



Reshoring and “friendshoring” supply chains

Reshaping supply chains to improve economic resilience

Melanie Rojas, Adam Routh, Jesse Sherwood, John Buckley, and Akash Keyal

THE COVID-19 PANDEMIC disrupted global supply chains almost immediately, and everyone felt it.

Millions hoarded toilet tissue and hand sanitizer and placed countless online orders for necessities. Factories stood idle due to sickness and staffing shortages; postal services struggled with mountains of packages. Caution and frequent outbreaks forced retail and logistical workers to stay home, and even hospitals ran short of critical supplies. Governments couldn’t relieve the pressure by stockpiling critical items, since every nation was negotiating with the same suppliers for surgical masks, shipping containers, and everything else.¹

Shortages of everything from semiconductors to farming materials continue to plague producers, distributors, and consumers. Governments have attempted to shore up supply chains through a mix of policies, incentives, and orders.²

Many are encouraging the reshoring of critical supply chains to increase their economic resilience. Reshoring is inherently popular, but the process has limitations.³ Some supply chains can’t be fully reshored because critical resources may exist in only one or two locations on the planet. Economics can limit other supply chains, since the cost of replicating them domestically is likely to be larger than the entire global industry is worth.

So, policymakers are looking to pair reshoring with “friendshoring”—a network of trusted suppliers from friendly countries that offer multiple independent supply paths.⁴ “Friendshoring” offers a clear path to improving the resilience of many key industries while supporting important international relationships.

Trend drivers

Several factors have spurred the drive toward improved supply chain resilience:

- **Global supply chains have become more interdependent.**
- **Lean supply chains are increasingly subject to external shocks** due to the pandemic, tight labor markets, or even shortages of shipping containers.
- **Rising geopolitical tensions among trading partners heighten the risk** that a single partner could slow down—or cut off—the flow of needed supplies.

Trend in action

The first two of these factors have led companies and nations alike to make supply chain resilience an important goal. The third has led governments to pursue resilience in their international relations, especially as various protectionist and nationalist trade policies reappear.⁵ Policymakers no longer see commercial supply chains for electronics, food, or pharmaceuticals purely in economic terms; today, they’ve become important national security considerations.⁶

In the third year of COVID-19, supply chains are still fractured.⁷ That fragility didn’t begin with the pandemic, however; it grew during recent decades as businesses focused on cost savings and efficiency

gains.⁸ Global supply sources kept input costs low, and just-in-time inventories allowed businesses to further reduce costs while meeting aggressive timelines. But these highly efficient operations came with a high degree of risk; one broken link could bring the whole system to the brink of collapse. Making supply chains more resilient will require us to balance costs and efficiency against risk.⁹

RESHORING

When domestic supply chains are shattered by foreign supplier shortfalls, the impulse to encourage reshoring is understandable. The United States is hardly alone in passing executive orders aimed at boosting domestic production capacity in essential sectors.¹⁰ China, which remains a major global exporter, has adopted a new strategy—dual circulation—which aims in part to make domestic manufacturing more self-sufficient by reducing reliance on foreign technology in the face of heightened external uncertainty and volatility.¹¹

But few governments have the power to mandate where private companies will source or make products. Nor is it likely governments could convince commercial companies to disclose proprietary supply chain practices to aid supply chain reorganization. Even as companies themselves make moves to shore up their own resilience, some policymakers are turning to a mix of incentives to encourage them to bolster domestic supply chains, such as subsidies, tax breaks, and loan-guarantee programs. Government funding for innovation, research and development, and knowledge-sharing also can enhance domestic industries’ technical capacities for manufacturing.¹²

But self-sufficiency—involving far more than traditional commodities such as oil, steel, and lumber—is becoming more difficult. Consider the case of lithium-ion batteries, essential to electric vehicles and renewable energy storage. As

countries transition to low-carbon economies, these batteries will be critical to long-term economic growth and national security. But fragile supply chains can threaten access to these critical components in the event of natural disasters or heightened tensions. Even China, which has 77% of the global lithium cell manufacturing capacity, is highly reliant on imports of raw lithium.¹³ Many countries—most notably India and the European Union—have begun offering subsidies encouraging manufacturers to set up domestic manufacturing units.¹⁴ The White House intends to tap the Department of Energy’s (DoE) loan authority to support the domestic battery supply chain; DoE’s US\$17.7 billion Advanced Technology Vehicles Manufacturing Loan Program plans to offer loans to manufacturers that establish factories in the United States.¹⁵

WHEN RESHORING IS IMPRACTICAL OR IMPOSSIBLE

Obviously, not every nation can mine lithium, one of many natural resources integral to the modern economy. No amount of government subsidy can help build independent battery industries from scratch. Even industries not reliant on rare commodities are often too complex to replicate: Remaking Asia’s electronics industry in Europe or North America would require creating several layers of the supply chain, not just assembly plants.

This doesn’t mean that pursuing supply chain resilience via reshoring is misguided, only that policymakers should supplement it with “friendshoring”, working with other nations and trusted supply sources.¹⁶ As the pandemic has illustrated, any number of unforeseen events can affect supply chains or disrupt even a small, purely domestic industry. By strengthening domestic supply chains with trusted international sources, companies and nations alike can improve resilience.¹⁷ For instance, in 2020, the *Times* reported that the UK government was drawing up plans for a supply chain approach called “Project Defend,” aiming to ensure continued access to critical goods by expanding domestic production capacity and diversifying international trading relationships.¹⁸

Governments may not be able to conjure up entire domestic industries or supply chains. But they *can* bolster resilience by evaluating the strength of critical industries, improving supply chain awareness, and cultivating links with trusted foreign nations and suppliers. In 2021, India, Japan, and Australia partnered to enhance the resilience of Indo-Pacific supply chains. Under their Supply Chain Resilience Initiative, these nations agree to share best practices on resilience and hold investment promotion and buyer-seller matching events to encourage businesses to diversify their supply lines.¹⁹

PURSUIING RESILIENCE IN SEMICONDUCTOR MANUFACTURING

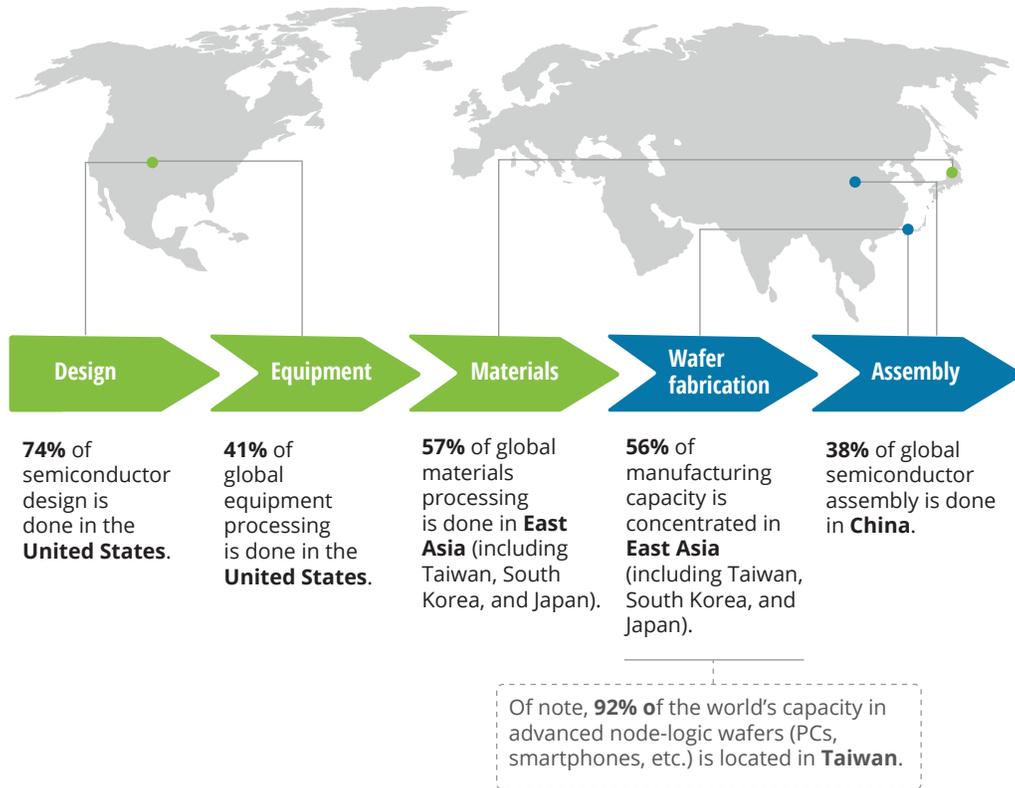
Semiconductors, which are integral to new cars and countless other products, are a great example of a critical product with numerous supply chain choke points. Their design and manufacture require specialized knowledge and manufacturing equipment that is difficult to acquire and expensive to produce, factors that have led to geographic consolidation of the supply chain. Three locations—the United States, China, and Taiwan—have roughly 70% of market share in semiconductor assembly, testing, and packaging (figure 1).²⁰ Taiwan and South Korea together manufacture all of the most advanced semiconductors.²¹

Such specialization inevitably creates choke points and supply chain vulnerabilities. COVID-19 disruptions have caused shortages that continue to delay the manufacture and shipment of vehicles and many other products dependent on semiconductors.²²

FIGURE 1

Semiconductor consolidation

■ Low risk concentration ■ High risk concentration



Source: Deloitte analysis.

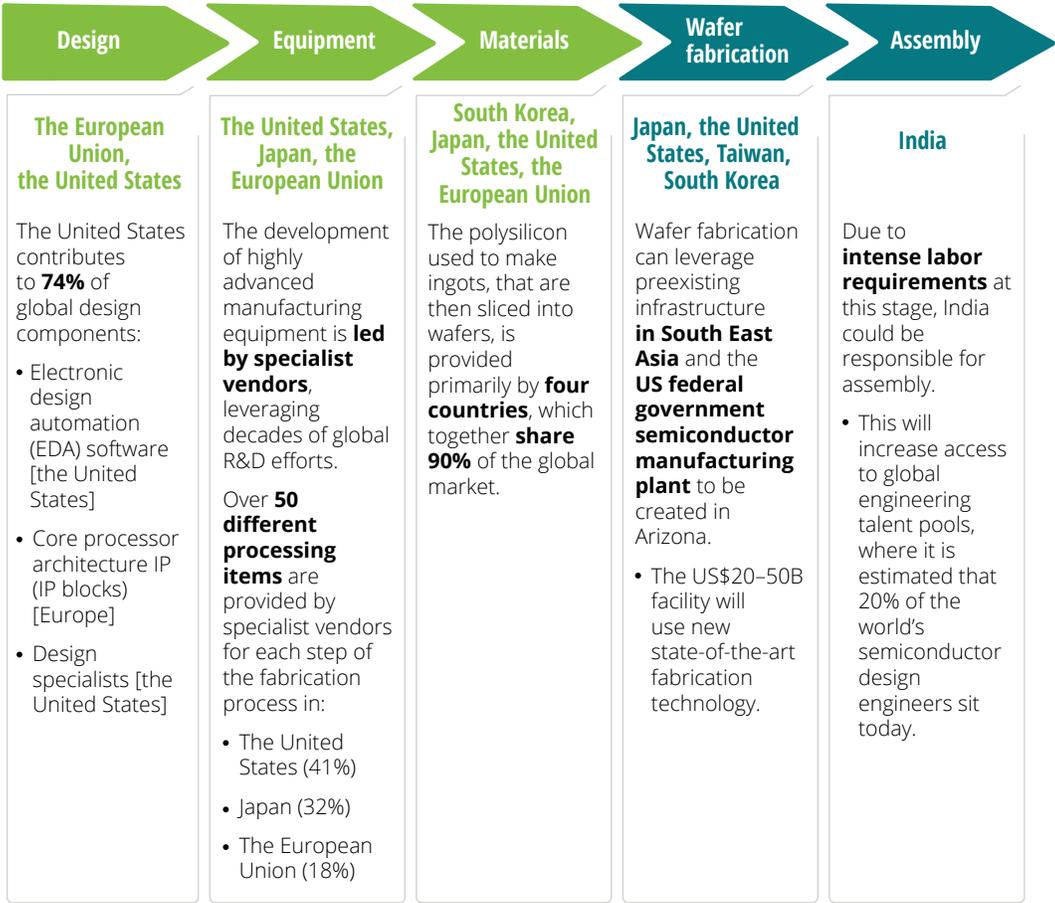
Is this situation fixable? Few nations possess the natural resources or knowledge base needed for independent semiconductor production, and even those that do would face enormous financial challenges. By one recent industry estimate, establishing fully domestic semiconductor manufacturing supply chains in the United States could cost up to US\$1 trillion—more than double the value of the entire global semiconductor market.²³

Therefore, resilience in semiconductor supply chains requires more than new factories or new mines. But agreements among nations with shared strategic and supply concerns can create an economically viable yet resilient supply chain. By diversifying away from nations where political tensions increase risk, countries can limit choke points and still ensure the efficiency of this critical supply chain (figure 2).

FIGURE 2

A balanced semiconductor supply chain: One scenario²⁴

■ Potential



Source: Deloitte analysis.

Moving forward

Governments can take three steps to begin creating resilience in critical supply chains:

1. Know your supply chain. Companies know who their suppliers are, and the most diligent may even know who supplies their suppliers. But few collect supply chain data beyond that. Since choke points and single-source suppliers can occur in supply chains anywhere, from the sourcing of raw materials to finished products, balancing risk and resilience begins with knowing where the major risks lie.²⁵ Government agencies should evaluate their own supply chains. How far down the evaluation goes (e.g., five levels versus 12 levels) should be based on balancing cost with effort and the agency's ability to execute mitigations. The agencies with a regulatory role over critical industries should pursue policies that encourage companies to do the same.

2. Decide which supply chains are critical.

Once the data is in hand and is organized to provide a clear picture, the next step is to understand what products, services, or resources are most critical to the nation. This assessment can and should shift with the strategic situation. For instance, few before 2020 would have categorized personal protective equipment as nationally critical material demanding special attention.²⁶

3. Assist with supply chain orchestration.

Governments exercise direct control over a very small percentage of critical supply chains.²⁷ They need to make it easy for commercial companies to make the right choices and find a diverse set of trusted suppliers to make their own supply chains resilient. These actions could range from new trade treaties to the creation of a "trusted supplier marketplace."

MY TAKE

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Collaboration and filling gaps in the market can mitigate supply chain risk

For years, highly globalized supply chains optimized for business met the needs of consumers and governments alike. These global supply chains posed little risk despite single points of failure from overcentralization—the benefits and limited risk allowed us to become comfortable with the system.

Perhaps because we grew comfortable, we failed to pay attention to the growing risk in the system. Relying on a single source of supply for critical items and limited information now poses too much risk when considered against shifting, and in some cases, worsening, international relations. While the reflex triggered by changing interstate relations may be to bring critical supply chains home, a better solution involves relocating elements of supply chains to friendly trading partners.

The Strategic Technologies Program at the Center for Strategic and International Studies is working on solutions to these problems to inform government policy and industry best practices. In our research, we note that governments should understand their supply chain risk and the solutions that can offset it. The solution will require broad changes to the supply chain ecosystem.

The first change is to become more collaborative. For government, becoming more collaborative should include figuring out who manages the information, and if no agency does, creating one to do so. For industry, developing technology tools to make sense of large amounts of supply chain data can ease the collaboration burden.

Another change involves filling market gaps. Whether it's sharing of information between suppliers and manufacturers or helping decide where to locate pieces of the supply chain, the market drove a lot of supply chain decision-making. Today, governments need to understand what the market isn't providing or where market forces are creating risk—and then develop policies to offset that risk. For industry, this means using a well-developed understanding of supply chain risk to inform business decisions.

Finally, supply chains will continue to be global, but how they are organized is expected to change. Ensuring that changes are made collaboratively and with supply chain resilience in mind will require governments to think internationally, not just domestically.

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