

# **Industry Review**

Economics, Transportation & Commercial Vehicles

**Presented by Penske Transportation Solutions** 



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April 12, 2022

# Webinar Overview



Kenny Vieth, President & Sr. Analyst



Steve Tam, Vice President & Analyst



Frank Maly, Director of CV Transportation Analysis and Research

#### Introduction – Ian McGriff

**NA Economy – Paul Traub** 

Freight Transportation & Class 8 – Kenny Vieth

**Used Trucks & Medium Duty – Steve Tam** 

**Trailers – Frank Maly** 

Q&A-All

Paul Traub, Chief Economist

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# **Introducing Latest ACT Team Members**

#### Amanda Williams, Account Manager

#### Eric Crawford, Vice President & Senior Analyst





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# ANNOUNCING

#### **COMMERCIAL AUTONOMOUS VEHICLE STUDY**

WHAT? AN AUTONOMOUS COMMERCIAL VEHICLE STUDY WITH THE OBJECTIVE OF FORECASTING THE ADOPTION POTENTIAL AND SEGMENT-LEVEL USE CASES OF AUTONOMOUS COMMERCIAL VEHICLES AND THE POTENTIAL RAMIFICATIONS ON LOCAL AND OVER-THE-ROAD TRANSPORTATION.

SIGN-ON PERIOD: NOW THROUGH END OF APRIL 2022. RESEARCH PERIOD: Q1-Q3 2022 DELIVERABLES EXPECTED COMPLETED: END OF Q3 2022

#### JOIN US AS WE INVESTIGATE THE FUTURE OF OVER-THE-ROAD TRANSPORTATION IN THIS MULTI-CLIENT STUDY.

CONTACT IAN MCGRIFF, IMCGRIFF@ACTRESEARCH.NET WITH QUESTIONS.





# SAVETHE OUTLOOK WEBINAR 06/14

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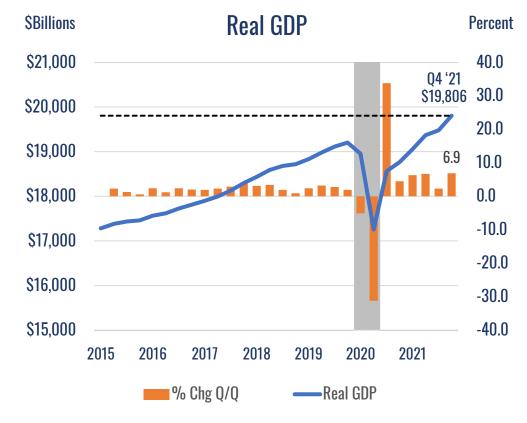
### **Economic Overview**

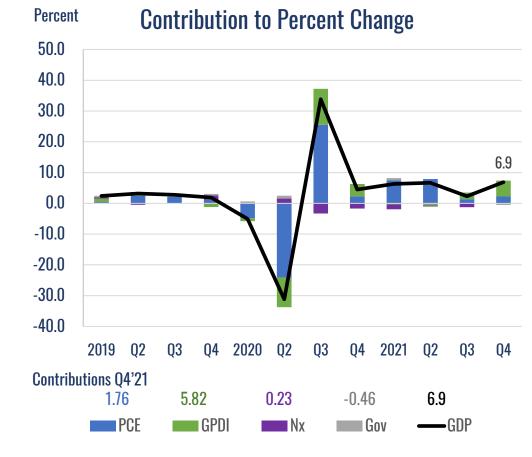
- US Gross Domestic Product as defined by Consumption, Private Investment, Government Spending and Investment, and Net Exports (C+I+G+Nx)
- Consumer Ability and Willingness Indicators
- Employment Conditions
- Business Conditions and Activity Indicators
- Summary



# **US Real Gross Domestic Product**

#### In Billions of \$2012 and Percent Change Q/Q - SAAR



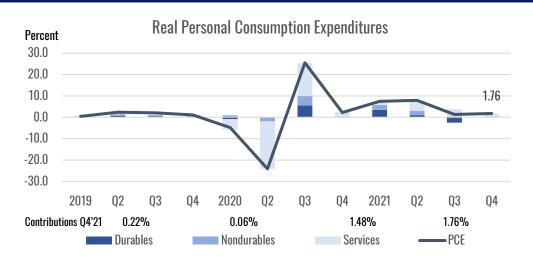


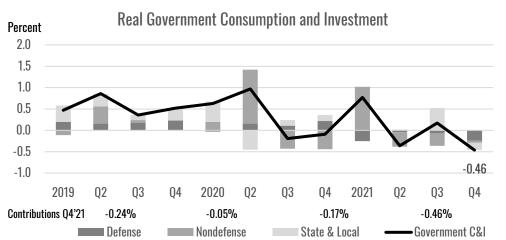
Note: Totals may not sum due to rounding.

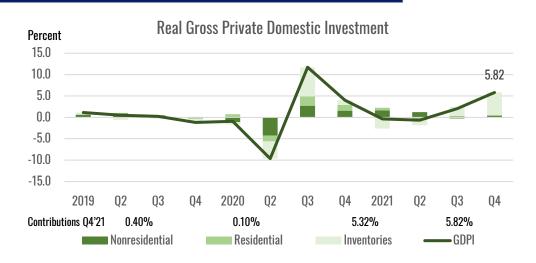
Source: BEA, ACT Research Co: Copyright 2022

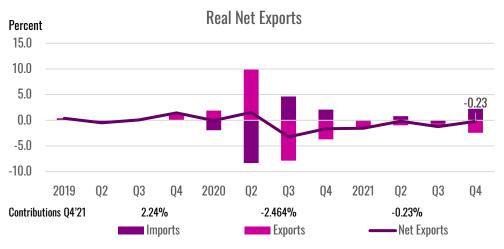


# Contribution to GDP by Sector – Q/Q SAAR









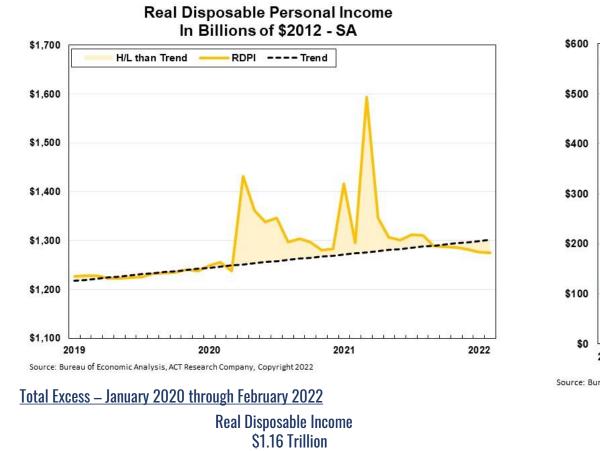
#### Source: Bureau of Economic Analysis, ACT Research Co: Copyright 2022

### Leading Indicators - Consumer

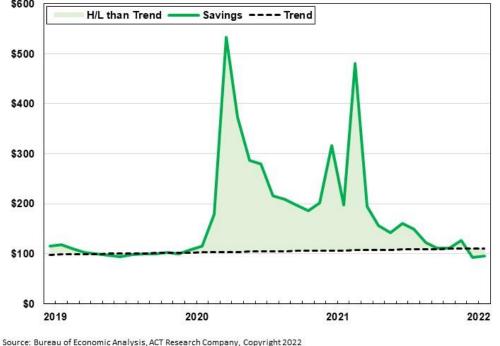
<u>Consumer Ability</u>	<u>Mar '22</u>	<u>Mar '21</u>
Disposable Income	<b>Red</b>	Green
Household Debt	<b>Green</b>	Green
Inflation	<b>Red</b>	Green
Yield Curve	<u>Green*</u>	<u>Green</u>
Composite	Yellow	Green
<u>Consumer Willingness</u> Consumer Attitudes Unemployment Claims Workweek Stock Market Composite	Red Green Yellow <u>Yellow</u> Yellow	Yellow Red Yellow <u>Green</u> Yellow



# **Personal Income And Savings**



Real Personal Savings In Billions of \$2012 - SA



**Real Personal Savings** 

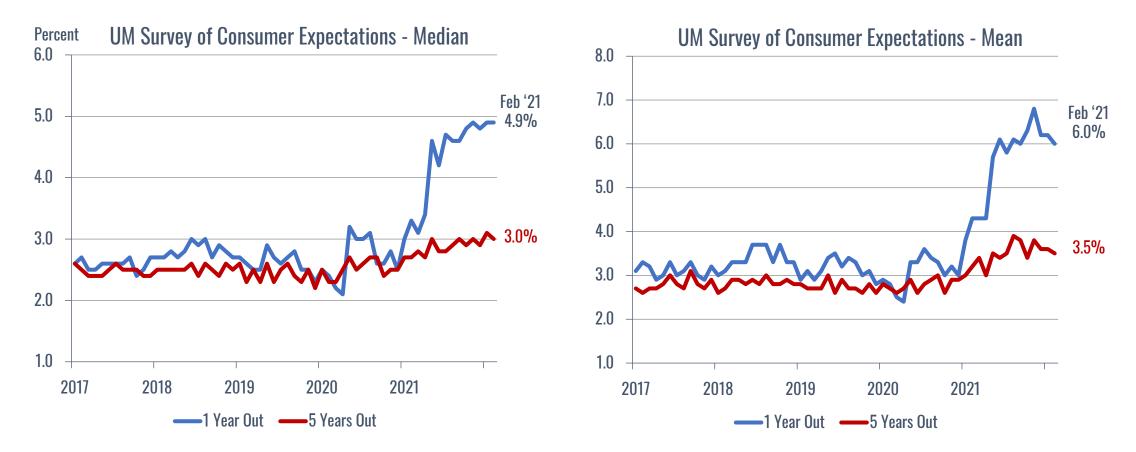
\$2.5 Trillion

Source: Author's calculations using Bureau of Economic Analysis and Energy Information Administration data, ACT Research Company, Copyright 2022



### Inflation Expectations

Percent Change Y/Y



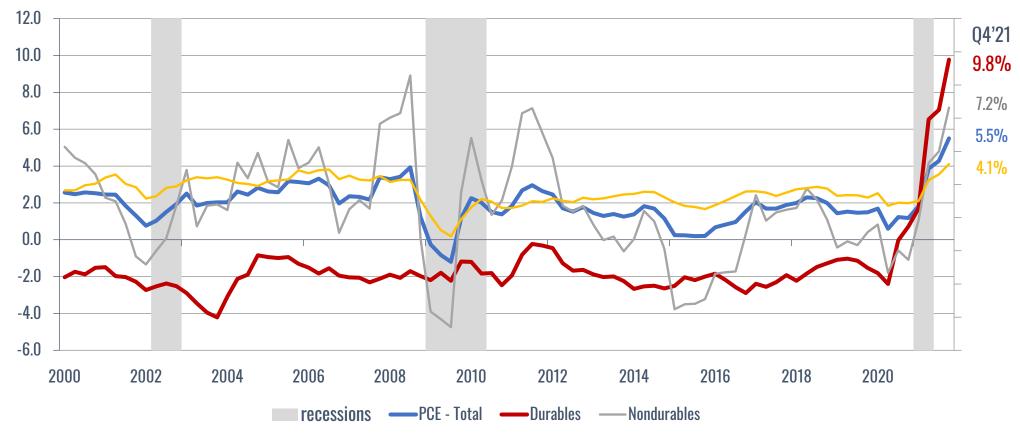
Source: University of Michigan Survey of Consumer, New York Federal Reserve Survey of Consumers Expectations and Federal Reserve Board of Governors, ACT Research Co. Copyright 2022



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## **PCE Implicit Price Deflators**

#### Percent Change Y/Y

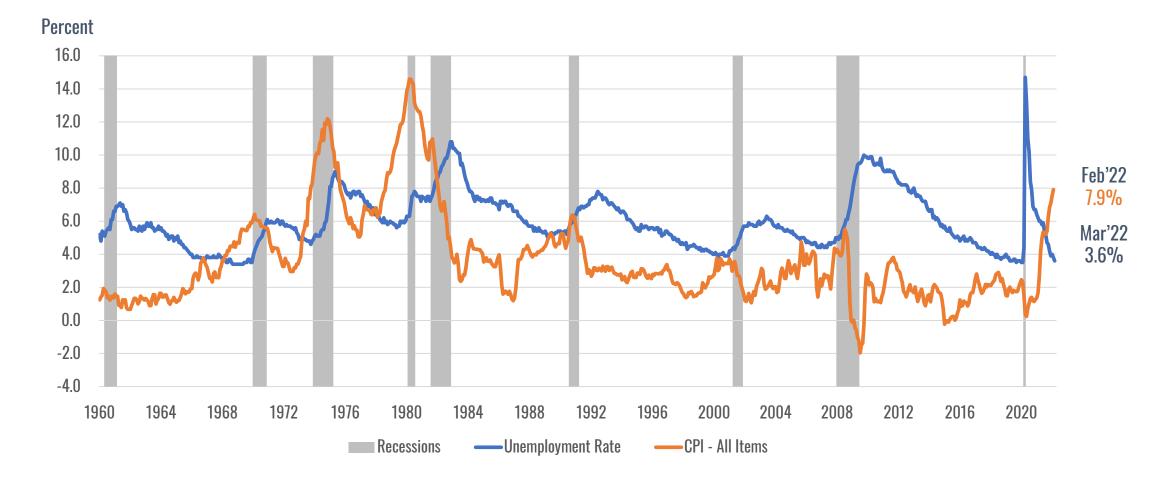


Source: University of Michigan Survey of Consumer, New York Federal Reserve Survey of Consumers Expectations and Federal Reserve Board of Governors, ACT Research Co. Copyright 2022



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## **Unemployment & Inflation**



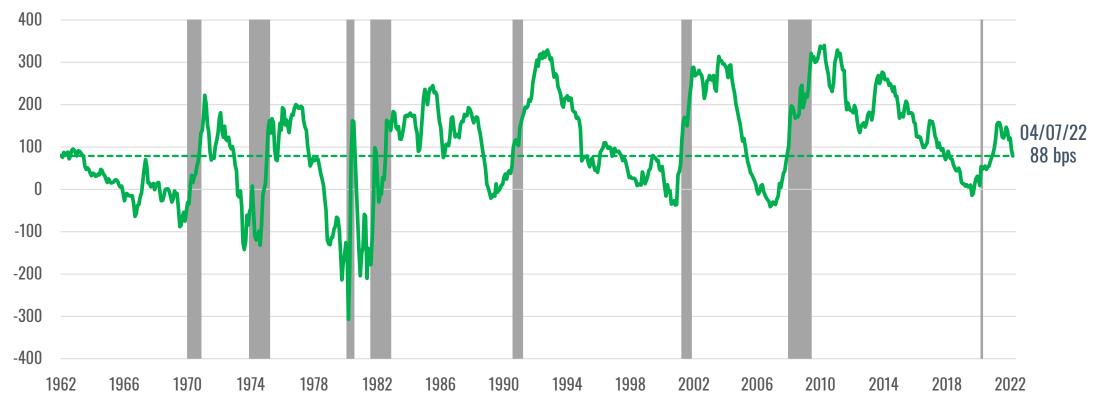
Source: Author's calculations using Bureau of Labor Statistics data, ACT Research Company, Copyright 2022



### Yield Curve

#### **10-Year minus 1-Year Treasuries**

**Basis Points** 

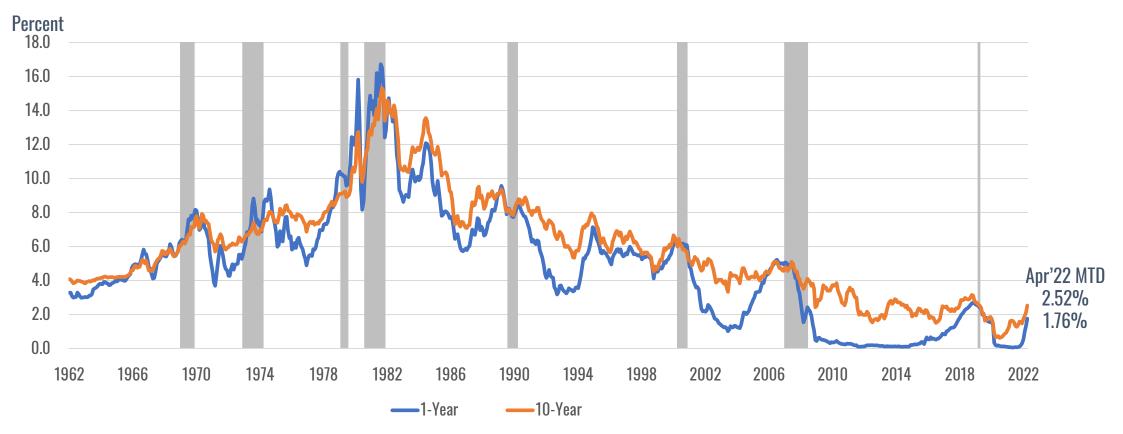


Source: Author's calculations using Board of Governors of the Federal Reserve data, ACT Research Company, Copyright 2022



### Yield Curve – 1-Year & 10-Year Treasury

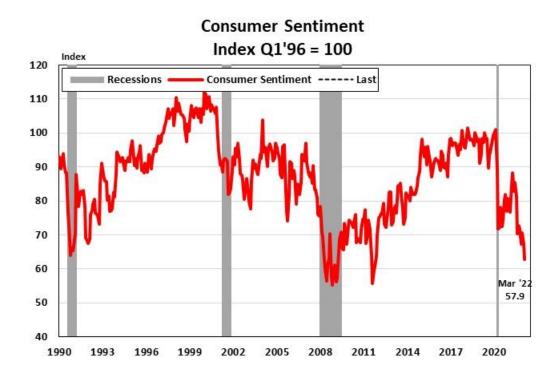
#### **Average Monthly Rate**

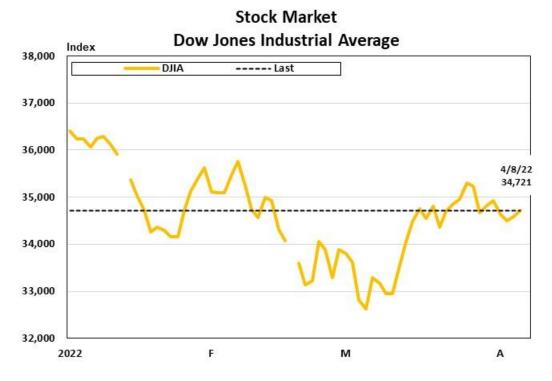


Source: Author's calculations using Bureau of Economic Analysis and Energy Information Administration data, ACT Research Company, Copyright 2022



## **Consumer Sentiment & Stock Market**





Source: US Employment and Training Admin., ACT Research Co, Copyright 2022

Source: University of Michigan, ACT Research LLC, Copyright 2022

#### Notes:

- UM Consumer Sentiment fell to 57.9, its lowest level since 2011.
- The DJIA is down 5.6% from its peak in January but has recovered 6.4% from its March 2022 trough.



# **Establishment and Household Employment**

#### In Thousands of Workers and Percent

		Establishm	nent Survey	Household Survey							
-	Change	Change in	Change in	Change in	Change in	Change in	Labor Force				
	in Nonfarm	Goods-Producing	Service-Providing	Government	Household	Labor	Participation	Unemployment			
	Employment	Employment	Employment	Employment	Employment	Force	Rate	Rate			
Feb '21	710	-18	711	17	363	175	61.5	6.2			
Mar '21	704	155	495	54	573	272	61.5	6.0			
Apr '21	263	-40	252	51	319	347	61.7	6.0			
May '21	447	22	359	66	291	-177	61.6	5.8			
Jun '21	557	23	485	49	62	313	61.6	5.9			
Jul '21	689	82	556	51	1,092	261	61.7	5.4			
Aug '21	517	48	449	20	463	130	61.7	5.2			
Sep '21	424	54	355	15	639	-34	61.7	4.7			
Oct '21	677	83	611	-17	428	139	61.7	4.6			
Nov '21	647	99	528	20	1,090	516	61.9	4.2			
Dec '21	588	93	468	27	651	168	61.9	3.9			
Jan '22	504	32	460	12	1,199	1,393	62.2	4.0			
Feb '22	750	102	637	11	548	304	62.3	3.8			
Feb '23	431	60	366	5	736	418	62.4	3.6			
Higher / L	Higher / Lower than Previous Peak						Percenta	age Points			
Workers	-1,579	-210	-659	-710	-408	-174					
Percent	-1.0	-1.0	-0.6	-3.1	-0.3	-0.1	-1.0	0.1			

Source: Bureau of Labor Statistics, Act Research Co: Copyright 2022

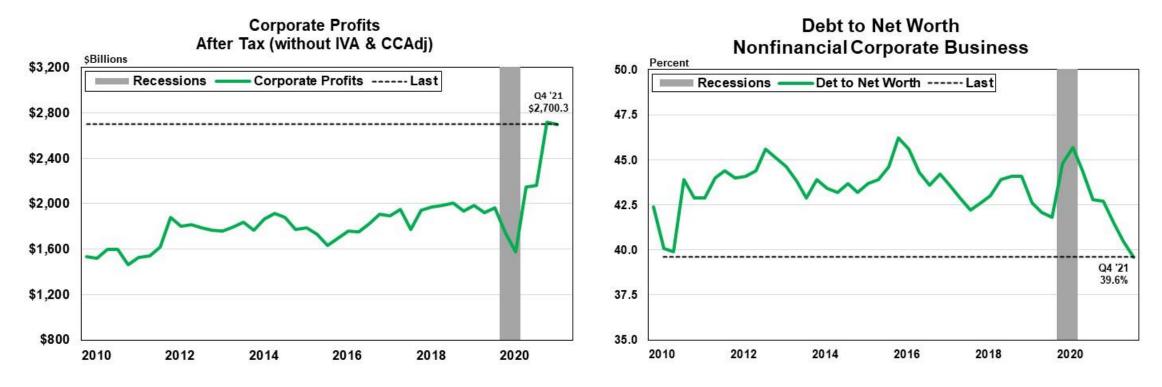


### **Business Conditions & Activity**

<u>Business Conditions</u>	<u>Mar '22</u>	<u>Mar '21</u>
Corporate Profits	Green	Green
Corporate Debt	Green	Green
Risk Premium	Green	Yellow
Producer Prices	<u>Red</u>	<u>Green</u>
Composite	Yellow	Green
<u>Business Activity</u> Purchasing Managers Index Industrial Production New Orders Capacity Utilization Composite	Green Green Green <u>Green</u> Green	Green Yellow Red <u>Red</u> Yellow



### **Business Conditions**

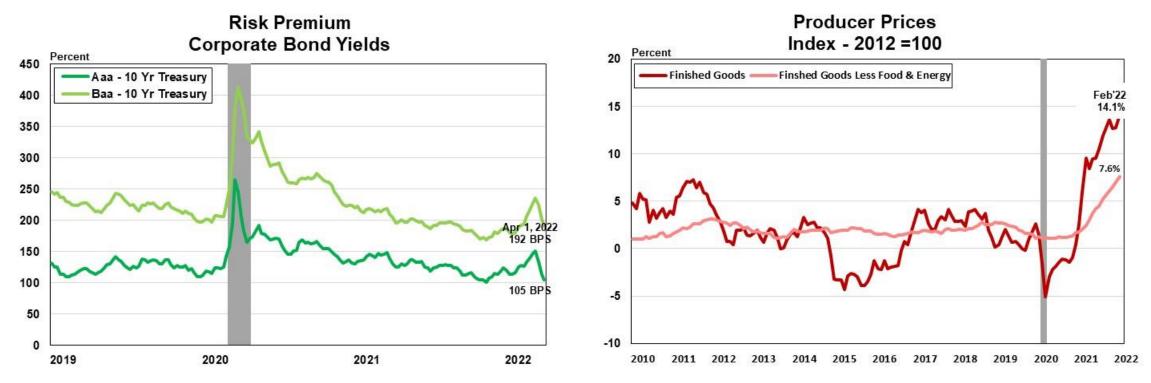


Source: Bureau of Labor Statistics, ACT Research Company, Copyright 2022

Source: Bureau of Labor Statistics, ACT Research Company, Copyright 2022



### **Business Conditions**

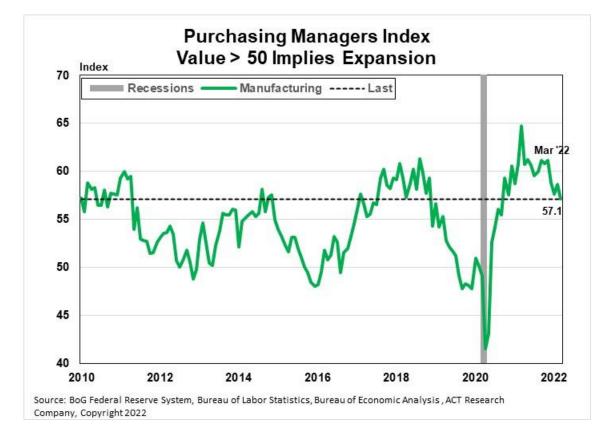


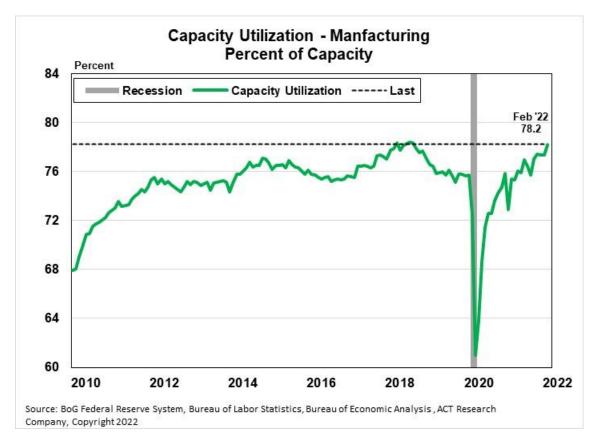
Source: BoG Federal Reserve System, Moody's, ACT Research Company, Copyright 2022



Source: Bureau of Labor Statistics, ACT Research Company, Copyright 2022

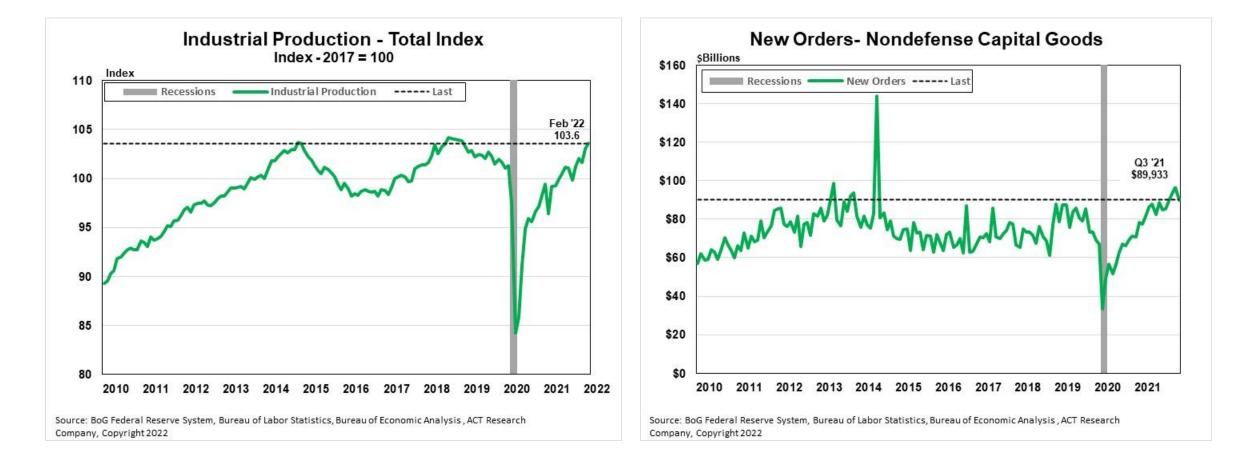
### **Business Activity**







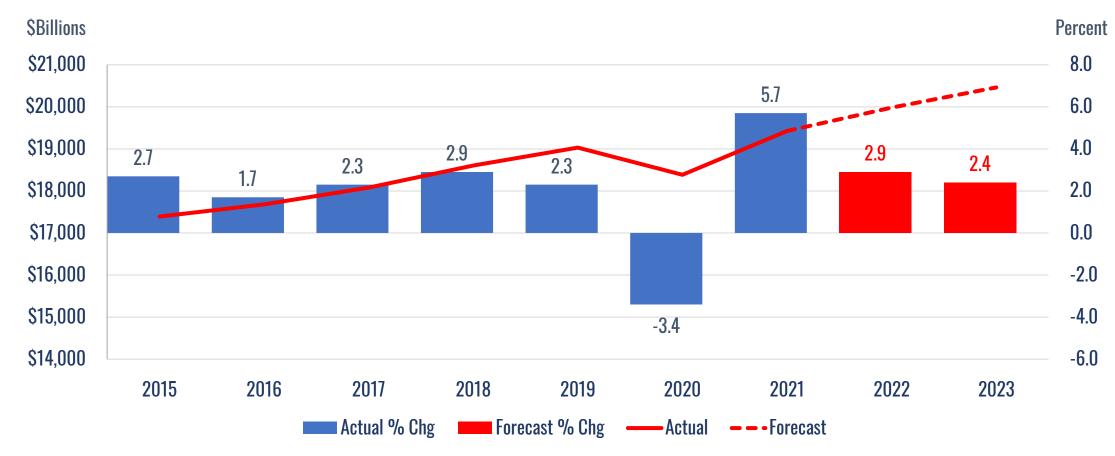
### **Business Activity**





# **US Real GDP Forecast**

#### In Billions of Chained \$2012 and Percent Change – SAAR



Source: Bureau of Economic Analysis, Author's Forecast, ACT Research Company Copyright 2022



## Summary

- The US economy grew at 6.9% on a SAAR basis in Q4'21 and 5.7% on an average y/y basis, the highest y/y growth since 1984.
- The Consumers Ability and Willingness Indicators are both on yellow, due to declining real disposable income, declining consumer sentiment, and higher inflation expectations.
- Labor markets remain strong, with the unemployment rate falling to just 3.6% in March.
- Business conditions are currently on yellow, due solely to higher prices, but business activity remains green.
- The biggest risks today are how well the global economy navigates the war in Europe and COVID.
- The Fed will continue on a less accommodative path through 2022 and into 2023.
- The US economy will continue to expand through the forecast horizon, keeping the outlook for transportation and freight activity positive.



# Freight Overview: Major Inflection Underway

Trucking: inflation double-whammy diminishes visibility

- WHAT HAPPENED IN MARCH? Rates Rejections Jobs
- Freight metrics decelerating
- Shippers: From hurrying to waiting?

#### **Drivers:** supply-side is loosening on schedule

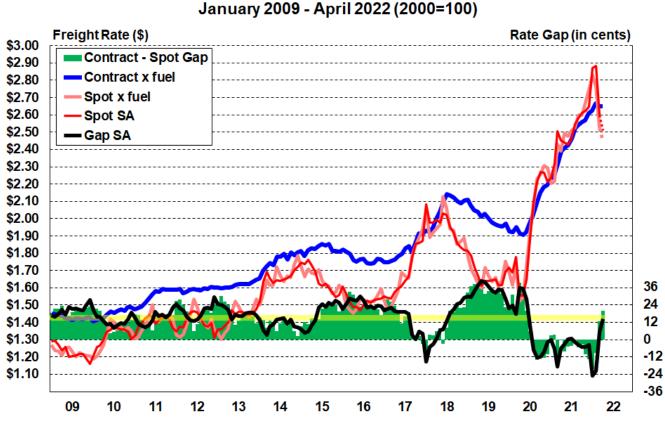
- Driver supply has loosened considerably
- ACT's Driver Supply Metric to "where the cycle turns" levels in 2022

Rail / Intermodal: stymied by chassis shortage

- Intermodal downturn continues into Q2 as IM-EX imbalance exacerbates system woes
- Auto production issues ongoing but less bad
- Chassis shortage lingering, but improving

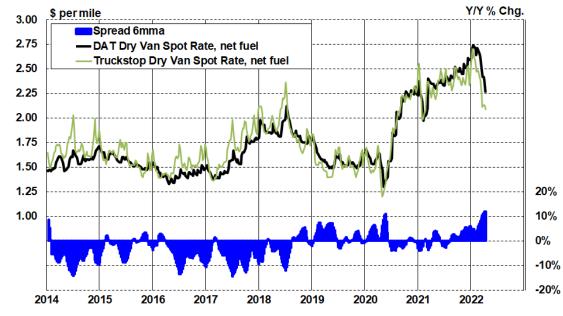


# **Inflection Point Plus Omicron Giveback**



#### DAT Trendlines: Aggregate Truckload Rate per Mile

Truckload Spot Rate Comparison January 2014 - April 2022



Source: DAT Solutions, Truckstop.com, ACT Research Co., LLC: Copyright 2022

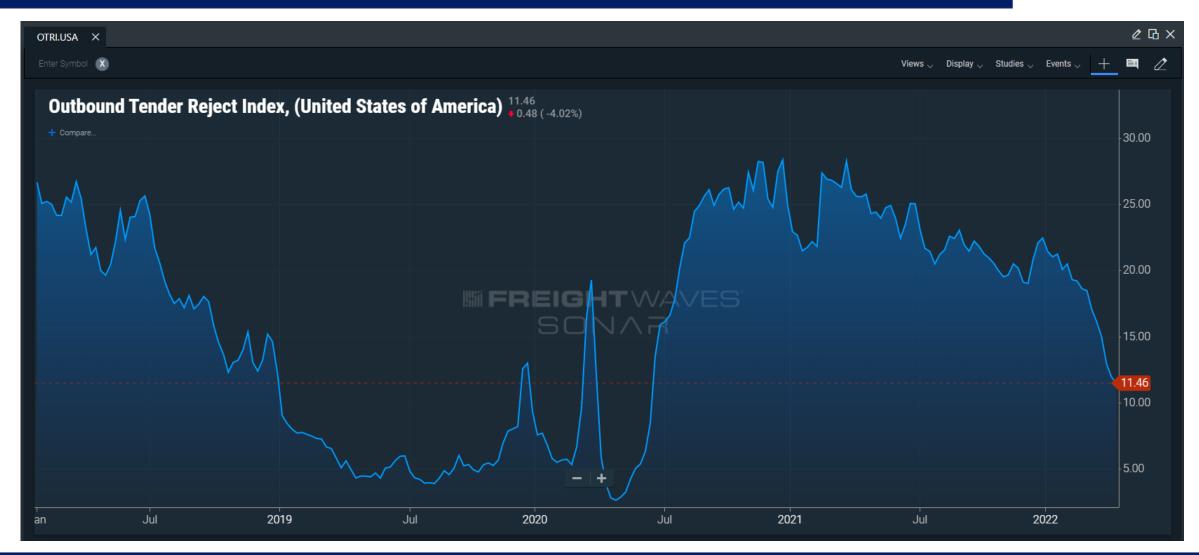
Truckstop suggests more bad rate news in the pipeline

Source: DAT Solutions, ACT Research Co., LLC: Copyright 2022



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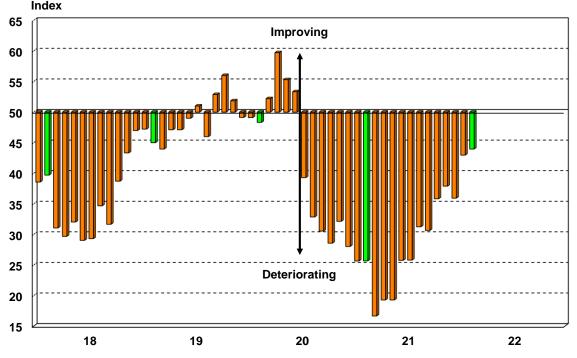
# Inflection: Load Turndowns from Tight to Neutral



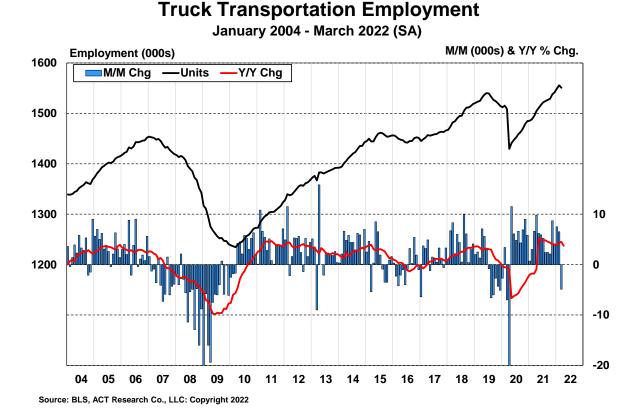


# **Driver Supply Less Constrained**

#### ACT For-Hire Trucking Index: Driver Availability



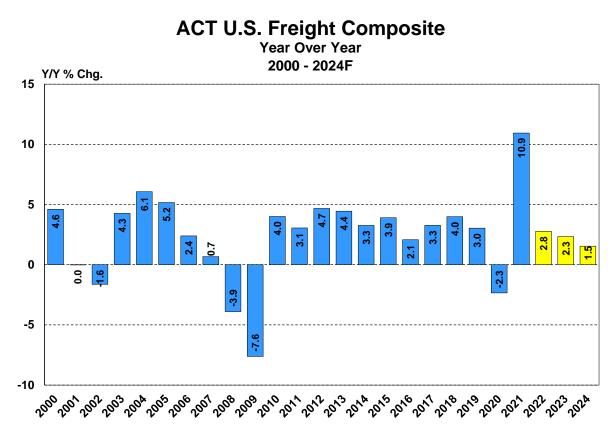
#### January 2018 - February 2022



Source: ACT Research Co.: Copyright 2022

# **Freight Soft Patch**

**ACT U.S. Freight Composite** Q/Q at SAAR, Y/Y Q1'12 - Q4'22 % Chg. 20 -Actual FC Y/Y —Fcst Q/Q —Fcst Y/Y -Actual Q/Q 15 10 5 0 -5 -10 -15 01,12 Source: ACT Research Co., LLC: Copyright 2022

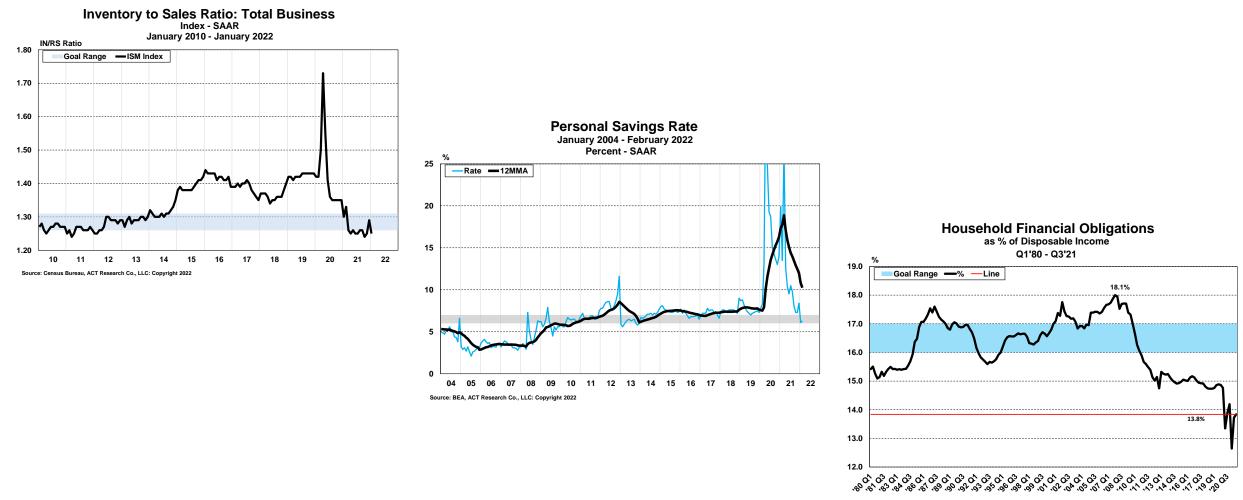


Source: ACT Research Co., LLC: Copyright 2022



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# No Obvious Economic Imbalances



Source: Federal Reserve Board, ACT Research Co., LLC: Copyright 2022



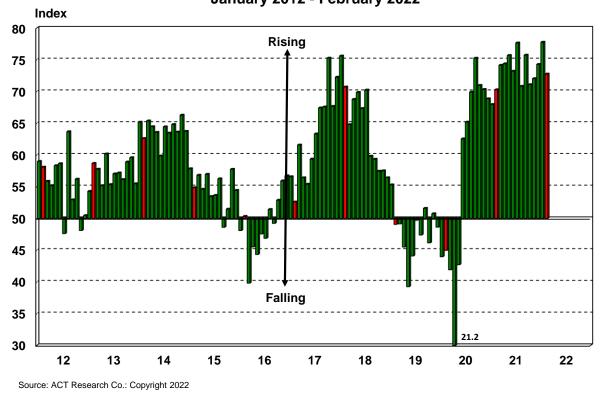
# ACT For-Hire Index Long-In-The-Tooth Cycle

Freight (Demand) Index Less Capacity (Supply) Index (Seasonally Adjusted) Index January 2012 - February 2022 Improving Deteriorating 

**ACT For-Hire Trucking Survey: Supply-Demand Balance** 

Source: ACT Research Co.: Copyright 2022

ACT For-Hire Trucking Index: Freight Rates (Seasonally Adjusted) January 2012 - February 2022



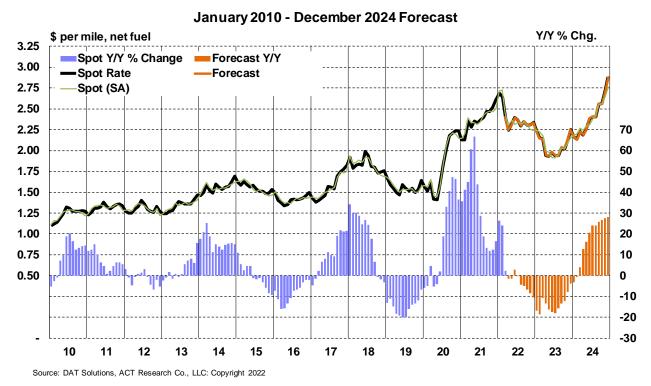


# Supply to Accelerate into Slowing Demand

U.S. Class 8 Tractors: Retail Sales

January 2010 - February 2022 Y/Y % Chg Units (000s) 25 Y/Y % Cha -Retail Sales -Retail Sales SA RS Forecast SA Forecast 20 150 15 100 10 50 Replacement 5 -50 Ω -5 -100 22 10 11 12 13 15 16 17 18 19 20 21 14 Source: ACT Research Co., LLC: Copyright 2022

#### **DAT Trendlines Spot Rates: Dry Vans**



<sup>5</sup> 

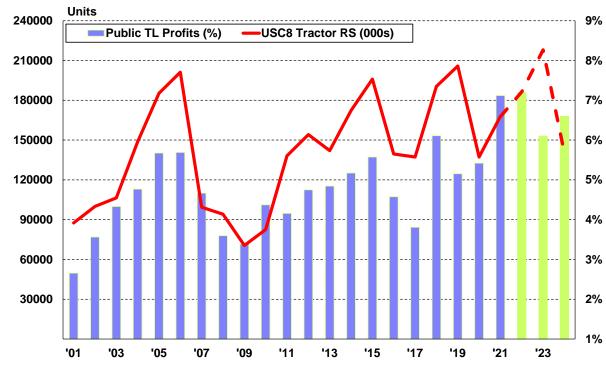
# When Truckers Make Money ...

**TL Carrier Database: Net Income Margin, Core Carriers** 

#### Q1'10 - Q4'21 Margin Y/Y, bp 10% 700 Margin Change, Y/Y -Net Income Margin, Core Carriers -Net income margin, core carriers, SA 9% 600 500 8% 7% 400 6% 300 5% 200 4% 100 3% 0 2% -100 1% -200 0% -300 123 4123412341234 123 2014 2015 2016 2017 2018 2019 2020 2021 2022 2010 2011 2012 2013 Source: ACT Research Co., LLC: Copyright 2022

#### **U.S. Class 8 Tractor RS & Carrier Profits**

2001 - 2024



Source: ACT Research Co., LLC: Copyright 2020



# Heavy-Duty Overview

- Strong demand keeps backlogs in place
  - Orders continue to be constrained by reporting rules
  - Strong cancellations continue to be OEM, not customer, derived
  - Another round of surcharges inbound for truckers
- "Everything shortage" continues to limit output, *but less so* 
  - Built versus "built"
- Modeling indicates large under-build in 2021 and 2022
  - Per current assumptions, pent-up NA demand ~120k units ending 2022
- 2023: Pent-up demand early, prebuying late
  - CARB Clean Truck: Potential for 2023 prebuy in 6 states/~20% of market
  - Slowing macro now raises potential for bigger production cliff in Q1'24
- Ukrainian NEON, Russian commodities: New supply constraint(s) as the major risk to expectations



# **Tractor Dashboard: Indicator of Indicators**

	ACT Research Class 8 Tractor Dashboard	-															
Category	/ Metric	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22
	Green Minus Red Tally	10	8	13	14	13	15	15	12	14	15	9	11	10	10	2	0
	Positive Indicators (Green)	11	11	13	14	13	15	15	13	14	15	9	11	11	11	6	5
	Neutral Indicators	3	1	2	1	2	0	0	1	1	0	6	4	3	3	5	5
	Negative Indicators (Red)	1	3	0	0	0	0	0	1	0	0	0	0	1	1	4	5
Macro &	ISM Mfg PMI Index	57.5	60.7	58.7	60.8	64.7	60.7	61.2	60.6	59.5	59.9	61.1	60.8	61.1	58.7	57.6	58.6
Financial	Non-Auto Durables Mfg Output**	-5.0	-0.8	5.0	9.7	15.8	19.9	15.1	11.5	9.8	8.6	7.6	6.6	6.3	5.8	5.3	6.3
	Consumer Spend, Goods only**	12.3	12.5	15.5	16.1	20.6	22.9	15.4	13.1	11.4	10.6	9.1	8.7	7.8	4.0	1.3	0.2
	Residential Const Expend (real) **	10.7	12.7	15.4	17.1	19.6	21.8	21.3	19.0	14.8	10.5	7.2	4.2	1.6	0.8	0.9	2.0
	Dow Jones Trucking Stock Index	1113	1102	1074	1176	1293	1340	1357	1294	1331	1399	1346	1563	1556	1633	1447	1465
Freight	Cass Freight Shipments**	8.6	14.1	15.7	16.3	22.0	26.5	24.6	19.7	12.7	9.1	6.3	6.5	7.4	7.2	0.6	-4.1
rreight	DAT Loads/Truck	6.4	7.3	8.5	14.9	9.7	20.5 9.0	24.0 10.7	7.5	12.7	11.2	8.9	8.6	8.1	10.3	17.0	13.9
	DAT Aggregate Contract/Spot Spread	-13	-10	3	14.9	-11	9.0 0	-8	-5	-4	0	-5	-4	-10	-14	-21	-10
	DAT Aggregate Contract/spot Spread	40.3	30.8	30.3	37.2	40.7	57.2	61.2	43.3	30.7	21.4	-5	15.0	15.8	19.7	28.5	24.5
	Cass Freight/US Cl8Tractor Pop Growth Gap	40.3	16.0	17.1	17.1	22.1	25.7	23.1	43.3	10.4	6.8	4.0	4.3	5.4	5.1	-1.4	-5.8
	Cass rieigni/05 cionación Pop Growth Gap	11.0	10.0	17.1	17.1	22.1	23.7	23.1	17.7	10.4	0.0	4.0	4.5	5.4	5.1	-1.4	-3.0
ACT data	Cl 8 Cancellations (SA)	2600	4019	1017	1520	2427	1954	1215	5628	1044	1809	2013	2500	2500	2500	1892	2500
	Cl 8 I/S ratio (SA)	2.32	2.83	1.95	2.10	2.21	2.00	1.97	2.23	2.18	2.00	2.25	2.07	2.30	2.24	2.23	2.34
	Class 8 Inventory Level (000 SA)	56.7	57.5	56.0	52.2	51.9	50.3	51.1	48.0	42.2	40.6	40.5	41.6	44.7	50.2	53.0	54.5
	Class 8 Net Orders to Build (6mma,SA)	1.58	1.69	1.70	1.82	1.78	1.81	1.62	1.57	1.63	1.59	1.58	1.48	1.38	1.16	0.97	0.80
	ACT For Hire - Volume less Capacity	68.5	68.5	62.6	59.5	65.8	65.3	62.0	61.4	68.2	63.2	62.4	60.6	62.0	59.6	57.4	54.6
	All measures are levels, except *=Year/Year %													ſ	Italics den	otes speci	al
	Change and **=12 month CAGR Rate of Change cancellation treatment											ent					



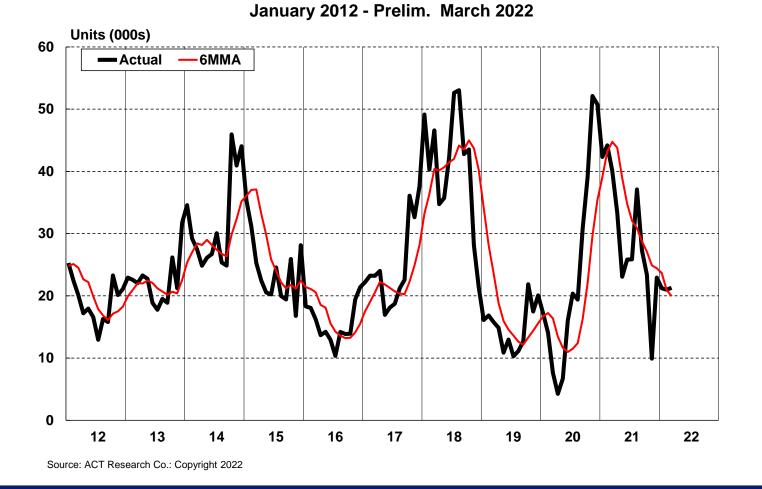
#### **Dashboard Provides Long Production Leads**

**ACT Research Tractor Dashboard:** Aggregate Tally & USC8 Tractor Net Orders (SA) **Designed to predict order** January 2012 - February 2022 Tally Units (000s) 28 15 24 10 20 5 16 ~Replacement 0 12 -5 8 -10 -US Tractor NO (3m,SA) -US Tractor BU (3m.SA) Dashboard Aggregate -15 12 15 16 17 18 19 20 21 22 13

direction w/ a 3-6 lead Importantly, orders lead build by ~6 months

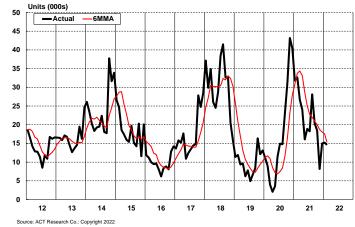
### **OEMS, Reporting Rules Constraining Orders**

**Total Class 8: N.A. Net Orders** 

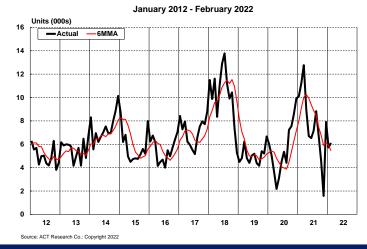


#### Class 8 Tractor: N.A. Net Orders

January 2012 - February 2022

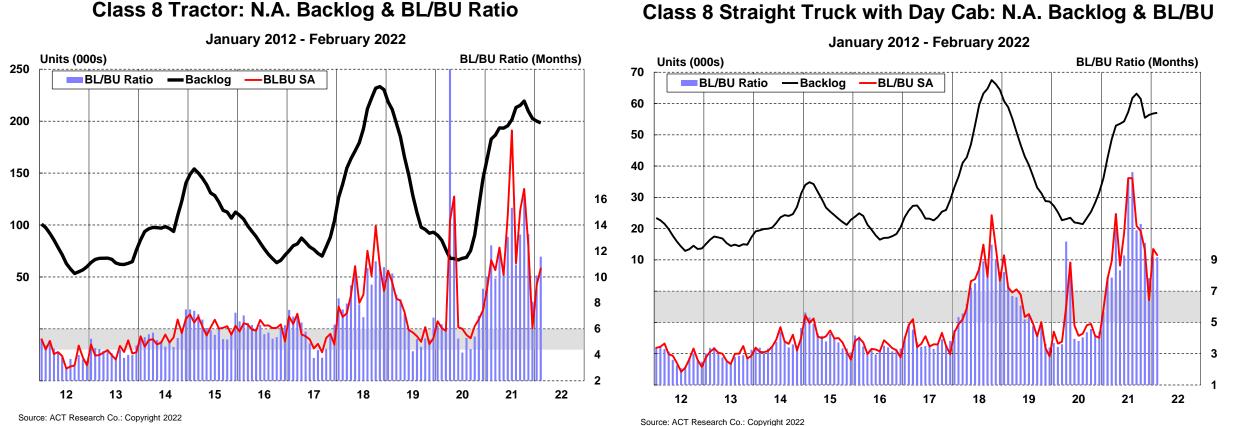


#### Class 8 Straight Truck with Day Cab: N.A. Net Orders





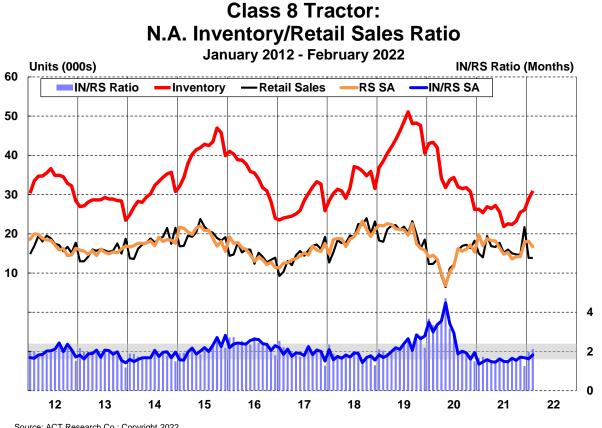
### Key Ratios: Backlog & BL/BU



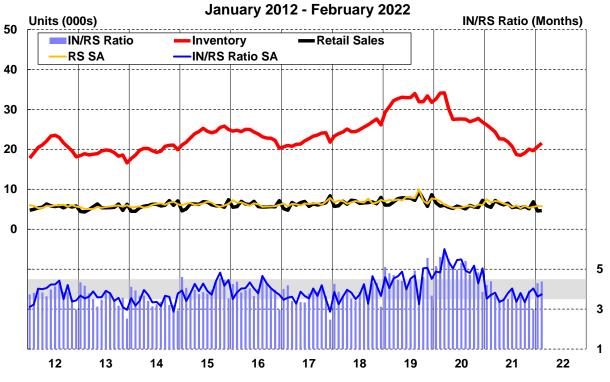
#### Class 8 Straight Truck with Day Cab: N.A. Backlog & BL/BU



## Key Ratios: IN, RS and IN/RS



#### **Class 8 Straight Truck with Day Cab:** N.A. Inventory/Retail Sales Ratio



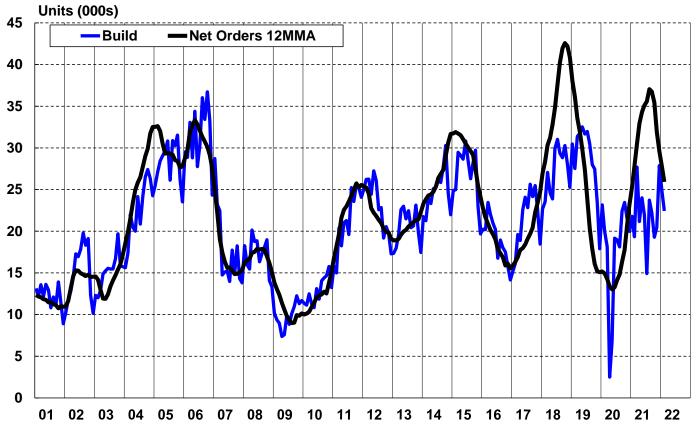
Source: ACT Research Co.: Copyright 2022



#### Orders Trend Returns to Build Levels

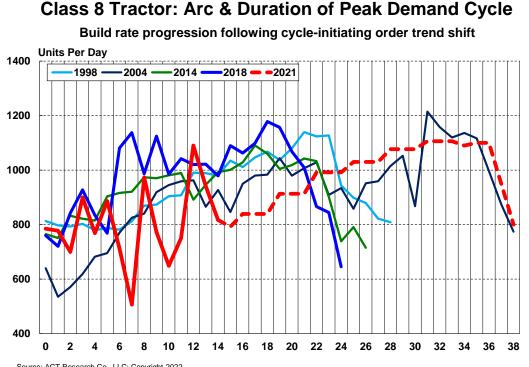
Total Class 8 N.A.: Net Orders 12 Mo. Avg. & Build

January 2001 - February 2022





#### **Build Rate Assumptions**



Source: ACT Research Co., LLC: Copyright 2022

#### Pent-up demand early, prebuy late in 2023. Cliff in Q1'24

Per Day Build Rate	Q1	Q2	Q3	Q4
2021	1,093	1,066	982	1,146
2022	1,117	1,127	1,226	1,332
2023	1,397	1,460	1,500	1,475

#### **Risks**

Longer-term: Path/duration of Russian intransigence in Ukraine Shorter-term: Impact of invasion on automotive supply chains



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Average retail at \$94,300 in February (F)

- ➤ +7% m/m, +83% y/y, +84% ytd
- Demand will likely lag slowing freight markets
- Lack of inventory remains THE story
- Miles and age continue trending up subtly
- Exports reflecting waning supply higher prices, global "troubles"
  - ➤ +34% m/m, -40% y/y, -41% ytd



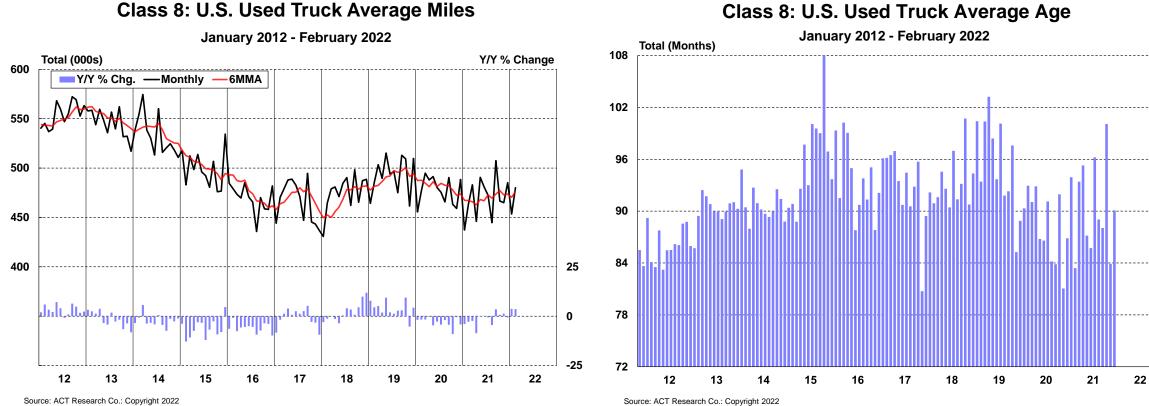
#### **Prices Raise the Roof**

Class 8: U.S. 4 to 5 Year Old Used Truck Average Sale Price Class 8: U.S. Used Truck Average Sale Price 4 to 5 year old, 400-500,000 miles legacy January 2012 - February 2022 January 2012 - February 2022 Y/Y % Change Total Reported Price (\$000) Y/Y % Change Total (\$000) Y/Y % Chg. —Monthly —6MMA Y/Y % Chg. — Monthly — 6MMA SA -25 -50 Source: ACT Research Co.: Copyright 2022





### Miles and Age On Their Way Up, Too

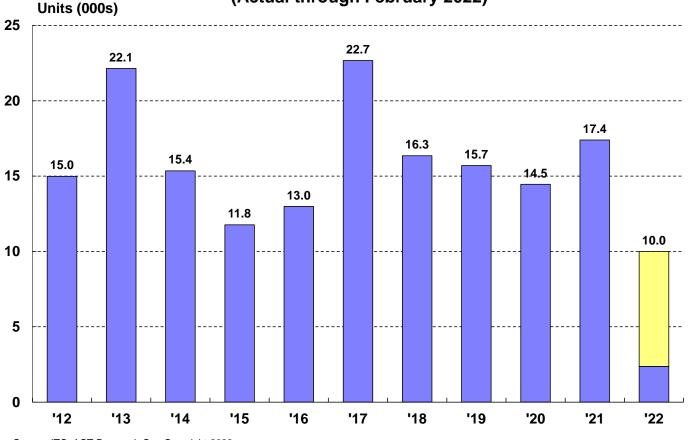




#### Exports Expected To Take a Dive in 2022

Used Class 8 Tractor Exports

2012 - 2022 (Actual through February 2022)



Source: ITC, ACT Research Co.: Copyright 2022



### **Medium Duty**

- MD customers "can't get no satisfaction"
  - Near record BL/BU ratio demanding increased production
  - Supply chain hardship and deference to profits denying response
- IN/RS ratio normalizing
  - Below replacement build has reduced inventory until October
- Market forecast calls for moderate improvement
  - 2022: Build (+9%) and retail sales (+7%)
- Service-centric economic growth driving MD truck demand



### Payroll Employment

Total 5.3% higher y/y (150.9M)

Goods up 4.8% y/y (20.9M)

Services up 6.6% y/y (107.9M)

Government up 0.1% y/y (22.2M)

Employment will not return to pre-COVID levels until 2024 at the soonest





### Consumer Spending

Total 2.5% higher in Q4

Goods up 1.1%

Services up 3.3%

Activity returned to pre-COVID levels in Q2 2021

Prices are up, but so are wages



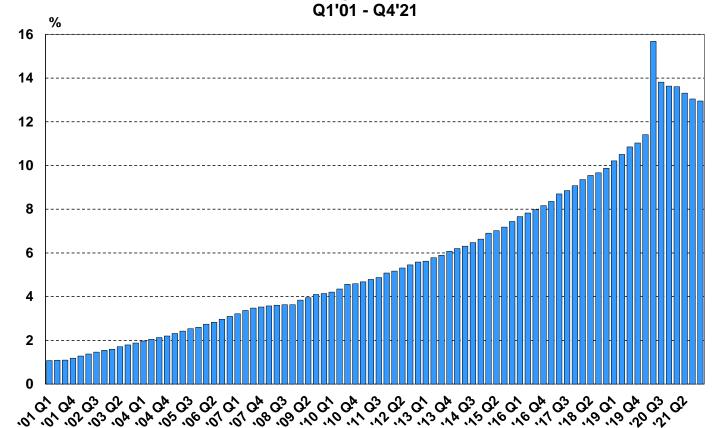
### **Retail Sales**

February retail sales up sequentially (+0.3%), but well above 2021 level (+17.6%) nominally. Inflation adjusted results mixed, down 0.5% m/m, but +9.0% y/y.

Q4 e-commerce activity, as a percentage of sales, continued to subside, slipping to 12.95%.

Full-year 2022 growth expectations range from 6% to 8%. - Retail Federation

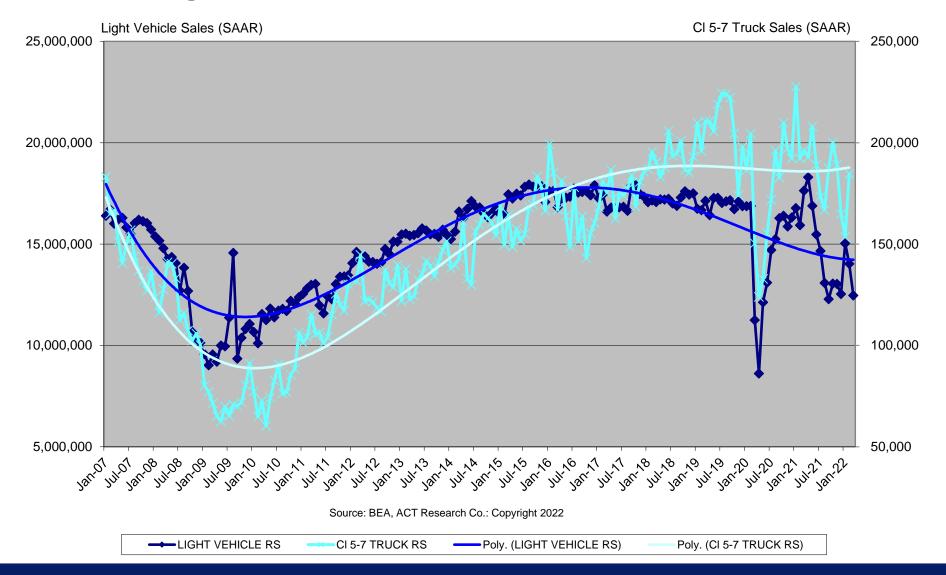
#### E-Commerce as a Percentage of Retail Sales (Excluding Food Service)



Source: Federal Reserve Board, ACT Research Co., LLC: Copyright 2022



#### Light Vehicle Sales vs. CI 5-7 Truck Sales





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#### Manage the Backlog Horizon...

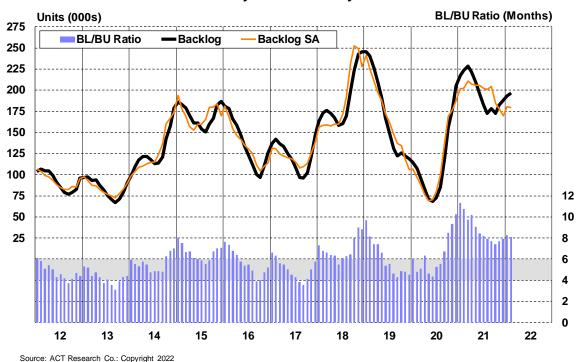


Source: ACT Research Co., LLC Copyright 2022

- Balancing BL/BU and fleet demand
- First y/y positive since May'21
- Strategy varies across the industry
- Concern about opening '23
  orderboard
- When will demand become the driving factor?



## Backlog...High, but Surprisingly Steady



#### Total Trailers Backlog & Backlog/Build Ratio January 2012 - February 2022

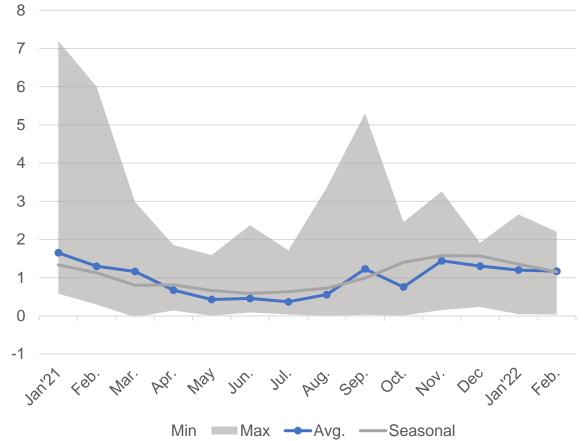
- 2018/19 vs last 17 months
- Order intake management
- Dry van to Thanksgiving
- Reefer into early December
- Vocationals shorter, but above norms
- Closing on CY23 boundary



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## Order Acceptance Band Tightening

- Order/Build Ratio
- Willingness to extend orderboard
- OEMs more consistent
- Strategy varies across the industry
- Initial March input...BL will grow for 5<sup>th</sup> straight month
- March "long month"
- BL/BU approaching Christmas





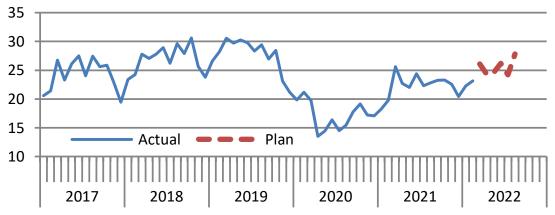
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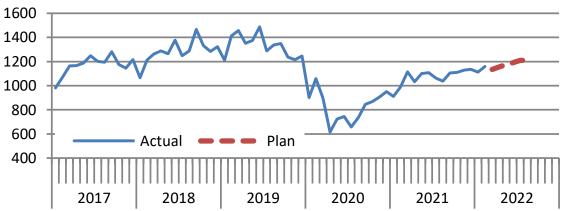
### **Build Rate Ramp-Up Remains Elusive**

- Mid-yr '22 upd 17% below '19 peak
- Slow growth
- Labor and supply chain
- Labor reported less challenging
- Added capacity on board later in '22 and into '23

#### **Build - Total Trailer Monthly Units in 000's**

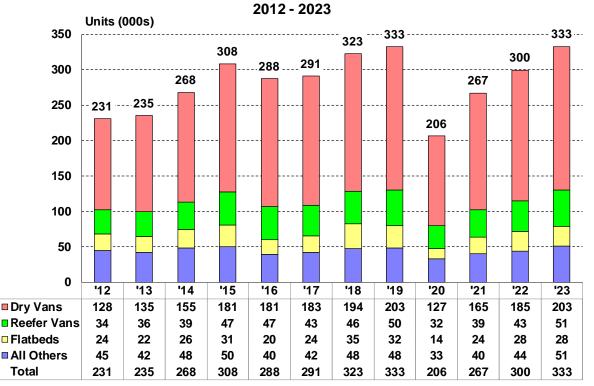


**Build - Total Trailer Units per Day** 





### **April'22 OUTLOOK Forecast**



**U.S. Trailer Production** 

- 2021 adjusted for annual re-base
- Seasonals are also updated
- Red tags remain a challenge
- Several vocational trailer categories upgraded slightly from March'22
- Box trailers continue strong
- Note record 333k forecast for '23
- Production ramp remains challenging
- Demand dramatically exceeds supply
- Upcoming capacity growth



# THANK YOU

**Presented by Penske Transportation Solutions** 





