US Daily: The Inflation Boost From Supply Chain Disruptions: Here Today, Gone in 2022 (Briggs/Walker)

- US manufacturers' supply chains are increasingly strained, as a rapid recovery in goods demand combined with lingering pandemic-related constraints on international transport services has pushed delays in supplier deliveries to their highest level in over 40 years. As a result, a significant majority of manufacturing firms currently indicate that supply chain disruptions and delivery delays are negatively affecting production.
- These supply challenges have significantly increased international shipping costs—particularly along routes from East Asia to the US, where shipping container prices have roughly tripled over the last year—and some of these cost increases will likely be passed on to consumers.
- However, we expect a fairly limited impact on overall consumer prices for two reasons. First, shipping costs outside of East Asia have seen much smaller price increases. Second, total shipping costs represent only a small share of the final price of goods. As a result, we estimate that elevated shipping costs are currently boosting year-over-year core consumer price inflation by slightly less than 10bp.
- Unfortunately, supply chain disruptions are unlikely to abate in the near term and will continue to put upward pressure on consumer prices for the rest of this year: fiscal stimulus will keep goods demand elevated and the virus will continue to disrupt the supply of international goods transport services. However, by early next year, we think that shipping bottlenecks are likely to resolve themselves and prices will moderate, turning the boost to core inflation into an outright drag.

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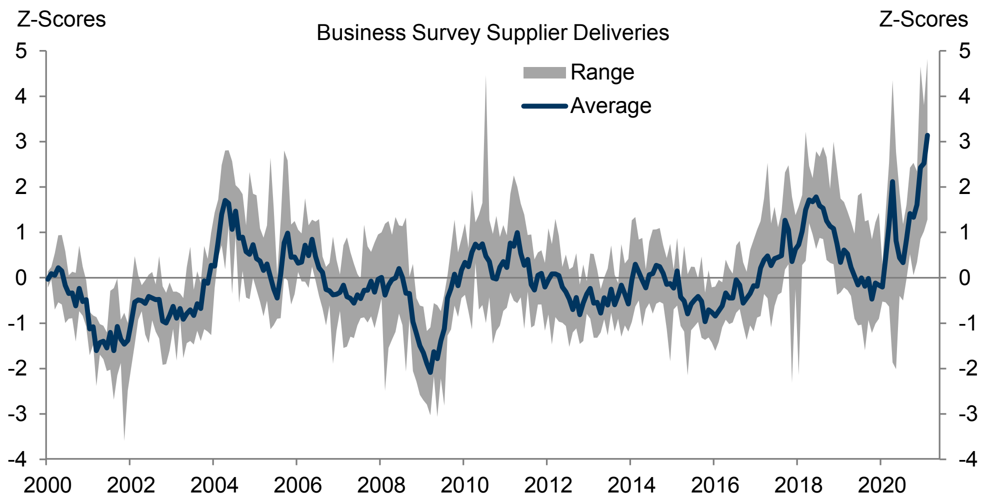
The Inflation Boost From Supply Chain Disruptions: Here Today, Gone in 2022

The manufacturing sector recovered relatively quickly from the pandemic, as factories were able to adapt and remain open despite elevated virus cases, and elevated fiscal support and limited opportunities to spend on services pushed up demand for goods. But the manufacturing recovery has encountered headwinds recently from increasingly strained supply chains. Last month, delays in supplier deliveries across a number of business surveys reached their highest level on record (Exhibit 1).

Exhibit 1: Delays in Supplier Deliveries Have Surged During the Pandemic



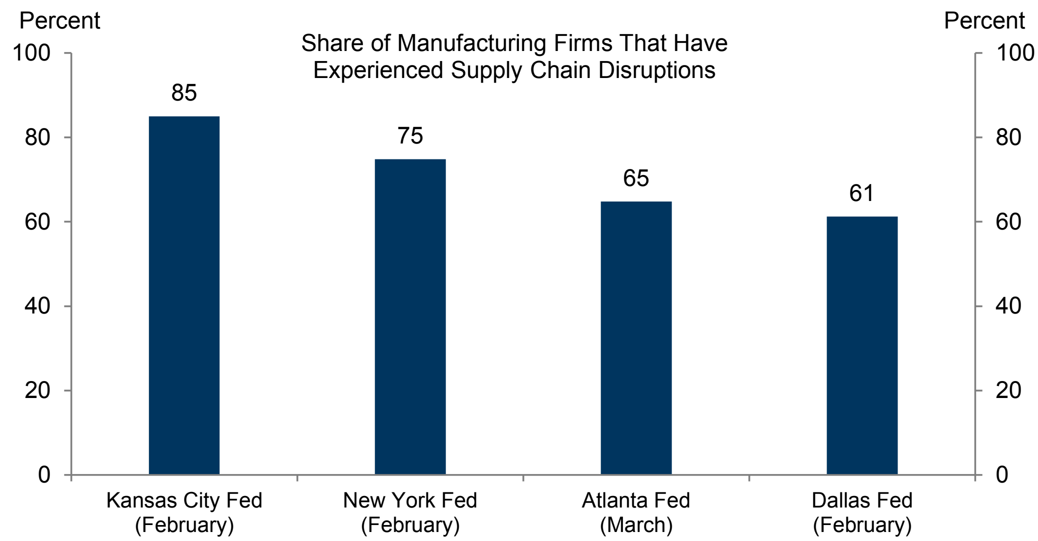
Note: While most of the surveys included in the chart above don't extend much before 2000, an average of the supplier delivery components from the Philadelphia Fed, Chicago PMI, and ISM manufacturing surveys is at the highest level since 1974.

Source: Goldman Sachs Global Investment Research

Several of the regional Federal Reserve banks' business surveys have asked specific questions about supply chain disruptions in the last few months.[1] Exhibit 2 shows that a majority of manufacturing firms report that supply chain disruptions are currently negatively affecting production. Additionally, 38% of businesses in the Atlanta Fed's survey reported that supplier delays were moderate to severe, while 49% of Dallas Fed respondents reported that disruptions had meaningfully raised input prices. In the NY Fed's Empire Manufacturing Survey, 59% of respondents reported finding new suppliers due to supply chain disruptions, while 58% reported that they had started building extra inventories. Overall, these measures suggest that supply chain disruptions are significantly impacting business operations.

[1] Including the New York, Kansas City, Dallas, and Atlanta Federal Reserve banks.

Exhibit 2: Supply Chain Disruptions Are Creating Production Problems for a Majority of Manufacturing Businesses



Source: Federal Reserve, Goldman Sachs Global Investment Research

To better understand the cause of supply chain disruptions, in Exhibit 3 we summarize recent media reports on disruptions. One striking feature of these reports is that supply chain disruptions are very widespread. Although the semiconductor shortage and its drag on auto production has garnered significant attention, many other consumer goods—from headphones to sofas to roller skates—have also faced supply challenges this year.

Although supply shortages have affected a wide variety of products, in most cases the root causes are the same. First, manufacturers were caught off guard by a faster-than-anticipated recovery in demand and hadn't ordered enough inputs in advance to meet production needs. Second, the increase in goods demand while transportation services are limited by the virus has led to an undersupply of shipping containers and congestion problems at West Coast ports, resulting in lengthy shipping delays. Neither of these problems should abate soon, unfortunately, since fiscal support for household income should keep goods demand elevated and the virus should continue to disrupt the supply of international goods transport services until widespread inoculation in the US and its trade partners normalizes both goods demand and supply.

Exhibit 3: An Unexpected Surge in Demand and Shipping Delays Has Caused Supply Shortages for a Wide Variety of Products

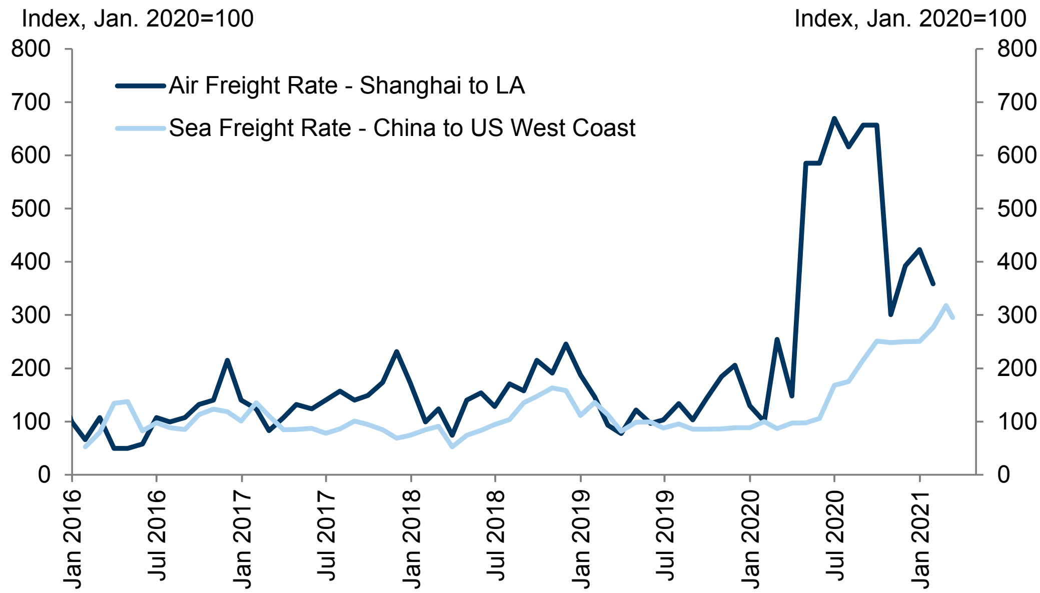
Reports of Supply Chain Disruptions		
Commodity/ Product	**Details**	**Source**
Semiconductors/ Autos	Restrictions on purchases from Chinese producers, shipping container shortages, and lost production capacity in Japan led to a shortage in semiconductors, which in turn has forced cutbacks in auto production.	HBR
Headphones/ Game Consoles	Semiconductor and computer chip shortage has also affected personal electronics.	NY Times
Plastic Parts	Labor shortages due to UI benefits and competition for workers from e-commerce/warehouse jobs has made it difficult for some plastic makers to meet demand for parts.	WSJ
Steel/Aluminum	Rising demand for consumer goods has created supply shortages and led some companies to increase inventories, which has pushed up prices.	WSJ
Coolers/ Drinkware	Port congestion on the West Coast has led some manufacturers to reroute imports (e.g., through Houston).	Bloomberg
Sofas	Lack of skilled sewers and fabric has led to delays. One company purchased new equipment to increase capacity, but travel restrictions for foreign engineers led to delay in set-up.	WSJ
Boats	Demand bounced back in 2020 much quicker than expected, and overseas suppliers have been slow to provide components.	WSJ
Seafood	Increased imports, clogged ports, and full freezers have complicated storage. Higher shipping costs have pushed wholesale and consumer prices higher.	WSJ
Meat/ Dairy	Rising crop prices have led some foreign feed producers to strategically default on forward contracts, creating supply challenges and rising feed costs for farmers.	Bloomberg
Cheese	Port delays, limited shipping containers, and rising shipping cost have led to a shortage of imported cheese.	Business Insider
Roller skates	Some suppliers have shutdown plants due to pandemic, while shpping from Taiwan and China is delayed. Producers have contracted with new domestic suppliers to reduce bottleneck.	WSJ
Fitness equipment	Surging demand hard to keep up with, and shipping logjams at ports have led to delivery days. Some compnanies have acquired domestic producers to increase capacity.	WSJ
Garden Furniture	High demand, shipping delays, and rising transport costs have led to shortages for some manufacturers and retailers.	BBC
Hot tubs/bikes	Importers of bikes and hot tubs have shifted from sea cargo to airfreight due to port congestion and rising sea shipping costs.	CNBC

Source: Data compiled by Goldman Sachs Global Investment Research

The good news is that because supply challenges are largely driven by transportation and not production constraints—unlike last spring when supplier delays spiked due to factory shutdowns that halted the supply of intermediate goods—we expect that supply constraints will put upward pressure on prices but have less of an impact on real economic activity. As examples of how some importers and manufacturers have alleviated bottlenecks at higher costs, some companies have started importing bike parts and hot tubs by air rather than sea freight, and other producers have started rerouting imports through alternate ports (Exhibit 3).

That said, bottlenecks can substantially increase transport costs in strained trade routes. As shown in Exhibit 4, shipping costs from China to the US have roughly tripled over the last year. This will likely put upward pressure on consumer prices as manufacturers pass these costs on to consumers.

Exhibit 4: International Shipping Rates Surged During the Pandemic



Source: Bloomberg, Goldman Sachs Global Investment Research

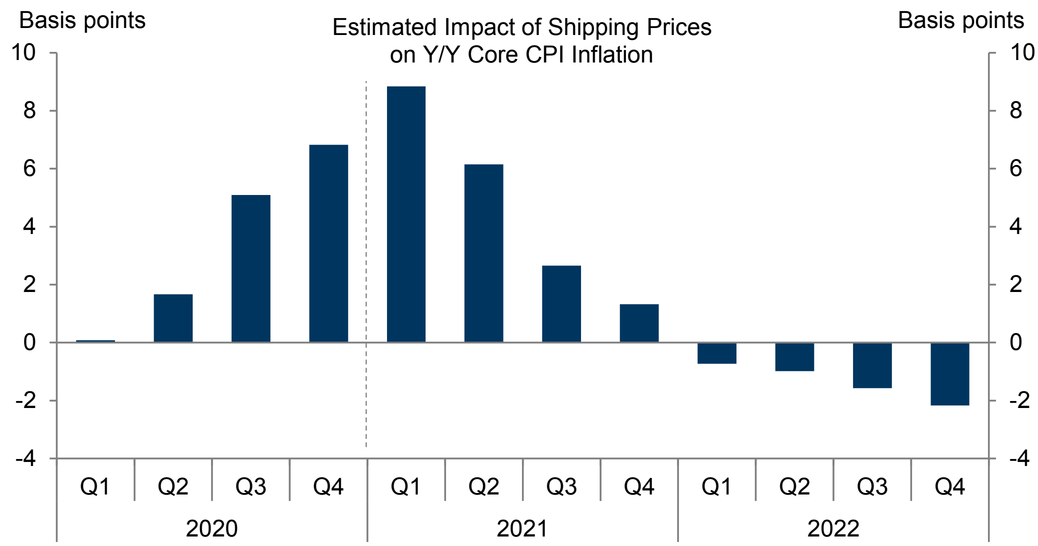
However, the impact on consumer prices is likely to be muted compared to the huge increases in certain shipping costs, for two reasons. First, shipping costs outside of East Asia have seen much smaller increases. For example, domestic transportation costs according to the Producer Price Index – which make up roughly three-fourths of total shipping costs for manufactured goods – are up just 1.6% relative to pre-virus levels. Second, total shipping costs represent only a small share of the final price of a good. Using information from the World Input-Output Tables,[2] we estimate that shipping costs make up less than 3% of the final cost of manufacturing output, implying that international shipping costs make up less than 1%.

Taken together, we estimate that elevated shipping costs are currently boosting year-over-year core consumer price inflation by roughly 9bp (Exhibit 5).[3] Our transportation analysts expect broader shipping costs to remain elevated until early 2022. As a result, shipping costs will likely put upward pressure on the level of consumer prices through the end of this year, but we think the impact on inflation has already peaked and will turn into an outright drag in 2022 as shipping bottlenecks resolve themselves and prices moderate.

2 Marcel Timmer, Erik Dietzenbacher, Bart Los, Robert Stehrer, and Gaaitzen de Vries,"An Illustrated User Guide to the World Input–Output Database: the Case of Global Automotive Production," 2015.

3 We assume a 50% pass-through rate of producer core goods prices to core consumer goods prices.

Exhibit 5: We Estimate That Elevated Shipping Costs Are Boosting Core CPI Inflation by Just Under 0.1pp



Source: Goldman Sachs Global Investment Research

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