



Mrugank Bhusari is an assistant director of the Atlantic Council's GeoEconomics Center. He conducts a broad range of research and convenings focused on multilateral institutions, emerging markets, and the international role of the dollar. He also manages the Center's Bretton Woods 2.0 Project.



Sarah Bauerle Danzman is a nonresident senior fellow with the GeoEconomics Center's Economic Statecraft Initiative. She is also an associate professor of international studies at Indiana University Bloomington, where she specializes in the political economy of international investment and finance. Her most recent book is *Merging Interests: When Domestic Firms Shape FDI Policy*.



Ambuj Sahu is a graduate student in the Department of Political Science at Indiana University Bloomington. His research interests include critical technology supply chains, semiconductor geopolitics, and India's strategic interests in the Indo-Pacific.



Daniel McDowell is a nonresident senior fellow with the Atlantic Council's GeoEconomics Center and associate professor of political science at the Maxwell School of Citizenship and Public Affairs at Syracuse University. His most recent book is *Bucking the Buck: US Financial Sanctions and the International Backlash Against the Dollar*.





The Atlantic Council is a nonpartisan organization that promotes constructive US leadership and engagement in international affairs based on the central role of the Atlantic community in meeting today's global challenges.

© 2023 The Atlantic Council of the United States. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means without permission in writing from the Atlantic Council, except in the case of brief quotations in news articles, critical articles, or reviews.

Please direct inquiries to: Atlantic Council

1030 15th Street, NW, 12th Floor Washington, DC 20005

(202) 778-4952

www.AtlanticCouncil.org