

# Current State of the Used Car Market: Inventory & Valuation

Russ Walsh: Ally Financial

July 14, 2021

A large, stylized graphic of the letter 'A' in a dark purple color. Inside the upper curve of the 'A' is a white circle containing the Ally logo.

**ally**  
do it right.

# Ally Auto Valuations

---

- **The Ally auto residual valuations team was formed in 2010 to leverage advanced analytics to set lease residuals and optimize remarketing proceeds**
- **Team is a blend of individuals with business, mathematical, and technical skills**
  - > **Majority have a financial services or automotive background**
  - > **Approximately half have an advanced math degree (math, economics, statistics, etc.)**
  - > **Approximately one fourth have engineering or computer science degrees**
- **Team leverages 100+ different Ally and industry data sources to create a robust view of all vehicles**
- **Statistical models serve as backbone for key decisions and views; editorial process allows for model enhancements based on vehicle features and performance**
  - > **Residual model is the cornerstone for evaluating current, future, and past vehicle values**
  - > **Ally Index developed to quantify the exogenous impact of used vehicle values**
- **Ally's vehicle valuation is more accurate than other industry models**
  - > **Ally's error rate is 30%-50% closer to market trends than biggest competitor**

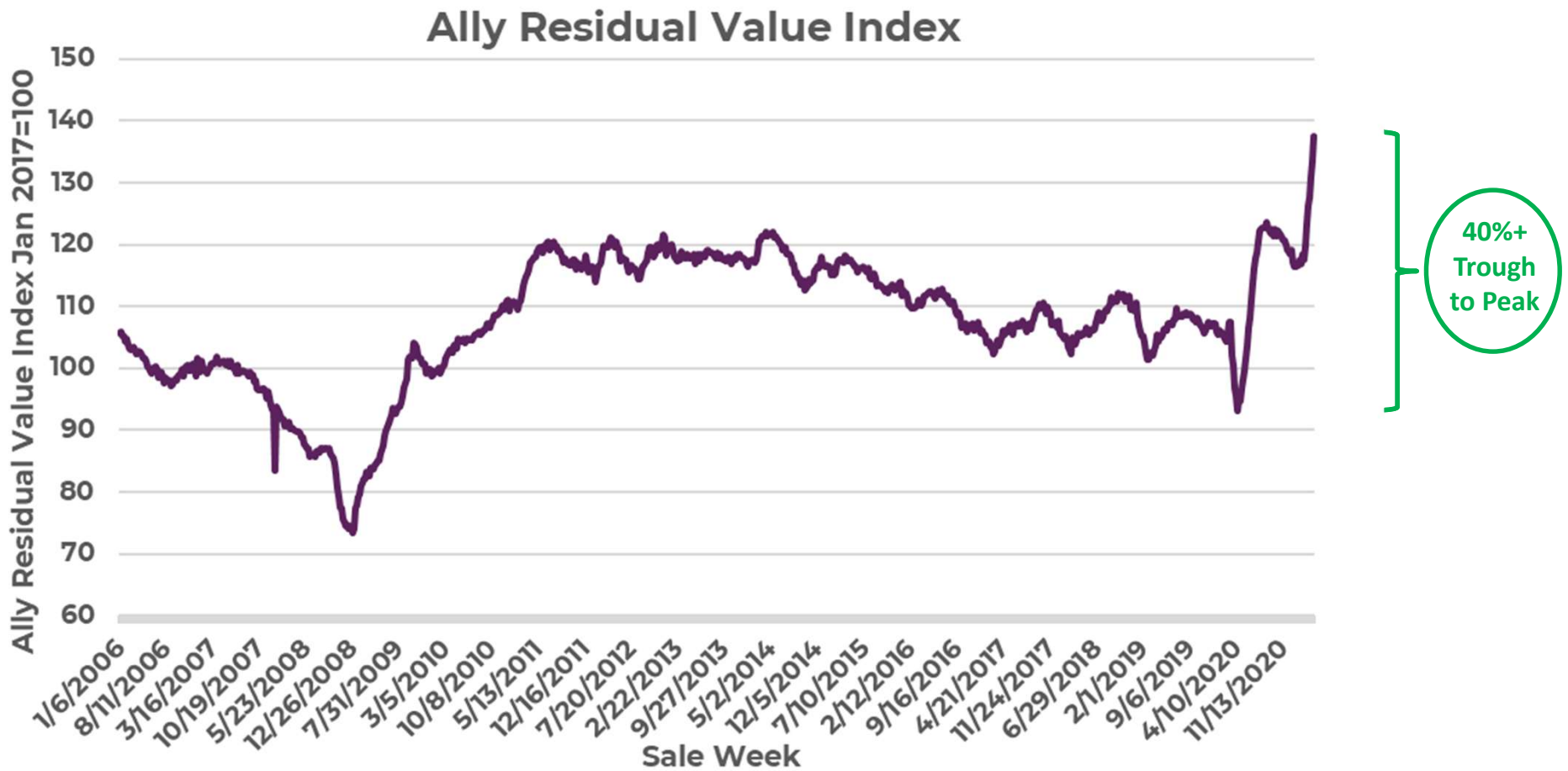
# Overview Ally Used Car Index

---

- **Weekly Physical Auction Index captures sales proceeds of US all vehicles (including non-Ally vehicles) at physical auctions**
  - > **Index measures the exogenous impact to used vehicle values controlling for: for age, vehicle mix, mileage, and seasonality**
- **Data**
  - > **85+ million vehicle transactions at auction from 2000-2017**
  - > **Auctions from members of NAAA including ADESA and Manheim**
- **Methodology**
  - > **Statistical model (ordinary least squares regression)**
    - **Model explains 85% of the variation in used vehicle values with an error rate of 3-4%**
  - > **There are seven variable types: Age, Mileage, Seasonality, Segments Factors, Vehicle Types, Economic Indicators, Production Cycle Information**
  - > **Data is normalized via the statistical model and indexed to January 2017**
  - > **Index focuses on the exogenous trends of 2 to 4-year-old vehicles**

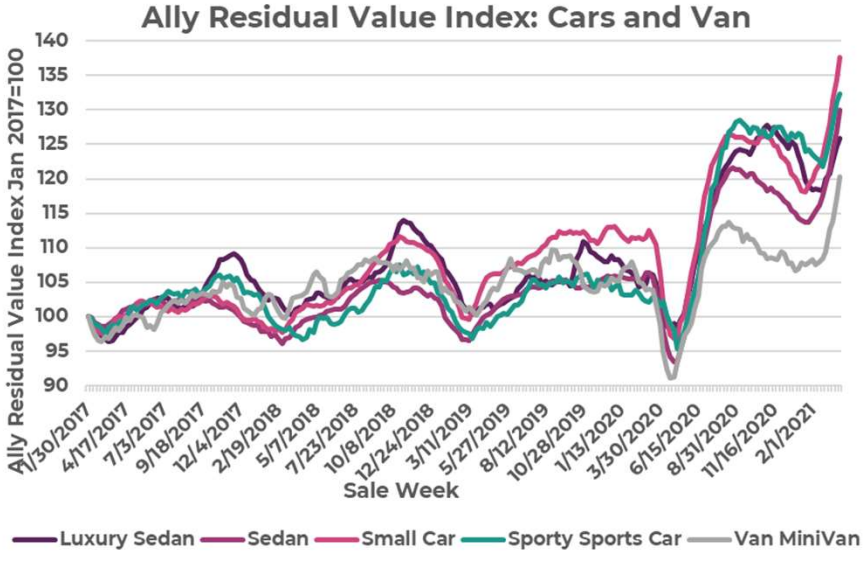
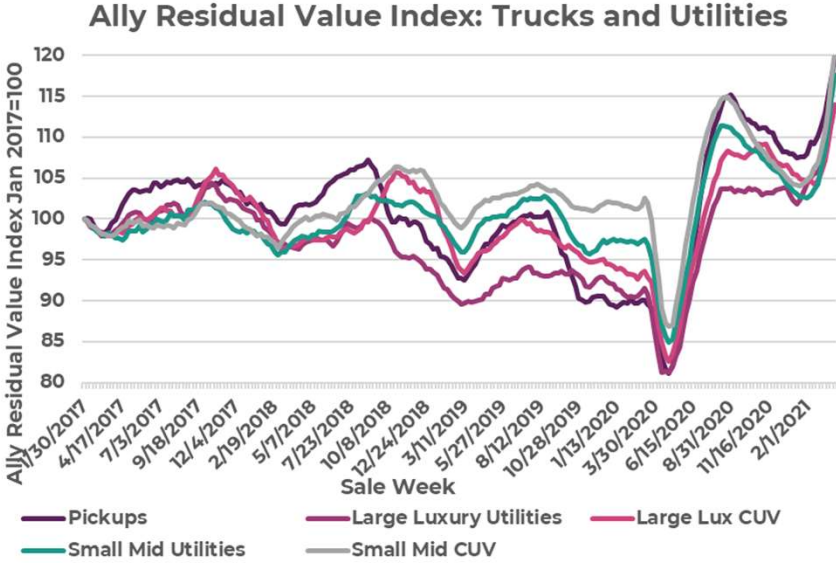
# Ally Used Car Index

Used Car Values have Rebounded from 2020 Lows and are at All-time Highs



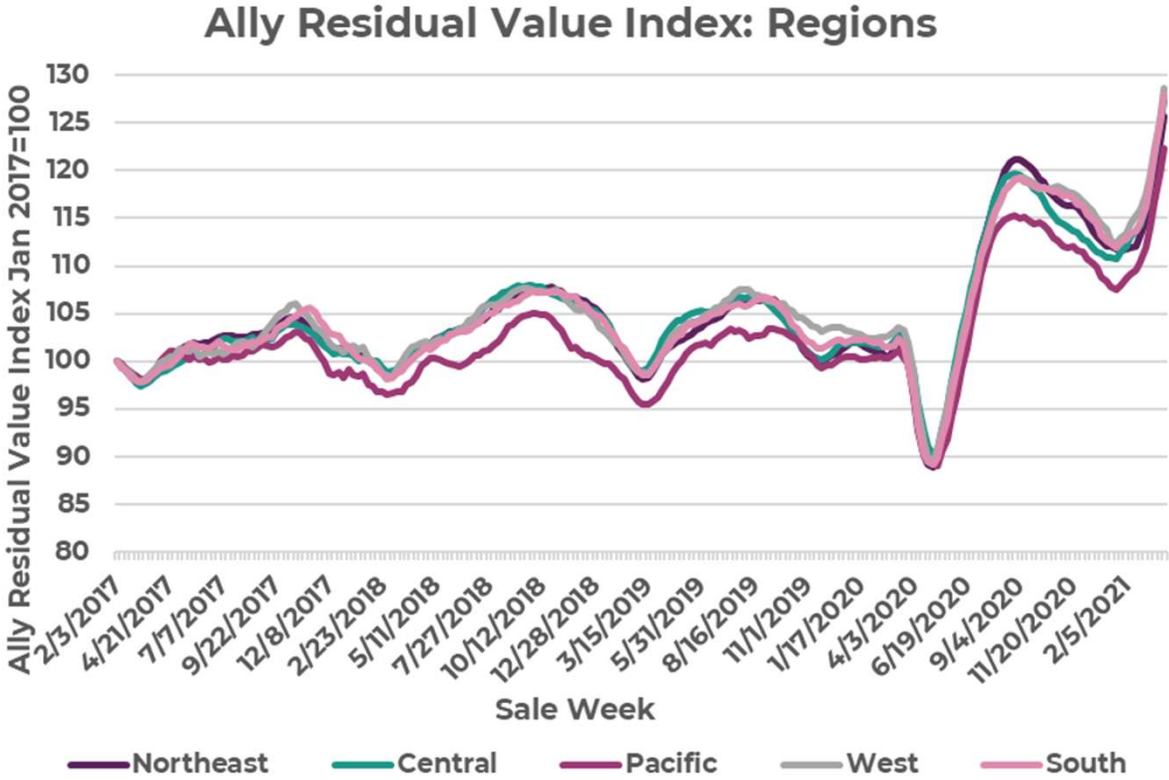
# Used Car Values by Segment

Values Peaking Across All Segments



# Used Car Values by Region

All Regions Seeing All-time Highs



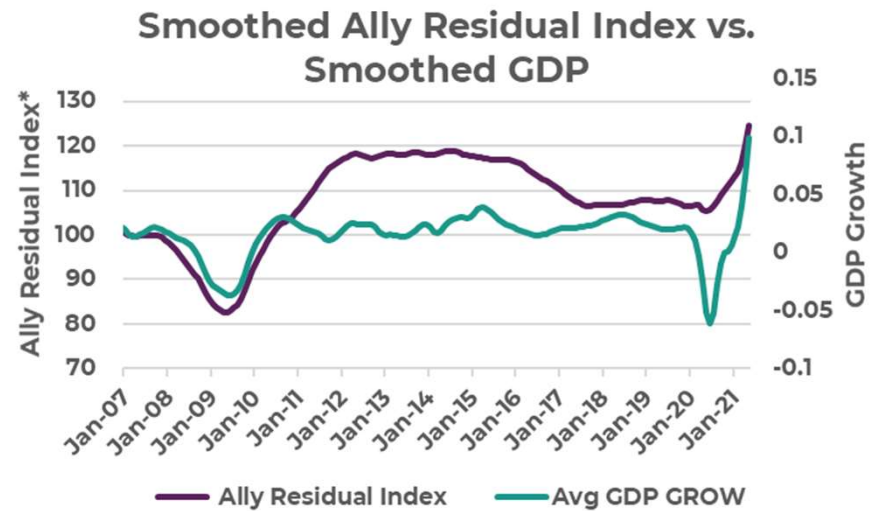
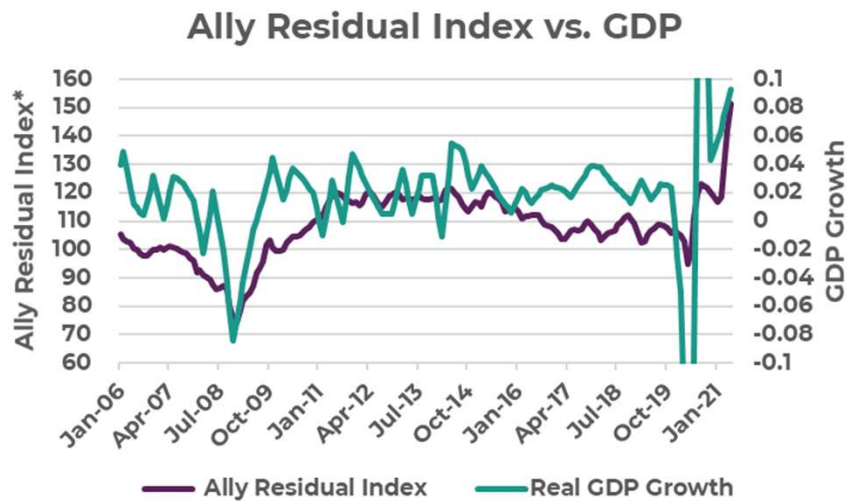
# Used Car Value Drivers

---

- **Historically models focused on demand driven drivers:**
  - > **GDP**
  - > **Unemployment**
  - > **Gas Prices**
- **Supply drivers historically viewed in fleet and lease new car sales mix**
- **Past 15 months have shown market disruptions (shutdowns, stimulus, and new car supply) can have a major impact on used car values**

# Demand Drivers: GDP

GDP has a Positive Correlation to Used Car Values

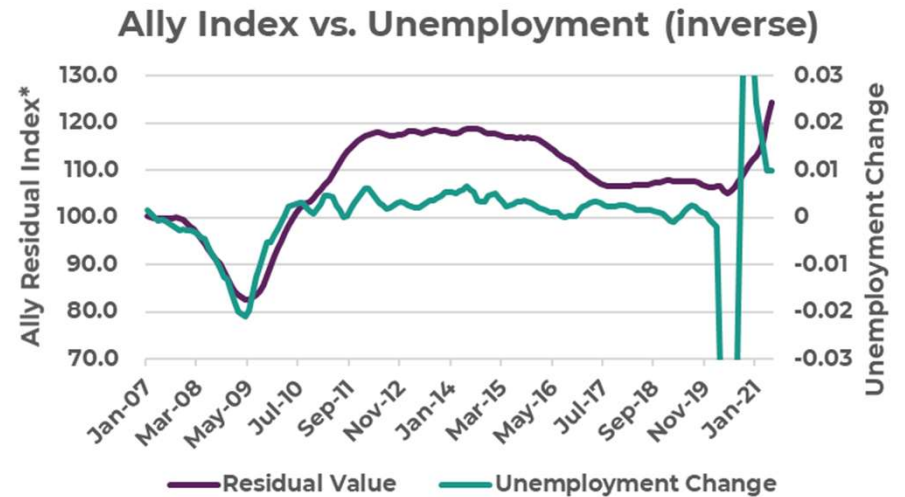
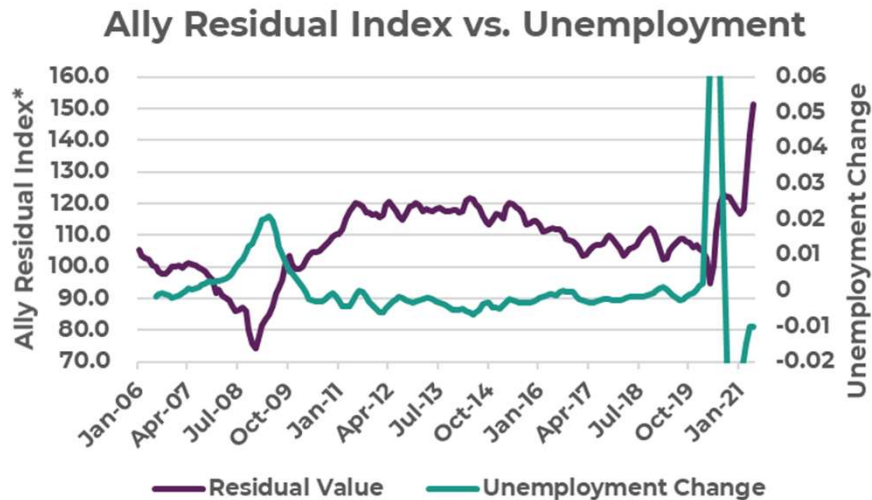


- COVID 19 shocks to GDP were not as impactful on used car values due to government stimulus being widely available



# Demand Drivers: Unemployment

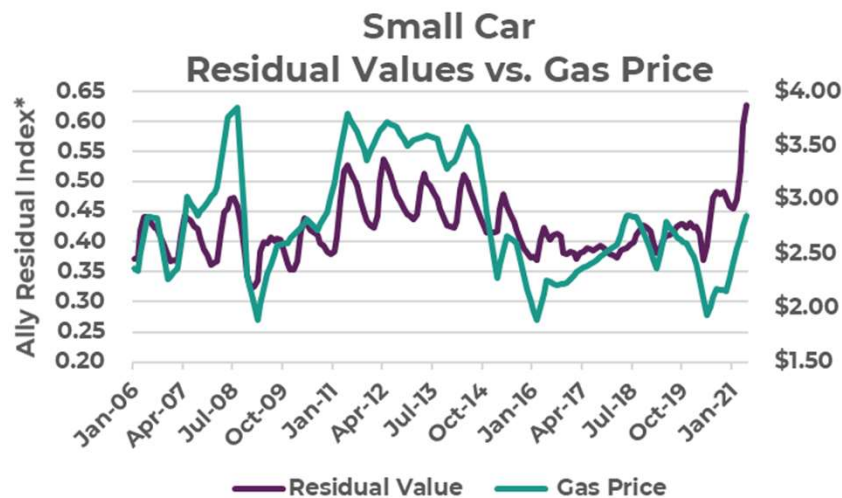
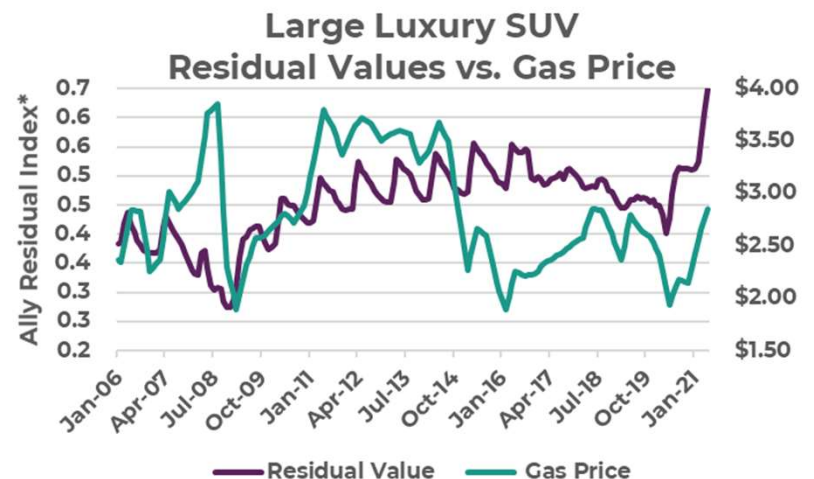
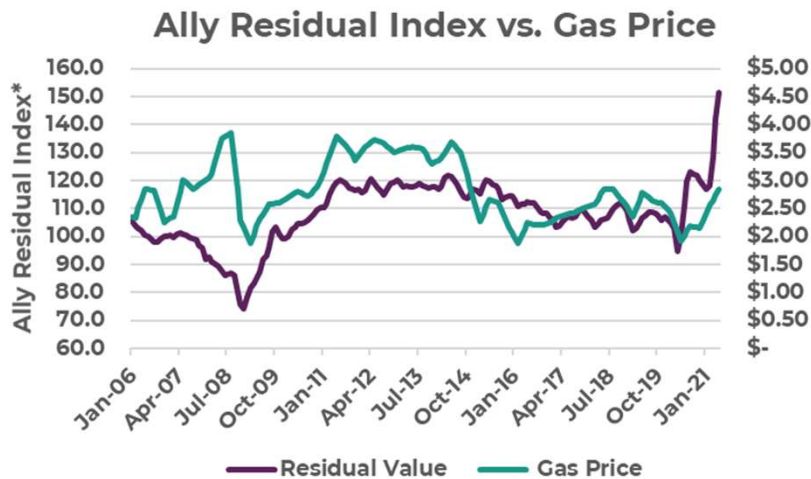
Unemployment has a Negative Correlation to Used Car Values



- COVID 19 shocks to unemployment were not as impactful on used car values due to government stimulus being widely available as well as changes in consumer spending habits

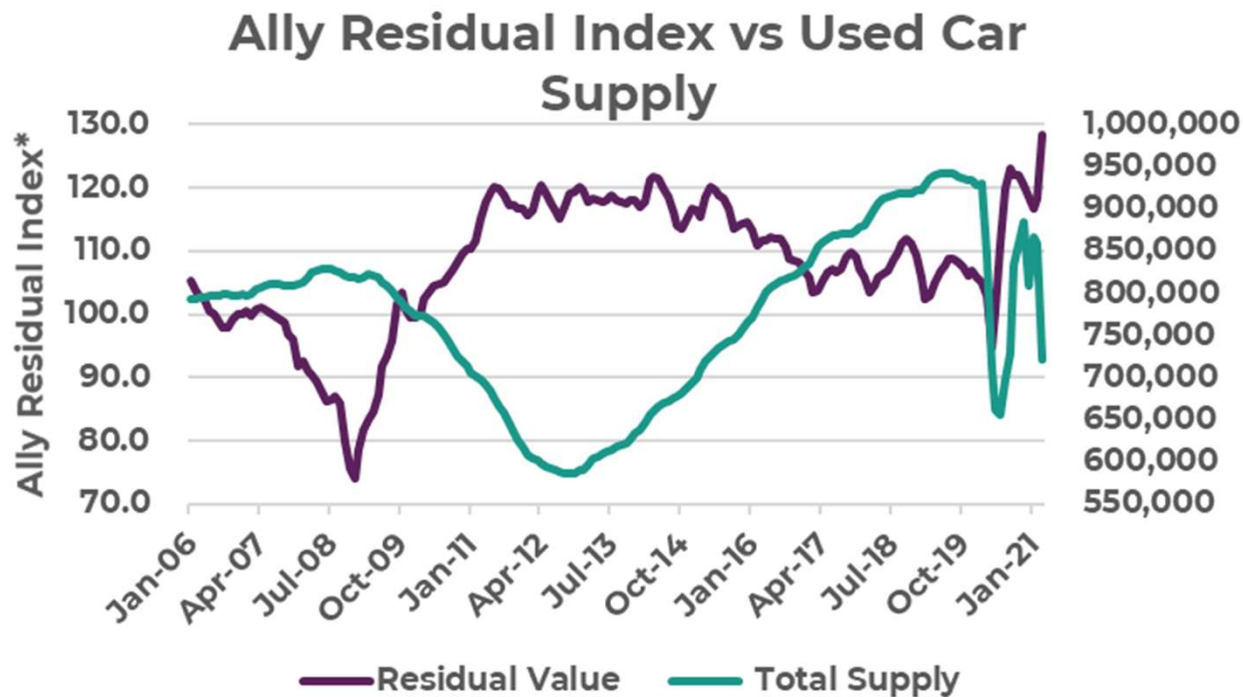
# Demand Drivers: Gas Prices

Gas Prices Have Differential Impacts on Segments: High Gas Prices Benefit Small Cars But Disadvantage SUVs/Trucks



# Supply - Impact

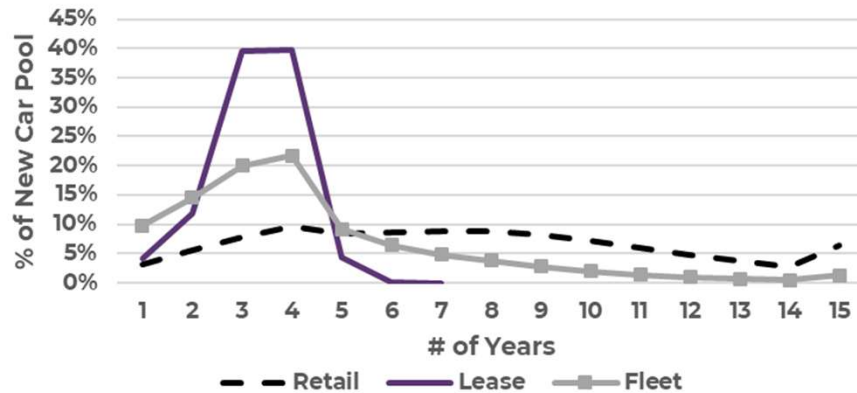
Recent Disruptions to New Vehicle Production Have Increased Used Car Values



# New Car Sales Impact on Used Car Supply

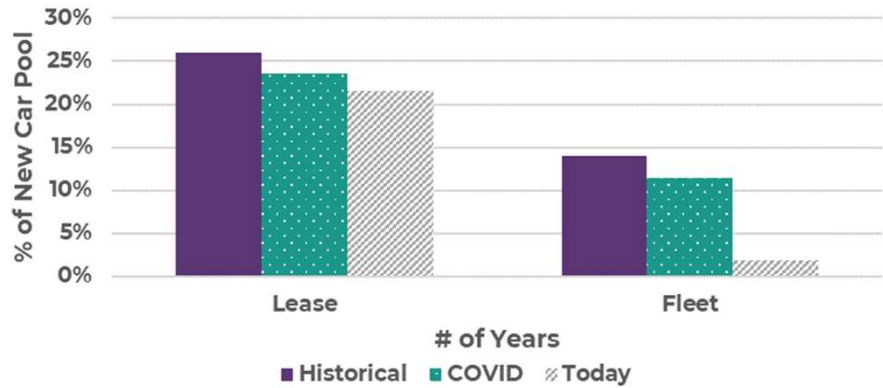
New Fleet and Lease Sales Return to Used Market Much Faster Than Retail with 70%+ of Those Vehicles Entering Used Market within 4 Years

Distribution of Vehicle Return Timing (Year) by Segment



\*Source: Residual Value model Gen 3

Fleet, Lease and Retail New Car Sales Distribution

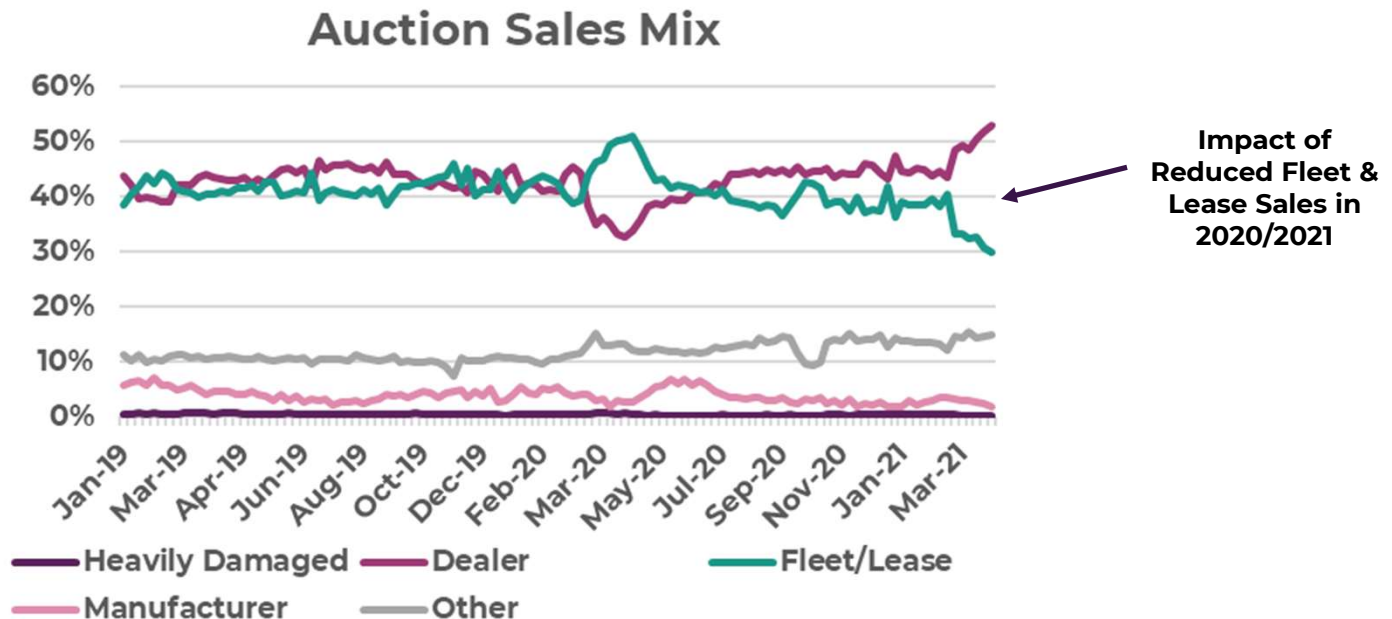


\*Source: IHS

- **Timing of when a new car turns into used car supply depends on the segment the vehicle was purchased in**
  - > On average, leases return to the used car market in 3.3 years
  - > Fleet units are the most likely to be in the marketplace in Year 1
- **Historically, fleet and lease totaled nearly 40% of the new car sales; today they are closer to 25% of new car sales**

# Used Vehicle Auction Market Mix

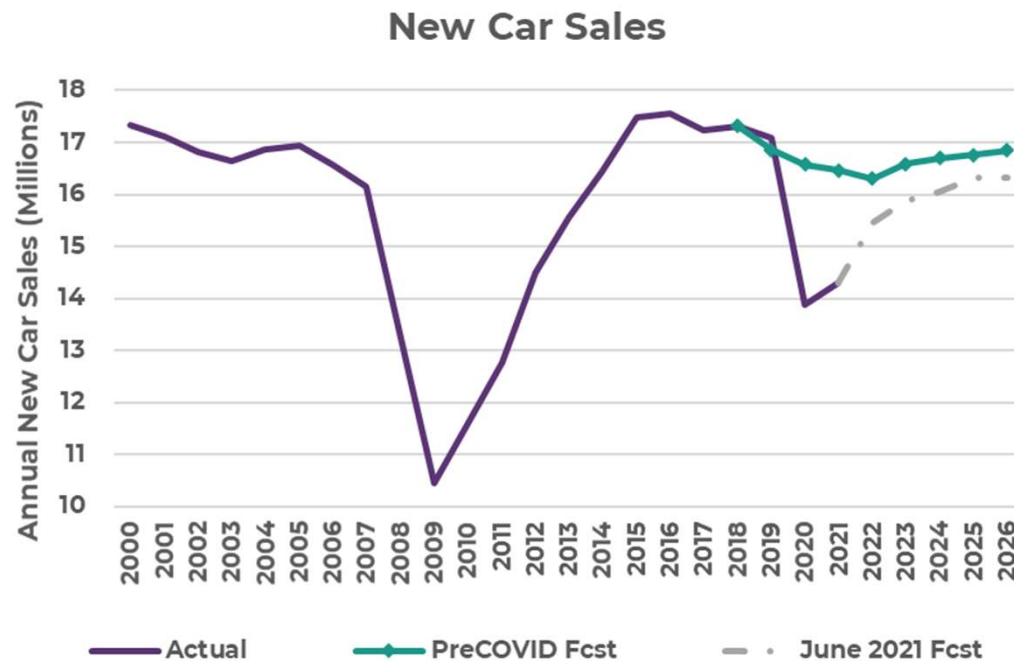
Lower Fleet and Off-lease Vehicle Sales Running Through Auctions



- With the recent micro-chip supply shortage, off fleet and off lease vehicle volumes have dramatically decreased at auctions
- With few other options available for clean cars, dealer sales have taken up a growing majority of US auction sales
- In today's low-supply environment rental car companies have become net purchasers of used cars versus historical sellers

# Chip Shortage Implications

Chip Shortage Likely to Reduce 2021 New Vehicle Sales by over 1 Million Units

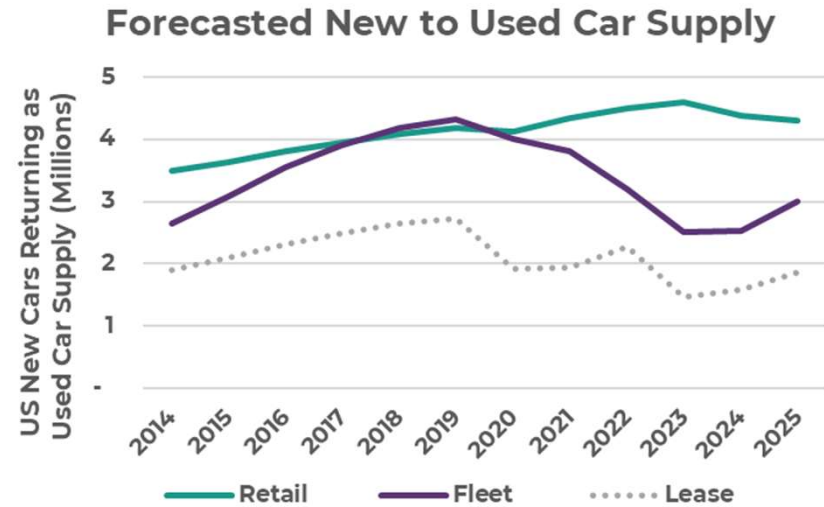
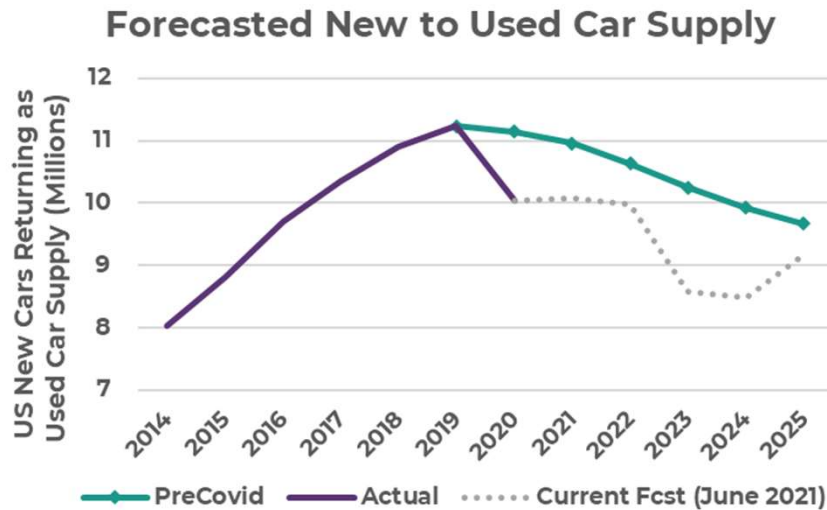


\*Source: IHS Automotive

- The microchip shortage has caused disruptions to new vehicle inventories worldwide
- Current industry forecasts anticipate that despite challenges in sourcing new vehicle supply that new car sales will rebound in 2021, but will not fully recover for the next few years

# Used Car Supply Implications

Used Car Auction Sales Expected to be Lower by 1-2 Million Units Versus 2018/2019 Levels



- Leveraging new car sales trends and disruptions from de-fleeting activity, future used car supply sales can be calculated
- All scenarios show a lasting decline in used car supply for the next 4-5 years

# Financial Impacts

---

- **High Used Car Prices Driving:**
  1. Increased Off-Lease Remarketing Gains on Sale
  2. Lower Lease Depreciation Expense
  3. Lower Severity on Retail Charge Offs and Lower Frequency
  4. Higher Residual Values on New Lease Originations
- **Customer Benefits:**
  1. Ability to Exit Vehicle in a Positive Position Prior to Collection Action
  2. Lower Deficiency Balances on Repossessions
  3. Ability to Exit Lease Early and Avoid Owed Payments / Mileage / Wear and Tear
  4. Lower Prices on New Car Leases