The Stretch of Supply Chains

The pandemic has reignited debate over global assembly lines that stretch around the world

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HAVE YOU EVER visited a store only to find empty shelves rather than the product you wanted to buy? This might have been because of disrupted supply chains. Usually, these chains operate seamlessly in the background to bring you the goods you need. However, when supply chains break down we all notice. So what are these vital parts of the global economy?

Supply chains are the assembly lines that deliver goods for final consumption. Think about the laptop, desktop, tablet, or phone on which you are reading this article. These products came to be thanks to a multitude of different inputs that traveled through a complicated supply chain before arriving in your hands as a finished good. This journey involved product development, sourcing the raw materials, assembling the parts, testing the end product, and shipping it to you. That way, you can think of the supply chain as an assembly line that makes possible the product that you, the consumer, want to buy.

Worldwide inputs

Historically, supply chains were simple and operated within confined geographic areas. National producers would make simple products such as wine, cloth, or bread. By and large, all the components to put together such products could be found near where the end product was consumed. However, in our modern economy, supply chains are highly complex and involve numerous producers around the globe. Think again about your phone. It could include aluminum mined in Africa, silicon produced in South America, and microchips made in Asia. The design may have been developed in North America, and it could all have been put together at a factory in Asia before it was delivered via a European shipping company.

Today firms source their inputs from all over the world to tap the most suitable components to put together their products. Several factors contributed to this development. First, technological leaps have

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allowed firms to communicate seamlessly with other firms on the other side of the globe and have reduced transport costs. Second, international agreements have made trade more predictable by making it easier to enforce contracts and cheaper by reducing trade costs through lower tariffs and nontariff barriers. Third, structural reforms have allowed businesses to invest more easily in foreign factories.

These technological, institutional, and policy advances have allowed to fragment their production processes, causing a boom in the international trade of inputs for production (so-called intermediate goods). These profound changes have affected virtually every country, with both advanced and emerging market economies becoming more integrated into global supply chains as a result. The change was dramatic in the 1990s and 2000s before integration leveled off somewhat in the 2010s.

Pressure from the pandemic

In its acute phase, the pandemic caused widespread factory closures that reverberated through supply chains as intermediate inputs from closed factories became scarce elsewhere on these global assembly lines. While supply was being constrained, demand for goods rose above pre-pandemic trends as consumers stuck at home shifted their spending away from contact-intensive services (such as eating out and traveling) and toward goods allowing them to work, learn, and play at home. In other words, the pandemic caused an extraordinarily high demand for goods at a time when the world's ability to supply these goods was facing unprecedented challenges. Few links in the global supply chain were spared, and some became a regular fixture in media reports, such as widespread scarcity of semiconductors. Even ports emerged as choke points for global trade, with lines of container ships waiting outside major harbors.

For countries, participation in global supply chains during the pandemic thus came with costs and benefits. On the one hand, participation exposed countries to lockdowns and factory closures in other countries. On the other hand, participation allowed for supply of foreign goods at times when the domestic economy was hit hard by the pandemic. On balance, the evidence suggests that global supply chains adapted well during the pandemic, with countries relatively less affected filling in for countries hit harder.

What is the future of supply chains?

The supply chain disruptions in the wake of the pandemic have brought to light the importance of resilience—that is, the ability of supply chains to continue to operate even when hit by shocks. More recently, the surge of the Omicron variant and the war in Ukraine have added to uncertainty surrounding supply chains. In the wake of all this, policymakers and firms are discussing several options that could reshape supply chains:

- First, some have called for "reshoring"—that is, disintegration from global supply chains by moving foreign production back home.
- Second, some have argued for greater diversification—in other words, increasing the number of foreign suppliers for any given input, even if it entails higher costs. Unless all supplying countries are hit at the same time, this would allow producers to better withstand supply shocks.
- Third, companies could decide to hold excess inventory. A higher level of inventory would allow firms to better weather temporary supply shocks.

The shock waves from the pandemic on global supply chains have yet to settle, but the economic evidence available so far does not favor the reshoring approach. The pursuit of self-reliance would yield less efficient production, and available evidence does not suggest that it will improve resilience. The strategy is akin to putting all your supply-chain eggs in the same domestic basket. Diversification and overstocking are essentially insurance strategies. Countries and companies have to decide how high an insurance premium they are willing to pay. Indeed, having spare suppliers or carrying excess inventory is not free.

Policymakers and firms therefore face the difficult task of weighing their need for resilience against their willingness to pay for insurance. The optimal choice depends on country-specific circumstances and risk tolerance. All the same, the debate over how much or how little to integrate into global supply chains looks set to persist. Ultimately it could determine whether you are met with products or empty shelves the next time you go to the store. FD

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