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Supply Chains—It's All National Security Now

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Writing in the fall issue of *Foreign Policy*, Tufts University professor Daniel Drezner argues that "the national security bucket has grown into a trough," and that everything from climate change, ransomware, AI, and critical minerals is "national security" now.

While that may be bit of an exaggeration, the reality is that supply chains have become a critical national security issue due to their role in maintaining the availability of essential goods, technology, and defense materials. Disruptions or vulnerabilities in these chains can compromise national defense, economic stability, and even public health. Several factors, such as geopolitical tensions, pandemics, and natural disasters, have highlighted the fragility of global supply chains.

To illustrate, semiconductor supply chains are the most obvious example as they are critical to national security. The global semiconductor industry is highly concentrated in a few countries, with Taiwan's Taiwan Semiconductor Manufacturing Company (TSMC) and South Korea's Samsung leading the market. The U.S. relies heavily on these foreign manufacturers for advanced chips used in everything from smartphones to defense technologies. In 2020, U.S. semiconductor manufacturing represented just 12% of global capacity, raising concerns about overdependence on foreign supply, especially from countries near geopolitical hotspots like China. The U.S. CHIPS Act, passed in 2022, aims to promote domestic semiconductor production to safeguard national security by reducing reliance on foreign manufacturers.

As for pharmaceuticals, the COVID-19 pandemic highlighted vulnerabilities in the global pharmaceutical supply chain, especially for the U.S. and European countries. A significant portion of pharmaceutical ingredients and finished products is produced in China and India, raising concerns about the risks of supply disruptions during global crises. The U.S. government issued executive orders to boost domestic production of critical pharmaceuticals and medical supplies to

avoid future shortages. The pandemic revealed the dangers of relying on a few countries for essential goods, especially in emergencies.

Still another example is the defense and aerospace industry. The defense and aerospace industries are highly vulnerable to supply chain disruptions, given their reliance on specialized materials and technologies sourced globally. Boeing, for example, faced delays and cost overruns due to supply chain challenges related to the COVID-19 pandemic and geopolitical tensions, which affected its suppliers in countries like China. In response, the U.S. Department of Defense has been increasing scrutiny of defense supply chains, seeking to reduce reliance on foreign components in critical systems such as aircraft and weapons.

To protect its supply chains from threats to national security, the U.S. can implement a combination of policies and actions involving government agencies, private industries, and strategic partnerships. Effective policies typically focus on five priority areas. First is *strengthening domestic manufacturing and nearshoring.* It is paramount for the nation to reshore critical industries, such as defense, healthcare, and semiconductor manufacturing, and strengthen trade partnerships within the USMCA region to nearshore supply chains. Intel's expansion of semiconductor manufacturing in the U.S., along with Taiwan Semiconductor Manufacturing Company's (TSMC) decision to build a plant in Arizona, are part of efforts to reduce dependency on foreign supply chains, particularly in China. Second is *diversification of supply chains*. The U.S. must develop alternative supply sources and trade relationships to reduce dependency on single regions (e.g., China for rare earth elements). Presently, defense contractors such as Lockheed Martin and Northrop Grumman are sourcing components from diversified suppliers to ensure production resilience for sensitive technologies.

Third, *cybersecurity and supply chain integrity* require policy actions to strengthen measures in critical sectors to protect against cyber-attacks targeting supply chains. This includes establishing guidelines for suppliers and ensuring the integrity of software and hardware. In the defense and aerospace field, companies like Raytheon and Boeing are working with the government to implement cybersecurity protocols that safeguard sensitive supply chain information and technology from foreign adversaries.

Fourth, *strategic stockpiling and inventory management* are essential. This means enhancing-strategic reserves of critical materials, including rare earth elements, medical supplies, and energy resources (e.g., oil, gas, and strategic minerals). The same holds for healthcare and pharmaceuticals. Companies like Pfizer and Moderna were able to ramp up production during the COVID-19 pandemic partly because of government investments and strategic stockpiling of critical medical supplies.

Lastly, *screening of foreign investments* is more important now than ever. This policy action is extremely important in critical industries to prevent hostile foreign actors from controlling key sectors or acquiring sensitive technology. The U.S. government has blocked or restricted foreign takeovers of key American companies in sectors like telecommunications and technology, particularly from countries like China, to protect sensitive infrastructure and intellectual property.

As for trade, the U.S. is considering a 25% tariff on Chinese crane imports as the cranes could use their logistics software to monitor military related shipments. Meanwhile, tariffs of 100 % on Chinese electric vehicles have been imposed in part to concern of China gaining access to date from onboard computers.

In sum, economic priorities and national security concerns are becoming fused. And the only effective actions to protect supply chains from national security threats involve a mix of domestic investment, international diversification, robust cybersecurity measures, and strategic partnerships. Nothing else will do.

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