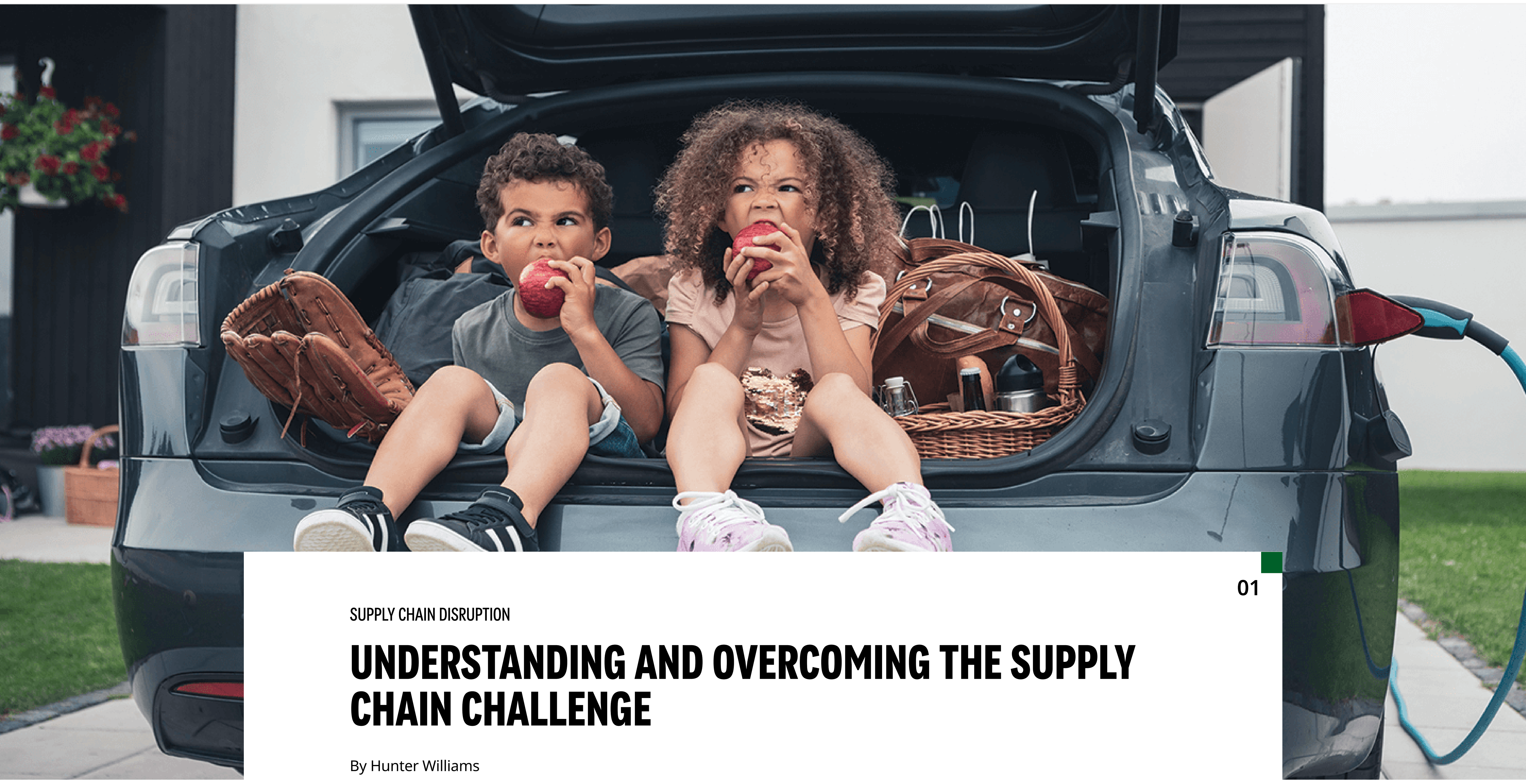


SUPPLY CHAIN DISRUPTION

UNDERSTANDING AND OVERCOMING THE SUPPLY CHAIN CHALLENGE

By Hunter Williams

The myriad reasons for the current global supply chain problems are complex, ranging from factory closures in Asia to a tight labor market in the US.

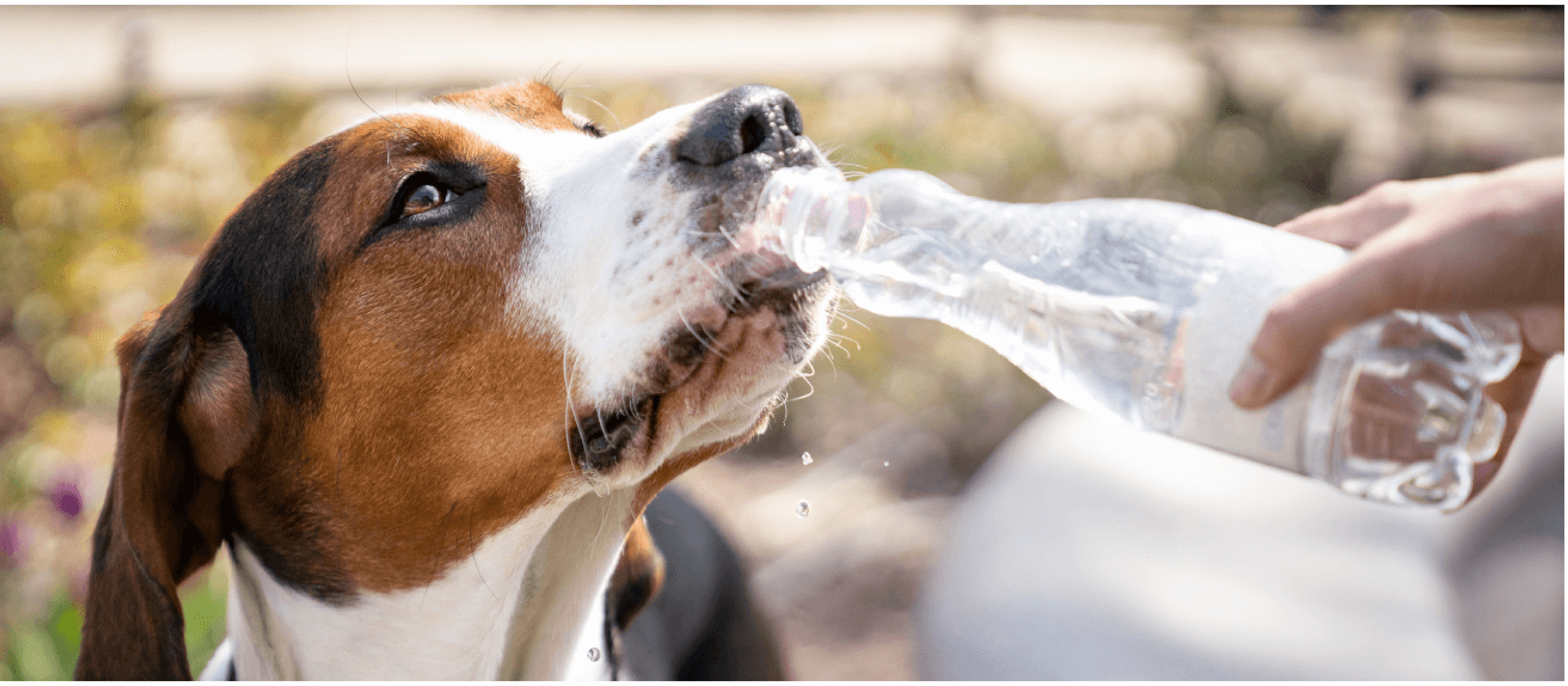
The single most important lesson to take might be relatively simple: Maybe it's time to think more about resilience — and whether the drive for efficiency hasn't made our systems less robust.

Every day seems to bring news of another glitch in the supply chains that handle consumer products. Too many containers are on one side of the Pacific, and not enough on the other. New cars can't be produced in sufficient numbers due to a microchip shortage, while other products — from sewing machines to sneakers — are out of stock. Packaging and raw materials, too, are in short supply: That even applies to wooden pallets, the price of which is up roughly 40% year-on-year. Moreover, these supply challenges — along with monetary policy, fiscal stimulus, and pent-up demand — are pushing up inflation, a topic many had hoped we'd left behind in the 1970s.

After decades of whittling down buffers, the consumer products and retail industry has become remarkably efficient at every stage of its supply chain. But, along with the resulting benefits, the industry is now more vulnerable to major shocks. Just-in-time inventory drives down working capital, for example. But it only works if suppliers can deliver in time, thanks to rapid, frequent transportation and glitch-free production by suppliers.

Just-in-time delivery becomes more complicated when manufacturers, seeking the cheapest sources for components, use suppliers on the other side of the world. That implies, long, multi-stage journeys, which worked previously — but do not when ports cannot function at full capacity, let alone when there are not enough containers in which to transport the goods. And those goods might not even be available if they are manufactured in an area of China with power rationing due to high coal prices and emissions targets, or if a factory in Vietnam has to close due to a COVID-19 outbreak.

That's why it's time to think about how better to balance the short-term economic benefits of efficiency with the longer-term benefits of resilience. How do we balance "just in time" and "just in case"?



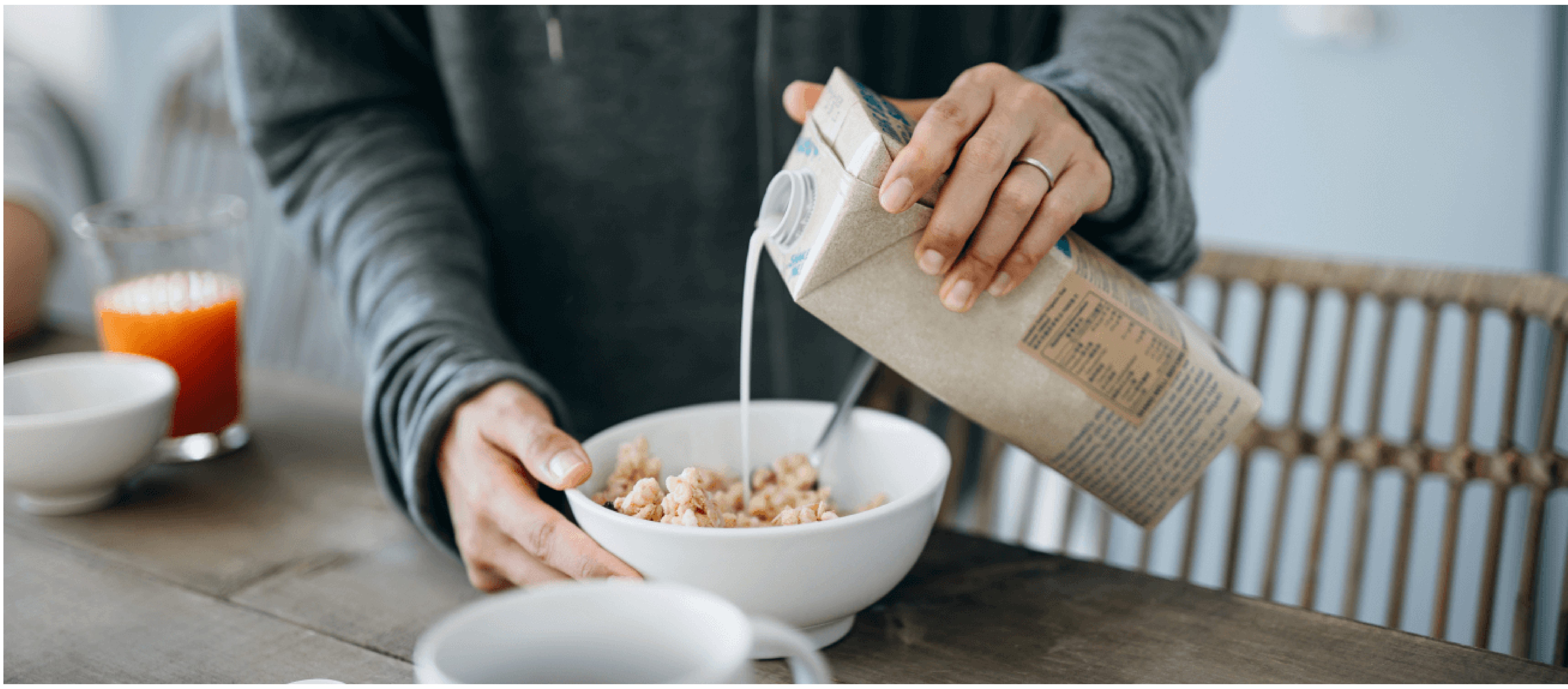
The labor shortage and the bullwhip effect

Demand has picked up sharply recently: Personal consumption on durables, to give one example, is now more than 25% higher than before the pandemic. The challenge now is how to fulfill that demand, and one constraint is the tight labor market: There aren't enough people working in distribution centers and chicken factories or — especially — driving trucks.

A major reason is the plunge in the US labor participation rate during the COVID-19 pandemic. Upwards of 3 million people left the labor force, and the participation rate fell 1.5 percentage points. It still hasn't recovered, even as the unemployment rate has fallen: An estimated 1.5 million to 2 million of the people who left the labor force were early retirees, who are unlikely to return to work. Others are households' second wage earners, who have reassessed their priorities as a result of the pandemic, for example changing the way they balance work with education and childcare. History shows that such individuals are slow to re-enter the labor force. Government policies, such as supplementary unemployment benefits, have done little to encourage a return to work, and vaccine mandates may also deter some people.

Economic shocks will always arrive from time to time, but many supply chains are less resilient than they could be. Models that leveraged historical data to anticipate future volatility were unprepared for something literally unprecedented. Companies calculate inventory needs and safety stocks based on factors such as target service levels, supply lead times, and the time it takes to replenish demand. As volatility and lead times have increased due to the pandemic, companies have increased target inventory levels, introducing more volatility, in turn, for their suppliers.

The result is a "bullwhip effect," with small variations in demand downstream magnified as they work their way upstream — sometimes to levels that can strain the system. The crack of the bullwhip upstream echoes back down again in the form of shortages until the system adjusts.



How to boost supply chain resilience

We think there are a number of ways companies can boost their resilience:

Address labor challenges. Part of the solution is automation. But another part is making sure that teams are not stretched too thin, which can affect morale, harming retention and worsening the labor shortage. Proactive measures to boost morale include making hours and staffing models more flexible, introducing new retention incentives, and better recognizing individuals' contributions. High inflation makes this a good time for employers to benchmark their wages to make sure they are competitive. Companies can also look at non-traditional candidates and hiring referrals.

Improve transparency, predictability, and communication with trading partners. To tame the bullwhip, ask trading partners, up and downstream: "How do you wish we would order (or deliver) differently?" and "What would we be doing differently if we were a single company?" The answers may be surprising. Inefficient ordering patterns might be easy to address. Substitutions can be aligned in advance. Shipping a partial order may cause a trading partner more trouble than it's worth for them. Overall, a little bit of transparency may help a lot.

Work via industry associations to educate the public and government on the current challenges. At the start of COVID-19, consumers could understand why there were supply chain problems. But today's issues are multi-faceted and have their causes further upstream, making it harder for consumers to understand and have patience with them. Industry and external stakeholders can start the right conversations to encourage policy solutions that address the challenges.

These initiatives should be overseen by a war room that identifies bottlenecks and addresses them with creative solutions. One of its roles will be to challenge the status quo — "the way we always do things." Longer term, control and redundancy are key for sources of supply. Companies should adopt the motto "Two is one; one is none" when it comes to backups and redundancy and should consider what they can bring in house. And — despite the short-term costs of actions to account for the unexpected and hedge risk over the longer term — they should not forget these lessons once the current challenges are behind them.

Prepare for future shocks

In one way, the present challenges are a good problem to have: They are the result of consumer demand being strikingly healthy, considering the difficulties of the last two years. A time traveler from March 2020 informed that “two weeks to flatten the curve” of COVID-19 infections turned into two years could be forgiven for expecting a consumer economy in shambles. And yet, more than a year-and-a-half into the pandemic, grocery sales remain double-digit elevated. Imports of goods are higher than pre-pandemic levels. And consumer personal expenditure is not just higher than pre-pandemic levels; it is above the pre-pandemic trend.

But the supply chain difficulties might also be a sign that we, as a society, have erred too much on the side of efficiency at the cost of lost resilience and need to rebalance. Because, after we’ve put this shock to the system one behind us, there will eventually be another. While we don’t know what it will be or how far in the future, we want to be prepared as well as possible.