



Modeling Economic Warfare Between a U.S.-led Coalition and China over Taiwan

Keith Bermudez <i>ISP, MIA '23</i> <i>United States</i>	Grace Chio <i>IFEP, MIA '23</i> <i>Taiwan</i>	Xirui Gao <i>ISP, MIA '23</i> <i>China</i>	Zhengqian He <i>IFEP, MPA '23</i> <i>China</i>
Alyse LaVoie <i>ISP, MIA '23</i> <i>United States</i>	Tenzin Taklha <i>ISP, MIA '23</i> <i>India</i>	Mina Watanabe <i>IFEP, MIA '23</i> <i>Japan</i>	Bruce Wu <i>IFEP, MIA '23</i> <i>China</i>

Acknowledgements

Our Columbia SIPA Capstone team would like to extend our sincere gratitude to the interviewees and advisors who made our research possible.

We would first like to thank Rhodium Group Associate Director Charlie Vest, Professor Thomas Christensen, Professor Eddie Fischman, Indonesian Minister of Tourism and Creative Economy Mari Elka Pangestu, and several other distinguished guests that gave us the opportunity to hear their expert insight. Their participation in our project has enriched our research and directly informed our recommendations and insights. Without our interviewees, we would have been unable to capture the nuances of China's relationship with the international community and how the U.S. government can work with other countries to influence the Chinese Communist Party.

At SIPA, we are especially grateful to our Advisor, Professor Merit Janow, Dean Emerita of Columbia's School of International and Public Affairs, and Professor of Practice in International Economic Law and International Affairs, whose thoughtful guidance and unwavering support gave life to our research project. Additionally, we are thankful for the Columbia SIPA Capstone Program and Suzanne Hollmann and Saleha Awal for their help.

Finally, we would like to extend our gratitude to our client, Eurasia Group. Sebastian and Ian continued to provide invaluable expertise, enthusiasm, and direction as we compiled our findings.

Disclaimer: The views expressed in this report are solely those of the authors and do not necessarily reflect the views of Eurasia Group or any of its affiliates. Eurasia Group assumes no responsibility for the accuracy or completeness of the contents of this report.

Executive Summary

We have identified several key takeaways from our research on the People's Republic of China (PRC) crossing a red line over Taiwan. First, the U.S. will not be able to develop an economic coalition against the PRC that matches the one it has formed against Russia. Second, the United States has numerous economic advantages over the PRC that it can use to its advantage. And third, the economic impacts of geoeconomic warfare can be extreme in some scenarios.

First, a large coalition is unrealistic, and a nation's willingness to participate will depend on who provokes the crisis. Perceptions matter in all scenarios and because nations have developed deep and complex economic ties with the PRC, decoupling with or enacting sanctions against the PRC would be self-harming for those who would participate in a U.S.-led coalition. In our research, we started our scenarios with a hypothetical starting point where Democratic Progressive Party (DPP) Candidate William Lai wins the Taiwanese Presidential Election. Based on previous election results as well as recent reports indicating that the KMT party is struggling to appeal to younger Taiwanese voters, William Lai is slightly more likely to win the 2024 Presidential Election.¹ This hypothetical starting point then kicks off the cases for our scenarios where the U.S. and Taiwan avoid provoking the PRC, the U.S. or Taiwan make provocative statements provoking the PRC, or both the U.S. and Taiwan make provocative statements provoking the PRC.

Second, despite the deep economic ties between the U.S. and the PRC, the United States has economic levers it can use against the PRC. For example, the PRC released a document with a list of 25 technologies that have been identified as bottlenecks for the PRC and only 8 percent of these have the ability to be produced in the PRC. The majority of these technologies are products used for airplanes and semiconductors (see [bottlenecks](#) section for more information). In addition, the United States has more economic tools than the PRC. Banning SWIFT access to designated entities would significantly constrain the PRC's economy as about 40 percent of payments transmitted by SWIFT are in the U.S. dollar. Similarly, the U.S. enjoys a competitive advantage on semiconductors and can implement additional export restrictions to prevent the PRC from getting access to products to manufacture chips.

Third, the economic impacts of some scenarios are likely to be extreme on the front end due to an initial shock after a crisis breaks out, but will likely normalize over time. In all of our scenarios, GDP decreases and bilateral trade between the U.S. and the PRC is significantly reduced. Countries are likely to de-risk, not decouple their economies to prevent reliance on the PRC and the United States.

Overall, both the PRC and the United States have a lot to lose in any escalation scenario making the deterrence of any escalatory spiral essential to maintain global political and economic stability.

¹ Minnie Chan, "Taiwan's KMT opposition looking for a sense of purpose ahead of next year's presidential vote," *South China Morning Post*, May 2, 2023, <https://www.scmp.com/news/china/politics/article/3219038/taiwans-kmt-opposition-looking-sense-purpose-ahead-next-years-presidential-vote>.

Abstract

Eurasia Group tasked our Capstone team with developing a scenario in which the PRC takes measures to change the status quo of the cross-strait relationship in the year 2024, crossing a perceived red line in the eyes of the United States. Informed by an empirical mapping of the economic, financial, and technological interdependencies between the PRC and the global economy, our team worked to design a geoeconomic response from the U.S. and its allies that sought to advance the following objectives:

1. Compel the PRC to revert to the status quo ante on Taiwan
2. Diminish the PRC's capabilities to conduct further actions against Taiwan
3. Deter further PRC actions against Taiwan
4. Punish the PRC's leadership for its actions against Taiwan

During our research, we identified a number of bottlenecks and vulnerabilities in the PRC's economy that could possibly be exploited. Our Capstone team also designed possible counter-responses from the PRC. The research conducted reveals the existence of PRC economic vulnerabilities and how geoeconomic warfare between the U.S. and the PRC would have disastrous consequences for the PRC, the U.S., and America's participating allies. The effects of economic warfare would furthermore not just be limited to participating countries but would have an impact on the global economy. The costs of economic warfare would serve as a driver for increased hostility between the two nations and Taiwan, raising the risks of escalation from an economic conflict to a military one. Our team concludes that there are a number of measures against the PRC that the United States can take in the case of the PRC crossing a red line on Taiwan, even if that may not sufficiently change the outcome of PRC aggression.

Table of Contents

Acknowledgements	1
Executive Summary	2
Abstract	3
Table of Contents	4
Introduction	6
The Project	6
Cross-Strait Relations	7
United States Involvement	8
Economic Sanctions Discussion	9
Effectiveness/Benefits of Sanctions	9
The PRC's Economy	10
Overview	10
FDI	10
Trade	10
Critical Industries	11
U.S.-PRC Interdependencies	13
Overview	13
FDI	13
Trade	13
Critical Industries	14
Bottleneck of Chinese industries and key tech	15
Lessons from the U.S.-China Trade War	20
U.S. Economic Toolkit	21
Key Takeaways from the U.S.-China Trade War	22
U.S-China Decoupling	22
Lessons from the Russian Invasion of Ukraine	24
Escalatory Scenarios	28
Scenario Background Cases	28
A: The PRC Escalates	28
B: Taiwan or the U.S. Escalate	28
C: Taiwan and the United States Escalate	29
Starting Scenarios	29
Scenario 1: Announcement of Blockade on Taiwan	29
U.S. Reactions	30
Countermeasures	31
Economic Impact	31
Domestic Implications	32

Scenario 2: The PRC implements secondary sanctions on Taiwan	32
U.S. Reactions	33
Countermeasures	34
Economic Impact	35
Domestic Implications	35
Scenario 3: Full Blockade with military involvement	36
U.S. Reactions	37
Countermeasures	38
Economic Impact	39
Domestic Implications	39
Global Economic Consequences	40
Financial Market Implications	44
Conclusion	47
Annex A: Defining Key Concepts	50
Annex B: Economic Interdependencies	54
Bibliography	84

Introduction

The Project

Given the current state of cross-strait relations and tensions in Sino-U.S. relations, Eurasia Group has set out on a project to model geoeconomic warfare between a coalition led by the U.S. against the PRC. Our team has developed a fictional background scenario based on the premise of the DPP candidate, William Lai, winning the 2024 presidential election in Taiwan. As part of the scenario, we then establish three cases of varying degrees of provocativeness conducted by Taiwan and the U.S. from the point of view of the PRC. Each of those cases then leads to a scenario where the PRC takes action to change the status quo and crosses a redline in the eyes of the U.S. This then triggers the U.S. to form a coalition and take economic action against the PRC.

The core of this project is predicting and modeling the economic consequences of the decisions made and actions conducted by both the PRC and the U.S.-led coalition. To do so we have mapped economic interdependencies between the PRC and numerous countries that may be willing to participate in a U.S.-led coalition against the PRC. For each escalatory scenario, we calculate the estimated economic costs based on the action and the economic relationship between participating coalition members and the PRC. Based on the economic damage suffered by both sides as well as their political will, we then make determinations on whether one side or the other may attempt to escalate or back down.

While this project will include military actions conducted by both sides, the aim is not to wargame as military planners and think tanks have already done. This project differs in its focus on the economic tools that can be used during a Taiwan-centered crisis. It analyzes the different means of economic statecraft and how they may be employed to gain leverage in a crisis situation.

The rest of this report starts with a discussion on the effectiveness of economic sanctions. Economic interdependencies between the PRC and the U.S. is next. Before finally laying out the cases and escalatory scenarios, lessons are drawn from the Russian invasion of Ukraine and the U.S.-China Trade War, with both cases providing a foundation for the tools of economic statecraft that the U.S. and its partners may employ during a Taiwan contingency. Each scenario will include a set of U.S.-led actions followed by PRC reactions, and then a summary of the economic costs of those actions. The paper will then conclude with implications for policy-makers.

Cross-Strait Relations

Tensions among the PRC, Taiwan, and the United States have increased significantly causing some to speculate the PRC could invade Taiwan sooner than many think. For example, senior U.S. military officers have claimed that PRC President Xi Jinping has directed the People's Liberation Army (PLA) to be prepared to invade the island by 2027. A new report claims some in the U.S. intelligence community now assess the PRC could attack as soon as 2024.²

In January 2024, Taiwan will hold its next presidential election. The incumbent President of Taiwan, Tsai Ying-Wen, will conclude her second term and cannot run again. The election is expected to be closely fought between Taiwan's two largest political parties, the Kuomintang (KMT) and the DPP. The DPP is the political party of Taiwan's current president, Tsai, and while the party has traditionally been viewed as pro-independence, recent leaders have moderated their rhetoric on supporting a formal declaration of independence. Tsai and her vice president believe that "Taiwan is already an independent and sovereign nation."³

On the other hand, the KMT has traditionally been the party that more closely aligns with the People's Republic of China, emphasizing the Chinese heritage of most of Taiwan's population. The KMT is expected to compete primarily on the claim that the DPP has brought Taiwan closer to war with the PRC, while the DPP will continue to argue against the futility of a one-country-two systems framework for Taiwan.⁴ The result of the election no matter which party wins will have major implications for cross-strait relations.

Since Xi Jinping took over the PRC's top leadership positions in 2012 he has taken a more hardline stance against Taiwan. When Xi secured a third term as president of the PRC in 2022 during the nation's national congress, he used the opportunity to vow to never renounce the use of force against Taiwan.⁵ The 2024 presidential election could therefore be a precursor to the PRC crossing a redline against Taiwan and the United States. Not only will the result of the election matter but how the winning candidate addresses their victory and future vision for Taiwan will also be closely observed. The United States will need to be prepared to respond in the case of a crisis.

² John Culver, "How We Would Know When China Is Preparing to Invade Taiwan," accessed March 1, 2023, <https://carnegieendowment.org/2022/10/03/how-we-would-know-when-china-is-preparing-to-invade-taiwan-pub-88053>.

³ "Taiwan Girds for Close Presidential Race amid China Pressure."

⁴ "Taiwan Girds for Close Presidential Race amid China Pressure."

⁵ "Taiwan Girds for Close Presidential Race amid China Pressure."

United States Involvement

The U.S. recognized the current government of Taiwan (The Republic of China-ROC) as the legitimate government for all of China until it formally switched diplomatic recognition to the PRC in 1979. After switching diplomatic recognition to the PRC, congress enacted the Taiwan Relations Act (TRA), and that document has been used to guide U.S. relations with Taiwan. The TRA commits the U.S. to sell military arms to Taiwan, but the TRA's wording regarding a U.S. commitment to defend Taiwan with its forces is vague.⁶

Today, U.S. interests in Taiwan are maintained via the American Institute in Taiwan (AIT). AIT describes itself as a non-profit, private corporation, created to maintain commercial, cultural, and other relations between the people of the United States and the people of Taiwan.⁷ Practically speaking, AIT serves as the de facto U.S. embassy in Taipei, with another office located in the southern Taiwanese port city of Kaohsiung. It performs nearly all of the same functions as an embassy, including issuing visas.⁸ Its existence serves as a reminder of America's longstanding interest in Taiwan.

Those long-standing interests stem from a variety of reasons. Taiwan is a large island in a strategic location, and Beijing taking control of it would allow it to develop the island into a forward military base armed with missiles and aircraft that threaten U.S. and allied interests in the region.⁹ Taking control of Taiwan would also give the PRC control over one of its largest trading partners, and access to the high-tech semiconductor industry located in Taiwan as well as its industrial base.¹⁰ On the other hand however, according to our own research, Taiwan is not nearly as large a trade partner for the United States – Canada and the PRC themselves trade much more with the U.S. by volume of products and GDP.¹¹

The U.S. and Taiwan also share similar values, deep commercial and economic links, and strong people-to-people ties.¹² Taiwan is also a vibrant democracy, oftentimes rated as the strongest in Asia and amongst the strongest in the world.¹³ Protecting Taiwan's democracy may send a signal to U.S. treaty allies in the region that the U.S. is committed to protecting democracy in the region, and is not afraid to back down in the face of growing Chinese power.

⁶ Chin, "China and Taiwan Relations Explained."

⁷ AIT, "Our Relationship."

⁸ Horton, "U.S. Unveils an Office in Taiwan, but Sends No Top Officials."

⁹ Bolton and Zitelman, "Why Taiwan Matters to the United States."

¹⁰ Bolton and Zitelman.

¹¹ "United States (USA) Exports, Imports, and Trade Partners | OEC."

¹² "U.S. Relations with Taiwan - United States Department of State," U.S. Department of State, May 28, 2022, <https://www.state.gov/u-s-relations-with-taiwan/#:~:text=The%20United%20States%20and%20Taiwan,expanding%20U.S.%20engagement%20with%20Taiwan.>

¹³ Bush, "Taiwan's Democracy and the China Challenge."

Economic Sanctions Discussion

Effectiveness/Benefits of Sanctions

If and when U.S. economic sanctions are placed against the PRC, the goal of these sanctions would be to coerce mainland China to revert to the status quo ante on Taiwan. In our scenarios, sanctions would be deployed after the PRC initiates and enforces a blockade surrounding Taiwan to coerce the PRC to change course. Economic sanctions would ideally exert enough economic pain against the PRC that it would change course.

The effectiveness of economic sanctions against the PRC in an escalatory scenario is not completely clear. Generally, scholars are skeptical of the use of coercive actions against states as they are often less successful in generating success. Not only do sanctions often not produce the desired results, but they would likely create global repercussions considering the U.S. and the PRC are the world's two largest economies.

Our report reviews potential economic sanctions that can be levied on the PRC in our third scenario of a Chinese blockade. The total economic impact of these sanctions is then calculated for that scenario. We also included the sanction toolkits of the U.S. and the PRC to monitor the escalation ladder.

The PRC's Economy

Overview

To appropriately assess the PRC's vulnerabilities and interconnectedness to the global economy, we must review the PRC's economy from a high-level point of view. In 2021, the PRC's economy was ranked number two in the world with \$17.73 trillion in terms of GDP, ranking just behind the United States.¹⁴ The PRC's top export partners include the United States, Hong Kong, Japan, Germany, and the Republic of Korea (ROK) whereas its top import partners are Japan, the ROK, the United States, Germany, and Taiwan.¹⁵ The PRC's economy has grown rapidly over the past several decades, becoming a powerhouse in the international economy. The United States is the top destination for mainland Chinese goods including broadcasting equipment, computers, and clothing,¹⁶ making the PRC particularly dependent on trade with the United States. Overall, the economy of the PRC is heavily integrated with the global economy, making any escalation scenario extremely costly.

FDI

In 2021, the PRC received \$333.98 billion of Foreign Direct Investment.¹⁷ The top countries investing in the PRC include Hong Kong, Singapore, the Virgin Islands, the Republic of Korea, Japan, and the United States.¹⁸ As for outgoing investment, the PRC invested \$128.04 billion of Foreign Direct Investment in other countries in 2021.¹⁹ The United States receives the majority of FDI from the PRC, making up over 13 percent of outgoing FDI.²⁰ While FDI in the PRC does not necessarily make the PRC more vulnerable, the threat of these investments being pulled out quickly does pose a potential problem for the Chinese economy.

Trade

As of December 2022, the PRC exported \$306 billion and imported \$228 billion worth of goods, resulting in a positive trade balance of \$78 billion.²¹ The PRC is a member of the World Trade Organization (WTO) and has bilateral investment agreements with over 100 countries and economies such as Austria, Canada, France, Germany, Italy, Japan, the ROK, Spain, Thailand, and the United Kingdom.²² In addition, the PRC has 17 Free Trade Agreements (FTA) with ASEAN, Singapore, Pakistan, New Zealand, Chile, Peru, Costa Rica, Iceland, Switzerland,

¹⁴ "China (CHN) Exports, Imports, and Trade Partners," OEC, accessed March 7, 2023, <https://oec.world/en/profile/country/chn>.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ "Foreign Direct Investment, Net Inflows (BOP, Current US\$) | Data," The World Bank, accessed March 29, 2023, <https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?view=chart>.

¹⁸ "Actually utilized foreign direct investment (FDI) in China in 2021, by leading country or region," Statista, <https://www.statista.com/statistics/257099/value-of-foreign-direct-investment-in-china-by-country/>.

¹⁹ "Foreign Direct Investment, Net Outflows (BOP, Current US\$)," The World Bank, accessed March 29, 2023, <https://data.worldbank.org/indicator/BM.KLT.DINV.CD.WD?view=chart>.

²⁰ "China's outward direct investment and its impact on the domestic economy," OECD Library, <https://www.oecd-ilibrary.org/docserver/1b1eaa9d-en.pdf?expires=1680097859&id=id&accname=guest&checksum=E4DD4B7ED3FB75C5E23D77B87A170A7B>

²¹ "China (CHN) Exports, Imports, and Trade Partners," OEC, accessed March 7, 2023, <https://oec.world/en/profile/country/chn>.

²² "China - Trade Agreements," International Trade Administration (International Trade Administration), accessed March 29, 2023, <https://www.trade.gov/country-commercial-guides/china-trade-agreements#:~:text=China's%20FTA%20partners%20are%20ASEAN,%2C%20Hong%20Kong%2C%20and%20Macao>.

Maldives, Mauritius, Georgia, Korea, Australia, Cambodia, Hong Kong, and Macao.²³ These agreements demonstrate the PRC's determination to continue with its policy of economic growth. Many of these countries are potential nations that would join a U.S.-led coalition against the PRC and impose economic levers that have the potential to hurt the Chinese economy.

Critical Industries

The three main industries pushing the PRC's economic growth are the services sector, agriculture, manufacturing, and technology.²⁴ In addition, when reviewing the growth of imports to the PRC over the last five years, we can see that particular goods such as technology (semiconductors, telephones, etc.) and energy industries have seen significant growth.²⁵ The United States in particular remains the global leader in technology and innovation, making the PRC dependent on the U.S. for its high-quality technology products.

When reviewing potential vulnerabilities, we can see the PRC imports a large number of goods including massive amounts of food and natural resources, potentially creating another vulnerability for the PRC. In addition, the PRC imports a significant amount of energy, but the vulnerability of those imports to the PRC is smaller due to diversification efforts.²⁶ Capital flows outside of the country are largely controlled by the United States and the dollar, creating a reliance on the U.S. for its external finances.²⁷ For example, the United States controls SWIFT and even though the PRC's goals include Renminbi internationalization, it is still heavily dependent on the U.S. dollar.

²³ "China - Trade Agreements," International Trade Administration (International Trade Administration), accessed March 29, 2023, <https://www.trade.gov/country-commercial-guides/china-trade-agreements#:~:text=China's%20FTA%20partners%20are%20ASEAN,%2C%20Hong%20Kong%2C%20and%20Macao.>

²⁴ Sean Ross, "The 3 Industries Driving China's Economy," Investopedia (Investopedia, December 19, 2022), <https://www.investopedia.com/articles/investing/091515/3-industries-driving-chinas-economy.asp#:~:text=rate%20in%202020.-,China's%20GDP%20growth%20for%202022%20is%20expected%20to%20decelerate%20to,agriculture%2C%20manufacturing%2C%20and%20technology.>

²⁵ "China (CHN) Exports, Imports, and Trade Partners," OEC, accessed March 7, 2023, <https://oec.world/en/profile/country/chn.>

²⁶ Derek Scissors, "China's Economic Vulnerabilities," American Purpose (American Purpose, April 4, 2022), [https://www.americanpurpose.com/articles/chinas-economic-vulnerabilities/.](https://www.americanpurpose.com/articles/chinas-economic-vulnerabilities/)

²⁷ Ibid.

China Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Desintation
Top Exports	Broadcasting equipment	\$223B	United States	21.20%
	Computers	\$156B	United States	31.30%
	Integrated Circuits	\$120B	Hong Kong	39.80%
	Office Machine Parts	\$86.8B	Hong Kong	23.40%
	Other Cloth Articles	\$60.7B	United States	26.50%
Top Imports	Crude Petroleum	\$150B	Saudi Arabia	16.40%
	Integrated Circuits	\$144B	Taiwan	29.20%
	Iron Ore	\$99B	Australia	64.50%
	Cars	\$42B	Germany	39.70%
	Soybeans	\$37.4B	Brazil	55.90%
Top Export Partners	United States	\$438B	16.50%	
	Hong Kong	\$262B	9.89%	
	Japan	\$151B	5.71%	
	Germany	\$112B	4.24%	
	South Korea	\$110B	4.13%	
Top Import Partners	Japan	\$133B	8.57%	
	South Korea	\$131B	8.50%	
	United States	\$122B	7.91%	
	Germany	\$106B	6.87%	
	Taiwan	\$104B	6.70%	

U.S.-PRC Interdependencies

Overview

U.S.-PRC ties have increased steadily over time and accelerated once the PRC joined the WTO in 2001. In 2020, the United States exported \$122 billion worth of goods to the PRC and the total trade value between the U.S. and the PRC reached \$1.34 trillion.²⁸ The PRC also made up 9.1 percent of the total U.S. export market, ranking behind Canada and Mexico.²⁹

FDI

There is a significant amount of FDI in both the PRC and the United States from one another. In the past decade, Chinese investment in the United States accelerated, reaching \$45 billion in 2016 but has since declined – Chinese investment in the United States was only \$7.2 billion in 2020.³⁰ Similarly, firms in the U.S. invested \$8.7 billion in the PRC's economy in 2020 which is a 33 percent reduction from 2019 and is below the average for the previous 10 years.³¹

In 2020, U.S. FDI stock in the PRC was \$123.9 billion, a 9.4 percent increase from 2019.³² U.S. investment in the PRC is led by manufacturing, wholesale trade, and finance and insurance.³³ That same year, the PRC's FDI stock in the United States was \$38 billion, down 4.2 percent from 2019.³⁴ The PRC's reported direct investment in the U.S. is led by wholesale trade, manufacturing, and information services.³⁵ When looking at Taiwan, U.S. FDI stock amounted to \$31.5 billion in 2020 which is led by manufacturing, finance and insurance, and wholesale trade.³⁶ Taiwan's FDI stock in the U.S. was \$13.7 billion in 2020.³⁷ Reviewing FDI indicates that the United States has more invested in the PRC and Taiwan than vice versa, putting U.S. investments at risk in an escalatory scenario.

Trade

In December 2022, the top exports to the PRC from the United States were soybeans, integrated circuits, crude petroleum, aircraft parts, and machines to manufacture semiconductors.³⁸ In 2020, the PRC made up 19.5 percent of the U.S. import market, ranking first above Mexico and Canada.³⁹ The United States imports the majority of its computers (52.9 percent) and broadcasting equipment (57.9 percent) from the PRC, making it dependent on the PRC for those items.⁴⁰ In addition, the United States maintains Section 301 tariffs on imports from the PRC

²⁸ "China (CHN) Exports, Imports, and Trade Partners," OEC, accessed March 7, 2023, <https://oec.world/en/profile/country/chn>.

²⁹ Ibid.

³⁰ Thilo Hanemann et al., "US-China Investment Trends - 2021 Update" (Rhodium Group, May 19, 2021), https://rhg.com/wp-content/uploads/2021/05/RHG_TWS-2021_Full-Report_Final.pdf.

³¹ Ibid.

³² "The People's Republic of China," *Office of the U.S. Trade Representative*, accessed March 29, 2023, <https://ustr.gov/countries-regions/china-mongolia-taiwan/peoples-republic-china>.

³³ Ibid.

³⁴ Ibid.

³⁵ Ibid.

³⁶ Ibid.

³⁷ Ibid.

³⁸ "United States (USA) and China (CHN) Trade," OEC, accessed March 29, 2023, <https://oec.world/en/profile/bilateral-country/usa/partner/chn>.

³⁹ "China (CHN) Exports, Imports, and Trade Partners," OEC, accessed March 7, 2023, <https://oec.world/en/profile/country/chn>.

⁴⁰ Ibid.

worth over \$300 billion effectively increasing the trade-weighted average tariff on imports from the PRC to 11.82 percent in 2022.⁴¹

Critical Industries

Industries with shared supply chains such as aviation, semiconductors, pharmaceuticals, chemicals, energy, and medical devices are essential to the functioning and growth of both economies.⁴² However, it is apparent that the private sector in the United States has far more to lose due to supply chain risk and high investment in the PRC.⁴³ For instance, aircraft manufacturing relies on the global supply chain and the PRC is the number one destination for U.S. aircraft parts.⁴⁴ Similarly, the majority of semiconductors are manufactured and assembled in Asia despite the United States leading in the industry.⁴⁵ When looking specifically at the PRC's vulnerabilities to the United States, we can see that the number of imports, the importation of food, natural resources, and energy all pose a potential threat to the PRC.⁴⁶ In addition, the PRC relies on trade surpluses to offset capital loss elsewhere which depends on trade with the United States,⁴⁷ likely creating an issue for the Chinese economy. Lastly, as mentioned in the previous section, the PRC remains extremely dependent on U.S. technology and U.S. control of SWIFT which remains the plumbing of global finance.

⁴¹ Tori Smith et al., "Section 301 (China) Tariffs Causing a Fourfold Increase in Tariff Rates," American Action Forum, July 20, 2022,

<https://www.americanactionforum.org/insight/section-301-china-tariffs-causing-a-fourfold-increase-in-tariff-rates/>.

⁴² U.S. Chamber Staff, "Understanding U.S.-China Decoupling: Macro Trends and Industry Impacts," U.S. Chamber of Commerce (U.S. Chamber of Commerce, October 21, 2021),

<https://www.uschamber.com/international/understanding-us-china-decoupling-macro-trends-and-industry-impacts>.

⁴³ Raj Varadarajan et al., "What's at Stake If the US and China Really Decouple," BCG Global (BCG Global, January 8, 2021), <https://www.bcg.com/publications/2020/high-stakes-of-decoupling-us-and-china>.

⁴⁴ U.S. Chamber Staff, "Understanding U.S.-China Decoupling: Macro Trends and Industry Impacts," U.S. Chamber of Commerce (U.S. Chamber of Commerce, October 21, 2021),

<https://www.uschamber.com/international/understanding-us-china-decoupling-macro-trends-and-industry-impacts>.

⁴⁵ Ibid.

⁴⁶ Derek Scissors, "China's Economic Vulnerabilities," American Purpose (American Purpose, April 4, 2022), <https://www.americanpurpose.com/articles/chinas-economic-vulnerabilities/>.

⁴⁷ Ibid.

United States-China (2020 values)				
Total Trade Value	\$1.34T			
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Soybeans	\$11.4B	54.40%	High
	Integrated Circuits	\$8.51B	23.60%	Medium
	Crude Petroleum	\$5.46B	12.80%	Low
	Cars	\$5.1B	13.10%	Low
	Photo Lab Equipment	\$3.27B	32.30%	Medium
	Medical Instruments	\$2.52B	11.10%	Low
Top Imports from China	Computers	\$11.2B	52.90%	High
	Broadcasting Equipment	\$10.8B	57.90%	High
	Other cloth articles	\$3.68B	82%	High
	Office machine parts	\$3.37B	34.50%	Medium

U.S.-China Vulnerabilities					
Sector		Vulnerability		Economic Impact	
		<i>China</i>	<i>United States</i>	<i>China</i>	<i>United States</i>
Trade	Energy and Natural Resources	Iron Ore, Oil, Gas	Critical minerals, batteries	High	High
	Electrical Machinery	Semiconductors (Fabless segment)	Semiconductors (Fabrication)	High	Medium
	Agriculture/Food	Grains, soybeans		Depends	Depends
	Goods/Services	Medical devices	Consumer goods i.e. clothing	High	Medium
Finance	Stocks and Trade	Central Bank holdings of foreign currency	Private investment in China	Uncertain	High
	Currency	Trade and transaction in USD/Euro		High	Low

Bottleneck of Chinese industries and key tech

Tech	Industry	Patent Company	Country	Final Goods	Market Value	Export/Domestic	R&D
Lithography machine/ Mask Aligner	Semiconductor	NA	Foreign	Chip	\$143.4 billion ⁴⁸	Domestic	No
Advanced chips	Semiconductor	NA	Foreign	Chip	\$143.4 billion ⁴⁹	Domestic	No

⁴⁸ PwC. "China's Impact on the Semiconductor Industry: 2021 Update." July 2021. Accessed September 2021. <https://www.pwc.com/us/en/industries/technology/library/chinas-impact-on-the-semiconductor-industry-2021-update.html>.

⁴⁹ Ibid.

Operating system (OS)	digital equipments	Microsoft Apple	U.S.		\$7 billion ⁵⁰	Domestic	No
Aero-engine nacelle	Aerospace	NA	Foreign	Aero-engine	\$6.5 billion ⁵¹	Domestic	No
Tactile sensor	Robot	NA	Foreign	Robot	\$7.6 billion ⁵²	Domestic	No
Vacuum deposition machine	OLED	Canon Tokki	Japan	OLED	\$37 billion ⁵³	Domestic	No
Radio frequency identification (RFID) chips and related equipments	Telecommunication	Skyworks Qorvo Qualcomm	U.S.	Various use cases: Mobile, retail, healthcare, automotives	\$3.7 billion ⁵⁴	Domestic	No
iCLIP tech	Research-Biom edical	NA	Foreign	Medicine	N/A	Domestic	No
Heavy-duty gas turbine	Transportation	NA	U.S. Germany Japan Italy	Turbine	\$3.3 billion ⁵⁵	Domestic	No
LIDAR (Light Detection and Ranging)	Automobile	Velodyne	U.S.	Automotives, manufacturing, smart infrastructure etc.	\$2.1 billion ⁵⁶ , of which \$38 million is automotives.	Domestic	No
Airworthiness standards	Aerospace	FAA, EASA	Europe, U.S.	Aero-engine	\$6.5 billion ⁵⁷	Domestic	No

⁵⁰ Operating Systems Industry Report, Soochow Securities, 2023.

http://pg.jrj.com.cn/acc/Res/CN_RES/INDUS/2023/2/21/8fa026f3-de53-4d4a-bac3-c930bfca1d8a.pdf

⁵¹ 2023-2029 Chinese Aero-Engine Market Report. www.gonyn.com

⁵² Allied Market Research. "China Robotics Industry Report, 2021-2025." March 2021.

<https://www.alliedmarketresearch.com/china-robotics-market>.

⁵³ 2022 Chinese OLED Market Research Report, 2022. Askci Institute

⁵⁴ Research and Markets. "China RFID Industry Report, 2021-2025." March 2021.

<https://www.researchandmarkets.com/reports/5387991/china-rfid-industry-report-2021-2025>.

⁵⁵ Research and Markets. "Heavy-Duty Gas Turbine Market in China 2021-2025." April

<https://www.researchandmarkets.com/reports/5381253/heavy-duty-gas-turbine-market-in-china-2021-2025>.

⁵⁶ Edge AI+ Alliance. "China is Leading the Automotive LiDAR Market". 2022

⁵⁷ 2023-2029 Chinese Aero-Engine Market Report. www.gonyn.com

Advanced capacitor and resistor	Manufacturing	NA	Japan	Electronics	N/A	Domestic	No
Industrial software	Manufacturing	Cadence, Synopsis, Mentor	U.S.	Manufacturing	\$28.8 billion ⁵⁸	Domestic	No
ITO (indium tin oxide) target	Digital and Semiconductor	NA	U.S.	Semiconductor	\$143.4 billion ⁵⁹	Domestic	No
Core algorithm	Manufacturing	NA	Japan, Germany, Swiss	Manufacturing	N/A	Domestic	No
300M Steel	Metal	NA	U.S.	Landing Gear	\$1.23 billion ⁶⁰	Domestic	Yes
Milling Cutter	Machinery	NA	U.S.	Maintenance for High-speed Train	\$1.57 billion ⁶¹	Domestic	No
High-end Bearing Steel	Metal	NA	U.S.; Sweden	For airplanes, cars, trains, etc.	\$1.7 billion ⁶²	Export	No
High pressure plunger plump	Machinery	NA	Foreign	Machineries	\$2.03 billion ⁶³	Domestic	No
Aerospace design software	Aviation	NA	Europe & U.S.	Airplanes, rockets	N/A	Domestic	No

⁵⁸Statista, "China: Industry Software Market Size", 2021/

<https://www.statista.com/statistics/1033051/china-industrial-software-market-size/>

⁵⁹ Ibid.

⁶⁰ Research and Markets. "China Landing Gear Market - Growth, Trends, and Forecasts (2020 - 2025)." January 2021. <https://www.researchandmarkets.com/reports/5300861/china-landing-gear-market-growth-trends-and>.

⁶¹ QYResearch. "Global and China Milling Cutter Market Insights, Forecast to 2027." September 2021. <https://www.qyresearch.com/index/detail/3149631/global-and-china-milling-cutter-market>.

⁶² Spherical Insights. "Global Bearing Steel Market Size, Share, and COVID-19 Impact Analysis, By Type, By Application (Steel Making Process, Continuous Casting Process, Rolling Mills Process), and By Region (North America, Europe, Asia-Pacific, Latin America, Middle East, and Africa), Analysis and Forecast 2021 – 2030". <https://www.sphericalinsights.com/reports/bearing-steel-market>

⁶³ Research and Markets. "China High-Pressure Plunger Pump Market Research Report 2021-2025." March 2021. <https://www.researchandmarkets.com/reports/5378425/china-high-pressure-plunger-pump-market-research>.

Photoresist	Semiconductor	TOK, JSR	Japan	Semiconductor	\$143.4 billion ⁶⁴	Domestic	No
Common rail direct fuel injection	Engine	NA	Germany, U.S., Japan	Diesel Engine	\$37.8 billion ⁶⁵	Domestic	Yes
Transmission Electron Microscopy	Academic Research-Biology	FEI, etc	Japan	Research	N/A	Domestic	No
Tunnel Boring Machine Main Bearing	Infrastructure	IMO, SKG, SKF	Germany, Sweden	Tunnel Boring Machine	\$2.1 billion ⁶⁶	Domestic	No
Microspheres	Digital & Communication	NA	Japan	LCD Screen	\$19.72 billion ⁶⁷	Domestic	No

Chinese state-sponsored media Technology Daily summarized the key bottlenecks technologies in the PRC. We translated and listed it as a chart. We identified the industry, the item's place of origin, and the final product that is made with that item. We also identified the potential market value of these bottlenecks, which could be used to gauge the PRC's potential economic loss if the Western coalition placed export controls on the bottleneck technologies against the PRC since there is no Chinese investment in production for most of these technologies.

The domestic entry suggests that the final product with the item needed from other countries is mainly for the domestic market. More than 95 percent of the final products of these bottleneck technologies are for domestic demand. This is worth noting because if these final goods are for export, the export destination countries would potentially suffer a greater loss when the PRC is sanctioned and cut off from these supplies. The data suggests that if the PRC were to be cut off from these technology exports, the secondary effects on other countries would be tolerable, though countries who sell these technologies to the PRC, for instance, the U.S., Japan, and Germany would all suffer a drop in sales. The scale of sale would be so large that they would not be able to find alternative buyers in the short run.

⁶⁴ PwC. "China's Impact on the Semiconductor Industry: 2021 Update." July 2021. Accessed September 2021. <https://www.pwc.com/us/en/industries/technology/library/chinas-impact-on-the-semiconductor-industry-2021-update.html>.

⁶⁵ QYResearch. "Global and China Diesel Engine Market Insights, Forecast to 2027." September 2021. <https://www.qyresearch.com/index/detail/3149624/global-and-china-diesel-engine-market>.

⁶⁶ Research and Markets. "China Tunnel Boring Machine Market - Growth, Trends, COVID-19 Impact, and Forecasts (2021 - 2026)." April 2021. <https://www.researchandmarkets.com/reports/5391293/china-tunnel-boring-machine-market-growth-trends>.

⁶⁷ Market Research Future. "China LCD Panel Market Research Report - Forecast till 2027." August 2021. <https://www.marketresearchfuture.com/reports/china-lcd-panel-market-5345>.

The R&D entry indicates that without either state-sponsored, institution-led, or enterprise-funded investment and research, the PRC has to rely on the international supply chain for these bottlenecks. Only two bottlenecks now have their domestic counterparts that meet the business standards.

In conclusion, the spillover effect is smaller than cutting off trade. However, the tradeoff between economic gains and political stakes may occur for both U.S. and allies companies, such as Japan and Germany. As the chart identified, Japan and Germany own several patents. They would suffer a loss if they cut off their exports to the PRC, and presumably, they would not find other potential buyers to supplement the demand in the short term. Hence, the tradeoff may undermine the U.S.'s effort to utilize PRC bottlenecks.

Lessons from the U.S.-China Trade War

Ever since the PRC joined the World Trade Organization in 2001, trade between the U.S. and the PRC has exploded, significantly benefiting consumers and companies in both countries. However, Beijing's state-led development has created several problems causing Washington to push back against the PRC.⁶⁸

In the United States, trade with the PRC has created several problems including the loss of U.S. manufacturing jobs, national security issues, Chinese currency manipulation, and Chinese labor and human rights violations.⁶⁹ As a result of these issues, the United States has attempted to address its concerns through negotiations, WTO disputes, increased investment scrutiny, tariffs, and U.S. industrial policies, becoming steadily more combative over time.⁷⁰ U.S. policies became more aggressive during President Trump's time in office when he withdrew from the Trans-Pacific Partnership (TPP) and imposed tariffs on hundreds of billions of dollars worth of Chinese foods which still remain in effect today.⁷¹

In the U.S.-China Trade War, the United States deployed several economic tools to inflict harm. These tools included U.S. announcements of investigations on intellectual property theft and transfer and increasing tariffs on imported goods such as solar panels, washing machines, steel, and aluminum. In addition, the United States utilized its Entity List designation to ban exports to certain entities, added the PRC to the currency manipulator list, announced additional Section 232 investigations, accused the PRC of dumping, and used a potential new trade deal as leverage. Throughout the U.S.-China Trade War, the PRC launched several countermeasures such as implementing retaliatory tariffs, announcing its own entity list designations, targeting voting bases in the U.S., and identifying and offering targeted subsidies.

As a result of measures undertaken in the U.S.-China Trade War, U.S. exports to the PRC fell by 26.3 percent while exports to the rest of the world increased by 2.2 percent in 2019.⁷² Similarly, Chinese exports to the U.S. fell by 8.5 percent and its total exports rose by 5.5 percent the same year.⁷³ Other countries have increased their exports to the U.S. and the rest of the world, increasing global trade overall, indicating that there was limited global disruption.⁷⁴ When looking at the financial markets data, we see that both markets experienced an initial shock due to trade restrictions, but the U.S. market bounced back much faster than the Chinese markets. More specifically, monthly returns in the U.S. market dipped slightly in the first few months of the trade war, but the market recovered rapidly in the following months and more than doubled

⁶⁸ Anshu Siripurapu and Noah Berman, "The Contentious U.S-China Trade Relationship," Council on Foreign Relations, December 2, 2022, <https://www.cfr.org/background/contentious-us-china-trade-relationship>.

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Anshu Siripurapu and Noah Berman, "The Contentious U.S-China Trade Relationship," Council on Foreign Relations, December 2, 2022, <https://www.cfr.org/background/contentious-us-china-trade-relationship>.

⁷² "How the US-China Trade War Affected the Rest of the World," National Bureau of Economic Research, April 2022, <https://www.nber.org/digest/202204/how-us-china-trade-war-affected-rest-world#:~:text=US%20exports%20to%20China%20fell,a%20statistically%20insignificant%205.5%20percent>.

⁷³ Ibid.

⁷⁴ Ibid.

monthly returns by the end of the trade war.⁷⁵ In comparison, the Chinese market experienced a 46 percent decline in the 12 months following quarter one of 2018 and did not recover by the end of the trade war.⁷⁶ The trade war hurt both the U.S. and the PRC in terms of jobs lost, costing the PRC about 2 million industrial jobs⁷⁷ and the U.S. 245,000 jobs.⁷⁸ When looking at the economic damage overall, studies vary in how much the trade war cost the U.S. economy with some studies citing an estimated loss between 0.3 and 0.7 percent of real GDP.⁷⁹ Looking at public opinion, we can see that articles on the U.S.-China trade war on public WeChat accounts were rarely deleted and that most of them criticize the United States and former President Donald Trump.⁸⁰ In addition, some Chinese people closely follow the developments and have national pride in the PRC's response to the U.S. whereas others think the PRC may have no advantages and will suffer major losses.⁸¹ Lastly, more and more Chinese people may believe that the United States is trying to contain the PRC through political, economic, and military means.⁸² This means that future U.S.-led actions against the PRC will likely foster additional feelings of resentment between the two countries and their populations.

U.S. Economic Toolkit

- U.S.-China Trade War
 - Tariffs
 - Intellectual Property/Priority Watch List
 - Entity List (Export Controls)
 - Currency Manipulator List
 - 232 Investigations (Prohibit investment with ties to PLA)
 - Dumping Accusation
 - New Trade Agreement/No Trade Barriers with other partners to adapt strategy and interest for status quo
- Other tools
 - Full blocking sanctions on banks, state-owned enterprises, and other entities
 - Designation of party officials and other prominent individuals on the Specifically Designated Nationals and Blocked Persons (SDN) list

⁷⁵ "S&P 500 (^GSPC) Historical Data," Yahoo Finance, accessed March 2023, <https://finance.yahoo.com/quote/%5EGSPC/history?p=%5EGSPC>.

⁷⁶ "iShares MSCI China ETF (MCHI) Historical Data," Yahoo Finance, Accessed March 2023, <https://finance.yahoo.com/quote/MCHI/history?p=MCHI>.

⁷⁷ Frank Tang, "US trade war has cost China 'almost 2 million industrial jobs', investment bank CICC says," *South China Morning Post*, July 24, 2023, <https://www.scmp.com/economy/china-economy/article/3019916/us-trade-war-has-cost-china-almost-2-million-industrial-jobs>.

⁷⁸ "U.S.-China trade war has cost up to 245,000 U.S. jobs: business group study," *Reuters*, January 14, 2023, <https://www.reuters.com/article/us-usa-trade-china-jobs/u-s-china-trade-war-has-cost-up-to-245000-u-s-jobs-business-group-study-idUSKBN29J2O9>.

⁷⁹ Ryan Hass and Abraham Denmark, "More pain than gain: how the US-China trade war hurt America," Brookings Institution, August 7, 2020, <https://www.brookings.edu/blog/order-from-chaos/2020/08/07/more-pain-than-gain-how-the-us-china-trade-war-hurt-america/>.

⁸⁰ Mu Chunshan, "How Chinese People View the US-China Trade War," *The Diplomat*, April 16, 2018, <https://thediplomat.com/2018/04/how-chinese-people-view-the-us-china-trade-war/>.

⁸¹ Ibid.

⁸² Ibid.

- Restrictions on transactions in debt and equity issued by SOEs, banks, or other entities
- Banning SWIFT access to designated entities
- Sector-based restrictions in trade in goods and services
- Sector-based investment restrictions
- Restrictions on commercial shipping and access to airspace
- Revocation of benefits under plurilateral agreements (MFN treatment)
- Export controls
- Travel restrictions
- Price caps

Key Takeaways from the U.S.-China Trade War

By looking at the toolkit, we can see that the United States has more tools available to wage economic warfare against the PRC. By looking at the economic data from the trade war, we can see that Chinese markets took longer to recover than U.S. markets, indicating that the PRC's economy may be more vulnerable. However, the trade war appears to have weakened private sector companies in the PRC versus State-Owned Enterprises and has accelerated the PRC's shift towards self-reliance, reducing U.S. leverage in the long term.

Second, some of the tools used will be more painful than others. For example, banning SWIFT access is a substantial weapon that the United States has power over considering the dollar still dominates international transactions. Even though the U.S. has levers it can pull, the PRC's tariffs and artificial support for domestic industries hurt U.S. businesses. Chinese actions against U.S. imports likely impact U.S. companies by favoring domestic industries artificially over those on the international market. However, the same could be said for U.S. tariffs hurting Chinese businesses.

U.S.-China Decoupling

Decoupling the world's two largest economies will be extremely expensive. Before the trade war tariffs were implemented in 2018, goods and services trade between the U.S. and the PRC amounted to \$727.1 billion, two-way investment surpassed \$386 billion, cooperation on R&D was increasing, and the U.S. was the largest destination for international students and tourists from the PRC.⁸³ In addition, the PRC contributed to 35 percent of marginal global growth in 2019 which is almost twice as much as the United States, the European Union (EU), Japan, and Canada combined.⁸⁴

When looking at trade, investment, people-to-people exchanges, idea flows, and specific industry effects, we can see how damaging U.S.-China decoupling would be to the international economy. According to financial modeling, if 25 percent tariffs were expanded to cover all two-way trade, the U.S. would give up \$190 billion in GDP annually by 2025 with losses surpassing \$250 billion by 2030.⁸⁵ This number accounts for lost U.S. market access in the PRC, revenue, and job

⁸³ U.S. Chamber Staff, "Understanding U.S.-China Decoupling: Macro Trends and Industry Impacts," U.S. Chamber of Commerce, October 21, 2021, <https://www.uschamber.com/international/understanding-us-china-decoupling-macro-trends-and-industry-impacts>.

⁸⁴ Ibid.

⁸⁵ Ibid.

losses, lost economies of scale, research and development budgets, and diminished competitiveness.⁸⁶ In the case of investment in particular, if decoupling led to the sale of half of the U.S. foreign direct investment in the PRC, U.S. investors would lose \$25 billion per year in capital gains and one-time GDP losses of up to \$500 billion.⁸⁷ Other effects such as fewer people-to-people exchanges and idea flows would reduce American universities' access to Chinese students from high technology and advanced sciences and reduce U.S. productivity and innovation.⁸⁸

In addition to these sectors, specific industries such as aviation, semiconductors, chemicals, and medical devices would all suffer from significant supply chain issues. This would likely cause companies to start stockpiling, creating spillover effects around the world. In addition to this, decoupling would result in smaller market access, reducing economic output and access to next-generation technologies. For example, even though many semiconductor companies are American, the U.S. only accounts for 12 percent of global chip production.⁸⁹ Taiwan, South Korea, Japan, the United States, and the PRC produce the majority of the world's semiconductors. However, the quality of semiconductors or chips varies depending on the manufacturing plant, significantly altering the quality and advancement of products that can be made with those chips. Taiwan produces over 60 percent of the world's semiconductors and more than 90 percent of the most advanced ones with the majority of those manufactured by Taiwan Semiconductor Manufacturing Corporation (TSMC).⁹⁰ On the other hand, the PRC remains a key manufacturing and assembly hub for electronics which contain semiconductor technology, making market access essential for U.S. national security.⁹¹ Not only would decoupling hurt the U.S. economy, but it would also impact U.S. security and dominance as the leader of innovation and technology.

In an escalation scenario regarding Taiwan, the United States would likely be very vulnerable. Without access to high-quality semiconductors from TSMC, many products would likely face a backlog. Similarly, the PRC is also quite vulnerable without access to semiconductors controlled by Taiwan and the United States, favoring the United States before a Chinese escalation.

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ Ibid..

⁸⁹ Ibid.

⁹⁰ "Taiwan's dominance of the chip industry makes it more important," *The Economist*, March 6, 2023, <https://www.economist.com/special-report/2023/03/06/taiwans-dominance-of-the-chip-industry-makes-it-more-important>.

⁹¹ U.S. Chamber Staff, "Understanding U.S.-China Decoupling: Macro Trends and Industry Impacts," U.S. Chamber of Commerce, October 21, 2021, <https://www.uschamber.com/international/understanding-us-china-decoupling-macro-trends-and-industry-impacts>.

Lessons from the Russian Invasion of Ukraine

Despite its many differences from our hypothetical scenarios, the Russian invasion of Ukraine still provides us with a number of key lessons. The lessons that this section will analyze are 1. Great powers are not immune from sanctions, 2. U.S. success in coalition building, 3. The importance of private-sector decoupling, 4. The length of time for the effects of sanctions to be felt, 5. Cherry-picking economic data, and lastly, 6. The effects of sanctions on Russia's ability to wage a war and how Russia has adapted.

1. Great powers are not immune from sanctions

The war in Ukraine has been closely observed by both the United States and the PRC. One major lesson that has been drawn is that even great powers can be vulnerable to economic warfare.⁹² Within days of the invasion, Russian access to SWIFT was severed, and allied countries implemented severe sanctions against Russia's largest financial institutions and also froze Russian foreign reserves.⁹³ The PRC for many years had observed the U.S. and its allies implement sanctions against multiple nations, usually middle or smaller powers such as Iran and North Korea. Russia, even though much smaller than the PRC economically, is still one of the largest economies in the world and has a large nuclear stockpile.⁹⁴ Economic warfare against it is being waged with great determination despite the economic interdependencies it shared with many of the countries now sanctioning it.⁹⁵

This shows us that despite the PRC's size, and the close economic links it shares with much of the world, waging economic warfare against it is not impossible. Still, we recognize that it will be a greater challenge to implement such measures against the PRC when its economy is far larger than Russia's, and the scenarios we envision while belligerent, are not as escalatory as a full-blown invasion of a United Nations (UN) member state.

2. U.S. Success in Coalition Building

A second lesson that our group has drawn is the success the U.S. has demonstrated in pulling nations together to form and maintain a coalition more than a year into the war. Many of the nations that have participated in some of the most stringent sanctions were formerly heavily dependent on Russia for energy, including the bulk of the EU participants.⁹⁶ In total, there have been about 11,500 sanctions placed against Russia. Of 1,498 sanctioned entities, 866 are sanctioned only by the U.S. The U.S. has imposed more than 2,600 sanctions against Russia, the highest number so far. It's the only country sanctioning 117 Russian vessels and 17 planes. Even countries such as Switzerland, famous for its neutrality, and Japan, a far East Asian nation have aligned much of their sanctions with the U.S.⁹⁷

If the U.S. wishes to succeed in pulling together a similar coalition it will need to once again demonstrate strong leadership to maintain a diverse network of countries. The U.S. will likely

⁹² Feigenbaum and Szubin, "What China Has Learned From the Ukraine War."

⁹³ Feigenbaum and Szubin.

⁹⁴ Feigenbaum and Szubin.

⁹⁵ Feigenbaum and Szubin.

⁹⁶ Nikoladze, "Russia Sanctions Database."

⁹⁷ Nikoladze.

need to work harder than ever before diplomatically to draw in European allies during a Taiwan crisis. It will be especially difficult to draw in Southeast Asian nations that are heavily economically dependent on the PRC.

3. The Importance of Private-Sector Decoupling

More than 600 multinational companies have made the decision to exit Russia ever since the war began.⁹⁸ Over 1,000 companies from across the globe publicly announced that they are voluntarily curtailing operations in Russia to some degree.⁹⁹ The value of these companies' investment represents the lion's share of all accumulated, active foreign investment in Russia since the fall of the USSR. This retreat has reversed three decades' worth of Russian integration with the world economy.¹⁰⁰ Private-sector decoupling has also led to a brain drain in Russia, with the country suffering from business flight, capital flight, and population flight. Some estimates have placed the number of well-educated Russians leaving the country as high as 500,000.¹⁰¹

The estimated GDP worth of all these private companies may have been as high as 40% at the start of the war.¹⁰² Many of the multinational businesses that left have been taken over by local businesses. However, it will be difficult for Russia to replace and overtake more technically complicated businesses that have left with both the Western expats and well-educated Russians who were employed by them.¹⁰³

Voluntary private-sector decoupling is likely to occur to some degree if the U.S. and its allies wage economic warfare against the PRC. Private-sector decoupling may also be legally enforced domestically by both the PRC and the U.S. and its allies depending on the sanctions imposed and the severity of the conflict. Understanding the economic costs of such decoupling is important for calculating the total damage both sides of the conflict will suffer during a crisis.

4. The length of Time for the Effect of Sanctions to be Felt

The fourth lesson continues a point brought up by the third lesson, and has to do with Russia's ability to adapt to certain sanctions, meaning that many sanctions can take much longer to cause serious damage to a country. At the start of the war, the value of the hundreds of multinational companies that left Russia made up nearly 40% of Russia's GDP, yet their departure did not cause Russia's GDP to be slashed by 40% overnight.¹⁰⁴ Many foreign businesses that left Russia were taken over by local companies. Because of this, it may take years for the effects of many sanctions to be felt.¹⁰⁵

The effects of brain drain will also take time to be fully felt by Russia. When the full effects of sanctions do hit Russia, the impact will likely be devastating. By the time this happens though it

⁹⁸ House, "FACT SHEET."

⁹⁹ Sonnenfeld et al., "Business Retreats and Sanctions Are Crippling the Russian Economy," 53.

¹⁰⁰ Ibid, 54.

¹⁰¹ Ibid, 55-56.

¹⁰² Ibid, 54-55.

¹⁰³ Ibid, 56-57.

¹⁰⁴ Ibid, 55.

¹⁰⁵ Ibid.

is possible that the war in Ukraine will have already been concluded. The devastation that the Russian economy may feel in the future can also have unintended consequences if they are still being felt long after the war has ended. A Russia that is suffering from a war that has already been fought may feel resentful towards those who levied the sanctions.

Our team also realizes that in the case of a Taiwan contingency, if the goal is to cause the PRC immediate pain in order to compel a return to the status quo, then some of the sanctions imposed on Russia may not be appropriate for this contingency. Our team will need to analyze the economic measures used by the U.S. and its allies that have had the most immediate effect on Russia.

5. Cherry-Picking Economic Data

While not all of the sanctions imposed on Russia have had an immediate effect, some most certainly have. The effects may not be reflected in official economic releases by the Kremlin. Since the invasion of Ukraine, the Kremlin has increasingly cherry-picked its releases of economic data.¹⁰⁶ Russia has selectively tossed out unfavorable metrics while only presenting metrics that make the economy seem more resilient than it really is. The reality is that the Russian economy has already suffered severe damage from sanctions.

Russian imports declined by more than 50% in 2022 alone.¹⁰⁷ The Russian economy is being crippled both in the short run and long term. Russian domestic production has collapsed, and Russia maintains no capacity to replace many lost businesses, products, and talent. Putin has effectively legalized black market and intellectual property infringement as Russia is unable to import and pay its former international partners.¹⁰⁸

Our team suspects that the PRC is likely to behave similarly if they begin to suffer from sanctions. The PRC would be unlikely to show the full extent of any economic damage suffered in the case of a contingency. In what will likely be a period of extremely heated tensions and intense nationalism, the PRC would not want to show weakness. Therefore it will be a challenge to accurately depict the impacts of geoeconomic warfare.

6. The Effects of Sanctions on Russia and How it Has Adapted

Russian fiscal revenues have not suffered from sanctions sufficiently to reduce the length of this war. Effective management by the Bank of Russia has prevented financial instability and has therefore also protected the real economy.¹⁰⁹ However, Russia has been forced to devote an increasingly large share of its economy to the defense industry.¹¹⁰ Russia has obliged regional and local authorities to use their resources to equip soldiers with basic military goods in the draft.¹¹¹

¹⁰⁶ Sonnenfeld et al., “Business Retreats and Sanctions Are Crippling the Russian Economy,” 43.

¹⁰⁷ Tbilisi, “International Sanctions Are Working.”

¹⁰⁸ Sonnenfeld et al., “Business Retreats and Sanctions Are Crippling the Russian Economy,” 59, 68.

¹⁰⁹ “How Have Sanctions Impacted Russia?”

¹¹⁰ “Russia’s War Economy and the Impact of Sanctions on Military Production | Internationale Politik Quarterly.”

¹¹¹ Ibid.

Additionally, economic sanctions have deteriorated Russia's military capabilities.¹¹² Sanctions against military and dual-use products have been increased since they were first implemented after Russia seized Crimea in 2014.¹¹³ Russia's defense industry remains heavily dependent on components from the West, and these sanctions have impacted Russia's ability to produce T-72 tanks as well as modern air defense weapons and other advanced weapons including cruise missiles.¹¹⁴

Despite these setbacks to Russia, the nation continues to adapt to sanctions. Russia has adapted to its losses in the defense sector by import substitution with domestically produced goods, refitting old war materials, and using shell companies to import high-tech goods via third countries such as Turkey and Kazakhstan.¹¹⁵ These adaptations have allowed Russia to sustain its war but with decreased effectiveness.

The implications for our team are numerous. The U.S., depending on how many countries it can rally to its side could potentially introduce sanctions that affect PLA operations. The PRC, like Russia, however, would most likely find ways to adapt to these sanctions in the short run. The U.S. will additionally need to anticipate which countries may be willing to supply the PRC with the components and materials that it needs and find ways to convince those nations to not cooperate with the PRC. This will be an especially difficult task given the strong interdependencies the PRC shares with countries all over the world.

¹¹² Ibid.

¹¹³ Ibid.

¹¹⁴ Ibid.

¹¹⁵ Ibid.

Escalatory Scenarios

Scenario Background Cases

For our project we developed three background cases to explain why the PRC may have been driven to cross a red line. Each case is based on the premise that the DPP candidate, William Lai, wins the Taiwan presidential election in January 2024. The cases act as a spectrum with case A demonstrating a scenario that we perceive as the least provocative to the PRC, while case C demonstrates one that we perceive as highly provocative. Case B falls in between cases A and C. The ultimate purpose of having three cases is to help determine which nations would be willing to support a U.S.-led coalition against the PRC.

While we expect some nations to support a U.S.-led coalition in support of Taiwan under any circumstances, for other nations the circumstances under which a scenario started are likely much more important. We expect that each scenario that starts with case A as a background will have a wider coalition than scenarios that started with case C. The individual cases are described below. After the individual background cases are described, the escalatory scenarios themselves will be discussed.

A: The PRC Escalates

After DPP candidate William Lai wins the presidential election, they commit to continuing Taiwan's policy of moderation. This means the newly elected president continues to claim Taiwan is already an independent country and so there is no need to attempt to change the status quo.¹¹⁶ Not only does the new president of Taiwan not conduct any provocative behavior in this case, but the U.S. also exercises self-restraint. The presidents of Taiwan and the U.S. do not hold any congratulatory calls, and while members of the U.S. House and Senate congratulate Taiwan on their democratic elections, the senior leaders of both wings of Congress do not announce any visits.

Despite the attempts by both Taiwan and the U.S. to not provoke the PRC, Xi Jinping still views the DPP victory in Taiwan as a threat. Xi Jinping expresses "grave disappointment" in the election of "pro-independence influences" in Taiwan and vows that unification is the destiny of Taiwan and mainland China. After making his remarks, Xi Jinping refuses to take phone calls from President Biden, and Secretary of State Blinken is unable to make a trip to the PRC. Less than a month after the election in Taiwan, the PRC pursues one of the escalatory scenarios.

B: Taiwan or the U.S. Escalate

After the DPP candidate William Lai wins the presidential election, they do not commit to continuing Taiwan's policy of moderation. The newly elected president uses victory speeches to declare that Taiwan needs a larger voice in the international community, and will make an even stronger push for greater recognition. They declare that Xi Jinping himself is a threat to Taiwan's freedom and way of life.

President Biden in a speech regarding Taiwan's election urges both sides of the strait to exercise restraint and discusses the importance of maintaining the status quo. He reiterates the importance of Sino-U.S. relations and promises that U.S. policy towards Taiwan will not change. Members

¹¹⁶ Kuo, "Tsai Ing-Wen Says China Must 'face Reality' of Taiwan's Independence."

of the U.S. House and Senate congratulate the newly elected Taiwanese president on their democratic victory but do not announce any visits.

Xi Jinping witnessing the victory of William Lai and listening to their remarks makes a public appearance shortly after the election. In a furious speech he denounces the elections as fraudulent and influenced by the U.S. Xi reaffirms his commitment to reunifying Taiwan with the mainland and says that the remarks by the newly elected president have crossed a redline. Xi declares that the remarks by President Biden are nothing more than hot air. Xi refuses phone calls from President Biden and the PRC issues a demarche to the U.S. embassy in Beijing. Less than a month after the election, the PRC pursues one of the escalatory scenarios.

Alternatively, the new DPP president does not say or do anything especially provocative, but the U.S. congratulates the new president and a senior U.S. House or Senate member announces a visit to emphasize support for Taiwan and the new president. While the new Taiwanese president hopes to keep tensions low, they feel that they have no choice but to accept the remarks and future visits from the U.S.

C: Taiwan and the United States Escalate

Just like case B, after William Lai wins the presidential election, they do not commit to continuing Taiwan's policy of moderation. The newly elected president uses victory speeches to declare that Taiwan needs a stronger voice in the international community, and will make an even stronger push for greater recognition. They declare that Xi Jinping is a threat to Taiwan's freedom and way of life.

Unlike case B, the U.S. does not exercise restraint in its remarks regarding the election. President Biden in official remarks congratulates Taiwan on its democratic elections and says "Taiwan continues to be a shining example of liberal democratic values in East Asia." President Biden only remarks once during his speech that U.S. policy towards Taiwan has not changed and is still guided by the TRA. On the other hand, members of Congress celebrate the victory of the new president, and members of both parties in a remarkable display of bipartisanship announce a joint Republican-Democrat congressional visit to Taiwan to support the newly elected president. William Lai welcomes the remarks made by U.S. congressmen and announces that they look forward to receiving the delegation.

In a furious speech, President Xi Jinping denounces the Taiwanese election and remarks by U.S. officials. He declares in his speech that the international community would be blind to not understand the "blatantly provocative behavior" demonstrated by the U.S. Declaring the election a complete fraud, Xi states that a redline has been crossed and that the PRC must respond in order to prevent the permanent separation of the mainland and Taiwan. Less than a month later the PRC pursues one of the escalatory scenarios.

Starting Scenarios

Scenario 1: Announcement of Blockade on Taiwan

The first scenario is a situation in which the PRC announces a blockade will be imposed on Taiwan, but does not follow through with the threat until potentially the end of the scenario. Specifically, the PRC issues a statement that all cargo ships going in and out of Taiwan will be

mandated to dock on the mainland or Hong Kong and be searched by Chinese officials. The Chinese aim is to raise the cost of transactions with Taiwan significantly because of the increasing security concerns in the region.

The immediate impact is a drop in trade flow with Taiwan. It is expected that the increased risks of a conflict around Taiwan would diminish companies' capabilities to trade in that region. Banks are expected to be reluctant to provide companies with trade credits, which makes it harder for Taiwan to trade with the rest of the world. Moreover, insurance companies would increase the cost or even stop insuring shipping companies in the area, which would severely limit their operating capabilities. The rising risks could affect the global stock market as well as the Taiwanese and Chinese stock markets.

U.S. Reactions

The U.S. would immediately begin seeking for partners to form a coalition. Our group assesses that countries joining the U.S.-led coalition would be heavily influenced by the background scenarios, discussed in the previous section. If the PRC announces a blockade without much provocation from both Taiwan and the U.S., the global reactions are expected to be strong. We consider Japan, Canada, Australia, and the UK to be a part of the coalition. The Republic of Korea is willing to make a statement to condemn the PRC's actions, given the strong negative feelings of the Korean people toward the PRC, but it is unlikely to join the U.S.-led coalition against the PRC. The ROK has a high trade/GDP ratio and its trade heavily depends on the PRC. Therefore, the announcement of a blockade would not be enough for the ROK to take further action. Moreover, it is highly unlikely that the EU will play any part in this economic conflict, due to both heavy economic dependence on the PRC and few strategic interests in the region. For example, the PRC is accountable for the majority of exports from German major industries such as automobiles. At the same time, the PRC is also responsible for manufacturing accessories used for building vehicles. Further, whereas the Russian invasion of Ukraine has almost a direct impact on European geopolitics, East Asia still remains a less important area for many European countries.

As for the background case B, some countries consider Taiwan or the U.S. to also have a responsibility in provoking the PRC, and so are thus less willing to join the coalition. Compared to the former scenario, we assume that Canada will be out of the coalition. Canada has expressed security concerns in the area with the U.S., but would not consider it in the nation's best interest to intervene in a situation that may have been provoked by the U.S. Therefore unless the PRC is fully responsible for taking action, Canada is unlikely to take the risk of ruining their profitable economic relationship with the PRC.

Lastly, in background case C, even fewer countries join as they view the Chinese actions as a consequence of too much provocation from both Taiwan and the U.S. There are two countries we consider to be still part of the U.S.-led coalition, which are Japan and Australia. Japan's economic dependence on the PRC is significantly high and the economic consequences would be detrimental. However, in terms of national security, the constitution limits the country's employment of its military, and Japan is highly dependent on the U.S. to ensure regional peace. Thus, it is highly likely that Japan sides with the U.S. Although Australia has high economic dependence on the PRC and risks similar to Japan, the country's willingness to confront the PRC

has been surprisingly strong. When the COVID pandemic started, it was Australia that asked the PRC to be reinvestigated as the source of the disease, which resulted in Chinese economic sanctions on its wine.

In response to the PRC's announcement of a blockade, the U.S. is also likely to announce that it will take unspecified economic measures against the PRC if they continue this course of action, including sanctions, but without actually implementing the measures yet. The possible measures include export controls without specifying any items, revocation of benefits under plurilateral agreements (e.g. MFN treatment), sector-based investment restrictions, sector-based trade restrictions in goods and services, and the UN sanction regime as stigmatization.

Regardless of the U.S. warnings of possible economic measures, our team assumes that the PRC would continue to threaten a blockade. As a consequence, the U.S. and the PRC will go into scenarios similar to the U.S.-China Trade War, but to a more severe degree. The U.S. would initiate a review of Section 301 tariffs, and raise tariffs on List 1 products, like raising the ad valorem tariff from 25 percent to 30 percent. List 1 includes a variety of product categories, including metal products, machine parts, medicaments, and some electrical appliances. These Chinese products are primarily exported to the U.S. and have relatively easy access to domestic and alternative foreign sources for those items.

The U.S.-led coalition countries would also start taking action against the PRC. Firstly, all coalition members, which are Japan, Australia, the UK, and Canada in case A, would raise the existing tariffs on imports from the PRC. Japan would also call for Australia, New Zealand, and ASEAN countries to revoke the right of the PRC in the RCEP (Regional Comprehensive Economic Partnership Agreement).

Countermeasures

In response, we estimate that the PRC would try to devalue the RMB to reduce the impacts of increased tariffs. The PRC would allow people to protest and boycott the U.S. and the coalition member's stores and restaurants located in the PRC. Furthermore, they would close numerous Walmarts and McDonalds for violating domestic health and safety standards.

Economic Impact

The economic impacts are expected to be similar to the ones brought by the U.S.-China Trade War, but more severe. Here, we calculated the economic impacts based on the economic loss caused by the Trade War. Firstly, the PRC's current account will experience a 10 percent decrease with Chinese exports to the U.S. dropping by 30 percent, which equals around \$135.8 billion. The PRC's financial market monthly returns, as measured by iShares MSCI China Index, will also decline by approximately 50 percent. Furthermore, employment will fall by five million U.S. dollars, and the GDP growth rate will decline by around 0.5 percent.

The U.S. also suffers from a drop in its current account by 20 percent with its exports to the PRC falling by 25 percent. The U.S. major financial market indexes will experience an initial shock, but not as significant as the Chinese market. The agricultural sector is expected to suffer the most with the PRC targeting Republican states in an attempt to influence the U.S. 2024 presidential election race.

Domestic Implications

In the U.S., the severe economic impacts would likely trigger strong domestic opposition. U.S. consumers would start lobbying against the tariffs. Inflation would cause anger against the Biden administration and the Republican party would take advantage of the situation, criticizing Biden for being soft against the PRC and not doing enough to protect the U.S. economy. The harsh feelings against the government may encourage the Biden administration and the Democratic party to demonstrate that they are not weak, raising the possibility of further implementing more severe economic actions and going up the escalation ladder.

In the PRC, the majority of the population is expected to be in favor of the government's actions. People would show their anger at the U.S. and coalition countries for interfering with Chinese internal issues and supporting Taiwan. The Politburo Standing Committee (PSC) would remain completely loyal to Xi Jinping and his actions. On the other hand, because of the concerns over the escalating situation, it is possible that some people would begin contemplating fleeing if they have the means and think they're likely to get caught up in the U.S.-PRC crossfire.

Some Taiwanese people would also begin to consider immigrating or traveling to other countries to avoid the risk of any further aggression, while others are pushed further away from the PRC to lean towards pro-independence, resulting in a stronger will to defend Taiwan from possible attack. The political parties will be divided into two as the KMT blames the DPP for raising the risks of war, stating that they would be willing to negotiate peace. The newly elected DPP President would make an appeal to world democracies for support.

Based on those economic damages, there are three possible Chinese reactions. If the PRC considers those losses to be detrimental, the government might conduct one-time symbolic military action. But the PRC could also back down and keep Taiwan's political position ambiguous. Alternatively, the PRC could keep the "soft blockade" rhetoric on a permanent basis. Therefore, the status quo remains and trade with Taiwan would continue to decline. Since this situation is not escalatory, the U.S. and the coalition countries would not take any additional actions. Lastly, if President Xi thinks unification is worth achieving regardless of those economic impacts, the PRC would escalate the situation, which the next section discusses.

Scenario 2: The PRC implements secondary sanctions on Taiwan

As tensions between the PRC, and the U.S. continue to escalate, we foresee a second scenario in which the PRC would punish countries that trade with Taiwan with higher tariffs. In this scenario, the PRC implements a blanket tariff increase of five percent on imports from countries that trade with Taiwan. However, in order not to hurt the PRC's own economy, the tariff excludes critical industries including semiconductors, aviation, chemicals and medical devices, and pharmaceuticals. To further provide incentives for countries not to trade with Taiwan, the PRC might also announce that proceeds from the extra tariff will go into aid funds for countries that cut economic and political ties with Taiwan. This conduct could benefit the PRC by mandating countries to only trade with "one China."

Under this scenario, the PRC will also take military action without the intention of unilaterally changing the current political situation in the Taiwan Strait, such as conducting patrols without intercepting cargo ships to intimidate them not to trade with Taiwan. This may also lead to a

severe situation where the world may have to access Taiwanese goods such as semiconductors through the PRC.

The direct impact of this scenario would be that the trade flow of the world with Taiwan declines. Taking Taiwan's most competitive semiconductor industry as an example, Taiwan produces 92 percent of the world's most advanced logic chips (at node sizes less than 10 nanometers in size), as well as a third to half of the global output for less sophisticated but nonetheless critical chips. By some estimates, Taiwan's leading chip foundry TSMC produces 35 percent of the world's automotive microcontrollers and 70 percent of the world's smartphone chipsets.¹¹⁷ If the PRC weakens the trade link between the world and Taiwan, the economic impact of the semiconductor industry alone could be calculated to cost trillions of dollars.

On the other hand, due to the increased risk of trading with Taiwan, the rest of the world would be less willing to provide trade credit in return, deepening the hardships for Taiwan to trade with the rest of the world. Lastly, the high trading risk would also increase the cost of shipping, resulting in an insurance increase for businesses shipping in the region.

U.S. Reactions

We assume that to combat the PRC's measures, the U.S. would initially seek a coalition, possible members would be Australia, Canada, Japan, and the ROK. A possible strategy from the U.S. would include the U.S. Embassy in Beijing issuing a demarche against the PRC government, with announcements that the new coalition will take economic measures against the PRC. The content of the measures could be issuing condemnation against the PRC for its actions and the damage it causes to the global economy, cooperating further with Japan and the Netherlands to further restrict PRC semiconductor manufacturing capabilities. The U.S. could even target Chinese state-owned enterprises and selected private companies by adding them to the Entities List.

On the international stage, the U.S. may also turn to the UN General Assembly to seek support to condemn the PRC's actions. We expect that this attempt would most likely fail due to a large number of abstentions among the UN members. We also assume that the U.S. will seek support from the EU to condemn the PRC's actions. The EU would then issue remarks condemning the PRC, at the same time working with the ROK to increase semiconductor capabilities within the union.

To help Taiwan break through the trade bottleneck set by the PRC, the U.S. could add additional state-owned enterprises and companies who actively engage in buying goods from Taiwan to the U.S. Entity List. For example, PRC artificial intelligence companies or technology companies. Furthermore, the U.S. could set restrictions on the number of student visas issued to Chinese students, and urge remaining Confucian centers in the U.S. to be closed by their respective host universities to signal dissatisfaction to the PRC.

¹¹⁷ The Rhodium Group, "The Global Economic Disruptions from a Taiwan Conflict" (December 14, 2022) <https://rhg.com/research/taiwan-economic-disruptions/>

On the economic side, the U.S. may conduct a review of Section 301 tariffs, and raise tariffs on List 1 through List 4 products, raising ad valorem tariff from 25 percent to 35 percent, and raising tariffs on List 4 products from 15 percent to 20 percent for example.

List 1 includes a variety of product categories, including metal products, machine parts, medicaments, some electrical appliances, etc. These PRC products are mostly exported to the U.S. and have alternative domestic and foreign sources. List 4 includes an array of agricultural products and livestock. Since these products directly impact domestic consumers, the U.S. is more cautious in hiking tariffs for this list.

Actions from the coalition members could be: Australia sets a tariff on 18 percent of imported goods from the PRC, with a 10 percent reduction in iron ore exports to the PRC. Other allies such as the United Kingdom, Canada, and Japan could choose either to raise existing tariffs or initiate a new round of tariffs toward the PRC. Other traditional U.S. allies such as the ROK, Australia, and New Zealand could even propose the exclusion of the PRC from the Regional Comprehensive Economic Partnership Agreement (RCEP).

Countermeasures

The PRC would then start a second round of economic countermeasures against the U.S. coalition. Possible impacts would be worsening the current trade war impacts, leading to an all-level semiconductor products shortage and raising the global semiconductor prices. This will also affect the manufacturing and prices of automobiles, military equipment, smartphones, PCs, televisions, etc. Countries continuing to support Taiwan, such as the U.S., Japan, the ROK, and Australia will suffer from higher tariffs on Chinese products.

The PRC could retaliate against the U.S. by increasing tariffs on a wide selection of agricultural products, in an attempt to influence the ongoing U.S. presidential election. These products include but are not limited to soybeans, corn, and sorghum. On the other hand, the PRC will lower tariffs on the same list of products from neutral and friendly countries. As a reaction to the U.S. and its allies, the PRC would implement targeted economic countermeasures, in an attempt to dissolve the alliance, such as tariffs on automobiles, manufacturing parts, and electronic devices. Lastly, the PRC would strengthen secondary sanctions to target corporations of countries still trading with Taiwan, through measures including but not limited to boycotting, retapes, audits, and fines Taiwan on PRC-Taiwan trade.

To deter the PRC, the U.S. could escalate and implement additional sanctions including the designation of party officials and other prominent individuals on the Specifically Designated Nationals and Blocked Persons (SDN) list, putting restrictions on transactions in debt and equity issued by Chinese state-owned enterprises, banks, or other entities, along with threatening to ban SWIFT access to designated entities, travel restrictions on high-ranked officials or even an order to close the PRC consulate in New York City. To help Taiwan resist further PRC influence on the political status quo, the U.S. could announce the sale of new defensive weapons to Taiwan along with an increase of U.S. troops in Taiwan by 50-100 additional personnel.

Other economic measures could be the U.S. banning executives from traveling to the PRC, the PRC permitting protests to build up outside of U.S. and allied embassies and consulates

throughout mainland China, and the PRC ordering the closure of the U.S. consulate in Shanghai as revenge.

Economic Impact

As the PRC starts to pressure Taiwan harder on trade, we would expect a greater decline in world trade flow with Taiwan. Again, take the Taiwanese semiconductor industry for example, to an extreme of a cut off from export to the world, the value of trade being impacted could be as great as 1.6 trillion.¹¹⁸

Meanwhile, the Taiwanese, Chinese, and global stock markets could suffer due to rising risks of a potential conflict, angering investors over a crashing stock market. Also, banks may be less willing to provide trade credit, due to the rising risks of trading with Taiwan, making it harder for Taiwan to trade with the rest of the world. Lastly, the cost of shipping insurance would increase for businesses shipping in the region, straining the ease of access to Taiwanese products because of additional steps and costs.

Domestic Implications

The series of economic moves in the United States mentioned above may result in adverse consequences domestically. Possible effects include rising nationalism, racism increasing against Asian Americans, and rising anger over inflation. The scenario may also lead to a possible collapsing economic situation, increased dissatisfaction towards the Biden administration, and in turn, increased support for his Republican presidential candidate opponent. Both the Republican and Democratic parties will escalate rhetoric against the PRC, and the PRC will use that rhetoric to flame nationalism in return.

Due to increased nationalism in the PRC, we believe most of the population in the PRC will be in favor of PRC government actions and that the Politburo Standing Committee (PSC) would remain completely loyal to Chairman Xi Jinping and his actions. Mainland Chinese citizens would also become more enraged at foreign support for Taiwan. They would continue to emphasize that cross-strait relations are an internal issue to be resolved by the PRC only.

However, as economic conditions deteriorate in the PRC, leading to dissatisfaction, the CCP might notice an uptick in discontent on social media. Censors may have to work late hours to keep up with the flurry of activity. For the liberal regions in the PRC, there may be more discontent in Shanghai and east coast cities than in the central heartland. People who can leave, or immigrate start to leave, departing to locations such as Australia, New Zealand, Singapore, and the United Kingdom. The risk of escalation increasing as the CCP attempts to redirect anger into nationalism is worth emphasizing.

Facing a more unstable situation across the Taiwan Strait, Taiwanese citizens may seek emigration opportunities, and prepare for the worst-case scenario (a war). The government of Taiwan may activate some reservists for training.

Tired of the pressure from the PRC, Taiwanese people would be pushed further away from the PRC. We expect there would be increases in pro-independence (stronger will in defending Taiwan from possible attack by going to war), and the pro-unification KMT party would blame

¹¹⁸ The Rhodium Group, “The Global Economic Disruptions from a Taiwan Conflict” (February 2023)

the current ruling party, the DPP, for raising the risks of war. The KMT would say they would be willing to negotiate peace. The DPP may continue current President Tsai Ing-wen's claim of reiterating "peace, equality, democracy, and dialogue" with the PRC, rejecting the Beijing authorities' downgrade of Taiwan and undermining the status quo across the Taiwan Strait. The new DPP President would most likely make an appeal to world democracies for support.

Scenario 3: Full Blockade with military involvement

The third scenario is a full Mahanian blockade of the island of Taiwan by the PRC. This is the most extreme scenario in terms of PRC action. Therefore, we expect to see this scenario play out either as part of an escalation from Scenario 2 or a PRC reaction to Case C i.e., Taiwan and the U.S. escalate.

A blockade is defined as “a belligerent operation to prevent vessels and/or aircraft of all nations, enemy and neutral, from entering or exiting specified ports, airports, or coasting areas belonging to, occupied by, or under the control of an enemy nation.”¹¹⁹ We are assuming a full blockade in this scenario, which means that all vessels and/or aircraft are prevented from entering or exiting Taiwan's territorial waters, even if they may be for humanitarian assistance. It is essential to note that a blockade is a “belligerent operation” – an act of war. The PLA would have to use naval surface forces and submarines, missiles and air strikes, and offensive mine warfare to control the space around the island of Taiwan.¹²⁰

A blockade is a very likely course of action for the PRC because “China can undertake it without assaulting the island directly, without causing large loss of life, and with the ability to dial down any blockade should the United States intervene. It can also be carried out largely by China's much-improved submarine force – targeting the import and export routes that are the very heart of Taiwan's highly trade-dependent economy.”¹²¹ It is particularly favorable for the PRC that most of Taiwan's major shipping ports are on the west coast of the island and thereby closer to mainland China. Moreover, Taiwan's total energy import dependence is about 98 percent, making it extremely vulnerable to a blockade.¹²²

A report published in 2020 by the National Defense University in Beijing titled *The Science of Military Strategy* explores the concept of a blockade from the Chinese perspective:

Strategic blockade is based on military means, combined with other means such as politics and economics, to block the enemy's combat operations from land, sea, and air. The purpose of the strategic blockade is to destroy the enemy's economic and military relations with the outside world, weaken its combat capability and

¹¹⁹ Bradley Martin, Kristen Gunness, Paul DeLuca, and Melissa Shostak, *Implications of a Coercive Quarantine of Taiwan by the People's Republic of China*. Santa Monica, CA: RAND Corporation, 2022, iv..

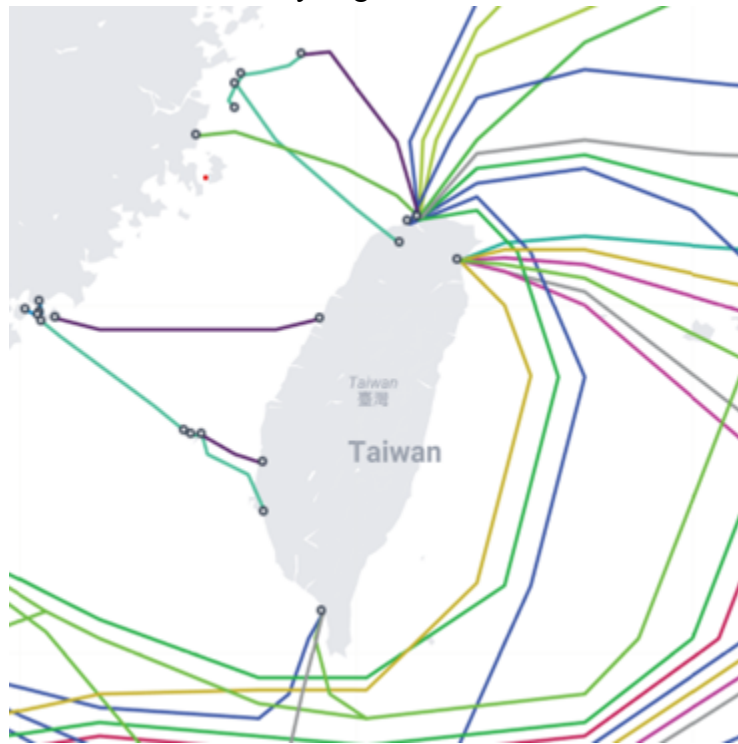
¹²⁰ Ibid, 8.

¹²¹ Michael O'Hanlon, “How to Defend Taiwan: Leading with Economic Warfare,” *The Washington Quarterly* 44, no. 4 (February 2, 2021): pp. 183-196, <https://doi.org/10.1080/0163660x.2021.2020459>, 185.

¹²² “Taiwan - Energy Sector Highlights,” U.S. Energy Information Administration (EIA) (U.S. Energy Information Administration (EIA), accessed April 13, 2023, <https://www.eia.gov/international/overview/country/TWN>.

war potential, and make it isolated and helpless, so as to directly achieve strategic goals or create conditions for the implementation of the next strategic action.¹²³

In a PRC blockade of Taiwan, the strategic goal would be to coerce Taiwan into some form of forced reunification with the mainland. The PRC will not only use military means to control the maritime and airspace around Taiwan, but it will also launch an information blockade.¹²⁴ We expect submarine cables (also known as undersea cables) that connect Taiwan to the world to be the most likely target for PRC's information blockade. In March 2023, the island of Matsu, one of Taiwan's outlying islands close to mainland China, faced damages to its two submarine internet cables. This led to residents of the island experiencing vast communication problems including waiting hours to send a single text message and not being able to make phone calls. Although the exact source of the submarine cable damage is unknown, it is suspected to have been a PRC act.¹²⁵ Currently, there are 15 submarine cables landing in seven cable landing stations in Taiwan. These stations are likely targets in the event of a PRC blockade.



U.S. Reactions

Although the U.S. does not have a formal defense treaty with Taiwan, it is safe to assume that it will not be a spectator to a PRC blockade. The immediate goal for the U.S. would be to defeat the blockade without escalating to an all-out war. By doing so, the U.S. would keep Taiwan's economy afloat and reduce the pain suffered by the people of Taiwan. Specifically, the U.S.

¹²³ Tianling Xiao, ed., *The Science of Military Strategy* (Montgomery, Alabama: China Aerospace Studies Institute, 2022), 228.

¹²⁴ Ibid, 229.

¹²⁵ Huizhong Wu, "Taiwan Suspects Chinese Ships Cut Islands' Internet Cables." AP NEWS. Associated Press, April 18, 2023. <https://apnews.com/article/matsu-taiwan-internet-cables-cut-china-65f10f5f73a346fa788436366d7a7c70>.

would be seeking to deter the PRC from launching an amphibious invasion and compel the PRC to revert to the pre-conflict status quo.

In seeking to deter an amphibious invasion of Taiwan by the PRC, the U.S. must be able to signal credible threats as well as credible assurances. In terms of credible threats, the U.S. could publicly state that an amphibious invasion will force the U.S. to act militarily in defense of Taiwan. This will raise the reputation cost for the U.S. such that the PRC will take the threat more seriously. A major triumph could be if the U.S. is able to build an international coalition to publicly threaten the PRC against further action. The countries most likely to be sought by the U.S. are its allies in the region: Japan, Australia, South Korea, the Philippines, and Thailand. However, we do not expect any other country to play an active role in challenging the PRC's actions because they would be reluctant to expose themselves to economic retaliation from the PRC.

In terms of credible assurances, the U.S. must be able to signal to the PRC that if the PRC removes its blockade and takes no further actions against Taiwan, the U.S., and its allies will respect the "One China Policy" and revert to the status quo. Relations with the PRC will not be tanked by the blockade and trade will continue on a pre-blockade level.

At the same time, the U.S. will be looking to take immediate steps that could break the PRC blockade without starting an all-out war. As mentioned in the section "Lessons from the Russian Invasion of Ukraine," the impact of economic sanctions is not immediate – it can take a long time for sanctions to cause serious damage to the target. Therefore, in this scenario, economic sanctions cannot be the go-to response. Instead, we foresee a "distant blockade" i.e., an attempt to carry out interdiction at choke points well removed from the PRC's territory.¹²⁶ The most obvious chokepoint is the Strait of Malacca. Countries in the Middle East made up 50 percent of all crude oil imports, accounting for almost 10 percent of the total energy consumption in the PRC in 2021.¹²⁷ Beyond energy, the PRC's reliance on the Malacca Strait is so strong that President Hu Jintao in 2003 drew attention to potential threats posed by "major powers aiming to control the Strait of Malacca" which became known as the "Malacca Dilemma." Thus, the U.S. "distant blockade" there would cause major disruptions in the PRC's energy consumption and by extension, its blockade of Taiwan.

Countermeasures

The PRC could escalate by annexing the offshore islands under Taipei's control. The measure is also known as the "Beiping Model" (*Beiping moshi*). The "Beiping Model" is a strategy that the PLA employed in the Beiping-Tianjin campaign during the civil war. The strategy is to conquer Tianjin (offshore islands in this case) to coerce the KMT troops in Beiping (Taipei in this case) to back down and surrender. Otherwise, they will take it by force.

¹²⁶ Bradley Martin, Kristen Gunness, Paul DeLuca, and Melissa Shostak, Implications of a Coercive Quarantine of Taiwan by the People's Republic of China. Santa Monica, CA: RAND Corporation, 2022. https://www.rand.org/pubs/research_reports/RRA1279-1.html.

¹²⁷ "China - Energy Sector Highlights," U.S. Energy Information Administration (EIA) (U.S. Energy Information Administration (EIA), accessed April 20, 2023, <https://www.eia.gov/international/overview/country/CHN>.

This countermeasure would demonstrate to Taiwan and the U.S. that the PRC is willing to annex more islands and if necessary amphibious landing on the main island of Taiwan. Andrew Chubb argues that such an action is likely because it could “offer Beijing greater flexibility and escalation control, lower risk of civilian casualties, and less likelihood of sparking a strong Taiwanese Response.”¹²⁸

There are very few ways the U.S. could escalate the situation without causing regional warfare.

Economic Impact

In the event of a PRC close blockade of Taiwan, maritime trade around the South China Sea would be severely impacted. Not only would Taiwan be completely cut off from all trade, but the PRC’s maritime trade would also be affected. In 2016, trade through the South China Sea amounted to \$3.37 trillion or 21 percent of global trade.¹²⁹ Over 64 percent of the PRC’s maritime trade, 42 percent of Japan’s maritime trade, and 14 percent of the U.S.’s maritime trade all transited the South China Sea.

Domestic Implications

In a PRC blockade of Taiwan, we expect Taiwan to not surrender immediately. We anticipate that Taiwan’s public opinion will be polarized along the cleavages of the political party and whether to use force or not. On the one hand, Taiwanese leader Tsai Ing-wen and other senior officials in her administration have repeatedly said that while they want peace, Taiwan would defend itself if attacked.¹³⁰ The public sentiment reflects this position. According to a poll conducted in 2022, less than 10 percent of Taiwanese appeal for political reunification with the PRC at some point in the future; roughly two-thirds desired a separate political existence with Beijing¹³¹ More than 77 percent said they were willing to fight in the event of an invasion.¹³² On the other hand, KMT supporters are more reluctant to fight. Now, the question then becomes: how long can Taiwan hold in a PRC blockade considering that all connection with the outside world is effectively cut off?

According to the Central News Agency in Taiwan, Taiwan has coal reserves for thirty-nine days and natural gas reserves for eleven days.¹³³ In terms of food supply, the Taiwanese government announced a “Domestic Rice Safety Stock Standard,” a safety stock of no less than 3 months of

¹²⁸ Andrew Chubb, “Taiwan Strait Crises: Island Seizure Contingencies,” Asia Society (Asia Society, February 2023), <https://asiasociety.org/policy-institute/taiwan-strait-crises-island-seizure-contingencies-0>.

¹²⁹ “How Much Trade Transits the South China Sea?,” ChinaPower Project (CSIS, January 25, 2021), <https://chinapower.csis.org/much-trade-transits-south-china-sea/>.

¹³⁰ Yimou Lee and Ben Blanchard, “China Blockade Would Be Act of War, Taiwan Would Not Surrender, Official Says,” Reuters (Reuters, September 23, 2022), <https://www.reuters.com/world/asia-pacific/china-blockade-would-be-act-war-taiwan-would-not-surrender-official-says-2022-09-23/>.

¹³¹ John Feng, “Taiwan’s Desire for Unification with China near Record Low as Tensions Rise,” Newsweek (Newsweek, July 20, 2022), <https://www.newsweek.com/taiwan-china-politics-identity-independence-unification-public-opinion-polling-1724546>.

¹³² Wu Su-wei, “More than 77 Percent Willing to Fight in the Event of an Invasion by China: Poll,” Taipei Times (Taipei Times, October 24, 2020), <https://www.taipeitimes.com/News/taiwan/archives/2020/10/25/2003745764>.

¹³³ Dai Yazhen, “Scholar: China is more likely to play blockade tactics than a full-scale attack on Taiwan” (Central News Agency, January 28, 2023), <https://www.cna.com.tw/news/aopl/202301280176.aspx>

rice consumption which will be stored in places around the country. Given Taiwan's favorable agricultural environment, it is likely that there will not be massive food shortages unless in the unlikely event that the blockade lasts more than a few months.

In the United States, however, a recent Gallup Poll suggests that more than 80 percent of Americans have a negative view of the PRC.¹³⁴ We expect strong pressure on the President to “be tough” from China hawks in Congress. The willingness of the U.S. general public to continue supporting Taiwan despite economic downturns is expected to be quite high.

In the PRC, we expect nationalist sentiment to rise. After all, prospect theory teaches us that people will take bigger risks and pay higher costs to defend what they believe is legitimately theirs than get new things. The PRC, CCP, and many Chinese people do believe that Taiwan is a breakaway province and therefore would be willing to incur high costs to reunite Taiwan with the mainland. That said, PRC may be more resolved than Taiwan and the U.S. in this case. The PRC will suffer more economic loss than the U.S., but will probably also tolerate more pain than the U.S. does.

But Chinese domestic opinions may also polarize and vary from region to region. Chinese coastal areas are more vulnerable to regional warfare than middle and western China. For instance, Shanghai and other coastal cities are more sensitive to lockdowns than other cities in mainland China because they rely on trade, transportation, and capital flow. But a war would terminate these, so Shanghainese would be more polarized than others.

Global Economic Consequences

By imposing a 25 percent tariff on \$200 billion on goods imported from the PRC in 2019, PRC exports to the U.S. dropped by \$60.8 billion. Under this tariff rate, the export-value-added of the ROK will drop by \$2.4 billion, for Japan, it will be \$2.1 billion, and for Taiwan, it will be \$1.8 billion. The U.S. exports to the world will also drop by \$2.4 billion, and employment will decrease by 16,000 jobs.

Taiwan ranks third in the Economic Complexity Index, suggesting that it's extremely vulnerable to a global chain disruption, such as a blockade.

Were a cross-straits crisis to happen in the near future, we can use today's latest data to gauge the minimum economic losses. Taiwan's GDP amounts to \$774.73 billion U.S. dollars according to IMF data.¹³⁵ The total exports of goods (\$478 billion) and services (\$46.9 billion) in 2021 are \$524.9 billion. In our scenarios, the exports are subject to any crisis across the straits.

What's more, were the crisis to happen, the PRC would also bear heavy sanctions from the U.S. and its allies. Suppose the PRC's exports to these countries were terminated, and these countries started to seek alternative destinations. The PRC's exports to the U.S. amounts to \$530 billion dollars, and export to Japan amounts to \$68 billion dollars. Even if only the U.S. and Japan

¹³⁴ Megan Brenan, “Record-Low 15% of Americans View China Favorably,” Gallup.com (Gallup, March 29, 2023), <https://news.gallup.com/poll/471551/record-low-americans-view-china-favorably.aspx>.

¹³⁵ <https://www.imf.org/external/datamapper/NGDPD@WEO/TWN?zoom=TWN&highlight=TWN>

participate in the initial stage, the total export loss would be at least \$598 billion dollars. The total loss of the PRC and Taiwan combined amounts to \$1.1139 trillion dollars.

For all U.S. middle products imported from the PRC, 1,748 items, amounting to \$76.5 billion dollars, are hard to replace. These items account for 49.6 percent of the total products that the U.S. imports from the PRC. For the end products that the U.S. imports from the PRC, 2,032 items, amounting to \$122 billion, these are hard to replace. These final products account for 75 percent of the total final goods that the U.S. imports from the PRC. For capital goods, 295 items, amounting to \$145.2 billion, are hard to replace. End products and capital goods are easier to replace than middle products. If the U.S. were to ban all these imports, there would be a short-term loss of \$343.7 billion.

In scenarios 1 and 2, the U.S. imposes different tariffs on the PRC. Its impact on the PRC would be as follows:

Impact of U.S. Tariffs on the PRC ¹³⁶		
	Scenario 1	Scenario 2
Extra Tariff U.S. Imposed	\$120 billion	\$150 billion
PRC Exports to U.S. Decreases by	↓ \$135.8 billion	↓ \$199.5 billion
GDP Growth Rate Decline	> 0.63	> 0.93
PRC Employment Decrease	> 5.23 million	> 7.68 million

The table does not include scenario 3 because more destructive economic sanctions will be deployed, meanwhile, tariffs in scenario 2 will remain.

¹³⁶ Data and estimates come from the Chinese report “Global Value Chain and China's Trade Value Added Accounting Research Report”, Ministry of Commerce, China, Chapter 5, <http://images.mofcom.gov.cn/zys/202101/20210126142050237.pdf>

The total trade loss would be different for the three scenarios, not considering other key players' imports from the PRC and the chain loss of the dearth of TSMC products. The total economic loss equals the total trade loss plus the secondary loss caused by TSMC. For example, Japanese imports from the PRC amounted to \$151 billion. A rough, conservative estimate of dependence on Taiwanese chips suggests that companies in these industries could be forced to forego as much as \$1.6 trillion in revenue annually in the event of a blockade.¹³⁷ But since TSMC is transferring its production to the U.S., whether all high-end chips will be gone during the crisis is still debatable.

Scenario-specific consequences are as follows:

Economic Loss (current U.S. dollars, in billion)		
Scenario 1	Scenario 2	Scenario 3
The PRC	The PRC	The PRC
317.9232	439.6232	961.84
Taiwan	Taiwan	Taiwan
524.9	524.9	524.9
U.S.*	U.S.	U.S.
Trivial	70.9	151
World TSMC*	World TSMC	World TSMC
1600	1600	1600
Total	Total	Total
2442.8232	2635.4232	3237.74

¹³⁷ <https://rhg.com/research/taiwan-economic-disruptions/>

* Note: “TSMC” means the secondary effect of cutting off TSMC supply from the world, and its subsequent economic loss.

* If the U.S. exports less to the PRC, its GDP will drop since the value of (Export-Import) is added to GDP. But the decrease will be mitigated by the decreasing import from the PRC and extra tariffs collected on Chinese goods.

Metrics of the total economic loss of the PRC is given by:

$$\Sigma(\text{Export}_i + \text{Tariff}_j)$$

where i indicates the countries that cut off its import from the PRC and j indicates countries that don't cut off its import but put tariff sanctions on the PRC. Both stopping importing goods from the PRC and imposing tariffs would incur an economic loss for the PRC. Because PRC exports less, so it will suffer an economic loss. The tariffs imposed on the PRC also incur an economic loss. Hence, we get the total economic loss for the PRC by summing up the total trade loss of the the PRC and extra tariffs imposed. The economic loss for Taiwan is salient, roughly amounting to total exports. The mitigation effect of cutting off imports as well is not considered because for exporters losses are incurred. The economic loss of the U.S. is generally caused by a decrease in PRC exports to the U.S.

In scenario 1, the total economic loss for the world is at least 2.4 trillion. In scenario 2, the total economic loss for the world is at least 2.6 trillion. In the most extreme scenario, the total economic loss is at least 3.2 trillion. The general idea is that the crisis will have a huge impact on the world and the U.S., but the PRC will suffer more than the U.S. since the PRC is the “World Power House” and manufacturing relies on chips from TSMC. But since the PRC could also tolerate more economic pains than the U.S. could.

Financial Market Implications

To estimate the direct impacts of the scenarios on the financial markets, we look back at similar risk-response linkages in recent history, in particular, those during COVID and the Russian invasion of Ukraine. Methodologically, we chose Chicago Board Options Exchange's CBOE Volatility Index (VIX) as a proxy estimator for expected swings in the S&P 500 index. VIX is a mathematical measure of market participants' expected risks (volatility) based on option pricings of the S&P 500 index. The study is broken down into two parts. In the first part, we examined data from 1990 to the present to find the correlation between VIX and S&P 500, and thus obtain an 'expected' swing in S&P 500 for any given changes in expectations of risk environments. In the second part, we look for similar risk environments that happened before to estimate the risk profile of our scenarios. By combining findings from both parts, we were able to make a crude estimate of the expected impact on the S&P 500 in our scenarios.

Our linear regression model using monthly market data from January 1990 to March 2023 yields a negative relationship between VIX and S&P 500. Specifically, we find that – to a statistical significance of 99.99 percent – on average, for every 1 percent change in VIX, there is a -0.11 percent change in the S&P index (see table).

Regression Statistics	
Multiple R	0.698776
R Square	0.488287
Adjusted R Square	0.488226
Standard Error	0.008238
Observations	8380

S&P 500 Against VIX				
	Coefficients	Standard Error	t Stat	P-value
Intercept	0.000624	9E-05	6.92667	4.63E-12
VIX	-0.11462	0.001282	-89.4118	0

With this expected relationship at hand, we identified two cases in recent history that would closely mirror the market risk dynamics of our scenarios. The first case is the Russian invasion of Ukraine, where the VIX experienced a shock increase of 31 percent in a short span of 10 days since the initial invasion, in response to the uncertainties of how things would unfold. However, the VIX dropped by 49 percent over the course of the next month, as U.S. involvement and market implications became clearer, gradually ridding of uncertainties. This scenario is akin to

scenario 1 in our report, where the PRC announces a blockade without actually following through. Such an announcement would have initially raised market volatility, as businesses and the market tries to process the implications of an actual potential blockade and the escalation of tensions. However, once the PRC's relative *inaction* is established, the market is expected to be relatively reassured and companies adjust to the "new norm" of heightened PRC rhetoric. Under this scenario then, the initial shock of the announcement could cause a \$1.2 trillion loss on the S&P market cap alone, but with all else equal, the loss will be quickly recovered over the course of the next few months.



The second case we turned to is the COVID pandemic where there were near-total shutdowns of Chinese and Western production capacities and serious blockages in the global supply chain. This is similar to the complete decoupling between the PRC and the U.S.-led coalition in a severely escalatory case of scenario 2, where reciprocal tariffs and business-inhibiting measures from both sides would have significantly impacted the global supply chain. Such a scenario could mean a surge in expected volatility by as much as 500%, which was the case in March 2020. The implied market cost is a 57 percent drop in the S&P 500 index, wiping out more than half of its market cap, equivalent to \$19.5 trillion dollars using current-day values.

VIX During Covid - Proxy for Scenario 2



Conclusion

The U.S. will not be able to build an economic coalition targeted against the PRC as easily as it did for Russia. Key obstacles that the U.S. would face in assembling a coalition include both Taiwan's ambiguous legal status, as well as the scale of economic interdependence the PRC shares with much of the world. It is extremely unlikely that either of these issues will be resolved in the near or even the long term. Therefore, if the U.S. wishes to deter the PRC from crossing a perceived redline it will need to continue to maintain the capability to deter the PRC militarily, while also being diligent in ensuring that both Taiwan and political forces within the U.S. itself do not provoke the PRC.

International Recognition of Taiwan, or the lack thereof

Taiwan not being fully recognized as an independent sovereign state by the majority of nations in the world and the UN would have a significant impact on the amount of support that could be provided to it, as well as on how much action would be taken by the global community against the PRC. Our team observed how quickly the U.S. was able to build a strong coalition focused against Russia and in support of Ukraine after the invasion began. This occurred despite the fact that Ukraine is neither a member of NATO nor a formal treaty ally of the U.S. in any other sense.

However, Ukraine is still a fully-fledged member of the UN and had also returned nuclear weapons it inherited from the Soviet Union under an agreement that Russia would respect its sovereignty.¹³⁸ So while Ukraine may not be a formal ally of the nations supporting its cause, it was still much easier to rally a coalition based on the principle of upholding Ukraine's recognized legitimate sovereign territory. This extended to the UN where the U.S. and its partners were able to find some success in the General Assembly for passing condemnation of Russia's actions.

Our team believes that this would not be the case for Taiwan. If the United States were to attempt to bring the conflict to the UN General Assembly to garner some sort of international condemnation against the PRC and support for Taiwan, we expect that the U.S. would fail miserably to gain the majority of votes needed. While allies of the U.S., namely the majority of Europe, Australia, New Zealand, Japan, and perhaps even the ROK might support a vote condemning the PRC's actions depending on what led to the escalation, we would not expect any nations from South America (with the exception of Paraguay which still maintains diplomatic ties with Taiwan), Africa (except Eswatini which also has diplomatic relations with Taiwan), Southeast Asia, the Middle East, or Central Asia to support a vote. We believe the majority of those nations would abstain or even vote no, due both to Taiwan not even being a member of the United Nations, as well as because of the PRC's influence via economic interdependencies.

Global Decoupling is Unrealistic, but Countries Will De-Risk

The scale of economic interdependence that many countries share with Russia pales in comparison to the PRC. Despite ongoing attempts to decouple, the PRC still remains one of the most valuable trade partners for the U.S. and many countries around the world, including some of the closest allies of the United States. While the U.S. and certain partners may continue their

¹³⁸ Kelly and Lonsdorf, "Why Ukraine Gave up Its Nuclear Weapons — and What That Means in an Invasion by Russia."

efforts to decouple, other allies such as France are demonstrating that they have no interest in aligning with the U.S. on this front.¹³⁹

Even countries such as Japan and Australia which are closely aligned with the U.S. in the region itself cannot realistically decouple with the PRC. The PRC represents their biggest trade partners by far ([Annex B](#)). While in all of the scenarios and cases we expect Japan and Australia to join the U.S. in its efforts against the PRC, we can be sure that the economic consequences of their alliance would be devastating. Our project did not analyze the long-term consequences for U.S. partners partaking in geoeconomic warfare, but based on the damage caused just in the short run we would expect the consequences to also be horrific.

We expect that most countries would want to minimize their own suffering by not taking part in geoeconomic warfare against the PRC. The majority of nations will also most likely continue to not follow in the footsteps of the U.S. by trying to reduce their reliance on the U.S. The size of the PRC's market coupled with its continued economic growth will continue to make it a valuable trade partner in the future. The potential losses will not be worth supporting a country that is not recognized by the UN, especially in any cases where provocation can be perceived as being caused by Taiwan or the U.S. Countries are also expected to de-risk their economies to prevent an overreliance on one nation over another.

Implications for the U.S., Taiwan, and the PRC

Therefore the U.S. and Taiwan should not expect a grand coalition to be formed, even in cases where the PRC's actions are extremely escalatory and the U.S. and Taiwan were not provocative. The U.S. should do its utmost to continue to maintain a capability to deter Chinese aggression, while also not provoking the PRC. This is the essence, of maintaining the status quo and practicing dual deterrence. If deterrence ever fails, then the U.S. must be prepared to face the PRC with only a handful of allies depending on the circumstances.

At the same time, the U.S. needs to continue doing its utmost to peacefully engage with the PRC. It should not cease attempting to make diplomatic inroads with the PRC despite the seemingly insurmountable barriers that appear to hold back good relations between the two nations. The U.S. needs to continue to find areas where cooperation is still possible including via multilateral organizations.

Taiwan should also do its utmost to ensure that its defense posture is adequate to deter the PRC when coupled with the U.S. while also ensuring that it does not send signals that could be perceived as unilateral attempts to change the status quo. Taiwanese people should continue to, and will likely continue to enjoy the privilege of voting for whomever they please, so it is up to future candidates to wield their power responsibly, in a way that will uphold the freedoms of the people in Taiwan without provoking a potential conflict.

Lastly, even though the PRC can count on most U.S. allies in the West to choose to sit out of a conflict, it should not underestimate the severity of being engaged in geoeconomic warfare by the U.S. alone. Even if most U.S. allies are not expected to support the U.S. in its economic measures against the PRC, the ones that potentially do (Japan and Australia) could also level

¹³⁹ Wong, "In Dealing With China, U.S. and Europe Take Different Tacks."

severe damage to the Chinese economy (Annex B). Additionally, the damage to markets expected before economic warfare begins would be devastating if the PRC were to cross a perceived redline. We also do not expect that under any scenario Taiwan would buckle under pressure from the PRC and move closer to unification. Inflicting devastating pain on Taiwan would most likely push the people on Taiwan even further away from desiring unification, and the number of people who desire unification has already reached record-low levels.¹⁴⁰

In light of the above, the PRC should exercise self-restraint, even in the face of perceived provocations from the U.S. and Taiwan. The PRC itself claims that it is still a developing country, and so it would be unwise to risk completely reversing its decades of stunning economic growth just to make a statement to the people in Taiwan. Instead, the PRC should follow its own words and focus on using peaceful measures to resolve the cross-strait dispute. The PRC would also benefit from resuming dialogue with the U.S. to begin the process of rebuilding trust between the two nations.

The challenges holding back improved U.S.-Sino relations are severe, and the journey toward improving them will likely be long and arduous. However, the costs of a conflict, even one that remains limited to economic measures, make undertaking that journey more than worthwhile for the U.S. and the PRC. For the sake of the people of Taiwan, both the PRC and the U.S., and the global economy, everything possible should be done to avoid a conflict.

¹⁴⁰ Feng, “Taiwan’s Desire for Unification With China Near Record Low as Tensions Rise.”

Annexes

Annex A: Defining Key Concepts

This section will define many of the key concepts used throughout the report. They come from a variety of sources and are all key to understanding.

Influencing States

Coercion – Compellence and Deterrence

- Compellence – “requires that the punishment be administered until the other acts, rather than if he acts.”¹⁴¹
- Deterrence – “to turn aside or discourage through fear; hence, to prevent from action by fear of consequences.”¹⁴²
- Compellence is often more difficult and less successful than deterrence

Economic Statecraft

- “Statecraft embraces all the activities by which statesmen strive to protect cherished values to attain desired objectives vis-a-vis other nations and/or international organizations.”¹⁴³
- “Statecraft refers to influence attempts relying primarily on resources which have a reasonable semblance of a market price in terms of money.”¹⁴⁴
- “Economic sanctions may be effective not because of their economic impact, which may be nil, but rather because of the signal they send about the intentions of the state imposing the sanctions.”¹⁴⁵
 - Embargos “might be interpreted by the target state as a veiled threat to use military force if compliance is not forthcoming.”¹⁴⁶
- “An increase of wealth through foreign trade leads to an increase in power relative to that of other countries – precisely the political aim of Mercantilist policy.”¹⁴⁷
- Trade benefits all participating nations.¹⁴⁸
- National power is “which one nation may bring to bear upon other nations, the method of coercion being military or peaceful,” and foreign trade plays an important part in this.¹⁴⁹
- Two effects of foreign trade
 - Foreign trade enhances the potential military force of a country by providing additional supplies but also uses the threat of war as a weapon of diplomacy.¹⁵⁰
 - The second effect is that trade may become a direct source of power – commerce can become an alternative to war which leads to a less optimistic outlook by providing a method of coercion of its own in the relations between sovereign

¹⁴¹ Thomas Schelling, “The Diplomacy of Violence,” *In Arms and Influence*, 70.

¹⁴² Ibid, 71.

¹⁴³ David Baldwin, “Techniques of Statecraft,” *In Economic Statecraft*, 7.

¹⁴⁴ Ibid, 2.

¹⁴⁵ Ibid, 23.

¹⁴⁶ Ibid.

¹⁴⁷ Albert Hirschman, “Theoretical and Historical Aspects,” *In National Power and the Structure of Foreign Trade*, 5.

¹⁴⁸ Ibid.

¹⁴⁹ Ibid, 13.

¹⁵⁰ Ibid, 14.

nations. Economic warfare can take the place of bombardments, economic pressure of saber rattling...this is called the influence effect of foreign trade.¹⁵¹

- All countries have this influence since it can interrupt its own export and import trade which interrupts the import and export trade of other countries.¹⁵²
- “A stoppage of trade would therefore generally cause much more real loss to the poor than to the rich nation.”¹⁵³

Geoeconomic Warfare

- “The tools of economic warfare today come primarily in the form of fiscal policies, which change the amount that a government spends and earns, but also include monetary policies, which alter the quantity and value of a nation’s currency. These economic policies are most frequently used for the purposes of appealing to pressure on domestic issues and are, for the most part, entirely ineffective or even self-destructive when applied for the purposes of protectionist foreign economic policy.”¹⁵⁴
- “Economic combat is the use of applied economics for combat purposes.”¹⁵⁵
- “Embargoes include attempts to stop transactions of a particular type from occurring between two nations.”¹⁵⁶
 - “A full embargo does not allow for travel, or for ownership in either nation by citizens of the other.”¹⁵⁷
- “Full blockades require that the enforcing nation stops shipments in and out of a nation by patrolling and guarding by force at least the primary shipping routes used by a target nation.”¹⁵⁸
- “Blockades, while more harmful than embargoes given that they attempt to stop a nation from trading with any other nation rather than ending trade with only the issuing nation, still do little in the way of properly targeting a nation’s military which means they have little strategic value on their own. If not at least supplemented by fortuitous circumstances in which a target nation will rely on a single route for supplies such as food (as seen with the First Anglo-Dutch War), one just at least properly anticipate and manage the targeted nation’s reaction to the blockade, which will be discussed in later chapters.”¹⁵⁹
- Tariffs and quotas
 - “A tariff is a tax that is placed on a specific type of import. Typically tariffs will be very focused, as they are placed not just on all goods from a particular nation, but on specific goods from a specific nation.”¹⁶⁰
 - Tariffs are issued to increase the market price of goods from foreign nations.¹⁶¹

¹⁵¹ Ibid, 15.

¹⁵² Ibid.

¹⁵³ Ibid, 24.

¹⁵⁴ Michael Taillard, “A Critique on Current Methods,” In *Economics and Modern Warfare: The Invisible Fist of the Market*, 1.

¹⁵⁵ Ibid.

¹⁵⁶ Ibid, 3.

¹⁵⁷ Ibid, 3.

¹⁵⁸ Ibid, 6.

¹⁵⁹ Ibid, 8.

¹⁶⁰ Ibid, 9.

¹⁶¹ Ibid.

- Increases domestic sales
- “Quotas put a limit on the number of imports allowed to enter a nation. Like tariffs, these are usually targeted for specific items from specific nations.”¹⁶²
 - Quotas are less common because they don’t generate revenue for the government
- Subsidies and dumping
- Trade Sanctions
 - Sanctions are “often used as a preliminary move or as a threat before more serious actions are taken.”¹⁶³
 - “Asset freezes and bank freezes are methods of eliminating access to the resources that organizations or individuals have available to them.”¹⁶⁴
 - Freezes stop any withdrawals on an account
 - Applied to all bank accounts in a nation held by a person or people belonging to a specific group
 - “Asset freezes go one step further to block any accounts including investment accounts, ownership of money market products (CDs), and transactions resulting from ownership in other items such as businesses. The final goal of these freezes is to remove access to funding that a person or organization might use for undesired activities.”¹⁶⁵
 - Travel bans
 - Typically take place during times of political friction and are implemented near the start of a conflict.¹⁶⁶
 - “A travel ban may place restrictions on people traveling between countries; either leaving from the nation issuing the ban to enter the targeted nation, or leaving the target nation to enter the issuing nation, or both.”¹⁶⁷
 - Export licenses – “Export licenses are required for businesses who want to sell their goods to the people of a particular nation. Like tariffs and quotas, this provides a way for a nation to put restrictions on trade but licenses differ in that each company must apply rather than being subject to broadly applied policies.”¹⁶⁸
 - Exchange rate manipulation
 - Aka currency war, quantitative easing, and expansionary policy
 - “Done primarily by attempting to decrease the value of one’s own currency using a number of available methods so that it is cheaper for foreign nations, or a single specific foreign nation, to purchase your products.”¹⁶⁹
 - Done by making available a greater amount of existing money in bank reserve requirements or creating new money.¹⁷⁰

¹⁶² Ibid, 10.

¹⁶³ Ibid, 13.

¹⁶⁴ Ibid, 14.

¹⁶⁵ Ibid, 14.

¹⁶⁶ Ibid, 15.

¹⁶⁷ Ibid.

¹⁶⁸ Ibid.

¹⁶⁹ Ibid, 16.

¹⁷⁰ Ibid, 18.

- Economic aid
 - “Economic aid, or a lack thereof, can be applied as a form of economic warfare.”¹⁷¹
 - “One method of using aid as a form of economic warfare common throughout history is to provide supplies, typically food and weapons, to anti-government organizations that have a common interest as the nation providing the aid.”¹⁷²
 - Can also threaten to stop aid
- Distribution of supplies
 - “The impact of supply shortages on a military force, as well as the implications of simply maintaining ample supplies for one’s own soldiers, is proven to be of the greatest concern with the potential to be, in itself, an advantage that could mean the difference between being the conqueror and being the conquered.”¹⁷³
- Terms of trade
 - Industries to target/trade manipulation
 - Involves distributing exclusively to civilian markets which will still create shortages for target organizations while minimizing collateral damage.”¹⁷⁴

¹⁷¹ Ibid, 22.

¹⁷² Ibid.

¹⁷³ Ibid, 36.

¹⁷⁴ Ibid, 82.

Annex B: Economic Interdependencies

European Union-PRC Interdependencies

Germany

Overview

Germany and the PRC have a complex and multifaceted relationship, with economic and trade ties being a significant part of their bilateral relations. The PRC is Germany's largest trading partner outside of the EU, and Germany is the PRC's most important trading partner in Europe.

In recent years, Germany has become increasingly dependent on the PRC for both imports and exports. On the export side, the PRC has become an important market for German exports, particularly in the automotive and engineering sectors. On the import side, the PRC is a critical source of supplies for Germany in certain sectors, notably computers, cloth articles and broadcasting equipment¹⁷⁵. German companies have also invested heavily in the PRC, with some estimates suggesting that German firms have invested over \$100 billion in the country¹⁷⁶.

The intensity of interdependencies between Germany and the PRC indicates that Germany could be very cautious in joining any U.S.-led actions against the PRC.

FDI

Germany is one of the top investors in the PRC, and the PRC is becoming an increasingly important market for German companies. In 2020, the PRC was the fifth-largest destination for German FDI, with a total investment of 3.3 billion euros.¹⁷⁷ Meanwhile, Chinese FDI in Germany amounted to 1.6 billion euros in the same year.¹⁷⁸ The main areas of investment for German companies in the PRC are the automotive industry, machinery and equipment, and chemicals, while Chinese investments in Germany are focused on technology, energy, and infrastructure.

Trade

On the trade front, both the PRC and U.S. are important markets for Germany, as the two countries are top destinations for its top 4 exports. Germany also critically depends on the PRC for supplies to several sectors, including broadcasting equipment, cloth articles and light fixtures.

Critical Industries

The automotive industry is a crucial sector for Germany, as it is one of the largest exporters of cars in the world. Besides being the top German export to the PRC, this industry is also an important area of investment for German companies in the PRC, with many established operations there. Other significant industries for Germany include machinery and equipment, chemicals, and pharmaceuticals.¹⁷⁹ These industries have a long history in Germany and are

¹⁷⁵ "Germany Country Profile: Exports, Imports, and Trade Partners," OEC, accessed March 30, 2023, <https://oec.world/en/profile/country/deu>.

¹⁷⁶ MERICS, "The China Monitor: German Business in China - An Overview."

¹⁷⁷ "German direct investment abroad, 2020": Deutsche Bundesbank, June 2021

¹⁷⁸ "China's outward foreign direct investment flows to Europe and Germany": Journal of Chinese Economic and Business Studies, December 2020

¹⁷⁹ German Federal Statistical Office, 2019

known for their high-quality products and advanced technology.

Germany Overview (2020 values)					
		Amount	Top Destination	Percentage to/from top Destination	
Top Exports	Cars	\$123B	China	13.60%	China = 5th, 5.24%
	Packaged Medicaments	\$60.9B	United States	17.80%	
	Motor Vehicle Parts and A	\$54.7B	China	19.10%	
	Vaccines, Blood, Antisera,	\$34.1B	United States	20.70%	
	Planes Helicopters and/or	\$20.9B	China	14.80%	
Top Imports	Cars	\$69.4B	Spain	10.20%	
	Motor Vehicle Parts and A	\$36B	Czechia	14%%	
	Packaged Medicaments	\$32.2B	Switzerland	16.10%	
	Vaccines, Blood, Antisera,	\$25.5B	Switzerland	23.30%	
	Crude Petroleum	\$19.7B	Russia	32.40%	
Top Export Partners	United States	\$115B	8.69%		
Total: 1.33T	China	\$106B	7.99%		
	France	\$101B	7.59%		
	Netherlands	\$84.8B	6.38%		
	United Kingdom	\$74.5B	5.60%		
Top Import Partners	Netherlands	\$106B	9.59%		
Total: 1.1T	China	\$105B	9.51%		
	Poland	\$73.20	6.65%		
	France	\$65.5B	5.95%		
	Italy	\$62.7B	5.69%	US = 7th, 5.37%	
Germany-China (2020 values)					
Total Trade Value	\$211B	\$255B in 2021			
		Amount	Percent that goes to/from China	Reliance	
Top Exports to China	Cars	\$16.7B	13.60%	Medium	
	Motor Vehicle Parts and A	\$10.5B	19.10%	HIGH	
	Packaged Medicaments	\$3.19B	5.24%	Low	
	Planes Helicopters and/or	\$3.1B	14.80%	Medium	
	Machinery Having Individu	\$2.59B	14.40%	Medium	
Top Imports from China	Computers	\$11.2B	50.40%	HIGH	top source
	Other Cloth Articles	\$5.78B	79.40%	HIGH	top source
	Broadcasting Equipment	\$4.48B	21.90%	HIGH	top source
	Light Fixtures	\$1.91B	49%	HIGH	top source
	Electric Batteries	\$1.84B	23.20%	Medium	China ranks as 2nd source

France

Overview

France and the PRC have a long history of diplomatic and economic relations dating back to the 1960s, but the two countries' economic relationship has become increasingly important in recent years. The PRC is France's second-largest trading partner outside of Europe¹⁸⁰, and France is the PRC's fourth-largest trading partner in Europe.

¹⁸⁰ French Ministry for Europe and Foreign Affairs, 2019

In terms of trade, France exports a variety of goods to the PRC, including luxury goods, aerospace products, and pharmaceuticals, while the PRC exports electronics, machinery, and textiles to France. In 2020, the total trade volume between the two countries was €62.3 billion¹⁸¹.

FDI

France has also been actively seeking investment opportunities in the PRC. In 2019, French companies invested over €1.7 billion in the PRC¹⁸², primarily in the fields of energy, automotive, and luxury goods. The PRC has also invested in France, particularly in the fields of transport, energy, and real estate.

Trade

The PRC (including Hong Kong), is an important market for French beauty products, trunks and cases. That said, France does not rely heavily on the PRC for its exports. On the flip side, however, the PRC is a critical supplier in certain sectors. For example, France imports more than half of its passenger and cargo ships from the PRC.

Critical Industries

The top two critical industries for France are aerospace and aviation, as well as luxury goods – both of which have significant trade relations with the PRC. Airbus and Safran are major players in the aerospace industry, with the PRC being the largest customer for Airbus aircraft. France is also known for its luxury goods industry, with the PRC being a significant market for brands such as LVMH, Chanel, and Hermes.

¹⁸¹ “France Country Profile: Exports, Imports, and Trade Partners,” OEC, accessed March 30, 2023, <https://oec.world/en/profile/country/fra>.

¹⁸² Data from the French Ministry for Europe and Foreign Affairs, 2019

France Overview (2020 values)						
		Amount	Top Destination	Percentage to/from top Destination		
Top Exports	Packaged Medicaments	\$27.9B	United States	14.50%		
	Planes, Helicopters and/or	\$25.3B	Germany	10.50%		
	Cars	\$18.9B	Germany	25.00%		
	Motor Vehicles; parts and	\$13.1B	Germany	22.10%		
	Gas Turbines	\$11.6B	United States	29.80%		
Top Imports	Cars	\$35.5B	Germany	23.30%		
	Packaged Medicaments	\$18.5B	Germany	17.20%		
	Refined Petroleum	\$14.7B	Russia	19.90%		
	Motor Vehicles; parts and	\$12.6B	Germany	20.10%		
	Crude Petroleum	\$10.5B	United States	14.90%		
Top Export Partners	Germany	\$65.5B	13.80%			
Total: 473B	United States	\$36.7B	7.76%			
	Italy	\$36.1B	7.62%			
	Spain	\$34.8B	7.34%			
	Belgium	\$34.6B	7.31%			
Top Import Partners	Germany	\$101B	17.90%			
Total: 564B	Italy	\$50.2B	8.90%			
	Spain	\$47.6B	8.44%			
	Belgium	\$44.6B	7.92%			
	Netherlands	\$44B	7.80%	China 6th, 7.09%		
France -China (2020 values)						
Total Trade Value						
		Amount	Percent that goes to/from China	Reliance		
Top Exports to China 27.8B	Planes, Helicopters and/or	\$3.9B	7.26%	Low		
	Trunks and Cases	\$2.27B	7.74%	Medium	Note: China+HK	23.34%
	Beauty Products	\$1.98B	16.20%	Low	Top	
	Packaged Medicaments	\$1.34B	4.39%	Low		
	Gas Turbines	\$1.29B	9.72%	Low		
Top Imports from China 47.5B	Broadcasting Equipment	\$2.07B	17.60%	Medium	Netherlands takes 1/3	
	Computers	\$1.98B	15.90%	Medium	Netherlands takes 1/3	
	Seats	\$1.1B	20.50%	HIGH	Top	
	Passenger and Cargo Ship	\$1.06B	50.40%	HIGH	Top	
	Electric Heaters	\$1.04B	30.80%	HIGH	Top	

Italy

Overview

Italy and the PRC have established diplomatic relations since 1970. Since then, the two countries have maintained friendly relations, with cooperation in various fields, including trade, culture, and science and technology.

In recent years, economic inter-dependencies between Italy and the PRC have increased significantly. The PRC has become Italy's second-largest trading partner outside the EU, while Italy is the PRC's second-largest EU trading partner. In 2020, the bilateral trade volume reached approximately 43 billion euros¹⁸³.

¹⁸³ Eurostat, "EU trade since 2013 - China", accessed March 2023

Moreover, Italy became the first G7 country to endorse the PRC's Belt and Road Initiative (BRI) in 2019¹⁸⁴, which aims to improve connectivity and trade among Asia, Europe, and Africa. As part of the initiative, Italy has signed various agreements with the PRC, including the development of the Port of Trieste and cooperation in the fields of technology, innovation, and energy.

FDI

Foreign direct investments (FDI) from Italy to the PRC have been growing steadily in recent years, with Italy ranking among the top 10 European countries investing in the PRC¹⁸⁵. The majority of Italian FDI in the PRC is focused on the manufacturing sector, particularly machinery, textiles, and automotive.

On the other hand, Chinese investment in Italy has increased significantly in recent years, with the majority of investment going towards the energy, transport, and telecommunication sectors. Notable investments include State Grid Corporation of the PRC's acquisition of a stake in Italian power grid company Terna and the acquisition of Italian tire maker Pirelli by ChemChina. However, Chinese investment in Italy has also faced some challenges, particularly regarding national security concerns and scrutiny from the EU.

Trade

The majority of Italian exports to the PRC are industrial products, such as machinery, fashion goods, and food products. This shows Italy's strengths in the manufacturing and fashion industries, which have competitive advantages in the Chinese market.

Chinese exports to Italy are primarily manufactured goods, such as machinery, electronics, and textiles. This indicates the PRC's competitive strengths in the manufacturing sector, which have penetrated the Italian market.

In 2020, Italy had a \$21.4 billion trade deficit against the PRC. This trade deficit has been a source of concern for Italy, as it contributes to a negative impact on its balance of payments and can create economic vulnerabilities¹⁸⁶.

Critical Industries

Critical industries between Italy and the PRC include technology, manufacturing, fashion, food and beverage, and automotive industries. Notably, Italy has a strong presence in the luxury fashion industry, with brands like Prada, Gucci, and Ferragamo being popular in the PRC.

¹⁸⁴ Council on Foreign Relations, “Italy's Belt and Road Initiative Membership: Benefits and Risks”, 2019

¹⁸⁵ European Parliament, “Italy-China Economic Relations and the Belt and Road Initiative”, 2019

¹⁸⁶ European Union “Italy's 2019 Report on Export Controls for Dual-Use Items and Technologies”, 2020

Italy Overview (2020 values)						
		Amount	Top Destination	Percentage to/from top Destination		
Top Exports	Packaged Medicaments	\$26.7B	Belgium	21.50%		
485B	Cars	\$14.9B	Germany	19.20%		
	Motor vehicles; parts and accessories	\$12.5B	Germany	23.90%		
	Refined Petroleum	\$8.63B	Spain	9.25%		
	Vaccines, blood, antisera, toxins	\$7.73B	United States	18.90%		
Top Imports	Crude Petroleum	\$26.7B	Kazakhstan	24.50%		
	Cars	\$22.6B	Germany	30.60%		
	Packaged Medicaments	\$18.6B	France	17.40%		
	Petroleum Gas	\$11.9B	Russia	36.00%		
	Gold	\$9.21B	UAE	50.50%		
Top Export Partners	Germany	62.57	12.90%			
Total: 485B	France	50.44	10.40%			
	United Kingdom	25.27	5.21%			
	Switzerland	25.07	5.17%			
	Spain	22.55	4.65%			
Top Import Partners	Germany	67.86	15.60%			
Total: 435B	China	36.32	8.35%			
	France	36.11	8.30%			
	Netherlands	23.71	5.45%			
	Spain	23.32	5.36%			
France -China (2020 values)						
Total Trade Value						
		Amount	Percent that goes to/from China	Reliance		
Top Exports to China	Packaged Medicaments	\$979M	3.66%	Low		
\$14.9B	Trunks and Cases	\$516M	7.89%	Medium	China + HK=13.44	
	Valves	\$513M	6.79%	HIGH	China second largest outside EU, 4th largest overall	
	Cars	\$493M	3.31%	HIGH	China 2nd largest outside EU	
	Machinery having Individual	\$339M	6.62%	Medium	US at 21%	
Top Imports from China	Other Cloth Articles	\$3.08B	86.40%	HIGH		
\$36.3B	Broadcasting Equipment	\$2.77B	34.10%	HIGH	top	
	Computers	\$1.34B	27.30%	HIGH	2nd	
	Trunks and Cases	\$676M	25.90%	HIGH	2nd	
	Air Conditioners	\$522M	33.40%	HIGH	top	

United Kingdom (UK)

Overview

The UK first established diplomatic relations with the PRC in 1950 and established full diplomatic relations in 1972. In the last decade, PRC-UK trade and investment have been steadily growing, allowing cooperation in strategic sectors, such as health, science, technology, and education. In 2021, the PRC overtook Japan to become the UK's largest trading partner in Asia, up from a mere US\$300 million in bilateral trade in 1972, reaching nearly US\$50 billion in bilateral trade. In the same year, more than 800 Chinese companies created 80,000 jobs in the UK.¹⁸⁷ Recently the UK has demonstrated shared security concerns with the U.S. over the rise of the PRC's power.¹⁸⁸

FDI

In terms of UK inbound investment from the PRC, Chinese businesses invested £3.4 billion (US\$4 billion) into the UK in 2020, accounting for 0.2 percent of the total UK inward FDI stock. The most recent figures for outbound investment from the UK into mainland China show

¹⁸⁷ "UK Trade with China: 2021 - Office for National Statistics."

¹⁸⁸ Goddard, "China."

investments worth £12.9 billion (US\$15.4 billion), accounting for 0.8 percent of the total UK outward FDI stock in 2020.¹⁸⁹

Trade

The PRC was the UK's third largest trading partner in 2022, accounting for 6.9% of British trade. In November 2022, the UK Department of Trade and Industry reported that the total trade in goods and services (imports plus exports) between the UK and the PRC reached £92.2 billion (US\$111.24 billion) in the four quarters to the end of Q2, a decrease of 1.6 percent or £1.5 billion (US\$1.8 billion) from the same period in 2021.¹⁹⁰

Critical Industries

Chinese tech giant Alibaba Group Holding Ltd cannot buy some of the most advanced chip designs after the SoftBank-owned (9984.T) British chip tech firm Arm Ltd determined that the U.S. and Britain would not approve licenses to export technology to the PRC.¹⁹¹

¹⁸⁹ Briefing, “China-UK Trade and Investment Ties.”

¹⁹⁰ Briefing, “China-UK Trade and Investment Ties.”

¹⁹¹ Reuters, “U.S., UK Export Controls Hit China’s Access to Arm’s Chip Designs -FT.”

Table of general UK trade and UK-PRC trade

A	B	C	D	E	F	G	H
Top Exports	Cars	\$27.1B	United States	22.77%			
	Packaged Medicaments	\$18.0B	United States	16.66%			
	Gas Turbines	\$18.1B	United States	16.46%			
	Gold	\$17.2B	Switzerland	39.77%			
	Crude Petroleum	\$16.2B	The Netherlands	42.90%			
Top Imports	Gold	\$83.7B	Russia	20.19%	(2nd top destination=Hong Kong, 14.58%)		
	Cars	\$32.8B	Germany	40.55%			
	Broadcasting Equipment	\$15.8B	China	46.08%			
	Packaged Medicaments	\$14.8B	Germany	17.43%			
	Crude Petroleum	\$14.8B	Norway	46.82%			
Top Export Partners	United States	\$51.7B	13.94%				
	Germany	\$39.0B	10.75%				
	Ireland	\$26.8B	7.22%				
	The Netherlands	\$25.1B	6.77%				
	France	\$22.4B	6.04%				
Top Import Partners	Germany	\$74.4B	12.20%				
	China	\$73.1B	11.98%				
	United States	\$48.6B	7.97%				
	The Netherlands	\$40.3B	6.61%				
	France	\$30.3B	4.97%				
United Kingdom-China (2020 values)							
Total Trade Value	\$91.3B	~\$124.1B(2022)					
		Amount	Percent that goes to/from China	Reliance			
Top Exports to China	Cars	\$3.56B	13.14%	Low			
	Crude Petroleum	\$2.17B	13.40%	Low			
	Packaged Medicaments	\$1.81B	9.60%	Low			
	Platinum	\$1.38B	14.70%	Low			
	Gold	\$484M	2.81%	Low			
Top Imports from China	Broadcasting Equipment	\$7.28B	46.07%	Medium			
	Computers	\$6.62B	53.39%	High			
	Other Clothes Articles	\$4.43B	88.42%	High			
	Felt or Coated Fabric Gar	\$2.29B	78%	High			
	Other Plastic Products	\$2.23B	48.48%	Medium			

192

Canada

Overview

Canada established diplomatic relations with the PRC in 1970, and since then the PRC has become the second largest trade partner for the nation.¹⁹³ Canada shares many of the same security concerns as the U.S. over the PRC but has also at times attempted to pursue closer relations with the PRC while the U.S. engaged in a trade war with the PRC. Canadians have an overwhelmingly negative view of the PRC despite Chinese Canadians making up one of the largest ethnic minority groups in the country.¹⁹⁴

FDI

Chinese foreign direct investment in Canada reached C\$21 billion (\$15.7 billion) in 2021 while Canadian direct investments in the PRC were above C\$14 billion, according to Statistics Canada. Canada's new Indo-Pacific strategy calls for changes to foreign investment screening as a result of concerns about Chinese state-owned enterprises. Canada has already moved to limit Chinese investment in some critical minerals, ordering Chinese firms to divest from three junior lithium explorers in early November 2022.¹⁹⁵

¹⁹² "United Kingdom (GBR) Exports, Imports, and Trade Partners | OEC."

¹⁹³ Canada, "Canada-China Relations."

¹⁹⁴ "Negative Views of China Harden in Canada on Arbitrary Detentions."

¹⁹⁵ "China Actions Spark Canada Review of Rules on Foreign Investment."

Trade

In the past the Canadian government discussed the possibility of signing an FTA with the PRC, however at present one does not exist between the two nations. While the PRC is Canada's second-largest trading partner, the volume of exports from Canada to the PRC declined during the second quarter of 2022. Canada has also enacted sanctions against the PRC in response to human rights violations in Xinjiang.

Critical Industries

Canada's top export to the PRC as of 2020 was iron ore, and its top import was broadcasting equipment. 36.47 percent of all Canadian iron ore exports went to the PRC in 2020, but Australia continues to be a larger provider of iron ore for the PRC. While over 55 percent of broadcasting equipment imported into Canada came from the PRC in 2020, it is not considered a critical industry for the country.¹⁹⁶

Canada Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Crude Petroleum	\$47.2B	United States	96.18%
	Cars	\$31.8B	United States	93.40%
	Gold	\$14.4B	United Kingdom	66.80%
	Motor vehicles; parts/acc	\$9.06B	United States	88.52%
	Sawn Wood	\$7.69B	United States	82.31%
Top Imports	Cars	\$21.7B	United States	48.85%
	Motor vehicles; parts/acc	\$14.6B	United States	70.55%
	Delivery Trucks	\$11.6B	United States	87.93%
	Broadcasting Equipment	\$9.74B	China	56.78%
	Gold	\$8.98B	Peru	21.27%
Top Export Partners	United States	\$264B	71.18%	
	China	\$19.3B	5.20%	
	United Kingdom	\$13.2B	3.58%	
	Japan	\$9.44B	2.54%	
	Mexico	\$5.26B	1.41%	
Top Import Partners	United States	\$218B	55.19%	
	China	\$49.5B	12.53%	
	Mexico	\$16.1B	4.08%	
	Germany	\$10.9B	2.76%	
	Japan	\$8.14B	2.06%	
Canada-China (2020 values)				
Total Trade Value	\$68.8B			
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Iron Ore	\$2.09B	36.47%	Medium
	Sulfate Chemical Woodpulp	\$1.46B	42.07%	Medium
	Wheat	\$1.27B	17.81%	Low
Top Imports from China	Broadcasting Equipment	\$5.43B	55.75%	High
	Computers	\$2.3B	31.34%	Medium
	Other Cloth Articles	\$1.96B	76.56%	High

197

Australia Overview

Australia first established relations with the PRC in 1972 and has cultivated both strong cultural and economic ties over the past few decades. The PRC is by far the largest trading partner for

¹⁹⁶ "Canada (CAN) Exports, Imports, and Trade Partners | OEC."

¹⁹⁷ "Canada (CAN) Exports, Imports, and Trade Partners | OEC."

Australia, and is also a top destination for Chinese immigrants and students.¹⁹⁸ Despite a high overall level of economic dependence on the PRC, Australia has aggressively pursued various U.S.-led initiatives aimed at countering Chinese influence in the Indo-Pacific. Notably, Australia was also the first member of the Five Eyes intelligence alliance to ban Huawei and ZTE telecommunications equipment, citing its own national security concerns.¹⁹⁹

FDI

The PRC is the sixth-largest foreign direct investor in Australia (\$46.3 billion in 2021), accounting for 4.4 percent of total foreign direct investment (FDI). In recent years, Chinese investment has broadened from mainly mining to sectors such as infrastructure, services, and agriculture. Australian FDI in the PRC totaled \$9.1 billion in 2021.²⁰⁰

Trade

The PRC is Australia's largest two-way trading partner in goods and services, accounting for nearly one-third (32.2 percent) of its trade with the world.²⁰¹ Despite trade restrictions on selected products, 35 to 40% of Australian exports go to the PRC, and 20% of imports come from the PRC. More than 35 percent of Australian exports of goods and services (including iron ore, coal, LNG, agriculture, forestry, and fisheries products) go to the PRC directly.²⁰² That is greater than the combined total of Japan, the ROK, India, the U.S., and UK. The China–Australia Free Trade Agreement (ChAFTA) entered into force on 20 December 2015.²⁰³

Critical Industries

Australia depends heavily on the PRC as a market for many of its products. The PRC is heavily dependent on Australia for natural resources and minerals but has already begun actively searching for alternative suppliers. The PRC is more likely to find alternative suppliers for the resources it needs than Australia is able to find markets large enough to replace the PRC.²⁰⁴

¹⁹⁸ “China Country Brief.”

¹⁹⁹ “Can Australia Dump China amid Trade Tensions?”

²⁰⁰ Briefing, “50 Years of China-Australia Relations.”

²⁰¹ “China Country Brief.”

²⁰² Briefing, “50 Years of China-Australia Relations.”

²⁰³ “China Country Brief.”

²⁰⁴ “Australia (AUS) Exports, Imports, and Trade Partners | OEC.”

Australia Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Iron Ore	\$79.6B	China	80.28%
	Coal Briquettes	\$36.4B	India	25.05%
	Petroleum Gas	\$26.8B	Japan	41.04%
	Gold	\$17.7B	United Kingdom	46.61%
	Frozen Bovine Meat	\$4B	China	26.25%
Top Imports	Cars	\$13.7B	Japan	41.17%
	Refined Petroleum	\$10.8B	Singapore	26.11%
	Gold	\$6.49B	Papua New Guinea	34.05%
	Broadcasting Equipment	\$6.38B	China	59.87%
	Computers	\$5.76B	China	75.52%
Top Export Partners	China	\$102B	40.80%	
	Japan	\$31.8B	12.72%	
	Republic of Korea	\$17.2B	6.88%	
	United States	\$11.6B	4.64%	
	India	\$11.3B	4.52%	
Top Import Partners	China	\$57.2B	28.32%	
	United States	\$24.2B	11.98%	
	Japan	\$12.2B	6.04%	
	Thailand	\$10.4B	5.15%	
	Germany	\$9.67B	4.79%	
Australia-China (2020 values)				
Total Trade Value	\$159.2B			
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Iron Ore	\$63.90B	80.28%	High
	Petroleum Gas	\$9.55B	35.63%	Medium
	Coal Briquettes	\$6.34B	17.41%	Low
Top Imports from China	Computers	\$4.35B	75.52%	High
	Broadcasting Equipment	\$3.82B	59.87%	High
	Refined Petroleum	\$1.46B	13.52%	Low

205

Japan Overview

Japan and the PRC have maintained a complicated relationship as the two countries enjoy strong economic ties while suffering from severe tension over disputed territories and national security. The PRC is the largest trade partner to Japan and accounts for the largest numbers of Japanese companies operating overseas.²⁰⁶ On the other hand, the current administrations have been taking a tough attitude towards the PRC due to the growing security concerns and national sentiment.

²⁰⁵ “Australia (AUS) Exports, Imports, and Trade Partners | OEC.”

²⁰⁶ Ministry of Foreign Affairs of Japan. Japan-China Relations.
<https://www.mofa.go.jp/mofaj/area/china/data.html#06>.

FDI

Japan's FDI in the PRC was 3.9 billion dollars in 2021, which makes Japan the largest investor while Chinese FDI in Japan is only 0.5 billion dollars in 2020²⁰⁷. Currently, the Japanese government is proceeding with legislation to subsidize companies for exiting the PRC as a means to diversify the supply chain²⁰⁸.

Trade

The PRC is the largest trade partner for Japan in both exports and imports. Japan's exports to the PRC were worth 184 billion US dollars whereas imports from the PRC were worth 173 billion US dollars in 2022²⁰⁹. Japan mainly exports cars, integrated circuits, and car accessories and imports cars, broadcasting equipment, and clothes^{210,211}. Japan and the PRC do not have a bilateral trade agreement, but both countries join Regional Comprehensive Economic Partnership (RCEP).

Critical Industries

98.8% of tablets and laptops are imported from the PRC²¹². Japan is also importing machine parts used for manufacturing vehicles. Due to the PRC's zero-COVID lockdowns, Japan's car manufacturers are forced to adjust their production and suspend operations at their factories²¹³. Japan's resource dependence on the PRC is also high as the country imported 60% of rare earth from the PRC.²¹⁴

²⁰⁷ JETRO. Japan's FDI in China over the years.

https://www.jetro.go.jp/view_interface.php?blockId=34019353.

²⁰⁸ Denyer, S. (2020). Japan helps 87 companies to break from China after pandemic exposed overreliance. Washington Post.

²⁰⁹ JETRO. China-Japan exports and imports. https://www.jetro.go.jp/world/asia/cn/basic_01.html.

²¹⁰ JETRO. Top 10 items exported from Japan to China.

<https://www.jetro.go.jp/biz/areareports/2021/114272012ce2ba22.html>.

²¹¹ JETRO. TOP 10 items imported from China to Japan.

<https://www.jetro.go.jp/biz/areareports/2021/114272012ce2ba22.html>.

²¹² Fujita, Y. (2022). Weak supply chain link: Japan reliant on Chinese phones, laptops. Nikkei Asia.

²¹³ Tanabe, S. (2022). Japanese automakers hit by China's zero-COVID lockdowns. Nikkei Asia.

²¹⁴ Agency for Natural Resources and Energy of Japan. Japan's new global energy strategy. https://www.enecho.meti.go.jp/about/special/johoteikyo/kokusaisigensenryaku_03.html.

Japan Overview (2020 values)

		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Cars	\$83.1B	United States	39.20%
	Integrated Circuits	\$31.3B	Taiwan	23.90%
	Motor Vehicles parts and accessories	\$28B	United States	21.75%
	Machinery Having Individual Functions	\$19.9B	China	42.80%
	Photo Lab Equipment	\$12.1B	China	70.40%
Top Imports	Crude Petroleum	\$38.4B	Saudi Arabia	39.30%
	Petroleum gas	\$31.4B	Australia	35.00%
	Integrated Circuits	\$17.7B	Taiwan	56.10%
	Broadcasting Equipment	\$17.5B	China	68.60%
	Computers	\$14.5B	China	83.40%
Top Export Partners	China	\$133B	21.03%	
	United States	\$112B	18.00%	
	Korea	\$42.9B	6.88%	
	Taiwan	\$42.7B	6.85%	
	Hong Kong	\$27.2B	4.36%	
Top Import Partners	China	\$151B	26.10%	
	United States	\$63.1B	10.90%	
	Australia	\$31.8B	5.47%	
	Korea	\$25.1B	4.32%	
	Taiwan	\$24.3B	4.18%	

Japan-China (2020 values)

Total Trade Value	\$284B			
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Cars	\$8.69B	10.46%	Medium
	Machinery Having Individual Functions	\$8.52B	42.80%	Medium
	Integrated Circuits	\$7.42B	23.71%	Medium
	Motor Vehicles parts and accessories	\$6.04B	21.57%	Medium
	Photo Lab Equipment	\$3.99B	70.40%	High
Top Imports from China	Computers	\$12.1B	83.40%	High
	Broadcasting Equipment	\$12B	68.60%	High
	Other cloth articles	\$4.49B	89%	High
	Office machine parts	\$3.82B	55.28%	High

215

The Republic of Korea (South Korea)

Overview

The year 2022 marked the thirty-year anniversary of the establishment of diplomatic relations. The two countries have a strategic and cooperative relationship as the PRC is the largest trade partner in the Republic of Korea. However, due to the tensions over the deployment of the U.S.

²¹⁵ OEC

anti-ballistic missile system THAAD, which was announced in 2016, Koreans have increasingly grown their negative views of the PRC²¹⁶. Further, the PRC's recent challenge to the regional order encouraged the improvement of the Korea-Japan relationship, which is likely to strengthen the alliance between South Korea, Japan, and the U.S. against the PRC²¹⁷.

FDI

South Korea's FDI in the PRC was 4 billion dollars in 2021, which makes Korea the third largest country to invest in the PRC whereas the PRC's FDI in Korea was 0.47 billion dollars.^{218 219} In 2022, Korea contributed to the growth of FDI in the PRC by increasing its investment by 44.5% in just one month.²²⁰

Trade

The PRC is the largest trade partner for the Republic of Korea. In 2022, export from the ROK to the PRC was worth 155 billion US dollars whereas import was worth 154 billion US dollars.²²¹ The ROK is exporting memories (integrated circuits), processors, and refined petroleum and importing memories, Lithium-ion accumulators, and data processing machines. The PRC and the ROK signed an FTA in 2015, which went into effect the same year, and also are signatories of RCEP.

Critical Industries

South Korea heavily depends on the PRC as a destination for semiconductor exports. The PRC accounts for 43.3% (58.5% including Hong Kong) of exports.²²² The ROK accounts for 20.3% of Chinese semiconductor imports and mainly exports memory IC, whereas Taiwan accounts for 35.9% and exports logic IC²²³.

²¹⁶ Turcsanyi, R., Song, E. (2022). South Koreans Have the World's Most Negative Views of China. Why?. The Diplomat.

²¹⁷ Yeo, A. (2023). South Korea-Japan rapprochement creates new opportunities in the Indo-Pacific. Brookings.

²¹⁸ JETRO. Korea's FDI in China. https://www.jetro.go.jp/view_interface.php?blockId=34019353.

²¹⁹ National Bureau of Statistics of China. Chinese FDI in Korea.

<https://www.statista.com/statistics/720365/china-outward-fdi-flows-to-south-korea/>

²²⁰ Global Times. (2022). Foreign investment in China up 21.5% in Jan-Jul, led by capital from S.Korea. Global Times.

²²¹ Korea International Trade Association. K-Statistics. http://www.kita.org/kStat/byCount_SpeCount.do.

²²² JETRO. Korea's semiconductor industry. <https://www.jetro.go.jp/biz/areareports/special/2023/0101/937def6ca3aaaaf6.html>.

²²³ JETRO. China's semiconductor import origin. <https://www.jetro.go.jp/biznews/2022/04/2dee31d5a82d9125.html>.

Korea Overview (2020 values)

		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Integrated Circuits	\$89.1B	China	42.09%
	Cars	\$36.9B	United States	43.63%
	Refined Petroleum	\$23.3B	China	24.12%
	Passenger and Cargo Ships	\$17.3B	Marshall Islands	27.86%
	Motor Vehicles parts and accessories	\$16B	United States	28.81%
Top Imports	Crude Petroleum	\$42.2B	Saudi Arabia	30.33%
	Integrated Circuits	\$38.6B	China	42.23%
	Petroleum Gas	\$16.3B	United States	22.82%
	Refined Petroleum	\$12.9B	Russia	12.79%
	Cars	\$11.8B	Germany	53.22%
Top Export Partners	China	\$131B	24.70%	
	United States	\$75B	14.10%	
	Vietnam	\$48B	9.04%	
	Hong Kong	\$30.9B	5.82%	
	Japan	\$25.1B	4.72%	
Top Import Partners	China	\$110B	24.60%	
	United States	\$53.4B	12.00%	
	Japan	\$42.9B	9.63%	
	Germany	\$20B	4.49%	
	Vietnam	\$19.6B	4.40%	

Korea-China (2020 values)

Total Trade Value	\$241B			
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Integrated Circuits	\$37.5B	42.09%	Medium
	Machinery Having Individual Functions	\$5.78B	50.70%	High
	Refined Petroleum	\$5.62B	24.12%	Medium
	LCDs	\$5.2B	79.15%	High
Top Imports from China	Integrated Circuits	\$16.3B	38.60%	Medium
	Broadcasting Equipment	\$3.89B	62.04%	High
	Computers	\$3.86B	66%	High
	Office machine parts	\$3.56B	57.70%	High

224

Taiwan Overview

Taiwan has a strong dependence on the mainland Chinese economy. Taiwan is currently trying to develop strategies that would lessen the reliability of its neighbor across the Taiwan Strait. In recent years, The reorganization of the global supply chain has accelerated the pace of Taiwanese investment in ASEAN and India, and Taiwanese businessmen are shifting their production bases out of mainland China. Since May 2016, Taiwan has adopted the New Model for Economic Development, under the model, Taiwan is striving to strengthen global and regional connections

through initiatives such as the New Southbound Policy, which aims to diversify the nation's international markets by expanding links with ASEAN member states, as well as South Asia, Australia, and New Zealand. By following this trend, perhaps Taiwan will be able to reduce some degree of its economic reliance on mainland China.

FDI

Despite efforts to diversify, the majority of Taiwanese foreign investments remain in mainland China. Taiwan's investments in the Chinese technology sector also continue to be strong, despite Taiwanese controls on investments in mainland China. Foreign Direct Investment in Taiwan averaged \$572.80 million from 1996 until 2023, reaching an all-time high of \$4488.96 million in June of 2022 and a record low of \$81.58 million in February 2003.

Trade

The PRC is its largest trade partner in Taiwan. In 2022, exports from Taiwan to the PRC were worth 121 billion US dollars whereas imports were worth \$83 billion.²²⁵ Taiwan exports semiconductors, telecommunication and audio, and visual products (PC, laptops, tablets and accessories, network switches, routers, and storage media) to the PRC. Mainland China and Taiwan signed an FTA in 2010, which went into effect the same year.

Critical Industries

Taiwan's main exports are electronics(semiconductors), basic metals and metal products, plastics and rubber, chemicals, and machinery, note that Taiwan is home to more than 90% of the manufacturing capacity for the world's leading-edge chips.

²²⁵ The Bureau of Foreign Trade of Taiwan, <https://cuswebo.trade.gov.tw/FSCE030F/FSCE030F>

Taiwan Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Semiconductors	\$218.07B	China	30.94%
	Base Metals and Articles of Base Metal	\$25.49B	United States	22.76%
	Plastics and Rubber	\$21.26B	China	33.60%
	Optical, Photographic, Clocks and Watches ; Musical Instruments parts and accessories	\$16.99B	China	53.46%
	Products of The Chemical or Allied Industries	\$16.65B	China	40.40%
Top Imports	Semiconductors	\$135.83B	China	31.42%
	Mineral Products	\$33.79B	Australia	18.89%
	Products of The Chemical or Allied Industries	\$26.50B	Japan	26.81%
	Base Metals and Articles of Base Metal	\$19.57B	Japan	22.74%
	Optical, Photographic, Clocks and Watches ; Musical Instruments parts and accessories	\$14.42B	Japan	21.12%
Top Export Partners	China	\$102.47B	29.68%	
	United States	\$50.55B	14.65%	
	Hong Kong	\$48.94B	14.18%	
	Japan	\$23.40B	6.78%	
	Singapore	\$19.09B	5.53%	
Top Import Partners	China	\$63.59B	22.21%	
	Japan	\$45.90B	16.04%	
	United States	\$32.52B	11.36%	
	South Korea	\$20.61B	7.20%	
	Germany	\$10.18B	3.55%	

Taiwan-China (2020 values)				
Total Trade Value				
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Semiconductors	\$67.46B	65.85%	High
	Optical, Photographic, Clocks and Watches ; Musical Instruments parts and accessories	\$9.08B	8.87%	Low
	Plastics and Articles Thereof, Rubber and Articles Thereof	\$7.14B	6.97%	Low
	Products of The Chemical or Allied Industries	\$6.73B	6.57%	Low
	Base Metals and Articles of Base Metal	\$5.42B	5.30%	Low
Top Imports from China	Semiconductors	\$42.68B	67.11%	High
	Products of The Chemical or Allied Industries	\$3.84B	6.04%	Low
	Base Metals and Articles of Base Metal	\$3.52B	5.53%	Low
	Optical, Photographic, Clocks and Watches ; Musical Instruments parts and accessories	\$2.58	4.05%	Low
	Plastics and Rubber and Articles Thereof	\$1.93B	3.04%	Low

India

Overview

India was the first non-Socialist bloc state to establish diplomatic relations with the PRC in 1950. Despite disputes regarding their shared border – as well as a war in 1962 – India-PRC trade and investment flourished in the 21st century. In the year 2000, the PRC was India's tenth largest trading partner; in 2011, the PRC became India's top trading partner.²²⁶ In 2020, the PRC was India's second-largest export destination as well as its largest import partner.

FDI

After clashes at the border with the PRC in 2020, the Government of India passed a law requiring all FDI coming from countries that share a land border with India to pass a government-mandated security clearance. Since India has approved 80 out of 382 FDI proposals involving Chinese entities.²²⁷ In the financial year 2020-2021, FDI from mainland China and

²²⁶“India-China Trade Climbs to USD 135.98 Billion in 2022, Trade Deficit Crosses USD 100 Billion First Time,” The New Indian Express (The New Indian Express, January 13, 2023), <https://www.newindianexpress.com/business/2023/jan/13/india-china-trade-climbs-to-usd-13598-billion-in-2022-trade-deficit-crosses-usd-100-billion-first-2537562.html>.

²²⁷Pavan Burugula, “India Approved 80 FDI Proposals Involving Chinese Entities: Data,” The Economic Times (The Economic Times, July 6, 2022)

Hong Kong fell to \$200 million, its lowest in several years.²²⁸ It can be expected that this trend will continue since the Government of India has labeled its relations with the PRC as “not normal”.

Trade

From 2015 to 2021, India-PRC bilateral trade grew by 75.3%, an average growth of 12.55% a year.²²⁹ However, this is largely due to the growth in imports from the PRC. In 2020, India had a trade deficit of \$46.2 billion with the PRC. India imported US\$ 65.2 billion worth of products from the PRC and exported only US\$ 19 billion worth of products.

Critical Industries

Chinese exports and investments in India are dominated by the technology sector. This includes computers, telephones, broadcasting equipment, integrated circuits, and semiconductor devices. For India, there is no easy substitute for these products.

<https://economictimes.indiatimes.com/tech/technology/india-approved-80-fdi-proposals-involving-chinese-entities-data/articleshow/92684499.cms>.

²²⁸Sai Manish, “Ladakh Fallout: How India Bled Chinese FDI,” Rediff (Rediff, February 9, 2022), <https://www.rediff.com/news/report/ladakh-fallout-how-india-bled-chinese-fdi/20220209.htm>.

²²⁹“India-China Trade Climbs to USD 135.98 Billion in 2022, Trade Deficit Crosses USD 100 Billion First Time,” The New Indian Express (The New Indian Express, January 13, 2023), <https://www.newindianexpress.com/business/2023/jan/13/india-china-trade-climbs-to-usd-13598-billion-in-2022-trade-deficit-crosses-usd-100-billion-first-2537562.html>.

India Overview (2020 values)

		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Refined Petroleum	\$25.4B	Singapore	8.04%
	Packaged Medicaments	\$17.8B	United States	40.36%
	Diamonds	\$16.5B	United States	35.75%
	Rice	\$8.21B	Saudi Arabia	13.27%
	Broadcasting Equipment	\$4.05B	China	29.04%
Top Imports	Crude Petroleum	\$58.8B	Iraq	22.50%
	Gold	\$22B	Switzerland	45.80%
	Coal Briquettes	\$20.9B	Australia	43.70%
	Diamonds	\$15.8B	UAE	26.30%
	Petroleum Gas	\$13.7B	Qatar	36.90%
Top Export Partners	United States	\$49.6B	17.40%	
	China	\$19B	6.66%	
	UAE	\$18.7B	6.54%	
	Hong Kong	\$9.2B	3.22%	
	Germany	\$8.71B	3.05%	
Top Import Partners	China	\$65.2B	17.50%	
	United States	\$26.7B	7.16%	
	UAE	\$22.1B	5.92%	
	Saudi Arabia	\$16.8B	4.51%	
	Iraq	\$14.4B	3.87%	

India-China (2020 values)

Total Exports	\$19B	Total Imports	\$65.2B	
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Iron Ore	\$3.43B	87.40%	High
	Refined Petroleum	\$1.1B	4.36%	Low
	Semi-Finished Iron	\$1.1B	41.30%	Medium
Top Imports from China	Computers	\$3.95B	47.60%	High
	Telephones	\$3.72B	29.40%	High
	Broadcasting Equipment	\$2.67B	34.20%	High

230

²³⁰ OEC, "India".

Philippines

Overview

The Philippines and the PRC established formal diplomatic relations in 1975. Territorial disputes in the South China Sea, which include the disputed sovereignty of the Spratly Islands have become a sticking point in bilateral relations. More recently, base access agreements with the U.S. have escalated tensions with the PRC. Nonetheless, economic relations between the Philippines and the PRC have grown considerably stronger over the previous decade.

FDI

The PRC's FDI outflow to the Philippines was US\$152.86 million in 2021, a small amount compared to other ASEAN countries.²³¹ The PRC ranks ninth among foreign investors in the Philippines.²³²

Trade

From 2010 to 2017, the Philippines' imports from the PRC grew at an annual rate of 20.7%.²³³ In 2020, total exports to the PRC amounted to US\$14.2 billion, and total imports from the PRC amounted to US\$36.3 billion.

Critical Industries

The Philippines relies heavily on the PRC in the technology and energy sector. 42.7% of refined petroleum comes from the PRC. Integrated circuits and broadcasting equipment are other key imports from the PRC. Regarding exports, 97.2% of its Nickel Ore exports go to the PRC amounting to \$1.93 billion.

²³¹ National Bureau of Statistics, and State Administration of Foreign Exchange, Ministry of Commerce of the People's Republic of China, 2021 Statistical Bulletin of China's Outward Foreign Direct Investment (2021), 102.

²³² https://psa.gov.ph/sites/default/files/Publication_Aproved%20Investments_Q4%202022_0.pdf, page 35

²³³ China Briefing Team, "China-Philippines: Bilateral Trade and Investment Prospects Prospects," China Briefing News (China Briefing News, March 14, 2023), <https://www.china-briefing.com/news/china-philippines-bilateral-trade-investment-and-future-prospects/>.

Phillipines Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Integrated Circuits	\$23.4B	Hong Kong	8.10%
	Office Machine Parts	\$10.5B	China	18.66%
	Insulated Wire	\$2.33B	Japan	45.20%
	Semiconductor Devices	\$2.12B	China	4.10%
	Electrical Transformers	\$2.03B	Hong Kong	0.53%
Top Imports	Integrated Circuits	\$12.3B	South Korea	8.40%
	Refined Petroleum	\$5.7B	China	28.30%
	Broadcasting Equipment	\$2.92B	China	47.10%
	Office Machine Parts	\$2.4B	Hong Kong	1.00%
	Cars	\$2.19B	Indonesia	41.86%
Top Export Partners	China	\$14.2B	17.40%	
	United States	\$11B	13.50%	
	Japan	\$10.4B	12.80%	
	Hong Kong	\$10.1B	12.40%	
	Singapore	\$6.11B	7.50%	
Top Import Partners	China	\$36.3B	32.70%	
	Japan	\$8.28B	7.45%	
	South Korea	\$7.38B	6.64%	
	USA	\$6.89B	6.20%	
	Indonesia	\$6.42B	5.78%	
Phillipines-China (2020 values)				
Total Exports	\$14.2B	Total Imports	\$36.3B	
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Integrated Circuit	\$4.53B	19.30%	Medium
	Office Machin Parts	\$2.8B	26.70%	Medium
	Nickel Ore	\$1.3B	97.20%	High
Top Imports from China	Refined Petroleum	\$2.43B	42.70%	High
	Integrated Circuit	\$1.73B	14.10%	Medium
	Broadcasting Equipment	\$1.67B	57.20%	High

234

²³⁴ OEC, “Philippines”.

Singapore

Overview

Singapore and the PRC established formal diplomatic relations in 1990. Although Singapore is one of the smallest countries in ASEAN in terms of population and landmass, it is an economic heavyweight with the highest GDP per capita in the region. Of significance is the fact that 75% of Singapore's population is ethnically Han Chinese.

FDI

The PRC's FDI outflow to Singapore was US\$67.2 billion in 2021.²³⁵ This is by far the largest amount among ASEAN countries. Singapore is also the largest foreign investor in the PRC with US\$10.3 billion invested in 2021.²³⁶

Trade

In 2020, total exports to the PRC amounted to US\$43.8 billion and total imports from the PRC amounted to US\$54.6 billion. Since 2013, the PRC has been Singapore's largest trading partner and Singapore has been the PRC's largest foreign investor.²³⁷

Critical Industries

Integrated circuits is the single most important product for Singapore-PRC trade, accounting for more than US\$17 billion in 2020. Another significant import for Singapore is broadcasting equipment with the PRC making up 59.9% of the market. Moreover, Singapore imports 16.3% of its refined petroleum from the PRC.

²³⁵ National Bureau of Statistics, and State Administration of Foreign Exchange, Ministry of Commerce of the People's Republic of China, 2021 Statistical Bulletin of China's Outward Foreign Direct Investment (2021), 162

²³⁶ "China: FDI Inflow by Country or Region," Statista (Statista, January 5, 2023), <https://www.statista.com/statistics/257099/value-of-foreign-direct-investment-in-china-by-country/>.

²³⁷ "People's Republic of China," Ministry of Foreign Affairs Singapore (Ministry of Foreign Affairs Singapore), accessed April 20, 2023, <https://www.mfa.gov.sg/SINGAPORES-FOREIGN-POLICY/Countries-and-Regions/Northeast-Asia/Peoples-Republic-of-China>.

Singapore Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Integrated Circuits	\$59.2B	Hong Kong	20.40%
	Refined Petroleum	\$27.1B	Malaysia	10.78%
	Gold	\$12.2B	United States	9.30%
	Packaged Medicaments	\$9.9B	Switzerland	25.78%
	Gas Turbines	\$9.2B	United States	11.00%
Top Imports	Integrated Circuits	\$50.6B	Taiwan	28.30%
	Refined Petroleum	\$30.3B	Malaysia	2.30%
	Gold	\$20.5B	Thailand	21.52%
	Crude Petroleum	\$13.1B	UAE	22.50%
	Gas Turbines	\$8.69B	United States	25.92%
Top Export Partners	China	\$43.8B	15.70%	
	Hong Kong	\$41.7B	14.90%	
	United States	\$27.3B	9.78%	
	Malaysia	\$23B	8.24%	
	Indonesia	\$14.6B	5.21%	
Top Import Partners	China	\$54.6B	18.10%	
	Malaysia	\$36.6B	12.20%	
	United States	\$25.6B	8.50%	
	Taiwan	\$24.8B	8.25%	
	Japan	\$15.4B	5.12%	
Singapore-China (2020 values)				
Total Exports	\$43.8B	Total Imports	\$54.6B	
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Integrated Circuits	\$10.6B	17.90%	Medium
	Ethylene Polymers	\$2.24B	55.00%	High
	Gold	\$2.08B	17.00%	Medium
Top Imports from China	Integrated Circuits	\$5.55B	11.00%	Medium
	Refined Petroleum	\$4.92B	16.30%	Medium
	Broadcasting Equipment	\$3.97B	59.90%	High

238

²³⁸ OEC, “Singapore”.

Vietnam

Overview

Vietnam-PRC political relations have been marked by periods of close cooperation on one hand, and tension and even war on the other. However, trade and investment relations between the countries have flourished since the end of the PRC's invasion of Vietnam. In recent years, the PRC has become Vietnam's largest trading partner.

FDI

The PRC's FDI outflow to Vietnam was US\$10.85 billion in 2021.²³⁹ This is the third largest among ASEAN countries behind only Singapore and Indonesia.

Trade

In 2020, total exports to the PRC amounted to US\$49.8 billion and total imports from the PRC amounted to US\$105 billion.

Critical Industries

Integrated circuits is the single most important trading product for Vietnam and the PRC. In 2020, integrated circuits accounted for more than US\$20 billion in trade. Like other ASEAN countries, Vietnam is dependent on the PRC for other technological products such as telephones and semiconductor devices.

²³⁹ National Bureau of Statistics, and State Administration of Foreign Exchange, Ministry of Commerce of the People's Republic of China, 2021 Statistical Bulletin of China's Outward Foreign Direct Investment (2021), 162.

Vietnam Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Broadcasting Equipment	\$51.1B	United States	32.00%
	Telephones	\$25.3B	China	48.10%
	Integrated Circuits	\$18.2B	China	20.70%
	Office Machin Parts	\$11.7B	United States	19.90%
	Textile Footwear	\$9.79B	United States	27.89%
Top Imports	Integrated Circuits	\$39.9B	South Korea	0.50%
	Telephones	\$20.7B	South Korea	18.10%
	Light Rubberized Knitted Fabric	\$6.29B	China	48.50%
	Refined Petroleum	\$4.76B	Malaysia	18.96%
	Hot-Rolled Iron	\$4.43B	India	17.00%
Top Export Partners	United States	\$99.3B	27.90%	
	China	\$57.8B	16.30%	
	South Korea	\$22.6B	6.36%	
	Japan	\$21.3B	5.98%	
	Hong Kong	\$12.5B	3.51%	
Top Import Partners	China	\$105B	38.70%	
	South Korea	\$48B	17.10%	
	Japan	\$18.2B	5.49%	
	Taiwan	\$14.8B	4.48%	
	Thailand	\$12.5B	3.77%	
Vietnam-China (2020 values)				
Total Exports	\$49.80	Total Imports	\$105B	
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Telephones	\$12.5B	58.30%	High
	Integrated Circuits	\$8.44B	43.70%	Medium
	Non-Retail Pure Cotton Yarn	\$1.1B	83.80%	High
Top Imports from China	Integrated Circuits	\$12B	36.40%	High
	Telephones	\$6.81B	41.30%	High
	Semiconductor Devices	\$3.63B	60.10%	High

240

²⁴⁰ OEC, “Vietnam”.

Indonesia

Overview

Indonesia and the PRC established formal diplomatic relations in 1950. In 2021, bilateral trade between Indonesia and the PRC grew by 58.6% from the previous year to US\$ 124.4 billion.²⁴¹

FDI

The PRC's FDI outflow to Indonesia was US\$20.08 billion in 2021.²⁴² This is the second largest amount among ASEAN countries.

Trade

In 2020, total exports to the PRC amounted to US\$32.5 billion and total imports from the PRC amounted to US\$41.1 billion.

Critical Industries

The PRC is the largest export destination for Indonesia for the past six years, particularly its mineral resources export. Indonesia is dependent on the PRC for technological products such as telephones, broadcasting equipment, and computers.

²⁴¹Ji Siqu, "How Important Are China-Indonesia Trade Ties?," South China Morning Post (South China Morning Post, July 27, 2022), <https://www.scmp.com/economy/china-economy/article/3186660/china-indonesia-trade-how-important-it-and-what-are-main>.

²⁴² National Bureau of Statistics, and State Administration of Foreign Exchange, Ministry of Commerce of the People's Republic of China, 2021 Statistical Bulletin of China's Outward Foreign Direct Investment (2021), 162.

Indonesia Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Palm Oil	\$17.8B	India	3.20%
	Coal Briquettes	\$15.6B	India	7.10%
	Gold	\$6.32B	Singapore	52.60%
	Petroleum Gas	\$5.68B	Singapore	0.80%
	Ferroalloys	\$4.72B	China	93.70%
Top Imports	Refined Petroleum	\$39.9B	Singapore	47.91%
	Crude Petroleum	\$20.7B	Saudi Arabia	38.60%
	Telephones	\$6.29B	China	57.06%
	Planes, Helicopters, and/or Spacecraft	\$4.76B	Thailand	53.30%
	Broadcasting Equipment	\$4.43B	China	58.10%
Top Export Partners	China	\$32.5B	18.30%	
	United States	\$19.6B	11.00%	
	Japan	\$14.5B	8.12%	
	Singapore	\$12.5B	7.05%	
	India	\$11B	6.17%	
Top Import Partners	China	\$41.1B	29.40%	
	Singapore	\$14.6B	10.30%	
	Japan	\$9.25B	6.58%	
	Thailand	\$7.76B	5.52%	
	United States	\$7.56B	5.38%	
Indonesia-China (2020 values)				
Total Exports	\$32.5B	Total Imports	\$41.1B	
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Ferroalloys	\$4.54B	96.10%	High
	Coal Briquettes	\$2.67B	17.10%	Medium
	Palm Oil	\$2.47B	13.90%	Medium
Top Imports from China	Telephones	\$1.95B	66.10%	High
	Broadcasting Equipment	\$1.57B	70.00%	High
	Computers	\$1.13B	73.00%	High

Thailand

Overview

Thailand and the PRC established diplomatic relations in 1975. Trade and investment has increased substantially in the last decade. Notably, Thailand is a U.S. treaty ally. As a treaty ally of the U.S., Thailand regularly conducts military exercises with the U.S. and other U.S. partners in the region. However, Thailand also conducts exercises with the PRC and maintains close trade relations it.

FDI

The PRC's FDI outflow to Thailand was US\$9.92 billion in 2021.²⁴⁴ This is the fifth largest amount among ASEAN countries.

Trade

In 2020, total exports to the PRC amounted to US\$30.2 billion and total imports from the PRC amounted to US\$51.8 billion.

Critical Industries

The PRC is a major market for Thailand's fruit exports accounting for almost 70% of total exports. Thailand is reliant on the PRC for technological products such as broadcasting equipment and computers. The tourism industry in Thailand also relies heavily on tourists from the PRC.

²⁴⁴ National Bureau of Statistics, and State Administration of Foreign Exchange, Ministry of Commerce of the People's Republic of China, 2021 Statistical Bulletin of China's Outward Foreign Direct Investment (2021), 162.

Thailand Overview (2020 values)				
		Amount	Top Destination	Percentage to/from top Destination
Top Exports	Office Machine Parts	\$17.2B	Hong Kong	2.60%
	Gold	\$14.3B	Switzerland	49.80%
	Integrated Circuits	\$9.17B	Hong Kong	11.80%
	Cars	\$8.27B	Japan	1.50%
	Air Conditioners	\$4.05B	Vietnam	8.63%
Top Imports	Crude Petroleum	\$14.9B	UAE	25.70%
	Integrated Circuits	\$8.44B	Taiwan	16.73%
	Gold	\$5.02B	Singapore	27.80%
	Motor vehicles; parts and accessories	\$4.93B	Japan	22.20%
	Broadcasting Equipment	\$4.68B	China	55.50%
Top Export Partners	United States	\$35.4B	14.50%	
	China	\$30.2B	12.40%	
	Japan	\$23.2B	9.52%	
	Hong Kong	\$11.7B	4.82%	
	Vietnam	\$11.2B	4.60%	
Top Import Partners	China	\$51.8B	26.90%	
	Japan	\$24.4B	12.70%	
	United States	\$11.2B	5.84%	
	Malaysia	\$9.81B	5.09%	
	Singapore	\$8.93B	4.64%	
Thailand-China (2020 values)				
Total Exports	\$30.2B	Total Imports	\$51.8B	
		Amount	Percent that goes to/from China	Reliance
Top Exports to China	Synthetic Rubber	\$2.18B	12.40%	Medium
	Office Machine Parts	\$2.09B	12.20%	Medium
	Other Fruits	\$2B	69.90%	High
Top Imports from China	Broadcasting Equipment	\$3.14B	67.20%	High
	Computers	\$1.49B	73.50%	High
	Office Machine Parts	\$1.17B	26.90%	Medium

245

²⁴⁵ OEC, “Thailand”.

Bibliography

- AIT. "Our Relationship." American Institute in Taiwan, March 30, 2022.
<https://www.ait.org.tw/our-relationship/>.
- "Actually utilized foreign direct investment (FDI) in China in 2021, by leading country or region." Statista,
<https://www.statista.com/statistics/257099/value-of-foreign-direct-investment-in-china-by-country/>.
- Bolton, John, and Derik R. Zitelman. "Why Taiwan Matters to the United States." *The Diplomat*. Accessed February 19, 2023.
<https://thediplomat.com/2021/08/why-taiwan-matters-to-the-united-states/>.
- Brenan, Megan. "Record-Low 15% of Americans View China Favorably." Gallup.com. Gallup, March 29, 2023.
<https://news.gallup.com/poll/471551/record-low-americans-view-china-favorably.aspx>.
- Bruegel | The Brussels-based economic think tank. "How Have Sanctions Impacted Russia?," April 5, 2023. <https://www.bruegel.org/policy-brief/how-have-sanctions-impacted-russia>.
- Burugula, Pavan. "India Approved 80 FDI Proposals Involving Chinese Entities: Data." *The Economic Times*. The Economic Times, July 6, 2022.
<https://economictimes.indiatimes.com/tech/technology/india-approved-80-fdi-proposals-involving-chinese-entities-data/articleshow/92684499.cms>.
- Bush, Richard C. "Taiwan's Democracy and the China Challenge." *Brookings* (blog), January 22, 2021. <https://www.brookings.edu/articles/taiwans-democracy-and-the-china-challenge/>.
- "Cable Landing Stations in Taiwan." Submarine Cable Networks. Submarine Cable Networks. Accessed April 20, 2023. <https://www.submarinenetworks.com/stations/asia/taiwan>.
- China Briefing Team. "China-Philippines: Bilateral Trade and Investment Prospects Prospects." China Briefing News. China Briefing News, March 14, 2023.
<https://www.china-briefing.com/news/china-philippines-bilateral-trade-investment-and-future-prospects/>.
- Chubb, Andrew. "Taiwan Strait Crises: Island Seizure Contingencies." Asia Society. Asia Society, February 2023.
<https://asiasociety.org/policy-institute/taiwan-strait-crises-island-seizure-contingencies-0>.
- China (CHN) Exports, Imports, and Trade Partners." OEC, accessed March 7, 2023,
<https://oec.world/en/profile/country/chn>.
- "China: FDI Inflow by Country or Region." Statista. Statista, January 5, 2023.
<https://www.statista.com/statistics/257099/value-of-foreign-direct-investment-in-china-by-country/>.
- "China's outward direct investment and its impact on the domestic economy." OECD Library,
<https://www.oecd-ilibrary.org/docserver/1b1eaa9d-en.pdf?expires=1680097859&id=id&accname=guest&checksum=E4DD4B7ED3FB75C5E23D77B87A170A7B>
- "China - Trade Agreements." International Trade Administration (International Trade Administration), accessed March 29, 2023,
<https://www.trade.gov/country-commercial-guides/china-trade-agreements#:~:text=China's%20FTA%20partners%20are%20ASEAN,%2C%20Hong%20Kong%2C%20and%20Macao>.
- Chin, Josh. "China and Taiwan Relations Explained: What's Behind the Divide." *Wall Street Journal*, May 23, 2022, sec. World.
<https://www.wsj.com/articles/china-taiwan-relations-tensions-explained-11653322751>.

- Feigenbaum, Evan A., and Adam Szubin. "What China Has Learned From the Ukraine War." *Foreign Affairs*, February 14, 2023.
<https://www.foreignaffairs.com/china/what-china-has-learned-ukraine-war>.
- "Foreign Direct Investment, Net Inflows (BOP, Current US\$) | Data." The World Bank, accessed March 29, 2023,
<https://data.worldbank.org/indicator/BX.KLT.DINV.CD.WD?view=chart>.
- Feng, John. "Taiwan's Desire for Unification With China Near Record Low as Tensions Rise." *Newsweek*, July 14, 2022.
<https://www.newsweek.com/taiwan-china-politics-identity-independence-unification-public-opinion-polling-1724546>.
- Hass, Ryan and Abraham Denmark. "More pain than gain: how the US-China trade war hurt America," Brookings Institution, August 7, 2020,
<https://www.brookings.edu/blog/order-from-chaos/2020/08/07/more-pain-than-gain-how-the-us-china-trade-war-hurt-america/>.
- Thilo Hanemann et al., "US-China Investment Trends - 2021 Update" (Rhodium Group, May 19, 2021),
https://rhg.com/wp-content/uploads/2021/05/RHG_TWS-2021_Full-Report_Final.pdf.
- Horton, Chris. "U.S. Unveils an Office in Taiwan, but Sends No Top Officials." *The New York Times*, June 12, 2018, sec. World.
<https://www.nytimes.com/2018/06/12/world/asia/trump-taiwan-ait.html>.
- House, The White. "FACT SHEET: United States, G7 and EU Impose Severe and Immediate Costs on Russia." The White House, 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/>.
- "How Much Trade Transits the South China Sea?" ChinaPower Project. CSIS, January 25, 2021.
<https://chinapower.csis.org/much-trade-transits-south-china-sea/>.
- "How the US-China Trade War Affected the Rest of the World." National Bureau of Economic Research, April 2022,
<https://www.nber.org/digest/202204/how-us-china-trade-war-affected-rest-world#:~:text=US%20exports%20to%20China%20fell,a%20statistically%20insignificant%205.5%20percent>.
- "India-China Trade Climbs to USD 135.98 Billion in 2022, Trade Deficit Crosses USD 100 Billion First Time." The New Indian Express. The New Indian Express, January 13, 2023.
<https://www.newindianexpress.com/business/2023/jan/13/india-china-trade-climbs-to-usd-13598-billion-in-2022-trade-deficit-crosses-usd-100-billion-first-2537562.html>.
- "iShares MSCI China ETF (MCHI) Historical Data." Yahoo Finance, Accessed March 2023,
<https://finance.yahoo.com/quote/MCHI/history?p=MCHI>.
- Kelly, Mary Louise, and Kat Lonsdorf. "Why Ukraine Gave up Its Nuclear Weapons — and What That Means in an Invasion by Russia." *NPR*, February 21, 2022, sec. World.
<https://www.npr.org/2022/02/21/1082124528/ukraine-russia-putin-invasion>.
- Kuo, Lily. "Tsai Ing-Wen Says China Must 'face Reality' of Taiwan's Independence." *The Guardian*, January 15, 2020, sec. World news.
<https://www.theguardian.com/world/2020/jan/15/tsai-ing-wen-says-china-must-face-reality-of-taiwans-independence>.
- Lee, Yimou, and Ben Blanchard. "China Blockade Would Be Act of War, Taiwan Would Not

- Surrender, Official Says.” Reuters. Reuters, September 23, 2022.
<https://www.reuters.com/world/asia-pacific/china-blockade-would-be-act-war-taiwan-would-not-surrender-official-says-2022-09-23/>.
- Manish, Sai. “Ladakh Fallout: How India Bled Chinese FDI.” Rediff. Rediff, February 9, 2022.
<https://www.rediff.com/news/report/ladakh-fallout-how-india-bled-chinese-fdi/20220209.htm>.
- Market Research Future. “China LCD Panel Market Research Report - Forecast till 2027.” August 2021.
<https://www.marketresearchfuture.com/reports/china-lcd-panel-market-5345>.
- Martin, Bradley, Kristen Gunness, Paul DeLuca, and Melissa Shostak, Implications of a Coercive Quarantine of Taiwan by the People's Republic of China. Santa Monica, CA: RAND Corporation, 2022. https://www.rand.org/pubs/research_reports/RRA1279-1.html.
- Chunshan, Mu. “How Chinese People View the US-China Trade War,” The Diplomat, April 16, 2018,
<https://thediplomat.com/2018/04/how-chinese-people-view-the-us-china-trade-war/>.
- National Bureau of Statistics, and State Administration of Foreign Exchange, Ministry of Commerce of the People’s Republic of China. 2021 Statistical Bulletin of China’s Outward Foreign Direct Investment (2021).
- Nikkei Asia. “Taiwan Girds for Close Presidential Race amid China Pressure.” Accessed March 29, 2023.
<https://asia.nikkei.com/Politics/Taiwan-elections/Taiwan-girds-for-close-presidential-race-amid-China-pressure>.
- Nikkei Asia. “Taiwan Sets next Presidential Election for January 2024.” Accessed March 29, 2023.
<https://asia.nikkei.com/Politics/Taiwan-elections/Taiwan-sets-next-presidential-election-for-January-2024>.
- Nikoladze, Maia. “Russia Sanctions Database.” *Atlantic Council* (blog), September 8, 2022.
<https://www.atlanticcouncil.org/blogs/econographics/russia-sanctions-database/>.
- O’Hanlon, Michael. “How to Defend Taiwan: Leading with Economic Warfare.” *The Washington Quarterly* 44, no. 4 (February 2, 2021): 183–96.
<https://doi.org/10.1080/0163660x.2021.2020459>.
- OECD - The Observatory of Economic Complexity. “United States (USA) Exports, Imports, and Trade Partners | OECD.” Accessed March 31, 2023.
<https://oec.world/en/profile/country/usa>.
- “People's Republic of China.” Ministry of Foreign Affairs Singapore. Ministry of Foreign Affairs Singapore. Accessed April 20, 2023.
<https://www.mfa.gov.sg/SINGAPORES-FOREIGN-POLICY/Countries-and-Regions/Northeast-Asia/Peoples-Republic-of-China>.
- “The People's Republic of China,” Office of the U.S. Trade Representative, accessed March 29, 2023, <https://ustr.gov/countries-regions/china-mongolia-taiwan/peoples-republic-china>.
- Research and Markets. “China Tunnel Boring Machine Market - Growth, Trends, COVID-19 Impact, and Forecasts (2021 - 2026).” April 2021.
<https://www.researchandmarkets.com/reports/5391293/china-tunnel-boring-machine-market-growth-trends>.
- Ross, Sean. “The 3 Industries Driving China's Economy,” Investopedia (Investopedia, December 19, 2022),

- <https://www.investopedia.com/articles/investing/091515/3-industries-driving-chinas-economy.asp#:~:text=rate%20in%202020-,China's%20GDP%20growth%20for%202022%20is%20expected%20to%20decelerate%20to,agriculture%2C%20manufacturing%2C%20and%20technology>.
- “Russia’s War Economy and the Impact of Sanctions on Military Production | Internationale Politik Quarterly.” Accessed April 7, 2023.
<https://ip-quarterly.com/en/russias-war-economy-and-impact-sanctions-military-production>.
- “S&P 500 (^GSPC) Historical Data.” Yahoo Finance, accessed March 2023,
<https://finance.yahoo.com/quote/%5EGSPC/history?p=%5EGSPC>.
- Scissors, Derek. “China's Economic Vulnerabilities,” American Purpose (American Purpose, April 4, 2022),
<https://www.americanpurpose.com/articles/chinas-economic-vulnerabilities/>.
- Siqi, Ji. “How Important Are China-Indonesia Trade Ties?” South China Morning Post. South China Morning Post, July 27, 2022.
<https://www.scmp.com/economy/china-economy/article/3186660/china-indonesia-trade-how-important-it-and-what-are-main>.
- Siripurapu, Anshu and Noah Berman. “The Contentious U.S-China Trade Relationship,” Council on Foreign Relations, December 2, 2022,
<https://www.cfr.org/background/contentious-us-china-trade-relationship>.
- Sonnenfeld, Jeffrey, Steven Tian, Franek Sokolowski, Michal Wyrebkowski, and Mateusz Kasprowicz. “Business Retreats and Sanctions Are Crippling the Russian Economy.” SSRN Scholarly Paper. Rochester, NY, July 19, 2022.
<https://doi.org/10.2139/ssrn.4167193>.
- Smith, Tori, et al., “Section 301 (China) Tariffs Causing a Fourfold Increase in Tariff Rates,” American Action Forum, July 20, 2022,
<https://www.americanactionforum.org/insight/section-301-china-tariffs-causing-a-fourfold-increase-in-tariff-rates/>.
- Tang, Frank. “US trade war has cost China ‘almost 2 million industrial jobs’ investment bank CICC says,” *South China Morning Post*, July 24, 2023,
<https://www.scmp.com/economy/china-economy/article/3019916/us-trade-war-has-cost-china-almost-2-million-industrial-jobs>.
- “Taiwan’s dominance of the chip industry makes it more important,” *The Economist*, March 6, 2023,
<https://www.economist.com/special-report/2023/03/06/taiwans-dominance-of-the-chip-in-dustry-makes-it-more-important>.
- “Taiwan - Energy Sector Highlights.” U.S. Energy Information Administration (EIA). U.S. Energy Information Administration (EIA). Accessed April 13, 2023.
<https://www.eia.gov/international/overview/country/TWN>.
- Tbilisi, U. S. Embassy. “International Sanctions Are Working: Russia Feels Economic Pressure.” U.S. Embassy in Georgia, August 16, 2022.
<https://ge.usembassy.gov/international-sanctions-are-working-russia-feels-economic-pressure/>.
- U.S. Chamber Staff. “Understanding U.S.-China Decoupling: Macro Trends and Industry Impacts,” U.S. Chamber of Commerce, October 21, 2021,
<https://www.uschamber.com/international/understanding-us-china-decoupling-macro-trends>.

[ds-and-industry-impacts.](#)

“U.S.-China trade war has cost up to 245,000 U.S. jobs: business group study.” Reuters, January 14, 2023,

<https://www.reuters.com/article/us-usa-trade-china-jobs/u-s-china-trade-war-has-cost-up-to-245000-u-s-jobs-business-group-study-idUSKBN29J2O9>.

Varadarajan, Raj, et al. “What's at Stake If the US and China Really Decouple,” BCG Global (BCG Global, January 8, 2021),

<https://www.bcg.com/publications/2020/high-stakes-of-decoupling-us-and-china>.

Wong, Edward. “In Dealing With China, U.S. and Europe Take Different Tacks.” *The New York Times*, April 7, 2023, sec. U.S.

<https://www.nytimes.com/2023/04/07/us/politics/china-us-europe.html>.

Wu, Huizhong. “Taiwan Suspects Chinese Ships Cut Islands' Internet Cables.” AP NEWS. Associated Press, April 18, 2023.

<https://apnews.com/article/matsu-taiwan-internet-cables-cut-china-65f10f5f73a346fa788436366d7a7c70>.