

Economics Group

Special Commentary

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Potential Regional Impacts of the Coronavirus

Supply chain disruptions stand to be the biggest factor potentially impacting U.S. economic growth. The effects would be unevenly distributed across the country.

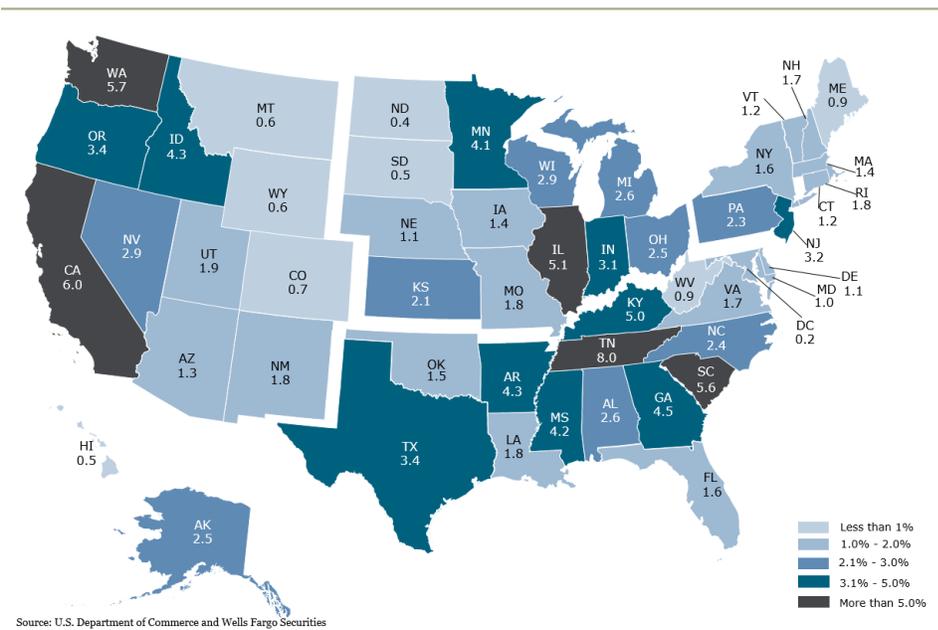
The spread of the coronavirus presents an outsized risk for several U.S. states. As we have written previously, the coronavirus is already having a devastating human toll and will likely slow economic growth in China and the wider APAC Region. While only a handful of cases have made it to the United States and the risk to the U.S. population remains low, many firms have extensive supply chain networks in China that may be disrupted by closures and quarantines. Delays in shipments of key parts and components may cause manufacturers to curb output just as business was gaining momentum following the Phase I China trade agreement.

Supply chains, oil and tourism are the most exposed areas.

Manufacturers in the Pacific Northwest, Midwest and Southeast will likely feel the brunt of the impact, while firms that import parts and components from other nations may also be impacted because China has become such a large part of global supply chains. Additionally, weaker demand in China may pull crude oil prices lower, triggering some additional belt-tightening in the oil patch. Furthermore, numerous flight suspensions and a strengthening dollar could put a bigger dent in China-related tourism, which generates a significant amount of economic activity in states such as California, Nevada, New York, Massachusetts and Washington, D.C. Trade show attendance will also likely take a hit.

Figure 1

Exports and Imports to China as a Sum of State GDP – 2018



Several states have outsized exposure to trade with China and stand to be disproportionately impacted by potential ripple effects from supply chain disruptions or a dramatic slowdown in the Chinese economy (Figure 1). Tennessee tops the list with the value of exports and imports to China equating to roughly 8% of state GDP. California, Washington, South Carolina, Illinois and Kentucky also rank high on the list, each in excess of 5% by that same measure. We note that these metrics may be clouded by the fact that the export data do not necessarily represent the production origin of the export merchandise, and may reflect where the goods were compiled and distributed. In other words, the BEA methodology likely overstates the exposure of states with large port complexes that export goods produced elsewhere, and understates the exposure of inland areas which transport goods to coastal areas. Even so, ports are major economic drivers in their own right and support an array of transportation, logistics and distribution jobs.

Port Traffic May be Hampered

While it is too early to determine how the coronavirus would potentially impact international trade, port traffic is likely to be at least somewhat impacted by the extended Lunar New Year holiday and production cuts already in place. The ports of Los Angeles-Long Beach, Oakland, Seattle/Tacoma and Portland handle a massive amount of trade with China. What’s more, ports on the Eastern seaboard are also more exposed today, as shipping directly to the East has become more cost-efficient with the Panama Canal expansion and the rising capacity of modern “Post-Panamax” ships. There has also been vast capital investment in harbor-deepening projects, new terminals and infrastructure improvements at nearly every major port on the Eastern seaboard. The South has become an important export platform for companies such as BMW, Volkswagen, Honda, Volvo, Michelin, Boeing and Caterpillar. Several retailers have also built massive distribution networks tied to these ports. The ports of New York-New Jersey, Savannah and Charleston have seen cargo volumes surge in recent years, hence the relatively high China trade exposure in New Jersey, South Carolina, and Georgia.

Ports on both coasts could be affected.

Figure 2

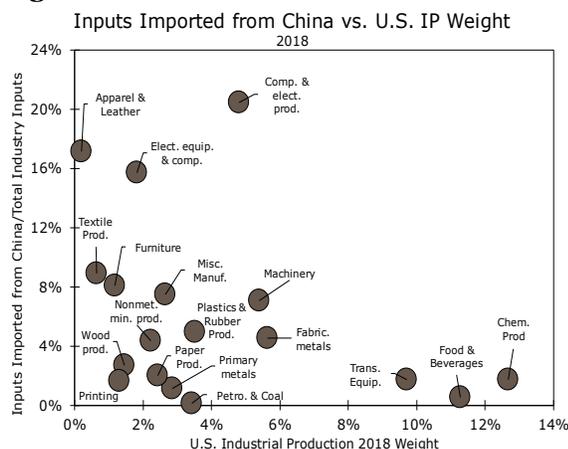
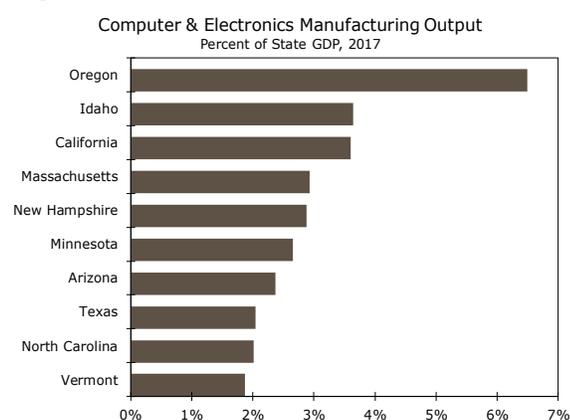


Figure 3



Source: U.S. Department of Commerce, Federal Reserve Board and Wells Fargo Securities

Supply Chain Disruptions Represent a Clear Risk

Coastal port areas are only one piece of the puzzle. Given the inherent murkiness of state-level trade data, another way to identify the potential impacts is to look where manufacturers dependent on inputs from China are concentrated. To some extent, producers in every state have some connection to China. The Western region may be most impacted, however, due to its concentration of computer & electronics manufacturers. About 20% of the computer & electronics industry’s inputs are imported from China, more than any other industry (Figure 2). The computer & electronics category captures computer and peripheral equipment; communications, audio and visual equipment; and semiconductor component manufacturing.

Oregon, Idaho and California sit at the top of the list of state-level computer & electronics industry output relative to GDP (Figure 3.) Oregon’s top ranking makes sense, as roughly 21% of exports

Computer & electronics manufacturers are exposed.

leaving Oregon are destined for China. Intel, which is the state’s largest private employer and largest exporter, sends billions of dollars of computer chips to China every year. Intel has multiple plants just outside of Portland as well as production facilities in New Mexico and Arizona. Idaho sits in a similar position. Boise is home to Micron Technologies, which has helped develop an ecosystem of microelectronics research & development. California ranks near the top of states exposed to China trade disruptions thanks to Silicon Valley, a name which originally derived from the density of silicon-based integrated circuit chip manufacturers located in the San Francisco Bay Area. Tech hardware employs far fewer workers today than it did 20 years ago, however. While a slowdown would clearly reverberate throughout the region’s manufacturing sector and broader economy, the bulk of Silicon Valley’s employment is concentrated in social media, internet search and cloud computing, which are likely to be less disrupted.

Heavy manufacturing industries, which are concentrated in the Midwest and South, also tend to utilize a wide range of inputs from China (Figure 4). Machinery manufacturing includes agricultural, construction, mining and engine/turbine/power equipment, while fabricated metal includes iron and steel forging and stamping and structural metal manufacturing. While the share of imported parts and components is less than computer & electronics products, a critical part is still a critical part, even if it makes up a smaller proportion of the finished product.

Heavy manufacturing is also somewhat exposed.

Wisconsin and Iowa are particularly exposed to both fabricated metals and machinery manufacturing. Together, the two account for 4.6% and 4.3% of their state’s total economic output, respectively (Figure 5). CNH Industrial, Deere & Company and Hagie Manufacturing all have major production hubs in Iowa, while Briggs & Stratton, Waupaca Foundry and Ariens call Wisconsin home. Additionally, aside from being one of the most manufacturing-intensive states in the country, Iowa is the nation’s second largest agricultural producer, specializing in soybeans, hogs and corn. While the Phase I China trade deal is expected to boost shipments of agricultural products, including pork and soybeans, coronavirus disruptions may lead to some short-term bottlenecks.

Figure 4

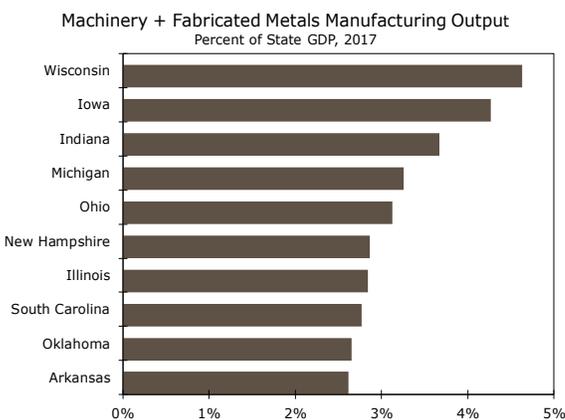
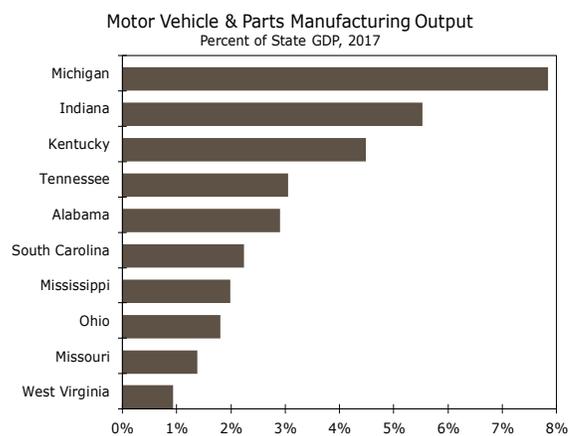


Figure 5



Source: U.S. Department of Commerce and Wells Fargo Securities

Given the sheer number of components used in auto manufacturing sourced from all over the world, China’s role in the U.S. auto supply chain is difficult to quantify, but estimates of the proportion of components used in light vehicle production sourced from China range as high as 15%. What’s more, the epicenter of the virus, Hubei province, is one of China’s largest auto manufacturing hubs. With several auto plants and parts suppliers already announcing temporarily shutdowns at some plants in China and Korea because of the virus (Hyundai, Tesla, Ford, Nissan, Volkswagen, to name a few), assembly plants in the United States might also be at risk.

The majority of U.S. auto production takes place in the Midwest and South.

The vast majority of U.S. auto production takes place in either the Midwest or South. As a share of state GDP, Michigan tops the list at 7.8%, which is unsurprising given the numerous GM, Ford and

Fiat Chrysler assembly plants. Indiana is close behind at 5.5%, with GM, Toyota, Honda and Subaru each producing various models in the state. Overall, the recent trade dispute and the recent UAW-GM auto worker strike have brought the Michigan economy under tremendous pressure, which could rise even more if supply chains are negatively impacted in a meaningful way.

The South continues to rise in importance for auto manufacturing. Several new plants have opened in recent decades, attracted by the region's growing labor force and ability to build new plants. Kentucky is home to a network of auto parts suppliers that serve assembly plants in the Midwest and Southeast, as well as Ford, Toyota and GM plants. Automotive manufacturing also drives an outsized share of Tennessee's economy, as Volkswagen, GM and Nissan each maintain vehicle assembly plants there. Tennessee also has a fairly sizable computer & electronics manufacturing industry, which, combined with the auto sector, helps to explain why the state lands at the top of the list of exposure to trade with China.

Lower Oil Prices Could Hurt the Energy Patch

Weaker economic growth in China may exert downward pressure on oil prices, which may further reduce oil & gas capital investment, which has pulled back substantially over the past year. With production exceeding takeaway capacity, especially in West Texas and New Mexico, oil prices have fallen below expectations, leading many operators to slash capital spending. Manufacturers all over the country have links to the energy sector, and some will undoubtedly feel the pain from cutbacks in capital outlays. Despite the new paradigm the past decade of record levels of low-cost domestic oil and gas output, prices are still susceptible to swings in global growth. A significant drop in demand from China would weigh on oil prices and further challenge the industry.

Commodities are also under pressure.

Figure 6

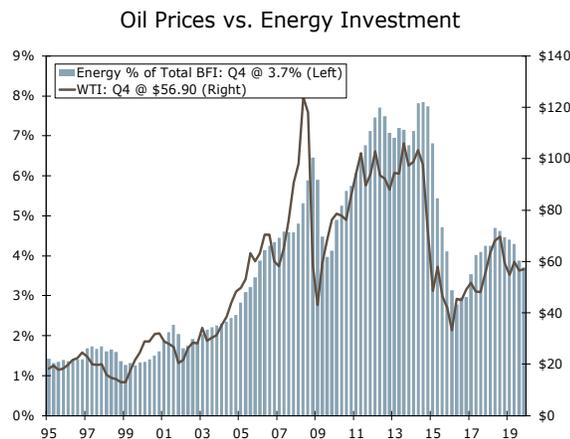


Figure 7



Source: U.S. Department of Commerce, U.S. National Travel & Tourism Office and Wells Fargo Securities

A Reduction in Chinese Tourism Could Hit Home for Many Regions

The coronavirus may also lead to a more pronounced slowdown in China tourism and trade show attendance. Alongside moderating economic growth in China, a strong U.S. dollar and heated trade negotiations, Chinese travel to the United States fell 5.7% in 2018, the first drop since the recession. Even with that drop, there were roughly three million visitors from China who spent approximately \$17 billion, according to the U.S. National Travel & Tourism Office. While this is a relatively small amount compared to overall tourism outlays, Chinese tourism has tended to be focused in just a few markets. For example, 37% visited Los Angeles and San Francisco while 25% visited New York City. Meanwhile, 27% visited either Las Vegas, Boston or Washington, D.C. A prolonged decrease in Chinese visitations and spending would hurt the retail and tourism & trade sectors in those areas.

Chinese tourism was already falling before the coronavirus.

Summary

The coronavirus is likely to impact supply chains, as most industries have become dependent on components imported from China. The impact will likely play out over the next few months, as extended shutdowns in China following the Lunar New Year lead to some parts shortages and production cuts. Western states are likely to be most impacted but manufacturers in the Midwest

and South may also be affected. The computer & electronics, automotive and industrial machinery sector are the most exposed. Chinese tourism to the United States is also likely to slow, and several large trade shows have already seen cancellations of vendors and attendees. Trade volumes normally slow around the Lunar New Year, however, and the impact from additional shutdowns tied to the coronavirus may not become apparent until this spring. Manufacturing inventories are also currently fairly high, providing some firms a cushion from supply chain shocks.

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