

SHORING UP SUPPLY CHAINS

Many US companies that have maintained production capabilities in other countries are now bringing their foreign production capacity back to the US, closer to the US, or moving it to a geopolitical ally. The main drivers include the fragility of global supply chains exposed during the Covid-19 pandemic, heightened geopolitical tensions, security considerations, and an increase in US policy support for domestic manufacturing. GW&K's Equity Team members Taylor Cope and Brad Miller share some of the implications this theme may have for different types of companies and both developed and emerging economies — and what it might signal for globalization going forward.

Highlights:

- Many companies are diversifying their manufacturing locations and supply chains due to trade tariffs, trade restrictions, and to move away from longer and potentially more expensive shipping and transportation networks.
- The beneficiaries of these trends include US domestic companies in many sectors, as well as some emerging market countries like Mexico, Vietnam, and India.
- While it makes sense for companies and governments to have transparency into their supply chains and avoid geopolitical risks when possible, it's no longer really possible for any country to be completely independent. A mix of reshoring and friend-shoring will most likely be the winning combination for many market participants.

Q: What are you seeing related to reshoring in your research?

Taylor Cope: I cover US industrial companies, which is a broad group that touches most of the US economy, from those that bend metal into shapes we need for various applications, to those that provide intelligence and information technology expertise to the US Department of Defense. Reshoring, or moving foreign production capacity back to the US, has really coalesced as a theme across the entire sector this year. Related concepts are near-shoring and friend-shoring, which are moving production to a geographically closer country, or to an ally, respectively.



TAYLOR COPE, CFAVice President
Equity Research Analyst



BRAD MILLER, CFAPartner
Equity Portfolio Manager



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Several recent world events are driving this theme, most notably the supply-chain disruptions we experienced because of the Covid-19 pandemic. There are also increasing geopolitical concerns, due to the Russian invasion of Ukraine and escalating tensions between China and Taiwan. Security considerations, such as the world's reliance on East Asia for 75% of global semiconductor production, also factor into management teams' decisions to move production closer to home. Suddenly, many companies felt like their supply chains were too long, or too complex, and had caused them to miss opportunities.

The other big driver in the US is very strong policy support for domestic manufacturing. Legislation like the Infrastructure Investment Jobs Act and the Inflation Reduction Act have "buy American" provisions in them. This means that if you're going to be using equipment to support utility-scale solar development, for example, that must be manufactured in the United States to qualify for available tax benefits and subsidies.

Reshoring has long been talked about as something that could happen one day, and it seems to all be coming together now. There are signs of demand, and we think this is going to be a multi-year long trend. We see this as a growth engine and think it's going to be a powerful driver of fundamental performance — and hopefully share-price outperformance — for our portfolio holdings that are exposed to this area.

Brad Miller: I cover emerging markets. There are many different industries where companies outsource production and manufacturing to emerging market companies, and in many cases this trend of outsourcing continues. Over the last 15 years or so, there have been some industries that had already started shifting production of lower-end manufacturing from countries such as China, Taiwan, and Japan to countries in the ASEAN¹ region and to other countries in Eastern Europe and Latin and South America. Some of this was due to lower-cost wages in those countries, as well as investment tax benefits, and in some cases to diversify their supplier chain and manufacturing base. But the shift accelerated in 2017 when President Trump's administration put tariffs in place on certain goods exported from China to the US and other countries followed the US's lead, implementing similar tariffs on certain Chinese exports.

The other factor that played into companies starting to shift manufacturing away from China and Asia recently is that shipping costs increased significantly and, as Taylor mentioned, there were extreme supply chain and shipping route issues during 2020/2021 from Covid. From March 31, 2020, to the October 8, 2021 peak, the Baltic Exchange Dry Index increased nearly 800% and for the same time period the Shanghai Shipping Exchange Containerized Freight Index increased over 420% (Figure 1). Both indices have had significant price corrections from their peaks over the last few years, but all the factors we've mentioned meant that many companies felt they needed to diversify their manufacturing and supply chains.

Friend-shoring is moving production to a geopolitical ally, like out of Russia and into Eastern Europe or out of China and into the Philippines.

Near-shoring refers to moving production capacity to countries that are geographically closer to the US market, for example, Mexico or Canada.

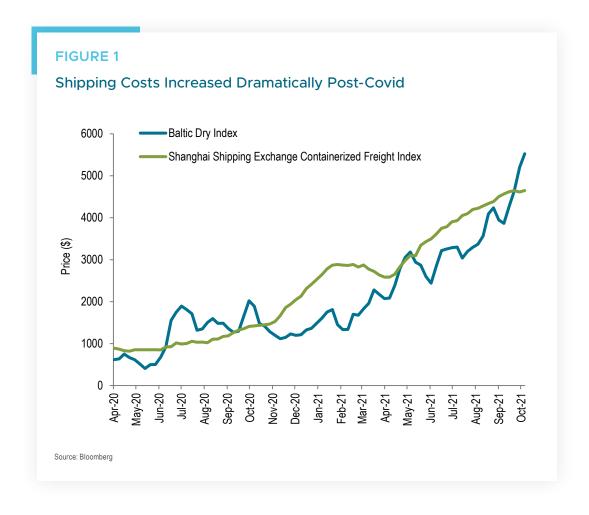
Off-shoring is when a company moves those operations to another country.

On-shoring is when a business sets up operations within its own country's borders.

Out-sourcing is hiring another company to fulfill a task required for a business to succeed.

Reshoring is the movement of a company's foreign production capacity back to its home country.





There are also companies that are moving production because of environmental, social, and corporate governance (ESG) concerns in Asian supply chains. Even Chinese companies are adding or moving manufacturing and assembly facilities to other countries to be closer to their end customers and avoid trade tariffs. While we believe this will continue, because of the size and the efficient networks built up in China, we think this change will be incremental and happen over many years.

Since some US technology can't be exported to China, Chinese companies are trying to rapidly develop these technologies to supply companies in China. In 2015, China published its Made in China 2025 plan. This is a state-led industrial policy that seeks to make China dominant in global high-tech manufacturing. The plan aims for China to achieve self-sufficiency in key sectors and technologies, such as semiconductors, AI, and telecommunications, among others. This plan focuses on shifting resources to higher value-added manufacturing, and this has been accelerated due to US technology restrictions.

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Finally, as Taylor mentioned, the US has been encouraging semiconductor and other companies to invest in manufacturing in the US by using tax incentives in both the CHIPS Act^2 and the Inflation Reduction Act.

Q: Who are the main beneficiaries of these moves?

Taylor Cope: From a US company perspective, we've got a lot of beneficiaries in our portfolios. For example, companies that provide construction materials, equipment, or services are going to see increased demand. New factories and facilities will have to be built to support these moves, leading to large construction projects. The necessary equipment to be used in the factories to replicate the productive capacity that was available overseas — a process called retooling — also boosts demand for many domestic companies.

An interesting example of that would be an industrial machinery manufacturer we hold, which makes test and inspection equipment for semiconductors. Most of that supply — 75% of semiconductors — was coming out of East Asia. As we move semiconductor fabrication back to the US, they're going to see a big boost of demand coming through from the reconstruction of that entire industry back here on American soil.

Automation is another interesting one. Even before reshoring was a theme, there was a labor shortage in the US. Automation is one answer to the question of how companies will find the skilled and unskilled labor they need to fulfill increased productive capacity.

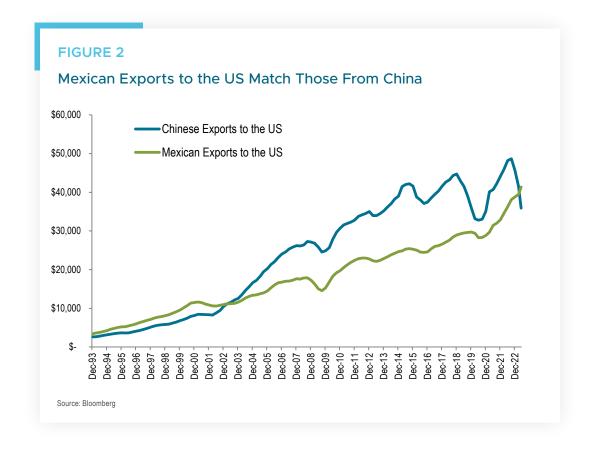
The portfolio also holds a global manufacturer of welding equipment, including an automated welding solution. The average age of a skilled welder in the US today is 56, and they are aging out without a lot of replacement from younger people entering the workforce, so robots are being used to provide those services when possible.

Domestic manufacturing of products for renewables is another big theme, and we invest in a company that has a killer app for solar development. Their solution allows you to just plug in panels like you would a power cord into an outlet, instead of needing an electrician to wire everything together. It's a big labor-saving device, and it's manufactured here in the United States — a double beneficiary of these trends.

Brad Miller: From an emerging markets perspective, we have seen companies in Mexico, Vietnam, Cambodia, and other ASEAN countries benefit the most from companies diversifying their supply chain and from existing manufacturers moving production outside of China. For the first time in 20 years, Mexican exports to the US match China's exports to the US (Figure 2).

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Vietnam has become an attractive "China plus one" location for manufacturing/assembly due to its shared border with China, a young population, cheap land and labor costs, as well as business friendly policies. According to Li Zhenmin, Economic and Trade Counsellor at the Chinese Embassy in Vietnam, "Last year total bilateral trade between Vietnam and China jumped to US\$234.9 billion. Vietnam has become China's biggest trading partner among the 10 ASEAN countries, and its sixth largest partner in the world."

We believe another country that is well set up to benefit from this manufacturing shift is India. To attract manufacturers, India is investing in infrastructure, giving tax breaks, and pushing forward labor reform. Morgan Stanley estimates that manufacturing as a share of GDP in India will rise from 15.6% currently to 21% by 2031, which implies manufacturing value will rise three times from US\$447 billion to US\$1,490 billion by 2031.

Q: Are there concerns that US companies won't be able to make reshoring work because of labor or material constraints or shortages?

Taylor Cope: There are definitely limiting factors. Part of the reason for the elongation of supply chains was that companies wanted to be in lower-cost jurisdictions. It started with China and then migrated through Southeast Asia. Something similar happened in Eastern Europe: Companies that had been manufacturing in Germany were suddenly manufacturing in Poland or Ukraine, for example.

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If reshoring ends up being inflationary, because using American labor, land, and equipment brings higher costs, that could be a factor that changes the economics. Companies might like to have production capacity here, but may not be able to make the numbers work. That's definitely something we're thinking about. That's why the automation part is so interesting. These companies are going to be looking at this and planning massive changes, and they've got to think creatively about which parts of their operation they can automate.

Some companies might start to look towards friend-shoring, so here in the US that would mean looking at Central and South America. The US isn't cheap — incidentally, China's not that cheap anymore, either — but Mexico is still comparatively cheap, and could be seen as a good option.

Outsourcing is another area where there have been a lot of problems. Companies that did not have the productive capacity to make everything they needed in-house suddenly couldn't get everything they needed when supply chains were impacted by the pandemic. This led them to consider manufacturing everything in-house.

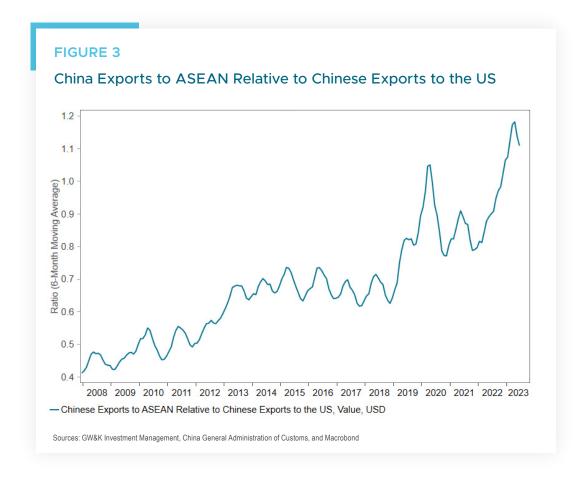
There are also things that for reasons of cost or environmental impact, you typically don't see being made in the US. One thing that has been a stumbling block in terms of the push for renewables, for example, is the Uyghur Forced Labor Protection Act (UFLPA). It's a law passed in the US to protect the Uyghur people in the Xinjiang Uyghur Autonomous Region of China, who have been imprisoned and enslaved partly to support the production of solar panels. The law states that if you're importing a solar panel, it needs to be from a place that doesn't use forced labor, because we're concerned about this as a humanitarian issue. Understandably, the passing of the law has caused a lot of delays and in terms of people being able to figure out the documentation that will satisfy the new requirements and ensure the products didn't come from a place using forced labor.

Q: How do you think China will be affected by these reshoring, near-shoring, and friend-shoring trends over the long term?

Brad Miller: Despite the slow move out of China that we're seeing many companies and countries make, due to the size of China's manufacturing and the strong, efficient production and transportation network, we believe a significant amount of manufacturing will stay in China. With the prior production shifts and the recent weaker-than-expected recovery in economic growth in China after the pandemic, China may be more willing to negotiate with the US regarding trade tensions, and eventually come to an agreement to work better together. There is also evidence that Chinese companies are moving production or assembly to Southeast Asian countries and then the product is re-exported to the US/Europe or westward **(Figure 3)**. We have also talked to numerous Chinese and Taiwanese companies that have or are in the process of setting up facilities in Mexico. So in the end, Chinese companies may not be hurt as much as the media implies.

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Q: How do you think the changes you're seeing will affect the global economy, long-term inflation, and economic growth? Is globalization as we know it over?

Brad Miller: There is an upfront cost to move existing production but, in many cases, companies are moving new and or additional capacity to other countries. An example of a company that is adding additional capacity is Taiwan Semiconductor, which announced in December 2022 that it would open a second factory in north Phoenix by 2026, bringing its total US investment to \$40 billion.

Regarding inflation, some nearshoring will increase costs in higher-cost countries but there are also benefits such as shorter transport times and more control of production and research and development. We have also seen inflation in some countries like Mexico due to the rapid increase of near-shoring.

Taylor Cope: It's nearly impossible for any country to function completely independently today. In a recent <u>GW&K roundtable on Energy</u>⁴, Energy Analyst Jim Tschudy mentioned that

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"The solar value chain starts with polysilicon and wind turbines are primarily made of fiberglass. Both materials are energy intensive to produce and concentrated in China." There are many other examples of required materials production or mining being concentrated, or only available in select places. Cobalt is a resource necessary to make every electric vehicle and smart device, including smartphones, and it is concentrated in the Democratic Republic of Congo. Kids there go into a dirty hole in the ground and come out with big bags of rocks. Every battery in the world has this element in it, and the demand for it is only growing.

We, as a society, need to come up with better resources for this, and it's hard. It's very difficult even for a company that would want to go into the DRC and enforce standards while mining for cobalt — the incentive for artisanal mining is great. These workers are from very poor populations that have intense economic need for any kind of income, and here's this stuff that's sitting in the ground that they can go dig out.

There are a lot of minerals like that in the world. There are rare-earth elements concentrated in China. Platinum in South Africa has been cleaned up a lot in the last several years — but two suppliers of platinum, South Africa and Russia, are not on the US's friends list anymore. There is definitely a real scarcity of materials. A US mine that might not have been cost competitive a decade ago is now more likely to go ahead because not only has the price of the commodity risen, but weapons systems for national security need their own supply of uranium, for example.

Unfortunately, the world is a big, messy, and complex place and we have all of these ideals about how we'd like things to be, but reality can be very different. Many companies and countries are trying to move towards better solutions, but you'd be shocked where a lot of the stuff that we use every day is from and how it's made.

Something I heard very early in my career that always stuck with me was, "In the long term a bet on commodities is a bet against human ingenuity." We no longer burn whale oil in lamps — it's not because we ran out of whales. The stone age didn't end because of a lack of stones. In agriculture and in material science, we've made incredible advances and have been able to do things we've never ever thought we'd be able to. So, I'm optimistic long term. I think we'll find solutions to all these problems, but it's going to take some innovation.

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