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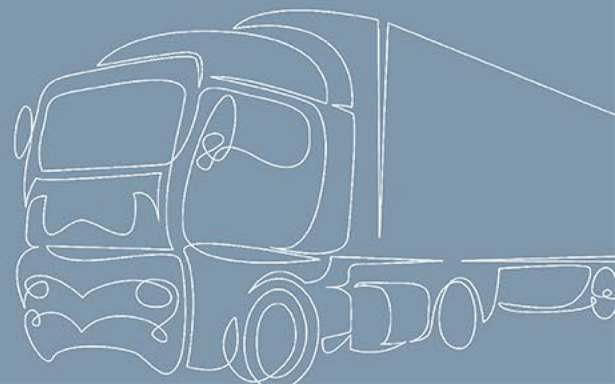
FMI THE FOOD INDUSTRY ASSOCIATION

Supply Chain Metrics That Matter

FMI Webinar

Tuesday, June 29, 2021

1:00 p.m. EDT



Before we get started…

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Today's Discussion Leader

Jon Malankar, Principal, BCG

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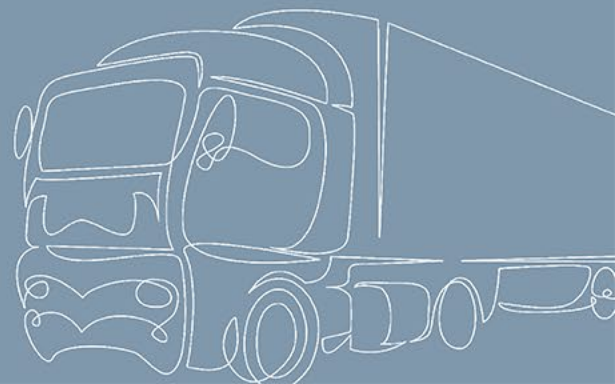
FMI Supply Chain Benchmarking

A look across the end-to-end customer value chain

June 29, 2021



BCG

Created in partnership with BCG

Companies surveyed across Retail, Wholesale, and CPG

Retailers

Newport Avenue Market
Schnucks
El Super
Shop Rite
Albertsons
Food City
Kroger
festival foods
Smart&Final
Wegmans
Gelson's
Ahold Delhaize
meijer
Target
BGC Brookshire Grocery Company
Big Y
giant eagle
Wakefern Food Corp.
weis markets

Wholesalers

Associated Food Stores
Imperial Super Regional Distributor
Bozzuto's Inc. Others Promise. We Deliver.
KeHE Distributors

CPGs

Post
Coca-Cola
Mondelēz International
The Bumble Bee Seafood Company
Kimberly-Clark
Musco Family Olive Co.
Nestlé
TreeHouse
Bimbo
Danone

Context and methodology

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Partnership

The FMI, The Food Industry Association has partnered with the Boston Consulting Group (BCG) for the 2020 Supply Chain benchmarking

This benchmarking covers the US supply chains of grocery retailers, wholesalers, and associated consumer goods companies

Overview

This presentation covers the findings on

1. Performance of supply chains throughout 2020 COVID disruption
2. Expectations for the future and key learnings for supply chain leaders from the 2020 experience

Methodology

The work contains information gathered through

1. Quantitative analysis of survey submitted by companies
2. Qualitative assessment of in-depth interviews with supply chain leaders
3. BCG work on digital and supply chain

Key challenges faced in 2020

Service took a massive hit across the value chain after COVID and has not fully recovered

- Service levels declined ~10%+ in all segments of value chain from Q1 to Q2&Q3 2020
- Service rebounded by Q4, but remain below Q1 levels

In response, Retailers and Wholesalers substantially increased inventory to help gain back service; CPGs have built less inventory as they remain capacity constrained

- Wholesalers and Retailers increased inventory by ~20%+ between Q1 and Q4 2020
- CPGs inventory in Q4 remained below pre-pandemic level

Logistics costs rose across the value chain, with largest increase at CPGs; The increase was driven by increasing transportation costs in a tight trans. market

- Inbound transportation costs rose ~60% for CPGs and Wholesalers, and ~15% for Retailers
- Warehousing costs fluctuated in 2020, ending higher for CPGs (7%) and flat for Wholesalers & Retailers

Additionally, 3-5% of labor was lost during COVID, with Retailers experiencing the highest turnover and offering the most long-term pay increases

Go-forward considerations

Many see a long road ahead to recovering prior performance and those that move quickest will be rewarded Only 5% of Retailers expect to fully recover service levels in less than 6 months, and nearly half expecting a year+

- 90% of CPGs & 60% of Wholesalers expecting 1 yr. or less

Most companies see their supply chains as somewhat vulnerable to resilient, with greater confidence in Retailers and CPGs than Wholesalers

- Roughly 50% of Retailers & 50% of CPGs called their supply chains resilient
- 40% of Wholesalers reported "somewhat vulnerable"

Going forward, companies will need to re-focus their supply chains to better balance service, cost, and working capital and leapfrog the competition

Supply chain performance suffered in 2020 due to myriad of COVID-related disruptions, highlighting urgent need for critical supply chain capabilities

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In 2020, performance was disrupted across the value chain …

Service levels decreased and did not return to pre-pandemic levels

Logistics costs increased, especially transportation costs

Inventory increased, with increases most pronounced near the end-customer

… due to supply disruptions and unprecedented demand

Demand spiked

Mfg. was constrained

Labor was lost

Transportation market was tight, less efficient truckload utilization

Retailers and Wholesalers stocked up to drive service

Moving forward, companies need to make bold moves to recover, and leapfrog the competition

- Segment their supply chain
- Manage across the end-to-end system
- Simplify their portfolio and network
- Enhance labor resilience
- Double down on digital capabilities

Service levels dropped across the value chain at the onset of COVID

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Median response 2020

	CPG Q1	CPG Q2-Q3	Wholesaler Q1	Wholesaler Q2-Q3	Retailer Q1	Retailer Q2-Q3
Service[2] (self-reported)	85%	77%	93%	72%	92%	85%
	-8 pts		-21 pts		-8 pts	
Logistics cost/case ($) [1]	$1.89	$1.97	$1.38	$1.43	$1.06	$1.13
	+4.0%		+4.0%		+6.4%	
Inventory (days on hand) [1]	39.7	34.4	19.1	23.3	14.2	14.7
	-13.5%		+22.0%		+3.5%	

During initial 6 months of Covid …

- Service levels took a major hit across the value chain
- Costs rose dramatically across the value chain, with the largest jump at Retailers
- CPG inventory decreased, Wholesalers stocked, and Retailers increased inventory

1. Calculated only for respondents that had provided enough inputs to aggregate 2. CPG & Wholesale service measured in OTIF, Retailers in On-Shelf %

To improve service levels companies had to pay much more for logistics and invest in inventory

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Median response

2020

	CPG Q2 & Q3	CPG Q4	Wholesaler Q2 & Q3	Wholesaler Q4	Retailer Q2 & Q3	Retailer Q4
Service[2] (self-reported)	77%	77%	72%	83%	85%	90%
	0 pts		+11 pts		+6 pts	
Logistics cost/case ($) [1]	$1.97	$2.18	$1.43	$1.44	$1.13	$1.21
	+10.9%		+0.6%		+7.8%	
Inventory (days on hand) [1]	34.4	36.3	23.3	30.8	14.7	17.3
	+5.6%		+32.1%		+17.4%	

In Q4 …

Service levels rebounded for Wholesalers and Retailers, while **CPGs did not improve**

Costs continued to rise across the value chain, especially at CPGs and Retailers

Inventory increased across the value chain, with larger increases at Wholesalers & Retailers than CPGs

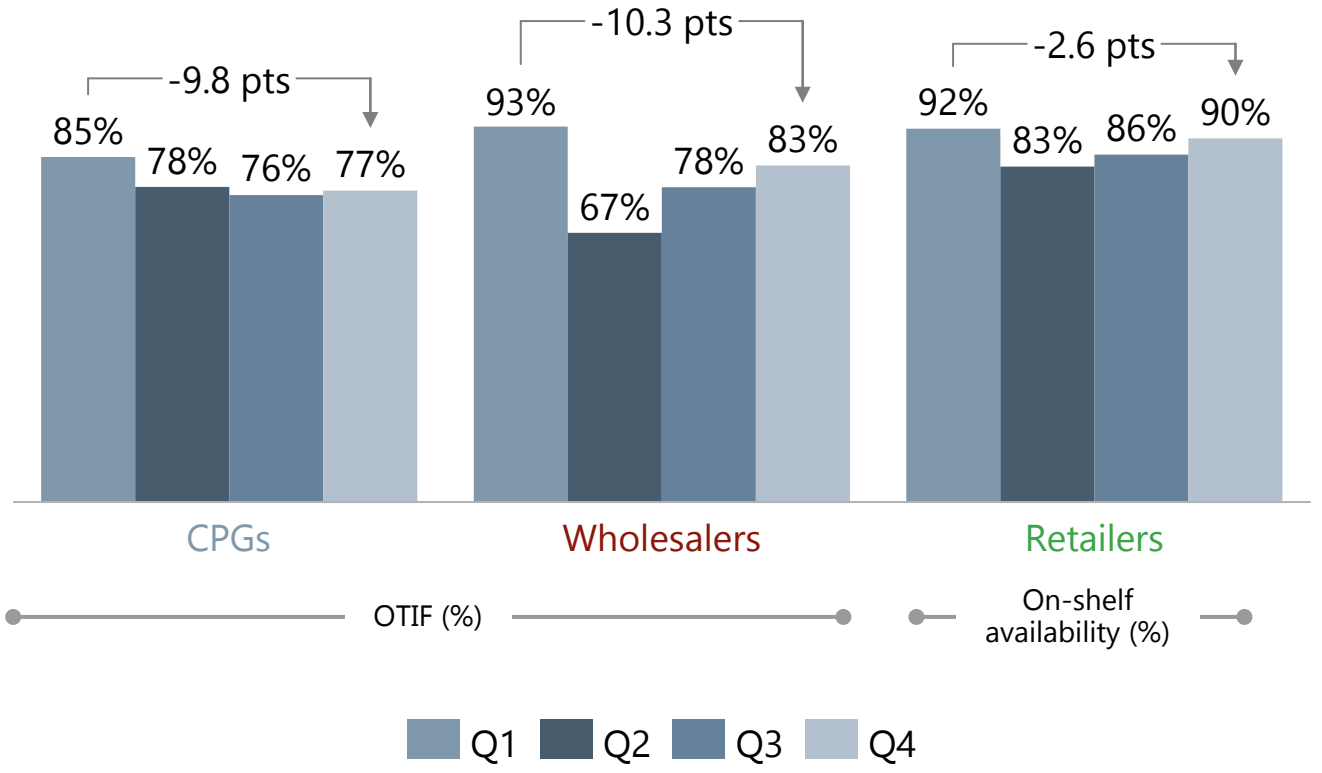
1. Calculated only for respondents that had provided enough inputs to aggregate 2. CPG & Wholesale service measured in OTIF, Retailers in On-Shelf %

We assessed 2020 supply chain performance through the lens of 5 key questions

- How did service evolve over 2020?
- How has inventory changed during COVID service challenges?
- How has costs changed throughout 2020?
- What specific labor challenges have supply chains faced?
- What's next for Retailers, Wholesalers, CPGs?

Service levels took a hit at onset of COVID across the value chain, and are still not at pre-COVID levels

Median self-reported service levels



Note: 19 Retail, 5 Wholesale, and 6 CPG responses

Service levels plummeted in Q2 (7-26 ppts) at the onset of the pandemic across the value chain

Retailers made some progress toward reaching previous service levels

Wholesale and CPGs continue to lag ~10%+ behind pre-pandemic service levels

COVID-driven demand spike was unavoidable, however end-to-end visibility could have improved reactions after initial shock

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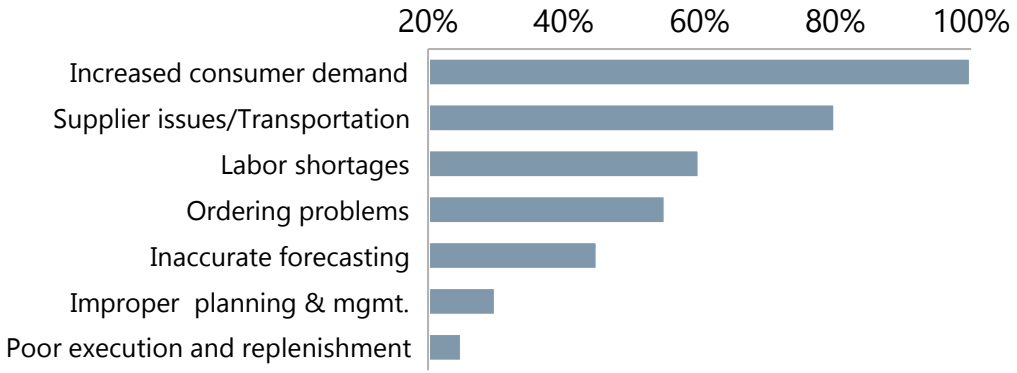
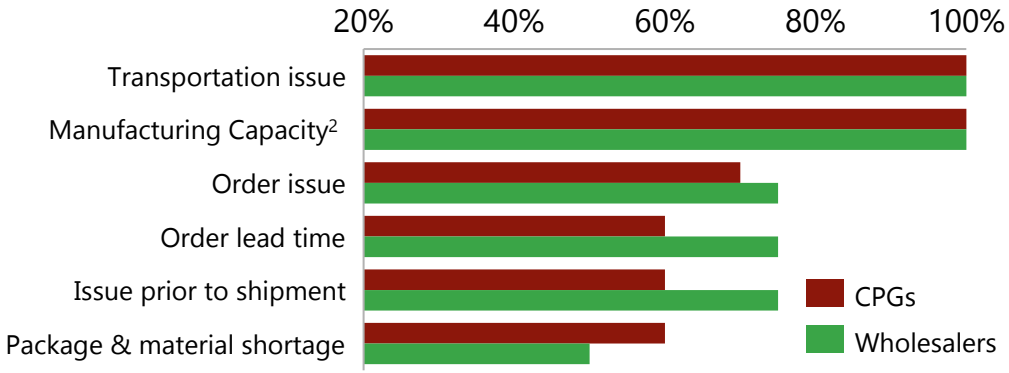
Customer-facing Retailers most pain in the demand spike …

What were the reasons for any on-shelf availability issues?



… that reverberated through the supply chain until CPGs and Wholesalers faced mfg. capacity constraints

What were the reasons for any service level (OTIF) issues?



End-to-end integration and visibility across the value chain could have led to faster, more informed responses including better utilization of tight manufacturing and transportation capacity

1. Reported as Other and defined by respondents 2. Capacity constraints at CPGs (Wholesalers here are noting where CPG capacity was impacting them)
Note: 20 Retail, 4 Wholesale, and 10 CPG responses

Collaboration and digital tools are most utilized among a variety of levers addressing service challenges

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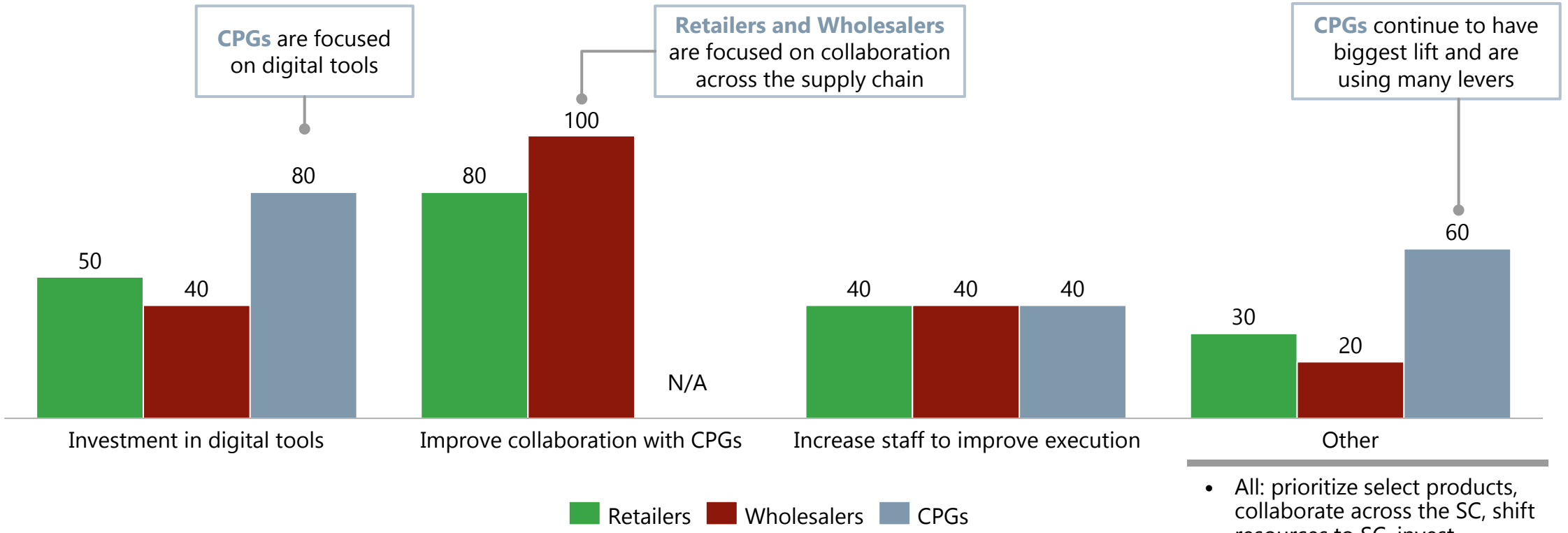
What will you do to address service levels?



- All: prioritize select products, collaborate across the SC, shift resources to SC, invest in forecasting
- CPG additions: CapEx; increase lead time, use Comans

Note: 20 Retail, 5 Wholesale, and 10 CPG responses

Service level performance for Retailers and Wholesalers was highly correlated with the performance of their suppliers

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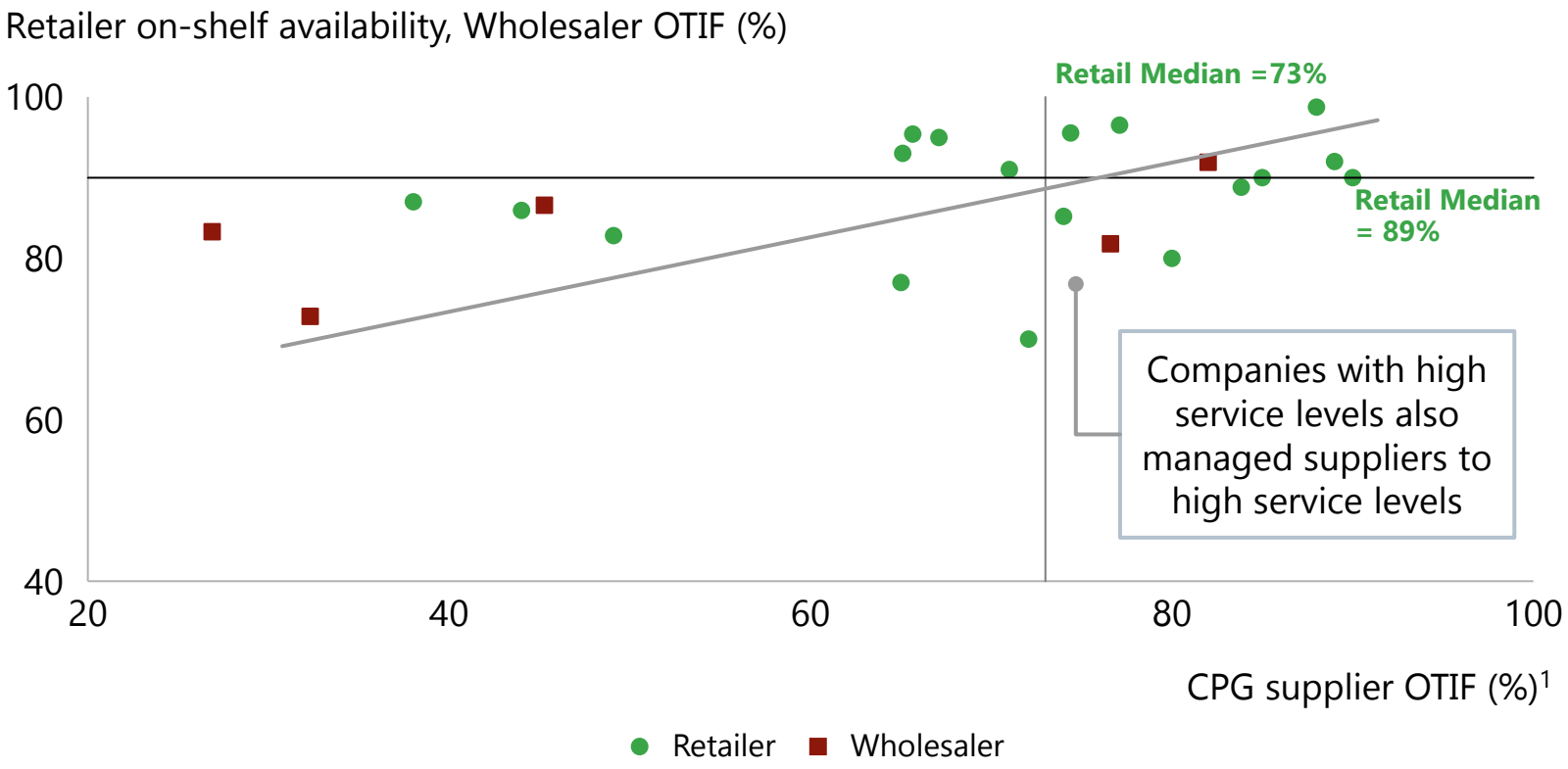
Service vs supplier performance reported by Wholesalers and Retailers (Q4 2020)



Collaboration across the value chain and resulting visibility likely contributed to correlation between performance of companies and their suppliers

1. As reported by Retailers and Wholesalers

By Q4 some issues had eased but many challenges continued to reverberate across supply chain

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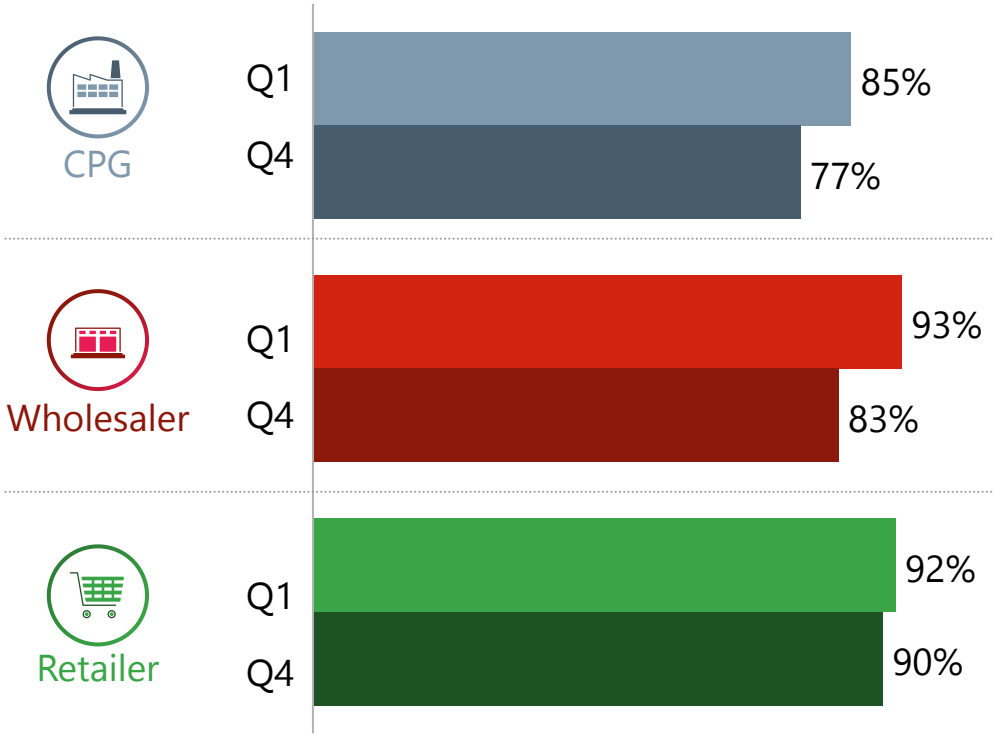
In Q4 service, remained below pre-pandemic levels with a rough road ahead …

Self-reported service levels



… as supply and transportation issues continue to ripple through the value chain

Key issues

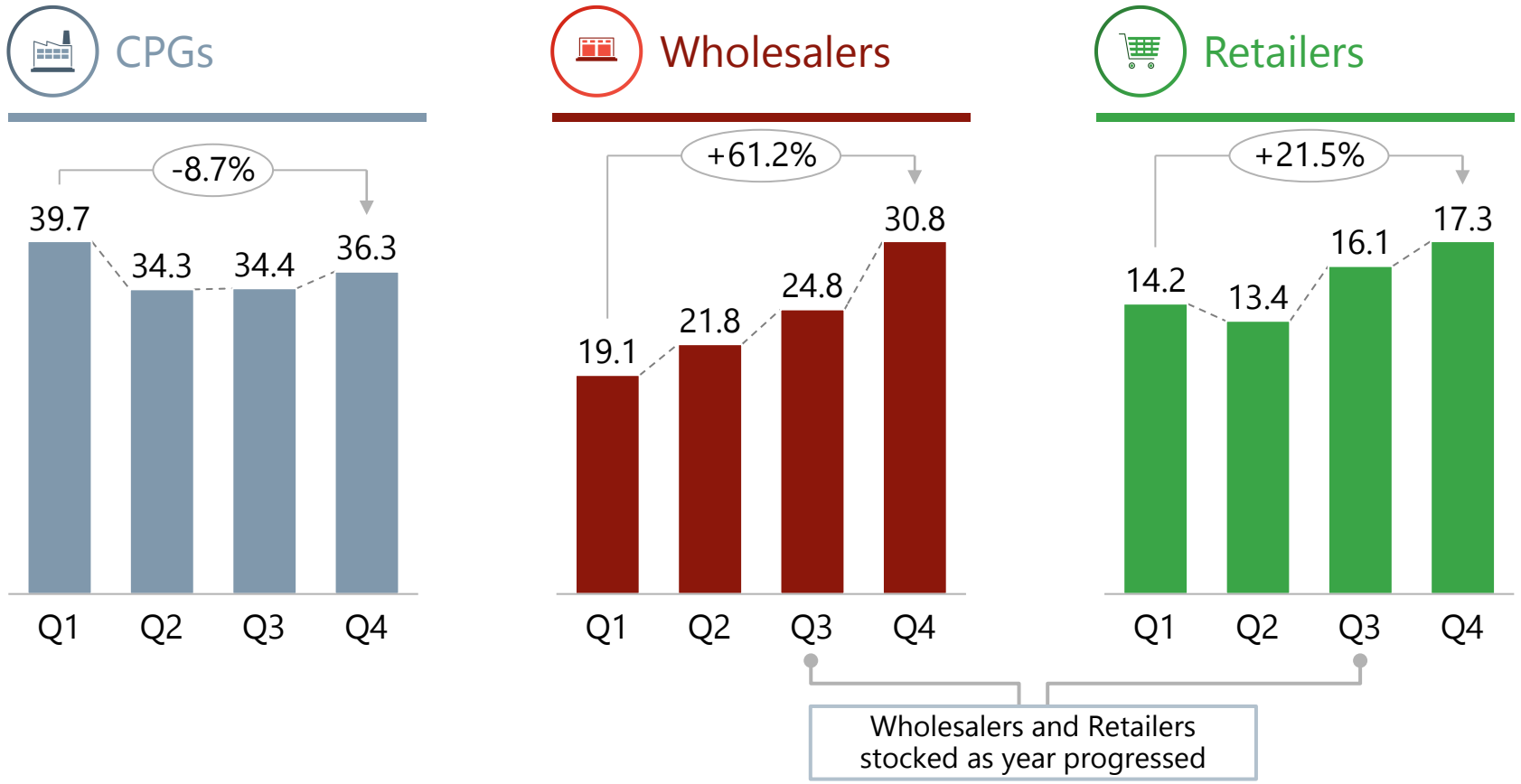
- Continued inability to build inventory due to mfg. capacity constraints
- Demand spikes and forecasting challenges
- Customer driven delays (e.g., DC appointment availability, replenishment systems over ordering)
- Constrained transportation market

- Upstream manufacturing capacity issues at CPGs
- Ongoing challenges with transportation

- Upstream supplier issues are causing shortages, with some improvement over 2020
- Occasional labor and forecasting disruptions remain, even after considerable improvement by both retailers and suppliers in managing labor disruptions since the onset of the pandemic

Retailers and Wholesalers significantly increased inventory, while CPGs stuck below pre-COVID levels

Median days of inventory on hand



Note: 18 Retail, 4 Wholesale, and 9 CPG responses; Totals calculated as weighted average of all available portfolio segments assuming 50% dry, 40% chilled, 10% frozen inventory

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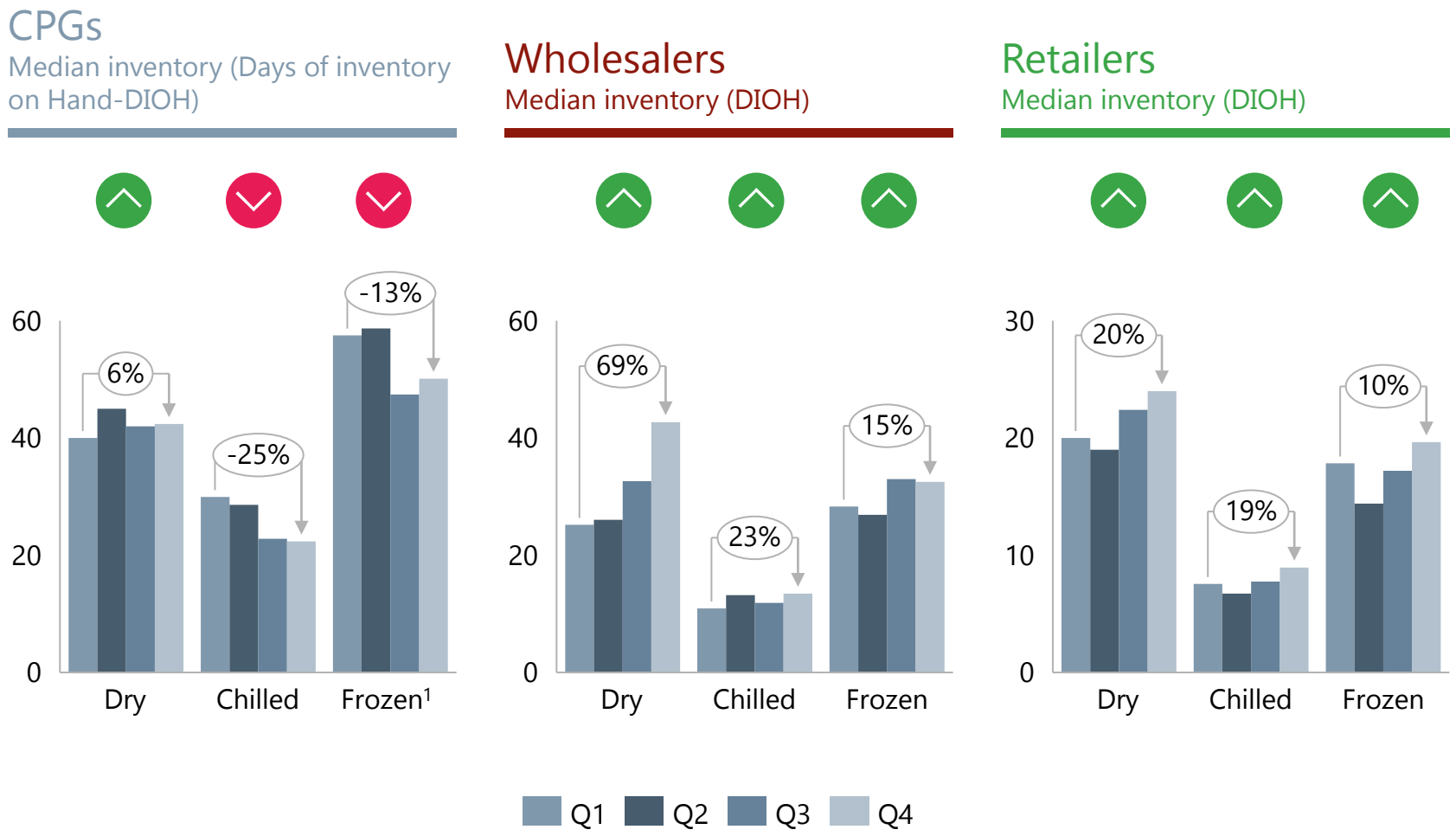
Inventory dramatically increased at Retailers (+22%) and Wholesalers (+61%) during 2020, although service is still below pre-COVID levels

CPGs remain below pre-pandemic inventory levels (-9%)

Most inventory categories increased in 2020, with select exceptions in chilled inventory



1. Using mean for specific bucket as median was skewed due to small sample size
Note: Not all respondents provided all categories, provided responses are included in each category

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Wholesalers and Retailers increased inventory across categories, with largest increase in Dry goods

Chilled and Frozen inventory decreased at CPGs, while Dry goods increased substantially

Inventory increased in most category/segment combinations over the 2nd half of 2020

"Hand-to-mouth" inventory dynamic led to increased inventory targets across the value chain, where coordinating instead could have addressed root challenges

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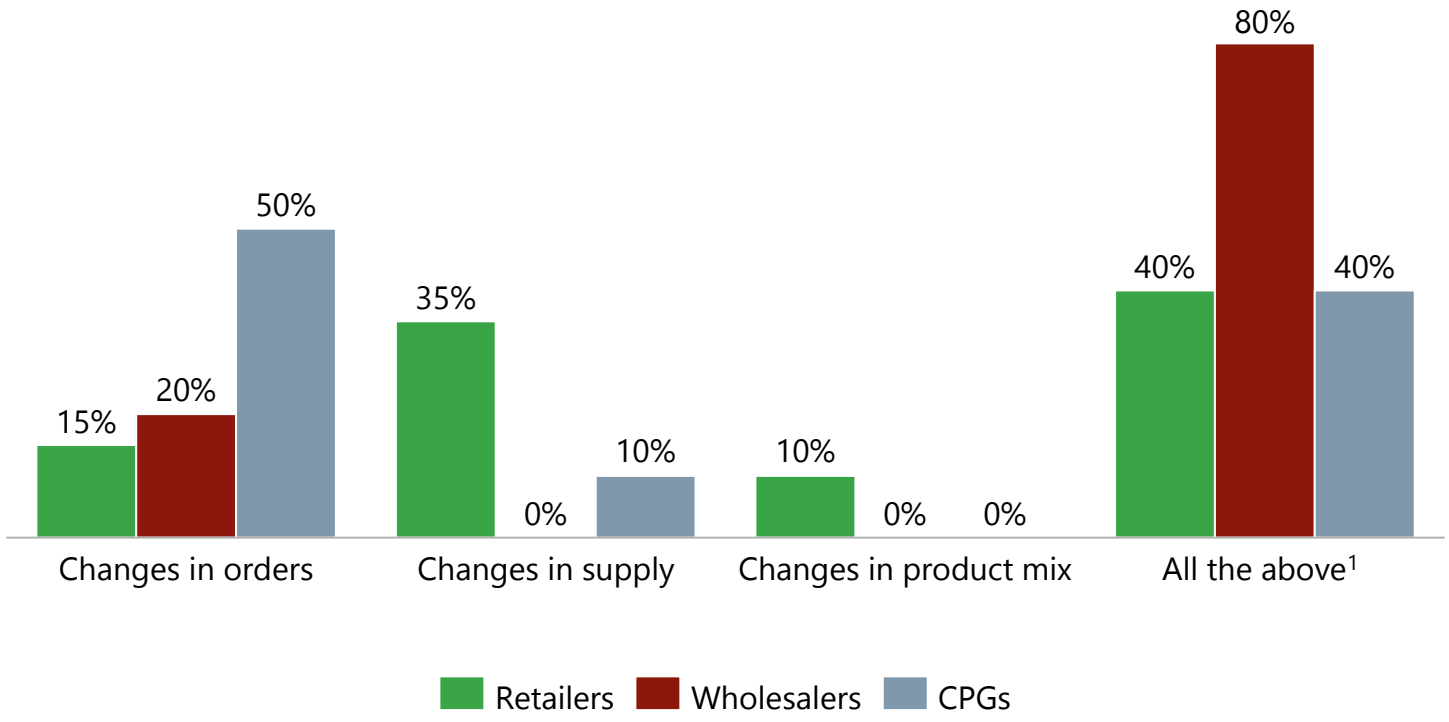
What were the reasons for any changes in inventory, select one?

Total responses (%)



> Higher demand volume and throughput challenges kept us from building to desired inventory levels
>
> —CPG

> We increased target inventory days to meet Retailer demand
>
> —Wholesaler

> We looked to stock fast-moving products from wherever we could get supply, and now have off-brand inventory that will be challenging to move
>
> —Retailer

Note: 20 Retail, 5 Wholesale, and 10 CPG responses

Largest logistics cost increases came from transportation, with inbound transportation costs increasing most in 2020

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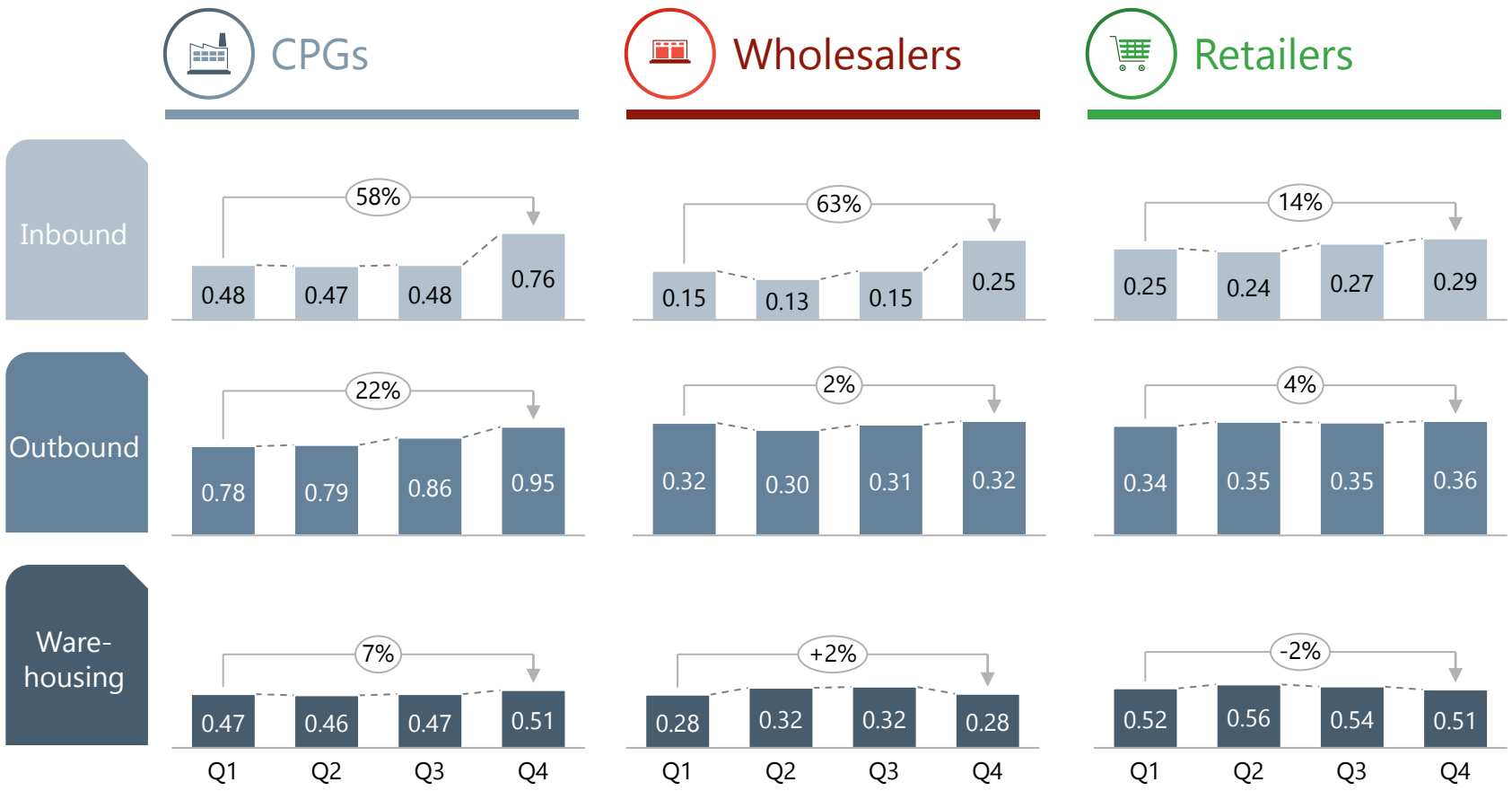
For all products (food and non-food) [1,2]

Median cost/case ($)



1. Values shown include all reported entries in each cost category whereas previous totals (pages 3-4) were the median of the totals from only respondents that reported all cost categories 2. Totals were calculated as weighted average of all available portfolio segments assuming 50% dry, 40% chilled, 10% frozen inventory

CPG has largest cost base across the value chain

Transportation drove cost increases, with the largest increases in inbound freight

Cost increases were larger towards the start of value chain (CPGs)

Labor and responding to volatility were challenges across value chain, but CPGs also faced challenges with transportation

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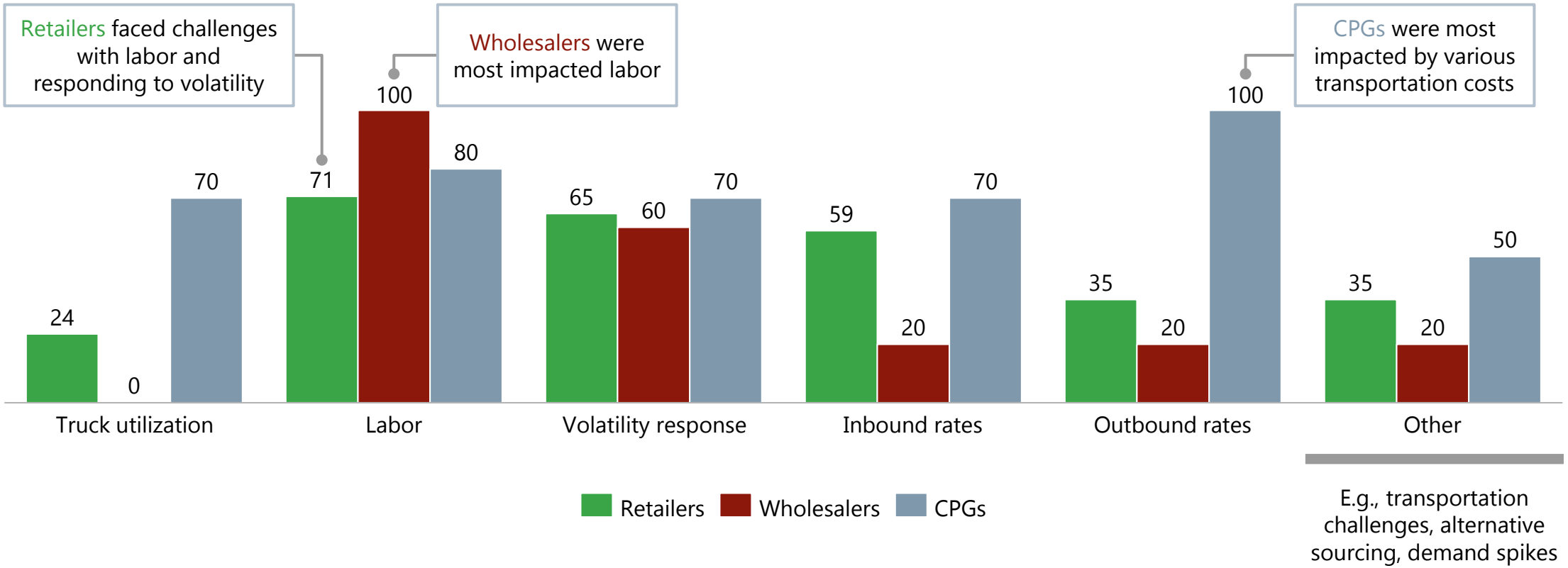
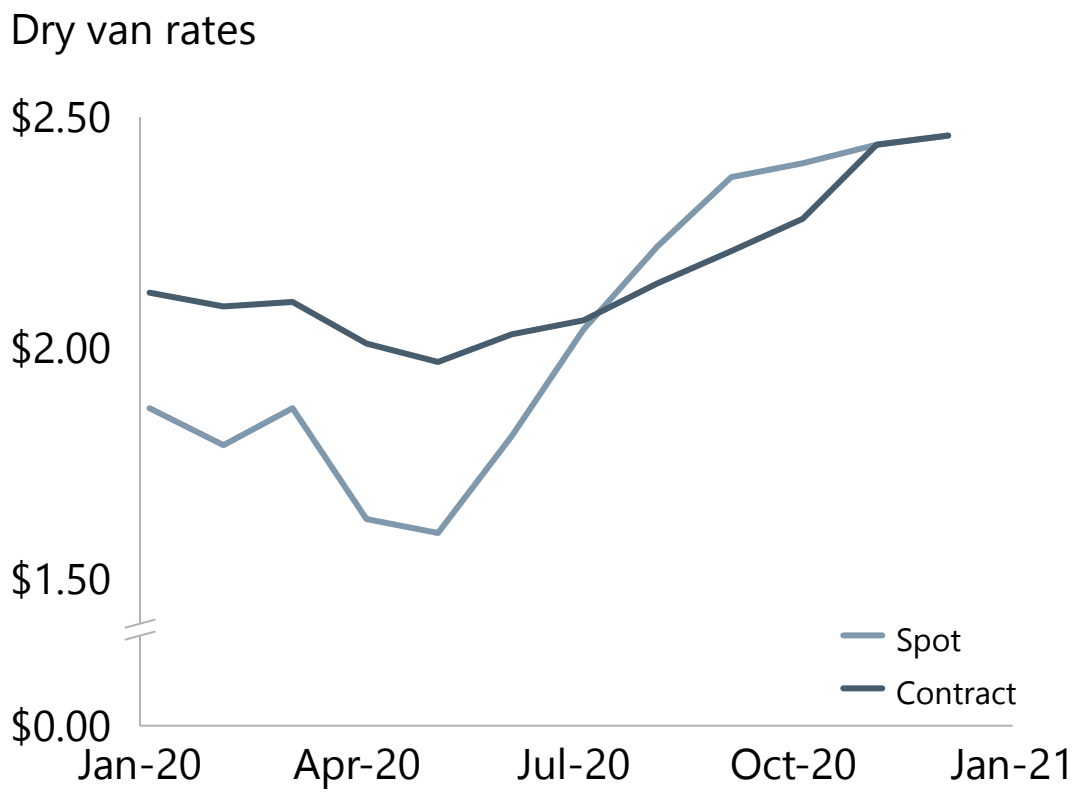
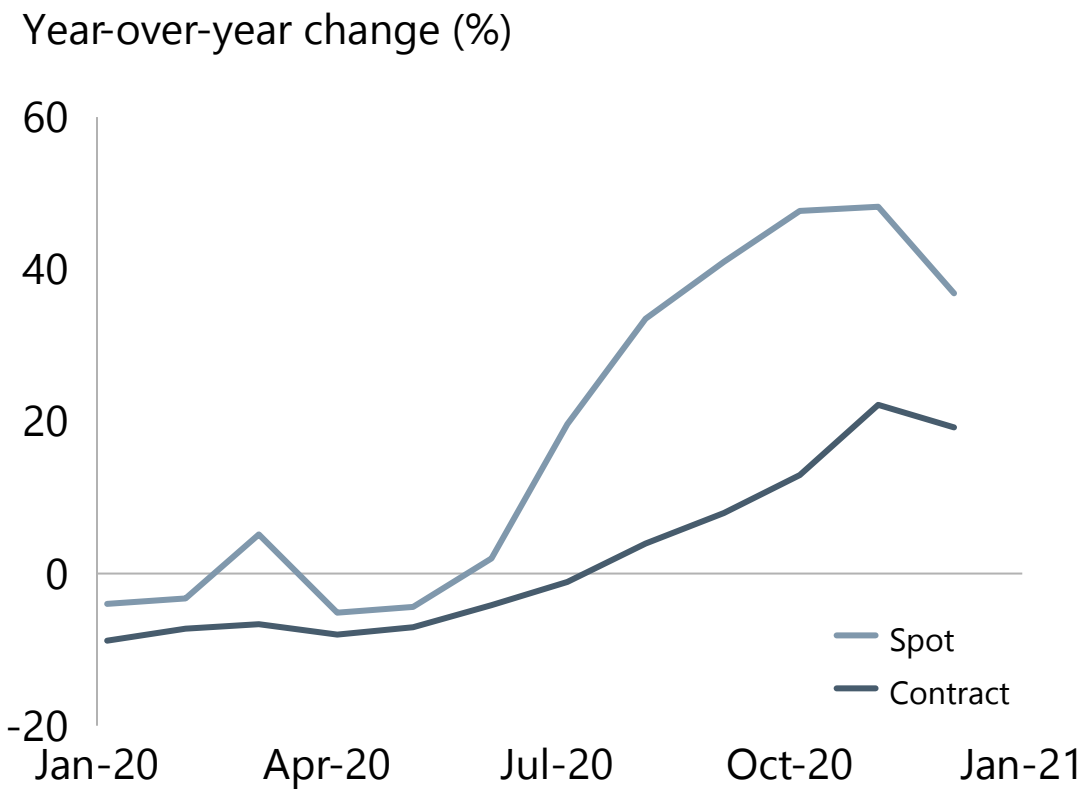
What were the drivers of cost/case challenges?



Note: 17 Retail, 5 Wholesale, and 10 CPG responses

Rising transportation reported is explained by increasing spot and contract rates as broadly observed during 2020 in the Dry Van (Truck Load) market





1. Excludes fuel surcharge
Source: DAT Rateview for linehaul industry report

Warehousing costs were flat or decreased slightly across categories, potentially showing improved cost absorption with higher order volumes

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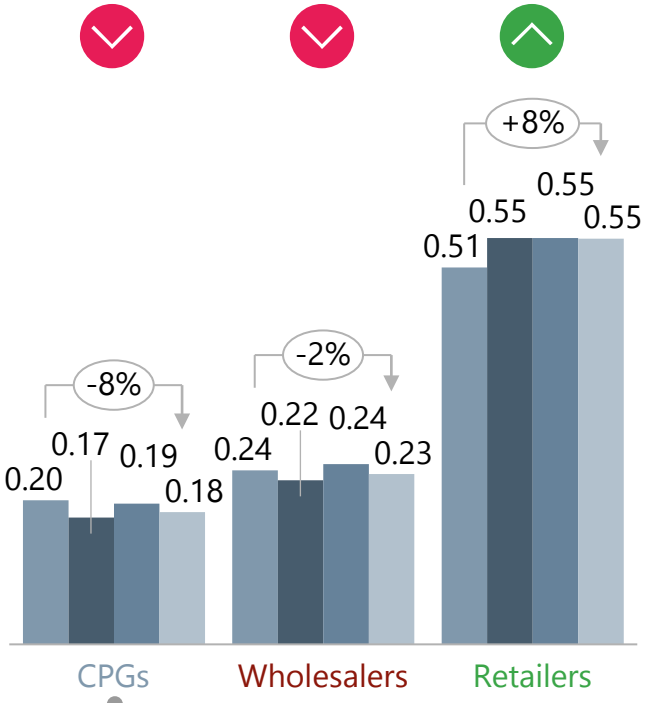
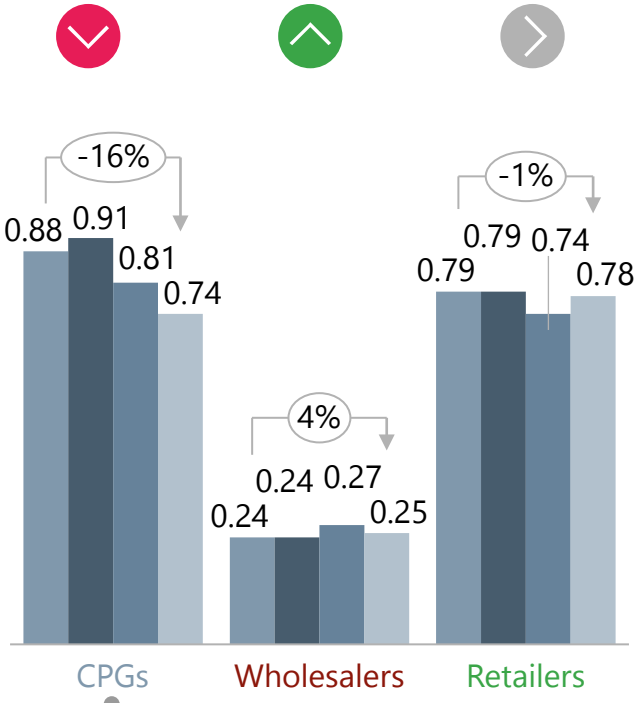
Dry
Median cost/case ($)

Chilled
Median cost/case ($)



Frozen
Median cost/case ($)

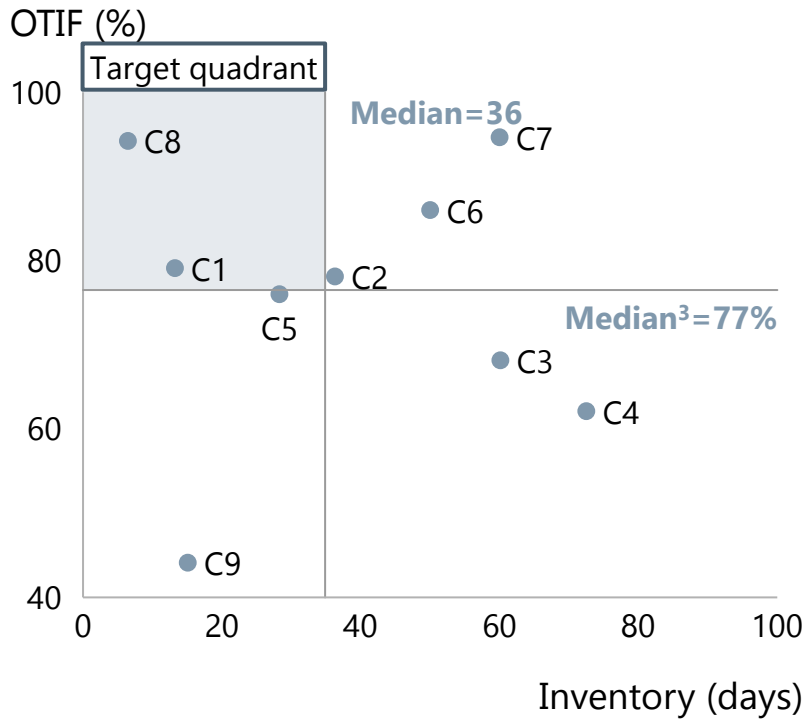


CPGs saw decline in chilled & frozen costs correlated with decline in inventory shown previously in deck

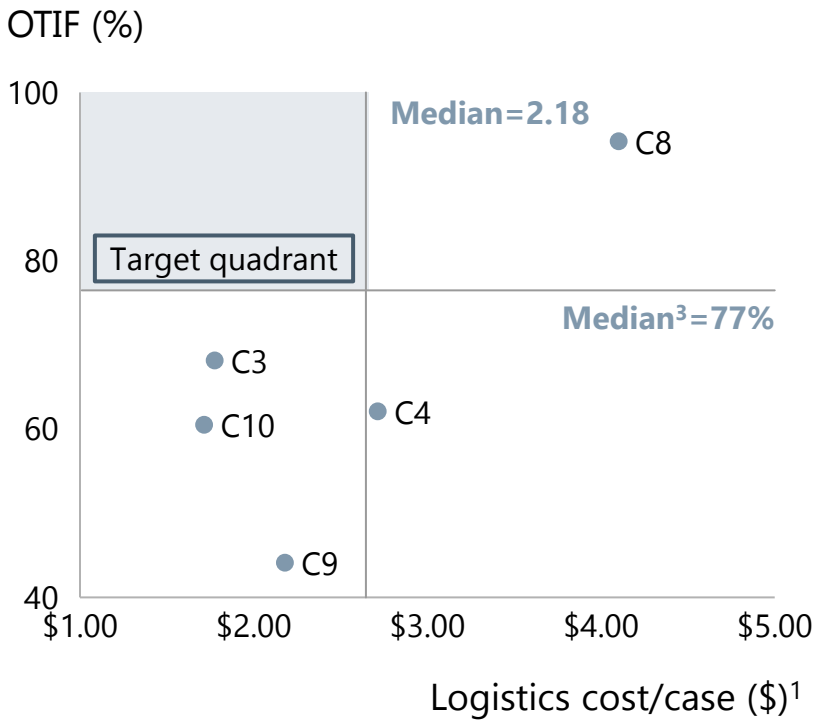
Q1 Q2 Q3 Q4

CPG end-to-end supply chain performance remained unbalanced in Q4 2020

CPG inventory vs. service Q4 2020[1]



CPG cost vs. service Q4 2020[2]

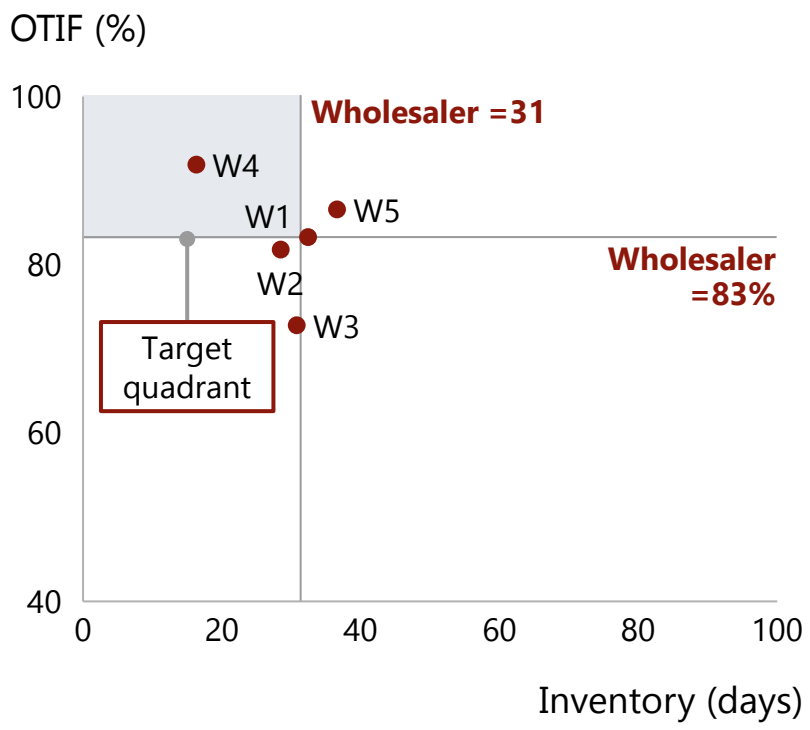


Only two CPGs successfully balanced inventory and service, and none were able to balance across 3 macro KPIs

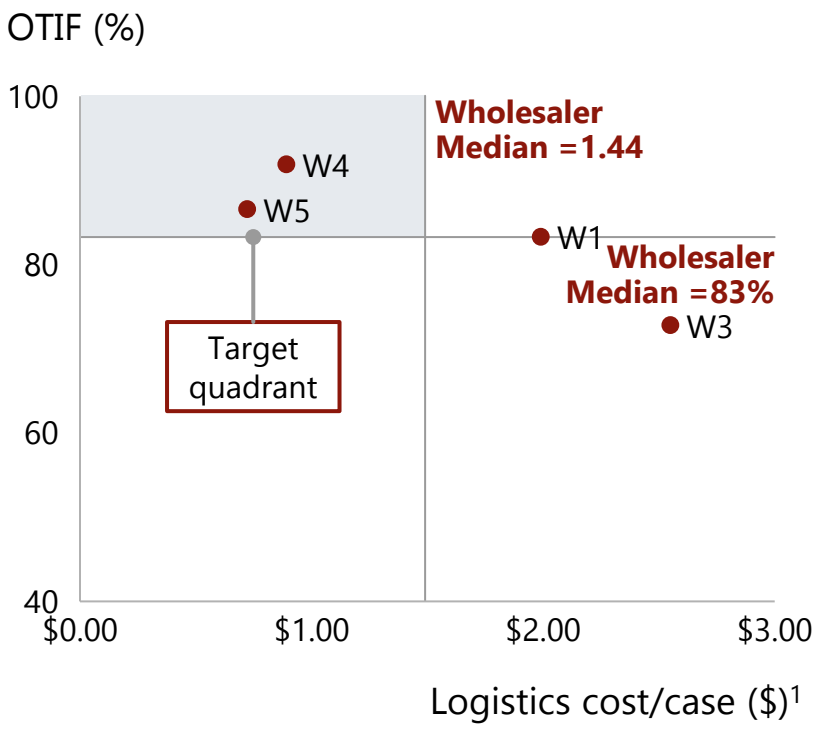
1. Logistics costs include inbound and outbound transportation and warehousing 2. Only includes respondents that provided enough information to roll up for holistic comparison (including inbound, outbound, and warehousing costs) 3. Median of all respondents that responded for "all products (food + non-food) ", individual points shown are for most comprehensive product grouping respondent provided

One Wholesaler was able to balance end-to-end supply chain performance by Q4 2020

Wholesale inventory vs. service in Q4[1]



Wholesale cost vs. service in Q4[2]

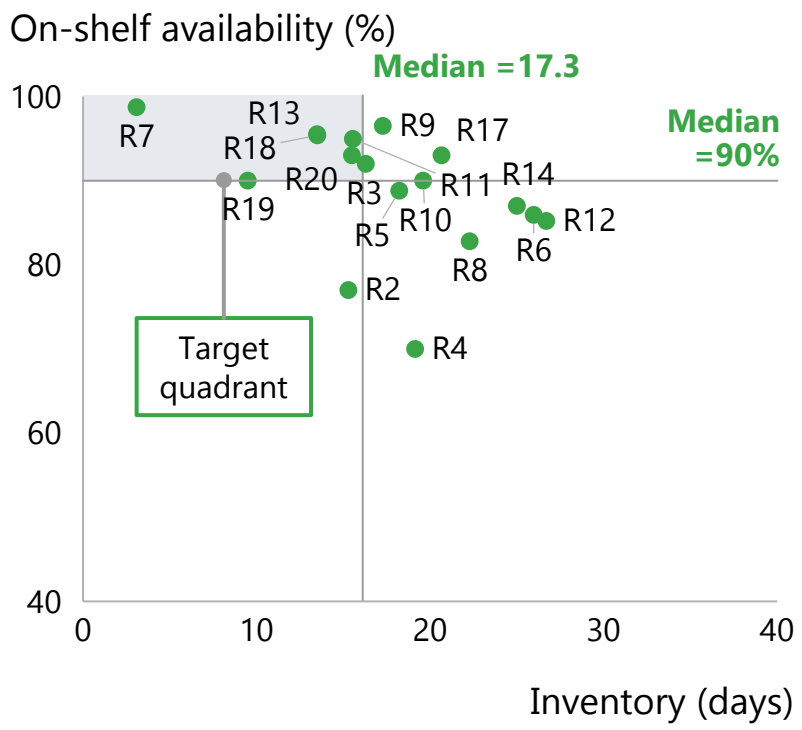


One Wholesaler surveyed excelled across service, inventory, and cost

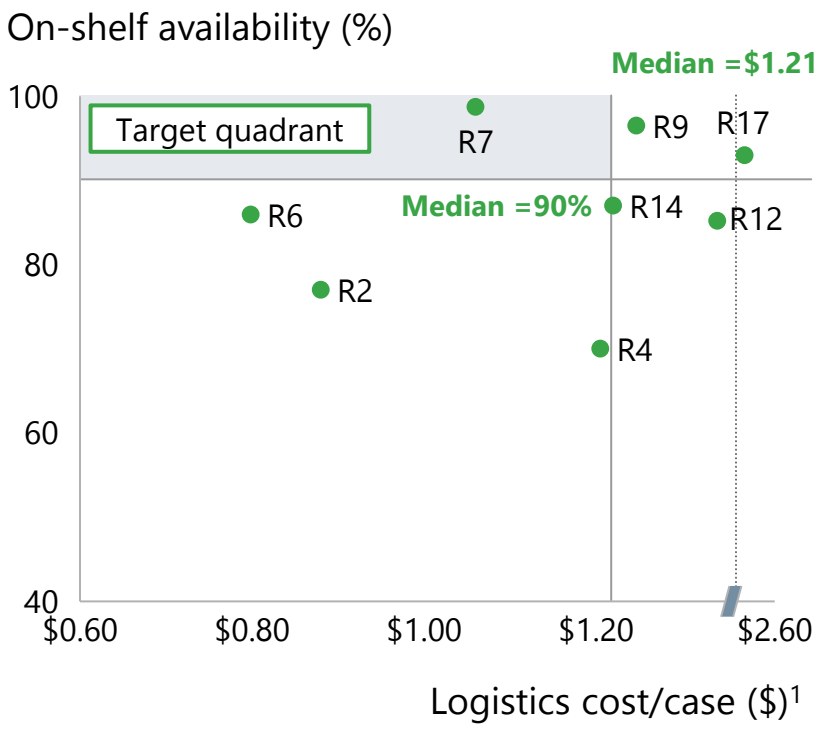
1. Logistics costs include inbound and outbound transportation and warehousing 2. Only includes respondents that provided enough information to roll up for holistic comparison (including inbound, outbound, and warehousing costs)

By Q4 2020, many Retailers had balanced service and inventory but only one also reported low costs

Retailer inventory vs. service in Q4[1]



Retailer cost vs. service in Q4[2]



One Retailer surveyed excelled across service, inventory, and cost while many were able to balance inventory and service

1. Logistics costs include inbound and outbound transportation and warehousing 2. Only includes respondents that provided enough information to roll up for holistic comparison (including inbound, outbound, and warehousing costs)

Additionally, labor has been disrupted across the value chain, with outsized challenges in Retail

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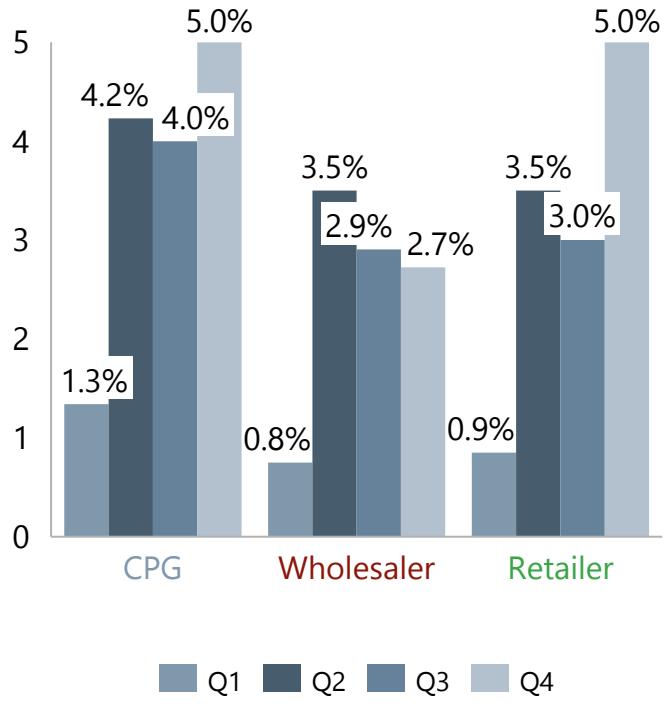
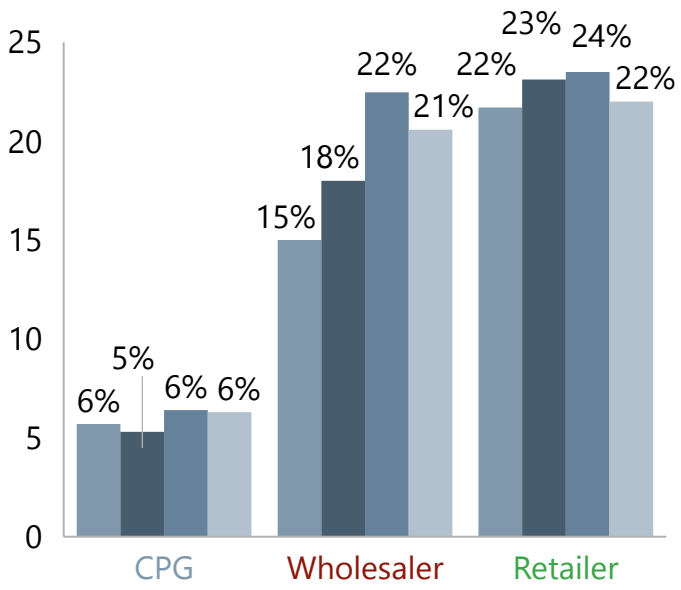
Labor losses due to COVID remained throughout 2020 …

Median % of frontline labor lost due to COVID



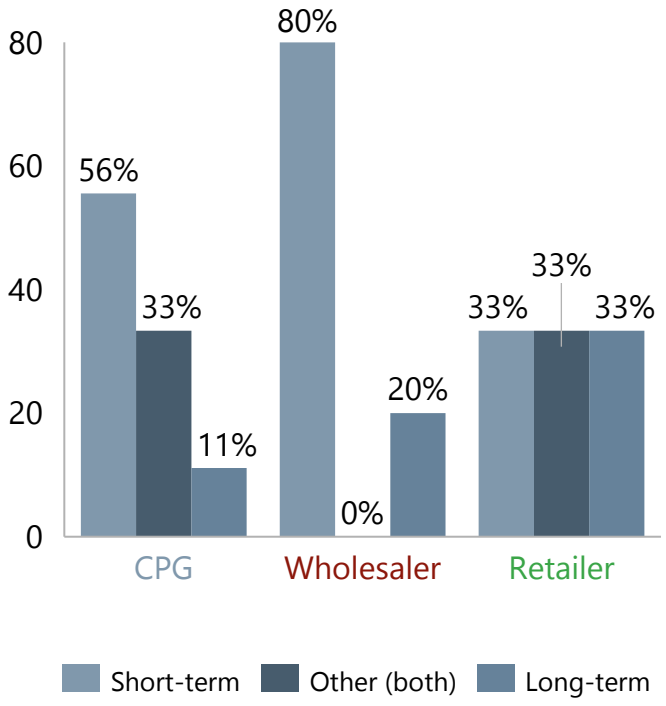
… with much more turnover near the customer in Retail …

Median turnover rate %



… resulting in more long-term pay increases for Retailers vs more short-term for CPGs/Wholesalers

Duration of pay increases (% of total)



Note: 16-18 Retail, 5 Wholesale, and 8-9 CPG responses

Most believe it will take at least 6 months to reach pre-COVID service levels, with CPGs seeing a faster recovery and Retailers expecting a long road ahead

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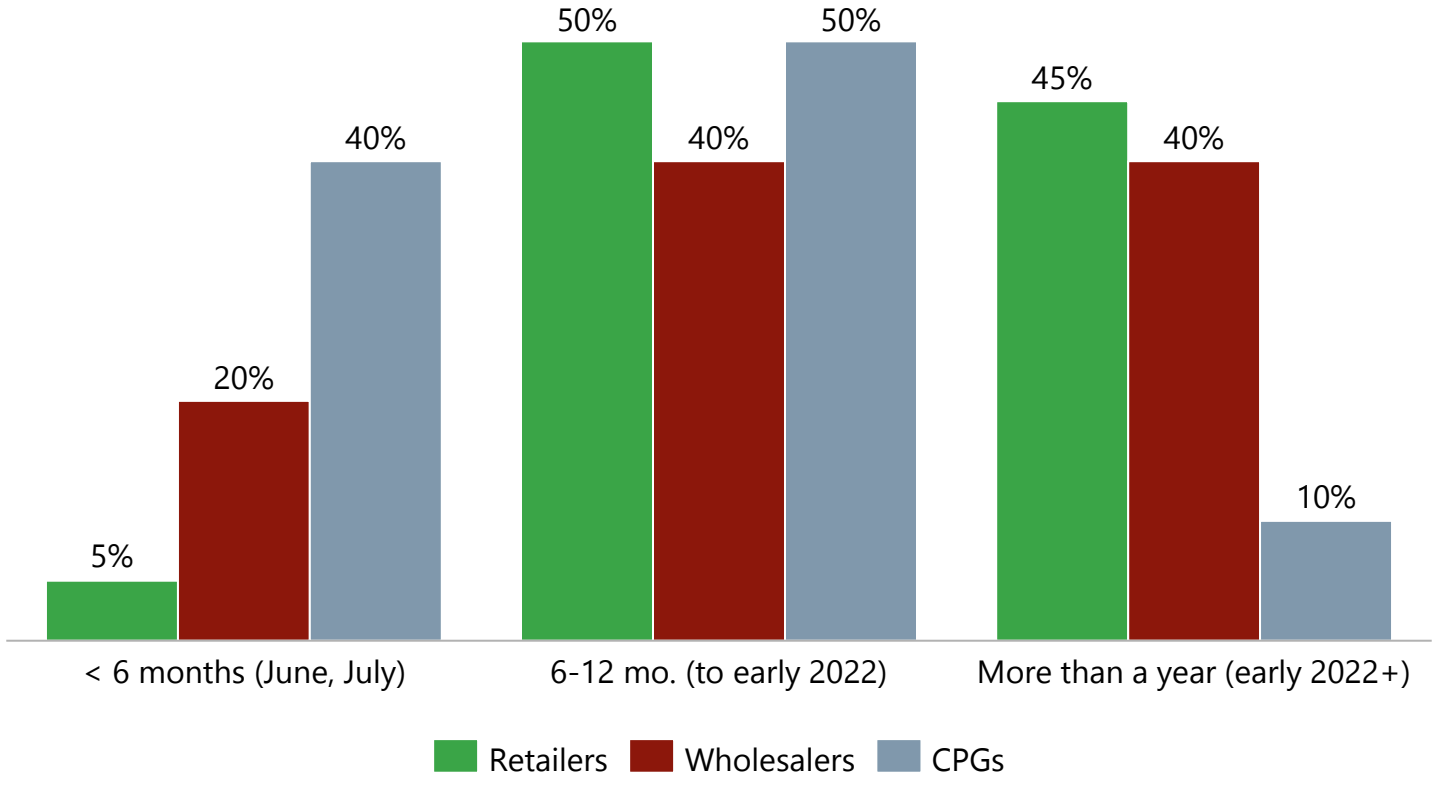
How long will it take to revert to pre-COVID-19 service levels?



> We've made progress but lacked the forward visibility to make sizable capital investments, and are still not close to historical performance
>
> —CPG

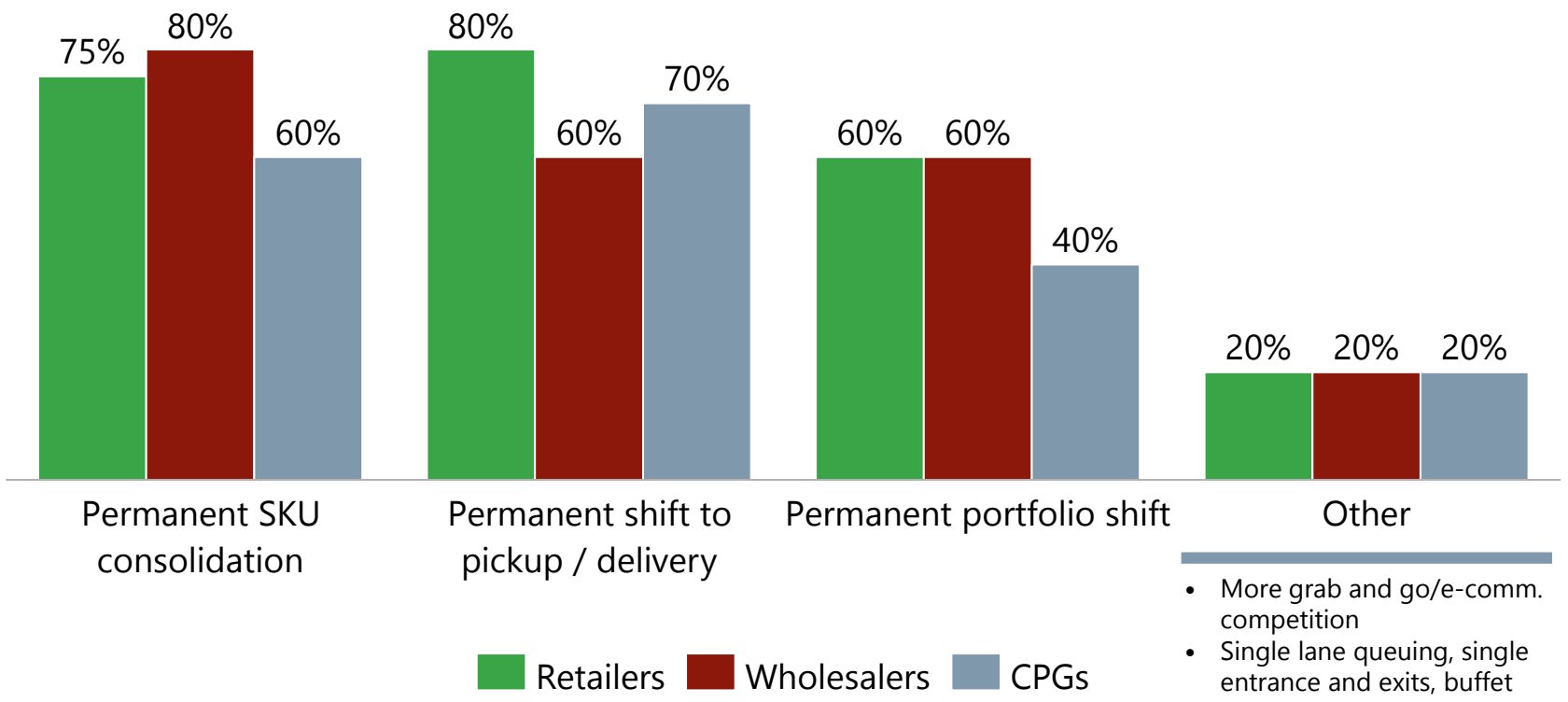
> We sill aren't getting timely shipments from CPGs; hopefully, food away from home will pick up providing a chance to catch up in the next 6 months
>
> —Wholesaler

> We're converting on what we're supplied but we aren't meeting full customer demand, we need suppliers to improve attainment before we can fully serve our customers
>
> —Retailer

Note: 20 Retail, 5 Wholesale, and 10 CPG responses

Players across the value chain expect changes to last, with those closest to the customer most confident in change

What, if anything, do you think will be fundamentally changed in stores post-COVID 19?



- More grab and go/e-comm. competition
- Single lane queuing, single entrance and exits, buffet style service
- Increased inventory buffers
- PPE stock up for future events

Note: 20 Retail, 5 Wholesale, and 10 CPG responses

SKU consolidation was seen as most likely (2/3+) across the value chain

Most expect a permanent shift to pickup/delivery with near consensus among Retailers (~90%)

Around half expect a permanent portfolio shift

Path forward: Five themes emerged for effectively managing supply chains in the post-COVID era

SupplyChain FORUM

FMI THE FOOD INDUSTRY ASSOCIATION

Supply Chain Segmentation	Differentiation of supply chain strategy and fulfillment tactics across products, customers, and channels to balance service, cost, and cash
End-to-end value chain management	Trade offs and ramifications across the end-to-end value chain including upstream and downstream partners, through sharing of data and collaborative planning and removing internal silos
Portfolio and structural simplification	SKU simplification and network restructuring to drive maximum throughput and efficiency, especially during disruption and elevated demand
Labor resilience	Workforce durability achieved through culture, incentives, and workforce augmentation such as untapped labor sources or automation
Digital capabilities	Digital capabilities including control tower and demand sensing analytics to assess scenarios and build resiliency in the end-to-end supply chain

Appendix

Takeaway one-pagers

CPGs: Massive demand shifts create vulnerability, so it is key to de-risk supply and contingency plan for key products

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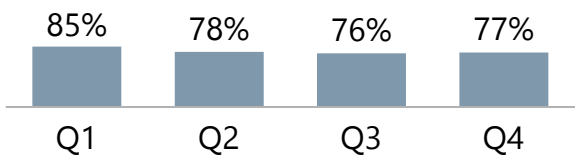
Manufacturing capacity and transportation challenges led to low service levels throughout 2020

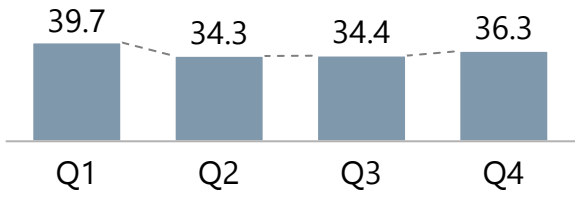
Service levels (OTIF)



"Demand volume is still elevated, with some Retailers ordering unrealistic quantities"

Inventory was depleted to meet demand and has not recovered as CPGs have been constrained by mfg. capacity

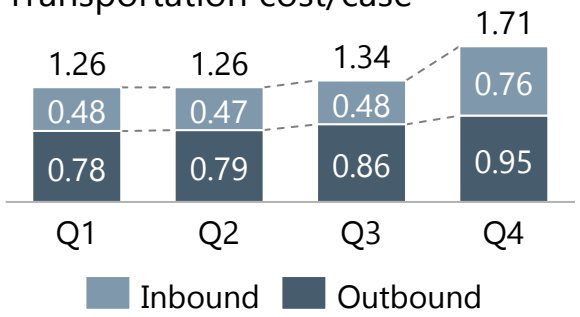
Inventory days



"We are still not able to build inventory due to manufacturing capacity constraints"

Simultaneously, tight transportation markets have increased costs in the second half of 2020

Transportation cost/case



"Transportation costs have skyrocketed, and we've had to give out one-time labor incentives to maintain our workforce over the past year"

Key lessons for future

Integrate with customers and breakdown internal silos to drive service

Plan manufacturing contingencies (internal and/or external)

Maintain portfolio and customer segmentation to quickly make informed decisions on trade-offs

Leverage digital maturity for real-time visibility

Incentivize and support labor to avoid disruption

Wholesale: Demand spikes and supply constraints required tough tradeoffs and highlighted need for collaboration

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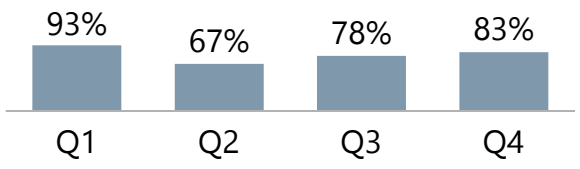
Upstream supply limitations led to low service levels in Q2, that rose through Q4 as supply returned and Wholesalers managed available supply

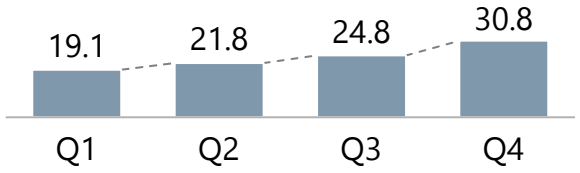
Service levels (OTIF)



"We partnered with Retailers to simplify our product portfolio, selling in what we could move; With time, calls for the full portfolio of products resurfaced"

Inventory rose throughout 2020 as Wholesalers stocked in attempts to mitigate disruptions and capture lost service levels

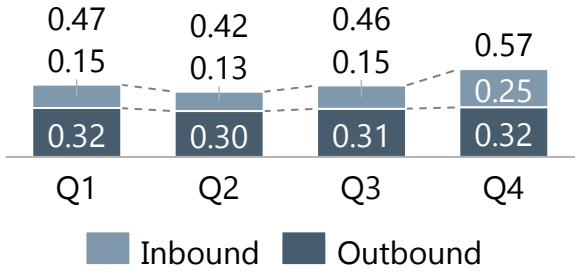
Inventory days



"We raised inventory targets given supply and demand uncertainly, the question has been whether we'd have access to supply to meet our targets"

Simultaneously, tight transportation markets have increased costs in the second half of 2020

Transportation cost/case



"Often the question was whether we could get trucks where we needed them; We would take rate where we could get it, increasing costs"

Key lessons for future

Collaborate across the supply chain to identify upstream issues early and mitigate downstream impacts

Maintain understanding of portfolio and customer segmentation to quickly make informed decisions on difficult trade-offs

Leverage digital maturity for real-time supply chain visibility

Incentivize and support labor to avoid disruption

Retail: Inventory management was critical to enabling service levels in a supply-constrained environment

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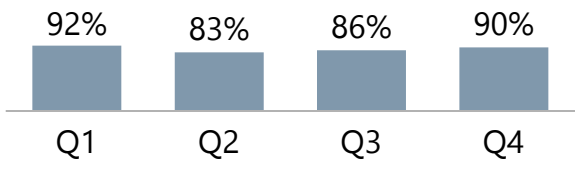
Service levels dropped in Q2, but have since recovered steadily throughout 2020

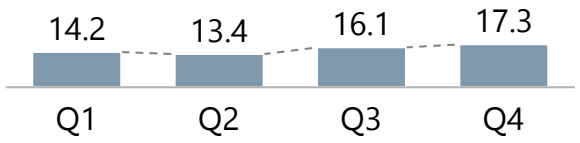
Service levels (OTIF)



"While we've made progress since COVID's onset, supply limitations remain, and demand forecasting can still be a significant challenge"

Inventory was depleted initially during COVID, after which Retailers stocked inventory to drive service

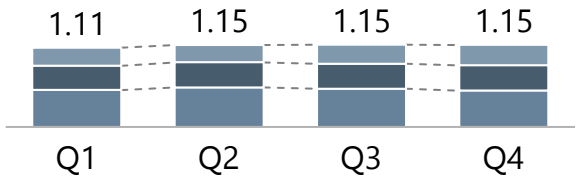
Inventory days



"We've increased inventory targets and been able to build throughout the year, supporting our efforts to increase service levels"

Simultaneously, tight transportation markets led to measured cost increase in the second half of 2020

Logistics cost/case



Inbound Outbound Warehousing

"Transportation shortages, increased logistics capacity (trucking, warehousing), and new vendors for tight supply have increased our cost profile"

Key lessons for future

Collaborate with CPGs and Wholesalers to flag issues early and unlock supply that may not be broadly available

Incentivize and support labor to avoid disruption

Maintain understanding of portfolio segmentation to quickly make informed decisions on difficult trade-offs

Leverage digital maturity for real-time supply chain visibility