



CHANGING DELIVERY BUSINESS MODELS IN A POST- PANDEMIC WORLD

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Disruption and shifts in road freight

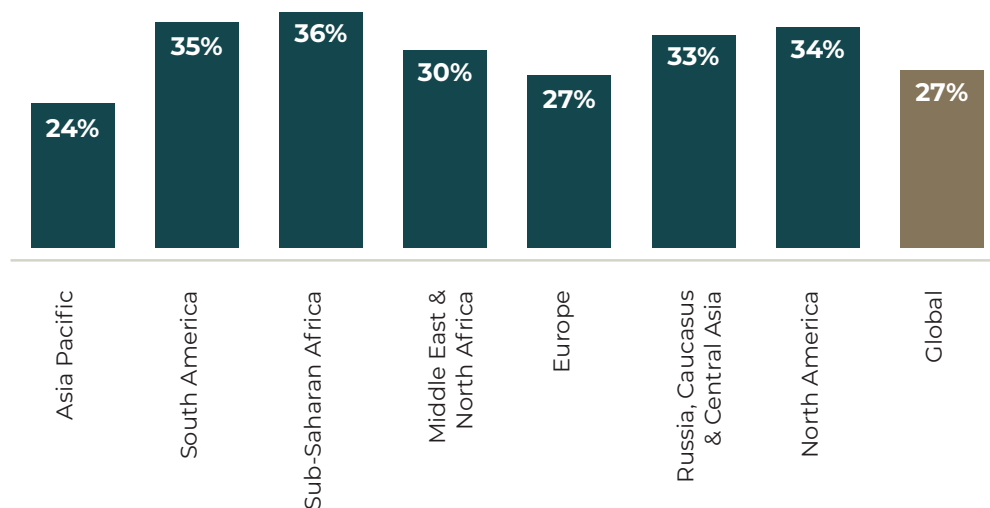
The COVID-19 pandemic has had contrasting impacts on different segments of road freight. On the one hand, the pandemic has disrupted long-haul road freight, especially industrial freight, as international supply chains have choked up or broken down, borders have closed, and entire populations have gone into lockdowns. At the same time, the pandemic has created rapid growth in consumer delivery as home-bound households change shopping and consumption patterns.

Freight disruptions continue to reverberate across the globe, often with cascading effects. The “bullwhip effect” where disruptions get bigger as they travel up supply chains has hit many areas of the world economy, with the current semiconductor shortage being one of the best examples. Industrial long-haul freight has suffered. When local and regional road services are disrupted, so is regional manufacturing output, which in turn often impacts industrial freight volumes and production elsewhere – further disrupting regional and local freight as the impacts circle back. The OECD estimates that global freight volumes by all modes dropped by 4% over 2020.¹

The retail freight market, on the other hand, proved more resilient during the pandemic. Most growth in trucking has been in the last mile sector in the years before the pandemic and this has only been accelerated as people the world over increasingly turned to e-commerce. Many analysts of the retail market see the pandemic-induced increase in e-commerce not as a revolutionary change, but more as an acceleration of existing trends – several years of incremental change compressed into one pandemic year. GSCi (Global Supply Chain Intelligence) calculates a 27.3% increase in the size of the global e-commerce logistics market, which includes warehousing and fulfilment activities, outbound shipping and last-mile activities, as well as in-house and out-sourced e-commerce logistics.

E-commerce logistics market growth 2019-20 by region

Source: GSCi.



1. OECD International Transport Forum. 2021. ITF Transport Outlook 2021. <https://doi.org/10.1787/25202367>

With a very unequal economic recovery and no clear end to the pandemic in sight, especially in the global South, the impacts are still being strongly felt throughout the road transport sector. Operators, are in even more precarious financial shape than ever. This is even more true when independent contractors or owner drivers, are included. The industry association, IRU, estimates that trucking companies suffered 679 billion USD in total losses globally in 2020.² This figure likely underestimates losses in the informal and more precarious sectors; however, it may also overstate losses by more established players as the industry makes the case for subsidies.

On the other hand, drivers in some parts of the world, primarily in rich countries where vaccination rates are high and economic recovery is underway, are seeing some monetary gains as employee shortages arise in disrupted supply chains. In the UK, for example, Tesco is offering £1000 signing bonuses to drivers until the

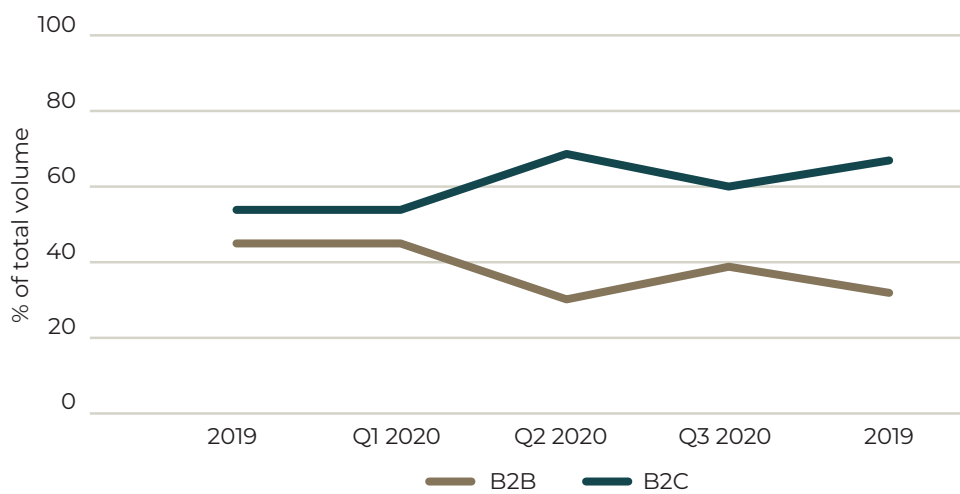
end of September 2021 as the effects of the pandemic and Brexit bite.³ The United States, another country to re-open its economy early, has also seen increased wage pressures, in particular in logistics and services. However, drivers in many locations are being forced to work longer due to driving time restrictions being eased. When combined with the technology-driven speed-up outlined in the rest of this report, these losses in working conditions counterbalance any monetary gains.

From B2B to B2C: what does it mean?

Overall there has been a shift in distribution from business-to-business (B2B) to business-to-consumer (B2C) during the pandemic. This shift is well illustrated in the split between these two segments of the UPS delivery network in the US in the chart below.

UPS US Domestic Package - B2B/B2C Volume Split 2019/20

Source: Transport Intelligence (Ti, GSCi), Global E-commerce Logistics 2021.

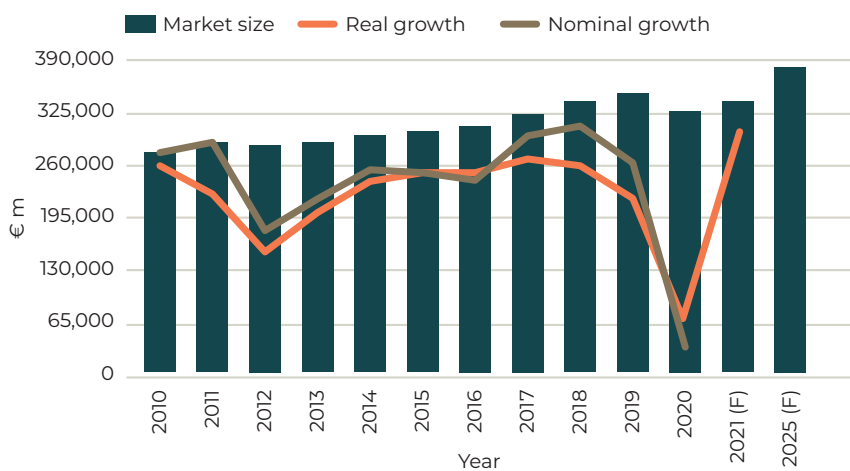


- IRU. June 2021. Report on COVID-19 Impact on the Road Transport Industry Update: June 2021. <https://www.itf-oecd.org/iru-report-covid-19-impact-road-transport-industry-update-june-2021>
- The Guardian. July 27, 2021. "Tesco offers lorry drivers £1,000 signing-on fee due to shortage." <https://www.theguardian.com/business/2021/jul/27/tesco-offers-lorry-drivers-1000-signing-on-fee-due-to-shortage>

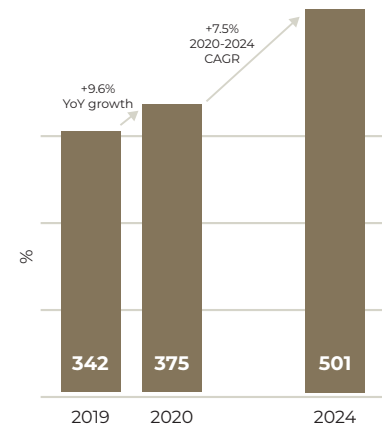
This same difference among subsectors of road freight is visible in the contrast between the two charts from GSCi below. The left-hand chart shows European road freight (as an example and proxy), which shrank by over 5% in 2020, something unseen in the past decade.⁴ The right-hand chart shows the global express parcel market, which grew by nearly 10% in 2020.

European Road Freight Transport Market Size & Growth

Source: GSCi.



Global Express Market Size & Growth €



Industry analysts are relatively united in pinpointing the rise of e-commerce and B2C logistics as the largest shift in the sector, especially in the aftermath of the pandemic. Alongside this, there is an on-going shift within retail from traditional contract logistics to both more in-house logistics and technology-driven “gig” logistics. It remains unclear how durable this shift will be, but it points to the greater importance and power of retailers generally as well as the greater power and market share of integrated retail-logistics-technology companies such as Amazon and Ocado. More B2C transport also means greater potential for integration between production and retail, which would compress already stretched just-in-time supply chains with implications for the road transport sector.

These trends reinforce the growing importance for last mile road transport. Last mile is the most cost-intensive and least predictable part of the delivery transport chain. It is labour-intensive and currently profitable for most providers only in specific conditions – typically some

combination of degraded working conditions, economies of scale and favourable geography. Much of the last mile sector relies on precarious, informal, and non-standard forms of employment, unsustainable price competition and fickle venture capitalist financing. Unsurprisingly, it is also the subsector of road freight in greatest flux as both lead firms and business models shift regularly.

The disruptions of the pandemic and the rise of last mile mean that transport unions must adapt existing tools and find new ones to organise workers, improve working conditions and build union power. There should be new efforts to apply innovative tools like the safe rates model and the economic employer strategy that were originally primarily developed for long-haul and middle mile trucking.

4. The US freight tonnage index put out by the American Trucking Association also shows a drop in volumes throughout 2020. Important to note that figures from corporate consultants and industry may not fully capture volumes, wages and employment as they do not always take into account layers of subcontracting in the industry, often spanning multiple countries and types of companies.

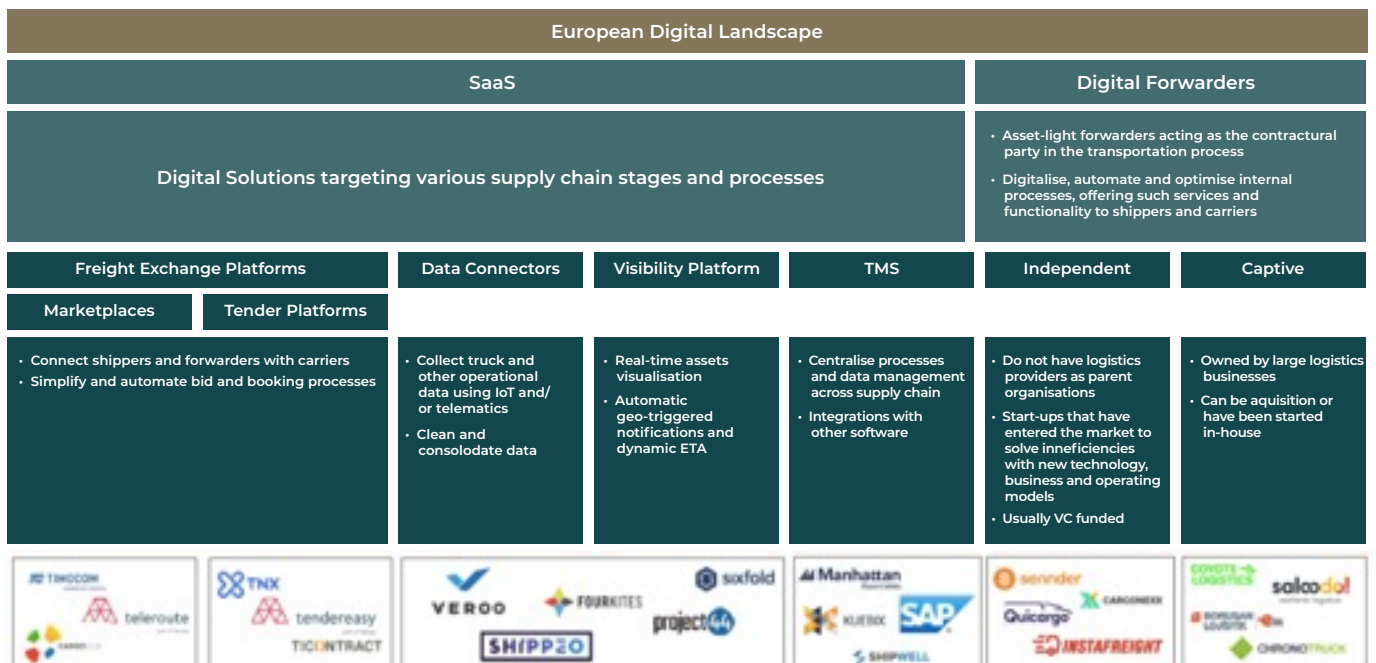
Trucking and technology: the end of ‘trucks and sheds’?

Since the rise of the internet economy in the late 1990s and early 2000s, it has been customary to read stories about the imminent remaking of the trucking industry by technology. So far, however, changes have been gradual. Like maritime shipping and some other sectors of transport, trucking has so far resisted total disruption of existing business practices. Some things are still done on paper and much technology is rudimentary compared to the inner workings of algorithm-driven technology companies.

A GSCi report on e-commerce effectively summarises changes in road transport: “The traditional model of ‘trucks and sheds’ looks old fashioned, characteristic of traditional retailing. Rather it is the sort of logistics operations seen at Amazon that are the future. Large, highly capitalised networks of fulfilment hubs and cross-docks with high-levels of automation and even higher levels of focus on data are the key infrastructure that delivers e-retail.” Shifts in the structure of the road transport industry, types of transport, and business models are all pushing greater digitalisation and automation in the industry. A greater share of goods

being transported directly to consumers increases the complexity of supply chains and unsustainable price competition in last mile increases cost pressures. Both in turn push firms to turn more and more to technological solutions to boost efficiency – all the way up the chain to industrials as well.

As elsewhere, the pandemic is accelerating existing trends rather than ushering in something new. The main type of technological change in road freight is digitalisation. This includes moving invoicing, routing, utilisation, and other types of non-digital data handling into the digital sphere, where they can be subjected to manipulation and optimisation. Doing so, however, at once upends the structure of the industry and the work process for drivers and warehouse workers. Digitalisation is taking place both within the logistics departments of suppliers and at existing 3PL and 4PL providers, as well as in the rise of new players such as digital forwarders like Uber Freight or Sennder and marketplaces such as Cargoclix. Technology is not just a neutral tool to improve processes but a way of reducing cost and atomising drivers, while concentrating power among those who control data and increasingly complex technological tools. Full digitalisation is still a way off, but the pandemic has pushed the industry to adopt new tools more quickly, leading to greater disruption.



Source: Transport Intelligence (Ti, GSCi).

Transport is resource-intensive and highly competitive with logistics firms and retailers pursuing a range of business models to cut down on labour costs. All of these business models exist alongside a very unequal distribution of power, one that has become more unequal since the 1980s. Today’s relative lack of power among organised (and unorganised) labour means that technology ends up being used against workers as a form of speed-up and discipline rather than something

that positively augments labour and decreases effort. Greater surveillance and “algorithmic management” – the use of computer algorithms to micromanage workers and enforce a faster pace of work – are what workers commonly experience when road transport firms talk about more technology. Organising around speed-up as a health and safety issue is one way to build workers’ power in delivery networks.



The rise of “new” employment relationships and business models

With its tendency to use non-standard forms of employment, the last mile sector is often seen as part of a novel “gig economy.” However, the rise of the gig economy – bogus self-employment in the digital economy and elsewhere – is not as radically new as the companies behind it claim. More than a novelty, it is the return of old forms of non-standard employment in the global North for a digital age – and a weaker labour movement.

Pre-World War II, in the United States, Germany or elsewhere in the North, significant sectors of work were organised on the principles of independent contracting; even industrial sectors such as mining could be subject to gig employment. Long-haul trucking, of course, has been organised under the independent contractor model since its inception in many countries. And the informal sector that makes up most employment across much of the global South is heavily based on various forms of sub-contracting, own-account employment, and non-standard employment.

Some things, of course, are different: many countries have public services and social security systems that

non-standard workers may have access to and much more robust labour standards that at least provide a reference point for minimum working conditions. These, however, are the very things that were won by workers and unions in the post-war years – victories which then led to a decades-long assault on workers and unions by capital. Whether we call it neoliberalism or something else, there was a sustained counter-offensive by business that started in the 1970s as the post-war Keynesian growth model ran into contradictions and pressures. The choice was more thorough-going reform of capitalism with even lower profits, or business and the wealthy clawing back their privileges via the ways in which income is distributed and work is managed.

This long-term context may seem abstract, but it is crucial to understanding the concrete shifts in employment taking place today. These shifts are dramatic, but are not as new and exciting as presented by boosters. First, these are well-established forms of avoiding labour standards and exploiting workers. Second, these are but one form of an overall degradation of work – low pay, precarious hours, job insecurity, low pensions, and more. Third, these are tied to a global restructuring of supply chains.⁵ Seen in this context, there is less of a distinction between gig work and the rest of the labour market; there is a continuum of different ways of lowering labour standards.

5. See Open Democracy, August 6, 2016, “Parcel delivery workers and the degradation of work.” <https://www.opendemocracy.net/en/beyond-trafficking-and-slavery/parcel-delivery-workers-and-degradation-of-work/>

Models of employer power in the last mile

The chart below categorizes 5 contracting models for last mile delivery based on two defining features: who employs workers and who has control over the work process, for example, setting targets or hours, whether directly or indirectly.

	Transport buyer has full control over work	Transport buyer has indirect control over work	Transport buyer has obscured control over work
Employed by end company	“Standard” employment [1]		
Employed by logistics or transport company		“Internal” outsourcing (e.g. Amazon DSP) [2]	“Standard” outsourcing (e.g. UPS, FedEx) [3]
Self-employed (misclassified)		Direct gig employment / dependent contractor (e.g. Amazon Flex) [4]	Indirect gig employment (e.g. Instacart) [5]

With the playing field tilted against workers globally, companies have been able to use the choice of contracting model to drive down labour costs alongside intensifying work, whether in absolute (more hours, etc) or relative (speed-up, etc) terms. Technology has enabled companies to manage complex online delivery models for consumers and at the same time manage workers more closely with “algorithmic management.” These intrusive technologies, whether guiding warehouse workers step-by-step through a warehouse via a scanner or monitoring delivery drivers with tens or hundreds of sensors in their vans, not only enforce a brutal pace of work, but often leave workers feeling alienated and “part of the machine.”

When and how companies implement these models often comes down to what is possible given the legal regime (both on paper and in practice), and how effective each model is at reducing labour costs in the specific context or offloading other costs onto workers (e.g. fuel or insurance). In general, there are better conditions in cases [1] and [3], where there is a ‘traditional’ employer and a more standard employment relationship. Cases [2] and [4] represent exploitation by the principal, who is more directly degrading working conditions, whereas case [5] is dual exploitation by the principal and the gig company, with responsibility for degrading working conditions shared. Case studies will therefore primarily focus on [2], [4] and [5].

Sector case study: Pandemic reshaping grocery shopping

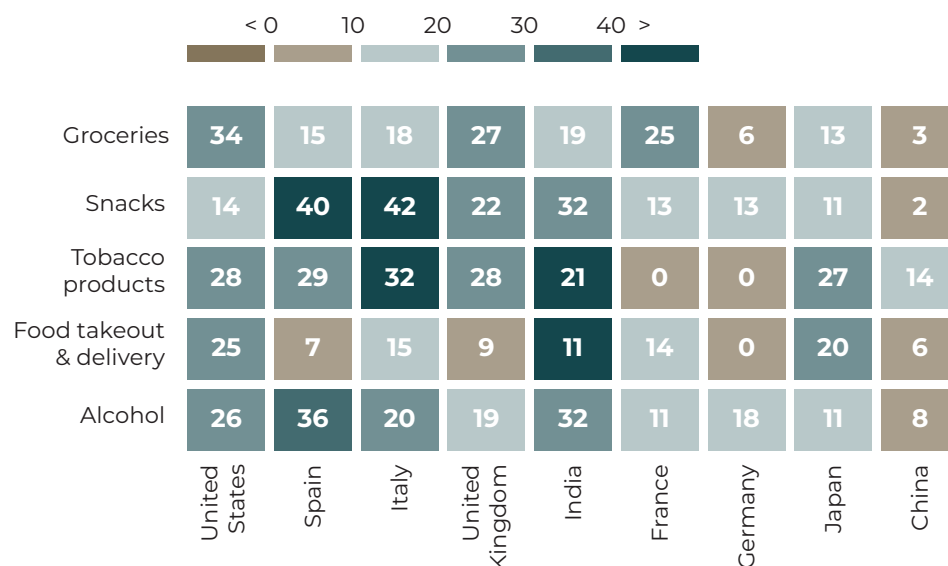
The pandemic has not just impacted supply chains, it has also reshaped shopping habits. The grocery sector has not been immune from these shifts – in fact, the pandemic has accelerated a previously slow adoption of online shopping in the sector. Grocery will be the focus of this report as it has among the most difficult last mile logistics of any sector and has seen some of the most rapid expansion.

In the United States, grocery saw the largest increase in sales among all retail sub-sectors early in the pandemic – 58.5% year-on-year by May 2020.⁶ A survey of US

consumers that same month found that 49% of grocery shoppers were shopping online. Global consultancies estimate that 150 million people shopped online for the first time during the pandemic. On top of this, many existing online shoppers changed their habits to more frequent online shopping and into new sub-sectors like grocery. It is an open question how durable these shifts will be, but surveys suggest that a significant share of consumption, including groceries and food, may have shifted online for good. For example, 71% of UK consumers report planning to continue shopping online at least as often after the pandemic recedes.⁷

Change in consumers intending to buy online, compared to pre-pandemic (%). Food and groceries

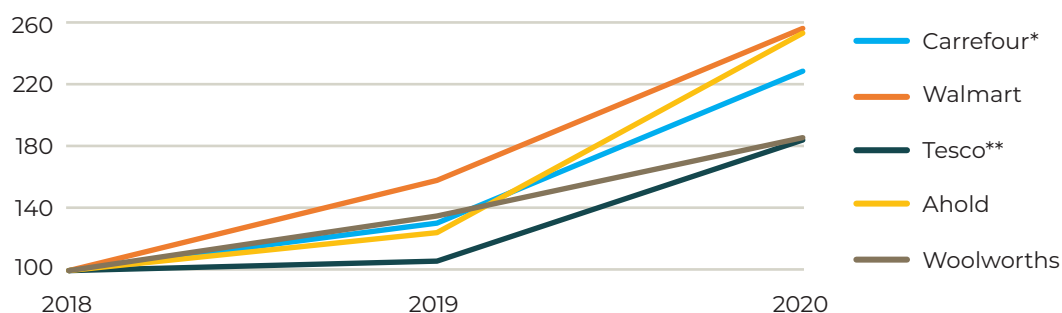
Source: McKinsey survey, September 2020, as presented in Financial Times.



A small sample of some of the world's leading grocery retailers in the world shows the significant growth in online retail over the pandemic.

Increase in online sales for large grocers (2018 = 100)

* Online sales of food only, ** Online sales in UK only
Source: ITF calculations based on company financial reports



6. Transport Intelligence (Ti, GSCi), Global E-commerce Logistics 2021.

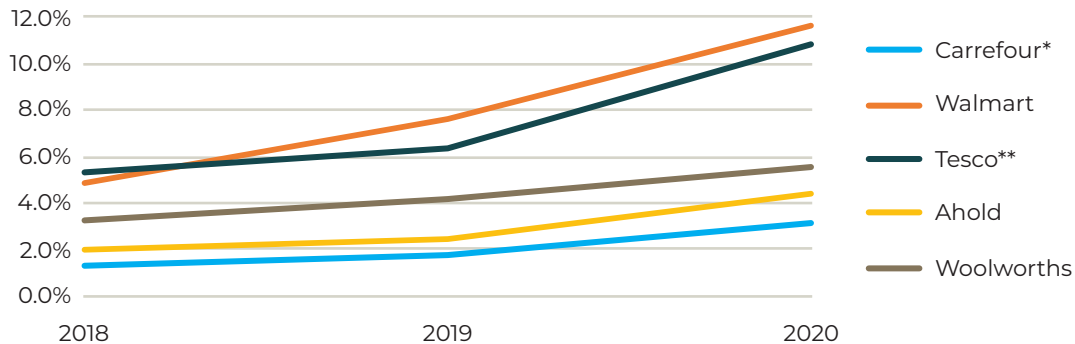
7. Ibid.

However, despite a relative similar magnitude of growth in online retail among the sampled companies, there is a sizeable difference in the share of online retail in total sales among them. Of these five lead firms, only Walmart

and Tesco have made a deeper shift into e-commerce with over 10% of sales coming from the internet; for the remainder, online makes up between 3 and 6% of total sales.

Online sales as a percentage of total sales

* Online sales of food only, ** Online sales in UK only
Source: ITF calculations based on company financial reports



China has also seen a marked increase in online grocery shopping despite a much more muted and short-term impact of the pandemic on daily life throughout most of the country. In 2020, Alibaba transformed its minority stake in Sun Art Retail Group, one of China’s leading supermarkets, into a controlling stake. In addition, Alibaba’s existing own brand supermarkets, Freshippo are designed according to a delivery-based business model.

These shifts to online retail have been challenging from a logistics perspective and have necessitated large investment on the part of companies choosing to pursue the online grocery market. The apps visible to consumers are just the surface of the large infrastructure investments required: warehouses, data centres, delivery vans and other physical capital. The already-blurry boundary between online and physical shopping has blurred further. Grocery firms increasingly speak in terms of “omnichannel” distribution: jargon for deeper integration of online shopping with existing physical infrastructure. For example, physical stores can serve as urban micro-warehouses or collection points for click-and-collect services, both means of cutting down on online delivery costs.

Despite this blurring with traditional retail, the profitability of online grocery delivery remains razor-thin or negative within today’s market structures and conditions. In its overview of online grocery retail during the pandemic, Transport Intelligence highlights a study by Bain & Company consultants, which found most online grocery models making losses:

- orders hand-picked from a physical store and delivered at no fee makes a loss of -15%;
- orders done through a no-fee click-and-collect service make an average loss of -5%;
- orders picked by a third party or from a “dark store” can break even.⁸

Looking at a related sector, a Deutsche Bank analysis of DoorDash, now the largest last mile food delivery operator in the USA, found that the company made a scant 2.5% operating profit on an average order (\$24 plus tax, tip and a 25% delivery fee).⁹ This negligible profit margin is in spite of a business model which misclassifies workers as independent contractors not subject to minimum labour standards.

8. Ibid.

9. Wall Street Journal. May 28, 2021. “DoorDash and Uber Eats Are Hot. They’re Still Not Making Money.” <https://www.wsj.com/articles/door-dash-and-uber-eats-are-hot-theyre-still-not-making-money-11622194203>

The low or negative profitability of last mile grocery delivery stems from the labour involved and the associated labour costs. Online grocery fulfilment relies on hand-picking many small items and precisely timed delivery without

spoilage, which are both labour intensive tasks. This 2021 summary by analysts MWPVL International compares the labour required for a variety of e-commerce grocery delivery models relative to shopping at a physical store:

Summary of Results for Orders Delivered to Home

Source: MWPVL International.

Scenario	Description	Paid Labor Seconds Required per Retail Unit	Labor Cost per Unit	Labor Requirements Over Baseline	Incremental Cost/ Unit Over Baseline
1	Baseline Scenario: Sale of Merchandise through the Grocery Retail Store where custome shops at Store.	12.3	\$0.08	-	\$ -
2	Sale of Merchandise through online order picked up instore shopper valet and delivered to customer home similar to Instacart approach	114.1	\$0.79	9.3	\$0.71
3	Sale of Merchandise through online order picked from an Automated Micro-Fullfilment Center (MFC) and delivered to customer home by delivery service provider	63.7	\$0.43	5.2	\$0.35
4	Sale of Merchandise through online order picked from a Manual Dark Store and delivered to customer home by a delivery service provider	76.0	\$0.50	6.2	\$0.42
5	Sale of Merchandise through a Manually Operated Fullfilment Center (eg. Amazon Pantry or Fresh with no Automation)	80.5	\$0.66	6.5	\$0.58
6	Sale of Merchandise through and Automated Fullfilment Center (eg. Amazon Pantry or Fresh with Amazon Robotics System)	58.9	\$0.45	4.8	\$0.37

Large grocery chains, both national and transnational, have adopted a range of business models for fulfilling and transporting online shopping orders to customers, all with the aim of making delivery profitable. From picking orders to delivery itself, labour is a big cost driver in grocery delivery as it is across the last mile segment. Despite the high tech involved, this remains a labour-

intensive undertaking. While the business models may vary, for example in whether delivery work is outsourced or kept in house, the broad aim in the highly competitive grocery sector is the same: to drive down labour costs – both wages and working conditions – to outcompete rivals on price and gain market share, even while sustaining losses.

Grocery Sector case study: Amazon vs Walmart

Amazon

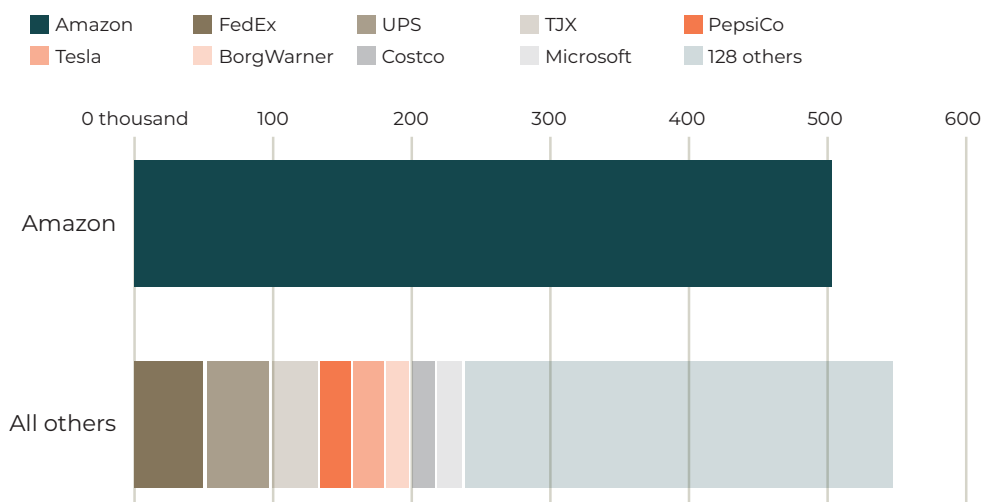
If we want to look more closely at the grocery sector, we must look at Amazon and Walmart as these are among the largest retailers and symbolic of the changes taking place in the sector; we then need to examine what these two companies are doing in the United States. Indeed, no research into last mile delivery would be complete without a look at the behemoth that is Amazon. The pandemic

supercharged its growth and made its founder Jeff Bezos the richest man in the world. Amazon grew the footprint of its distribution and logistics infrastructure by 50% in 2020.¹⁰ A November 2020 update from GSCi reported Amazon hiring 100,000 permanent and 100,000 seasonal workers just in last mile in the US (both drivers and at last mile depots). In fact, Amazon directly hired more workers in 2020 than nearly all other S&P 500 companies combined.¹¹

Net change employment in 2020

Note: Reflects S&P 500 companies filing annual reports with the Securities and Exchange Commission since July 1.

Source: Wall Street Journal.



Nevertheless, it is important to remember that while Amazon now accounts for half of online retail sales in the US, it still accounts for small minority of the total US retail market. Its 9.2% market share of retail is a third higher than in 2019 but still slightly lower than Walmart's 9.5%.¹² Amazon may be known as a retailer, but Amazon Web Services continues to be the company's main profit centre, cross subsidizing the expansion of its retail and delivery operations. The primary aim is capturing market share.

Grocery is no different. While Amazon Fresh has been around for a while, Amazon seriously entered the online grocery market with its purchase of Whole Foods in 2017. As many analysts at the time pointed out, this was less about purchasing a supermarket chain and more about purchasing a network of small urban warehouses with built-in chilled storage in affluent areas – and the associated customer base. Taking over a supermarket chain was the solution to a logistics problem.

10. Amazon.com. February 2, 2021. "Q4 2020 Earnings Release." <https://ir.aboutamazon.com/news-release/news-release-details/2021/Amazon.com-Announces-Fourth-Quarter-Results/>

11. This does not include workers hired by subcontractors of other corporations (or Amazon) so may not reflect an accurate picture of hiring throughout the supply chain. Nevertheless, just on the basis of direct hiring, the contrast between Amazon and others is very stark.

12. Pymnts.com. March 11, 2021. "Amazon And Walmart Are Nearly Tied In Full-Year Share Of Retail Sales." <https://www.pymnts.com/news/retail/2021/amazon-walmart-nearly-tied-in-full-year-share-of-retail-sales/>

In 2020, Amazon launched physical Amazon Fresh locations, opening nine supermarket-like grocery stores across the US with at least 20 more in the pipeline. The stores include a staging area for order pickup and returns, with a nearby prepared foods section. The small network of physical Amazon Fresh stores functions as a distribution hub for the fulfilment of online orders. In March 2021, Amazon opened its first physical store outside its home market with a cashier-less Amazon Fresh store in London. In the UK, Amazon currently sports two brands for grocery delivery: it delivers groceries for Morrison's, a large supermarket chain, and under its own Fresh label. By contrast, Amazon's expansion in India is focused on building relationships with small retailers who act as last mile fulfilment centres through its I Have Space (IHS) program. In March 2021, 28,000 "micro-entrepreneurs" -neighbourhood stores (or 'kiranans') - in 350 Indian cities were part of its partner network.¹³

Overall, Amazon uses three separate models for last mile delivery, corresponding to numbers [2], [3] and [4] in the schema above:

1. Traditional outsourcing: UPS and USPS
2. "Internal outsourcing": Delivery Service Partners (DSP)
3. Gig economy: Amazon Flex

The Seattle-based company uses market power to enforce labour cost reductions across all three modes but has much greater capacity to do it in the last two as it is effectively the economic employer, though it uses subcontracting to disguise this fact.

By the summer of 2020, Amazon was delivering two-thirds of packages via its own DSP and Flex delivery network.¹⁴ This is substantially higher than the 58% own-share in delivery in 2019,¹⁵ especially given the overall increase in parcel volumes over the pandemic. In the US, the share of last mile volumes delivered by Amazon has overtaken that of the USPS, UPS, or Fed Ex. Analysts talk about Amazon "building out its own UPS." There are now approximately 500,000 drivers within Amazon's own delivery network (although none formally employed by Amazon).

Recently, Amazon has invested heavily in Delivery Stations located closer to residential areas to scale up last mile delivery and expand into new segments like grocery. Delivery stations are last-mile facilities designed to service a 45-mile radius. These are typically located within larger cities, although Amazon has begun to invest in stations in smaller market areas. The expansion of Delivery Stations beyond urban centres will further erode the more profitable geographies for other express providers such as UPS. Delivery Stations are normally



served by DSPs and Amazon Flex. Outside the USA, it is more common for Delivery Stations to be serviced by local courier companies subcontracted by Amazon (more akin to model [3]).

Between 2014 and the beginning of 2020, the number of Delivery Stations grew from just eight to over 160 in the U.S. This expansion was scaled up even more during the pandemic. Between March and August 2020, the number of US delivery stations grew by 71% to 278. By April 2021, their number had grown to 400, nearly another 50% more. Amazon is expected to open a further 180 by end of 2021, nearly quadrupling the number in two years. This increase will leave little of the US population (even though over half of its land mass) outside the radius of a delivery station.

13. GSCI. 2020. India Country Report. <http://www.gscintell.com/Countries/Details/cd0f82aa-fc95-4020-8c7c-21603994acd8>

14. CNBC. August 13, 2020. "Amazon is delivering nearly two-thirds of its own packages as e-commerce continues pandemic boom." <https://www.cnbc.com/2020/08/13/amazon-is-delivering-nearly-two-thirds-of-its-own-packages.html>

15. Business Insider. December 19, 2019. "Amazon's delivery business reveals staggering growth as it's on track to deliver 3.5 billion packages globally this year." <https://www.businessinsider.com/amazon-package-delivery-business-growth-2019-12?r=US&IR=T>



Traditional outsourcing

UPS is now the primary traditional delivery provider to Amazon in the US. With UPS, Amazon is a very large customer, but still a minority of UPS's business. It has power over delivery labour costs only indirectly. However, it can threaten to reduce the size of its contract and extract better prices, thus pushing UPS to reduce labour costs or cross-subsidize Amazon from other customers. Speed-up and greater "algorithmic management" are the main methods available to UPS, which has a long-standing union contract. The company also recently negotiated a two-tier system among its driver workforce, with new "hybrid" drivers subject to worse conditions. However, Amazon grocery delivery is sparse in this delivery channel.

Delivery Service Partners (DSPs)

Delivery Service Partners are dependent contractor small businesses that lease branded vans from Amazon, up to a maximum of 40 vans. There are currently over 2,500 DSPs worldwide. The model has been designed to reduce dependence on independent third-party providers like UPS and USPS, whilst stopping any dependent provider becoming powerful. It is also a powerful union-busting tool in the context of US trade union law. Unions hoping to organise drivers would need to go through the laborious process of doing it DSP by DSP – with it additionally being very easy for a unionised DSP to shut down and another take its place. Innovative organising strategies will be needed for this group of drivers.

Amazon does not set terms and conditions for DSP employees, but it does set strict terms and conditions for DSPs. So, while drivers are formally employed by the DSPs rather than Amazon, they are very close to Amazon employees. DSPs effectively have little to compete on other than labour costs – Amazon sets their revenue rates and their capital costs. And it gives DSPs the tools to enforce harsh working conditions in the form of the “Rabbit”, an electronic scanning device that tracks drivers in real time, the Mentor app, which monitors and scores their driving behaviour, and the always-on cameras and sensors that record inside and outside the van. Labour costs are cut not only via wages and benefits but perhaps even more so via work time and work intensity.

Recently, two DSPs in Portland, Oregon have shut down in protest at the harsh conditions Amazon effectively enforces on them and their drivers.¹⁶ The companies attempted to place demands on Amazon, including an 8.5-hour, 150-stop, 250-package cap on routes and higher wages for drivers. When Amazon ignored them, they terminated their contracts with the internet retailer and shut down. While this incident shows that some DSP employers are feeling too much pressure, it shows the system working as planned: the point is for Amazon to squeeze DSPs as far as possible to drive down working conditions.

Amazon Flex

Amazon Flex is Amazon’s own last mile delivery service on the gig economy model – an internal Deliveroo or

DoorDash of misclassified drivers. Once accepted into the system, Amazon Flex drivers can use the Flex app to view and accept gigs known as “delivery blocks.” Each delivery block consists of a number of deliveries to be completed within a certain period of time, typically one to four hours. The app’s “offers” screen displays the available delivery blocks, the duration of each block, and the payment offered to the driver for the block. Amazon does disclose the number of Flex drivers operating on its network, but analysts believe the use of Flex has increased to deal with heightened pandemic demand. Amazon has also introduced the Flex model into other countries. In India, for example, Flex is active in 65 cities.

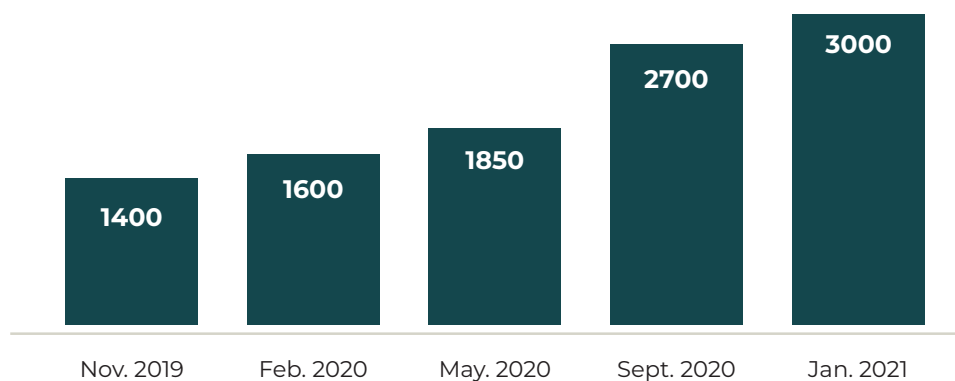
Walmart

In contrast to Amazon, established retailers like Walmart have scrambled to increase their online presence during the pandemic. Walmart and Amazon are the largest companies in the world in terms of sales and among the largest employers in the world. Walmart remains the larger company in terms of sales (\$555 billion to Amazon’s \$386 billion in 2020), though its online footprint is much smaller.

Unlike Amazon, Walmart has a ready-made and expansive physical presence across the US: 90% of US residents live within 10 miles of a store.¹⁷ And its online retail business model is based on leveraging this network in any way it can. Any store is a potential fulfilment centre. By winter 2021, 3000 of its stores were offering same-day delivery, nearly double the number a year previous.

Walmart’s same-day delivery push

Number of stores offering grocery delivery over the past 14 months
Source: Grocery Dive¹⁸



16. Vice. July 1, 2021. “Amazon Delivery Companies Revolt Against Amazon, Shut Down.” <https://www.vice.com/en/article/v7ez5x/amazon-delivery-companies-revolt-against-amazon-shut-down>

17. Financial Times. May 11, 2021. “Walmart vs Amazon: the battle to dominate grocery.” <https://www.ft.com/content/9ab41b9e-a294-430f-951d-49cfc3415460>

18. Grocery Dive. February 1, 2021. “Walmart grocery delivery reaches 3000 stores.” <https://www.grocerydive.com/news/walmart-grocery-delivery-reaches-3000-stores/594282/>



One challenge is relatively costly delivery in sprawling American suburbs, where many of its stores are located. In September 2020, Walmart launched its Walmart+ subscription service to compete with Amazon Prime and increase economies of scale. A \$98 annual subscription offers free delivery on orders over a minimum value and other incentives. Walmart is also expanding its third-party marketplace to try to up the value of orders. In October 2020, Walmart announced it was turning four of its stores into “laboratories” to test ways of turning its huge physical presence to greater advantage for e-commerce.

While Amazon is very focused on growing its own last mile delivery network, Walmart has adopted a strategy of utilizing any means to get its goods to customers, including numerous partnerships. One reason for this is that giving customers different options for delivery means it can push customers towards curbside pickup which does not have delivery costs. For customers who want delivery, Walmart largely subcontracts its last mile deliveries to external gig firms like Roadie and Postmates (model [5] in the schema). Walmart has also had partnerships with Uber and Lyft in the past, but these have fallen apart, largely due to the high costs of grocery delivery and difficulty integrating it into ride-share. While reducing working conditions generally, the largest ride share companies had enough of a market in other sectors (and enough market power on their own there) to resist Walmart’s push for lower costs for its deliveries.

Since August 2020 Walmart’s latest delivery partner is Instacart, one of the largest players in gig food delivery in the US. Instacart is in some ways a competitor to Walmart:

both are online shopping and delivery platforms, though for Walmart this is just part of its business. In another sense, there is a symbiotic relationship, at least for now, as Walmart is unable to rapidly build the kind of network Amazon already operates, especially for the same-day delivery Instacart offers, and Instacart gets access to a huge potential customer base.

This mixed history of partnerships has pushed Walmart to do more in-house. In 2018, the retailer acquired the gig start-up Spark which now operates as its own delivery platform (model [4]). Walmart has also invested in GM’s autonomous vehicle start-up, Cruise and other automation technologies. However, autonomous delivery, especially last mile grocery delivery in dense urban cores, is still very far away. Long-haul trucking will almost certainly be the first to see serious automation, with even that nowhere near an immediate threat.

Amazonification of Walmart or Walmartification of Amazon?

Walmart and Amazon are becoming more alike: Amazon is building physical stores, while Walmart is expanding its fulfillment and direct-to-customer logistics network. Grocery is and likely will continue to be dominated by physical stores: there are the specific difficulties in storing, shipping, and delivering fresh food that requires a more distributed physical presence (and many consumers remain wedded to in-person shopping at least sometimes). In this sector at least, the two giants of retail will likely come to a similar business model, albeit from opposite directions.

Last Mile Case Studies

Coupang (South Korea; [1] and [4])

Coupang is South Korea's e-commerce giant. Like Amazon, it has grown rapidly during the pandemic, seeing its market share of e-commerce spending rise by a quarter: up to 25% in 2020.¹⁹ On this metric, Coupang outdoes Amazon. Its market share is more than double Amazon's share of US e-commerce retail – and this in the major country with the largest e-commerce penetration. It also “out-Amazon Amazon” in delivery speed, claiming that over 99% of orders are delivered to customers within 24 hours. Its “Dawn Delivery” service allows customers to place an order before midnight for delivery before 7 am the next morning. Coupang's 2020 IPO prospectus for listing on the New York Stock Exchange boasted that “70% of Korea's population lives within 7 miles of a Coupang logistics center...[we have] the largest B2C logistics footprint as compared to other product e-commerce players in Korea.”

To reach its position, Coupang has invested heavily in a vertically integrated logistics network, including sortation, shipping, and fulfilment/delivery. The company has complete control over its logistics chain, not having to rely on local 3PL players. Its network now includes over 100 fulfilment centres in 30 cities, and it is the third largest employer in South Korea with 37,000 employees, including 15,000 directly employed delivery drivers (model [1] in the schema of contracting models). It also employs a significant number of its drivers on temporary contracts and an undisclosed number through its internal gig platform, Coupang Flex (model [4]).

Coupang's customer reach and speed of delivery come at great cost to workers, including drivers. The company has invested heavily not only in physical infrastructure but also in IT systems. Algorithms control nearly all

aspects of the work process. An exposé in the South China Morning Post illustrates the scale: “proprietary algorithms calculate everything from the most efficient way to stack packages in delivery trucks to the precise route and order of deliveries for drivers. In warehouses, AI anticipates purchases and calculates shipping deadlines for outbound packages.”²⁰

Local unions report that 8 workers, including drivers, have died of overwork at Coupang in the year up to March 2021,²¹ on top of increasing numbers of injuries and health and safety incidents across the company. Coupang uses algorithms to enforce a back-breaking pace of work and increase speeds even more. Drivers report working through breaks and not being able to keep up with the demands of the faceless software that directs their work; this is what algorithmic management amounts to in today's supply chains. It is driven by flawed business models and a lack of worker power. Coupang is providing fulfilment services such as next morning delivery below its sustainable cost to grow its market share. It is viable for the company to do so because it can set the parameters of its algorithms beyond a safe pace of work. Conditions for Coupang Flex workers are even worse.

Coupang demonstrates that direct employment on its own is not enough. The conditions of work can be brutal even with some drivers employed permanently with rudimentary benefits, such as additional health benefits and paid time off – both of which Coupang provides for its direct employees. Coupang operates in the context of a safe rates model in parts of South Korea's trucking industry (in particular, applied to owner drivers in container and bulk cement transport) but its last mile delivery drivers work in unsafe conditions generated by a combination of technology-driven transformation of working conditions and a shifting employment model.

19. Tech Crunch. March 10, 2021. “How Coupang is ‘out-Amazoning even Amazon,’ according to Goodwater Capital.” <https://techcrunch.com/2021/03/10/how-coupang-is-out-amazoning-even-amazon-according-to-goodwater-capital/>

20. South China Morning Post. June XX, 2021. “. ” <https://www.scmp.com/magazines/post-magazine/long-reads/article/3137503/death-injury-inhuman-conditions-korean-amazon>

21. Financial Times. March 8, 2021. “Coupang's New York listing clouded by worker deaths.” <https://www.ft.com/content/a90749a2-5f5d-4789-8215-fd4168a50813>

Woolworths (Australia; model [5])

Although armed with a network of 800 delivery vans, Woolworths was quickly overwhelmed by online pandemic demand and had to ration delivery slots to clinically vulnerable customers who were shielding and seniors. In response, and to take advantage of the greater demand for grocery deliveries, Woolworths partnered with gig employers including Uber and Australian start-ups Drive Yello and Sherpa to quickly expand delivery capacity. It also set up a “pop-up” delivery hub in an old liquor warehouse in Melbourne that stocks a selection of the most popular products to offload delivery from stores – a “dark store.”

Subcontracting gig economy companies (model [5]) allowed the chain to double capacity quickly without additional hiring of permanent employees. Like Walmart, Woolworths is also pushing customers towards curbside pick-up to limit pressure on its delivery network as it tries to cut down on driver and delivery costs. Like Walmart’s earlier relationship with Uber and Lyft, Woolworths is the weaker party in its relationship with gig providers because it is not yet a big enough buyer of delivery services. At the same time, even without Woolworth’s power to enforce conditions, the gig companies are already degrading conditions on their own relative to permanent drivers.

Carrefour (France; model [5])

Like Woolworths, Carrefour also launched a partnership with Uber in April 2020. However, unlike Woolworths, Carrefour contracted with UberEats to allow locked-down consumers in Paris to buy essentials via the UberEats platform (at elevated prices). Orders were fulfilled through a network of 15 central Carrefour stores. Within a few months, the service was expanded to 91 urban areas and included an increasing list of products. The same service also expanded to Belgium. Although new to France under Covid-19, the partnership was pioneered in Taiwan at the end of 2019, pre-pandemic.

Sennder (EU; model [5])

Sennder is Europe’s largest digital freight forwarding platform. It has reached this position through a combination of organic growth alongside mergers and acquisitions. Most recently, in 2020, the company

purchased Uber Freight’s European business and signed a strategic partnership with the US platform company that includes referrals between the EU and North America.

Sennder bills itself as a technology company rather than a trucking company and is funded largely (and highly) by venture capital. It is ‘capital-light’ in the traditional sense in that it does not own any trucks or warehouses; however, it does invest substantial capital in IT infrastructure and intellectual property (algorithms, etc) so it is more a case of different capital rather than a lack of it. These technology investments are geared towards driving efficiency gains, which Sennder describes as “primarily focus[ed] on route optimization and reducing empty load kilometers and downtimes.” This, however, often means speed-up and more micro-management for drivers. The other outcome of technological development is greater competition among trucking companies, whether fleet or owner operators, which drives down prices and puts pressure on labour costs.

Sennder has no drivers and trucks of its own, but contracts with over 7,500 carriers (over 10,000 trucks) primarily in the FTL sub-sector. Nevertheless, Sennder itself maintains 800 employees in 7 offices, split between technology workers and traditional forwarding sales staff. Sennder is also working with larger entities, integrating its technology into existing companies and networks. For example, Sennder’s collaboration with Poste Italiane is outfitting Poste trucks with more sophisticated GPS for ‘full visibility’, expanding the scope for algorithmic management into an existing workforce.

Companies like Sennder operate further up the supply chain than last mile, yet they are a version of model [5] in the schema. Like gig companies, they are intermediaries, but in an even purer form. Their role is less to challenge existing employment relationships (though they put pressure on this as well) and more to degrade conditions while keeping the structure of the industry intact. Unlike gig companies, digital forwarders like Sennder are more active in extending marketplaces for transport services and have less capacity to set rates for services themselves. The outcome is similar. Their function is making markets and applying digital technology to transport services drives down rates, wages and conditions, challenging regulatory oversight.

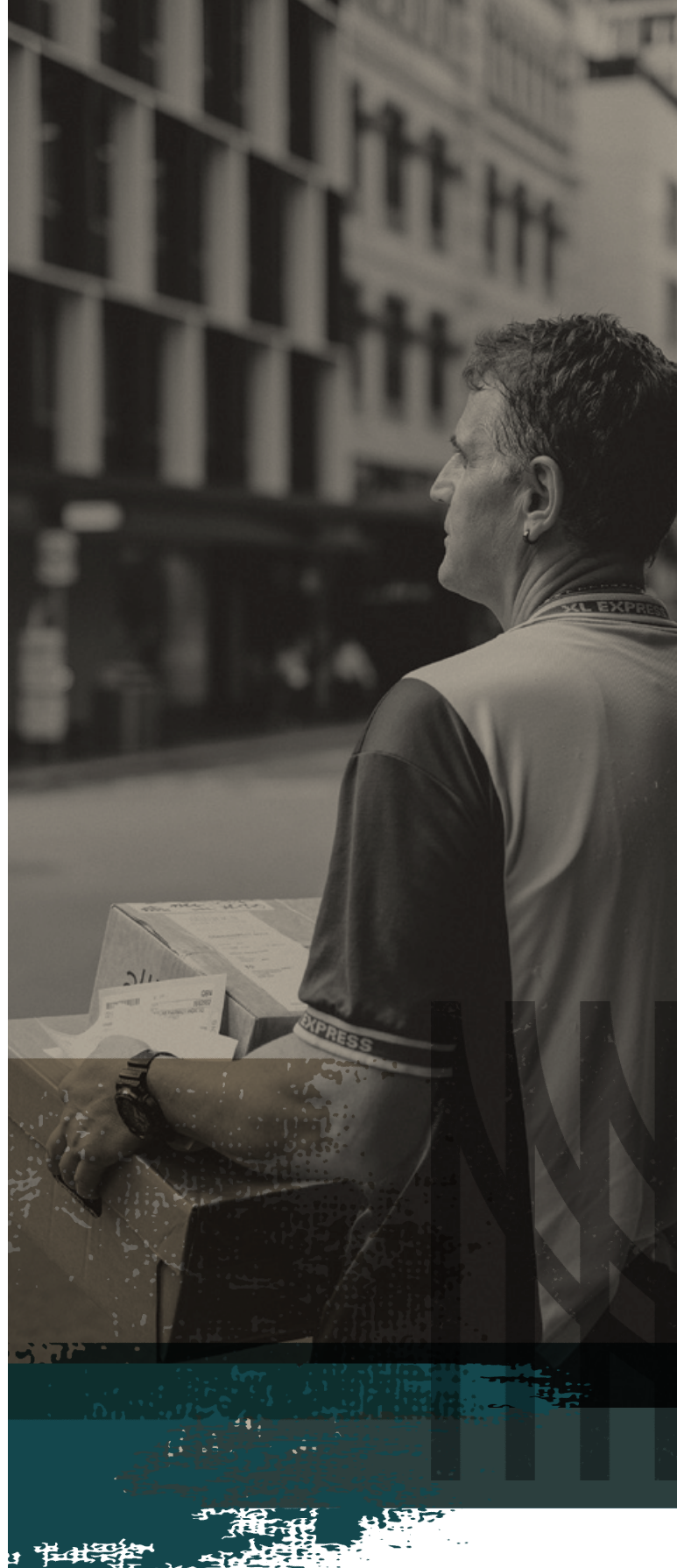
Albertsons (USA; model [5])

Albertsons is the third largest grocery retailer in the US in terms of sales (after Walmart and Kroger). In January 2021, the company announced it would end delivery by directly-employed drivers across several regions in California and elsewhere, shifting delivery work to gig delivery providers such as DoorDash. Non-union drivers would be fired, while union members would be reassigned to roles in stores and warehouses. The company moved directly from [1] to [5] in the schema above; this is a shift from what are often the best workings conditions to what are often the worst.

This overnight shift in business model was directly precipitated by California passing Proposition 22. Prop. 22 reaffirms the status of gig workers as independent contractors and guts legislation that would have classified them as employees. It additionally requires a 7/8 majority in the California state legislature to be overturned. Gig firms, led by Uber and Lyft, spent over \$200 million lobbying for the law's passage and are now looking to export the model to other states and countries.

Last mile delivery is increasingly the domain of capital-rich businesses: those which can afford to cross-subsidize it, like Amazon, or those subsidized by venture capital betting on future profits, like most of the gig companies. This episode is a clear example of how employer power is changing working conditions in the interest of lower labour costs, using all tools, including the law, at its disposal. Business news site Market Scale interviewed Professor Veena Dubal (Law, University of California Hastings) about the move and her analysis is worth quoting in full:

"I think we can understand this shift as a way to lower labour costs. Many, many businesses have faltered as a result of this pandemic. Grocery stores are not one of them, so it's very clearly a move to take workers who have been employed with unemployment insurance, workers' compensation, and health insurance and instead use workers who have none of those things... I think that they understand that the passage of Prop 22, in some ways, means that the tide is shifting with regard to the company business model. They have a lot of faith in this model. They are not worried about being sued as a joint employers in this context. And so they've taken the leap. But it's really important, again, to remember that this is happening in a context where a company is not faltering. Albertson's does not need to lower their labour costs at this moment. They just can."²²



22. Market Scale. January 14, 2021. "Albertsons Cuts its Delivery Workforce: What This Means for Gig Workers & Grocers." <https://marketscale.com/industries/retail/albertsons-cuts-its-delivery-workforce-what-this-means-for-gig-workers-grocers/>

Strategic directions for unions

As stated at the outset, the complex contracting models and employment relationships found in the B2C and last mile segments of road transport supply chains require unions to think outside of traditional organising and bargaining techniques. One means of doing so is adapting economic employer strategies and innovative tools such as Safe Rates to these circumstances. A full strategy proposal is beyond the scope of this research. However, the following strategic directions can be drawn from the discussion and case studies above and can serve as the basis for further discussion and strategy development.

- 1. Initiate a broader scope of activities.** Most obviously, the growth of B2C, last mile, and gig businesses requires unions to broaden their understanding of road transport and our organising target. We must move away from viewing road transport as isolated groups of 'trucks and sheds' to recognising the increased integration between road transport, warehousing, and retail, alongside the growing importance of smaller vehicles and the workers who drive them. Unions may need to change their organising targets and reorganise their structures in accordance with this understanding. The same may be true for the ITF.
- 2. Build relationships across sectors.** Integration also means there is a need for greater cooperation between unions (or divisions within the same union) organising in road transport retail, logistics, and warehousing. Road unions can lead the way by reaching out to their counterparts with clear strategy proposals.
- 3. Make demands concerning digitalisation and health and safety.** Digitalisation is often associated with the gig economy. However, it is impacting road transport far beyond gig employers. Broader understanding of the negative impacts of digitalisation on working conditions and the use of algorithms to manage workers is needed within road transport unions. Building on existing health and safety work, demands should be developed on the impact of digital technology on health and safety conditions and, by extension, road safety.
- 4. Analyse relationships and uncover power.** As the case studies above demonstrate, retail and other large transport buyers are increasingly moving away from employment and contracting relationships where they have more direct responsibility towards those that obscure responsibility by formally shifting it to another entity or to an algorithm (which they either directly control or is controlled by a third-party gig company). Broad campaigns to expose this trend on an industry-wide level will continue to be important, but they must also account for the role of digitalisation and the growing power of gig companies within supply chains. In this sense, it may be helpful to think of contracting networks rather than (or in addition to) supply chains, where gig companies hold significant power together with retailers in the larger network. More work is needed to analyse the way 'private regulatory power' works in these networks, the role of engineered markets in driving down working conditions, and legal frameworks that could reverse these trends.
- 5. Choose targets well and frame accountability accordingly.** The framing of accountability in the context of a union campaign may be different depending on where the contracting relationship lies in the contracting power schema. In the case of model [4] (Amazon DSP), the 'economic employer' may be the sole target, whereas in the case of model [5], a dual approach, which makes use of the brand sensitivity of the retail economic employer while at the same time challenging the gig model of tech-based control and cost cutting may be appropriate. Economic employer strategies should be accompanied by regulatory strategies that fight misclassification and seek equal standards for employees and workers in nonstandard forms of employment.



About the ITF

The International Transport Workers' Federation (ITF) is a democratic, affiliate-led federation recognised as the world's leading transport authority. We fight passionately to improve working lives; connecting trade unions from 147 countries to secure rights, equality and justice for their members. We are the voice for nearly 20 million working women and men in the transport industry across the world.

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