(Illustration by Peter and Maria Hoey)

How America’s Supply Chains Got Railroaded

Rail deregulation led to consolidation, price-gouging, and a variant of just-in-time unloading that left no slack in the system.

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When the Union Pacific Railroad closed its Global 3 Intermodal Ramp outside of Chicago in 2019, Union Pacific marketing executive Kenny Rocker promised that closing the facility would bring “more consistent, reliable and predictable service” to shippers who depend on rail. Union Pacific was cutting costs by consolidating its unloading facilities in Chicago, a national center of transshipment for goods that come by rail from ports.

Two years later, as the supply chain crisis gripped the country, the railroad had to abruptly reopen Global 3. In the meantime, Union Pacific stopped service between the all-important shipping hubs of Los Angeles and Chicago for one week last July while the company reconfigured its operations. Union Pacific’s remaining facilities in Chicago couldn’t keep up with the volume, nor could Union Pacific find enough workers or equipment to handle the goods. Industry analyst Larry Gross told Trains.com that Union Pacific “sacrificed surge capacity” when it closed Global 3. “If you don’t have any additional capacity in your hip pocket, even moderate disruptions put you in a world of hurt.” Gross estimated that Union Pacific’s weeklong suspension of service would keep roughly 40,000 containers stranded on the West Coast.

Every other major railroad suffered from supply chain snags in 2021. Another overwhelmed rail company, BNSF, ordered a slowdown of shipments into its Chicago facility. Two other remaining large rail companies, Norfolk Southern and CSX, received sharply worded letters from the head of their primary regulator, Surface Transportation Board Chairman Martin Oberman. In his letters, Chairman Oberman asked each railroad to respond to complaints from shippers—across different types of goods—of worsened service delays and higher costs.

But the freight railroads' poor operational performance has not impaired their pectacular *financial* performance. If anything, the bottlenecks create more pricing power. Less than a week after his company reversed its 2019 decision and reopened Global 3, Union Pacific executive Rocker optimistically predicted on an earnings call that Union Pacific would be able to "take some pretty robust pricing on the market"—in other words, keep its prices high. The stock market shared Rocker's optimism for all Class I railroads, whose stock prices rose in 2021, many by 20 percent or more. The last year was one more of a decade of financial prosperity for the industry as the stock price and total return of every publicly traded Class I railroad from the end of 2011 to the end of 2021, except for Canadian National, grew faster than the S&P 500. Union Pacific earned the second-highest total return in that period, getting investors an almost sixfold return on their money and beating the S&P 500 by over 100 points.

THE RAIL SUPPLY CHAIN CRISIS was decades in the making, based on two fundamental sources—excessive consolidation and the railroads' version of just-in-time, called precision scheduled railroading (PSR). In 1980, at the dawn of rail deregulation, there were 40 Class I railroads. Today, there are just seven. Of those seven, four have 83 percent to 90 percent of the freight railroading market. Wall Street took notice of railroads' growing market power and pushed them to implement PSR, which meant running faster, longer trains, and skimping on service, spare capacity, systemwide resilience, and safety. When Union Pacific closed Global 3, the railroad was implementing PSR.

Today, using PSR, railroad management's job is to drive down the "operating ratio," or operating expenses as a percentage of revenue. In other words, Wall Street judges railroads' success based in part on spending less money running the railroad and more on stock buybacks or dividends. Theoretically, focusing on lowering operating ratios pushes railroads to be more efficient, to do more with less. But when railroads have the market power they have today, they can instead "do less with less," as shippers and workers put it.

In a September speech, STB Chairman Martin Oberman criticized railroads for their "pursuit of the almighty OR" and estimated that U.S. railroads have paid out $196 billion in stock buybacks or dividends to shareholders since 2010. In comparison, over that same period according to Oberman, railroads spent $150 billion actually maintaining the physical rail and equipment they need to run their railroad.

The driving force behind PSR's widespread adoption was railroad executive E. Hunter Harrison and investor Bill Ackman, a notorious hedge fund manager. After the two pushed through PSR at the Canadian Pacific railroad, Ackman's colleague Paul Hilal opened an investment fund called Mantle Ridge, which invested $1.2 billion in CSX and successfully pushed CSX to appoint Harrison CEO. Under Harrison, and with the backing of CSX's board, who saw larger bottom lines in sight, CSX pushed through PSR despite complaints from shippers who reported long delays or lost shipments. Every other railroad has adopted PSR or PSR equivalents; industry watchers say the one holdout yet to officially adopt PSR, BNSF, has adopted PSR-like measures.

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Though supply chain bottlenecks had a number of other causes, shippers, workers, and industry watchers agree that railroads' embrace of cost-cutting and PSR played a major role. Max Fisher, chief economist at the National Grain and Feed Association, explains that "because of PSR," the railroads "needed a little bit of surge capacity and they don't have it now." He added that grain shippers across the country suffered from insufficient rail service, not just those in the western half affected by the congestion at the Ports of Los Angeles and Long Beach. Fisher says, "Yeah, the ports have been a problem, but it's also just not having enough labor and power."

"The circumstances of the past year couldn't have been predicted completely," Jeff Sloan of the American Chemistry Council says, "but it was entirely foreseeable that there would be a … sharp increase in demand for [rail] service and that running without excess capacity would be a resiliency problem."

All of that extra effort, cost, and delay from PSR means higher prices for businesses or consumers that rely on rail for transportation. Shippers or shipper trade groups interviewed said that PSR and rail service resulted in higher costs.

A primary cause of railroads' fragility came from decades of laying off labor. From the passage of the 1980 Staggers Act to 2019, total employment in the railroad industry fell from about 500,000 to roughly 135,000. Some of that decline came from concentrating operations on more profitable lines. But a lot came from regulators advocating for Class I railroads to sell off rail lines or move freight to smaller companies with fewer worker protections and less union presence.

Greg Regan, president of the Transportation Trades Department, a labor organization, explains that when the supply chain crisis hit, "the drastic cuts to the rail labor force during PSR have ensured that there is no flexibility in the workforce." Railroads used to maintain "extra boards," or backup train crews on call just in case. In recent years, railroads viewed those as costs to be cut, which, Regan says, "backfired when those employees were needed." Training and certification requirements then prevented employees from being hired back quickly.

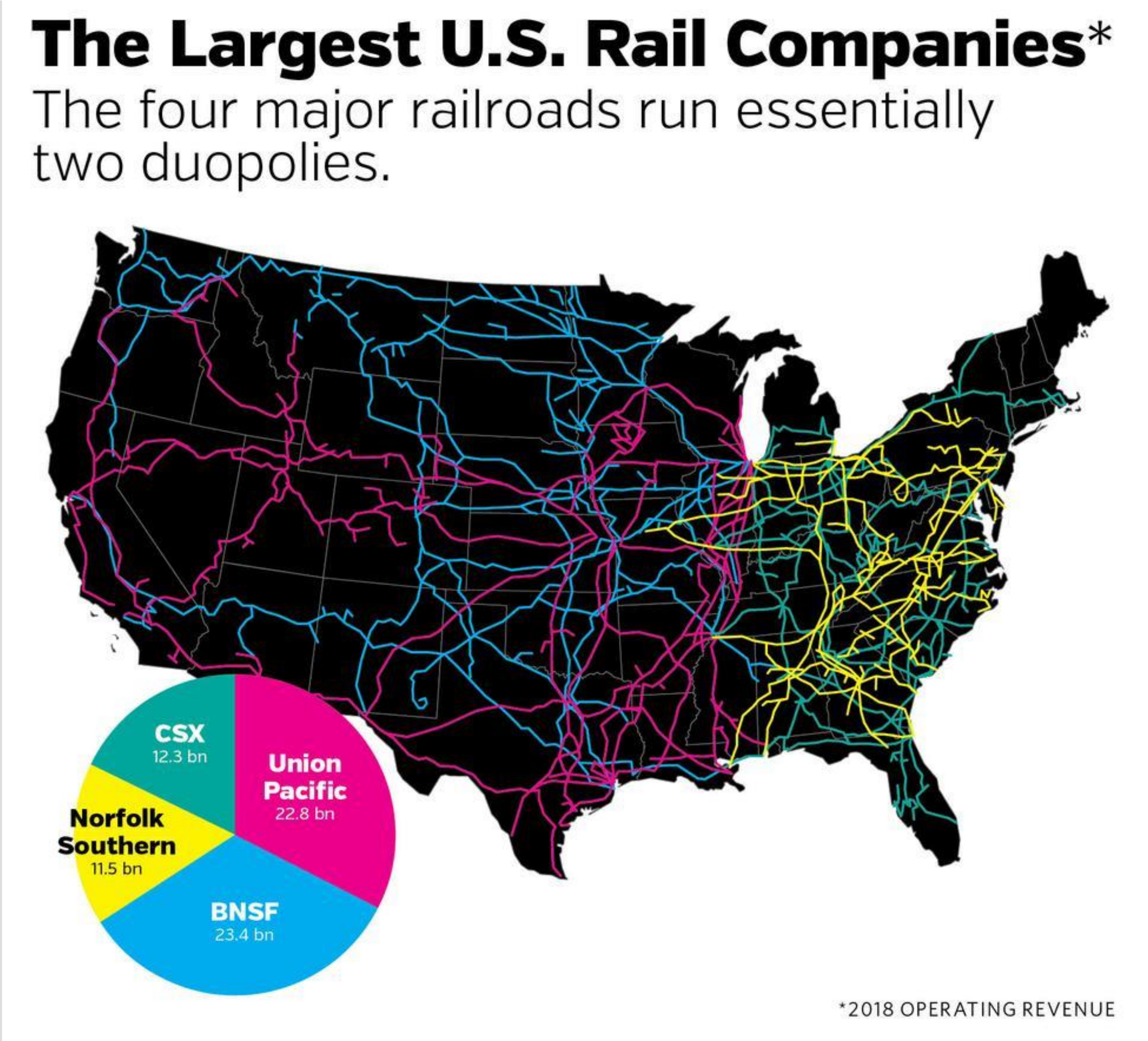
A deteriorating safety culture has also prompted laid-off railroad workers to rethink coming back to railroads that seem to view their safety as another cost to minimize in the name of efficiency and PSR. Workers overwhelmingly complain of being pushed to work faster and sacrifice safety for speed. Regan says that railroad managers rush workers into neglecting safety inspections and argues that thousands of workers have left the railroad industry out of concern for the railroads' poor workplace safety. The Federal Railroad Administration, the primary safety regulator for the railroad industry, reports that, since 2012, Class I railroads had higher rates of train accidents or incidents, higher rates of yard switching accidents, higher rates of equipment defects, and more total fatalities, all while total Class I train miles were down roughly 40 percent. A Vice investigation in March covered a streak of train derailments that it described as "the all-too-predictable result of … adopting [PSR]." One labor leader warned, "It's going to end up … like Boeing."

LIKE MANY PERNICIOUS ELEMENTS of our political economy, today's railroad industry is a product of the deregulatory era of the 1970s and 1980s. Though responding to real regulatory shortcomings, railroad deregulation ended up releasing railroads from almost all of their historical obligations to serve the public.

The Congress that brought the railroads under federal control at the end of the 19th century wanted to check the monopoly power that a few railroads and financiers had over the U.S. economy. With the Interstate Commerce Act of 1887, Congress responded to the farmer-labor coalition agitating against the power of private corporations like the railroads and brought the nation-spanning transportation networks under the control of the Interstate Commerce Commission (ICC). At the time, there was neither long-distance trucking nor air freight. Other than minor competition from canal barges, transport meant rail.

The rules of the ICC could be complicated, but a few key features emerged from this era, bolstered by additional Progressive Era legislation. A railroad could not discriminate between similarly situated shippers, meaning that a railroad couldn't favor similarly situated businesses, and railroads had to post their prices publicly, with those prices subject to ICC oversight.

By the mid-20th century, however, railroads struggled to stay profitable. The freight trucking industry began to grow, helped significantly by federal investments in the national highway system. The railroads had no such federal subsidy, and had to invest their own revenues in system maintenance. Though railroads carried most, almost 70 percent, of all freight after World War II, by 1975 its share dropped to 37 percent. The ICC frequently required railroads to provide service to unprofitable routes. For a universal service, cross-subsidy and service to unprofitable routes made sense as national policy, but the railroads were still privately owned and needed to book profits. By the late 1970s, bankrupt railroads ran 21 percent of all U.S. track.



In response, Congress and the Carter administration deregulated the freight railroad industry with the Staggers Rail Act of 1980, which deregulated the railroad industry in at least two key ways. First, railroads did not have to submit rates, or prices, to the ICC anymore. Instead, they could enter into private contracts with shippers and give different shippers different deals, including volume rebates to big businesses. This reversed one of the original reforms of the Progressive Era. Economic historian Marc Levinson argues that railroads' abilities to bargain and offer volume discounts to large retailers helped facilitate the growth of big-box retailers like Walmart, which could secure advantageous volume discounts, unlike smaller retailers.

Second, the law made shutting down unprofitable routes easier. Before Staggers, the ICC presided over railroad requests to abandon unprofitable lines, and frequently rejected requests so as to maintain service levels for wide swaths of the country. With Staggers, abandonments became easier, supported by appointees of both Presidents Carter and Reagan. In the first years of deregulation, the ICC essentially stopped denying abandonment requests, helping the railroads reduce their networks from 1980 to 2008 by more than 40 percent, according to research from Christensen Associates.

Consolidation became another legacy of deregulation. The ICC and its successor rail regulation agency, the Surface Transportation Board (STB), enforce antitrust laws in the railroad industry, rather than the Department of Justice or Federal Trade Commission. In an era of permissive antitrust enforcement, and despite having a lower legal standard to block consolidation than the other antitrust agencies, railroad regulators managed to be even *more* permissive than the DOJ or FTC. By the 1990s, STB policy blessed nearly all mergers except those that left only one railroad in a market. Over the objections of other federal departments and states, the ICC and STB presided over two merger waves, one in the 1980s and one in the 1990s, that produced today's market structure. A 2018 study of railroad mergers from 1983 to 2008 was unable to find that mergers improved efficiency.

Of the surviving seven Class I railroads, CSX and Norfolk Southern have a duopoly on traffic east of Chicago, while Union Pacific and BNSF have a duopoly on traffic west of Chicago. Canadian Pacific, Canadian National, and Kansas City Southern run much traffic going north-south through the Midwest. Even so, according to the Rail Customer Coalition, a shippers' trade association, most train stations (78 percent in 2012) only have one railroad serving them. Most places rely on a monopoly railroad.

Railroads have started to resemble airlines by pulling more revenue from their customers through fees. These fees penalize shippers for taking away their cargo too slowly. That makes sense if shippers use railroad yards as free warehouse space, a problem that has plagued ports. But the railroads also use these "demurrage and accessorial" fees as a form of price-gouging. In response to complaints, the STB passed a rule in March requiring greater transparency over the fees and has also asked Class I railroads to submit quarterly updates. Nonetheless, in the third quarter of 2021, Class I railroads almost doubled the revenue they brought in from demurrage and accessorial fees—roughly $800 million—from the start of 2019. Every single railroad except Kansas City Southern brought in more in fees in 2021 than it did in 2019.

Shipping associations interviewed said individual shippers preferred not to speak out for fear of retaliation. Of the seven Class I railroads and the main industry trade group, the Association of American Railroads (AAR), Union Pacific, Kansas City Southern, and the AAR responded to a request for comment.

Union Pacific spokesperson Robynn Tysver noted that the railroad is "just one piece of the supply chain puzzle" and said, "The changes Union Pacific has made over the last several years with PSR put us in a better position—with a less congested network—to meet today's supply chain challenges." Kansas City Southern spokesperson C. Doniele Carlson said that supply chain issues had been "overcome" and lauded the rail network and PSR for providing "seamless transportation" and "a sustained and disciplined approach to customer service," with the Staggers Act being "just one piece of the puzzle sparking ingenuity."

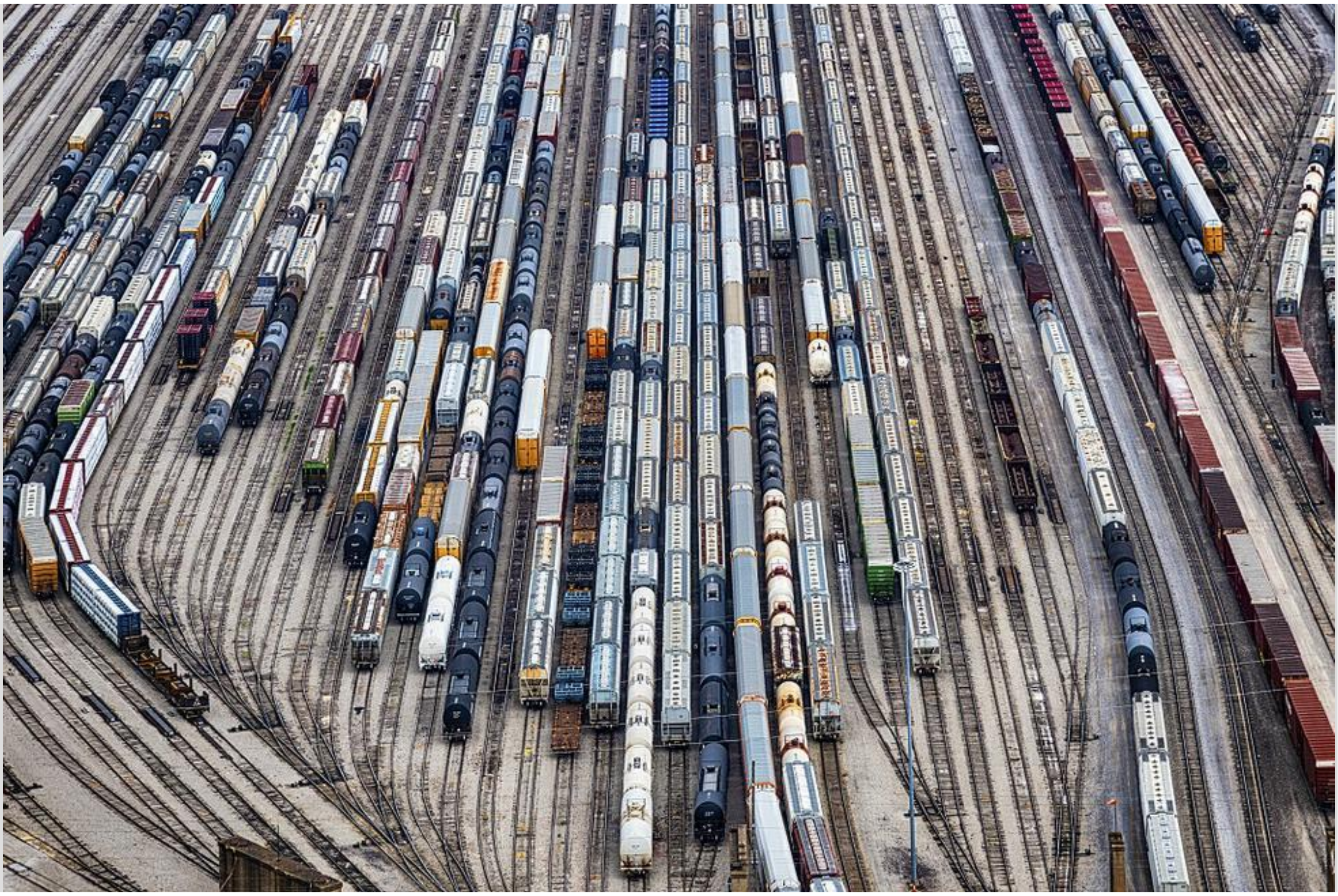
AAR spokesperson Jessica Kahanek pointed to steps the railroads took to address supply chain congestion, such as reopening closed yards and bringing equipment out of storage. "Railroads have remained one of the most responsive, nimble partners in the supply chain thanks to their ability to freely manage their operations and make key investments," Kahanek wrote in an email. Kahanek added that railroads moved an "unprecedented" number of containers in the first half of 2021.

However, PSR and its effect on supply chain bottlenecks seriously challenges the triumphant narrative of railroad deregulation's success. Proponents argue that railroad deregulation has been a resounding success. Since Congress passed the Staggers Act in 1980, real average railroad rates have gone down 44 percent, according to the AAR. Productivity rose steeply, too, as did the volume the freight railroads carried.

Many of deregulation's successes tend to come if one looks only at the first two decades. Railroad prices did fall from 1980 to 2004. But in the almost two decades since, the prices start going back up. According to data from the AAR, railroad prices look like a ladle from 1980 to 2019, the last year data appears to be publicly available: They go down, but then they go back up.

They go back up by a lot. By 2019, railroad rates were about as high as they were in 1991. The Bureau of Transportation Statistics reported that from 2004 to 2016, a business purchasing rail services experienced price increases of 54.7 percent, the fastest increase of any mode of transportation. In a 2019 analysis from the American Chemistry Council, Martha Moore notes that from 2000 to 2017, rates went up 30 percent while costs went up 3 percent and output only increased by 3 percent. Profits went up 186 percent.

The AAR attributes this rise to higher costs. But when the STB studied railroad rates in 2009, as they started to increase, the STB found that "even after factoring out rising fuel costs, railroad rates have risen in the last three years after falling for decades." The higher prices also came as the railroads continued to reduce how much they did. In 1980, Class I railroads had 164,822 miles of track. By 2019, that figure fell by almost half to 92,282. But the volume of shipments has leveled off since 2000, while the total economy has only grown since then.



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Productivity has leveled off, too. AAR data shows fast growth since deregulation until the mid-1990s, at which point productivity fluctuates until 2019, when productivity was about the same as it was in 1995. However, much of the railroads' productivity gains came from two sources of questionable value: laying off workers and cutting unprofitable service to smaller communities that needed railroads to reach customers. Looking at productivity figures alone masks harms to labor and left-behind places.

PSR has other indirect consequences, too. PSR became a dominant business strategy in an era when the planet needs more freight to move by rail and less by truck. One way railroads cut service is through "demarketing," or pushing away business that's profitable, but not *as* profitable as other business. By turning that business away, the railroads push it onto trucks. While trucks today provide most freight transportation, trucks inflict much more harm to the environment than rail. Freight trains are many times more fuel-efficient than trucks and emit much fewer emissions. Though railroads carry 40 percent of U.S. freight, the AAR points out, they account for only 2 percent of U.S. transportation-related greenhouse gas emissions. In his speech, STB Chairman Oberman estimated that "an additional 123 [million] tons of global warming CO2 [has been] pumped into our atmosphere since 2002 just because the [railroads] chose not to maintain their market share as compared to trucks."

Safety suffers as well from PSR's pushing freight to trucks. Large trucks are much more dangerous than trains; according to the Federal Motor Carrier Safety Administration, large-truck crashes killed or injured 163,000 people in 2019. For railroads, that same figure, according to the Federal Railroad Administration, was 9,000.

Shedding workers, consolidating ownership, and ignoring shippers' complaints about PSR have helped the railroad industry achieve a profitable, privately owned railroad industry. The *American Journal of Transportation* reported that in 2019, freight railroading was the most profitable industry in the country, with a 51 percent profit margin, outpacing tobacco, banks, and real estate investment trusts.

THE CURRENT STB IS CONSIDERING rulemakings or gathering public comment on initiatives that have shippers optimistic. Chairman Oberman has also tied PSR to supply chain issues and criticized the railroads for serving fewer customers and places while prioritizing financial gains.

In March, the STB will hold a hearing on "reciprocal switching" rules, which would allow shippers captive to a monopolist railroad to require that railroad to carry its goods along its track until the monopolist railroad can transfer those goods to a competitor railroad. President Biden's summer Executive Order on Promoting Competition in the American Economy encouraged the STB to consider such a rulemaking.

The STB also has Canadian Pacific Railroad's $27 billion acquisition of Kansas City Southern to consider. The combination of Class I railroads would be the first major combination since the 1990s and lower the number of Class I railroads to six, further reducing the number of independent railroads that shippers and workers can choose between.

And the STB is gathering comments on "first-mile/last-mile service," or how to measure railroads' service between the customer's facility and the local railroad station. The STB is currently reliant on shippers coming to them with complaints; if the STB instead regularly measured first-mile/last-mile service, such as when a shipper actually gets their delivery or a railroad's on-time performance, the STB could get a better sense of what the railroads are doing.

First-mile/last-mile service metrics could prove useful in informing whether railroads are meeting their statutory "common carrier" obligations. A common carrier is a person or business that provides transportation services to the public and usually has legal obligations to serve the public fairly and without discrimination. The concept comes from English common law and has seen a resurgence in the past decade with the principle applied in policy debates to net neutrality and increasingly dominant online intermediaries.

Despite deregulation, the railroad industry still has a common-carrier obligation, defined as "provid[ing] the transportation or service on reasonable request." The STB has broad powers to define what "reasonable request" means, though experts point out that the definition "remains poorly defined." First-mile/last-mile metrics could help push for a better understanding of how to measure service and thus talk about what an acceptable baseline level of service should be.

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A push to define an acceptable baseline level of service could come from Congress. Last year, Sen. Tammy Baldwin (D-WI) proposed a measure that would require the STB to define the common-carrier obligation further. An amendment to the defense authorization bill, Baldwin's proposal would have required the STB to factor into the common-carrier obligation reductions in employment, equipment, and whether fees are necessary to run profitably. Sen. Baldwin told the *Prospect*, "Now more than ever, we must ensure our railroads are able to offer quality service and are not left vulnerable to supply chain or economic shocks and disruptions."

What the STB comes up with could prove instructive to federal regulators in different sectors. Common-carrier obligations appeal to people's sense of fairness, that their treatment in some areas of life shouldn't depend on their identity but on their status as an equal participant in society. At a more granular level, filling out what exactly it means to be a common carrier—how much should specific routes or specific types of services cost and what *kind* of service should one get for that price?—are tougher questions that should be informed by both technical features and values like nondomination or equality. Thinking through the railroads' common-carrier obligation could prove instructive to structuring other essential networked industries like the airlines or Amazon Web Services.

Other government agencies are working, too. The Government Accountability Office recently began a study into precision scheduled railroading. And House Transportation Committee Chairman Peter DeFazio, (D-OR) who pushed for the GAO study, has criticized the railroads for being controlled by "the jackals on Wall Street." Noting the "staggering" number of jobs railroads have eliminated since 2015 as well as safety concerns and supply chain issues tied to PSR, DeFazio said in an email, "I anticipate hearings on these deeply problematic developments in the coming months."

At some point, however, Congress and the STB should consider more direct measures, to bring the railroads under public control. The 1980s deregulation movement empowered corporations to run markets and essential systems. But by prioritizing profits for railroads over communities, workers, the environment, and consumers, and offloading risk to them as well, deregulation's proponents gave the railroad industry little reason or motive to do more for the public good. "If we want there to be additional capacity in the system in case of unforeseen events," economic historian Marc Levinson says, "the private market isn't going to provide that."

The private, monopoly-dominated market failed people at various points during the ongoing COVID-19 pandemic. From ventilators to toilet paper to food on our tables, the past generation of policymaking has allowed ever-bigger and more powerful corporations to run markets not for widespread prosperity or even for the customer, but for the interests of a wealthy few. At the same time, policymakers have begun rejecting received ideas on political economy and instead, for example, gave people money directly, actually valued child care with real support, and engaged in skillful central planning for vaccine development.

Recent calls to consider price controls to address inflation, in the words of a recent *Harvard Law Review* note, "remind Americans that even the most sacred signals of the market are well within their collective control." The systems we make, we can remake. Some form of increased public control, learning from the mistakes of the ICC and the STB, could secure a cleaner transportation system more resilient to shocks and responsive, not to Wall Street, but to shippers, communities, and the public good.

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