How trucking became the weak link in America's supply chain

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'Every single thing in your apartment, your house, whatever, has been in a truck.' But the shortage of trucks and drivers has caused havoc.

Trucks waiting in line at the Port of Los Angeles in October. The $800 billion trucking industry is likely the weakest link in the rusty U.S. supply chain that has been overwhelmed by unprecedented demand.

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For years, Justin Raduenz found his work as a freight pricing manager at RGL Logistics highly predictable. The son of a truck driver, he worked out of Green Bay, Wis., managing a team that bid for spot and contract trucking freight work. Tapping into a network of thousands of carriers, he routinely secured quotes for customers from one-truck outfits, large operations and everything in between. Raduenz could move cargo anywhere in America. If it fit in a tractor trailer, he could move it.

With near certainty, Raduenz knew how to anticipate the ups and downs of trucking supply and demand, movements that followed an expected curve. He was immersed in pricing forecast data, "tons and tons of it," Raduenz says. Then came the pandemic.

"You basically had to throw all your historical data through the window, you had to start from scratch," says Raduenz. "The real issues came in when e-commerce started to go up considerably."

The $800 billion trucking industry is arguably the weakest link in the rusty U.S. supply chain that has been overwhelmed by unprecedented demand coming from American consumers for goods. There's a shortage of truck drivers, and not enough warehouse workers to load and unload truck cargo, and process paperwork. The number of trucks and chassis available to buy and add to overburdened fleets is limited. Stacked shipping containers have clogged up the nation's biggest ports, such as the Port of Los Angeles, waiting for trucks to take them away and free up space for the flood of containers coming from Asia.

Rising freight prices have been a clear sign of this supply-chain strain. In early 2020, Raduenz used to ship dry goods from Atlanta to Baton Rouge for $900, or from Los Angeles to Atlanta for about $3,000, for example. Raduenz says that an Atlanta-to-Baton Rouge truckload recently cost about $1,800, and the L.A.-to-Atlanta trip has been a more extreme example of the skyrocketing prices, going for at least $8,000. Sometimes, he has struggled to find a reasonably priced way to move goods from one place to another.

Even when Raduenz thought his industry had stabilized a little, around the summer of 2020, his business quickly became chaotic again and the volatility hasn’t stopped. Shipping rates have gone up anywhere between 50% and 150% in comparison to last year depending on destination, pickup location, and length of the trip, Raduenz said. In addition to paying more, shippers have been forced to become more flexible with their timelines.

“The big boom in demand really showed where the supply chain holes are,” Raduenz said. “Every single thing in your apartment, your house, whatever, has been in a truck, transported by a truck driver, or multiple drivers.”

The struggle for manufacturers to deliver commercial trucks

In the first months of the pandemic, people stopped spending on plane tickets, vacations, or steakhouse dinners, and channeled their money toward deck furniture, fitness equipment, and many more steaks and potatoes at the grocery store. When Americans started buying more goods and fewer services, the trucking industry was able to handle the increased volume—up to a point, said Ken Adamo, chief of analytics at DAT Solutions, a transportation information company. Part-time truck drivers turned full-time, and retired drivers returned to the job. Companies started making use of capacity that had been sidelined.

But as the pandemic continued and e-commerce boomed, the industry was swamped by the growing demand for trucking. Typically, trucking companies in a busy year would place bigger orders from truck manufacturers, but the chip shortages and parts shortages that are popularly associated with passenger-car production also hit commercial-truck makers.

In fact, the semiconductor issues are “much more severe for the large tractor trailers,” which take many more chips, than for the passenger vehicles, Adamo said.

PACCAR Inc. **PCAR, -1.02%**, maker of Peterbilt and Kenworth Class 8 truck brands, among others, said recently that it sold 32,800 trucks in the third quarter globally on strong demand, but the ongoing semiconductor shortage reduced sales by about 7,000 vehicles. Tesla Inc. **TSLA, -11.99%** has pushed the production of the Tesla Semi, an all-electric commercial truck, to 2023.

"Manufacturers have been really struggling to deliver (commercial trucks)," so there's a constraint in capacity while demand continues to grow, Adamo said. Large logistics and delivery companies such as FedEx Corp. **FDX, +0.38%** and UPS Inc. **UPS, +0.32%**, pressed for their own deliveries, are buying extra trucking capacity behind the scenes, adding to the pressure.

Prices of used trucks have soared and buying new ones has become difficult. Matthew Leffler, an executive with trailer-sharing startup vHub, said in the last few years tractor-trailer manufacturers would be making about 350,000 trailers a year, the vast majority "dry vans," or non-refrigerated trailers. That production has been cut by about half in the past year or so, due to component as well as labor shortages, he said.

Trucking companies looking to buy a trailer, or to get a "build slot" in the industry's lingo, are getting slots for 2023, and without knowing the price ahead of time. And while large trucking companies may avail themselves of their preferred status with the manufacturers, even they are scrambling.

"The way things are now, you are calling every person you know, and you are calling in favors," Leffler said. He has heard of people selling their build slots.

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Older used trailers, once sold for scrap value, are selling for $5,000 to $10,000, Leffler said. Container chassis, a type of semi-trailer used to haul containers from ports and rail yards, used to cost about $10,000, significantly less than a trailer because they are relatively simple metal frames with eight wheels and a hitch, he said. "They are now double that, if you can find them," he said.

Virtually all container chassis in use in the U.S. are made in China, like most intramodal equipment, so they also got hit by tariffs put in place by the Trump administration and rising prices of aluminum and steel.

Chassis drivers used to be able to make as many as six or seven trips a day, said Pat Nolan, vice president of North America operations at C. H. Robinson Worldwide Inc. CHRW, -0.30%, the largest third-party logistics company in the U.S. by revenue.

With chassis not always available and the overall congestion at the ports, they might make only three trips or as few as one a day, Nolan said. Terminals at the Port of Los Angeles have shut down for as long as three days because of a lack of empty chassis, and that's not just an L.A. problem, he said.

"We're seeing that chassis shortage in Seattle, New Jersey and Savannah, too," he said. "One way we're getting around it is to help our customers bypass the ocean ports. We're running on average 12 to 15 air charters a week, some of them passenger planes with freight strapped right into the cabin."

Nolan estimated that about 20,000 new trucks are partially built, sitting unfinished because of the chip shortage, and another 187,000 are back ordered.

"That has pushed the average price for a used truck to $65,000 – up 50% over last year. Prices for older trucks have doubled. Until those supply-chain issues clear up, expanding the nation's fleet will be problematic," he said.

Truck driver shortage hits a historic high

At the nation's biggest port in Los Angeles, some 17 ships have been berthed daily this fall, as dozens more wait anchored just offshore. The Port of Los Angeles has been averaging an unprecedented volume of 900,000 container units each month for more than a year and efficiently getting this vast amount of cargo out of port has been near impossible, creating a bottleneck. Containers have been stacked five at a time, turning the port into a giant warehouse, waiting for trucks to remove them. Some 40% of the imported containers linger for at least nine days, as opposed to, on average, four days before the pandemic.

"The ability to have enough chassis, enough truck drivers, to actually make the operations work at the port is one limitation as well that I think we are paying close attention to," White House Port Envoy John Porcar said at an October press conference.

Starting this month, the Port of Los Angeles is fining ocean carriers $100 per day for each truck-bound container that's left at the port for nine days or more. Many truck drivers won't venture anywhere near the ports because of the long lines, wait times and, often, low pay involved in the work.

There are not enough drivers at the ports, and the nation more broadly. There’s a long-standing shortage of truck drivers, and that shortage is headed for a record this year.

The American Trucking Associations recently estimated that the truck driver shortage will hit a historic high of just over 80,000 drivers this year. That’s the difference between the number of drivers currently in the market and an “optimal” number of drivers based on freight demand, ATA said. That driver shortage is most acute in the long-haul, for-hire truckload market, it said.

Pay has increased, but getting enough people to sign up for long hours of driving and extensive time away from family and friends remains difficult. The profession attracts few women, who make up about 7% of the drivers. Barriers include inability to clear drug tests and meet driving-record standards and other hiring policies. Like everything else, truck-driving schools were closed for some of 2020, and there are fewer recent graduates.

Long-haul drivers spend weeks on the road, and amid the current scramble to keep goods moving, their time away from home is stretching. There are countless hours of waiting at docks and warehouses to load and unload cargo. And the demands placed on drivers only increase near the end of the year.

“It’s going to be very tight to get things moving” for the holidays, DAT Solutions’ Adamo said. “This year is going to be peak in every sense of the word.”

Adamo doesn’t expect things to ease until next year, perhaps by the end of the second quarter. Peak season now lasts into the second week of January, to account for the longer return windows of items bought online. After that, we may see a small slowdown, but spring will be busy again, he said.

By the end of the second quarter, we could be easing back into what Adamo describes as not "normal, but more sane levels."

Kyle Lintner, a freight consultant in Chicago, likens the potential fixes to America's trucking challenges as similar to trying to get out of a traffic jam. "If we all go to the same road at the same time, we will bottleneck," he said.

The efforts to ease congestion at the ports in Southern California are creating warehousing issues in the nearby areas. Trucks that work transporting goods from ports to warehouses are being sent farther and farther away, creating more downtime and more inefficiencies, Lintner said.

The overall productivity of U.S. truck drivers willing to do the work can also be limited by the fragmented nature of the industry. Nick Dangles, a former freight broker and a co-founder of Kinetic, a Chicago sales and marketing consulting firm for freight tech companies, has focused on technological solutions. He suggests that currently an 11-hour driving day can consist of seven hours of driving, with the rest going into route planning, and driving around inefficiently to get the next load. "A lot of the technology is focusing on the fact that the truck industry is really fragmented and inefficient," he said. "It may have a driver-utilization problem more than it has a driver shortage."

Some tech tools to come to the market include shipper review platforms that sort out the shippers that are quicker in getting drivers in and out their facilities. Freight tech could also smooth out the loading process and dock appointments, and improve pricing and capacity tools. When capacity is tight, you see an emphasis on these kinds of tools. But the vast majority of trucking companies in the U.S. are smaller operations, and money to invest in problem-solving technology might be an issue for such small outfits.

When Dangles got out of the freight brokerage business, in June 2020, one of his frequent quotes were trips between Chicago and St. Louis for $650 a truckload. Recently, working with a dynamic pricing tool, he couldn't believe his eyes when he saw his old Chicago-to-St. Louis runs, often giant rolls of Bubble Wrap, show up at around $1,200.

"I knew rates were higher, anecdotally, but I hadn't been in brokerage in over a year, and it shows me $1,200. I thought this pricing tool is broken, there's no way Chicago to St Louis is $1,200," he said. "So I called my buddies still in the industry, and they all tell me the same thing, $1,200, $1,300. And that's just crazy to me."

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