

## Rethinking Global Value Chains During COVID-19: Part 1

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In the past decades, technological advances and declining trade costs have led to a fragmentation of production across the globe. This shift has given rise to global value chains (GVCs), which are sequences in the stages of production that add value to goods and services and occur in at least two countries (Antràs, 2021).<sup>1</sup> For example, the German automotive manufacturer BMW has a production network that spans 12,000 suppliers across 70 countries. In a recent example, the Pfizer-BioNTech COVID-19 vaccine was developed using 280 different components from 86 different suppliers across 19 countries.<sup>2</sup>

GVCs can make final goods production less costly and more efficient, but they are not without risks.

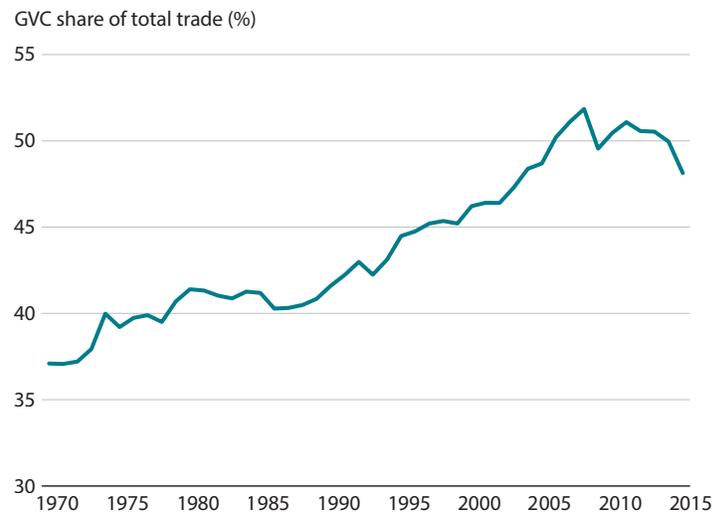
The figure shows the evolution of GVC participation over time, as measured by the share of total trade that includes value added from at least two countries. Whereas value chains were involved in less than 40 percent of total trade in the 1970s, they accounted for more than 50 percent of total trade just before the Great Recession. The figure shows a sharp increase between 1986 and 2008, accelerated by technology advances and declining trade barriers. However, after the Great Recession, the pace of value chain participation stagnated. Some explanations include the rise in automation as a substitute for outsourcing, increases in labor costs in developing countries, and technological wars and the subsequent protectionist measures implemented by some governments.<sup>3</sup>

This essay discusses some of the benefits and risks of increased participation in GVCs.

### Benefits and Risks of GVC Participation

Firms participating in GVCs benefit from highly specialized production processes, not only across countries and sectors but also across tasks within a sector. Firms can benefit from outsourcing different stages of the production process to other firms or countries that have a comparative advantage because they either (i) are more efficient, (ii) have lower production costs, or (iii) have the raw mate-

### GVC Participation Over Time



SOURCE: World Development Report 2020.

rials that are needed in a particular stage of the process. In the case of BMW, using 12,000 suppliers allows them to source from firms that specialize in a few intermediate goods and minimize costs. Advances in technology and decreasing transport costs also allow manufacturers to source their intermediate goods based on the country with the lowest production cost or highest productivity, rather than simply the closest country. That way, firms can make their final goods production less costly and more efficient. However, this is not without risks.

The biggest risk of relying heavily on foreign intermediate inputs for domestic production is the potential for shocks that originate in one or more of these suppliers that can propagate across the chain, causing bottlenecks, supply shortages, and price increases. These shocks can arise from a number of factors such as trade barriers (i.e., trade wars, increases in shipping costs, etc.), natural disasters, or, as we are currently experiencing, worldwide pandemics.

### The Current Debate on GVCs

The risks of GVC participation have been at the forefront of discussions among policymakers and academics in the past few years. If the risks of shock propagation through

foreign production dependence outweigh the productivity costs gained from internationally fragmented supply chains, what can policymakers do to reverse course? Knowing where these shocks occur and how widespread they are is crucial to determining how a country's production will be affected. However, having advanced knowledge of the shocks requires businesses and policymakers to evaluate the main sources of vulnerability to best protect against all contingencies. With GVC usage accounting for nearly 50 percent of global trade, these are questions businesses and policymakers will be forced to address in the post-COVID era.

In a second part to this essay we explore these questions and provide some ideas about the complex challenges governments face when re-thinking the future of GVCs in the aftermath of COVID-19. We will discuss three types of shocks that occurred during COVID-19 and exposed the vulnerabilities of heavily relying on foreign intermediate inputs: (i) increases in shipping costs around the world; (ii) protectionist policies in the context of essential medical goods; and (iii) containment policies that governments around the world imposed to contain the spread of the virus. We will also offer some thoughts on how we can increase resilience and stability of GVCs in the future, while still preserving their main benefits. ■

## Notes

<sup>1</sup> GVCs are different from global supply chains in that they refer not only to the manufacturing and distribution of a product but also to other activities that add value, such as design and marketing.

<sup>2</sup> See <https://eworld.substack.com/p/globalization-in-a-needle>.

<sup>3</sup> See <https://www.worldbank.org/en/publication/wdr2020>.

## References

Antràs, Pol. "Conceptual Aspects of Global Value Chains." *World Bank Economic Review*, 2021, 34(3), pp. 551-74; <https://scholar.harvard.edu/antras/publications/conceptual-aspects-global-value-chains>.