

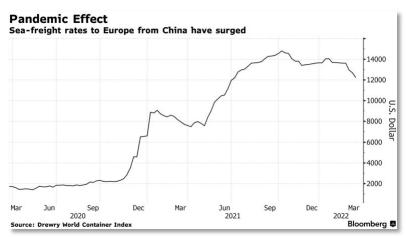
SUPPLY CHAIN SURGES & SHORTAGES

Exiger Trends Report

March 2022

Climate, Disasters, & Disruption

- Russian invasion of Ukraine:
 - Russian invasion of Ukraine China-Europe forces transit to sea. Over 1 million containers scheduled to go by train between Europe and China via Russia must now find alternate routes. Exporters and logistics firms transporting goods between China and Europe are now looking to avoid land routes passing through Russia or the conflict Ukraine, putting in additional pressure on ports



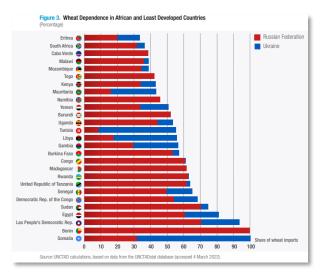
already struggling because of COVID-19. Some businesses are moving to the water to escape payment and security issues while others, like Caterpillar, continue to use the extensive rail networks through Europe and Central Asia. Yearly, trains transport roughly 1.46 million containers carrying commodities worth about \$75 billion between China and Europe (Bloomberg, Chicago Business).

- Amid surging oil prices, U.S. and allies dip into SPR while OPEC+ continues gradual output increase. In response to a surge in oil prices following Russia's invasion of Ukraine, the U.S. and other members of the International Energy Agency released 60 million barrels of oil from their strategic petroleum reserves. Meanwhile, OPEC and its non-OPEC partners agreed to stick to their plan for a small output increase in April (NPR, CNBC).
- As Russian auto production "hits the brakes," U.S. regulators warn Chinese chip manufacturers on sanctions non-compliance. Car manufacturers such as VW and Renault suspended Russian manufacturing operations following Western export controls on Ukrainian parts and semiconductors, which were among the first wave of products used to cut Russia from global supply chains. When asked whether the U.S. would block Chinese semiconductor firms from curbing Russia-related sanctions, the U.S. Commerce Secretary said that the U.S. could "shut down" firms like SMIC because of their dependence on U.S. equipment and software (Bloomberg, NY Times).
- UNCTAD rapid assessment breaks down developing nations' dependence on Russian and Ukrainian agricultural exports. The conflict in Ukraine and associated sanctions will prompt a

global food shortage, as a significant proportion of the world's wheat, corn, barley, and fertilizer are trapped in Russia, Ukraine, and Belarus.

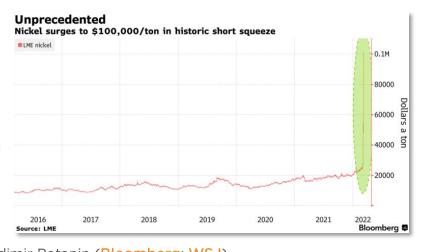
- Combined, Russia and Ukraine account for 53 percent of global sunflower oil trade, 27 percent of global wheat trade, and 23 percent of global barley trade. Supply disruptions have disproportionally affected the world's least developed countries, including African nations that import 44 percent of their wheat from Russia and Ukraine (UNCTAD, NY Times).
- Current climate-related disruptions affecting **global supply chains.** From a Malaysian flood to a Texas freeze, natural disasters continue to

threaten critical supply chains and intensify the push to address ESG risks (PBS).



Labor & Industry

- Blacklisted Chinese surveillance company reportedly acquired machine for in-house chip production. Hangzhou Hikvision Digital Technology, a so-called "NDAA 889 company" that the U.S. blacklisted in 2019 for its links to Uygur surveillance in Xinjiang, denied making the transaction, which would help it overcome U.S. trade restrictions for semiconductors used in its products (SCMP).
- Nickel's unprecedented short squeeze leads to London Metals Exchange trading halt. The price of nickel rose as much as 250 percent in a two-day period to \$100,000/tonthe increase ever on the LME. Nickel prices had been steadily rising until the Russian invasion of after Ukraine. which the commodity underwent an unprecedented spike. Norilsk Nickel, the world's largest nickel palladium producer, is controlled by Russian oligarch Vladimir Potanin (Bloomberg; WSJ).



More fallout from the Russian invasion: European steel prices reach €1,400/ton while neon shortages portend more trouble for semiconductors. Estimates indicate that Russia and Ukraine account for one-third of the EU's steel imports and, if combined, would be the second largest steel exporter, behind only China (Bloomberg). Meanwhile, Ukraine's global dominance in producing semiconductor-grade neon will further hobble an already ailing industry (Exiger Client Alert)

- Germany and Norway pave the way for potential hydrogen pipeline. The governments of Germany and Norway announced plans for a feasibility study of transporting hydrogen from Norway to Germany. Germany also intends to procure renewables from Norway, building on the countries' North Seas Energy Cooperation (<u>Bloomberg</u>).
- COVID-19 surge halts production in Chinese manufacturing hubs. Production halted at many factories as Chinese manufacturing hubs Shenzhen and Changchun locked down amid a COVID-19 surge. In addition to shutting down technology manufacturers such as Foxconn, the lockdowns added strain to busy ports such as Shenzhen's Yantian Port, the fourth largest in the world (WSJ, Fortune, CNBC).
- Major Japanese OEMs reduce production following earthquake. The original equipment manufacturers included Toyota, Renesas Electronics, and Murata Manufacturing, each of which reduced or suspended production in the wake of a March 16th earthquake off the coast of Japan (<u>Automotive Logistics</u>; <u>Reuters</u>).

Risk & Innovative Mitigation

- Harvard Business Review's four dimensions to consider when managing supply chains. Harvard Business Review proposed four additional dimensions that supply chain managers should consider: geography and geopolitics; logistics; decarbonization and sustainability; and business health of suppliers, particularly in distant supply chain tiers (Harvard Business Review).
- White House announces supply chain data-sharing initiative. The new initiative—meant to improve supply chain data flow and dubbed "Freight Logistics Optimization Works" or FLOW—is led by the Department of Transportation and will develop a "proof-of-concept information exchange" to ease supply chain congestion, speed up the movement of goods, and reduce consumer costs (White House Fact Sheet).
- NIST publishes guide for cybersecurity of industrial control systems in manufacturing industry. The National Institute of Standards and Technology has published the final version of a guide designed to help manufacturers bolster the cybersecurity of industrial control systems (NIST).
- DPA will potentially cover battery metals. The Biden administration is reportedly working on an executive order that would use the Defense Production Act to increase the availability of minerals for electric vehicle batteries (lithium, nickel, graphite, cobalt, and manganese). The DPA could grant mining companies, battery recyclers, and downstream distributors access to \$750 million and allow Congress the opportunity to increase funding for the effort. The supply chain for high-capacity batteries, like those used in EVs and stationary storage solutions, is heavily dependent on China (Bloomberg).

Threats & Regulatory Compliance

• FCC unanimously votes to bar Pacific Networks and its wholly owned subsidiary ComNet from U.S. telecom services. This is the latest attempt by U.S. authorities to prevent Chinese telecom companies—investigated for espionage on behalf of the Chinese Communist Party—

from operating in the U.S. (<u>Reuters</u>; <u>Exiger Solutions for ICT Sector</u>; <u>Exiger Trends Report</u>, <u>January 2022</u>).

- Russia unveils its own retaliatory sanctions against "unfriendly countries." Russian President Vladimir Putin announced that Russia will restrict trade in key goods and raw materials for countries deemed unfriendly during its conflict in Ukraine. He later said that Russia will only accept payment in rubles for gas sold to unfriendly countries, causing European wholesale prices to rise 30 percent (Reuters).
- Chinese sportswear retailer Li-Ning banned from U.S. market over North Korean labor violations. Under the authority of the Countering America's Adversaries Through Sanctions Act, which prohibits any goods "mined, produced, or manufactured wholly or in part by North Korean nationals or North Korean citizens anywhere in the world," Washington is cracking down on China's apparel sector over human rights abuses (SCMP).
- Chinese cyber offensive:
 - China's decade-old premier hacking tool, Daxin, identified. U.S.-based cybersecurity firm Symantec, which discovered this "back door," styled it the "most advanced piece of malware that China-linked hackers have ever been known to use." Daxin's existence, along with Chinese private sector alliances with the People's Liberation Army, highlight the Chinese military's strategy to become a cyber superpower (MIT Tech Review).
 - Cybersecurity firm discovers hack on U.S. state governments. Researchers at Mandiant found that, between May 2021 and Feb. 2022, the infamous hacking group APT41 compromised the networks of six U.S. state governments; the hacks "took advantage of vulnerable internet-facing web applications." The DOJ previously identified APT41 as a Chinese state-sponsored hacking outfit (WSJ; CNBC).
- FBI warns energy sector of looming Russian cyberattack threat. The FBI advisory notice said that hackers have scanned at least five energy companies for network vulnerabilities. The alert coincides with the FBI's annual crime report, which revealed that cyberattack-related losses in 2021 increased by 64 percent over the previous year, totaling nearly \$7 billion (AP; Cyberscoop; FBI; Exiger on Fox Business Network).



ABOUT EXIGER

Exiger is revolutionizing the way banks, corporations, and governments manage risk through its combination of practical expertise, award-winning technology, and process excellence. In recognition of the growing volume and complexity of data and regulation, Exiger is committed to creating a more sustainable compliance environment through its holistic and innovative approach to problem solving. Powered by DDIQ and Insight 3PM, Exiger takes an analytics-led, technology-enabled approach to everything we do.

For more information contact:

Tim Stone

Senior Director, SCRM, Government Solutions

tstone@exiger.com

Carrie Wibben

President, Government Solutions cwibben@exiger.com