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Global Supply Chains and Economic “Resilience”: (More) Evidence from the Pandemic

By **Scott Lincicome**

The last few months have provided **several counterexamples** to the trendy claim that “re-nationalizing” global supply chains for essential goods would have bolstered the United States’ economic “resilience” during the pandemic (and thus is a necessity in the future). As I explain in a forthcoming paper on trade, manufacturing, and national security, these claims never made much sense: “greater trade and investment openness might make an economy more vulnerable to external supply or demand shocks, but it also helps reduce a nation’s vulnerability to (and improve its recovery from) domestic shocks.” New economic research confirms this intuition (and those anecdotes) with respect to COVID-19:

In a mid-2020 **analysis** of the pandemic’s earliest days, economists Barthélémy Bonadio, Zhen Huo, Andrei A. Levchenko and Nitya Pandalai-Nayar–

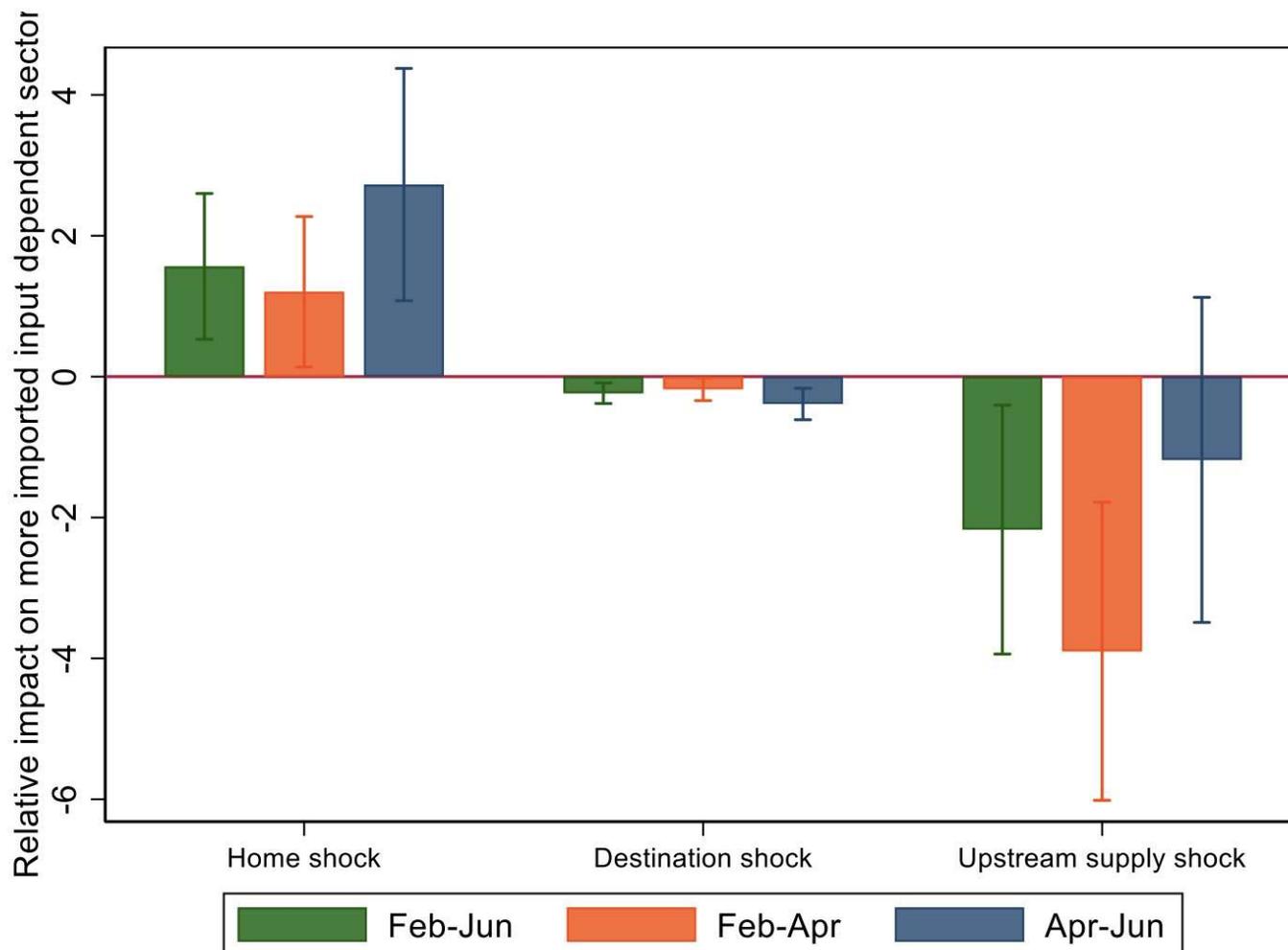
show that the average real GDP downturn due to the Covid-19 shock is expected to be — 29:6%, with one quarter of the total due to transmission through global supply chains. However, “renationalization” of global supply chains does not in general make countries more resilient to pandemic-induced contractions in labor supply. The average GDP drop would have been — 30:2% in a world without trade in inputs and final goods. This is because eliminating reliance on foreign inputs increases reliance on the domestic

inputs, which are also disrupted due to nationwide lockdowns. In fact, trade can insulate a country imposing a stringent lockdown from the pandemic-shock, as its foreign inputs are less disrupted than its domestic ones.

Their initial conclusions were subsequently confirmed in a **new paper** from World Bank economists Alvaro Espitia, Aaditya Mattoo, Nadia Rocha, Michele Ruta, Deborah Winkler, who summarized their findings in a **recent VoxEU article**:

Econometric results for the first six months of the health crisis confirm a nuanced view of the role of [global value chains] during a pandemic. GVCs have certainly acted as a transmitter of shocks. Exports of firms relying on upstream suppliers from countries in lockdown suffered more. So did exports of firms supplying inputs to countries severely hit by Covid-19. But exports of domestic producers participating in GVCs fared better during the pandemic, as diversification through trade turned out to be an asset. These findings suggest that thinking of better ways to improve GVC resilience in the face of a pandemic or other shocks is crucial. Nationalisation of production is not a solution – it would result in lower exposure to foreign shocks at the cost of higher exposure to domestic shocks.

The authors' conclusions are summarized in the following chart, which shows that exporters who utilized imported inputs fared worse when their supplier markets were hit by COVID-19 ("upstream supply shock") *but* fared better when their own home market was hit.



With respect to the latter scenario, they calculate that that the harm of a domestic shock for sectors with low value-chain participation has been 20 percentage points worse, on average, than for sectors with high participation. These findings are particularly important for the United States, which continues to struggle with a domestic COVID-19 shock (especially as compared to other key economies).

Finally, a **November 2020 analysis** from OECD economists Christine Arriola, Przemyslaw Kowalski, Frank van Tongeren finds that the economic costs of “localizing” global supply chains would significantly exceed any benefits from doing so and *still* wouldn’t insulate countries from external shocks:

[A] localised regime (where economies are less interconnected) has significantly lower levels of economic activity and lower incomes. A shift to the localised regime is estimated to decrease global real GDP by more than 5% relative to the post-Covid-19 baseline. Reductions in economic activity are

significant across all regions and countries, and in some cases reach double digits. Increased localisation would thus add further GDP losses to the economic slowdown caused by the pandemic. Further, even with the support and protection offered to domestic producers under a localised regime, not all stages of production can be undertaken in the home country, and trade in intermediate inputs and raw materials continues to play an important role in domestic production. In that context, less international diversification of sourcing and sales means that most domestic markets are required to shoulder more of the adjustments to absorb shocks. This translates into larger price swings and large changes of production, ultimately leading to greater variability of incomes. In this sense, the more localised regime delivers neither greater efficiency nor greater security of supply.

Recent analysis on the global value chain of face masks during the Covid-19 outbreak offers a concrete illustration. It shows that producing face masks requires a multitude of inputs along the value chain, from non-woven fabric made with polypropylene to specialised machinery for ultra-sonic welding. While the production itself does not require high-tech inputs, localising the production of just this one good would require high capital investments which would need to be supported during periods when demand shrinks, and localised production is not competitive. With current technologies it would therefore be excessively costly for every country to develop production capacity that matches crisis-induced surges in demand, and which encompasses the whole value chain from raw materials through distribution for a whole catalogue of essential goods to match any potential crisis, foreseen and otherwise.

More localisation also means more reliance on fewer sources of (and often more expensive) inputs. In this regime, when a disruption occurs somewhere in the supply chain, it is harder and more costly to find ready substitutes, giving rise to greater risk of insecurity in supply. This is also the case for sectors that are often seen as strategic, such as food, basic pharmaceuticals, motor vehicles, and electronics.

All of these studies, along with the aforementioned anecdotes, show that the United States' openness to trade and investment is compatible with — and often bolsters — our ability to withstand economic shocks, even a once-in-a-generation global pandemic. Policymakers would be wise to remember that lesson before trying to rewire global supply chains in the name of “resilience.”

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