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INSIGHT

Supply Disruptions and the U.S. Economy

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The COVID-19 pandemic has disrupted the production of many goods and services. Although those disruptions have waned since spring 2020, some continue to constrain production, exacerbating inflationary pressures. The Biden Administration has announced a series of initiatives to address supply chain disruptions, which are detailed in CRS Insight IN11927. This Insight discusses some of the factors contributing to supply disruptions and policy considerations surrounding this issue.

Supply Disruptions

Recently, supply has been constrained by disruptions to global supply chains, labor shortages, temporary business disruptions linked to COVID-19 outbreaks, and commodity shortages linked to the 2022 Russian invasion of Ukraine. Pandemic-related shutdowns and production delays worldwide have caused a chain reaction of delays in the availability of products across a wide range of industries. Product availability has been disrupted for both final products sought by consumers and inputs used by American producers. Earlier shutdowns created backlogs that have taken months to unwind.

The labor force participation rate has been unusually low throughout the pandemic, which has resulted in companies being unable to fill job openings. Periodic surges in COVID-19 cases have also caused labor shortages at times that have hobbled production. For example, the Omicron surge led to employee absences that caused new supply disruptions in the winter of 2021-2022, including to flights and passenger rail. The U.S. Bureau of Labor Statistics reported that 3.6 million employed individuals were unable to work at some point in January 2022 (when Omicron peaked) because of illness—more than twice as high as the pre-pandemic high. In the same month, six million individuals were unable to work because their employers closed or lost business due to COVID-19. Absences and loss of business because of illness have been consistently above average throughout the pandemic.

Supply chains are global, and a product can pass through several countries before reaching the United States. A delay or disruption in any one of those countries can therefore cause supply problems for the United States. Different countries have experienced different kinds of production disruptions, including lockdowns and other work restrictions, and at different times compared to the United States. The Federal Reserve Bank of New York publishes an index measuring how much pressure there is in global supply chains. For much of the pandemic, supply chains have faced significantly higher pressures than at any time in recent decades (see **Figure 1**).

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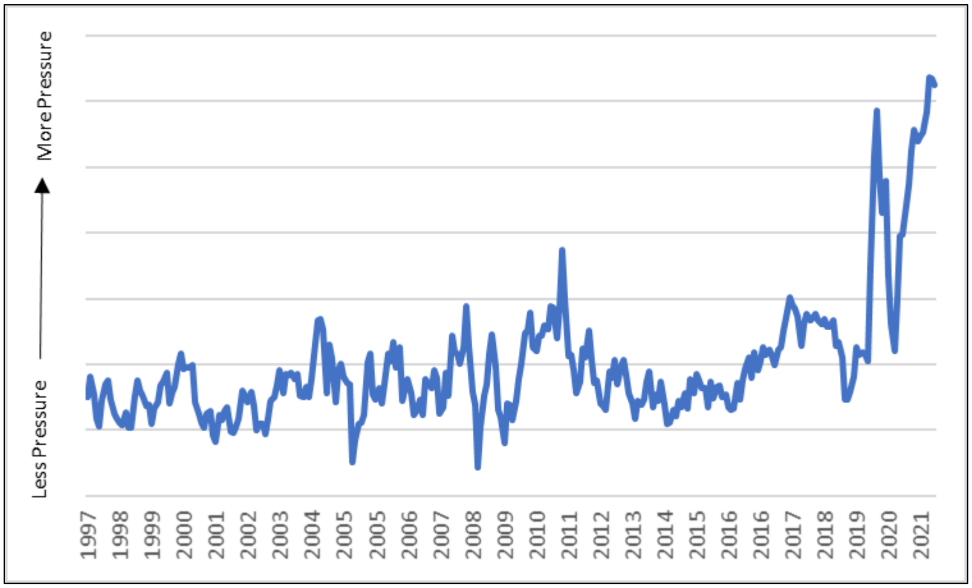
Figure 1. Global Supply Chain Pressure Index

September 1997 to December 2021

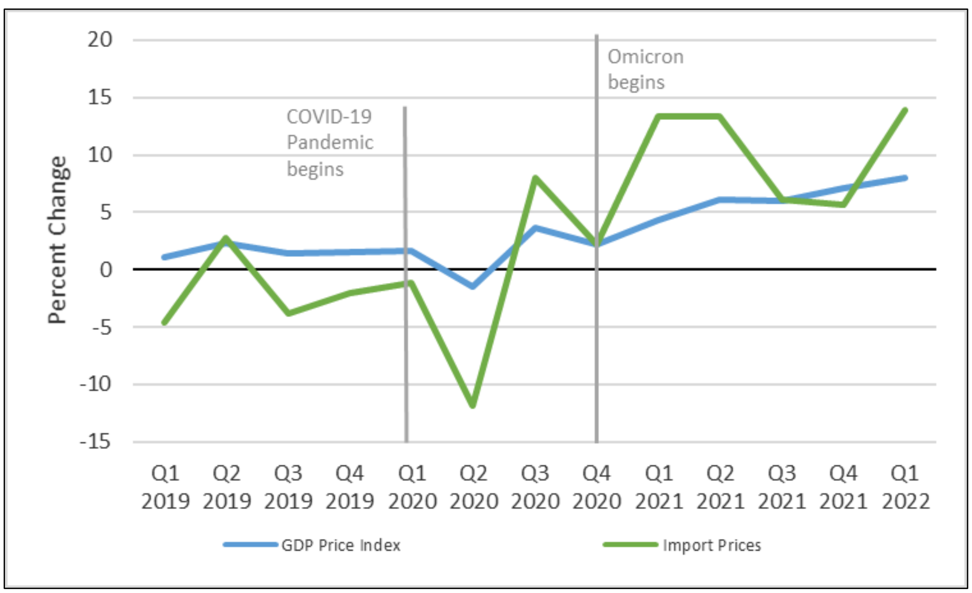


Source: Federal Reserve Bank of New York.

Shipping and U.S. port disruptions have also caused delays in imports arriving and being processed in the United States. After falling early in the pandemic, import prices (13.9% in the first quarter of 2022) have risen more quickly than overall inflation (8.0%) (see **Figure 2**).

Figure 2. Import Inflation

Q1:2019-Q1:2022



Source: Bureau of Economic Analysis.

Notes: Quarterly data are annualized and seasonally adjusted.

The complexity of global supply chains have led to unexpected issues. For example, disruptions in semiconductor (microprocessor) production led to a 2.3 million shortfall in new automobiles produced in

2021 in North America because each automobile contains an average of 298 semiconductors. As a result, demand outpaced supply, causing a spillover into the used auto market, and inflation in the 12 months ending in March 2022 was almost 13% for new automobiles and over 35% for used automobiles.

The invasion of Ukraine has resulted in a new set of supply shocks, increasing the world prices of energy and certain foodstuffs, metals, and other commodities and disrupting trade patterns. It is still unclear the extent to which the invasion of Ukraine will disrupt global economic growth, notably through disruptions to energy and commodity markets. The Organization for Economic Cooperation and Development projects that if these supply shocks last for one year, they will reduce U.S. growth by almost one percentage point and raise U.S. inflation by almost 1.5 percentage points in the first full year.

Policy Considerations

Constrained supply has resulted in a mismatch between supply and demand. Consumers want more goods and services than can be produced, and the primary way to reconcile the mismatch is through price increases. To curb inflation without reducing demand, supply disruptions would likely need to be resolved. However, policy options to alleviate supply disruptions can be ineffective at reducing inflation in the short run because they are time-consuming to implement and, depending on how they are financed, could even make inflation worse by adding to aggregate demand.

Capacity constraints causing bottlenecks can typically be relieved through new infrastructure investments. However, by nature, those investments are long-term projects that cannot bring new capacity on line quickly. At the same time, increased infrastructure investment could exacerbate labor and supply shortages in the short run, as the infrastructure projects themselves require labor, commodities, and other inputs. In 2021, the Infrastructure Investment and Jobs Act (P.L. 117-58) was enacted to boost public infrastructure investment, and the Administration has set goals to increase investment in port and waterway infrastructure.

Firms with bottlenecks in production and distribution caused by labor shortages face the same hiring and retention challenges as other firms do. Reversing historically low U.S. labor force participation rates has been a challenging policy issue. While COVID-related constraints on participation may have been driving much of the decrease earlier in the pandemic, at this point, much of the drop in participation is due to retirements that have traditionally proven hard to reverse.

Supply chain problems are also difficult for U.S. policy to address due to their global nature. Lockdowns in China and the Ukraine invasion demonstrate that foreign supply disruptions due to the pandemic, foreign governments' policies, or both are largely beyond U.S. influence. Policy options to work around these disruptions are more long-term in nature, although the Administration has announced a release of 1 million barrels of oil a day for six months from the Strategic Petroleum Reserve to provide short-term relief. Unfortunately, disruptions caused by the invasion could reduce growth without constraining price inflation.

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