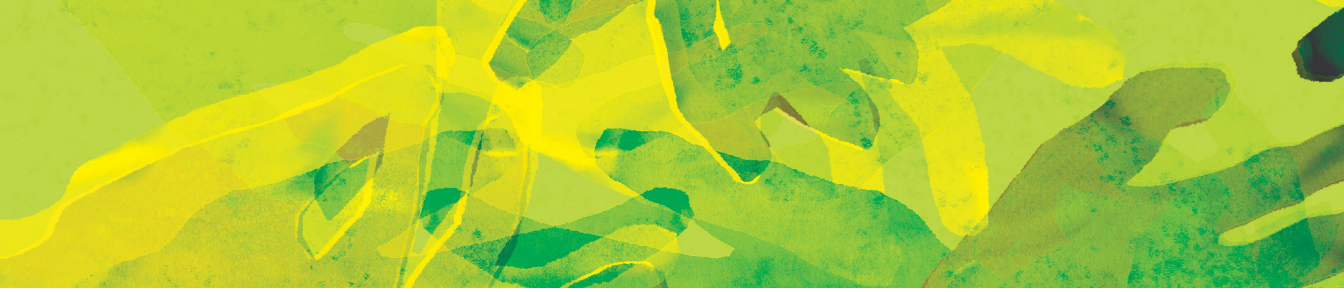
heinz journal

Spring 2025 Volume 24 Issue 1



Heinz Journal

Vol. 24 | Issue 1 | Spring 2025

Submissions
We accept submissions from the Carnegie Mellon University community as well as allied researchers and practitioners working in relevant fields.
Submissions and inquiries can be emailed to
belent@andrew.cmu.edu
smammado@andrew.cmu.edu
sb6n@andrew.cmu.edu

Contact
The Heinz Journal
4800 Forbes Avenue
Pittsburgh, PA 15213
https://www.cmu.edu/heinz/heinz-journal/

Table of Contents

Africa & China Relations: An Analysis of Cross-National Influence in Economics, Natural Resources, Environmental Effects, and Human Relations

Helom Berhane, Felix Fosu, Aubrey Lutz, and Lauren Miller

Table of Contents:

Section I: Introduction

This report will analytically summarize the multidimensional relations between the African continent and the People's Republic of China (PRC). Following a broad overview of historical trends in the multinational relationship in the present section, Section II will detail the economic relationship between China and African nations, with an emphasis on 21st century interactions and financial logistics of China's Belt and Road Initiative. Moving forward, Section III will analyze Chinese and African dynamics regarding the extraction of abundant natural resources throughout the continent. To conclude the analytical portion of this report, Section IV will highlight the environmental concerns raised by China's activities in Africa, as well as the large-scale impact of China's soft power and human rights violations. Ultimately, the report concludes with 6 total policy recommendations aimed at Africa, China, and the United States in the realms of environmental and economic accountability and interaction.

To address the results of the analysis laid out above, our report and policy recommendations are grounded in the following statement: Since the onset of the 21st century, China has rapidly increased its presence in the vast majority of African countries in the realms of economics, infrastructure, natural resources and human relations. Looking forward, Africa and China- as well as the United States- must implement greater measures of economic and environmental accountability standards and policies.

I.I Historical Frameworks In order to understand the complexities of Africa's relations with China today, we must first reflect upon their history together. The earliest interaction between China and Africa dates back to the 15th century when Chinese laborers and traders visited several regions of Africa while on a voyage during the Ming Dynasty; nothing significant resulted from this interaction beyond a hiatus in relations. Moving forward, the first significant interaction within the context of the present analysis occurred in 1912 during Sun Yat Sen's ruling when the Republic of China developed official relations with South Africa. At this time, there was an insurgence of Chinese labor migration to South Africa, leading to a well established Chinese community that allowed their relationship to develop. Since then, South Africa has remained "the country with the largest number of persons of Chinese origin on the African continent."[1]

In 1949, Mao Zedong and the Communist Party of China (CPC) seized power and were not concerned with Africa relations in the early stages of leadership. Mao's primary focus was "consolidating his rule in the early years of the new regime."[2] Throughout the 1950s, African countries- including Sudan, Tunisia, Morocco, Ghana, Guinea- began to become independent; 17 more countries joined this number in 1960. China began to modify their approach to African countries following increasing levels of national independence, becoming more pragmatic with diplomatic relations. This modified approach led to China's admission to the United Nations in 1971 with the support of many independent African countries.

Deng Xiaoping ruled from 1978 to 1992 and witnessed an increase in the number of African countries that recognized Beijing's "One China" Policy.

[1] David H Shinn, "China–Africa Ties in Historical Context," *OUP Academic*, April 15, 2019, https://academic.oup.com/book/42633/chapter/358095103.
[2] Ibid.

In the 1970s, only 44 African countries recognized the policy, but this number quickly increased to 48 African countries in the 1980s.[3] While financial support from China lacked during their period of economic modernization, China allowed 55 African Presidents to visit their country.

The following ten years from 1992 to 2002 fell under Jiang Zemin's power, and led to the intensification of diplomatic relations with Africa. This included "unprecedented high-level Chinese official visits to several African countries," mostly due to the negative impact the Tiananmen Square events had on Chinese international relations.[4] However, Africa's response was fairly neutral towards the tragic events and did not lead to any significant fallout with their Chinese relations. Later, in 1989, "China deployed personnel to a UN peacekeeping operation" for the very first time.[5] China's involvement in Africa became reflected in five primary areas including: (1) development aid, (2) considerable increase in arms export, (3) increased trade, (4) loans for infrastructure, and (5) UN peacekeeping.[6]

Hu Jintao took power next from 2002 to 2012 and maintained a strong relationship with all but eight African countries that still recognized Taiwan. By the end of his ruling, only four African countries recognized Taiwan, which was viewed as a substantial success for Beijing's "One China" Policy. In 2003, the second Forum on China-Africa Cooperation (FOCAC) was held in Addis Ababa and "attended by Premier Wen Jiabao, thirteen African leaders, and more than seventy ministers from Africa and China."[7] The third FOCAC conference was held in Beijing in 2006 after China issued its first Africa policy white paper, containing four main principles:[8]

1. China adheres to the Five Principles of Peaceful Coexistence, respects African countries' independent choice of the road to development, and supports African countries' efforts to grow stronger through unity.
2. China supports African countries' economic development and nation building and promotes common prosperity in China and Africa.
3. China will strengthen cooperation with Africa in the UN and other multilateral systems by supporting each other's just demands and reasonable propositions.
4. China and Africa will learn from and draw upon each other's experience in governance and development, strengthen exchange and cooperation in education, science, culture, and health.

At the end of Hu Jintao's power in 2012, Beijing hosted the fifth FOCAC which "resulted in the most comprehensive action plan so far and emphasized a new type of China-Africa strategic partnership."[9]

Finally, China's current ruler, Xi Jinping gained power in 2013 and made his first visit outside of China to Tanzania, South Africa, and Republic of Congo. The sixth FOCAC conference occurred in Zimbabwe in 2015 where Xi Jinping announced "an historic US$60 billion financing package."[10]
China later released their second Africa policy white papers emphasizing similar

[3] Ibid.
[4] Ibid.
[5] Ibid.
[6] Ibid.
[7] Ibid.
[8] Ibid.
[9] Ibid.
[10] Ibid.

themes as the first papers. Xi Jinping's era is most commonly defined by his Belt and Road Initiative which was brought to Africa through several different projects which will be discussed in more detail in a later section of the paper.

Section II: Economic Relationship

Although Africa and China's trade history extends as far back as the 15th Century, the vast majority of their economic activity has occurred in just the last few decades. Since 2000, their trade volumes have grown 2100%, from $12 billion to nearly $260 billion in 2022.[11] This incredible growth has largely been fueled by China's Belt and Road Initiative and its promises to reshape the energy and transportation infrastructure of the African continent.

As of 2023, 52 of 54 African countries have signed on to the BRI as many of these nations see China as their primary trading partner in the new, multipolar world economy.[12] Although many African nations view China as an indispensable ally, the growing sovereign debts incurred from countless BRI projects have left many wondering if a relationship with China will ultimately lead to prosperity or inescapable obligations to China's authority. Some have deemed this phenomenon "debt-trap diplomacy." However it is too early to see the final effects of this relationship and many will remain skeptical until these projects are fully realized.

II.I Economic Incentives Africa's rich natural resources and fast-growing population make it the ideal trading partner for China's burgeoning economy. Africa has become the second largest regional supplier of oil to China-second only to the Middle East.[13] Countries like Angola have led the charge in supplying China with much-needed crude oil for sustained growth. African nations also provide China with much-needed minerals like copper and Lithium to fuel the rapidly increasing needs of its manufacturing-centered economy.[14] Rising tensions with neighbors in the South China Sea and Taiwan have pushed China to view Africa as an essential trading partner in the comming decades. Consequently, by exploiting Africa's historical anti-colonial sentiment and desire to play a larger role in world affairs, China has positioned itself as a key ally to many of these countries in the "Global South" to gamer support for these aggressions in important global forums like the United Nations.[15]

However, despite Africa's increasing importance as a geopolitical ally, its value as an economic partner is the key driver of the Africa-China relationship. Africa's population is expected to nearly double from 1.36 billion to 2.5 billion by 2050, and China views this massive market opportunity as a crucial importer of Chinese goods.[16] Many African countries rely on Chinese imports of cheap and reliable consumer products for their burgeoning middle classes and heavy

[11] Oyintarelado Moses, Dianah Ngui, Lucas Engel, and Abbi Kedir, "China-Africa Economic Bulletin," Boston University Global Development Policy Center, Page 13, https://www.bu.edu/gdp/files/2024/04/GCI_China-Africa-Bulletin-2024-FIN.pdf.

[12] Jessica Malobisky, "A Roadmap for Strategically Countering China's Development Influence in Africa," New lines institute, Page 4, https://newlinesinstitute.org/state-resilience-fragility/a-roadmap-for-strategically-countering-chinas-development intluence-in-africa/.

[13] Eleanor Albert, "China in Africa," Council on Foreign Relations, Page 2, https://www.cfr.org/backgrounder/china-africa.

[14] Ibid.

[15] Paul Nantulya, "Africa's Role in China's Multilateralism Strategy," Africa Center for Strategic Studies, Page 2, https://africacenter.org/spotlight/africa-china-multilateralism/.

[16] Andrew Stanley, "African Century," International Monetary Fund, Page 2, https://www.imf.org/en/Publications/fandd/issues/2023/09/PT-african-century.

equipment for their mineral extraction and processing industries. Furthermore, demand has grown for the large-scale energy and transportation infrastructure needed to sustain rapid promising growth. The BRI serves these needs effectively-providing the massive infrastructure projects required to facilitate the growing trade among these countries and China while also providing much-needed accessible energy and transportation for African economies.[17]

II.II Analyzing the Belt & Road Initiative in Africa The BRI aims to have a profound effect on cementing the economic and cultural ties between African nations and China. As of 2020, just 43% of Africans have access to electricity and only 48% have access to paved roads.[18] The BRI hopes to resolve these hindering economic issues for many African nations by providing the loans and human capital needed to fund large-scale transportation and energy infrastructure throughout the continent. One ideal example of these projects 1s Nigeria's Abuja-Kaduna Railway project.

Completed in 2016, the Abuja-Kaduna Railway has been an essential driver of economic growth for Nigeria's export-heavy economy. Built in partnership with the state-owned China Civil Engineering Construction Company, the railway connects the once inaccessible interior of the country to the major shipping ports along its southern coasts. This ensures fast and reliable transportation of natural resources to key export markets for Nigeria.[19] The railway has significantly driven down inland transportation costs, making Nigerian resources and goods much more competitive in the global market. As of 2023, the railway accounts for almost half of all trade volume for the country's state-owned Nigeria Railway Corporation.[20]

China has further plans to connect additional railways throughout the country's southern coast, hoping to connect many of the major railways to important ports like the Lekki-Deep Sea Port—another major BRI project within the country.[21] China is developing similar major railway projects in several other African countries. For example, they have plans to construct Ethiopia's Addis Ababa-Djibouti railway and Kenya's Mombasa–Nairobi Standard Gauge Railway—both of which connect important resource-rich interior regions with major ports on the continent's coasts for easier access to international trade routes.

II.III The Future of BRI and China's Economic Relationship with Africa Despite these significant investments through the BRI, one essential problem remains. China's stifled economic growth in recent years has meant a dramatic scaling back of many projects throughout the continent as investment capital has been increasingly difficult to extend under strict financial governance. This downturn has led to a growing trade deficit between the two partners as

[17] Adedeji Adeniran, Mma Amara Ekeruche, Chukwuka Onyekwena, and Thelma Obiakor, "Estimating the Economic Impact of Chinese BRI Investment in Africa," South African Institute of International Affairs, Page 7, https://saiia.org.za/wp-content/uploads/2021/06/Special-Report-adeniran-ekeruche-onyekwena-obiakor.pdf.

[18] Nirav Patel, "Figure of the Week: Electricity Access in Africa," The Brookings Institution, Page 1, https://www.brookings.edu/articles/figure-of-the-week-electricity-access-in-africa/.

[19] Yunnan Chen, "China's Role in Nigerian Railway Development and Implications for Security and Development," United States institute of Peace, Page 2, https://www.usip.org/sites/default/files/2018-04/sr_423_chen_final.pdf.

[20] "NRC generated N3bn from train services in 2019 - MD," News Agency of Nigeria, Page 1, https://www.pulse.ng/news/local/train-services-nrc-generated-n3bn-in-2019-md/78f5mt5

[21] Yunnan Chen, "China's Role in Nigerian Railway Development and Implications for Security and Development," United States Institute of Peace, Page 3, https://www.usip.org/sites/default/files/2018-04/sr_423_chen_final.pdf.

Africa's need for Chinese goods has outpaced Chinese demand for African resources amid constricting markets. While China has maintained mostly parity with the continent throughout the past two decades, this growing imbalance has left many debating whether the nature of this relationship can remain one of mutual benefit.[22]

While the BRI has offered opportunities for economic cooperation, the potential risks of debt-trap diplomacy loom large. African nations, without the assurance of reciprocal economic benefits, are concerned about repaying the loans for major BRI projects. The fear of China gaining control over significant infrastructure in the event of defaulting on these debts is a real one, leading some to label this as debt-trap diplomacy or "colonization by invitation."[23]

Although preliminary studies have shown that a majority of these projects have been a net positive for African countries, Africans are understandably wary of the long-term effects of these investments.[24] Many hope that they are not reopening a door to colonization that has ripped so many African people and their rich natural resources from the continent without Africans seeing the benefits. Furthermore, growing concerns about realizing the promises of self-reliance and autonomy of African nations through these projects have been exacerbated by what is seen as an imbalance of mutual interests. There is an escalating focus on the impact of knowledge transfer between Chinese firms and African workers as growing numbers of Chinese laborers are brought in to work on these projects.[25] These concerns are compounded by fears that the quality of infrastructure and its environmental impact may leave many Africans worse off.[26] While we are still early into the BRI, the coming decades and how Africans deal with potential debt crises will play a central role in defining the success and future of the continent.

Section III: Natural Resources

Over the last two decades, China has established strong economic connections with nations across sub-Saharan Africa, emerging as the region's primary trading partner from a single country. China accounts for approximately one-fifth of the region's exports, particularly in metals, minerals, and fuel. Additionally, it serves as the primary source for the manufactured goods and machinery imported by African nations.[27]

---

[22] Adedeji Adeniran, Mma Amara Ekeruche, Chukwuka Onyekwena, and Thelma Obiakor, "Estimating the Economic Impact of Chinese BRI Investment in Africa," South African Institute of International Affairs, Page 21, https://sai ia.org.za/wp-content/uploads/2021/06/Special-Report-adeniran-ekeruche-onyekwena-obiakor.pdf.

[23] David Dollar, "Understanding China's Belt and Road Infrastructure Projects in Africa," The Brookings Institution, Page 2,
https://www.brookings.edu/wp-content/uploads/2019/09/FP_20190930_china_bri_dollar.pdf

[24] Paul Nantulya, "Implications for Africa from China's One Belt One Road Strategy," Africa Center for Strategic Studies, Page 8,
https://africacenter.org/spotlight/implications-for-africa-china-one-belt-one-road-strategy/.

[25] David Dollar, "Understanding China's Belt and Road Infrastructure Projects in Africa," The Brookings Institution, Page 7,
https://www.brookings.edu/wp-content/uploads/2019/09/FP_20190930_china_bri_dollar.pdf.

[26] Adedeji Adeniran, Mma Amara Ekeruche, Chukwuka Onyekwena, and Thelma Obiakor, "Estimating the Economic Impact of Chinese BRI Investment in Africa," South African Institute of International Affairs, Page 15, https://saiia.org.za/wp-content/uploads/2021/06/Special-Report-adeniran-ekeruche-onyekwena-obiakor.pdf.

[27] Hany Abdel-Latif et al. "China's Slowing Economy Will Hit Sub-Saharan Africa's Growth." IMF. December, 2023. https://www.imf.org/en/News/Articles/2023/11/09/cf-chinas-slowing-econo-

III.I China's Quest for Africa's Resources Every nation possesses the inherent right to engage in trade with others, and commerce remains crucial for numerous African countries. The flow of natural resource commodities serves as the economic engine driving revenue generation in these nations. African countries often depend on bilateral deals resulting from these exchanges, commonly referred to as resources-for-infrastructure swaps.[28]

Africa's significance in supplying essential minerals for the Chinese economy cannot be overstated. In the realm of minerals, China's reliance on Sub-Saharan Africa is nearly exclusive, particularly evident in its cobalt imports. Moreover, China depends significantly on African nations, particularly Gabon, South Africa, and Ghana, for manganese imports.[29]

Sub-Saharan Africa plays a significant role as a supplier of timber, sourced primarily from Gabon, the Republic of Congo, and Cameroon, as well as chromium, mainly from South Africa, Madagascar, and Sudan. These commodities collectively account for approximately one-seventh of China's global imports. However, in terms of China's imports of iron ore and copper, Sub-Saharan Africa's contribution remains relatively small, albeit steadily increasing.[30]

China has displayed a growing interest in the mining belt of central southern Africa, which consists of Zambia, Tanzania, and Mozambique. This region boasts abundant reserves of copper, iron, gold, manganese, and other base metals, attracting China's interests for investment and resource extraction.[31]

Beijing has implemented a long-term strategy spanning decades to ensure a dependable supply of crucial minerals, utilizing initiatives like the Belt and Road Initiative and other concerted efforts. Backed by the state, Chinese enterprises hold ownership stakes in mining firms across continents. China's presence in Africa is already deeply established. For example, in the Democratic Republic of Congo (DRC) — which supplies 70 percent of the world's cobalt — Chinese entities own or have stakes in nearly all the country's producing mines.[32]

Over the past two years, Chinese mining and battery companies have injected $4.5 billion into lithium mines, driving much of Africa's lithium projects, notably in countries such as Namibia, Zimbabwe, and Mali. Projections suggest that by 2025, China may secure as much as one-third of the world's lithium mining capacity, further solidifying its position in the global lithium market.[33]

Just as the abundance of natural resources sparked the illegal occupation of the continent by foreign powers in the 1800s and 1900s, China's growing presence and relentless pursuit of natural resource extraction in Africa, irrespective of the environmental consequences, are now inviting comparisons to a new form of colonialism.

---

my-will-hit-sub-saharan-africas-growth#:-:text=China%20has%20forged%20deep%20economic,machinery%20imported%20by%20African%20countries.

[28] Merem, E.C. et al. "The Assessment of China's Scramble for Natural Resources Extraction in Africa." World Environment 11, no. 1 (March 20, 2021): 9 - 25. http://article.sapub.org/10.5923.j.env.20211101.02.html#Ref.

[29] Institute of Developing Economies (IDE). "China in Africa. China's Mining Footprint in Africa'. [h]ttps://www.ide.go.jp/English/Data/Africa file/Manualreport/cia 08.html#:~:text=In%20thecase%20of"%20minerals%2C%20China,Gabon%2C%20SouthAfrica%20and%20Ghana

[30] Ibid.

[31] Edward A. Burrier, Thomas P. Sheehy. "Challenging China's Grip on Critical Minerals can be a Boon for Africa's Future." USJP June 2023. https://www.usip.org/publications/2023/06/challenging-chinas-grip-critical-minerals-can-be boon-africas-future

[32] Ibid.

[33] Ibid.

III.II Infrastructure-for-Minerals Throughout the 2000s, Chinese demand for primary goods like oil, iron, copper, and zinc helped Africa reduce poverty more than it had in decades.[34] China is currently engaged in infrastructure projects across more than 35 African nations, with a notable concentration in countries like Angola, Nigeria, and Sudan. However, there have been fresh waves of projects in other nations, with a particular focus on expanding endeavors in the Democratic Republic of Congo (DRC), where China mines cobalt.[35]

China's infrastructure activities in Africa have been distributed quite evenly across two primary sectors: (1) power generation, particularly hydropower projects, and (2) transportation, notably railroad development, followed by the ICT sector (mainly equipment supply). Water projects attracted the least amount of project activity.[36]

Natural resources are being leveraged to secure financing for major projects. For instance, the construction of the Congo River Dam in the Republic of Congo and the Bui Dam in Ghana was financed by loans from the China Ex-Im Bank, backed by guarantees of crude oil for the former and cocoa for the latter. Similarly, the loan for the Souapiti Dam in Guinea was tied to mining revenues, specifically from bauxite.[37]

In Nigeria, the federal government, with the assistance of a credit line from China Ex-Im Bank, is constructing three gas-fired power stations: Papalanto (335 MW) in Ogun state developed by Chinese group Sepco, Omotosho (335 MW) in Ondo developed by China National Machinery & Equipment Import & Export Corp. (CMEC), and Geregu (138 MW) in Kogi state developed by Siemens. Additionally, Chinese companies such as CMEC and China Machine-Building International Corporation (CMIC) have occasionally engaged in electricity transmission projects, notably in Tanzania and Luanda (Angola) respectively.[38] Currently, China's primary focus is on the construction of large hydropower projects. Given Africa's current power supply crisis and the region's underutilized hydro potential, these initiatives are crucial for Africa's economic development.[39]

Economic engagement between China and African nations has involved both providing financial support for electrification to enhance energy access and engaging in the exploration and extraction of commodities for export back to China. While these efforts have helped African countries overcome infrastructure bottlenecks, they have also perpetuated trade dynamics where Africa exchanges primary resources for finished goods. To address current development goals such as energy access and transition, then concessional loans, equity finance, and trade focused on renewables and value-added green industries present promising avenues for future cooperation between China and African countries.[40]

---

[34] David Dollar. "China's engagement with Africa: From natural resources to human resources" Brookings. July 2018. https://www.brookings.edu/articles/chinas-engagement-with-africa-from-natural-resources-to-human-resources/

[35] Ibid.

[36] Institute of Developing Economies (IDE). "China in Africa. China's Infrastructure Footprint in Africa."

[37] Ibid.

[38] Ibid.

[39] Ibid.

[40] Global Development Policy Center. "China-Africa Economic Bulletin, 2024 Edition." Accessed April 17, 2024. https://www.bu.edu/gdp/2024/04/01/china-africa-economic-bulletin-2024-edition/#:~:text=Africa%2DChina%20trade%20

Section IV: Environment and Human Rights

Underscoring all political, economic, and infrastructure-based developments discussed in the previous sections of analysis are environmental and human relations dynamics that challenge the sustainability of China's long-term influences in African countries.

IV.I Environmental Impact The growing presence of China on the African continent has occurred in many disparate domains, specialized in strategy and overall impact on a country to country basis. To this end, the environmental impact of China's practices in Africa vary greatly by region and individual country. Published in 2021, a team of researchers emphasized the dynamic between China's status as both a "leader in smart technology" and exploiter of natural resources.[41] To understand this dynamic, the researchers conducted a Fully Modified Ordinary Least Square (FMOLS) analysis on data from 50 of 54 African countries between 1992 and 2014; notably, the provided window of FMOLS modeling captures the early era of significantly increased Chinese activity in African countries analyzed within the present report.[42] Assessment of the FMOLS model was conducted on four primary means of Chinese interaction on the continent: construction, foreign direct investment (FDI), import (from China to Africa), and export (from Africa to China).[43] Core findings for 1992 - 2014 period were as follows:

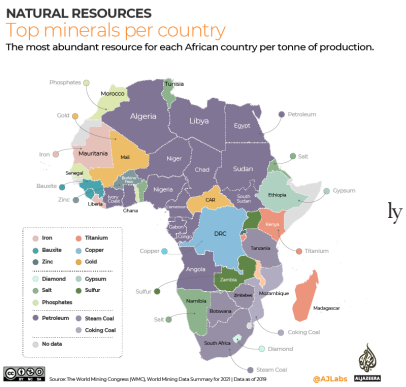
I. positive relationship between construction revenue and carbon emissions,

II. positive relationship between exports (Africa to China) and carbon emissions,

III. negative relationship between imports (China to Africa) and carbon emissions, and

IV. negative relationship between FDI (China to Africa) and carbon emissions.[44]

The FMOLS model indeed supports the observation that China's impacts in Africa vary significantly from country to country. Furthermore, broad analysis suggests a general positive environmental impact of Chinese imports (here, large-technology) and FDI and general negative environmental impact of construction practices and exports (here, largely natural resources). However, these observations represent significant generalization across 50 distinct studied countries, and environmental concerns become more drastic when such generalizations are analytically



Section IV Figure I: Africa's top natural resources by country per ton of production, 2022 *(Source: Al Jazeera)*

[41] Tawiah, Vincent Konadu, Abdulrasheed Zakari, and Irfan Khan. "The Environmental Footprint of China - Africa Engagement: An Analysis of the Effect on China-Africa Partnership on Carbon Emissions." Science of the Total Environment 756, no. 1 (February 2021): 1-12. https://www.sciencedirect.com/science/article/pii/S0048969720371345.

[42] Ibid.

[43] Ibid.

[44] Ibid.

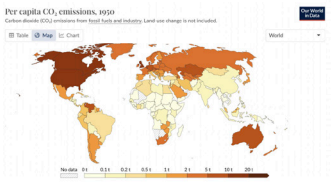
accounted for. Importantly, researchers state:

> *"Given that most exports from Africa are natural resources, our results imply that African non-resources-rich countries are likely to benefit from China's large investment in cleaner energy and environment in the long-run, especially after the construction of the infrastructures [is complete]."*[45]

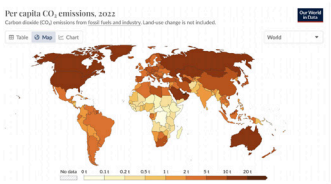
From the United Nations, Africa is home to "some 30 percent of the world's mineral reserves, 8 percent of the world's natural gas, and 12 percent of the world's oil reserves," as well as "40 percent of the world's gold and up to 90 percent of its chromium and platinum."[46] [47] While countries not rich in natural resources may be *more* likely to environmentally benefit from Chinese intervention in the long run, these nations are reasonably not the majority.

A separate model using World Bank data run by a different team of researchers in 2023 concluded the same as the 2021 report summarized above. However, rather than simply explaining historical trends on the measures of import, export, FDI, and carbon emissions, the researchers state: "energy consumption, GDP growth, GDP per capita, and population [with several control variables factored in], all show a positive correlation with Africa's carbon emissions."[48] These results suggest that while the environmental impact of Chinese infrastructure and export from Africa is staggering, the impact (and thus, future policy changes and increased environmental regulations) must be conceptualized with benefits in other domains offered through countries' partnership with China in mind.

Furthermore, in scaling the environmental concerns posed in Africa, companson to historical trends and growth is crucial. From *The Wilson Center,* at the start of 2021 Africa held the title of the "world's least energy-consuming region per capita" and "Africa's CO2 emissions from commercial and industrial activity [had] been minimal."[49] Yet, low energy consumption (e.g. 0.8 tonnes/per person annually in Sub-Saharan Africa vs. an average 4.8 tonnes/per person globally) is largely correlated with substantial levels of energy poverty throughout the continent including 600 million residents without any access to electricity in 2022.[50] Furthermore, between 1950 and 2016, Africa's energy consumption increased by a factor of 14. To date, "Africa's CO2 output per person has been growing [...] much faster



Section IV Figure II: Global per capita CO2 emissions by country, 1950 *(Source: Our World in Data)*



Section IV Figure III: Global per capita CO2 emissions by country, 2022 *(Source: Our World in Data)*

[45] Ibid.

[46] "Our Work in Africa." Environmental Programme. United Nations. Accessed April 23, 2024. https://www.unep.org/regions/africa/our-work-africa.

[47] Al Jazeera Staff. "Mapping Africa's Natural Resources." Maps. Al Jazeera. Updated February 15, 2022. https://www.aljazeera.com/news/2018/2/20/mapping-africas-natural-resources.

[48] Li et al. "Will China-Africa Trade Increase Africa's Carbon Emissions?" PLoS One 18, no. 11 (November 2023). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10655991 /.

[49] Goldstone, Jack A. "The Battle for Earth's Climate will be Fought in Africa." Insight and Analysis. *The Wilson Center.* March 24, 2021. https://www.wilsoncenter.org/article/battle-earths-climate-will-be-fought-africa.

[50] "Key Findings." Africa Energy Outlook 2022. International Energy Agency. Accessed April 24, 2024. https://www.iea.org/reports/africa-energy-outlook-2022/key-findings.

than its population."[51] With Africa's total population projected to jump from 1.3 billion in 2021 to 3 billion in 2060, *The Wilson Center* suggests that "the increase in CO2 emissions on the continent [over the next four decades] would be so large as to entirely offset even a 60 percent decrease from today's levels in China."[52] From these projections, it follows that "universal access to affordable electricity" is a necessity on the African continent, yet efforts by foreign investors and development corporations (including, of course, China) must be made to make this transition as environmentally clean as possible while still progressing at a rate that best serves Africa's rapidly growing population. From *The Wilson Center:* "the only way to avoid massive increases in Africa's CO2 output will be for Africa to avoid a fossil-fuel dependent path of economic development."[53] [54] Following from the multilevel analysis presented throughout the previous sections, Chinese policy and relations that mitigate environmental harm caused by infrastructure construction and natural resource exportation between 1992 and 2014 will be necessary in the forthcoming decades.

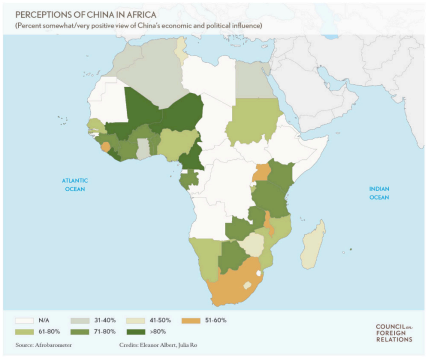
IV.II China's Soft Power in Africa China's presence via BRI infrastructure and resource extraction projects in Africa are extensively supplemented by the PRC's investment in "building human and social capital" throughout the continent.[55] From *Foreign Affairs:* "Beijing has invested heavily in cultivating political, educational, and institutional relationships with ... almost all African countries with which it has diplomatic relations."[56] Importantly, where opportunities for building social capital in African countries have been largely overlooked by Western powers, Chinese influence has been building for several decades.[57]

Person-to-person connections are key to China's larger political and economic strategy on the African continent. A stark representation of this growing influence is the growth from fewer than 2,000 to 80,000 African students studying in China between 2003 and 2018.[58] To a similar end, *Foreign Affairs* reports further conscious twenty-first century efforts by China to increase human relations and social capital in the following African domains: dignitary visits, trainings for African political leaders, joint research initiatives, vaccine provision, (cost effective) technology provisions, communications and media, vocational trainings, and more.[59] In all discussions of China's visible influence in imports, exports, FDI, and infrastructure, the backing power of the nation's *soft power* in African nations is core to the overall strength and potential longevity of these curated bilateral relationships.

Though the United States and other Western nations have not similarly capitalized on amassing social capital and soft power on the African continent, this does not mean that progress is impossible moving forward. Using data from 2021, *The Wilson Center* reported that while there were notable variations in

[51] Goldstone, Jack A. "The Battle for Earth's Climate will be Fought in Africa."
[52] Goldstone, Jack A. "The Battle for Earth's Climate will be Fought in Africa."
[53] Ibid.
[54] Ritchie, Hannah and Max Roser. "CO2 Emissions." Our World in Data. Updated 2022. https://ourworldindata.org/co2-emissions.
[55] Benabdallah, Linda. "China's Soft Power Advantage in Africa." *Foreign Affairs.* December 23, 2021. https://www.foreignaffairs.com/articles/africa/2021-12-23/chinas-soft-power-advantage-africa.
[56] Ibid.
[57] Ibid.
[58] Ibid.
[59] Ibid.

overall perceptions of China and the United States on a country by country basis, polled Africans "with positive views of China also tended to have positive views of the United States."[60] To this end, the author concludes, "for many Africans, US-China competition 1s not an either-or situation."[61] [62] In fact, of the 32 countries with citizens polled, 23 ranked the U.S. higher than China as the "best model for their future development."[63] Regardless, Chinese soft power influence thus far must not be underestimated as U.S. and Western policy continues to develop in the region.



Section IV Figure IV: Perceptions of China by African country, 2021 *(Source: US Council on Foreign Relations)*

IV.III Belt and Road Initiative (BRI) Human Rights Concerns

Please note that the following subsection contains sensitive discussion of human rights violations; proceed to page 17 if this information would prove harmful to read.

Human rights violation reports that specifically target the relationship between African nations and Chinese influence have, to date, been primarily disseminated through the Institute for Security Studies nonprofit, with a focus on the Southern portion of the continent.[64] To this end, accessible documentation of human rights violations are broadly lacking, particularly in the Northern section of the continent, and it is challenging to pinpoint the precise extent of China's influence on promoting/facilitating violations in the region. From testimonials that originate from Angola, the Democratic Republic of the Congo (DRC), South Africa, Lesotho, Zambia, and Zimbabwe, Chinese-owned and operated mines and industrial sites expose workers to low wages, withheld compensation, "non-compliance with occupational health and safety legislation," and physically unsafe working conditions.[65] [66]

Furthermore, *The Wilson Center* reports that Chinese presence in mining practices in the DRC have "only exacerbated child labor issues," where "more than 40,000 children work with artisanal cobalt, lithium, and REE mining."[67] Documentation concludes that children are forced to work 7 days a week, with 12 hour

[60] Akeredolu, Fikayo. "African Perception of the United States is an Evolving Geopolitical Landscape." Africa Up Close. *The Wilson Center.* July 27, 2023. https://www.wilsoncenter.org/blog-post/african-perception-united-states-evolving-geopolitical-landscape.

[61] Ibid.

[62] Albert, Eleanor. "China in Africa." Backgrounder. Council on Foreign Relations. Updated July 12, 2017. https://www.cfr.org/backgrounder/china-africa.

[63] Akeredolu, Fikayo. "African Perception of the United States is an Evolving Geopolitical Landscape."

[64] Reyes, Gabrielle. "Africa: Allegations of Human Rights Violations by Chinese Owned Firms in Southern Africa Emerge in New Report." Latest News. Business & Human Rights Resource Centre. July 11, 2022. https://www.business-humanrights.org/en/latest-news/africa-allegations-of-human-rights-violations-by-chinese-owned-firms-in-s outhern-africa-emerge-in-new-report/.

[65] Ibid.

[66] Reyes, Gabrielle. "Africa: Chinese Owned Mines Force African Workers into Unsafe Conditions, Often Don't Pay." Breitbart. July 2, 2022. https://www.breitbart.com/africa/2022/07/02/africa-chinese-owned-mines-force-african-workers unsafe-conditions-often-dont-pay/.

[67] Risi, Lauren Herzer and Claire Doyle. "Examining China's Impact on Mining in Africa: Critiques and Credible Responses." Insight and Analysis. *The Wilson Center.* July 18, 2023. https://www.wilsoncenter.org/blog-post/examining-chinas-impact-mining-africa-critiques-and-credible-responses.

workdays using "rudimentary" and unsafe tools during their sustained exposure to "radioactive materials" and disease.[68] From the *NGO Rights and Accountability Departmentment,* DRC workers in Chinese-run mines face daily verbal and physical abuses, with "a colonial era level of discrimination, [including] being kicked, slapped, beaten with sticks, insulted, shouted at, or sometimes pulled around by their ear, when they were not able to understand instructions in Mandarin, made errors or refused to undertake dangerous tasks."[69] In Zimbabwe, the *Environmental Lawyers Association* reports that if mining workers were to assert their human rights, "they risk being shot or beaten" by Chinese officials.[70] Finally, *Yale Law School* summarizes that Chinese-owned companies in Gambia, Nigeria, and Ghana have enacted severe environmental and human rights abuses, including illegal extractions of natural resources-a practice that "disproportionately harm[s] poor, rural, and otherwise vulnerable communities.[71]

In the context of Western response to such human rights violations, *Foreign Policy* author Nosmot Gbadamosi asserted in 2022 that a disproportionate focus on China's practice of "debt-trap diplomacy" on the African continent in policy and economic intervention "obscures human rights concerns" and removes key elements of African autonomy in infrastructure, energy, and economic projects.[72] On these Western perception imbalances, Gbadamosi states:

> *"Overblowing issues such as debt-trap diplomacy breeds resentment against the United States and other Western allies in Africa, particularly when concerns on human rights that citizens perceive as having greater ramifications are ignored by the US., US. officials, and much of the media."*[73]

[68] Ibid.
[69] Ibid.
[70] Ibid.
[71] "Nosmot Gbadamosi Considers Sino-Africa Relations and Human Rights." News. Yale Law School. September 30, 2022. https://law.yale.edu/yls-today/news/nosmot-gbadamosi-considers-sino-africa-relations-and-human-rights#:-:text=ln%20countries%20like%20Gambia%2C%20Nigeria,These%20human%20rights%20violations%2C%20she.
[72] Ibid.
[73] Ibid.

Section V: Policy Recommendations and Conclusions

Following from the above analyses grounded in history, economics, natural resources, environment, and human relations, our team determined that we are in a position to make a total of six policy recommendations in the realms of (1) environment and (2) economics for African nations, China, and the United States. Importantly, the following recommendations are ideated to positively impact other non-explicitly mentioned realms, including - but not limited to - African autonomy in and control over development, energy, and infrastructure practices, reductions of energy poverty throughout the African continent, and U.S. challenge to hegemonic Chinese power in the nations of Africa.

I. Africa - Environment Following recommendations made in research disseminated by the National Institutes of Health (NIH) in 2023, African nations should **direct increased investment towards improving the balance of imports from and exports to China in order to mitigate challenges posed by rising carbon emissions.**[74] As explored in Section IV.I, Africa is in a unique position to capitalize on the relative environmental good caused by China's status as a "leader in smart technology" in imported goods while simultaneously decreasing levels of environmental threat posed by natural resource exportation and non-green-energy infrastructure projects.[75] Furthermore, **Africa and China must jointly form an environmental protection plan** that emphasizes leveling the relationship of economic development and carbon emission reduction as is specific to each African country.

II. Africa - Economics Drawn from analysis run by the China Africa Research Initiative in 2019, African countries should **welcome the opportunity for more competitive investments from Western nations by increasing labor and environmental standards and accepting increased oversight from Western countries.**[76] This shift will function to reduce the significant power imbalances caused by Chinese investments, as discussed in Section II. Furthermore, African countries with a large Chinese presence should **implement vocational training** policies to ensure both the transfer of knowledge and investment in human capital to benefit African workers as strings of economic investment and partnership diversify.

III. China - Environment Directly mirroring the NIH-sourced recommendations made above, China should **increase the reach of green technologies in African countries.**[77] To this end, the weight of environmentally-friendly infrastructure and imports must outweigh the simultaneous routes of emissions as Africa's growing population threatens mass environmental harm in the coming decades without proper mitigation techniques.[78] Also, intuitively, to support these efforts and promote overall accountability in practice, **Africa and China must jointly form an environmental protection plan** that

[74] Li et al. "Will China-Africa Trade Increase Africa's Carbon Emissions?" PLoS One 18, no. 11 (November 2023). https://www.ncbi.nlm.nih.gov/pmc/articles/PMCl 0655991/.
[75] Ibid.
[76] Meng, Qingwei and Eugene Bempong Nyantakyi. "Local Skill Development from China's Engagement in Africa: Comparative Evidence from the Construction Sector in Ghana." Policy Brief No. 30. China Africa Research Initiative. 2019. https://www.econstor.eu/bitstream/10419/248209/1/sais-cari-pb30.pdf.
[77] Li et al. "Will China-Africa Trade Increase Africa's Carbon Emissions?"
[78] Ibid.

emphasizes leveling the relationship of economic development and carbon emission reduction as is specific to each African country.

IV. China - Economics Following suggestions from researchers from Frontiers in Educational Research, China should take advantage of their standing soft power to facilitate interpersonal relations with African nations through increased investments in educational foreign-exchange programs and job training of African workers, while also regarding the autonomy and independence of African citizens doing business with Chinese companies.[79]79 While this shift may involve increasing Chinese investments into programs with less direct economic benefits, it may reasonably improve Africans' public perception of Chinese influence, an especially important trend as other powers continue to focus attention on the continent.

V. United States - Environment Research from the Carnegie Endowment for International Peace supports the recommendation that the U.S. should support African nations' established need for clean energy development through **promoting U.S. green energy alternatives and infrastructure projects as an alternative to China.**[80] The promotion of clean alternatives will solidify the U.S. as a nation concerned with taking an active role in fighting energy poverty: a UN Sustainable Development Goal for Africa with a 2030 deadline.[81] Not only will these actions diversify the international "clean energy supply" and help balance the need for reductions of Africa's energy poverty levels in an environmentally conscious manner, but they will increase public confidence in and perceptions of the U.S. in Africa relative to China.

VI. United States - Economic As laid out by writers for Brookings in 2023, the U.S. should significantly **increase investment activity,** primarily in Africa's energy sector, to rebuild trust with citizens and national leaders via **partial credit guarantees and risk insurance for major infrastructure projects.**[82] In order to reduce Africa's dependency on China and take advantage of flexible public perceptions of the U.S. relative to China, the U.S. must begin to take strategic steps to invest in African countries.

As a whole, the present report has uncovered that while China has ties with Africa reaching back centuries, the nation has significantly increased its presence in the vast majority of African nations in the domains of economics, infrastructure, natural resources, and human relations since the start of the 21st century. The implementation of the above-listed policy recommendations will ensure that Africa, China, and the U.S. maximize economic connections and bilateral trade while simultaneously promoting standards of environmental and human rights accountability on and with the African continent.

---

[79] Wang, Yunli and Xianhua Li. "Development of Education Cooperation Between China and Africa Under the Background of Globalization." Frontiers in Educational Research 6, no. 20 (2023).https://francis-press.com/uploads/papers/M1aewP0mIMs8q07zXvbtWdavFvK2J9wfWPhEkYiz.pdf.

[80] Auth, Katie. "How the U.S. Can Better Support Africa's Energy Transition." Articles. Carnegie Endowment for International Peace. January 31, 2023.https://camegieendowment.org/2023/0 I /3 I /how-u.s.-can-better-support-africa-s-energy-transition-pub-88899.

[81] "The 17 Goals." Department of Economic and Social Affairs. United Nations. Accessed April 26, 2024. https://sdgs.un.org/goals.

[82] Schneidman, Witney and Gracelin Baskaren. "How to Drive US Investment to Africa." Commentary. Brookings. June 14, 2023. https://www.brookings.edu/articles/how-to-drive-us-investment-to-africa/.

Section VI: Bibliography

Acker, Kevin. "Who is the Bigger Official Lender in Africa: China or the World Bank?" *HKUST Global China Center*. May 25, 2021. https://globalchinacenter.hkust.edu.hk/media_reports/who-bigger-official-lender-africa-china-or-world-bank.

Abdel-Latif et al. "China's Slowing Economy Will Hit Sub-Saharan Africa's Growth." IMF Community Focus. International Monetary Fund. November 9, 2023. https://www.imf.org/ en/News/Articles/2023/11/09/cf-chinas-slowing-economy-will-hit-s ub-saharan-africas-growth#:~:text=China%20has%20forged%20deep%20economic,machinery%20imported%20by%20African%20countries.

Adeniran, Adebusuyi Isaac, Steve E. Ekeruche, and Chukwuka Onyekwena, eds. "Africa-China Relations: Leveraging Strategic Partnerships for Developmental Growth." Special Report. *South African Institute of International Affairs*. June 2021. https://saiia.org.za/wp-content/uploads/2021/06/Special-Report-adeniran-ekeruche-onyekwena-obiakor.pdf.

Akeredolu, Fikayo. "African Perception of the United States is an Evolving Geopolitical Landscape." Africa Up Close. *The Wilson Center*. July 27, 2023. https://www.wilsoncenter.org/blog-post/african-perception-united-states-evolving-geopolitical-landscape.

Albert, Eleanor. "China in Africa." Backgrounder. *Council on Foreign Relations*. Updated July 12, 2017. https://www.cfr.org/backgrounder/china-africa.

Alden, Chris and Dr. Ana Cristina Alves. "China and Africa's Resources: The Challenges and Implication for Development and Governance." Occasional Papers. *South Africa Institute of International Affairs*. September 2009. https://saiia.org.za/research/china-and-africas-natural-resources-the-challenges-and-implications-for-development-and-governance/#:~:text=China's%20success%20in%20achieving%20a,improve%20governance%20in%20the%20continent.

Auth, Katie. "How the U.S. Can Better Support Africa's Energy Transition." Articles. *Carnegie Endowment for International Peace*. January 31, 2023. https://carnegieendowment.org/2023/01/31/how-u.s.-can-better-support-africa-s-energy-transition-pub-88899.

Benabdallah, Linda. "China's Soft Power Advantage in Africa." *Foreign Affairs*. December 23, 2021. https://www.foreignaffairs.com/articles/africa/2021-12-23/chinas-soft-power advantage-africa.

Burrier, Edward A. and Thomas P. Sheehey. "Challenging China's Grip on Critical Minerals Can be a Boon for Africa's Future." *United States Institute of Peace*. June 7, 2023. https://www.usip.org/publications/2023/06/challenging-chinas-grip-critical-minerals-can-be-boon-africas-future.

"China-Africa Economic Bulletin, 2024 Edition." Global Development Policy Center. *Boston University*. April 1, 2024. https://www.bu.edu/gdp/2024/04/01/china-africa-economic-bulletin-2024-edition/.

"China in Africa: China's Mining Footprint in Africa." *Ide-Jetro.* Accessed April 7, 2024. https://www.ide.go.jp/English/Data/Africa file/Manualreport/cia 08.html#:~:text=In%20 thecase%20of%20minerals%2C%20China,Gabon%2C%20SouthAfrica%20and%20Ghana).

Chen, Yunnan. "China's Role in Nigerian Railway Development and Implications for Security Development." Special Report. *UN Institute of Peace.* Accessed April 17, 2024. https://www.usip.org/sites/default/files/2018-04/sr_423_chen_final.pdf.

Dollar, David. "Understanding China's Belt and Road Infrastructure Projects in Africa." *Brookings.* September 2019. https://www.brookings.edu/articles/understanding-chinas-belt-and-road-infrastructure-projects-in-africa/.

Goldstone, Jack A. "The Battle for Earth's Climate will be Fought in Africa." Insight and Analysis. *The Wilson Center.* March 24, 2021. https://www.wilsoncenter.org/article/battle-earths-climate-will-be-fought-africa.

"Key Findings." Africa Energy Outlook 2022. *International Energy Agency.* Accessed April 24, 2024. https://www.iea.org/reports/africa-energy-outlook-2022/key-findings.

Li et al. "Will China-Africa Trade Increase Africa's Carbon Emissions?" *PLoS One* 18, no. 11 (November 2023). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10655991/.

Malobisky, Jessica. "A Roadmap for Strategically Countering China's Development Influence in Africa." *New Lines Institute.* January 18, 2024. https://newlinesinstitute.org/state-resilience-fragility/a-roadmap-for-strategically-countering-chinas-development-influence-in-africa/.

Meng, Qingwei and Eugene Bempong Nyantakyi. "Local Skill Development from China's Engagement in Africa: Comparative Evidence from the Construction Sector in Ghana." Policy Brief No. 30. *China Africa Research Initiative.* 2019. https://www.econstor.eu/bitstream/10419/248209/1/saiscari-pb30.pdf.

Merem, E.C. et al. "The Assessment of China's Scramble for Natural Resources Extraction in Africa." *World Environment* 11, no. 1 (March 20, 2021): 9 - 25. http://article.sapub.org/10.5923.j.env.20211101.02.html#Ref.

Moses, Oyintarelado, Dianah Ngui, Lucas Engel, and Abbi Kedir. "China-Africa Economic Bulletin - 2024 Edition." Global Development Policy Center. *Boston University.* April 2024. https://www.bu.edu/gdp/files/2024/04/GCI China-Africa-Bulletin-2024-FIN.pdf.

Nantulya, Paul. "Africa's Role in China's Multilateralism Strategy." Spotlight. *Africa Center for Strategic Studies.* January 24, 2023. https://africacenter.org/spotlight/africa-china-multilateralism/

"Nosmot Gbadamosi Considers Sino-Africa Relations and Human Rights." News. *Yale Law School.* September 30, 2022. https://law.yale.edu/yls-today/news/nosmot-gbadamosi-considers-sino-africa-relations-and-human-rights#:~:text=In%20countries%20like%20Gambia%2C%20Nigeria,These%20 human%20rights%20violations%2C%20she.

"NRC Generated N3bn from Train Service 2019 - MD." *Local. News Agency of Nigeria.* August 7, 2020. https://www.pulse.ng/news/local/train-services-nrc-generated-n3bn-in-2019-md/78f5mt5.

"Our Work in Africa." Environmental Programme. *United Nations.* Accessed April 23, 2024. https://www.unep.org/regions/africa/our-work-africa.

Patel, Nirav. "Figure of the Week: Electricity Access in Africa." Commentary. *Brookings.* March 29, 2019. https://www.brookings.edu/articles/figure-of-the-week-electricity-access-in-africa/.

Prinsloo, Cyril. "New Dimensions of Growth and Development in Africa-China Cooperation." *South African Institute of International Affairs.* March 2021. https://saiia.org.za/research/new-dimensions-of-growth-and-development-in-africa-china-cooperation/.

Reyes, Gabrielle. "Africa: Allegations of Human Rights Violations by Chinese Owned Firms in Southern Africa Emerge in New Report." Latest News. *Business & Human Rights Resource Centre.* July 11, 2022. https://www.business-humanrights.org/en/latest-news/africa-allegations-of-human-rights-violations-by-chinese-owned-firms-in-southern-africa-emerge-in-new-report/.

Reyes, Gabrielle. "Africa: Chinese Owned Mines Force African Workers into Unsafe Conditions, Often Don't Pay." *Breitbart.* July 2, 2022. https://www.breitbart.corn/africa/2022/07/02/africa-chinese-owned-mines-force-african-workers-unsafe-conditions-often-dont-pay/.

Risi, Lauren Herzer and Claire Doyle. "Examining China's Impact on Mining in Africa: Critiques and Credible Responses." Insight and Analysis. *The Wilson Center.* July 18, 2023. https://www.wilsoncenter.org/blog-post/examining-chinas-impact-mining-africa-critiques-and-credible-responses.

Ritchie, Hannah and Max Roser. "CO2 Emissions." *Our World in Data.* Updated 2022. https://ourworldindata.org/co2-emissions.

Schneidman, Witney and Gracelin Baskaren. "How to Drive US Investment to Africa." Commentary. *Brookings.* June 14, 2023. https://www.brookings.edu/articles/how-to-drive-us-investment-to-africa/.

Shinn, David H. "China-Africa Ties in Historical Context." OUP Academic. April 15, 2019. https://academic.oup.com/book/42633/chapter/358095103.

Stanley, Andrew. "A Demographic Transformation in Africa Has the Potential to Alter the World Order." African Center. International Monetary Fund. September 2023. https://www.imf.org/en/Publications/fandd/issues/2023/09/PT-african-century.

Sun, Yun. "Assessing China's Influence in Africa: A New Approach." Special Report no. 423. *United States Institute of Peace.* April 2018. https://www.usip.org/sites/default/files/2018-04/sr 423 chen final.pdf

Sun, Yun. "FOCAC 2021:China's retrenchment from Africa." Commentary. *Brookings.* December 6, 2021. https://www.brookings.edu/articles/focac-2021-chinas-retrenchment-from-africa/.

Tawiah, Vincent Konadu, Abdulrasheed Zakari, and lrfan Khan. "The Environmental Footprint of China - Africa Engagement: An Analysis of the Effect on China-Africa Partnership on Carbon Emissions." *Science of the Total Environment* 756, no. 1 (February 2021): 1-12. https://www.sciencedirect.com/science/article/pii/S0048969720371345.

Wang, Yunli and Xianhua Li. "Development of Education Cooperation Between China and Africa Under the Background of Globalization." *Frontiers in Educational Research 6,* no. 20 (2023). https://francis-press.com/uploads/papers/M1aewP0mIMs8q07zX-vbtWdavFvK2J9wfWPhEkYiz.pdf.

Wignaraja, Ganeshan. "Old Wine in New Bottles? The 2023 BRI Reset and Africa." *ODI: Think Change.* December 5, 2023. https://odi.org/en/insights/old-wine-in-new-bottles-the-2023-bri-reset-and-africa/.

The Impact of Gerrymandering on Political Polarization and the Need for Reform

Khaled AlWaheeb, Robert Lloyd, Brett Nyman

Introduction:

In a democratic system, electoral districts are designed to ensure fair representation and reflect the will of the people. However, gerrymandering-the deliberate manipulation of district boundaries to favor a political party-undermines this principle. By distorting electoral maps, gerrymandering consolidates power for one group while weakening the voices of opposition voters. This practice has contributed significantly to political polarization, reducing competition, increasing partisan gridlock, and fostering unrepresentative governments at both the state and national levels.

This paper examines the historical context of gerrymandering, case studies used to study its impacts in Pennsylvania, as well as recommendations to reduce instances of it. The analysis begins with a historical overview of gerrymandering and its origins, followed by an explanation of redistricting processes and various techniques used to manipulate district boundaries. The paper also explores key Supreme Court cases that shaped the legal landscape of redistricting, as well as real-world examples of both Republican- and Democratic-led gerrymandering efforts. We devoted special attention to Pennsylvania's redistricting history, particularly the 2022 congressional map, which highlights both challenges of and potential solutions to unfair redistricting practices. Finally, the paper proposes policy recommendations to mitigate the harmful effects of gerrymandering, including the adoption of independent redistricting commissions (IRCs) and the use of computational modeling technologies. By implementing these reforms, the United States (U.S.) can take significant steps toward ensuring fair representation and restoring public trust in the electoral process.

Historical Context and Definition of Gerrymandering:

Gerrymandering is the practice of manipulating electoral district boundaries to favor a specific political party or group, often resulting in districts with irregular shapes and disproportionate representation. The term originated in 1812 when Massachusetts Governor Elbridge Gerry approved a controversial redistricting plan. One district's shape resembled a salamander, prompting political critics to coin the term "Gerry-mander"-a combination of the governor's name and the creature's form.[1] Since then, gerrymandering has become a common tactic in American politics, allowing political parties to cement their power by redrawing district lines to favor their own electoral outcomes.

The Redistricting Process and Legal Framework

The U.S. Constitution requires that congressional and legislative districts be redrawn every ten years, following the national census. Redistricting ensures that representation in legislative bodies reflects population changes.[2] Some states establish IRC-independent redistricting commissions (IRC), which are separate entities from the legislature tasked with redrawing the state districts; they are often composed of voters. Additionally, some states use political commissions within their legislatures, composed of both Democratic and Republican lawmakers, to redraw the districts.[3] Both are attempts to remove partisan interests from this process. However, because redistricting is typically controlled by state legislatures, it often leads to partisan gerrymandering, where the party in power redraws district boundaries to entrench its political dominance.

While the U.S. Supreme Court has ruled on several redistricting cases, it has largely excluded partisan gerrymandering from judicial intervention. In *Shaw v. Reno* (1993), the Court ruled that race-based redistricting must meet strict scrutiny under the Equal Protection Clause, setting a precedent for challenges to racial gerrymandering.[4] However, the Supreme Court ruled in Rucho v. Common Cause (2019) that partisan gerrymandering is beyond the reach of federal courts.[5] Some states have responded by employing IRCs or other measures to reduce partisan influence, and others are engaging in explicit gerrymandering.[6]

Gerrymandering Techniques

Political parties use strategic gerrymandering methods to manipulate electoral districts to their advantage. The most common techniques include:

- Packing: Concentrating opposition voters into a small number of districts to reduce their influence in other areas.
- Cracking: Spreading opposition voters across multiple districts to dilute their voting power and prevent them from forming a majority.
- Hijacking: Redrawing district lines to force two incumbents of the same party to run against each other, thereby eliminating one from office.

---

1 Brian Duignan, "Gerrymandering," Encyclopcedia Britannica, March I 9, 2025, https://www.britannica.com/topic/gerrymandering.

2 Julia Kirschenbaum and Michael Li, "Gerrymandering Explained," *Brennan Center for Justice,* August 10, 2021, https://www.brennancenter.org/our-work/research-reports/gerrymandering-explained.

3 Li, Michael. "The Redistricting Landscape, 2021-22." *Brennan Center for Justice,* February 11, 2021. https://www.brennancenter.org/our-work/research-reports/redistricting-landscape-2 021-22.

4 *Shaw v. Reno,* 509 U.S. 630 (1993).

5 Rucho v. Common Cause, 588 U.S. 684 (2019).

6 Campaign Legal Center, *Independent Redistricting Commissions,* 2025, https://campaignlegal.org/democracyu/accountability/independent-redistricting-commissions.

- Kidnapping: Moving an incumbent's home address into a new district, making reelection more difficult.[7]

These tactics ensure that the party in control of the redistricting process can maintain power, often regardless of actual voter distribution. This manipulation is a key driver of political polarization, as it allows parties to create safe seats, where incumbents are virtually guaranteed reelection, reducing electoral competition and encouraging more extreme partisanship.

Case Studies:

Gerrymandering in Action

Gerrymandering is not a foolproof method to flip a state's political leaning. For example, changing a deep red state such as Alabama into a Democratic-leaning state is nearly impossible due to the state's heavy Republican percentage (59.38%).[8] The same holds in Democratic stronghold states, such as California (63.02%).[9] The states where gerrymandering can truly work are swing states, where tools such as cracking and packing can be used to shift districts to a certain party's favor.

Virginia, for example, is a Democratic-leaning state but still has relatively split partisanship (52.77% Democrat, 45.55% Republican, 1.68% Other).[10] However, its population is large enough that by using techniques such as cracking and packing, it can be gerrymandered to a Republican majority. Here is a fictionalized example of just that.

Mock Virginia Gerrymander and Accompanying Statistics

Dave's Redistricting. "DRA 2020." Accessed February 8, 2025. https://davesredistricting.org/maps#viewmap::71055c72-afbd-4602-a62a-870ef43l 036d.

In this map, despite having a Democratic majority in Virginia, Democrats are favored in only 5 out of the 11 electoral districts, making it change to a Republican-leaning state instead. This particular gerrymander was formed through both packing and cracking. For example, a significant percentage of Virginia's population resides in the Washington, D.C. metropolitan area, a Democratic stronghold. The best way for Republicans to minimize Democratic influence, therefore, is to pack the majority of that population into two districts while cracking the rest of the metropolitan area across districts with more rural regions. Additionally, placing large Democratic population centers, such as Virginia Beach and Roanoke, within heavily Republican districts minimizes the impact of these high-population centers.

---

[7] Malia Jones, "Packing, Cracking, and the Art of Gerrymandering Around Milwaukee," *Translational Applied Demography*, June 8, 2018, https://apl.wisc.edu/shared/tad/packing-cracking.

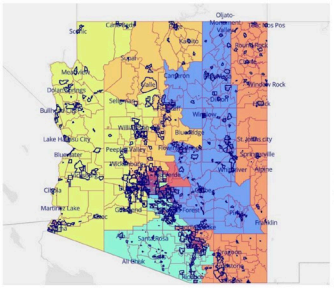
[8] Dave's Redistricting. "DRA 2020." Accessed February 8, 2025. https://davesredistricting.org/maps#stats::b694ea80-20d6-45tb-a0e2-09ddaa2880d5.

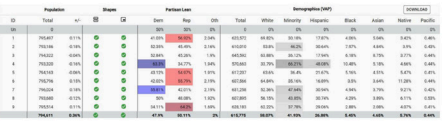
[9] Dave's Redistricting. "DRA 2020." Accessed February 8, 2025. https://davesredistricting.org/maps#stats::fc9d2d06-7c7f-45 lc-92cb-122 l 27a79c29

[10] Dave's Redistricting. "DRA 2020." Accessed February 8, 2025. https://davesredistricting.org/maps#viewmap::71055c72-atbd-4602-a62a-870ef43l 036d.

While the difference of a one-district majority seems insignificant at face value, it makes all the difference come election time.

Similarly, Democratic politicians can gerrymander Republican-leaning Arizona (47.9% Democrat, 50.11% Republican, 2% Other).[11]





Mock Arizona Gerrymander and Accompanying Statistics

Dave's Redistricting. "DRA 2020." Accessed February 8, 2025. https://davesredistricting.org/maps#viewmap::1c48l a58-1c2b-4d53-8453-35a863872fc9

Successfully flipping Arizona to a Democratic majority (five out of nine seats) requires cracking Phoenix and Maricopa Counties (which comprise 62% of the state's population).[12] By mixing this heavily Democratic population with nearby rural areas, Republican influence is thus heavily reduced in neighboring counties while still maintaining the population equality needed to stay within a reasonable threshold of variance (Dave's Redistricting suggests each district varies at most by 0.75%).

In both cases, several features are obvious. Many of the districts span long stretches and are oddly shaped. While such boundary-drawing is sometimes necessary to ensure equal population distribution, it often results in the unnecessary division of precincts, cities, and counties. This also leads to packing cities that lean heavily toward one partisanship into a district of opposing leaning, thus disenfranchising many voters in the process. Though gerrymandering may not have uniform effects in every state, in swing states, it can significantly depress voter turnout and undermine fair representation.[13]

The Effects of Gerrymandering in Pennsylvania:

As is true in most states, Pennsylvania's districts are redrawn every 10 years by the state legislature, then must be approved by the Governor.[14]

The 2020 Pennsylvania Redistricting Battle

Following the 2020 census, Democratic Governor Tom Wolf rejected the redistricting proposal put forward by the Republican-majority state legislature. Because the two parties were unable to reach an agreement, the responsibility for redistricting was passed to the Pennsylvania Supreme Court, which then selected a map proposed by a group of Pennsylvania voters called the Carter Petitioners.[15]

[11] Dave's Redistricting. "DRA 2020." Accessed February 8, 2025. https://davesredistricting.org/maps#viewmap::1c48l a58-1c2b-4d53-8453-35a863872fc9

[12] U.S. Census Bureau, "QuickFacts: United States," July 1, 2024, https://www.census.gov/quickfacts/fact/table/US/PST045224.

[13] Julia Kirschenbaum and Michael Li, "Gerrymandering Explained," *Brennan Center for Justice*, August 10, 2021, https://www.brennancenter.org/our-work/research-reports/gerrymandering-explained.

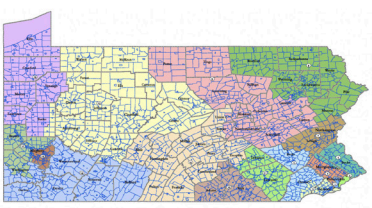
[14] Campaign Legal Center, Independent Redistricting Commissions.

[15] Bycoffe, Aaron. "Pennsylvania's New Map Helps Democrats. But It's Not A Democratic Gerry-

This coalition of voters, like Governor Wolf, was worried that the map proposed by the state legislature gave an unjust amount of power to the Republican Party.

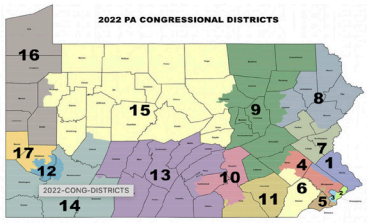
Map A was the Republican legislature's proposal, and map B was the Carter

A)



Pennsylvania General Assembly. *HB 2146 P 2541: Updated Preliminary Congressional Plan*. Accessed February 8, 2025.

B)



Costa, Jay. "2022 Congressional Districts." *Senator Jay Costa*, 2022.

Map, eventually accepted by the Pennsylvania Supreme Court.[16] There are some stark differences between the two maps, particularly in the size and shape of districts 15, 9, and 8. Between the Democratic epicenters of Philadelphia in the East and Pittsburgh in the West, middle Pennsylvania is largely Republican. Because of this, the Republican map has more districts reaching into middle Pennsylvania. For instance, Districts 9 and 8 stretch far further into Central Pennsylvania than is evident on the Carter Map. The Republican legislature likely aimed to incorporate as many Republican voters as possible from Central Pennsylvania into multiple districts to increase their political power. Additionally, in regard to Pittsburgh, which is encompassed by District 12, the Republican proposal features a slightly smaller and more condensed district, while the Carter Map is somewhat larger with protruding arms. This suggests that the Republican legislature attempted to pack the Democratic voters from Pittsburgh into one single district. They are essentially surrendering the district, and in doing so, trying to get the Republican voters in the outskirts of Pittsburgh into other districts.

Another interesting caveat is that the 2020 Census revealed that the population of Pennsylvania actually decreased relative to the overall U.S. population. As a result, their congressional representatives and districts decreased from 18 to 17.[17] Many believe that this was one of the main causes of the deadlock between the legislature and Governor Wolf. Specifically, the Republican legislature saw this as an opportunity to take advantage of a tumultuous situation and sneak by with a heavy Republican gerrymander.

Reform Efforts and Solutions:

The question remains: How can the process of redistricting and gerrymandering be changed to prevent the perpetuation of unjust districts? Gerrymandering fuels polarization and distorts representation, often masking the true political split of a state. Having examined a real-world partisan conflict in Pennsylvania, we now explore potential solutions to limit partisan influence.

---

mander." *FiveThirtyEight* (blog), February 20, 2018. https://fivethirtyeight.corn/features/pennsylvanias-new-map-helps-democrats-but-its-not-a-democratic-gerrymander/.

[16] "2022 Redistricting Opinions," *Pennsylvania Courts*, accessed March 11, 2025, https://www.pacourts.us/2022-redistricting-opinions.

[17] *In Re: 2022 Congressional Districts of Pennsylvania*, No. 7 MM 2022 (Supreme Court of Pennsylvania, January 27, 2022), https://www.pacourts.us/Storage/media/pdfs/202202 l 6/ l 905 l l-feb. l 4%2C2022-exceptionswithbriefinsupportincorp orated%28govwolf%29.pdf.

Recommendation 1: The Proliferation of IRCs

Furthermore, a straightforward solution is for more states to adopt independent, bipartisan commissions. These committees should consist of citizens, not party-aligned officials, who understand the communities they serve. Ideally, this would eliminate bias from the process and free state legislators to focus on serving their constituents rather than securing power. There should also be criteria for joining these commissions, such as not having served as an elected official or registered lobbyist before, during, or directly after serving on the commission.

Recommendation 2: Increased Use of Computational Models

Another promising reform involves computational models to promote redistricting in a fair and equitable way. Over the last eight years, Gerrychain and Algorithm-Assisted Redistricting Methodology (ALARM) have been developed to identify gerrymandered maps. These algorithms use neutral data to develop a large assortment of "unbiased" maps. They compare proposed maps to these models and flag those that significantly favor one political party over another based on the actual political split of the state.[18] We recommend that these models be used exclusively as a protective measure against unjust maps rather than redrawing the districts themselves. There are nuances to redistricting that humans must address, such as the cultural and social interests of local communities, but computational methods can be useful safeguards to detect gerrymandered maps.

Conclusion:

In this paper, we took the approach of starting with simple definitions and legal frameworks related to gerrymandering and transitioned to specific case studies and recommendations to provide a more comprehensive understanding of gerrymandering in the United States. As we progressed through the paper, we constructed the argument that gerrymandering is often unjust and worsens political polarization by creating electoral districts that inaccurately represent the true political ideology of the state. To make this case, we presented a thought experiment of a potential Republican gerrymander in a Democratic-leaning state and a potential Democratic gerrymander in a Republican-leaning state. To conclude, we presented two practical solutions to address the inequity caused by gerrymandering: the expanded adoption of independent redistricting commissions and the use of computational models. We hope this paper serves as a resource for students and future professionals seeking to understand and challenge systemic inequities in electoral representation. Continued innovation and civic engagement will be crucial to ensuring a fairer political system.

Works Consulted

Sarah J. Eckman, "Redistricting Commissions for Congressional Districts," Congressional Research Service, November 17, 2021, https://crsreports.congress.gov/product/pdf/IN/IN11053.

Scott Weinstein, "Court Decides Pennsylvania Voting Map," NPR, February 19, 2018.

[18] Siobhan Roberts, "Mathematicians Are Deploying Algorithms to Stop Gerrymandering," *MIT Technology Review*, August 12, 2021, https://thecb-production.s3.amazonaws.com/media/editor/3407/News_Article_Mathematicians_are_deploying_algor ithms_to_stop_gerrymandering.pdf.

The European Union and China

Bella Willhite, Hanna Theile, Zachary Zwijacz, Nicole Zhou

Introduction:

Relations between the European Union and China have become increasingly complicated m recent years. China's growing economic and military ambitions have directly challenged European markets and political sovereignty. Europe also faces mounting geopolitical pressures due to the escalating U.S.-China rivalry and security concerns arising from closer China-Russia cooperation. At the same time, China's growing power has opened new opportunities for European collaboration. As it stands, the EU cannot afford to decouple from China, given the country's dominance in global supply chains and its integral role in Europe's economic stability. Section 1 of this paper outlines the economic relationships of competition and interdependence between China and the EU. Section 2 of this paper discusses Chinese social influence on the EU through soft power initiatives. Finally, Section 3 highlights the political and security dilemma between the EU and China.

Section I: The Economic Relationship

Part I: The Basics

China is the EU's second-largest trading partner, with bilateral trade reaching 739 billion Euros in 2023.[1] In that same year, the EU's primary exports to China, including machinery, vehicles, and other manufactured goods, accounted for ~70% of its total exports. Similarly, the EU's highest shares of imports from China are in machinery & vehicles (55%), followed by other manufactured goods (34%) and chemicals (8%).[2] Recently, the EU has entrenched its reliance on China and has increased its share of imported goods originating from China, rising from 22% in 2017 to 27% in 2022 and leveling off to 25% in 2023.[3] In particular, the EU relies on China for labor and resource-intensive goods as its largest import source.[4]

[1] European Commission. "EU Trade Relations with China," January 24, 2025. https://policy.trade.ec.europa.eu/eu-trade-relationships-country-and-region/countries-and-regions/china _en.

[2] Eurostat. "EU27 (from 2020) Trade by SITC Product Group." Accessed March 9, 2025. https://ec.europa.eu/eurostat/databrowser/view/ext st eu27 2020sitc/default/table?lan en. .

[3] Agatha Kratz, Jeremy Smith, and Camille Boullenois. "Why Isn't Europe Diversifying from China?," December 2, 2024. https://rhg.com/research/why-isnt-europe-diversifying-from-china/.

[4] Mary E. Lovely, Jing Yan. "While the US and China Decouple, the EU and China Deepen Trade

Despite the interdependence of these two economies, there have been significant economic points of conflict.

Part II: Intellectual Property and Anti-Dumping Disputes

Intellectual Property Disputes

The first area of conflict that has emerged between the EU and China is in intellectual property (IP). IP like inventions, designs, symbols, and names are protected by patents, copyright, and trademarks. In 2004, the EU and China launched their first annual dialogue on IP.[5] IP tensions between China and the EU have become increasingly complex to resolve as neither side has made significant concessions in these annual dialogues. The EU finally turned to the World Trade Organization (WTO) to settle disputes in 2022.[6] In December of that year, the EU filed a consultation with the WTO regarding anti-suit injunctions (ASI's), or court orders issued in one jurisdiction that prevent proceedings in other jurisdictions. According to the European Commission, the executive branch of the EU, Chinese courts have been utilizing anti-suit decisions to exert pressure on EU companies with high-tech patents to prevent them from rightfully protecting their technologies.[7] For example, European companies that own mobile phone technology cannot settle license disputes with Chinese mobile phone manufacturers. Violations of ASI injunctions occur so frequently that they would amount to 130,000 euros in fines distributed back to European companies a day.[8] The European Commission argues that Chinese courts are prohibiting EU patent holders from filing or continuing lawsuits in any other country. If an EU patent holder brings their case to a court outside of China, heavy fines are imposed by the Chinese government. Chinese manufacturers are then able to cheaply access technology developed in the EU by avoiding royalty payments. While the WTO did establish a panel to examine China's ASis, the dispute has yet to be settled.[9]

IP disputes between the EU and China have intensified in recent months. In January 2025, the EU filed another consultation with the WTO regarding standard essential patents (SEPs), which "protect an invention essential to the implementation of a particular technology standard,"[10] according to The World IP Organization. Globally-used technologies like USB and Wi-Fi technologies are covered by SEPs to ensure "reliable and uniform data transfers."[11] In their recent consultation, the EU argued that Chinese courts have set worldwide royalty rates for standard essential patents without the consent of both parties.[12]

Dependencies | PIIE," August 27, 2024.

[5] "About IP Key|IPKEY." Accessed February 6, 2025. https://ipkey.eu/en/china/about-ip-key.

[6] Wininger, Aaron. "EU Challenges China's IP Practices at WTO Over Royalty Rates." The National Law Review, January 22, 2025. https://natlawreview.com/article/eu-files-second-request-consultations-wto-re-chinas-patent-enforcement-practices.

[7] Ibid, 2.

[8] European Commission "EU Requests Two WTO Panels against China." Text. Accessed April 18, 2025. https://ec.europa.eu/commission/presscomer/detail/en/i_22_7528.

[9] "WT/DS611 - China - Enforcement ofIntellectual Property Rights," January 20, 2025. https://poIicy.trade.ec.europa.eu/enforcement-and-protection/dispute-settlement/wto-dispute-settlement/wto-disputes-cases-involving-eu/wtds6l l-china-enforcement-intellectual-property-rights_en.

[10] 10World Intellectual Property Organization. "Standard Essential Patents." Accessed February 6, 2025. https://www.wipo.int/en/web/patents/topics/sep.

[11] Ibid.

[12] Wininger, Aaron. "EU Challenges China's IP Practices at WTO Over Royalty Rates." The National Law Review, January 22, 2025. https://natlawreview.com/article/eu-files-second-request-consultations-wto-re-chinas-patent-enforcement-practices.

They also asserted that SEPs "pressure innovative European high-tech companies into lowering their rates on a worldwide basis, thus giving Chinese manufacturers cheaper access to those European technologies unfairly."[13] Key European compames impacted by SEPs include multibillion-dollar telecommunications companies like Nokia and Ericsson.[14] The future of IP disputes largely lies in the hands of the WTO, which has been unable to resolve these conflicts in the past. These disputes may intensify as China recently announced its goal of prioritizing the technological supremacy of high-tech Chinese industries during its annual National People's Congress in March 2025.[15]

Anti-Dumping Disputes

The second point of economic conflict between the EU and China relates to dumping, in which a country sells goods in a foreign country at a price that is lower than their domestic price. This allows a foreign country to capture a large market share of a domestic economy and often results in foreign competition being driven out.[16] The EU and China have both accused each other of engaging in dumping measures and have responded in a variety of ways. On the one hand, the EU has imposed anti-dumping duties on a variety of Chinese imports. These duties have extended to products including electric cars, titanium dioxide for manufactured products, and artificial sweeteners. China has also accused the EU of dumping and has imposed measures of its own. In recent months, China has added anti-dumping measures, including setting deposit margins on EU-sourced Brandy, pork, and potato starch.[17] Setting deposit margins forces the EU to provide collateral to China to prevent losses if the trade goes against them.

Anti-dumping measures have had some unintended effects on the economy of the EU despite their success. An economic analysis of historical anti-dumping measures in the EU found that these policy measures successfully reduced imports from target countries by 20%. The gap in imports tends to be filled primarily by imports from within the EU and from other non-target countries. However, every 3 years, the average EU producer will experience income gains of 12%, and EU consumers will experience losses of 20%. The increase in import costs comes at a net negative cost for the EU.[18] Despite the losses of anti-dumping policies, the EU has not signaled that it will shift away from these policies, and neither has China.

Part III: Tariffs and the Green New Deal

The third area of conflict between the EU and China arises from trade

[13] Cohen (柯恒), Mark. "EU Initiates Consultations at the WTO on Chinese Global FRAND Rate Setting." China IPR - Intellectual Property Developments in China (blog), January 20, 2025. https://chinaipr.com/2025/01/20/eu-initiates-consultations-at-the-wto-on-chinese-global-frand-rate-setting/.

[14] Reuters. "EU Takes China to WTO over High-Tech Patent Royalties I Reuters," January 20, 2025. https://www.reuters.com/markets/eu-takes-china-wto-over-high-tech-patent-royalties-2025-01-20/.

[15] Simone McCarthy. "Key Takeaways: How China Aims to Fix an Ailing Economy and Transform into a High-Tech Power I CNN Business." CNN, March 11, 2025. https://www.cnn.com/2025/03/10/business/two-sessions-china-key-takeaways-intl-hnk.

[16] Investopedia. "Dumping: Price Discrimination in Trade, Attitudes and Examples." Accessed March 12, 2025. https://www.investopedia.com/terms/d/dumping.asp.

[17] Al Jazeera. "China Launches Anti-Dumping Investigation into EU Pork Imports," June 17, 2024. https://www.aljazeera.com/news/2024/6/17/china-launches-anti-dumping-investigation-into-eu-pork-imports.

[18] 18The Swedish National Board of Trade "Do EU Producers and the EU Economy Really Benefit from Anti-Dumping Policy?", May 2014. https://www.kommerskollegium.se/globalassets/publikationer/rapporter/2016-och-aldre/do-eu-producers-really-benefit.pdf.

dependency driven by the European Green Deal. Introduced in December 2019, the Green Deal aims to make the EU the first carbon-neutral continent by 2050, with a strong emphasis on expanding renewable energy.[19] Similarly, in 2020, China announced its goal of achieving carbon neutrality by 2060. While shared climate goals have encouraged cooperation, the EU faces risks from the heavy concentration of renewable energy supply chains in China, including energy security, limited diversification, and domestic industry growth. Past trade defense measures, like tariffs on Chinese solar panels, have at times conflicted with broader climate objectives by increasing the cost of renewable deployment in Europe.[20]

The EU Green Deal is implemented through Fit for 55, a policy package aiming to drive systemic changes across key sectors such as energy, transportation, buildings, finance, and manufacturing. In the energy sector, the EU targets 42.5% renewable energy by 2030, requiring a significant increase in deployment rates compared to the past decade.[21] The EU plans to expand its solar photovoltaic (PV) capacity from 263 Gigawatts (GW) in 2024 to 600 GW by 2030-an increase of 337 GW over six years, or roughly 56 GW per year. However, with current annual PV production still under 30 GW, manufacturing capacity falls significantly short of what's required to meet this target.[22] Likewise, Electric Vehicle (EV) battery production must grow from 110 GWh per year to 400 GWh by 2025.[23] Additionally, Europe has minimal domestic lithium mining and refining capacity, supplying only about 1% of the global lithium market, while lithium remains a crucial component for EV battery production.[24]

China launched its first PV cell production line with 10 Megawatts (MW) capacity in 2002 and began exporting to Europe in 2004. These exports were sent primarily to Germany, which had initiated its energy transition as early as 2000.[25] The EU imposed anti-dumping measures on Chinese solar PV products in 2008, which remained in place until 2013. During this period, increased subsidies and domestic demand helped China build over 80% of the global solar panel manufacturing capacity.[26] With limited alternatives, the EU remains heavily reliant on China for key clean energy technologies-including solar PV modules, fuel cells, and batteries.[27] Despite efforts to scale up local production, 60%-80% of solar cells and 25% of EV batteries used in Europe still come from

[19] European Commission. "The European Green Deal." Accessed March 11, 2025. https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal_en.

[20] Sattich, Thomas, Duncan Freeman, Daniel Scholten, and Shaohua Yan. 2021. "Renewable Energy in EU-China Relations: Policy Interdependence and Its Geopolitical Implications." Energy Policy 156: 112456. https://doi.org/10.1016/j.enpol.2021.112456.

[21] European Commission. "Renewable Energy Targets." Accessed March 11, 2025. https://energy.ec.europa.eu/topics/renewable-energy/renewable-energy-directive-targets-and-rules/renewable-energy-targets_en.

[22] European Commission. "Solar Energy." Accessed March 11, 2025. https://energy.ec.europa.eu/topics/renewable-energy/solar-energy_en.

[23] European Commission. "Lithium-Based Batteries Supply Chain Challenges." Accessed March 11, 2025. https://rmis.jrc.ec.europa.eu/analysis-of-supply-chain-challenges-49b749.

[24] Ibid.

[25] Huizhong Tan. "Solar Energy in China: The Past, Present, and Future," China Focus, February 16, 2021, https://chinafocus.ucsd.edu/2021/02/16/solar-energy-in-china-the-past-present-and-future/.

[26] IEA. "Executive Summary- Solar PY Global Supply Chains." Accessed April 11, 2025. https://www.iea.org/reports/solar-pv-global-supply-chains/executive-summary.

[27] Chadly, Assia, Karim Moawad, Khaled Salah, Mohammed Omar, and Ahmad Mayyas. "State of Global Solar Energy Market: Overview, China's Role, Challenges, and Opportunities." Sustainable Horizons 11 (September, 2024): 100108. https://doi.org/10.1016/j .horiz.2024.100108.

China.[28] Beyond clean energy, the EU also imports a large amount of organic chemicals (approximately $46.12 billion), plastics ($19.87 billion), iron and steel products ($17.60 billion), and raw iron and steel materials ($6.48 billion).[29]

A major concern with Europe's over-reliance on Chinese manufacturing is its potential to undermine the EU's climate neutrality goals. Outsourcing production to regions with more carbon-intensive processes can increase global emissions-a phenomenon known as "carbon leakage"-which runs counter to the EU's original Green Deal objectives.[30] To address the problem, the EU introduced the Carbon Border Adjustment Mechanism (CBAM) in 2023, imposing tariffs on high-carbon imports such as iron, steel, cement, aluminum, and fertilizers. Additionally, the EU Battery and Waste Battery Regulation, which took effect on August 17, requires EV batteries exported to Europe to have a "Battery Passport" by 2027, detailing the manufacturer, materials, carbon footprint, and supply chain data.[31] Together, these two regulations require Chinese manufacturers to document carbon footprints and meet environmental standards. This enhances supply chain transparency and raises the production costs in China, potentially giving EU manufacturers a competitive edge.

Moreover, the import of Chinese goods creates an uneven playing field for European manufacturers, who operate under the EU Emissions Trading System (ETS). European industries such as iron and steel, aluminum, cement, and bulk organic chemicals are required to purchase and trade carbon allowances based on their emissions intensity. As of 2025, the cost of a carbon emission permit stands at approximately $75 per ton.[32] In contrast, imports from China are not subject to this charge, despite often having higher associated emissions. This places European manufacturers at a competitive disadvantage.

Another major concern is the Chinese government's subsidies to domestic BEV manufacturers, which give them a significant advantage in the international market. Chinese battery electric vehicle (BEV) imports to the EU are now 17.5 times higher than they were in 2020.[33] By 2023, China will account for 49% of the EU's total BEV imports, valued at nearly $12.5 billion.[34] The average Chinese BEV imported to the EU in 2023 cost around $27,200, which is roughly 30% less than non-EU imports.[35]

The low price of Chinese BEVs is largely because batteries make up 30-40% of total production costs, and the Chinese government subsidized the battery industry heavily as a strategic priority. In June 2016, China's Ministry of Industry and Information Technology (MIIT) released a list of companies that met the Automotive Power Battery Industry Normative Conditions.[36]

---

[28] Ibid.

[29] Trading Economics. "European Union Imports from China - 2025 Data 2026 Forecast 2000-2024 Historical." Accessed March 11, 2025. https://tradingeconomics.com/european-union/imports/china.

[30] Boning, Justus, Virginia di Nino, and Till Folger. "The EU Must Stop Carbon Leakage at the Border to Become Climate Neutral." CEPR, August 8, 2023. https://cepr.org/voxeu/columns/eu-must-stop-carbon-leakage-border-become-climate-neutral.

[31] "Regulation - 2023/1542 - En - EUR-Lex." EUR. Accessed March 11, 2025. https://eur-lex.europa.eu/eli/reg/2023/1542/oj/eng.

[32] Trading Economics. "EU Carbon Permits - Price - Chart - Historical Data - News." Accessed March 11, 2025. https://tradingeconomics.com/commodity/carbon.

[33] Spisak, Anton. "The EU's Drive on China: What EV Tariffs Mean for Europe." Centre for European Reform, October 31, 2024. https://www.cer.eu/insights/eus-drive-china-what-ev-tariffs-mean-europe.

[34] Ibid.

[35] Ibid.

[36] Interesse, Giulia. "China Considers Extending Its EV Subsidies to 2023." China Briefing News, June 27, 2023. https://www.china-briefing.com/news/china-considers-extending-its-ev-subsidies-to-2023/.

Only BEVs equipped with batteries from companies included in the list were eligible for government subsidies. This policy excluded major Japanese and Korean battery manufacturers, such as Samsung, LG, and Panasonic, while accelerating the growth of Chinese domestic companies like CATL and BYD.[37]

After investigation, the European Commission concluded that the BEVs in China "benefit from unfair subsidization, which is causing threat of economic injury to EU producers." The EU announced provisional anti-subsidy tariffs on Chinese BEV imports starting July 4, 2024.[38] Major Chinese BEV manufacturers, BYD, Geely, and SAIC, will face tariffs of 17.4%, 20%, and 38.1%, respectively.[39] Other participating manufacturers will be taxed at an average rate of 21%, while non-cooperative firms will face a 38.1% tariff.[40] With the EU's standard 10% vehicle tariff, SAIC's total tariff will rise to 48.1%, while others' will range from 27.4% to 31%.[41]

The EU and China are key trading partners, and China also plays an important role in cooperating on global challenges such as climate change. However, the EU remains heavily dependent on China in the renewable energy sector, leaving its economy vulnerable to supply chain disruptions. In contrast, China's reliance on the EU is more limited. This asymmetry has prompted the EU to diversify its supply chains and reduce strategic dependencies.

Section II: Chinese Social Influence in the EU

Confucius Institutes (Cis) have been a pillar of China's soft power strategy. They are established as nonprofit organizations and are funded by the Office of Chinese Language Council International Haban. This office operates from the Chinese Ministry of Education.[42] The first Confucius Institute opened in 2004.[43] Since 2023, 496 Confucius Institutes and 757 Confucius Classrooms (CCs) have existed in over 160 countries.[44] Cis promote Chinese language culture while attempting to shift and influence political and academic institutions globally. Furthermore, Cis in the EU are used as diplomatic and political tools to leverage the narrative around China's global role.

China has been targeting Central and Eastern Europe and the Western Balkans regarding the Cis growing strategy. These regions have been more receptive to China's economic and cultural outreach due to historical ties, economic positioning, and less rigid alignment with Western Europe. In the Western Balkans, Cis have been established in all countries except Kosovo. China does not recognize it as a sovereign nation but as an "autonomous province" under Serbian control. By capitalizing on its recognition of Serbian sovereignty over

[37] Yibo Chen, "Research on Analysis of the EV Battery Industry in China and Situation in the Global Market," in Transactions on Economics, Business and Management Research 9 (August 21, 2024), 89-96. https://wepub.org/index.php/TEBMR/article/view/2730.

[38] European Commission. "Commission Imposes Provisional Countervailing Duties on Imports of Battery Electric Vehicles from China While Discussions with China Continue," July 3, 2024. https://ec.europa.eu/commission/presscomer/detail/en/i 24 3630.

[39] Ibid.

[40] Ibid.

[41] Ibid.

[42] Dominika Urhova, "The Demise of Confucius Institutes: Retreating or Rebranding?" Chinaobservers, September 5, 2024, https://chinaobservers.eu/the-demise-of-confuci us-institutes-retreating-or-rebranding/.

[43] Jeffrey Hays, "Confucius Institutes," Facts and Details, August 2022, https://factsanddetails.com/china/cat8/sub52/entry-8394.html.

[44] Urhova, "The Demise of Confucius Institutes: Retreating or Rebranding?"

Kosovo- a position that aligns with Serbia's national interests- China can deepen bilateral relations with Serbia, facilitating investments and strategic partnerships under the Belt and Road Initiative. This alignment enhances China's footprint in the region and expands global influence by building alliances.

China wants to continue to adapt to the dynamic, shifting political scene in Eastern Europe, and their approach is to take a continuous, targeted approach of expanding Cis in Europe. In Bosnia-Herzegovina, China has engaged with both the nation's federal entities - the Federation of Bosnia and Herzegovina in Sarajevo, and the Republica Srpska in Banja Luka.[45] This approach has allowed China to exploit political and cultural divisions to strengthen its own position within the region. In 2019, CI courses in Montenegro attracted over 5,000 participants, marking a notable success for China. [46] Another EU country that has been actively supporting Cls and CCs is Hungary. In 2019, Hungary inaugurated the fifth CI[47] due to the Prime Minister Viktor Orban's favored relations with Beijing.

Meanwhile, other countries in the EU have implemented restrictions against Cis, such as Poland and the Czech Republic; both closed two of their Cis in 2022 and 2024.[48] Heightened concern over Chinese espionage on Europe's research institutions is one reason for the restriction. A 2024 Politico report underlined the fears surrounding Chinese state-linked institutions, including Cis, and their potential role in tech leakage and academic espionage on European research and technological developments.[49] This deepened EU's national security concerns over the debate of CIs in Europe.

The EU recommends that the national governments of their member nations work with universities and additional technological security services to prevent espionage and secure intellectual property. For instance, the Netherlands has established a "one-stop-shop" system where universities can coordinate with national security agencies to mitigate any potential risks associated with foreign research collaborations.[50] This highlights the Netherlands as a broader effort to secure intellectual property and independence in the face of growing concerns over China's influence.

Cls have become an important factor in the broader geopolitical competition between China and the EU. While Cls have enabled China to expand its soft power and cultural influence in Europe through education, growing concerns over political interference, censorship, and security threats have prompted increased scrutiny and resistance from European governments.

China's targeting of Central and Eastern Europe and the Western Balkans reflects the nuanced approach to influencing regional politics. As the EU

[45] Dominika Urhova, "The Demise of Confucius Institutes: Retreating or Rebranding?" Chinaobservers, September 5, 2024, https://chinaobservers.eu/the-demise-of-confucius-institutes-retreating-or-rebranding/.

[46] Ibid.

[47] Samuel Dempsey, "The Sino-Hungarian Relationship's Effects on the EU and NATO," Blue EU, August 2, 2024, https://www.blue-europe.eu/analysis-en/short-analysis/the-sino-hungarian-relationships-effects-on-the-eu-and-nato/.

[48] Urhova, "The Demise of Confucius Institutes: Retreating or Rebranding?"

[49] Pieter Haeck, "EU Wants Spies on University Campuses to Fight Chinese Tech Espionage," POLITICO, May 23, 2024, https://www.politico.eu/article/academic-research-campus-eu-universities-intelligence-services-china-spying-technology/.

[50] Pieter Haeck, "EU Wants Spies on University Campuses to Fight Chinese Tech Espionage," POLITICO, May 23, 2024, https://www.politico.eu/article/academic-research-campus-eu-universities-intelligence-services-china-spying-technology/.

continues to navigate its complex and evolving relationship with China, it faces a growing political and security dilemma. The challenge is to balance the benefits of cultural exchanges with the need to protect academic independence.

Confucius Institutes' strategic rebranding and expansion of the operation illustrate how China's soft power implementation strategy intersects with broader geopolitical challenges for the European Union. Cis raise critical questions about political ideology alignment, influence over public discourse, and national security risks. The next section examines the political and security dilemmas posed by China's influence within the EU and the broader implications for the EU foreign policy.

Section III: A Politics and Security Dilemma

China's steadfast alignment with Russia and increasing Arctic ambitions present strategic challenges. This section examines two key areas of concern: China's indirect support for Russia's invasion of Ukraine and its increasing influence on Arctic security, particularly concerning Sweden, Denmark, and Finland. These dynamics expose the European Union's struggle to balance economic reliance on China while simultaneously addressing security risks.

China's Support for Russia's Invasion of Ukraine

Despite claims of neutrality, China has reinforced its strategic ties with Russia since the February 2022 invasion of Ukraine. In the weeks leading up to the invasion, the two countries announced the start of a "no limits" partnership, signaling deepened cooperation.[51] China has become a critical economic lifeline for Russia, purchasing large volumes of Russian oil and gas, consequently helping sustain the Russian economy despite extensive EU sanctions.[52] The U.S. Department of Defense has discovered that Chinese firms export dual-use technology-materials with both civilian and military applications-to Russia, supporting its war effort.[53]

While China has refrained from providing direct military assistance, it has consistently opposed Western sanctions and has not condemned Russia's aggression.[54] This stance has created a dilemma for the EU, which continually supports Ukraine's sovereignty while maintaining a working economic relationship with China. European leaders have repeatedly warned Beijing against supplying Russia with lethal aid, emphasizing the risk of diplomatic and economic repercussions.[55]

EU Response to China's Russian Support

In response, the EU has sanctioned Chinese firms accused of supplying

[51] Loon, Karen van, and Dick Zandee. "Shifts in Arctic Security Ripples of Russia's War against Ukraine." Clingendael Policy Brief. Netherlands Institute of International Relations, December 10, 2024. https://www.clingendael.org/publication/shifts-arctic-security

[52] Bergmann, Max, and Otto Svendsen. "Defending the North Amid Rising Geopolitical Tensions." Northern Connections. Center for Strategic & International Studies: The Lilian and Robert D. Stewart Jr. Center In Euro-Atlantic and Northern European Studies, January 14, 2025. https://www.csis.org/analysis/defending-north-amid-rising-geopolitical-tensions

[53] Ibid.

[54] Wieslander, Anna. "How Sweden and Finland's Membership in NATO Affects the High North." Europe Center: Atlantic Council, November 5, 2024. https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/how-sweden-and-finlands-membership-in-nato-affects-the-high-north/

[55] Ibid.

Russia with critical war-related technology.[56] European policymakers are working to reduce dependence on China for strategic goods such as semiconductors and rare earth metals.[57] Diplomatic efforts have intensified within the last year as European leaders have made high-profile visits to Beijing to pressure China into curbing economic support for Russia.[58] Security coordination has also strengthened, as NATO increasingly views China's role as a security threat, given its alignment with Russia's interests.[59] Rather than fully decoupling from China, the EU's leading economies, namely France and Germany, advocate for "de-risking" -reducing dependence in sectors historically dominated by imports while preserving beneficial trade relationships.[60]

Arctic Security: Sweden, Denmark, and Finland's Role

China's ambitions in the Arctic have expanded through its "Polar Silk Road" initiative, a component of its Belt and Road Initiative.[61] Their growing presence has raised security concerns for both the EU and NATO, particularly in the High North. China has declared itself a "near-Arctic state," seeking access to Arctic resources, scientific research opportunities, and new shipping routes.[62] The acceleration of melting ice has opened the Northern Sea Route, which China has strategically labeled as an alternative to traditional maritime trade routes.[63] China has deepened its cooperation with Russia on Arctic energy and infrastructure projects, as Western sanctions have limited Russia's independent operations in the region.[64] However, tensions exist between China and Russia over direct control of Arctic resources and security policy, as the entirety of the region is in Russian territory.[65] Russia's war in Ukraine has accelerated the deteriorating security situation in the Arctic region, leading Western Arctic states to bolster their defenses and strategic resilience.[66]

Sweden and Finland's recent NATO membership significantly shifts Arctic security dynamics. Other NATO member states, such as Norway, Denmark, Canada, and the U.S., primarily managed the Arctic before the new member states.[67] Sweden and Finland's accession further strengthens NATO's northern security posture by integrating military exercises with militaries specializing

[56] Loon, Karen van, and Dick Zandee. "Shifts in Arctic Security Ripples of Russia's War against Ukraine." 2024

[57] Bergmann, Max, and Otto Svendsen. "Defending the North Amid Rising Geopolitical Tensions." 2025

[58] Wieslander, Anna. "How Sweden and Finland's Membership in NATO Affects the High North." 2024.

[59] Niehus, Gerlinde. "Towards a New Russia Strategy for NATO." Idead Shaping The World. Globsec, n.d. https://www.globsec.org/sites/default/files/2024-06/Towards%20a%20new%20Russia%20strategy%20for%20NATO_0.pdf.

[60] Wieslander, Anna. "How Sweden and Finland's Membership in NATO Affects the High North." 2024.

[61] Loon, Karen van, and Dick Zandee. "Shifts in Arctic Security Ripples of Russia's War against Ukraine." 2024.

[62] Bergmann, Max, and Otto Svendsen. "Defending the North Amid Rising Geopolitical Tensions." 2025

[63] "The Ice Silk Road: Is China a 'Near-Arctic-State'? - Institute for Security and Development Policy." February 14, 2019. https://www.isdp.eu/publication/the-ice-silk-road-is-china-a-near-artic-state/.

[64] Wieslander, Anna. "How Sweden and Finland's Membership in NATO Affects the High North." 2024.

[65] "Institute for Security and Development Policy." 2019.

[66] Wieslander, Anna. "How Sweden and Finland's Membership in NATO Affects the High North." 2024.

[67] Loon, Karen van, and Dick Zandee. "Shifts in Arctic Security Ripples of Russia's War against Ukraine." 2024

in Arctic conditions. Their membership enhances NATO's ability to counter Russian and Chinese advances in the region.[68] NATO Secretary General Jens Stoltenberg has emphasized that "NATO must increase its presence in the Arctic" in response to Russian and Chinese Arctic advancement.[69]

Denmark plays a critical role in Arctic security through its autonomous territory of Greenland - being both economically and strategically important in the region. Danish authorities have historically resisted twenty Chinese attempts to invest in Arctic infrastructure, including

Greenland mining projects, reflecting broader European concerns about Chinese influence in the region.[70] China's research presence in Svalbard and interest in rare-earth mineral extraction have raised alarms of potential dual-use applications in public and military sectors.[71] Denmark's resistance aligns with EU-NATO strategies of limiting China's Arctic footprint.[72]

In response to these developments, NATO has increased surveillance and reconnaissance missions in the Arctic, including both the "Cold Response" and "Trident Juncture" for continued joint-nation military training.[73] The alliance has also improved naval and air defense capabilities to counter Russian and Chinese movements in the region.[74] NATO remains cautious, as increased military presence in the Arctic could escalate tensions with Russia and further complicate

China-EU relations. Nevertheless, NATO's posture has shifted from viewing the Arctic as a "low-tension" zone to recognizing the region as a critical frontier for security competition.[75]

Conclusion

The EU must carefully balance economic ties with China against growing geopolitical and security risks. China remains the EU's second-largest trading partner, yet tensions persist over intellectual property disputes, anti-dumping measures, and trade dependencies, particularly in sectors critical to the EU's Green Deal. China's soft power initiatives, such as Confucius Institutes, have raised concerns over political influence and security risks within Europe. In Ukraine, the EU is working to constrain China's indirect support for Russia without provoking economic retaliation. In the Arctic, Sweden, Denmark, and Finland reinforce NATO's northern defenses to counter Chinese and Russian ambitions. Going forward, the EU's approach will likely focus on reducing critical dependencies on China while preserving essential trade relationships, ensuring economic engagement does not compromise sovereignty or security.

[68] Ibid.
[69] Bergmann, Max, and Otto Svendsen. "Defending the North Amid Rising Geopolitical Tensions." 2025
[70] Niehus, Gerlinde. "Towards a New Russia Strategy for NATO." Globsec, n.d.
[71] "Institute for Security and Development Policy." 2019.
[72] Ibid.
[73] Wieslander, Anna. "How Sweden and Finland's Membership in NATO Affects the High North." 2024.
[74] Ibid.
[75] Ibid.

A Two-Pronged Policy Approach to Countering Digital Disinformation

Garrett Kent

Abstract

The rise of social media has allowed disinformation to **spread unchecked** on digital forums, **clouding discourse** across many policy spheres. Disinformation has been shown to erode trust in vital **democratic institutions** and prevent the **productive exchange of ideas** that is essential for a healthy democracy (Mauk & Grömping, 2024; Nuñez, 2020). Providing **media literacy training** and resources will empower the public to properly evaluate online information. Furthermore, funding a **task force to research disinformation** and **formulate prevention practices** will promote a better understanding of the issue and allow lagging regulatory institutions to catch-up with a rapidly evolving digital landscape.

I. Introduction

Americans will not soon forget hearing 2024 Presidential candidate Donald Trump spar with moderators on the debate stage, insisting baselessly that Haitian immigrants were eating their neighbors' pets (Falconer, 2024). At the time, some questioned whether this claim was deliberate or merely reckless. However, his running mate later admitted on CNN that they had intentionally manufactured and spread the narrative for political gain (Wade, 2024). The immigrant community disparaged by the campaign has since faced dozens of bomb threats, forcing buildings to close and events to be cancelled (Rubinkam & Smyth, 2024).

In this story, we can see a clear path through which disinformation led to real-world harm. This is one of many examples illustrating a broad rhetorical shift towards a post-truth digital world in which objective facts are cast aside in favor of emotionally charged falsehoods and viral narratives. This mirrors countless other conspiracies and lies spread through digital media that harm citizens and erode institutional trust (Thompson et al., 2022; Ferreira Caceres et al., 2022). As shown in Figure 1, **disinformation** is distinct from **misinformation** in that it is purposefully spread to obscure the truth.

Currently, there are almost no regulatory barriers to the spread of such lies. A policy framework for understanding and disrupting the spread of disinformation is essential for mitigating its harm.

Term	Definition
Misinformation	"False or **inaccurate** information – getting the facts wrong"
Disinformation	"False information which is **deliberately** intended to mislead"

Figure 1. Definitions of disinformation and misinformation.

Source: American Psychological Associate, Misinformation and disinformation, 2022 (https://www.apa.org/topics/journalism/facts/misinformation-disinformation)

II. Background

With the increasing use of digital media to access news, the threat of disinformation is more widespread than ever. Over 70% of Americans get a portion of their news from social media and over 90% get a portion through digital means (Liedke & St. Aubin, 2024). Simultaneously, tech innovations have enabled deceptive actors to use artificial intelligence and automated accounts to generate and spread highly convincing fake information at previously unimaginable rates (Swenson & Chan, 2024; Shao et al., 2018). This information floods public discourse, preventing productive debates and discussions from shaping public opinion.

Research shows fake information is highly viral, spreading six times faster on X (formerly Twitter) than accurate information (Dizikes, 2018). Out of the top 20 most shared election news stories on Facebook during the 2016 election, fake stories received nearly 20% more engagement than mainstream news stories (Figure 2). Disinformation is likewise persistent once it has been spread, as it continues to shape people's opinions and perspectives after it is disproven (Thorson, 2016).

Figure 2. The total Facebook engagement for the top 20 2016 election stories, grouped by fake vs mainstream news.

Credit: University of California Berkeley Library, Real News/Fake News: About Fake News

III. Findings

As shown below, fake information permeates many policy spheres, primarily targeting those which are the most timely and relevant (Figure 3). This information floods the discourse surrounding the most important policy issues, influencing opinions and decisions in areas that impact human rights, public health, and democracy. As citizens are overloaded with both fake and true information, it becomes challenging to differentiate the signal from the noise, leading to many ill-informed debates and decisions that occur only because the prevalence of falsehoods is too great to ignore.

Figure 3. The percentage of those surveyed worldwide who had seen misinformation about each topic in the previous week, separated into 2023 and 2024.

Source: Reuters Institute, 2024 Digital News Report

The consequences of disinformation are dire and far-reaching. Disinformation can and does:

- **erode trust** in democratic **institutions** (Mauk & Gröping, 2024)
- erode trust in **public health** experts and **scientific consensus** (Dizikes, 2018)
- create **false pretenses** for international conflict and **human rights** abuses (Karalis, 2024)
- sow **division**, promote **violence**, and appeal to **prejudice** (Jankowicz, 2024; Ellison & Merrill, 2024).

Such impacts are occurring in a digital landscape completely lacking in regulation and research. Attempts to bolster our institutions against online disinformation have repeatedly stalled at the federal level. Federal policy initiatives have been plagued by poor communication and have fallen victim to partisan attacks and even misinformation (Shivaram, 2022). Attacks on these initiatives frequently cite concerns about censorship and free speech. Figure 4 shows a brief snapshot of federal action addressing disinformation.

Action	Body	Purpose	Result
Honest Ads Act (2017)	U.S. Senate	Expand source disclosure requirements for political advertisements	No action taken since 2018
Educating Against Misinformation and Disinformation Act (2022)	U.S. House of Representatives	Allocate resources to support media literacy education	No action taken since 2022
Disinformation Governance Board (2022)	Department of Homeland Security	Combat disinformation campaigns that threaten national security	Disbanded in 2022

Figure 4. Several federal legislative and administrative measures to address disinformation are stalled or walked back.

Sources: H.R.6971 Summary; S.1989 Summary; Shivaram (2022)

IV. A Two-Pronged Recommendation: Education and Prevention

Given the virality, persistence, and tangible harms of disinformation, interventions must be proactive rather than reactive. The following recommendations provide a balanced approach to mitigating these risks.

1. Fund and Promote Media Literacy Initiatives Across the Nation

This solution calls on Congress to establish and fund media literacy initiatives, a class of programs that equip citizens to "access, analyze and engage in critical thinking" about digital information "in order to make informed decisions" about "health, work, [and] politics" (Aspen Institute Communications and Society Program, 2010). Research supports the theory that digital literacy training can be an effective protection against disinformation (Hwang et al., 2021; Lees et al., 2023). For example, in Lees et al. (2023), researchers at Clemson University designed a game in which users guess whether a Twitter account is fake and found that users were more effective at identifying fake accounts after participating in the game. This systemic approach aims to immunize the populace from disinformation by **empowering citizens to separate fact from fiction.**

This takes the form of open-source **resources** and multi-disciplinary **training programs** aimed at providing a roadmap for navigating the digital landscape. An essential part of this initiative includes **educational programs** at the primary school level. We are raising future generations who will grow up in a rapidly evolving tech landscape and experience life through digital media like none before them We must equip these generations with the skills needed to sift through the avalanche of online news and **properly evaluate sources and information.**

2. Establish a Task Force to Research Disinformation and Formulate Prevention Tactics

This solution calls on Congress to **establish and fund a task force** aimed at **building a better understanding** of disinformation and **formulating evidence-based prevention practices.** Choosing a diverse composition for this task force is essential to encourage bipartisan support and participation. Drawing inspiration from California Senate Bill 1424 (2018), potential task force members may include:

- Justice Department Members
- Representatives from social media platforms
- First Amendment scholars
- Disinformation and digital experts
- Bipartisan Congress members.

Limiting and **explicitly stating** the regulatory **power** of the task force will be an essential aspect of quelling **free speech** concerns. The first and primary purpose of the task force will be to **build a better understanding of this issue through research.** This is vital for attacking any policy issue, especially in an area as new and rapidly evolving as digital disinformation. The second goal of the task force will be to **translate this understanding into actionable prevention techniques** and provide **national guidance** regarding their implementation. This scope will empower the task force to effectively combat disinformation without threatening the constitutional freedoms of Americans.

The digital platforms on which disinformation flourishes are profit-driven services where producers and **consumers exchange monetary, temporal, and informational resources.** Therefore, the which has a mandate to protect consumers from **unfair or deceptive** trade practices (Mission, 2021), could also establish this task force. Disinformation serves special interests, aiming to defraud consumers out of their **money, effort, and trust**. Politicians, governments, and organizations that spread disinformation directly benefit from undermining debate and skewing public opinion. The recognition of **information as a commodity** and digital media as a **platform of exchange** bridges this jurisdictional disconnect, forcing an acknowledgement of the fact that deceptive online schemes can take diverse forms and can mislead and defraud consumers in many different ways.

V. Conclusion

The urgency of this policy issue cannot be overstated. Failing to stem the spread of highly convincing online disinformation could leave the country in a "post-truth" digital age where **facts are impossible to separate from fiction.** The strategies and technologies used by disinformation campaigns have left regulators in the dust. Catching up is essential to maintaining public safety and fostering a healthy democratic society- one where debate is **grounded in objective reality** and **aimed at reaching the right answer.** By **researching this phenomenon,** developing **evidence-based prevention tactics,** and **educating the population** on how to evaluate digital information, policymakers can empower our country to stop disinformation from threatening the safety and security of our institutions and citizens.

References

California Senate Bill 1424, No. CA SB1424, California Senate (2018). https://legiscan.com/CA/text/SB1424/id/1818525 Dizikes, P. (2018, March 8). Study: On Twitter, false news travels faster than true stories. MIT News | Massachusetts

Institute of Technology. https://news.mit.edu/2018/study-twitter-false-news-travels-faster-true-stories-0308 Educating Against Misinformation and Disinformation Act, H.R.6971, U.S. House of Representatives 117th Congress

(2022). https://www.congress.gov/bill/117th-congress/house-bill/6971

Ellison, S., & Merrill, J.B. (2024, September 11). Anatomy of a racist smear: How false claims of pet-eating immigrants caught on. Washington Post. https://www.washingtonpost.com/politics/2024/09/11/anatomy-racist-smear-how false-claims-pet-eating-immigrants-caught/

Falconer, R. (2024, September 11). Trump peddles baseless claim about immigrants "eating the pets" during debate.

Axios. https://www.axios.com/2024/09/11/trump-immigrants-eating-pets-conspiracy-theory

Ferreira Caceres, M. M., Sosa, J.P., Lawrence, J. A., Sestacovschi, C., Tidd-Johnson, A., Rasool, M. H. U., Gadamidi, V. K., Ozair, S., Pandav, K., Cuevas-Lou, C., Parrish, M., Rodriguez, I., & Fernandez, J.P. (2022). The impact of misinformation on the COVID-19 pandemic. AIMS Public Health, 9(2), 262-277. https://doi.org/10.3934/publichealth.2022018

Honest Ads Act, S.1989, U.S. Senate 115th Congress (2017). https://www.congress.gov/bill/115th-congress/senate bill/1989

Hwang, Y., Ryu, J. Y., & Jeong, S.-H. (2021). Effects of Disinformation Using Deepfake: The Protective Effect of Media Literacy Education. Cyberpsychology, Behavior, and Social Networking, 24(3), 188-193. https://doi.org/10.1089/cyber.2020.0174

Jankowicz, N. (2024, March 26). Review I How disinformation fuels violence-And makes our politics worse. Washington

Post. https://www.washingtonpost.com/books/2024/03/26/disinformation-books-mcquade-issenberg/

Karalis, M. (2024). Fake leads, defamation and destabilization: How online disinformation continues to impact Russia's invasion of Ukraine. Intelligence and National Security, 39(3), 515-524. https://doi.org/10.1080/02684527.2024.2329418

Lee, C. (2024). Real News/Fake News: About Fake News. https://guides.lib.berkeley.edu/c.php?g=620677&p=4322330 Lees, J., Banas, J. A., Linvill, D., Meirick, P. C., & Warren, P. (2023). The Spot the Troll Quiz game increases accuracy in

discerning between real and inauthentic social media accounts. PNAS Nexus, 2(4), pgad094. https://doi.org/10.1093/pnasnexus/pgad094

Liedke, J., & St. Aubin, C. (2024, September 17). News Platform Fact Sheet. Pew

Research Center. https://www.pewresearch.org/journalism/fact-sheet/news-platform-fact-sheet/

Mauk, M., & Gri:imping, M. (2024). Online Disinformation Predicts Inaccurate Beliefs About Election Fairness Among Both Winners and Losers. Comparative Political Studies, 57(6), 965-998. https://doi.org/10.1177/00104140231193008

Misinformation and disinformation. (2022, July). American Psychological Association. https://www.apa.org/topics/journalism-facts/misinformation-disinformation

Mission. (2021, March 10). Federal Trade Commission. https://www.ftc.gov/about-ftc/mission

Newman, N. (2024, June 17). Overview and key findings of the 2024 Digital News Report. Reuters Institute. https://reutersinstitute.politics.ox.ac.uk/digital-news-report/2024/dnr-executive-summary

Nunez, F. (2020). Disinformation Legislation and Freedom of Expression. UC Irvine Law Review, 10(2), 783-798.

Rubinkam, M., & Smyth, J.C. (2024, September 17). What to know about the threats in Springfield, Ohio, aher false claims about Haitian immigrants. AP News. https://apnews.com/article/springfield-ohio-haitian-immigrants-threats-key details-7594bae869fb05dc6f106098409418cc

Shao, C., Ciampaglia, G. L., Varol, 0., Yang, K.-C., Flammini, A., & Menczer, F. (2018). The spread of low-credibility content by social bots. Nature Communications, 9(1), 4787. https://doi.org/10.1038/s41467-018-06930-7

Shivaram, D. (2022, May 18). OHS pauses a board created to combat disinformation amid a campaign to discredit it.

NPR. https://www.npr.org/2022/05/18/1099848240/d hs-disinformation-group-pause

Swenson, A., & Chan, K. (2024, March 14). Election disinformation takes a big leap with Al being used to deceive worldwide. AP News. https://apnews.com/article/artificial-i ntelligence-elections-disinformation-chatgpt bc283e7426402f0b4baa7df280a4c3fd

Thompson, B., Cheney, L., Lofgren, Z., Schiff, A., Aguilar, P., Murphy, S., Raskin, J., Luria, E., & Kinzinger, A. (2022). Final Report of the Select Committee to Investigate the January 6th Attack on the United Stated Capitol (Nos. 117-000). United States House Representatives.

https://d3i6fh83elv35t.cloudfront.net/static/2022/12/Report FinalReport Jan6SelectCom mittee.pdf

Thorson, E. (2016). Belief Echoes: The Persistent Effects of Corrected Misinformation. Political Communication, 33(3), 460-480. https://doi.org/10.1080/10584609.2015.1102187

Wade, P. (2024). J.D. Vance Defends False Claims Against Haitians: 'If I Have to Create Stories... That's What I'm Going to Do.' Rolling Stone. https://www.rollingstone.com/politics/politics-news/jd-vance-haitia ns-if-i-have-to-create stories-1235102572/

Heinz Journal is a student-run publication of the Heinz College of Information Systems and Public Policy at Carnegie Mellon University, dedicated to publishing work that meaningfully engages in the policy problems of tomorrow.

Carnegie Mellon University
HeinzCollege
INFORMATION SYSTEMS • PUBLIC POLICY • MANAGEMENT