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# EXPLAINER SERIES

## RETHINKING SUPPLY CHAINS

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As the enormity of the Covid crisis was being fully digested in early 2020, some were also pointing out how the pandemic yet again highlighted the fallacy of centralising all your production centres into one city. In the case of Covid, this played out in Wuhan's role as a hub for the pharmaceutical and car manufacturing industries.

Fast forward a few years and – in Europe's reliance on Russian gas, and the ongoing semiconductor battle between the US and China – we see why depending too much on one company, one country or one trade route can mean you risk paying a heavy price if there is disruption.

In this interview, Jens Peers, CIO of Mirova US LLC (Mirova) and co-portfolio manager of the Mirova Global Sustainable Equity Fund, explains why companies, industries and countries may be rethinking supply chains going forward, and why companies that get to grips with their risks and responsibilities today should be on the right path to becoming tomorrow's sustainability winners.

**Q: Considering the lasting impacts of Covid and Russia's war in Ukraine, can supply chains ever return to their pre-pandemic conditions?**

**Peers:** Can they recover? Yes. Will they ever be the same again? Probably not – at least not in the short term. People can make the same mistakes again, but it will no longer be about Covid.

I don't know if you tried to buy a car in the last two or three years, but clearly there were bottlenecks in that industry for a while. Car prices were going through the roof, but the car companies couldn't get the volumes. They have adjusted their cost base to become profitable again, but not to the levels that they potentially could have been.

And this is really another lesson from Covid, in that companies need to accept there are factors in the short term that are beyond their control and that may affect the capacity to run their business. We talked about it three years ago, and it's still valid today. We went from talking about just-in-time delivery becoming a must-have, to waiting a year for your new car.

One of the reasons why companies outsource is to save costs. And during Covid, companies started to reassess their thinking because of the different speeds that countries were opening up. So, if a big part of your production of raw materials was coming from China, for instance, you couldn't really move on because its markets and borders didn't reopen until much later.

Then you had Russia's war with Ukraine, and the focus shifted to the security of the supply. Some sectors were more exposed than others, as we've seen with food supplies.

It often comes down to timing and priorities. During the 2022 World Cup football tournament in Qatar, for instance, there would have been more pressure on Qatar for its human rights record if it wasn't for the fact that there was a war going on and many people in Europe were focused on securing the delivery of gas.

It just shows you what politicians can do when one entity has a big role in controlling an important part of the supply chain. And it always gets amplified when there's an issue – especially if it's an issue of national security. In some parts of the supply chain, we need things just to survive. That's what we've seen with the energy industry.

Europe acted very quickly by becoming more energy efficient and focusing more on renewables. They did it quicker than we anticipated. There's still a long way to go, but Europe is quite clear on the route it wants to take, which is to be less dependent on other countries. That means more local sourcing for key areas that can be accelerated by the shift from fossil fuels to renewables, which is basically what Europe is doing right now.

**Q: How significant have geopolitical tensions between the US and China been for global supply chains?**

**Peers:** In the semiconductor industry, the politics works on both sides. You just have to look at how the US government got involved when it saw how Nvidia was selling specific types of semiconductor chips to China.

The US saw that Nvidia was basically providing technology that could be used for military purposes and therefore it could give China a competitive advantage in the information war. Likewise, the US stopped Huawei, China's homegrown tech company, from buying advanced computer chips made with US technology and brought entire product lines to a halt.

But it's worth considering that over 90% of the semiconductors that are really important to the economy are produced in China and Taiwan. So, if trading comes to a standstill, the US economy is not going to grow, and we won't be able to replace things. We don't control those countries and we don't want China to put the US, UK, or France or any other country under political pressure by stopping production of semiconductors.

From a company point of view, they don't want to be defending their own balance sheet as a result of issues beyond their control – and that includes with the subcontractors. So if you have a lockdown in China, and all the issues with transportation and port closures and so on, it's certainly not going to be for the benefit of the subcontractor.

Yet even just losing one specific port can lead to huge issues. We've seen that magnified with the bottlenecks and supply chain issues around the closure of the Suez Canal a few years ago, for instance. Fundamentally, issues associated with national security and trade competition have massive ramifications for supply chains. And we're only at the beginning of a global rethinking of them.

**Q: What's the difference between near-shoring and friend-shoring?**

**Peers:** Near-shoring was essentially an answer to the disruption caused by Covid and involves moving production and supply chain processes closer together, avoiding some of the potential transport issues.

We've seen some US corporates consider moving aspects of their manufacturing to Mexico and Canada, bolstered by the US-Mexico-Canada Agreement (USMCA), where they are essentially seeking greater control over production, facilities, labour costs, transport and energy strategy.

However, they will typically still be exposed to many of the same issues as everyone else. So, if it's related to Covid, when one country reopens, others will probably reopen as well. And if there's an issue in the US, it's likely there'll be an issue in Mexico too. So, they are concentrating other risks.

Friend-shoring, on the other hand, is really an answer to the geopolitical risks, where a company might be moving production from China to India, for instance. But that comes with costs and consequences, such as wage inflation as a result of the battle for talent, and it won't happen overnight.

Essentially, from the perspective of rethinking our supply chains, we are now seeing the limits of almost 30 years of continued globalisation.

**Q: How concerning is the limited availability of raw materials used in clean energy manufacturing, with so few countries mining these natural resources?**

**Peers:** Supply chain management has always been part of how we look at sustainability at Mirova. It's often been from the perspective of human rights and environmental considerations, and many of these countries that mine these critical minerals are known for not being very good on human rights issues. It's always been a bone of contention, but we're also dependent on these raw materials.

It's why there's been a lot less progress on human rights and environmental issues in those places – we don't really have a choice at the moment because we need to get the volumes from these places. Indeed, the International Energy Agency said recently that more mining of minerals like lithium, copper and nickel was necessary to ensure decarbonisation goals are met.

But when we really look at different parts of the renewable energy supply chain, we don't actually use that many precious metals that couldn't be substituted with something else. The reason why there's a concentration of solar companies in a single province in China is because building a solar panel is mainly down to machinery. You need engineers, plenty of space and cheap capital. There are some metals used in the production process that are relatively rare, but I don't think that's a huge issue – in either the solar or the wind renewable energy supply chain.

However, batteries – and all the other materials needed for the continued electrification of our economies – present a different issue. We need to mine an awful lot more copper. Lithium in particular is central to the net zero transition given its mportance in battery manufacturing. Car makers, solar panel manufacturers and other industries driving the shift to low-carbon power all rely on a ready source of the metal.

It's why China is so influential in Africa – it's also why Tesla has started to look at potentially buying lithium mines and controlling that supply chain, because they want to make sure that they have the batteries as well.

But while lithium is relatively abundant, other metals like gold, quartz, nickel, platinum, and the rare earth materials are mainly found in Russia and the Congo in Africa. That's why we expect to see a power shift from oil producing countries and companies in the Middle East to those involved in metals and mining. Because whoever controls the supply chains in these countries has the power, ultimately.

There's a reason why France, and Europe in general, are betting so heavily on hydrogen. You can produce hydrogen anywhere as long as you have access to water. It's not a very energy efficient way of storing energy, but it's a very high scale way of storing energy. And it's one that you can do more securely, even if you don't have access to the batteries.

In the short term, those countries that have mining operations will be most powerful, and the countries that indirectly control those countries will also have a lot more power. But longer term, Europe and other countries are increasingly looking at replacements for those critical materials to make sure they can secure their supply chains.

There are some Finnish paper companies, for instance, that are looking at natural substitutes for some metals by using by-products from wood. It's still very early stages, but in the next 5 to 10 years, new technology will come online that enables us to reduce our dependency on certain critical materials. This will relieve some of those geopolitical bottlenecks, but also limit the bottlenecks in terms of growth too. Because the sheer investment that will be needed to electrify the globe demands better alternatives too.

**Q: What do you look for in companies when assessing their approach to supply chain management?**

**Peers:** Fundamentally, we look at whether the companies are aware of all these risks we've been talking about. Then we assess whether they can they control those risks – and whether they are actually going to do something about it.

Within this, we also look at how much they can exercise their pricing power within their supply chain. Because if a company is a price taker, they're unlikely to have much leverage in the supply chain to really change things. So, we're trying to see what companies are doing in the short term to mitigate the risks, and what they are intending to do longer term.

Do all company boards have a good grasp of their supply chain risks? I'd say some do, some don't. Take the car manufacturing industry, for instance. There's a wide disparity. If they're proactive, they'll be aware of the risks and understand what they need to do. But many companies only react when the risk is actually exposed.

Friend-shoring, on the other hand, is really an answer to the geopolitical risks, where a company might be moving production from China to India, for instance. But that comes with costs and consequences, such as wage inflation as a result of the battle for talent, and it won't happen overnight.

Companies like Tesla and Mercedes, for instance, have taken control of that very early on. They basically control a big part of the supply chain – and where they don't, they're actively trying to take a lot more control.

For us, engaging with companies is a natural extension of our investment process and is critical in understanding how a company manages these risks, and in helping them see where they may need to reinforce their approach. If we are going to invest in a company, we see it as our role to help them be aware of all these issues. We discuss it with them when we have one-on-ones with management teams. We look at it on a case-by-case basis, and with the understanding that it's at least a 10-year process to fundamentally change supply chains.

Remember, globalisation took about 10 years to be at full speed. Since then, it's been constant – and everything has been designed to live with that system.

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