

Elsevier required licence: © <2024>. This manuscript version is made available under the CC-BY-NC-ND 4.0 license <http://creativecommons.org/licenses/by-nc-nd/4.0/>
The definitive publisher version is available online at [10.1016/j.marpol.2023.105992](https://doi.org/10.1016/j.marpol.2023.105992)

China and seafood trade after coronavirus: the role of state actors

As the world's largest seafood trading country, China has a significant influence on the global seafood system. This study explores the growing role of China as a state actor in the seafood trade since the onset of the COVID-19 outbreak. While China has been interested in ensuring its food security, China's trade policy also illustrates strategic and political motivations combined with ongoing modernization efforts in food safety. Using the recent case of China's ban on seafood imports, particularly during the COVID-19 pandemic, our study adds empirical evidence to support a nuanced understanding of China's food trade measures. This implies that China as a state actor is playing a more active role even with the growing power of non-state actors in shaping the seafood trade. Our finding can be applicable to other recent cases that highlight the growing role of state actors in seafood trade.

Keywords: China, seafood, COVID-19, trade ban, state actors

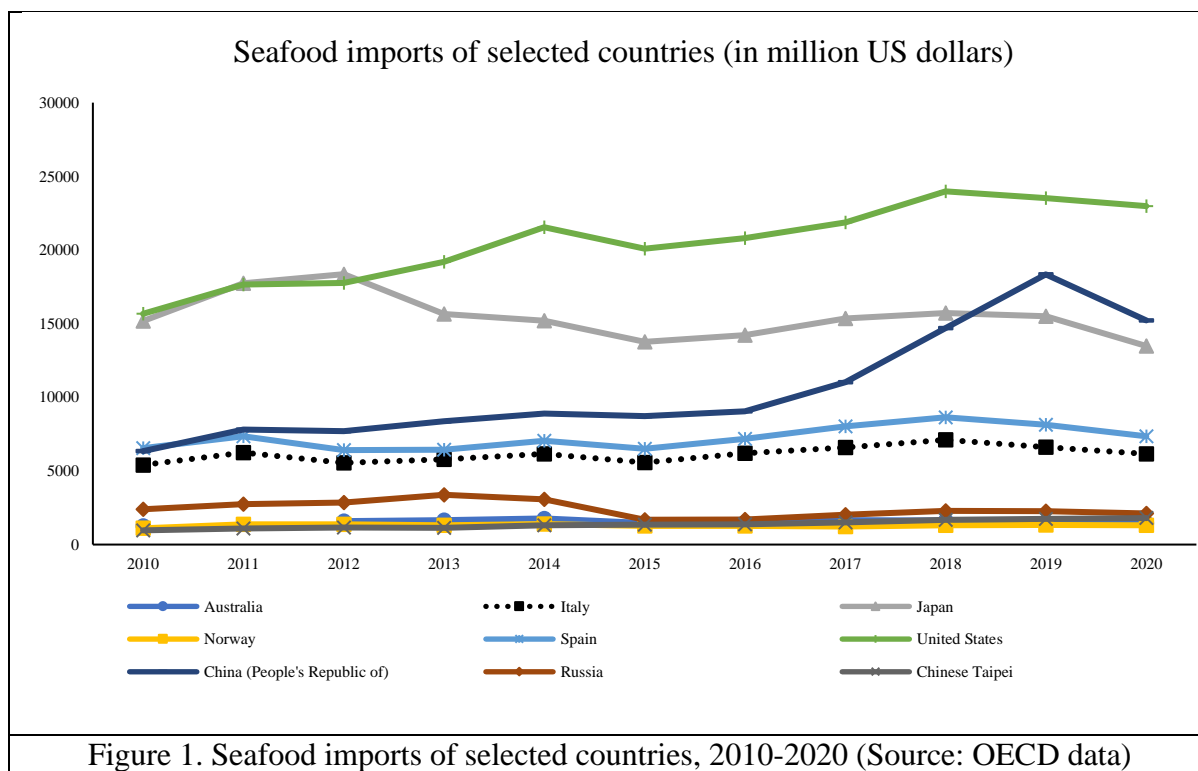
1. Introduction

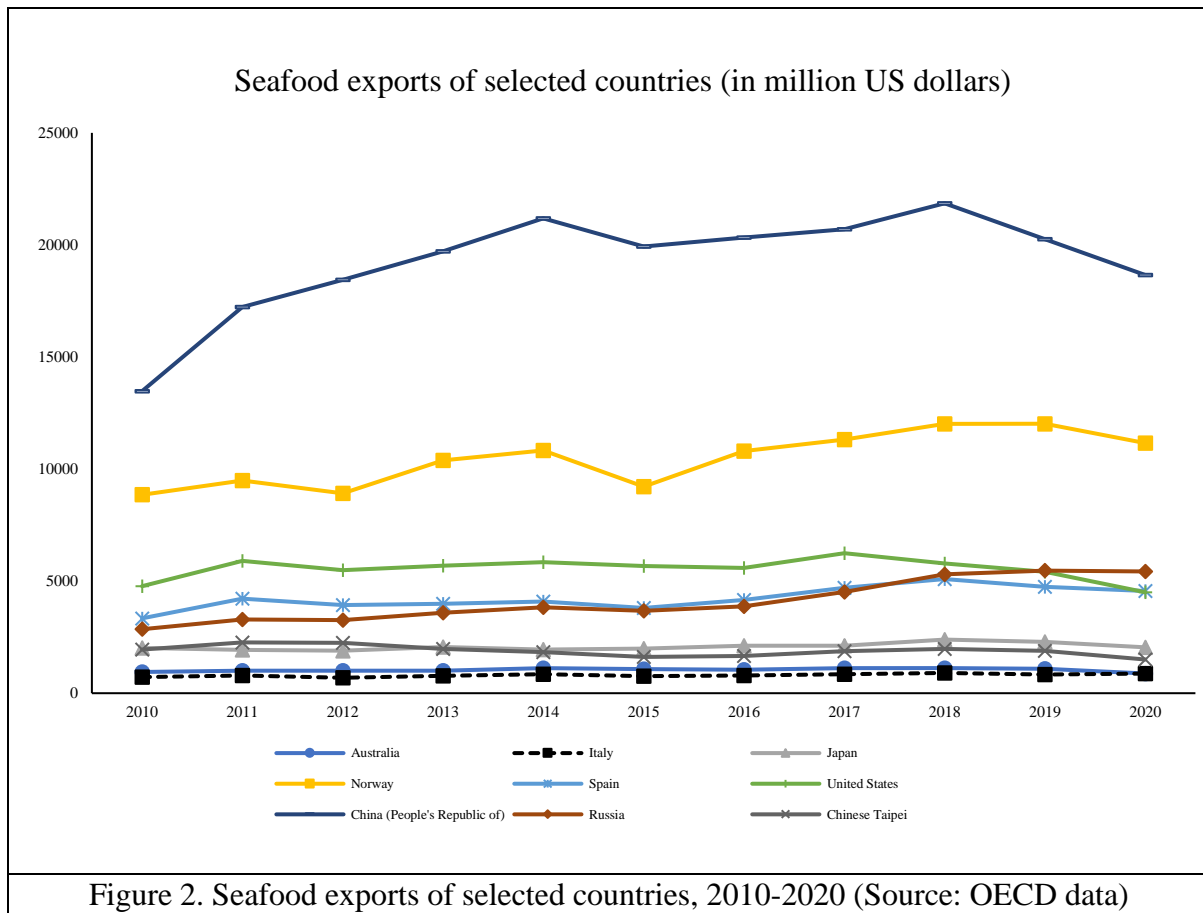
In August 2023, China has imposed a ban on Japanese seafood exports in response to the release of treated water (or nuclear-contaminated water)¹ from Fukushima, which is an ongoing controversial issue regarding the safety of water quality [1]. In 2022, the EU and the US sanctioned Russian seafood exports due to the war in Ukraine [2]. While the two cases appear to be unrelated, they both highlight that state actors are playing a more active role in seafood trade. In fisheries governance, market chains involve interaction amongst a range of actors, including government, private actors, and other stakeholders, to push forward their preferences [3]. Particularly, the contemporary food regime highlights the growing role of corporate actors [4,5]. While the role of private actors in public-private partnerships has been increasingly evident in seafood regimes since the early 2000s [6–8], the role of state actors remains significant [9,10]. This means that, even though private actors can influence the seafood system, their role is still “firmly embedded in, and dependent upon, the historical institutions of national seafood production systems” [9,11]. Beyond the national context, they project influence outside their borders with trade-related measures implemented on seafood imports [12]. Using the case of China's contestation over detecting COVID-19 on seafood imports, we highlight how the role of a state actor can reach beyond the national context and extend to the global seafood system. This means that we emphasise the greater role of state actors in seafood trade more broadly rather than the COVID-19 case alone. We note that seafood bans predate COVID-19 and are likely to continue in the future. In this sense, our study has far-reaching implications for any country, not just China, particularly in a shifting geopolitical landscape with an increase in geopolitical tensions and a rise of global protectionism.

As a rising power, China plays a significant role in the global food trade (see Figures 1 and 2) [13]. With its sheer scale of demand and changing food preferences, China's food policy can affect the economies of food-producing countries [14,15]. China's food security strategy introduced in 2019 has highlighted the importance of preserving domestic production capacity and food imports and promoting international cooperation [16]. Particularly, overseas agricultural investments became part of the agricultural “going out” strategy in 2007 and developed into a more coordinated policy under the Belt and Road Initiative [16]. The strategy is pertinent to fisheries as it supports the Chinese distant water fishing industry for

¹ We note that the different languages used by Japan and China regarding the recent water release case in Japan. Japan uses the term ‘treated water’, whereas China uses ‘nuclear-contaminated water’.

“going out” fishing activities. Furthermore, China has become “an important hub of capital” for agribusiness and agrifood trade [17]. This new development implies China’s evolving role in food trade both as an exporter and importer (see Figures 1 and 2), as exemplified in China’s food trade with the Southeast Asia region [18]. China also plays a significant role as a major seafood processor and re-exporter [19,20].





The COVID-19 pandemic has provided opportunities for China to expand the use of trade policy in steering food trade flows. China has imposed bans on cold chain products, claiming they were found with COVID-19 [21]. In particular, imported seafood in China has been identified as a source of the virus [22]. In this context, this study complements existing research on global food governance by exploring how the role of China as a state actor has been evolving in the seafood trade system. Researchers have assessed the role of private actors in global food governance and how they affect equity and fair trade in the food system [23–26]. While this line of research focuses on aspects of privatising and corporate powers in the global food system, there is growing evidence that China, as a state actor, is proactively steering the flow of food trade. In doing so, this study shifts our attention from the ongoing debate on China’s motivation for imposing import bans and extends a focus to its evolving role in the global food trade.

2. Methods

We created a list of import bans and traced food trade policy development. First, we reviewed public notices on the China Customs website to collect the data on import bans. The collected information covers dates, trading companies and products subject to import bans from 2020 to 2022. Noting that because of China’s plausible deniability on import bans [27], it is impossible to attain a comprehensive understanding of the nature and extent of these trade measures, we do not claim that our data represent an accurate number of trade bans. Rather, our data offers a comprehensive overview of trading partners experiencing the bans. Second, we reviewed food trade policies and regulations from 2015 to 2020 that are publicly available

from the Chinese government and media websites (e.g., major newspapers from China, the U.S., and Australia) to illustrate the breadth of China's measures against seafood imports.

3. China's growing role in seafood trade during the pandemic era

China has been playing a growing role in the food system. Recent cases suggest that while its stated reasons include sanitary and phytosanitary (SPS) control, China also uses import bans for political purposes. For instance, China placed stricter regulations on Norwegian salmon imports after a Chinese dissident, Liu Xiaobo, was awarded the 2010 Nobel Peace Prize [28]. Similarly, Australian live rock lobsters were held at Chinese airports and customs with new inspection rules in November 2020 as political tensions between Australia and China intensified [29]. Furthermore, in 2022 Taiwanese groupers have been suspended from entering Chinese markets as China claimed that toxic chemicals are found in the products [30]. While China has justified its bans for food safety and other reasons, it does not necessarily mean that these products actually had the specified problems.

The COVID-19 pandemic has kindled growing interest in examining SPS measures on food imports, especially the food safety of the cold chain. While China has claimed that frozen food import packaging could transmit coronavirus in some cases, including frozen seafood imports from Ecuador and Indonesia, other countries such as Australia have pushed back by arguing that there is no evidence of virus transmission via food or food packaging [31]. Much media, policy and academic commentary argue that these trade measures are simply political tools, portraying them using the lens of economic coercion or statecraft [32–34]. China – as an affluent and rising power – has been using economic leverage in attempts to shift others' policies in a favourable direction [35]. Trade measures emerging from geopolitical tensions are not only applied by China but also by other countries including the US and Japan [36]. For instance, since 2018 the US government banned US semiconductor companies to export their products to China over an ongoing US-China trade war. Amid intensifying geopolitical tensions, Japan allied with the US to restrict computer chip-making exports to China [37]. In addition, the pandemic has led to a rise in protectionism worldwide, resulting in a potential increase in trade bans across different countries [38].

Since the 2009 financial crisis, Beijing has become more confident in utilising economic diplomacy to pursue international influence within and outside the Asian region [39–41]. China, as a state actor, has been exercising its influence on the food system even before the pandemic, particularly due to an increasing awareness of food safety. Before 2019, China implemented and revised the laws and regulations to improve food safety. For instance, the overarching law, the Food Safety Law (中华人民共和国食品安全法) was revised from 2015 through 2019 as the Chinese government noted unexpected risks to a growing volume of trade products [42]. Similarly, China introduced institutions and regulations to improve the quality of food products [43]. The 2016-2020 Plan indicated the intention to implement a food safety strategy and create a rigorous, efficient and social food safety governance system [44]. To this end, the Chinese food system aims to transform “from supervision to social coregulation”, which involves further non-state actors for the coregulation [45,46]. Local and central Chinese governments implemented policies to enhance food safety and quality, for instance, by supporting organic production methods and safer agriculture products [47,48]. Food safety gained further importance as Beijing released a stand-alone policy document providing a guideline for ensuring food safety, including stricter food standards and management and severe punishment for non-compliance, for the first time in May 2019 [49]. Beijing aimed to establish the food safety supervision system using risk analysis and supply

chain management by 2020 and to modernise the national governance system and capability to ensure food safety by 2035 [50].

Beyond policies improving food safety in general, China was also keen on addressing food safety issues on trade products specifically. The Administrative Measures for Import and Export Food Safety (中华人民共和国进出口食品安全管理办法) was endorsed and implemented in March 2012, then revised in 2021 to be effective in January 2022. The Measures reflect President Xi Jinping's strong political willingness to strengthen the domestic food safety system. For instance, Xi highlighted basic principles to guide food safety policies, including safety first, prevention first, risk management, a holistic management approach, and an international co-governance system. To this end, the revision added "a more scientific and stricter import and export food safety supervision system" [42]. The Measures strengthened labelling requirements for seafood imports – for instance, the inner and outer packages should include companies' names and registration; production dates and numbers; expiration dates and storage methods; production methods and area; and processing companies, methods and addresses [51].

Along with other food products, China has introduced a specific regulation targeting seafood products, the Measures for the Supervision and Administration for Inspection and Quarantine of Aquatic Imports and Exports (进出口水产品检验检疫监督管理办法). They aim to ensure the quality and safety of imported and exported aquatic products, prevent the introduction of animal epidemics into and out of the country, and protect the safety of fishery production and human health in 2010 and to be effective in June 2011[52]. To this end, they mandated that all seafood products be examined by the General Administration of Quality Supervision, Inspection and Quarantine and obtain inspection and quarantine certificates to enter the Chinese domestic market [53].

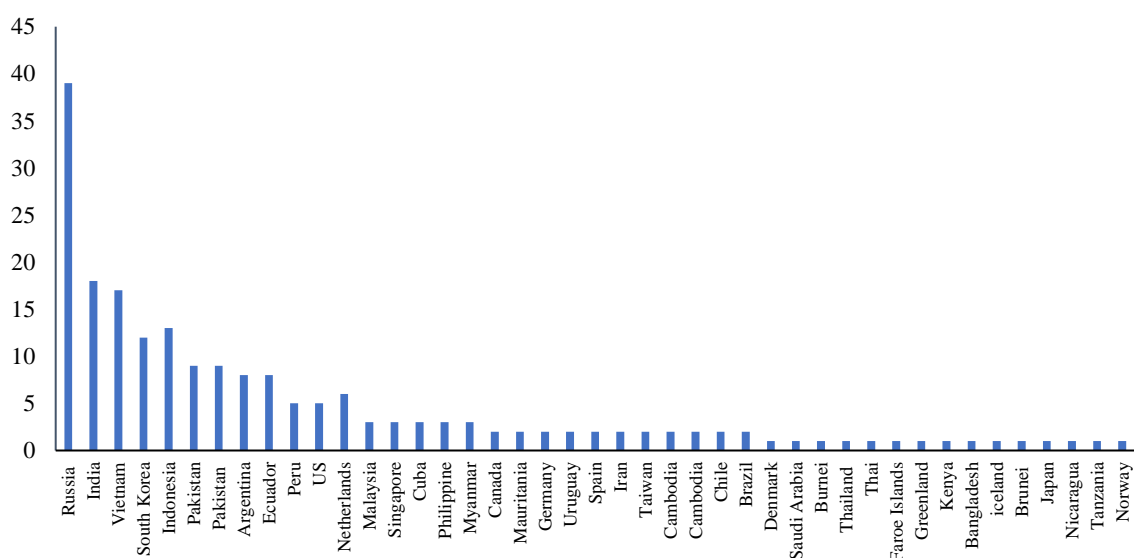
The introduction of the food safety measures in response to the pandemic has been relevant to China's domestic law on infectious diseases. Back in 2004, China set up the Law of the People's Republic of China on the Prevention and Control of Infectious Diseases (中华人民共和国传染病防治法), which categorised infectious diseases into Classes A, B and C. The measures for controlling diseases categorised as Class C would be the most relaxed whereas the policies for Class A diseases would be the strongest. For instance, the law designated plague and cholera as Class A; infectious SARS, AIDS, viral hepatitis, poliomyelitis, highly pathogenic avian influenza and others as Class B; and influenza, epidemic parotitis, rubella and others as Class C. The infectious diseases that are not listed in the law would be included under Class B or C, "depending on the situation of their outbreak and prevalence and the extent of the harm done....by the health administration department under the State Council".

Accordingly, China categorised COVID-19 as a Class B infectious disease and adopted the prevention and control measures for Class A diseases on January 20, 2020 [54]. The pandemic has led to introducing regulations on food imports in the cold chain. In September 2020, China announced emergency preventative measures for overseas manufacturers of imported cold chain food products with coronavirus nucleic acid (对检出新冠病毒核酸阳性的进口冷链食品境外生产企业实施紧急预防性措施的公告), aiming to prohibit the penetration of contaminated food products entering its domestic market. This regulation includes suspending food products for a week if they find coronavirus on cold chain food or its packaging for the first two incidents. For subsequent incidents, Chinese Customs may suspend the products for four weeks. In July 2022, Customs revised the regulations to enhance scientific accuracy in controlling and managing imported cold chain food products

by investigating the compliance of exporting countries' safety status and system with China's food policy. For the food production companies with problems, Chinese Customs can implement a range of measures, including rectification within a time limit, suspension of imports and registration revocation. Finally, the revision also indicates that the products deemed to be contaminated with coronavirus should be disposed of according to the guidelines from the Joint Prevention and Control Mechanism of the State Council [55].

As per the promulgation of this new measure, Chinese Customs has begun to impose measures on various countries globally. Since implementing the emergency preventative measures in response to the outbreak, there have been 169 measures imposed to 37 countries from September 2020 to July 2023 (Figure 1). In January 2023, China decided to implement COVID-19 control policies that are equivalent to Class B, implying that the policy stringency has been weakened. The change reflects the extent to which China perceived the need for severe measures to control and prevent the COVID-19 disease at the beginning of the pandemic. This context has affected how seafood products are traded and imported into China. The total number of the bans by year fluctuated with the changes to the disease classifications (9 in 2020, 84 in 2021, and 100 in 2022, and 0 in 2023). Furthermore, these data illustrate that it is unlikely that China deliberately targeted specific countries for import bans caused by the existence of coronavirus. While it is plausible that China intended to direct specific cases of trade bans (as in Australian lobsters² and Norwegian salmon cases), the data illustrate that many other countries are also experiencing import bans for the presence of COVID-19 in their exporting products. Notably, Russia has the highest number of import bans by a considerable margin. Furthermore, it is interesting to note that seafood products subject to the measures outnumbered other edible imports. There have been a total number of 186 incidents where China imposed bans on food products, of which 173 (93%) are directed at seafood or fishing companies, while the type of seafood products varies by exporting countries. This reveals China's caution toward seafood imports, which China considers a source of coronavirus.

Figure 3. Frequency for seafood import ban by country during 2020-2023



² In late 2020, China imposed an unofficial ban on Australian live lobster, citing mental contamination issues. However, the frozen lobsters continued to be imported. <https://www.sbs.com.au/language/chinese/en/article/all-the-signs-are-very-positive-australia-live-lobster-trade-with-china-is-expected-to-resume-soon/xbfhshbkb>

3. Conclusion and policy implications

While the food system has become ever-increasingly globalised with a growing role of private actors, China's seafood bans highlight the continuing role of state power in global seafood systems, particularly in the context of increasing protectionism post-COVID [56-58]. China's import bans on food products can emerge from diverse drivers, including economic coercion, strengthening SPS regulation and domestic regulations to address illegal activities. This contrasts with the corporate dominated (sea)food regime, which is less likely to be affected by geopolitical contexts. In state centred governance, China as a state actor seems to navigate the system itself, consequently changing the flow of the food trade.

This finding has critical implications for state and seafood industry actors. The nature of import bans demonstrates that China's bans may affect trading partners. In this case, their impacts trickle down to seafood industry actors involved in the supply chain of a seafood trade both in and outside China as the bans reduce access to exporting markets. Furthermore, the bans themselves can cause and exacerbate geopolitical tensions in the region. With China's zero-COVID policy, trade bans would have been expanded in scope and magnitude. This raises the need for considering its potential effects in these actors' decision-making processes while investigating the scientific evidence for COVID-19 on seafood products and packaging. The growing involvement of state actors is also applicable to the recent issue on the release of treated water from Fukushima. Broadly, this study suggests that a growing involvement of state actors is an important factor affecting seafood trade in the future.

References

- [1] X. Qi, China, South Korea see sharp decline in imports of Japanese seafood, *Global Times*. (2023). <https://www.globaltimes.cn/page/202309/1298487.shtml> (accessed November 27, 2023).
- [2] C. White, Russia's invasion of Ukraine creates turmoil for global seafood market, *Seafood Source*. (2022). <https://www.seafoodsource.com/news/supply-trade/russias-invasion-of-ukraine-creates-turmoil-for-global-seafood-market> (accessed August 3, 2023).
- [3] D.J. Steenbergen, C. Warren, Implementing strategies to overcome social-ecological traps, *Ecology and Society*. 23 (2018). <https://www.jstor.org/stable/26799134> (accessed August 2, 2023).
- [4] L. Beck, T. Bernauer, T. Siegfried, T. Böhmelt, Implications of hydro-political dependency for international water cooperation and conflict: Insights from new data, *Political Geography*. 42 (2014) 23–33. <https://doi.org/10.1016/j.polgeo.2014.05.004>.
- [5] P. McMichael, The land grab and corporate food regime restructuring, in: *The New Enclosures: Critical Perspectives on Corporate Land Deals*, Routledge, 2013: pp. 63–83.
- [6] K. Barclay, A. Miller, The Sustainable Seafood Movement Is a Governance Concert, with the Audience Playing a Key Role, *Sustainability*. 10 (2018). <https://doi.org/10.3390/su10010180>.
- [7] S. Bush, P. Oosterveer, *Governing sustainable seafood*, Routledge, 2019.
- [8] C. Roheim, S. Bush, F. Asche, J. Sanchirico, H. Uchida, Evolution and future of the sustainable seafood market, *Nature Sustainability*. 1 (2018) 392–398.
- [9] L. Campling, E. Havice, The Global Environmental Politics and Political Economy of Seafood Systems, *Global Environmental Politics*. 18 (2018) 72–92. https://doi.org/10.1162/glep_a_00453.

- [10] M. Fabinyi, Maritime disputes and seafood regimes: a broader perspective on fishing and the Philippines–China relationship, *Globalizations*. 17 (2020) 146–160. <https://doi.org/10.1080/14747731.2019.1644707>.
- [11] S. Adolf, S.R. Bush, S. Vellema, Reinserting state agency in global value chains: The case of MSC certified skipjack tuna, *Fisheries Research*. 182 (2016) 79–87. <https://doi.org/10.1016/j.fishres.2015.11.020>.
- [12] A.M. Song, J. Scholtens, K. Barclay, S.R. Bush, M. Fabinyi, D.S. Adhuri, M. Haughton, Collateral damage? Small-scale fisheries in the global fight against IUU fishing, *Fish and Fisheries*. 21 (2020) 831–843. <https://doi.org/10.1111/faf.12462>.
- [13] P. McMichael, Does China’s ‘going out’ strategy prefigure a new food regime?, *The Journal of Peasant Studies*. 47 (2020) 116–154. <https://doi.org/10.1080/03066150.2019.1693368>.
- [14] V.P. Gandhi, Z. Zhou, Food demand and the food security challenge with rapid economic growth in the emerging economies of India and China, *Food Research International*. 63 (2014) 108–124.
- [15] D. Zha, H. Zhang, Food in China’s international relations, *The Pacific Review*. 26 (2013) 455–479. <https://doi.org/10.1080/09512748.2013.842308>.
- [16] C. Tortajada, H. Zhang, When food meets BRI: China’s emerging Food Silk Road, *Global Food Security*. 29 (2021) 100518. <https://doi.org/10.1016/j.gfs.2021.100518>.
- [17] P. Belesky, G. Lawrence, Chinese state capitalism and neomercantilism in the contemporary food regime: contradictions, continuity and change, *The Journal of Peasant Studies*. 46 (2019) 1119–1141. <https://doi.org/10.1080/03066150.2018.1450242>.
- [18] S. Zhan, H. Zhang, D. He, China’s flexible overseas food strategy: food trade and agricultural investment between Southeast Asia and China in 1990–2015, *Globalizations*. 15 (2018) 702–721. <https://doi.org/10.1080/14747731.2018.1491688>.
- [19] B. Crona, E. Wassénus, M. Troell, K. Barclay, T. Mallory, M. Fabinyi, W. Zhang, V.W.Y. Lam, L. Cao, P.J.G. Henriksson, H. Eriksson, China at a Crossroads: An Analysis of China’s Changing Seafood Production and Consumption, *One Earth*. 3 (2020) 32–44. <https://doi.org/10.1016/j.oneear.2020.06.013>.
- [20] S. Clarke, UNDERSTANDING CHINA’S FISH TRADE AND TRACEABILITY SYSTEMS: Understanding China’s fish trade and traceability systems, *TRAFFIC East Asia*, 2009.
- [21] O. Wang, China trade: US, Europe frozen seafood exports under threat as Dalian’s COVID-19 cases halt cold chain food trading | South China Morning Post, *South China Morning Post*. (2021). <https://www.scmp.com/economy/china-economy/article/3155736/dalian-suspends-cold-chain-food-operations-amid-covid-19> (accessed August 3, 2023).
- [22] China Council for the Promotion of International Trade Information Center, The import and export trade of these commodities is prohibited by the relevant countries! Countries enacted these trade bans in December [这些商品的进出口贸易被有关国家禁止或限制！12月各国颁布了这些贸易禁令], (2021). <https://www.tradeinvest.cn/information/7637/detail> (accessed August 3, 2023).
- [23] J. Clapp, S.J. Martin, Food and agriculture: Global dynamics and environmental consequences, in: *Routledge Handbook of Global Environmental Politics*, Routledge, 2022: pp. 593–605.
- [24] D. Fuchs, A. Kalfagianni, The causes and consequences of private food governance, *Business and Politics*. 12 (2010) 1–34.

- [25] C.-F. Lin, Public-private interactions in global food safety governance, *Food and Drug Law Journal*. 69 (2014) 143–160.
- [26] N. McKeon, Are equity and sustainability a likely outcome when foxes and chickens share the same coop? Critiquing the concept of multistakeholder governance of food security, *Globalizations*. 14 (2017) 379–398.
- [27] J. Laurenceson, W. Zhou, Demystifying Australia-China trade tensions, *Journal of World Trade*. 56 (2022).
- [28] X. Chen, R.J. Garcia, Economic sanctions and trade diplomacy: Sanction-busting strategies, market distortion and efficacy of China's restrictions on Norwegian salmon imports, *China Information*. 30 (2016) 29–57.
- [29] S. Dalzell, J. Snape, T. De Landgraft, Tonnes of Australian lobsters stuck in Chinese airports amid trade tensions, *ABC News*. (2020). <https://www.abc.net.au/news/2020-11-02/australian-lobster-exports-caught-in-china-trade-tensions/12837700>.
- [30] Reuters, Taiwan threatens WTO action after China stops grouper fish imports | Reuters, (2022). <https://www.reuters.com/world/asia-pacific/taiwan-threatens-wto-action-after-china-stops-grouper-fish-imports-2022-06-11/> (accessed August 3, 2023).
- [31] C. Cadell, China's sweeping COVID controls put frozen food importers on ice, *Reuters*. (2020). <https://www.reuters.com/article/us-health-coronavirus-china-frozenfood-idINKBN27T0YK> (accessed August 3, 2023).
- [32] F. Hanson, E. Currey, T. Beattie, The Chinese Communist Party's coercive diplomacy |, Australian Strategic Policy Institute, 2020. <https://www.aspi.org.au/report/chinese-communist-partys-coercive-diplomacy> (accessed August 3, 2023).
- [33] P. Harrell, E. Rosenberg, E. Saravalle, China's Use of Coercive Economic Measures, Center for a New American Security, 2018. <https://www.cnas.org/publications/reports/chinas-use-of-coercive-economic-measures> (accessed August 3, 2023).
- [34] Z. Xiaotong, J. Keith, From Wealth to Power: China's New Economic Statecraft, *The Washington Quarterly*. 40 (2017) 185–203. <https://doi.org/10.1080/0163660X.2017.1302746>.
- [35] J. Reilly, Economic statecraft, *Handbook of the Politics of China*. Cheltenham: Edgar Elgar Publishers. (2015) 381–396.
- [36] M. Javorsek, Asymmetries in International Merchandise Trade Statistics: A case study of selected countries in Asia-Pacific, (2016).
- [37] Reuters, US targets China over semiconductors, (2023). <https://www.reuters.com/technology/us-targets-china-over-semiconductors-2023-06-30/> (accessed October 13, 2023).
- [38] L. Ciravegna, S. Michailova, Why the world economy needs, but will not get, more globalization in the post-COVID-19 decade, *Journal of International Business Studies*. (2022) 1–15.
- [39] A. Avwunudiogba, G.B. Ayittey, K. Chirambwi, E.J. Dung, A.D. Hoffman, C. Manyeruke, E. Matambo, L. Mhandara, S. Mudashiru, C. Mutasa, *China in Africa: Between Imperialism and Partnership in Humanitarian Development*, Lexington Books, 2021.
- [40] T.R. Heath, China's evolving approach to economic diplomacy, *Asia Policy*. (2016) 157–192.
- [41] J. Reilly, China's economic statecraft in Europe, *Asia Europe Journal*. 15 (2017) 173–185.
- [42] General Administration of Customs of the People's Republic of China, Interpretation of the General Administration of Customs on the "People's Republic of China Import and Export Food Safety Management Measures [海关总署关于《中华人民共和国进出口

- 食品安全管理办法》的解读], (2021).
<http://www.customs.gov.cn/customs/302249/302270/302272/3642213/index.html>
 (accessed August 3, 2023).
- [43] A.P.J. Mol, Governing China's food quality through transparency: A review, *Food Control*. 43 (2014) 49–56. <https://doi.org/10.1016/j.foodcont.2014.02.034>.
- [44] Chinese government, Recommendations of the Central Committee of the Communist Party of China on the formulation of the '13th Five-Year Plan' [中共中央关于制定“十三五”规划的建议_滚动_新闻_中国政府网], (2015).
https://www.gov.cn/xinwen/2015-11/03/content_2959432.htm (accessed August 3, 2023).
- [45] Z. Liu, A.N. Mutukumira, H. Chen, Food safety governance in China: From supervision to coregulation, *Food Sci Nutr*. 7 (2019) 4127–4139. <https://doi.org/10.1002/fsn3.1281>.
- [46] L. Zhang, Y. Xu, P. Oosterveer, A.P.J. Mol, Consumer trust in different food provisioning schemes: evidence from Beijing, China, *Journal of Cleaner Production*. 134 (2016) 269–279. <https://doi.org/10.1016/j.jclepro.2015.09.078>.
- [47] R. Liu, Z. Pieniak, W. Verbeke, Consumers' attitudes and behaviour towards safe food in China: A review, *Food Control*. 33 (2013) 93–104.
<https://doi.org/10.1016/j.foodcont.2013.01.051>.
- [48] S. Scott, Z. Si, Why China is emerging as a leader in sustainable and organic agriculture, *The Conversation*. (2020). <http://theconversation.com/why-china-is-emerging-as-a-leader-in-sustainable-and-organic-agriculture-132407> (accessed August 3, 2023).
- [49] People's Daily, Programme Documents for Implementing Food Safety Strategy [实施食品安全战略有了纲领性文件], (2019).
<https://baijiahao.baidu.com/s?id=1634211711829414059&wfr=spider&for=pc>
 (accessed August 3, 2023).
- [50] Chinese government, Opinions on Deepening Reform and Strengthening Food Safety Work [中共中央 国务院关于深化改革加强食品安全工作的意见_中央有关文件_中国政府网], (2019). https://www.gov.cn/zhengce/2019-05/20/content_5393212.htm
 (accessed August 3, 2023).
- [51] General Administration of Customs of the People's Republic of China, Import and export food safety: New changes in imported food labels in 2022 [进出口食品安全: 2022年, 进口食品标签新变化], (2021).
<http://www.customs.gov.cn/customs/302249/302270/302272/4016946/index.html>
 (accessed August 3, 2023).
- [52] Chinese government, Order of the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China [进出口水产品检验检疫监督管理办法(质检总局令第135号)], (2011). https://www.gov.cn/flfg/2011-01/25/content_1792161.htm (accessed August 3, 2023).
- [53] International Business Daily, "Measures for the Supervision and Administration of Inspection and Quarantine of Imported and Exported Aquatic Products" will be implemented in June ["进出口水产品检验检疫监督管理办法"6月起实施], (2012).
<http://www.cinic.org.cn/site951/zcdt/2012-05-16/560244.shtml> (accessed August 3, 2023).
- [54] Centers for Disease Control and Prevention, Announcement of the National Health Commission of the People's Republic of China [中华人民共和国国家卫生健康委员会

- 公告], (2020).
<http://www.nhc.gov.cn/jkj/s7916/202001/44a3b8245e8049d2837a4f27529cd386.shtml>
 (accessed August 3, 2023).
- [55] Dalian Customs District P.R. China, General Administration of Customs Announcement No. 58 of 2022 (Announcement on Further Optimizing and Improving Measures for Epidemic Prevention and Control at Ports of Imported Cold Chain Food)[海关总署公告 2022 年第 58 号(关于进一步优化完善进口冷链食品口岸疫情防控措施的公告)], (2022).
http://www.customs.gov.cn//dalian_customs/zfxxgk75/460678/3419608/3419611/4483938/index.html (accessed August 3, 2023).
- [56] A. Espitia, N. Rocha, M. Ruta, COVID-19 and food protectionism: the impact of the pandemic and export restrictions on world food markets, World Bank Policy Research Working Paper. (2020).
- [57] Y. Chang, X. Zhang J.D., M. Khan, The impact of the COVID-19 on China's fisheries sector and its countermeasures, Ocean and Coastal Management. 216 (2022) 105975.
- [58] X. Liu, Y. Chang, An emergency responding mechanism for cruise epidemic prevention—taking COVID-19 as an example, Marine Policy. 119 (2020) 104093.