

# SUPPLY CHAIN & OPERATIONS WEBINAR

*Responding to the Whiplash Effect*

JUNE 24 2021

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Retail & Consumer Goods

## KEY REMINDERS

- ▶ Riveron webcasts – past and upcoming
- ▶ If you have questions, feel free to ask in Q&A option in Zoom
- ▶ You will receive a follow up email including:
  - ▶ Access to this webinar recording and deck
  - ▶ The ability to join our Webinars Opt In list to receive future invites
  - ▶ Presenter contact info



# **ECONOMIC ENVIRONMENT: DEMAND VARIABILITY & SUPPLY CONSTRAINTS**

## 2020-2021 NEWS HEADLINES

### *Everywhere You Look, the Global Supply*

***Chain Is a Mess*** Winter storms and crammed ports in the U.S. add to disruptions of production and supplies during the pandemic

### *Economic Growth Is Set to Surge.*

***Hiring Might Not Keep Up*** U.S. economy could face bottlenecks, wage and price pressures as labor demand outpaces supply

### *Ship Logjam at California Ports is Easing After March Import Deluge*

Consumer imports into Los Angeles and Long Beach nearly doubled from last year, were up 65% from 2019

### *Ford Prolongs Shutdowns at Several U.S. Plants*

***Due to Chip Shortage*** Auto maker extends downtime that will affect production of its popular F-150

### *Coca-Cola Sales Rebound as Covid-19 Vaccine*

***Rollout Expands*** Sales volume in March matched from two years ago as vaccine rollout boosted return to restaurants, bars

### *Trucking Companies Boost Pay in Hunt for Drivers as Demand*

***Surges*** Consumer spending and tight capacity are driving up prices in jammed U.S. domestic shipping markets

### *Proctor & Gamble Will Raise Prices in*

***September*** Price increases on baby products, adult diapers, and feminine-care brands come as the company reports slowing growth in latest quarter

### *Whirlpool CFO Faces Higher Costs as Component Shortages Force Production*

***Line Shifts*** The appliance maker has limited visibility into its orders for key components such as microchips and plastics

## RECENT EVENTS REMIND US OF THE IMPACTS OF MINOR AND MAJOR EVENTS ON OUR ECONOMY AND SUPPLY CHAINS



SEVERE  
WEATHER



CYBER  
THREAT/  
DATA  
BREACH



PANDEMIC



CRIMINAL  
ACTIVITY



ACT OF  
VIOLENCE/  
TERRORISM



DRASTIC  
MARKET  
SWING



ACCIDENT



FAULTY  
PRODUCT OR  
SERVICE



DEATH



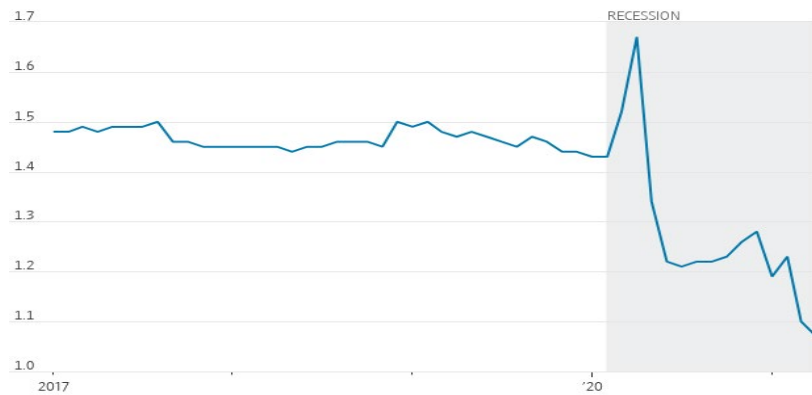
HAZARDOUS  
CONDITIONS

# MACROECONOMIC UPDATE Q2 2021

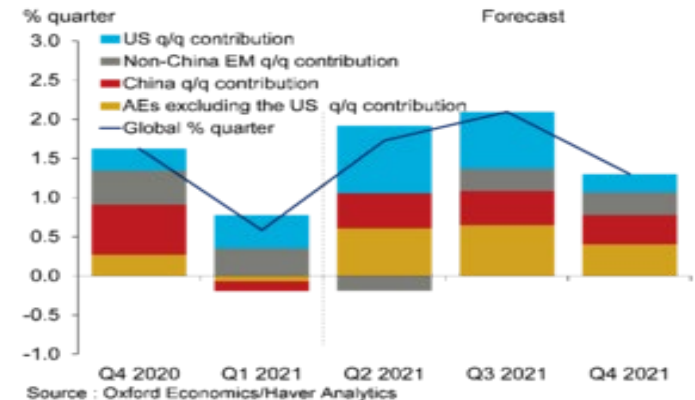
- ▶ Recovery continues and forecasted to stabilize through remainder 21
- ▶ June FOMC update:
  - ▶ GDP forecasted 7%, up from 6.5% in Mar
  - ▶ PCE inflation 3.4% up from 2.4%- due to transitory demand and supply conditions
  - ▶ US unemployment remains unchanged from March - 4%
- ▶ Purchasing continues to strengthen and stabilize across US corporations
- ▶ Supply and logistics constraints are inhibiting manufacturer's and retailer's ability to take advantage of resurgent demand

## Flying off the Shelves

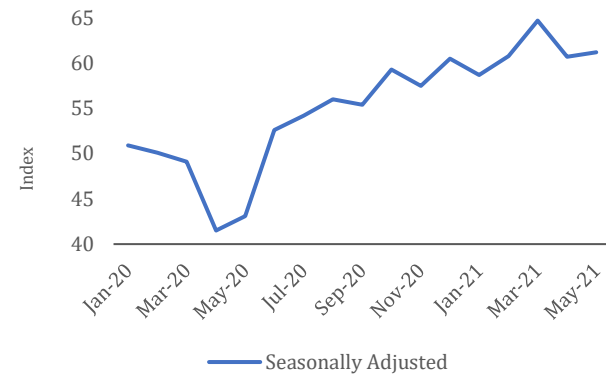
Retail inventory to sales ratio



## World: GDP



## ISM Manufacturing PMI



“...turns out, it's a heck of a lot easier to create demand than it is to...bring supply back up to snuff. -Jerome Powell, Fed Chairman

# Polling Question 1

What is the biggest challenge facing your business today?

- A. Demand Variability/Supply Constraints
- B. Logistics & Warehousing
- C. Cash Flow & Financing
- D. Labor
- E. Other

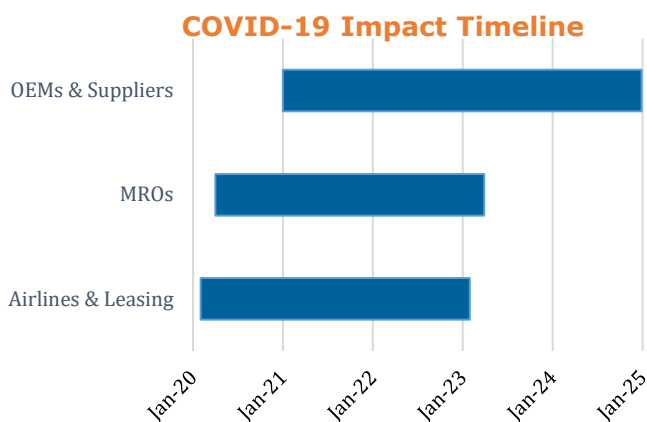
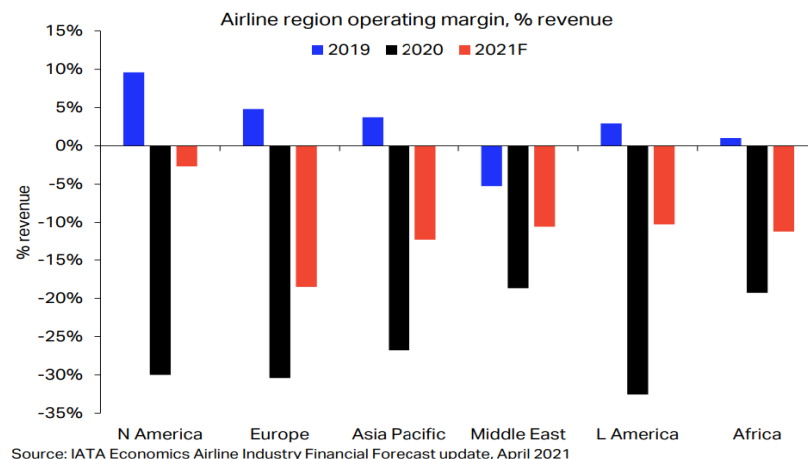




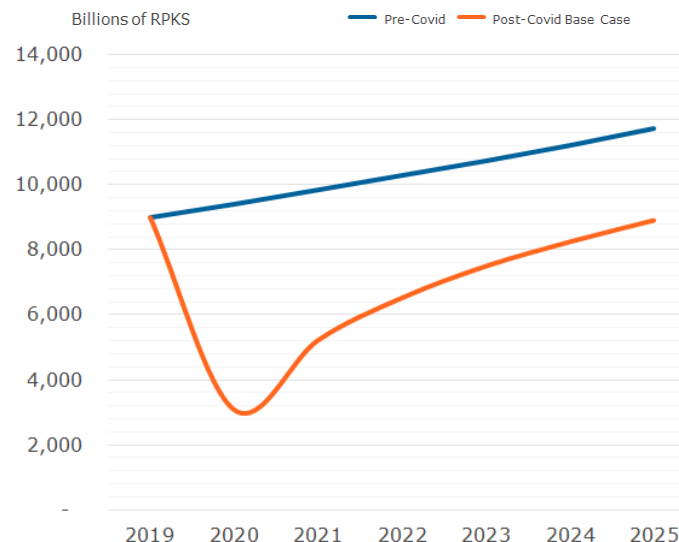
# AEROSPACE DEMAND VARIABILITY & SUPPLY CONSTRAINTS

## Recovering from the biggest downturn in the history of commercial aviation

- ▶ The Covid-19 pandemic caused the biggest downturn in the history of commercial aviation with YoY demand decline in excess of 65%
- ▶ Aircraft production rates have been cut 50+% depending on the program
- ▶ Passenger demand has made modest recoveries in 2021 as of April it is still ~65% below pre-pandemic levels
- ▶ The industry is awash in inventory with Boeing and its major suppliers with inventory \$ per aircraft delivered 300+% higher than in 2018 when peak deliveries took place



Sources:  
IATA, S&P Capital IQ

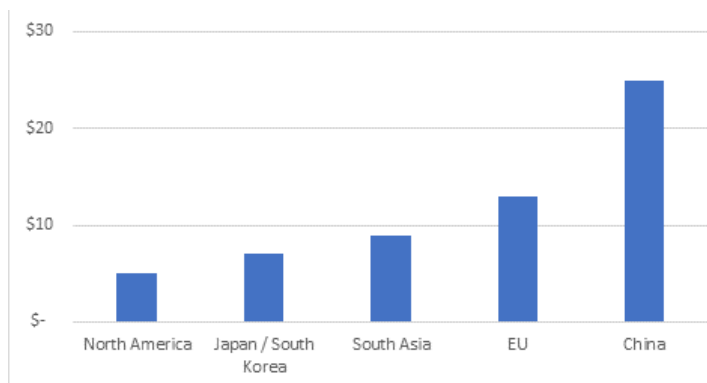


# AUTOMOTIVE DEMAND VARIABILITY & SUPPLY CONSTRAINTS

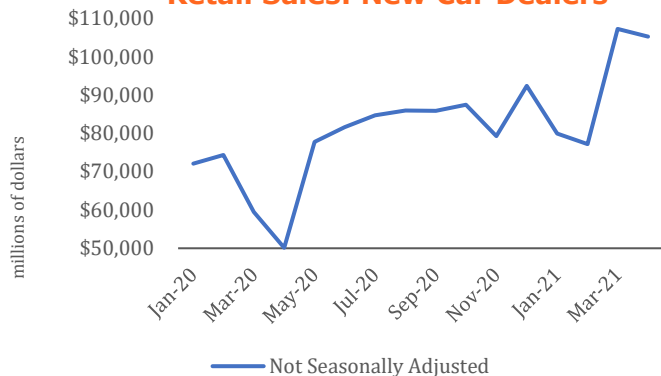
**Supply chain shortages are the biggest risks to vehicle production, despite strong customer demand.**

- ▶ Automotive Vehicle Suppliers represent 2.5 % of U.S. GDP
- ▶ Original Equipment Suppliers Association (OESA) has over 500 member companies engaged in the production of vehicle components
- ▶ OESA's Supplier Barometer Index has dropped 6 points below neutral to 44, from the Q1 high of 62 due to critical supply shortages in Semi-conductors and other automotive components. First net pessimistic supplier outlook since Q1 of 2020.
- ▶ Larger suppliers >\$1B in revenue are the most pessimistic, and smaller suppliers are neutral at best
- ▶ Sub-tier supplier distress is up 8 points in the last quarter to 42% from previous year level of 32%
- ▶ Supply shortages, logistics delays and labor availability remain top risks to production and profitability
- ▶ Despite these headwinds, suppliers are encouraged by renewed new and used vehicle demand, as well as the opportunities created by the move to broader electrification

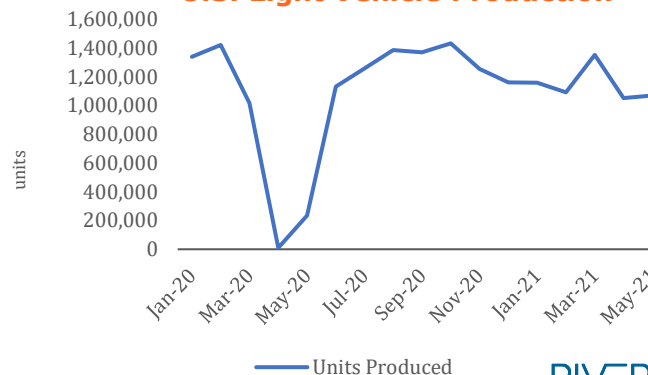
**Lost Sales Due to Chip Shortages (\$B)**



**Retail Sales: New Car Dealers**



**U.S. Light Vehicle Production**

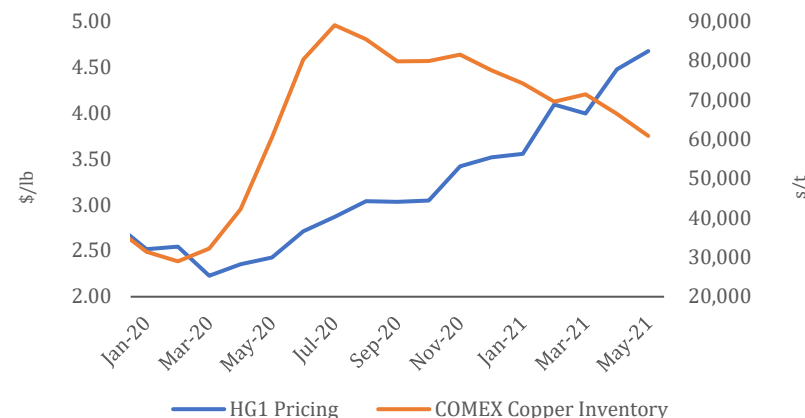


# INDUSTRIALS DEMAND VARIABILITY & SUPPLY CONSTRAINTS

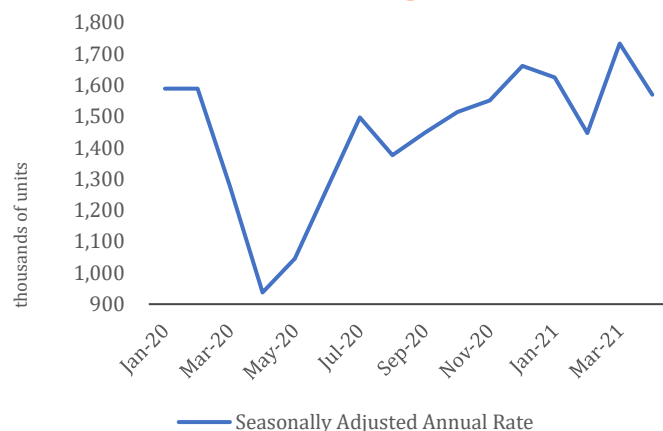
Demand variability and bottlenecks led to a spike in commodities pricing and production costs

- ▶ Demand for commodities used to manufacture electronics, vehicles, and other products is rapidly increasing, causing prices to skyrocket
- ▶ Production and transportation bottlenecks resulted from COVID-19 shutdowns and led to global supply shortages
- ▶ Commodities such as copper is expected to rise with clean energy initiatives
- ▶ Mining companies that had controlled stockpiles and inventory strategies in place saw more pricing power with rising demand, but production costs will increase

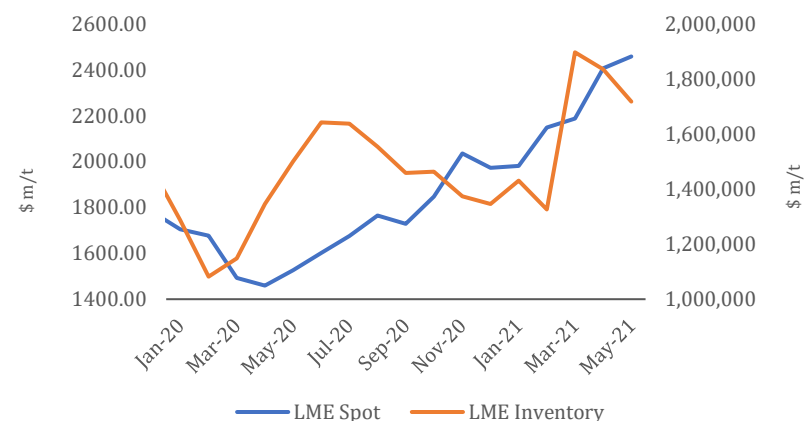
### Copper Pricing & Inventory



### Total Housing Starts



### Aluminum Pricing & Inventory

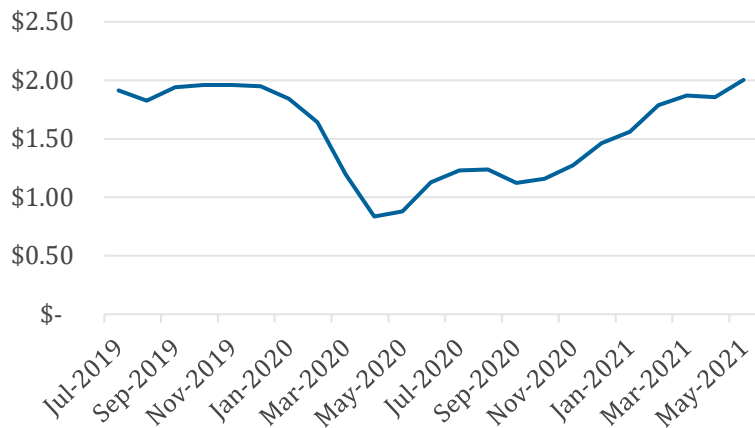


# ENERGY DEMAND VARIABILITY & SUPPLY CONSTRAINTS

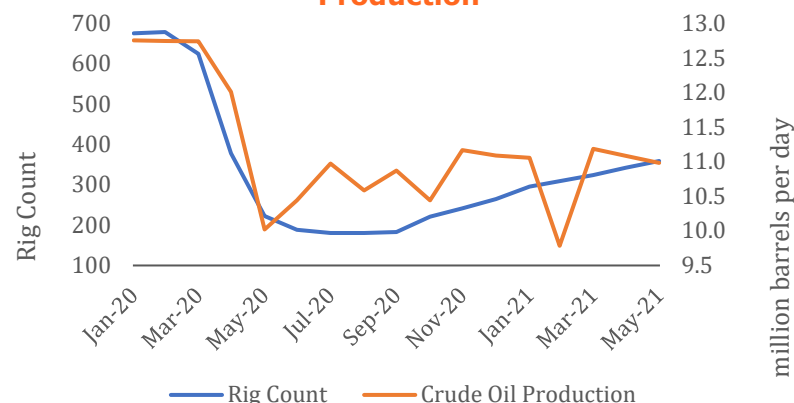
Demand fell sharply with the economy at a stand still, restarting production faces headwinds

- ▶ With a drastic demand drop and subsequent crash in prices, oil and natural gas supply was at an all time high during the pandemic
- ▶ Ramp downs in production and rising demand has driven prices back up. Logistics costs will continue to be a challenge for the industry especially as demand keeps climbing with US diesel prices up .86 cents per gallon YoY
- ▶ Lessons learned about storage opportunity costs and extreme volatility highlights the critical need to fine tune storage capacity and supply planning
- ▶ U.S. rig count is forecasted to increase but not high as projected in a normal recovery. This will put a strain on supply chains finding qualified providers to support the rise in oilfield services demand. Currently US rig count is up 77% YoY

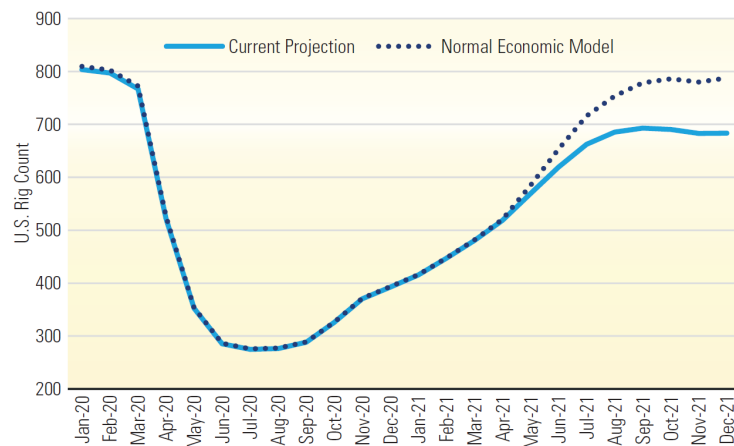
**National Average Spot Price Ultra-Low Sulfur Diesel**



**U.S. Oil Rig Count v. Crude Oil Production**



**U.S. Rig Count Forecast**



Source: Wood Mackenzie, Rig Data

## Sources:

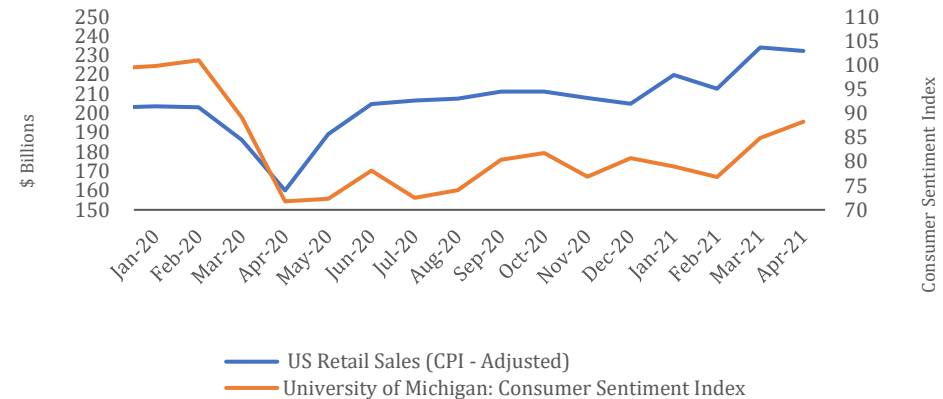
IATA, S&P Capital IQ, EIA

# RETAIL DEMAND VARIABILITY & SUPPLY CONSTRAINTS

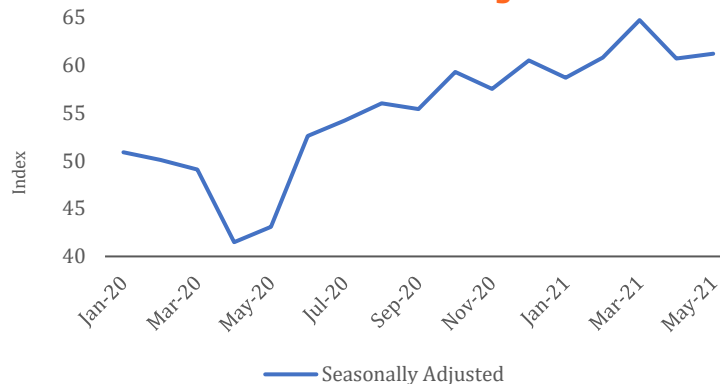
**COVID-19** resulted in extreme volatility for both supply and demand

- ▶ Retail sales dropped by as much as 20%, followed by a sharp return to the mean; the resulting demand variability makes planning increasingly complex
- ▶ Rising consumer sentiment index and retail sales indicates that demand should continue to rise in the near term, but supply constraints may persist
- ▶ The retail landscape is becoming more e-commerce and omni channel driven; digital supply chains should enable companies to shift along with consumers
- ▶ The purchasing managers' index reflects price inflation, which ripples throughout the value chain and requires increased efficiency to maintain profitability

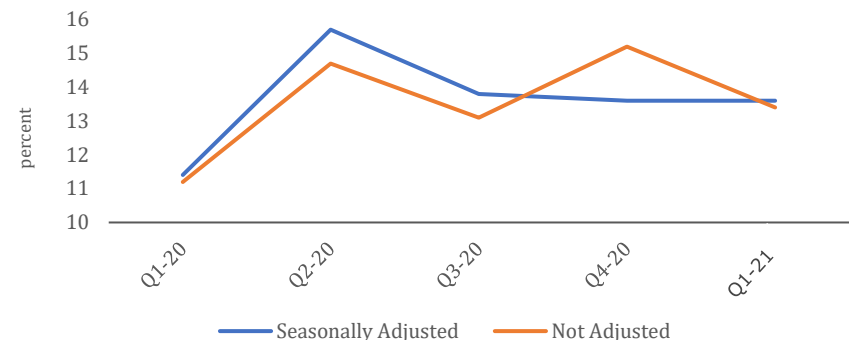
**U.S. Real Retail Sales vs University of Michigan Consumer Sentiment Index**



**ISM Manufacturing PMI**



**Quarterly U.S. Retail E-commerce Sales as a Percent of Total Quarterly Retail Sales**



## Polling Question #2

How are you responding to the headwinds?

- A. Technology/systems/data
- B. Process improvement
- C. Upskilling
- D. Restructuring
- E. Combination of one or more
- F. Other

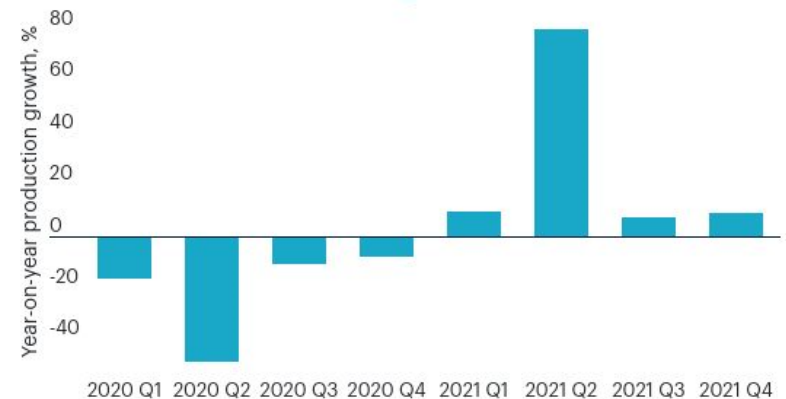


# RESPONDING TO SUPPLY CHAIN HEADWINDS

## How are Automotive and Aviation teams adjusting Supply Chains and Operations organizations?

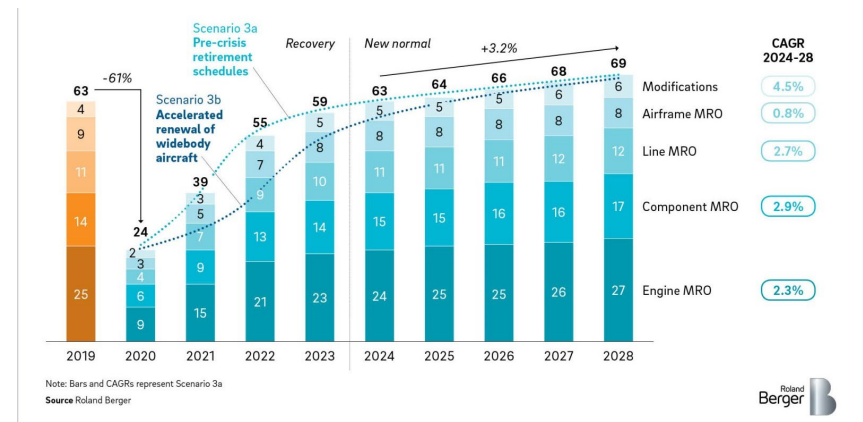
- ▶ Significant increase in dual or multi sourcing initiatives to improve supply chain resilience
- ▶ Rapidly adjusting production schedules based upon raw material availability
- ▶ Creating change orders for government IDIQ contracts to avoid untimely recertification awards for qualified suppliers
- ▶ OEM's and Tier 1 suppliers are evaluating supply chain financing and acquiring critical suppliers
- ▶ Acceleration of Supply Chain & Operational improvements in technology and supply chain digitization that were put on hold in 2019
- ▶ Manufacturing localization in target markets
- ▶ US, Mexico, Europe
- ▶ Electric Vehicle job creation
- ▶ Re-skilling, retooling SC & planning organizations

### World Motor Vehicle Sector Growth



Source: Oxford Economics

### Potential Recovery of Global MRO Market by Scenario



***You cannot overtake 15 cars in sunny weather, but you can when it's raining...***

***-Ayrton Senna Formula 1 champion***

# ENERGY & INDUSTRIALS – FUELING PEAK DEMAND

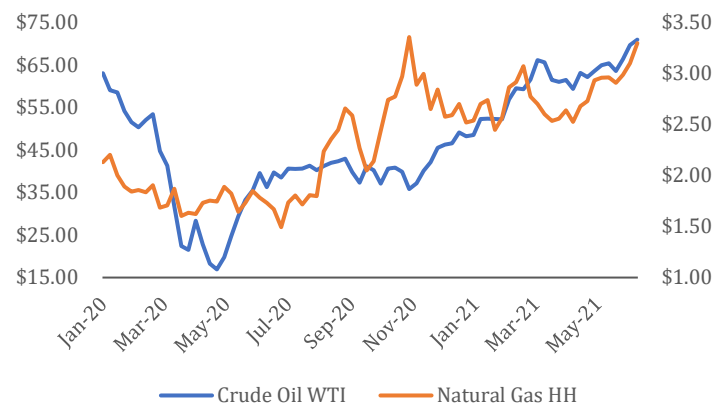
**Demand for energy is increasing and supply chains will become more constrained**

- ▶ 2020 trend was delaying capital projects to preserve existing production revenue and cashflow
- ▶ Repositioning capital to producing oil & gas assets – as oil moves towards \$73/bbl WTI nearing a 5 year high
- ▶ Oil field service companies are investing in digital technology to improve fleets (e.g. NOx Reductions) and service teams in the field (e.g. Digital field ticketing) to reduce operating costs
- ▶ Digital Scenario analysis across downstream manufacturers to optimize storage and production capacity, and prepare for seasonal and unplanned shocks
- ▶ Investing in cyber to protect critical infrastructure to avoid The Colonial Pipeline incidents (ransom paid of \$4.4M)
- ▶ Centralized planning, with focus on scenario analysis and contingency planning to enable all parts of the supply chain to react faster
- ▶ Accelerating digitization across S&OP process focusing on meeting CS levels, and minimizing WC commitments to inventory

**Lumber Prices**



**Crude Oil (WTI) and Natural Gas (HH) Pricing**





# RETAIL SUPPLY CHAIN

Like other sectors, retailers are also feeling the impacts of supply chain challenges, including the costs and reliability of freight. We are seeing retailers utilize several levers in response to dynamic market conditions

## RETAIL SUPPLY CHAIN LEVERS

OMNICHANNEL	BOPIS	REVERSE SUPPLY CHAIN LOGISTICS
<ul style="list-style-type: none"><li>▶ Shipping from stores allows retailers to leverage under absorbed labor and unproductive inventory</li><li>▶ Given current supply chain challenges this provides retailers unique flexibility by treating stores a miniature distribution centers</li><li>▶ Retailers should consider mini processing stations in the backroom with dedicated space for high volume items</li><li>▶ While not all stores need to be optimized for high omnichannel throughput, they should have the capability to ship unproductive inventory</li></ul>	<ul style="list-style-type: none"><li>▶ Buying online and picking up in store can provide meaningful cost savings by eliminating last-mile delivery logistics</li><li>▶ Customers frequently increase their basket size while in store, and are less likely to return items, avoiding costly reverse supply chain logistics</li><li>▶ Store employees should be incentivized to provide timely and quality service to these customers who planned ahead</li><li>▶ Curbside pickup, an extension of BOPIS, can be invaluable for select customers that find entering the store more challenging (parents, differently abled, etc.)</li></ul>	<ul style="list-style-type: none"><li>▶ Online orders are 3x more likely to be returned than in-store purchases, with ~\$102bn of online returns in 2020</li><li>▶ Retailers need to mitigate return costs through (i) efficient processing, (ii) promoting in-store returns, &amp; (iii) reducing the rate of returns</li><li>▶ Retailers can reduce return rates by leveraging collaboratives like TrueFit. By helping customers better understand fits they have reduced returns by ~10%</li><li>▶ In-store returns reduce shipping costs, increase inventory productivity, and in most cases driving incremental sales by an on-site customer</li></ul>

# DIGITIZING YOUR SUPPLY CHAIN

What have we learned from investing in Digitization during and following the pandemic?

- ▶ **Top initiatives:** Demand forecasting, Digital Twins, S&OP, inventory optimization, Production capacity planning, Transportation planning projects lead Digitization investments have accelerated overcoming leading headwinds faster than expected
- ▶ Executives with companies that invested in digital technologies are 2x likely to report outsized revenue growth than those that did not
- ▶ Centralized planning, with focus on scenario analysis and contingency planning to enable all parts of the supply chain to react faster

**42%**

*of organizations say the pandemic has accelerated their digitization plans*

## Responding to a disrupted world

■ Agree ■ Neutral ■ Disagree

Within two years we will invest to make our supply chains more agile



Within two years we will invest to make our supply chains more resilient



Automation will enable us to make onshore manufacturing economically viable



National interests and pressure to favor domestic operations will increase in influence on our future supply chain decisions



Our customers care more about low prices than where our products are sourced and made



We are shifting from a global supply chain model to one that is more regionally based



n = 1,346  
Q. Do you agree or disagree with the following statements?  
Source: 2020 Gartner Future of Supply Chain Survey  
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**Gartner**

# FASTER DATA DRIVEN DECISIONS

Scenario modeling is re-emerging as a critical tool for de-risking supply chains, making faster informed, data driven decisions to preserve customer service levels and working capital

**Data Extraction**

**Data  
Cleansing &  
Consolidation**

**Scenario  
Generation**

**Financial  
Outcomes**

**Data Driven  
Decisions**

DEMAND PLAN

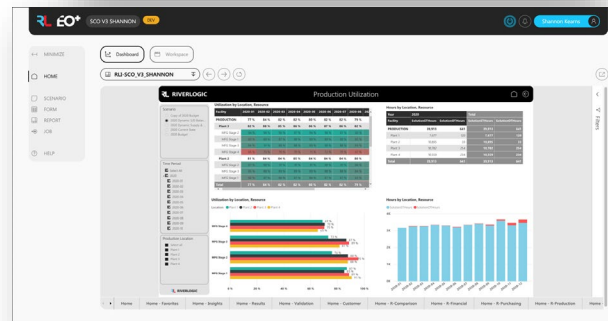
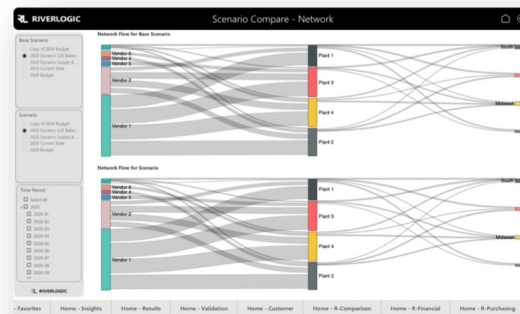
PURCHASE ORDERS

TRANSPORTATION  
DATA

INVENTORY DATA

SERVICE LEVELS

*Examples of enabling tools:*



**SHORTENED DECISION  
CYCLES**

Leverage optimization to rapidly respond to changes in demand, transportation rates, pricing...

**INTEGRATED SILOED  
DECISIONS**

Integrate sourcing, logistics, warehousing, and commercial decisions

**MAXIMIZE  
PROFITABILITY OR CASH  
FLOW**

Minimize net landed cost through cost to serve optimization and profit optimization (P&L) or optimize on cash flow (Balance Sheet)

## Polling Question #3

In your organization, who is sponsoring the initiatives to address supply chain challenges?

- A. CEO
- B. CFO
- C. Business Unit
- D. Operating Partner or Local Management
- E. Other



# CONTINUING TO BUILD RESILIENCY AND RESPONSIVENESS

How will supply chain practitioners continue to respond to the next set of headwinds?

Industries

AUTOMOTIVE

AEROSPACE &  
DEFENSE

ENERGY

INDUSTRIALS

RETAIL

Challenges

Common challenges abound - supply & demand balancing, logistics & warehousing, and end-to-end synchronization or process and data. Digitization, coupled with experience and leadership, can lead to optimal decision making and improved performance, collaboration and creativity remains paramount.

Trending Responses

- |  |   |   |  |   |
|--|---|---|--|---|
| <ul style="list-style-type: none"><li>▶ S&amp;OP /Improved demand and supply visibility, and information sharing end to end</li><li>▶ Optimizing Updating KPI's , segmentation of customers, products, suppliers</li></ul> | <ul style="list-style-type: none"><li>▶ Optimizing inventory quantity and location</li><li>▶ Identifying SC / Ops capabilities to digitize</li><li>▶ Scenario analysis &amp; optimization</li></ul> | <ul style="list-style-type: none"><li>▶ Adjusting and rebuilding networks, assets for new reality</li><li>▶ New/different production equipment, facilities, networks, partners, schedules</li></ul> | <ul style="list-style-type: none"><li>▶ Re-engineering processes and technology for new CX expectations and experience</li><li>▶ Protecting OTIF</li><li>▶ Partnerships with Suppliers</li></ul> | <ul style="list-style-type: none"><li>▶ Revisit processes and available technology to enable lean remote teams</li><li>▶ Invest in developing your team</li><li>▶ Collaboration and data driven decision making</li></ul> |
|--|---|---|--|---|

# LOOKING INTO THE FUTURE

**Given our investments and progress against headwinds, what should we expect one year from now?**

## AUTOMOTIVE

- ▶ Will this crisis finally drive part commonization across platforms?
- ▶ Re-evaluate outsourcing? Is it time to bring more suppliers closer to the assembly plants? Should LCC be secondary to continuity of supply?

## AEROSPACE & DEFENSE

- ▶ What is the biggest risk to the aerospace recovery?
- ▶ When will we see a return to peak production rates at Boeing and Airbus?
- ▶ Why haven't we seen more bankruptcies in the sector?

## ENERGY

- ▶ Will the price of oil continue to rise?
- ▶ How will the shift to renewables impact the oil industry?

## INDUSTRIALS

- ▶ Will manufacturing expand in countries like Mexico or innovate and return to America (near-shoring / on-shoring)?
- ▶ Will inventory levels increase to add cushion to the supply chain?

## RETAIL

- ▶ Will e-commerce continue to grow or contract?
- ▶ How can companies repurpose / optimize their brick & mortar space?
- ▶ Is the labor shortage short-term or is it a fundamental shift?

## ADDITIONAL RESOURCES

### Related Thought Leadership

[Staying Afloat in US Telecom Amid Chip Shortages, Global Competition](#)

[Shortages and Other Strategic Considerations for Automotive Suppliers](#)

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