

>2017 USED CAR MARKET REPORT



22ND EDITION



A COX AUTOMOTIVE™ BRAND



2017 USED CAR MARKET REPORT

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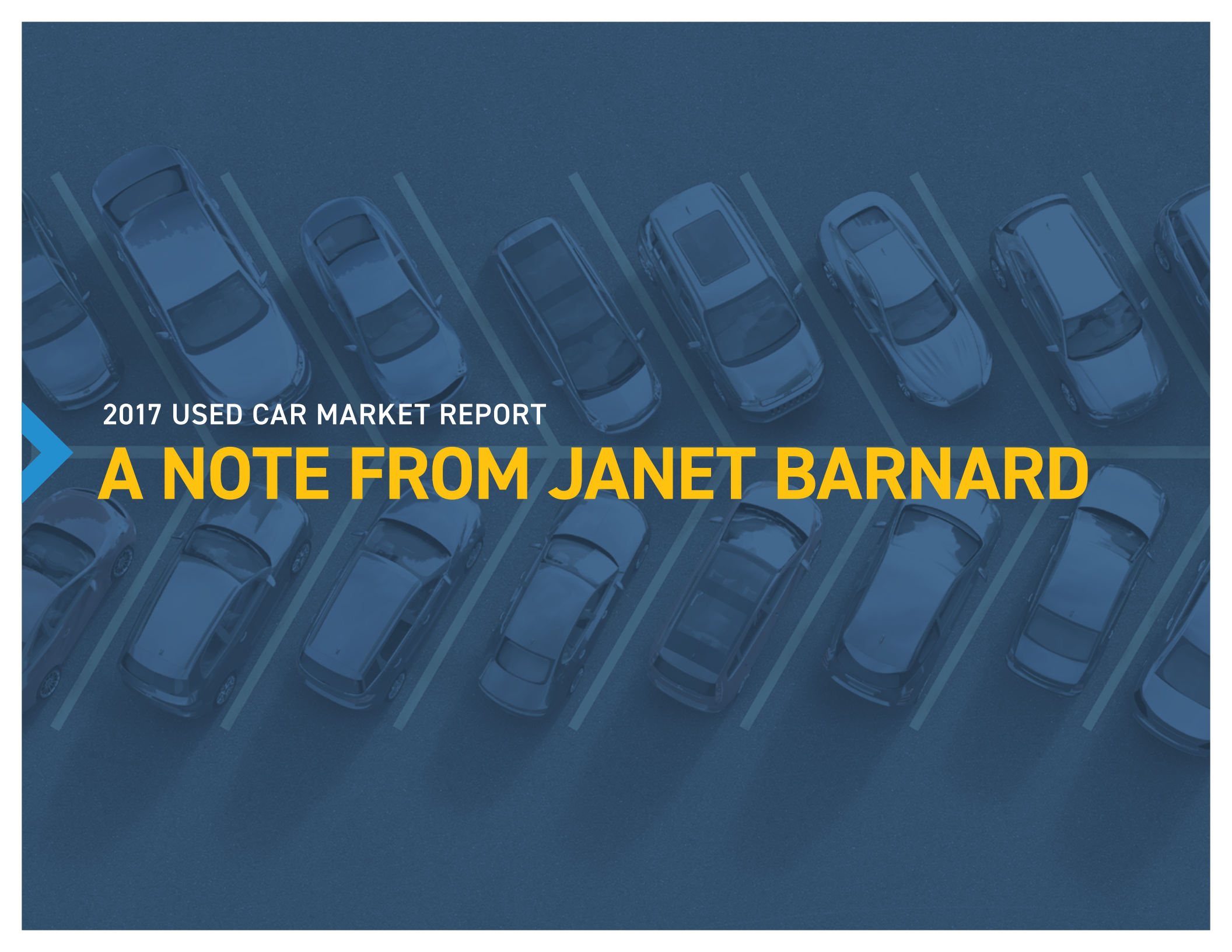
38 RENTAL Total rental car industry revenue rose again from \$27.1 billion in 2015 to \$28.4 billion in 2016. The number of vehicles purchased by rental companies increased from 1.75 million to 1.82 million.

46 LEASING New retail consumer lease originations grew to 4.4 million units in 2016, and off-lease volumes were 18 percent higher than CPO sales.

54 REPOSSESSIONS The amount of auto loans outstanding is at a record level of \$1.1 trillion, and the total number of auto loans has grown by more than 30 percent in the past five years.

60 FLEETS New vehicle purchases by commercial and government fleets went up 6 percent in 2016, the seventh consecutive yearly increase.

64 INTERNATIONAL Global new vehicle sales are estimated to have grown to 90 million units in 2016, and China continues to lead global sales with 25 million vehicles sold in 2016.

An aerial, top-down view of a parking lot filled with cars. The cars are arranged in rows, separated by yellow parking lines. The entire image has a blue tint. A blue arrow graphic points from the left towards the text.

2017 USED CAR MARKET REPORT

A NOTE FROM JANET BARNARD



As Manheim evolves from being primarily a wholesale vehicle auction operation to the industry's leading provider of inventory solutions, our goal is to be unstoppable in delivering value-added experiences—to every client, every time. Our team is committed to ensuring that doing business with us becomes faster, easier, and more rewarding to you.

Looking ahead, we pledge to:

- » **Partner with clients to help you thrive.** Our comprehensive wholesale and retail solutions are designed to help dealers maximize value at auction and deliver retail-ready vehicles to their lots. Plus, we are able to leverage the power of Cox Automotive's 25-plus brands on your behalf.
- » **Invest in facilities, technology, and our people to strengthen the services we deliver via our network of 127 physical and mobile sites and 24/7 online marketplace.** We are creating a seamless experience regardless of sales channel, making improvements that produce efficiencies and time savings so you can focus on your customers.
- » **Provide real-time data, insights, and richer information that will help you make better decisions.** This is especially critical as we all prepare for the record level of off-lease vehicles expected in the marketplace, and the speed you'll need to move inventory and capture greater sales opportunities.
- » **Empower dealers with tools to source and sell inventory more effectively, efficiently, and profitably.** For example, Manheim has achieved double-digit growth in digital remarketing transactions over last year's performance, and our clients are experiencing record-setting sales rates—averaging 70 percent—with mobile auctions.

To further support your needs, I invite you to examine the facts, statistics, and trends addressed in this 22nd annual edition of Manheim's Used Car Market Report. I'm confident you'll find its commentary and segment-focused sections can help you better understand factors that influenced our industry in 2016, what our Cox Automotive chief economist and others project for 2017, and actions you can take to navigate the road ahead.

And finally, to our dealer and commercial clients, I can't emphasize enough how much the Manheim team values your partnership. We look forward to building deeper relationships, identifying and correcting pain points, and empowering team members to improve our impact on your success.

Sincerely,

A handwritten signature in black ink that reads "Janet".

Janet Barnard
President, Cox Automotive Inventory Solutions

2017 USED CAR MARKET REPORT

YEAR IN REVIEW AND OUTLOOK

2016 HIGHLIGHTS

2.2
MILLION JOBS

The U.S. economy added 2.2 million jobs in 2016, and the **unemployment rate for college graduates was at 2.5 percent.**

1%

With **mortgage rates** set to rise by more than a point from all-time lows, the housing recovery may remain restrained and allow consumers to continue to take on more auto debt.



In the **automotive industry**, new vehicle sales continued at record highs, used vehicle sales accelerated, and **profitability grew** for most industry participants.



With the auto industry donning the larger mantle of “mobility,” there will be **large opportunities for innovators** in the coming years.

“History never repeats itself, but it often rhymes.”

I placed that quote on almost all of my title slides last year. And, indeed, 2016 often produced near perfect rhymes. 2017 will not—it will likely be a whole different poem.

Having 2016 be a lot like 2015 was not a bad thing, especially for the automotive industry. New vehicle sales continued at record highs, used vehicle sales accelerated, profitability grew for most industry participants, and past investments in technology and partnerships produced significant efficiencies while, at the same time, opening up opportunities for disruptors. But, what will 2017 bring?

THE CERTAINTY OF UNCERTAINTY

Forecasting, at its best, is not a simple declaration of the most likely scenario. Consider it instead the “assigning of probabilities to possibilities.” Such an exercise is particularly useful in explaining how our economic outlook changed after Nov. 8. Imagine a graph with possible economic growth rates along the horizontal axis and assigned probabilities on the vertical axis. After the election, the bell curve of probabilities was flatter and both tails were raised—the right side more than the left.

By definition then, the mean and median estimates for economic growth in 2017 were increased. Indeed, there is even the possibility the economy may overheat. Partly because of that, but more importantly because of the uncharted seas in which we sail with respect to global financial markets, the left-side tail of the bell

curve has also become fatter. Thus, that “unhealthy disregard for the downside risks,” which we noted last year, remains.

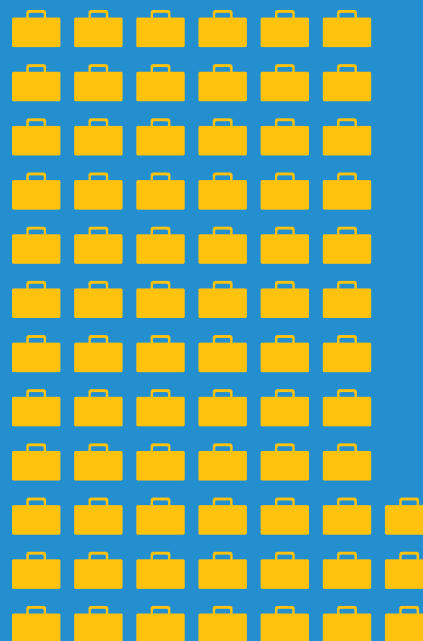
In subsequent sections of this report, we offer our thoughts on specific sectors of the automotive industry but, as an introduction, consider a few of the major economic tidal forces that we will be swimming either with or against in the coming years.

“FULL EMPLOYMENT,” NOT “ROBUST EMPLOYMENT”

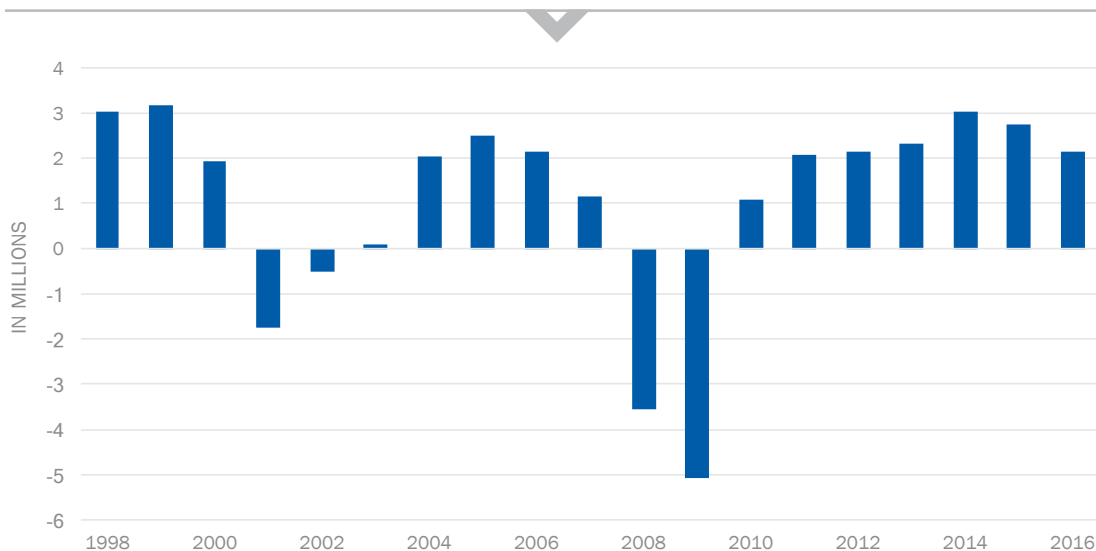
The headline above is the exact one we used last year—talk about rhyming! Total employment growth in 2016 was half a million less than in 2015 (2.2 million versus 2.7 million), but that was to be expected given the low level of unemployment (4.9 percent at the beginning

DID YOU KNOW?

In December 2016, U.S. employment grew for the 75th consecutive month—the longest streak on record.



EMPLOYMENT HAS GROWN BY 14.5 MILLION OVER PAST SIX YEARS



Source: Bureau of Labor Statistics

INITIAL JOBLESS CLAIMS



Source: Bureau of Labor Statistics

of the year and 4.7 percent at the end). And, for college graduates, the unemployment rate was a mere 2.5 percent. To be sure, the labor force participation rate hovers near 40-year lows (despite a small uptick recently); but much of that decline was structural and probably won't be significantly reversed under any economic environment.

Given the consensus forecast of slightly faster economic growth in 2017, low unemployment should spark the long-awaited acceleration in wages. If it is accompanied by an increase in labor force productivity (which has been abysmally weak in this recovery), the economic upturn will be sustainable. If not, the recovery will fizzle in 2018.

As noted in the credit section of this report, a stable labor market (even if it is a little lackluster) provides a good environment for the automotive industry in that it reduces the risk premium that lenders have to build into every deal. Initial jobless claims are currently at record lows, and the number of job openings per job seeker is at record highs. Little wonder then that, even as the dollar amount of auto loans outstanding increased 55 percent over the past five years, delinquency rates remain below historic norms.

MONETARY POLICY: WALKING THE TIGHTROPE

In December of 2015, the Federal Reserve raised the targeted federal funds rate by a quarter point. It was the first increase in nearly a decade. Even though it was a well-telegraphed move, and one that almost all analysts thought was justified, financial markets had a hissy fit as the dollar surged and emerging markets suffered capital outflows. Knowing that other central banks would continue to ease, it was believed that the United States' divergent policy would produce a stronger dollar, higher interest rates, and an environment that

would be a major headwind in 2016. The actual market response, however, defied Econ 101.

The yield on the benchmark 10-year Treasury was 2.33 percent when the Fed raised rates in December 2015. Soon afterward, however, market-determined rates went into a steady decline, with the 10-year yield hitting a record low of less than 1.4 percent in the summer of last year. Likewise, the dollar, which had appreciated some 22 percent against the Japanese yen between mid-2014 and mid-2015, actually weakened significantly in 2016 even as the Bank of Japan went to negative interest rates. Definitely not a textbook response and evidence that the “new normal” might better be described as “not normal.”

So fast-forward to December 2016—once again the Fed hiked rates by a quarter point. At the time, the yield on the 10-year was 2.4 percent. (Rates had moved up sharply after the election.) So will 2017 be another rhyming pattern to 2016 with respect to interest rates and exchange rates? Absolutely not.

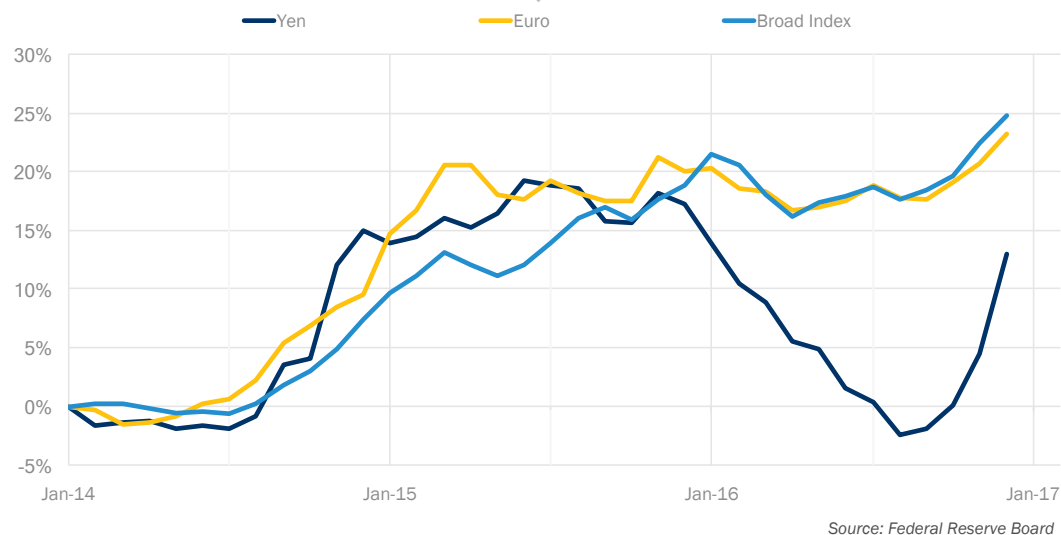
We do not expect to see another summer swoon in interest rates. Indeed, a three handle on the 10-year is totally plausible. But what does that mean for new and used vehicle sales and wholesale values? Probably not that much. Remember the industry truism: “The availability of credit is more important than the cost of credit.” The recent steepening of the yield curve will help financial institutions and promote lending. And, more importantly, the auto loan securitization market will likely still offer one of the better risk-adjusted returns for investors.

We are, however, still left with a domestic monetary policy that is diverging from the rest of the world. As such, exchange rates and capital outflows from emerging markets could once again prove destabilizing.

10-YEAR TREASURY CONSTANT MATURITY RATE (DAILY)



PERCENT GAIN IN U.S. DOLLAR FROM JANUARY 2014



HOUSING: MORE RATE-SENSITIVE THAN AUTOS

Once again, we feel compelled to note the state of, and outlook for, housing in this review. Why? Because housing and autos are the two most important sectors of the economy, they respond to the same fundamental economic forces, and up until this recovery, they tended to move in lockstep.

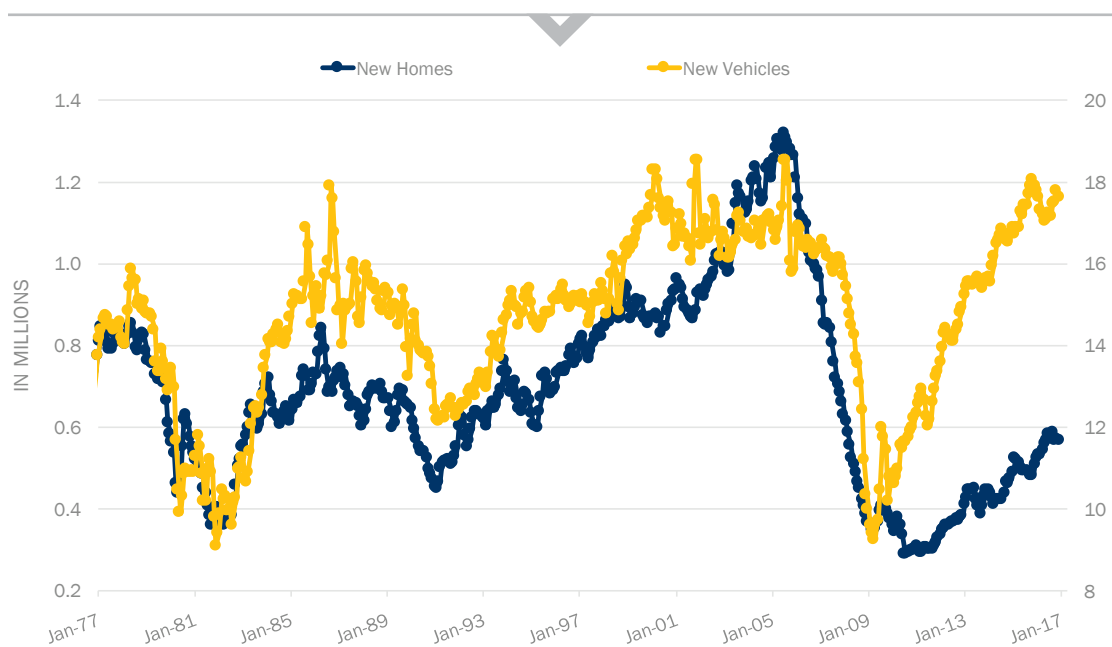
A more robust rebound in housing during this recovery would have meant significantly better overall growth and personal income, but it might not necessarily have been better for the retail

automotive markets. Although these two industries have been complementary for decades, they appear to have taken on more of a substitution role recently. For example, there is no way that households could have taken on a 55 percent increase in auto loans outstanding over the past five years if mortgage obligations were also quickly rising. (In fact, mortgage debt outstanding declined slightly during this period.)

As we enter the later stages of this recovery, it is important that housing make a more significant contribution; but at the same time, the auto industry can ill afford a wholesale shift in consumer debt originations. With mortgage rates set to rise

by more than a point from all-time lows (and with no significant shift in mortgage lending standards), we suspect the housing recovery will remain restrained and allow consumers to continue to take on more auto debt. Housing will, however, grow faster than autos in 2017 due to greater pent-up demand for homes and a cost-to-rent versus a cost-to-buy equation that increasingly favors the latter. Downpayment requirements and mortgage lending standards will keep the growth in check. If there is a wild card, it would be commercial real estate, where there is always a large amount of debt that needs to be continually rolled over, and at a cost that may exceed current expectations.

NEW VEHICLE SALES VS. NEW HOME SALES
SAAR, 3-MONTH AVERAGE



Source: U.S. Census Bureau & Automotive News

DID YOU KNOW?

Vehicle listings with **condition information** are up to **3 times** more likely to sell.

A WORLD CONNECTED BY CONFLICT AND CAPITAL

Again, the above is more than rhyming—it's a three-peat—as it has now been the subhead for three years running. On the capital side, the stress in 2016 was less than anticipated as U.S. monetary policy remained accommodative and central banks worldwide managed their individual situations well. As a result, exchange rate movements and emerging market capital flows were not disruptive. On the geopolitical side, however, the situation worsened—Syria devolved from civil war to genocide, terrorist attacks increased worldwide, some economies collapsed (most notably, Venezuela's), sudden regime changes occurred in totalitarian countries, and major political shifts occurred in democratic ones.

Yes, times are unsettled. We could be accused of "crying wolf" since pressure from international markets has failed to upset the slow and steady growth in the U.S. in recent years; but as the saying goes, "In the end, there was a wolf." China remains the big wolf with respect to the health of global markets. With a debt load that has increased from 150 percent of GDP in 2008 to 300 percent today, China, in simple terms, is a \$10 trillion economy sitting on top of \$30 trillion of debt—and not just any debt, but debt that in many instances is totally unproductive. For example, it has new—but empty—factories, apartments, and entire city infrastructures, as well as new debt simply used to keep old debt "performing."

AUTOS: DRIVING AHEAD

Despite the cautionary note above, the outlook for the auto industry remains positive. Given the variety of businesses that make up the automotive ecosystem, and with each responding differently to the various fluctuating forces of the normal business cycle, it is rare that everyone becomes aligned and can say simultaneously, "Wow, it's been a good year." 2016 was such a year. More importantly, that success was built on providing long-term value, not the building-up of short-term excesses, or bubbles. To be sure, record new vehicle sales will soon be a thing of the past; but used unit growth will not. And, with the auto industry rightfully donning the larger mantle of "mobility," there will be large opportunities for innovators.

So, as we look to the future, our advice to our friends would be "prepare for volatility, enjoy today's calm, relish having maximized returns during the recovery, and remain agile and liquid to capture the coming opportunities."

2017 USED CAR MARKET REPORT

REMARKETING INDUSTRY OVERVIEW

2016 HIGHLIGHTS

10
MILLION

National Auto Auction Association member sales approached 10 million in 2016.

28%

Wholesale prices overall have been stable over the last four years; but when broken down, the **wholesale prices for pickups** have risen 28 percent in the past four years.

14%

Wholesale prices for compact cars have fallen 14 percent in the past four years.

**MILEAGE
DECLINE** ↘

The **average mileage for all vehicles sold at auction** continues to fall from the peak reached in 2013.

**4TH QTR
DECLINE** ↘

Wholesale prices slowed down in the final quarter of the year, meaning December ended with a year-over-year decline of 0.6 percent.

PAST INVESTMENTS PAY OFF

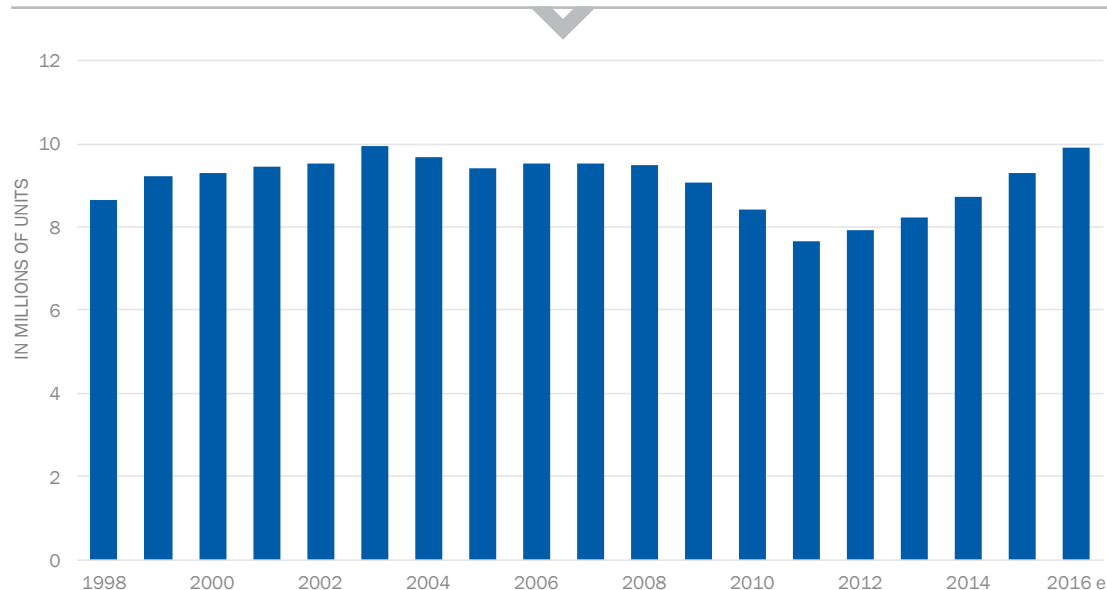
For the remarketing industry, 2016 confirmed the wisdom of past investments in technology, partnerships, and organizational restructuring. The industry was able to scale efficiently. So, although commercial consignment surged, dealer consignment was not pushed aside as it so often was in past cycles. Technology enabled many of the efficiencies and the ability to offer new solutions to enhance customer service; but a record number of stop sales also showed the wisdom of not ignoring outlays for basic, old-fashioned stuff, like asphalt.

In 2016, the various members of the remarketing ecosystem—from logistics providers to web-based marketers, to customer relationship managers, DMS providers, and funding sources—were better able to provide what dealers have been clamoring about for years—seamless integration and the flexibility to use the specific tools the dealer desires. To be sure, there is much more progress to be made; but it is clear the remarketing industry is quickly moving in the right direction.

WHOLESALE VOLUMES CONTINUE TO GROW

The National Auto Auction Association estimates that member auction sales rose 6 percent to 9.9 million units in 2016. (The final tally will be reported in the first quarter of 2017.) The association further forecasts that volumes will continue to grow in 2017 and 2018 as a result of strong retail activity keeping dealer consignment volumes high and the past growth in new lease originations, finance contracts outstanding, and business fleet purchases creating higher commercial consignment.

NAAA MEMBER AUCTION VOLUMES



Source: NAAA annual survey

Total wholesale transactions in a given year are more than twice the NAAA-member volume. Other channels include direct sales between dealers (sometimes with a wholesaler as an intermediary), commercial accounts selling directly to dealers or retail customers, and non-NAAA-member auctions. Despite the large volume in the other channels, it is the real-time, competitive-bid

price discovery in the auction channel that serves as the benchmark for pricing in the other venues.

The individual chapters of this report will detail the future volume and remarketing challenges in the various consignor segments. Clearly, however, the biggest growth in wholesale supplies in future years will come from off-lease units.



DID YOU KNOW?

3 of 4 automotive sales in the U.S. involve a used vehicle.

REMARKETING VOLUMES

(in millions of units)	TOTAL WHOLESALE SUPPLY	TO AUCTION (includes online, off-site auctions not to grounding dealer and non-NAAA-member auctions)	AUCTION SHARE
Dealer wholesale units	13.64	6.83	50%
Off-rental units	1.75	0.90	51%
Off-lease units	3.13	1.50	48%
Repossessions	1.65	1.32	80%
Other*	1.40	0.75	54%
TOTAL	21.57	11.30	52%

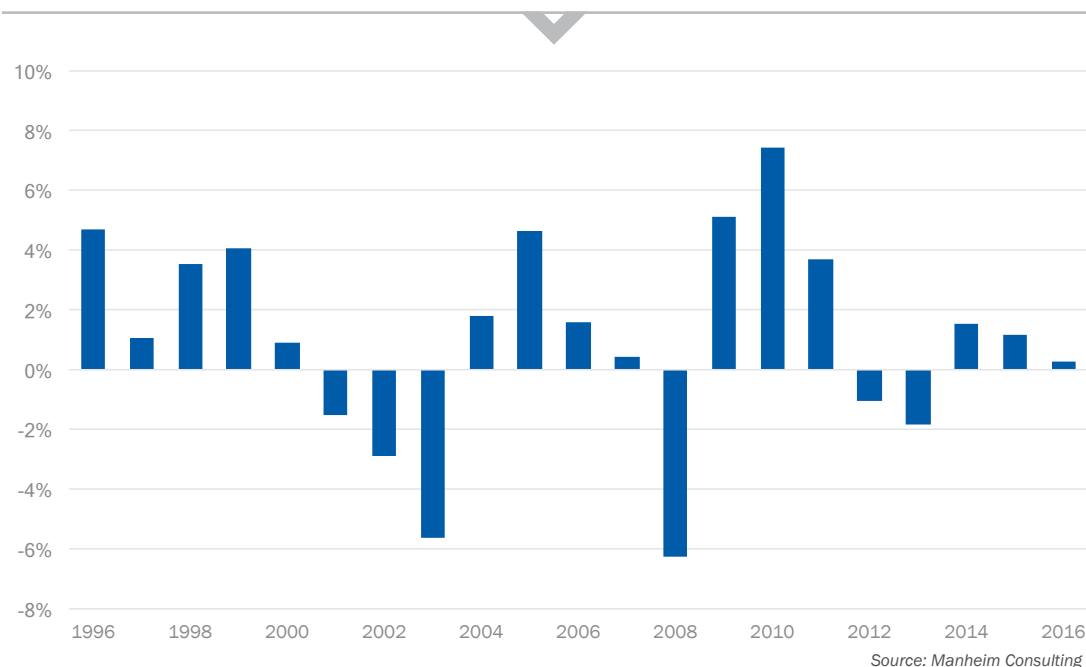
*Other includes commercial and government fleet, company cars, and some Canadian vehicles

Source: Manheim Consulting

WHOLESALE PRICING STARTS TO EASE

Wholesale prices (mix-, mileage-, and seasonally adjusted) increased in both 2014 and 2015 and, on an average annual basis, even eked out a small gain in 2016. However, a decline in wholesale pricing in the fourth quarter meant that December ended with a year-over-year decline of 0.6 percent.

What has been most notable about wholesale pricing in recent years has been the stability. After a surge in pricing in 2009 and 2010 coming out of the recession, the absolute year-over-year change in pricing was less than 2 percentage points in each of the last six years. Statistically speaking, this period has shown the least volatility in wholesale vehicle pricing since the Manheim Index's inception in 1995. A lot of macroeconomic and industry factors contributed to that stability; but also give credit to better and more efficient remarketing practices, which enabled commercial consignors to anticipate, respond to, and thus, minimize impending swings in wholesale pricing.

MANHEIM USED VEHICLE VALUE INDEX
PERCENT CHANGE ON ANNUAL AVERAGE BASIS

Source: Manheim Consulting

SUPPORTING DEALERS FROM GAVEL TO FRONT LINE

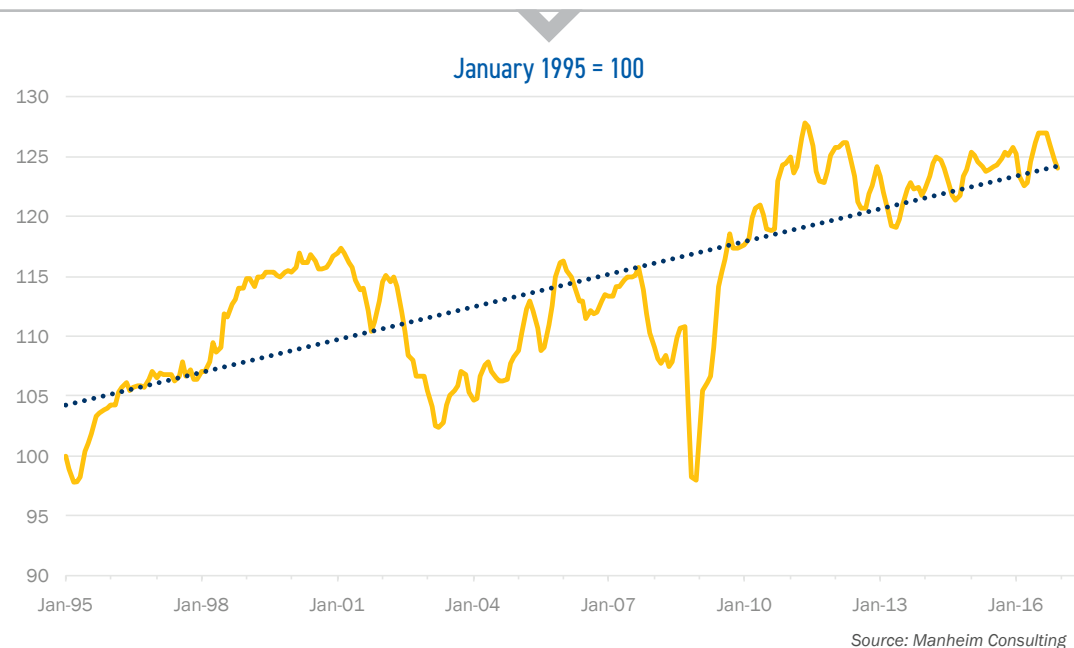
The ultimate goal of the remarketing industry is to support dealers in their interactions with consumers, the lifeblood of the system. This has never been more important than it is today, when dealers are more stretched for time and resources than ever before.

Increasingly, systems and products are being created and refined with the purpose of providing dealers as much support as possible throughout the remarketing process. For example, Manheim's Retail Advantage product helps dealers improve efficiency and cut down on the time they spend managing inventory from the gavel to the front line.

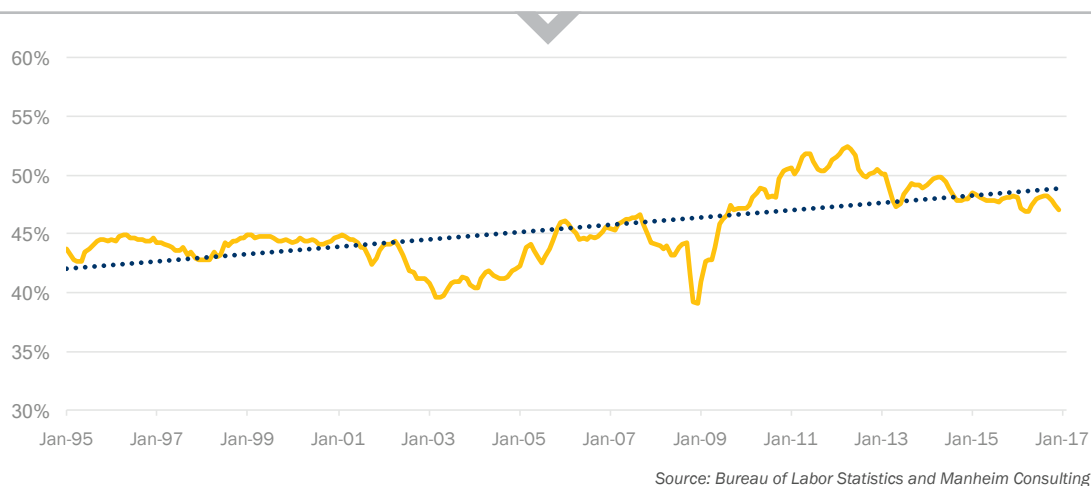
Retail Advantage can support dealers in a number of ways, including:

- » Identifying inventory
- » Providing a complete mechanical and cosmetic inspection
- » Preparing a comprehensive estimate to guide the dealer's reconditioning investment
- » Completing the requested mechanical and cosmetic reconditioning
- » Supporting imaging and merchandising efforts
- » Arranging the transportation of completed, retail-ready vehicles to the dealer's location

MANHEIM USED VEHICLE VALUE INDEX



MANHEIM INDEX VS. MIX AND QUALITY-ADJUSTED NEW VEHICLE PRICE WITH 3.5-YEAR LAG



Wholesale pricing started 2016 with less of a spring bounce; but probably as a result, there was less of the summer swoon in prices. Wholesale prices declined in the final quarter of the year—due partly to higher wholesale supplies and partly to a more aggressive incentive spend in the new vehicle market. Given that the captive lessors have a residual exposure on some 10 million lease contracts outstanding, it is important that they balance future new vehicle volume objectives against the potential impact on used vehicle values.

Analysts should remember that, although the Manheim Index is mix-adjusted, it does not account for overall inflation in new vehicle pricing or the shift to higher trim levels. As such, the Index will show an upward movement over time, and it is not inconsistent for the Index to be “up” even as commercial consignors report less-than-satisfying end-of-term lease residuals or lower repossession recovery rates.

For those perspectives, it is better to look at the Index relative to its trend or in relation to a host of current and past new vehicle price measures. On those scales, wholesale pricing has shown some easing, but remains well within historic norms.

PICKUP PRICES KEEP RISING

Although overall wholesale prices have been very stable of late (a movement of only 1.2 percent over the past four years), the differences between market classes have been pronounced. At the extremes, adjusted wholesale prices for pickups have risen 28 percent during this period, while compact car values fell 14 percent.

In recent years, there has been a tremendous consumer preference shift toward crossovers and away from small sedans. On the new vehicle

Continued on page 17

AUTONOMOUS VEHICLES

GENERATIONAL DIFFERENCES HIGHLIGHTED BY KELLEY BLUE BOOK SURVEY

A consumer's confidence in seeing autonomous vehicles on the road in their lifetime can be predicted by their age, according to a recent survey conducted by Kelley Blue Book.

Respondents in the tech-savvy pre-driving Gen Z age range (12 to 15 years old) are ready to get on board with autonomy and consider themselves the most educated about autonomous vehicles. The majority (67 percent) of pre-driving Gen Z respondents believe they will see fully autonomous vehicles in their lifetimes.

Among millennials, those numbers drop dramatically. Just 40 percent of young millennials (18- to 24-year-olds) and 47 percent of older millennials (25- to 34-year-olds) are confident that fully autonomous vehicles will be on the road during their lifetimes.

Just 1 percent of baby boomers (51 to 64 years old) believe they will experience a world in which autonomous vehicles are the norm.

The study also examined each generation's comfort level with vehicle autonomy, as identified by the Society of Automotive Engineers (SAE), from Level 0 (human-only control) to Level 5 (no human driver).

Members of the pre-driving Gen Z are the most comfortable (73 percent) and feel the safest (79 percent) among all age groups with the highest level, Level 5 full vehicle autonomy (without human input). Among older millennials (25 to 34 years old), who have actual purchasing power today, just 44 percent

are comfortable and 61 percent feel safe with the Level 5 full vehicle autonomy. For boomers, those numbers drop to just 20 percent in terms of comfort level and 33 percent in regard to safety.

The survey found that 51 percent of total respondents prefer to have full control of their vehicle, while 49 percent prefer to rely on autonomous vehicles as a safer alternative for all, even if that means they have less control over their own vehicle.

According to the survey, awareness of the higher levels of vehicle autonomy is limited, with six out of 10 respondents admitting that they know little or nothing about autonomous vehicles. For half of the survey respondents, the perception of safety and personal comfort with autonomous technology diminished as the level of autonomy increased. When survey respondents were asked to make a choice between the different levels, Level 4 autonomy hits the "sweet spot" by providing all the benefits of full vehicle autonomy without stripping away the option of driver control. This isn't surprising, considering 80 percent of respondents believe that people should always have the option of driving themselves, and 64 percent prefer to be in control of their vehicles. In fact, most consumers (62 percent) do not think they will live to see a world in which all vehicles are fully autonomous.

The national survey reveals the responses from more than 2,200 U.S. residents between the ages of 12 and 64 years old, weighted to census figures by age, gender, and ethnicity, and that have a variety of residential and ownership patterns.

ASSURANCE PRODUCTS KEY TO GROWTH OF ONLINE SALES

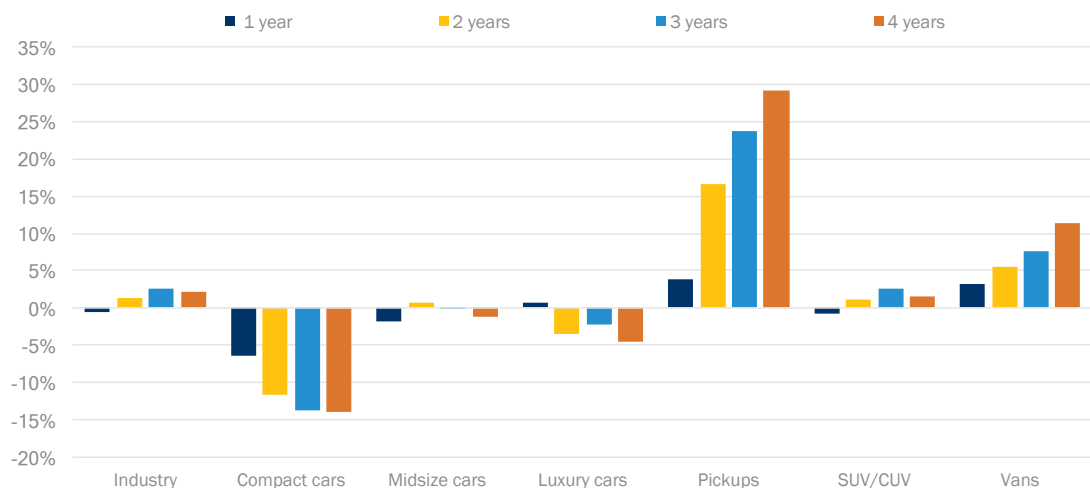
Online sales are growing at a record pace year-over-year, making it more important than ever for dealers to minimize the risks associated with sourcing vehicles without “kicking the tires.”

This need for assurance has spawned a number of products across the remarketing industry, such as Manheim’s Post Sale Inspection (PSI) and DealShield’s Purchase Advantage guarantee. These two complementary products provide increased protection for dealers buying in-lane, via Simulcast, at mobile sales, or online.

Post Sale Inspection provides complete information regarding all major vehicle components and a full picture of a vehicle’s condition. DealShield allows dealers to return a vehicle within 21 days and receive a full refund of the purchase price and buy fee.

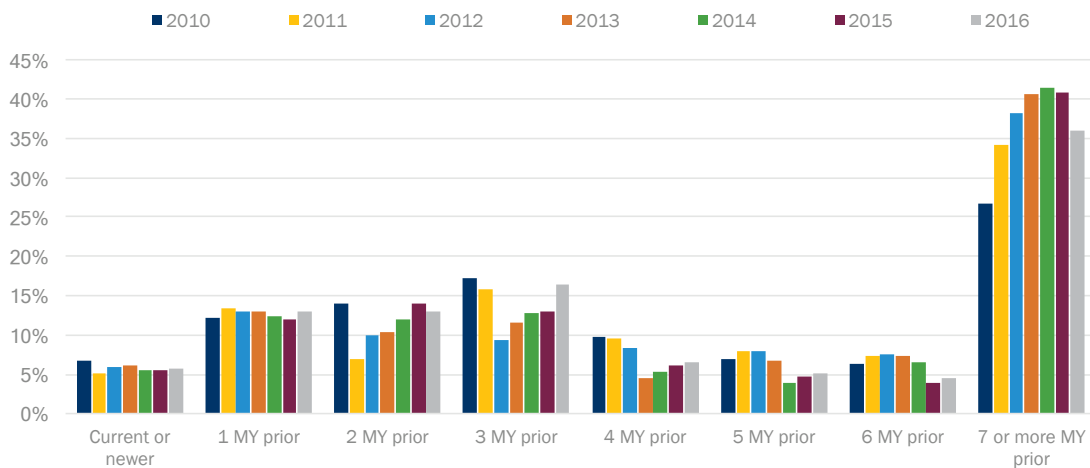
The growth of these two services—PSI experienced nearly 700,000 transactions in 2016, and DealShield has protected more than \$4 billion in transactions since its inception in 2012—demonstrates the growing acceptance of the resources necessary to support online sales.

PERCENT CHANGE IN WHOLESALE PRICES FOR SELECTIVE MARKET SEGMENTS



Source: Manheim Consulting

PERCENT DISTRIBUTION OF AUCTION SALES BY MODEL YEAR



Source: Manheim Consulting

side, flexible production capacity enabled manufacturers to better adjust to this shift than in past cycles. As a result, the share of new vehicle sales accounted for by “trucks” was more than 60 percent in 2016, up from only 45 percent in 2009.

Of course, the “production of used vehicles” (i.e., past new vehicle sales) can’t be adjusted. As a result, the supply of used compact cars has been higher than what consumers demanded in recent years, and as a consequence, residuals suffered.

AGE AND MILEAGE OF AUCTION SALES SHIFT IN 2016

Given the significant increase in commercial consignment sales in 2016 (especially off-lease units), the average mileage for all vehicles sold at auction continues to fall from the peak reached in 2013. Still, with the average age of a vehicle in operation remaining well above 11 years and with total vehicle miles of travel accelerating since late 2015, look for the average age and mileage of vehicles sold at auction to remain high.

The model year distribution of vehicles sold at auction reflected the same trend. The share of sales accounted for by vehicles from two and three model years past hit a cyclical low as a result of low off-lease volumes in 2011 and 2012. The share of sales accounted for by these relatively new used units rose in 2015 and 2016, and will again in 2017. The share of sales accounted for by vehicles from seven or more model years dropped in 2016, but remained above 35 percent.

A portrait of a middle-aged man with a shaved head and light blue eyes, wearing a dark blue button-down shirt. He is smiling slightly and looking directly at the camera. The background is a soft, out-of-focus blue.

INVENTORY FINANCING CRITICAL TO REMARKETING INDUSTRY

BY SHANE O'DELL

President of Financial Solutions for Cox Automotive

When buyers or sellers get together in any marketplace, it is the buyers' access to cash—or capital—that makes transactions possible.

"Inventory financing, or floor planning, gives independent and franchised dealers a flexible line of credit within a shortened loan repayment period to purchase vehicles to sell on their lot," said Shane O'Dell, president of Financial Solutions for Cox Automotive. "Floor planning frees up cash flow that enables dealers to run their business without stretching to cover inventory and operational expenses."

A flexible floor plan empowers dealers to finance used and new vehicles from multiple buying channels, including auction purchases, trade-ins, wholesale units, dealer-owned inventory, and even private owner purchases. From a franchised owner with multiple lots to a small mom-and-pop operation, floor planning is an efficient and simple way that dealers can balance credit and working capital to maximize their cash flow, which is the lifeblood of a dealer's business and the fuel for growth. Floor plan companies can even help dealers add a second location or expand their businesses.

A floor planning partnership, like that offered by NextGear Capital, can give dealers a host of other services, from fully understanding lot capacity to determining the products that are most in-demand in their market, to the average turn time they can expect for any given vehicle.

"Successful dealers who sustain profitability and grow their business have the ability to turn inventory quickly through a clear understanding of the marketplace and their core customer," O'Dell said. "Utilizing data correctly allows our

clients at NextGear Capital to make smarter, timelier decisions when it comes to purchasing the correct inventory mix."

It is in an auction's best interest to have buying power in the lanes, too. Having a relationship with a floor plan company provides auctions with customers who have funds to spend and fast, timely, guaranteed payments for sold units. And when dealers have additional funding, auctions see bidding increase in the lanes, often leading to a vehicle selling for a higher price. This leads to more units in the lane, which has a positive effect on the auction's available working cash.

What's more, advances in technology have made it easier than ever for dealers and auctions to conduct business anywhere and anytime, making the process of buying and selling inventory simpler and more efficient.

"Over the last few years, the floor planning industry has invested in and introduced multiple online and mobile resources to bring speed and convenience to the inventory financing process," O'Dell said. "With these tools, dealers can manage their accounts and make payments, as well as view and purchase inventory in real time from a secure virtual dashboard at their fingertips."

The swift changes in the technology landscape have benefited the wholesale auction industry as a whole, with advancements bringing buyers and sellers together from all over the world.

"Ultimately, dealers who correctly integrate the latest technology into their sourcing efforts will succeed, as more competition for a shrinking share of the retail dollar makes both speed and accuracy a necessity," O'Dell said.



2017 USED CAR MARKET REPORT

DEALERS

2016 HIGHLIGHTS

17.5
MILLION

In 2016, **new vehicle sales** set a record of more than 17.5 million.

7TH
STRAIGHT

Used vehicle sales at dealerships increased for the seventh consecutive year.

172

There were 172 dealership **buy/sell transactions** in the first nine months of 2016. That's down from 2015's record 184 transactions.

2.64
MILLION UNITS

In 2016, sales of **manufacturer-certified pre-owned** (CPO) units totaled a record 2.64 million units.

52%

Dealer consignment share of total auction sales dipped to 52 percent in 2016, down from 57 percent in 2015 and 59 percent in 2013.

BUILDING ON SUCCESS WHILE EMBRACING CHANGE

It's hard to believe that seven years ago automotive retailing was in the depths of the recession—suffering record losses, franchise terminations, and bankruptcies. The survivors have done more than just “live to fight another day.” They have triumphed—establishing an industry that effectively and efficiently meets the needs of today's customers while maintaining the flexibility, and embracing the innovation needed to meet the coming transformation in the way cars are bought, sold, and owned.

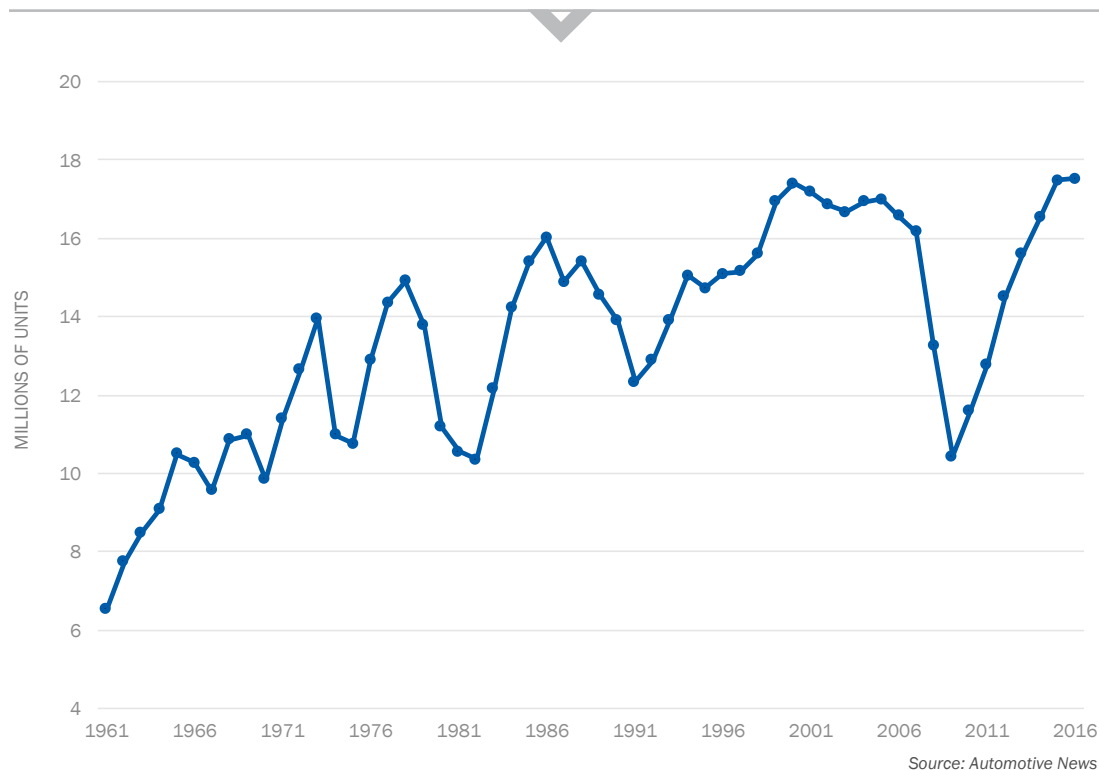
To be sure, automotive retailing is not a monolithic industry, and as such, some segments have not fared as well, or advanced as far, as others. But there is a common thread for all dealers: When labor market and credit conditions are favorable, it is inevitable that dealers will tap into America's love affair with automobiles and mobility to create new growth opportunities. Since 2010, jobs and credit availability have been growing, and thus, the success of dealers comes as no surprise.

FRANCHISED DEALERS GROW SALES, PROFITS, AND THEMSELVES

NEW VEHICLE SALES REACH RECORD HIGH.

In 2016, new vehicle sales broke the 17.5 million mark, after being only slightly shy of that level in 2015. Having sold 35 million units in two years, new vehicles are clearly outperforming the overall economy—and one reason is product. Manufacturers are offering quality products with the physical attributes, technology, and features that consumers desire. As a result, customers (aided by attractive finance options) have

NEW CAR AND LIGHT-DUTY TRUCK SALES



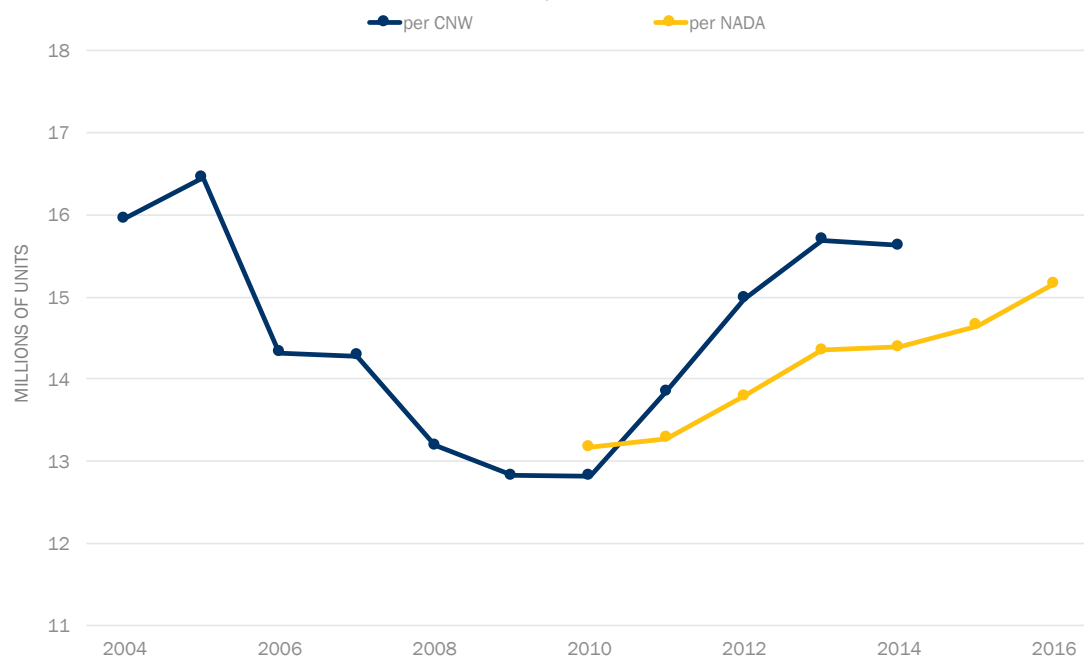
been willing to pay higher transaction prices; but as sales plateaued in 2016, manufacturers were forced to up incentive spending.

USED VEHICLE VOLUMES AND PROFITS

ALSO RISE. Used vehicle sales at franchised dealerships in 2016 increased for a seventh consecutive year, according to NADA. We are now at that point in the automotive cycle where percentage gains in used vehicle sales start to exceed those of new vehicles. That's what happened in 2016, and it will likely occur again in 2017.

Despite narrowing gross margins, used vehicle operations at franchised dealerships produced record profits due to quicker inventory turns, reduced selling expenses, and strong F&I income. In 2017, franchised dealers will benefit from growing off-lease volumes, which means that quality used vehicle inventory will literally be driven to their door. And that's not to mention that the majority of returning lessees will buy or lease another new vehicle from that dealer.

USED VEHICLE RETAIL SALES BY FRANCHISED DEALERS



Note: CNW ceased reporting in 2015. NADA started reporting in 2015 using a different methodology.

Source: CNW Marketing Research, NADA

DID YOU KNOW?

NextGear Capital provides

\$4 BILLION in loans

to 23,000-plus independent dealers annually.

CONSOLIDATION CONTINUES. As did new vehicle sales themselves, dealership buy/sell activity in the first nine months of 2016 ran close to its 2015 record. There were 172 dealership buy/sell transactions in the first nine months of 2016, down from 2015's record 184 transactions, according to The Banks Report. Despite the overall decline, multidealership transactions increased in 2016.

As expected, the public dealer groups reduced their acquisition activity in 2016 (down 18 percent in the first nine months) as a decline in their equity valuations made buying back their own stock a more attractive use of funds. In the first nine months of 2016, they spent \$1.1 billion on stock buybacks and only \$578 million on U.S. dealership acquisitions, according to Kerrigan Advisors.

Attractive and stable returns in auto retailing, plus a low cost of funds in the capital markets, have accelerated the dealership consolidation trend in this recovery. Manufacturers are also now more comfortable with the trend given that the larger players and new entrants are making long-term commitments to the manufacturers' brands as well as their own.

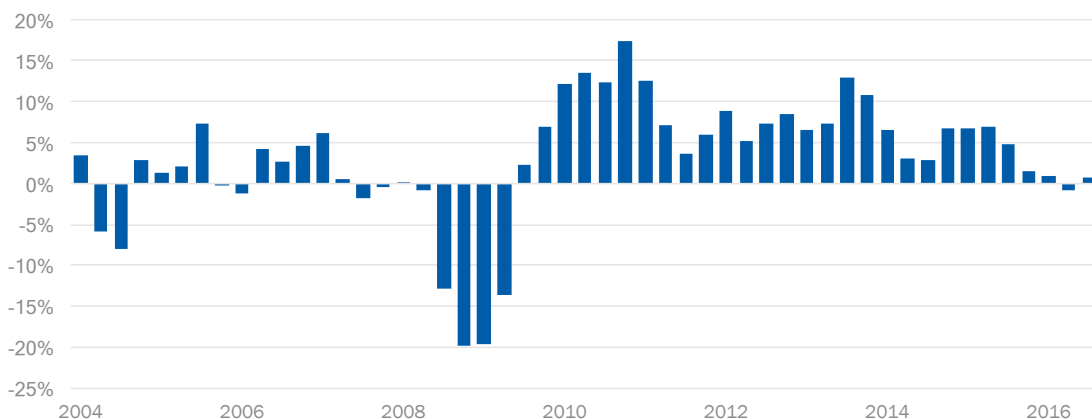
The number of U.S. dealerships will shrink to around 16,500 stores in 2025, down from just under 18,000 today, according to Glenn Mercer in a study commissioned by NADA. Mercer forecasts a total of 6,500 owners in 2025, down from 8,000 today.

DEALER GROUPS HAD ANOTHER GOOD YEAR.

Financial reports from the seven publicly traded dealership groups provide a good reflection of trends within the franchised dealer body. Yes, the largest of the publicly traded dealers (CarMax) is an independent; but its product offerings and price points with respect to used vehicles are similar to those of a mainstream franchised dealer.

PERCENT CHANGE USED UNITS RETAILED – SAME STORE BASIS (PUBLICLY TRADED DEALERSHIP GROUPS)

Weighted average for KMX *, AN, PAG, SAH, GPI, ABG, and LAD

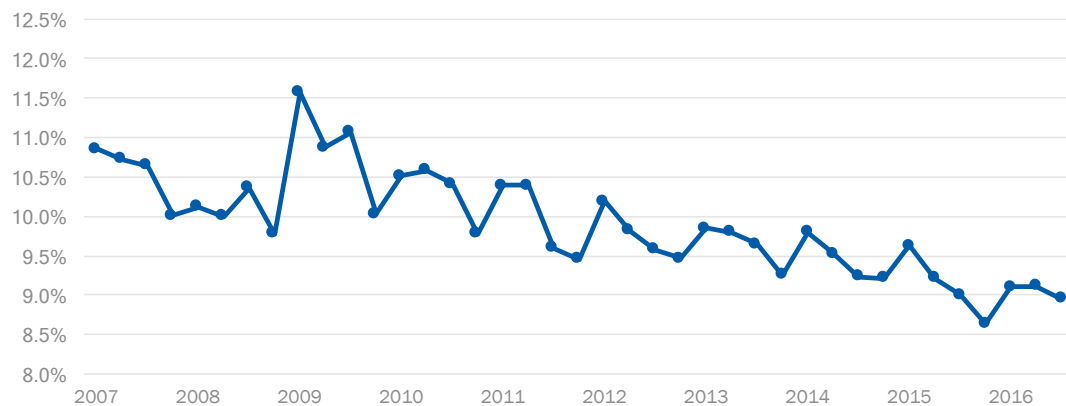


*KMX shifted forward one month to correspond with calendar quarter

Source: Company filings

USED VEHICLE RETAIL GROSS MARGIN (PUBLICLY TRADED DEALERSHIP GROUPS)

Weighted average for KMX *, AN, PAG, SAH, GPI, ABG, and LAD



*KMX shifted forward one month to correspond with calendar quarter

Source: Company filings

With respect to unit volumes, times have been good. In 27 of the past 28 quarters, the seven publicly traded dealership groups have enjoyed an increase in used retail unit sales, on a same-store basis. These dealer groups are also growing through acquisitions and had total used vehicle retail sales of more than 1.5 million units in 2016.

In regard to gross margins, however, the trend is not as pretty; but it has started to stabilize. With higher throughput, quicker inventory turns, higher transaction prices, reduced selling expenses, and good F&I income, the reduced margins did not prevent record profits. View the narrower used vehicle margins as a sign of a competitive industry's passing on some of its efficiency gains to consumers. The narrowing of margins will, however, present a problem to dealers who have not yet adapted to the changing marketplace.

Increased price transparency in the used vehicle market, in addition to narrowing margins, also reduced the range of grosses on individual transactions. Lacking "home-run" (high-gross) deals, dealers can now ill afford the outsized losses associated with buying the wrong car at the wrong price. Hence the need for dealers to take a more data-driven approach to inventory acquisition. And for commercial consignors, who often benefited from that one dealer's paying too much in a speculative bid, the need to get their portfolios in front of the right buyers—the first time—takes on added importance.

CPO SALES: ANOTHER YEAR, ANOTHER RECORD.

In 2016, sales of manufacturer-certified pre-owned (CPO) units totaled a record 2.64 million units. It was the sixth consecutive year in which sales reached a new high, and 2017 promises to be the seventh such year as growing off-lease volumes provide both the need and

Continued on page 26

A portrait of Dale Pollak, a middle-aged man with short, graying hair, smiling. He is wearing a light blue dress shirt and a dark tie. The background is a solid light blue.

4 USED VEHICLE FUNDAMENTALS TO HELP DEALERS STAY STRONG IN 2017

BY DALE POLLAK

Executive Vice President, Cox Automotive
Co-founder, vAuto

Compared to previous years, dealers now invest more in the vehicles they sell, spend more to operate their stores, and reap ever-smaller rewards for the privilege of being an auto retailer. In light of margin compression and predicted volatility, I recommend that dealers revisit four used vehicle inventory management fundamentals:

1 MIND THE MARKET DAYS SUPPLY.

The best dealers mind this metric in two ways — on a per-car basis as they make appraising, acquisition, and pricing decisions, and on a total inventory basis as they gauge the overall desirability of their units in stock. In either case, dealers strive to find vehicles, and maintain their inventories, with a low Market Days Supply, which signals fewer competing units and a greater likelihood of a fast retail sale. Among top-performing used vehicle retailers, the overall inventory Market Days Supply average runs just shy of 75 days. I've noticed what I'd call "upward creep" in the Market Days Supply inventory averages closer to 100 days—a potential sign of an imbalance in supply and demand.

2 MANAGE YOUR COST TO MARKET.

I typically advise dealers to shoot for an average Cost to Market ratio of 84 percent for their used vehicles—a benchmark that provides a 16 percent spread between their cost to own/recondition a vehicle and its current retail asking price. Lately, I've seen dealer inventories with Cost to Market averages hovering closer to 90 percent. When questioned, the dealers attribute the rise to increased competition and costs to acquire and recondition inventory. I'll caution that, while the higher Cost to Market averages aren't necessarily cause for alarm, they should not become the "new normal." Today's compressed retail margins don't need any help from appraisers or buyers who fail to recognize that you make your margin, and your money, in used cars when you acquire them.

3 PRICE YOUR CARS TO MARKET CONDITIONS.

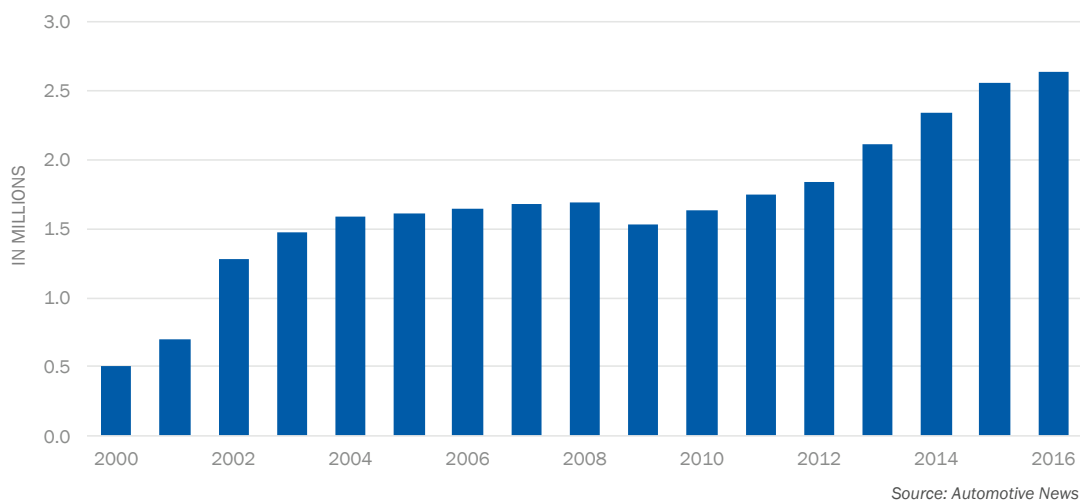
Most dealers understand that it's important to price their used vehicles to the market—a best practice that's gained credence as dealers recognize today's buyers are more price-savvy than ever. The real question is when do you get serious about pricing cars to the market? From Day 1? Day 7? Day 20? Day 30? Top-performing dealers apply Price to Market strategies that balance a vehicle's age, current market demand, and their own desire for front-end gross profit and sales velocity from the get-go. "For us, Price to Market is like a throttle," a dealer recently told me. "You can definitely price some cars above the market, what I call the 'idle' position. But these days, you've got to put most cars out there at half-throttle or more, right out of the gate, if you want them to sell quickly."

4 MINIMIZE YOUR AVERAGE DAYS IN INVENTORY.

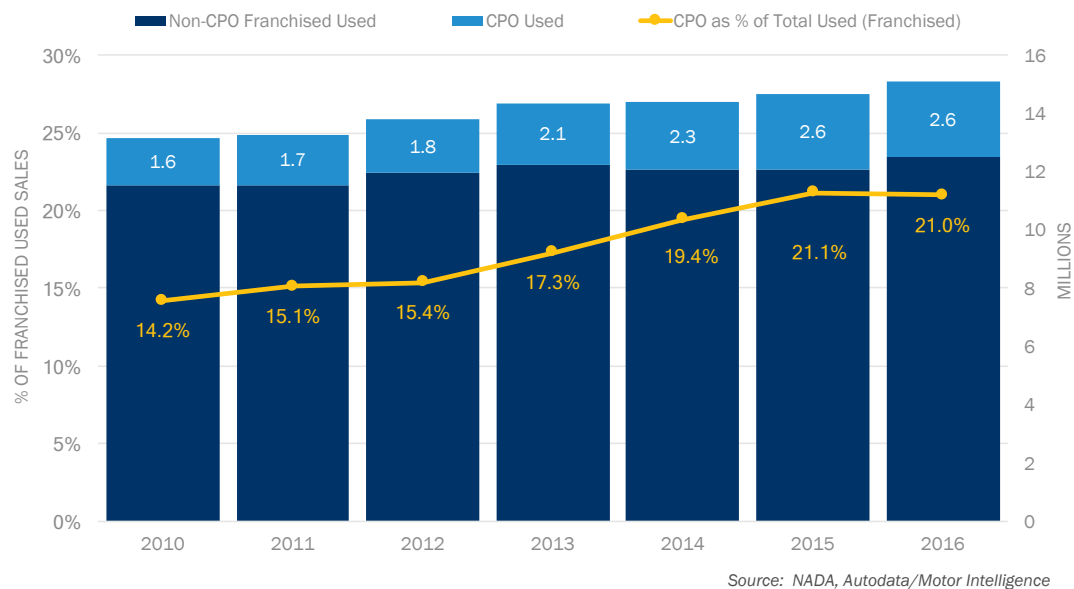
It wasn't all that long ago that you could ask a dealer about their average inventory age in used vehicles and you'd get a blank stare for an answer. Today, more dealers are aware of the time-is-money nature of used vehicle retailing. They understand that front-end gross profits on vehicles retailed after 30 days average as much as 60 percent less than those retailed in less than 30 days. As a result, the best dealers strive to maintain at least 55 percent of their used vehicle inventories under 30 days of age, a benchmark that by definition reduces your number of aged units and encourages you to retail a greater share of vehicles when they're fresh and full of gross. For many dealers, delays in reconditioning often prove the most problematic as they work to minimize their average days in inventory.

Of course, some dealers don't need to revisit these fundamentals. That's because the fundamentals serve as foundational principles that guide astute, market-focused used vehicle inventory management decisions every day. For these dealers, the prospect of a more challenging seasonal sales environment won't come as a surprise. Rather, they'll see the signs of a changing market early, and make the necessary adjustments to ensure a strong start in 2017.

CERTIFIED PRE-OWNED SALES



CPO SALES AND SHARE OF TOTAL FRANCHISED USED SALES



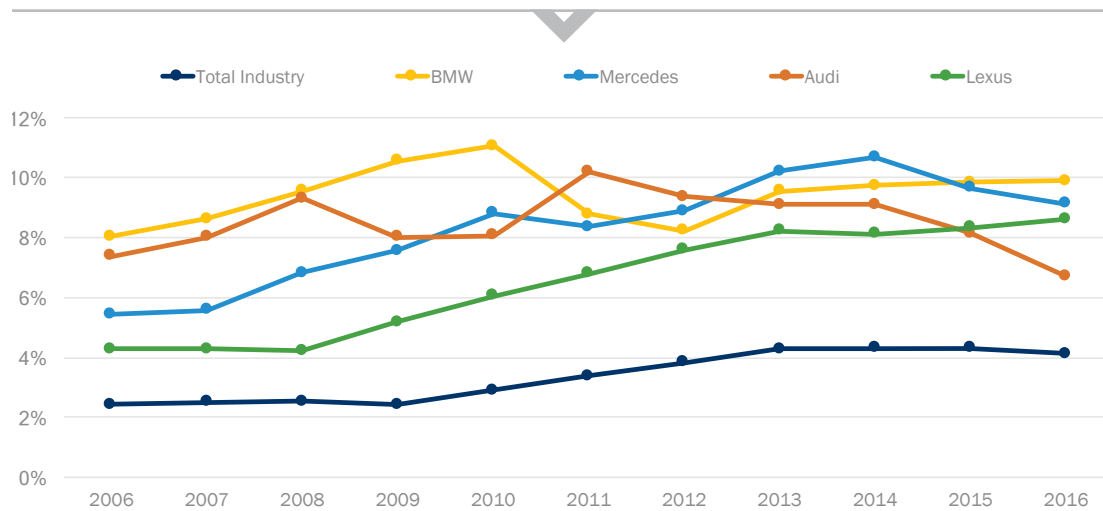
ability for further growth. There is also the desire to grow CPO sales, since they enable dealers to protect gross margins, improve turn rates, or boost F&I and service income. And, when CPO programs are properly structured and effectively marketed by manufacturers and dealers, the programs can provide all three of those benefits simultaneously.

But, is there a natural limit for future CPO sales? After all, the ratio of CPO sales to the number of new vehicle sales in the prior four years is now more than 4 percent, up from slightly over 2 percent 10 years ago. And the share of total franchised dealer used vehicle sales that were CPO units rose from 14 percent in 2010 to 21 percent in 2016, based on data from NADA and Autodata.

Note, however, that manufacturers with long-established CPO programs, high lease rates, and remarketing processes that keep a large share of returning units within their dealer networks often have CPO-to-prior sales ratios close to double digits. And their dealers often have used vehicle operations where more than half of all used sales are accounted for by CPO vehicles. This means that the CPO market has at least the potential to continue its growth. It will be a matter of how much marketing muscle the manufacturers want to put behind the programs—and, of course, the dealer's ability to continue to earn good profits on the sales.

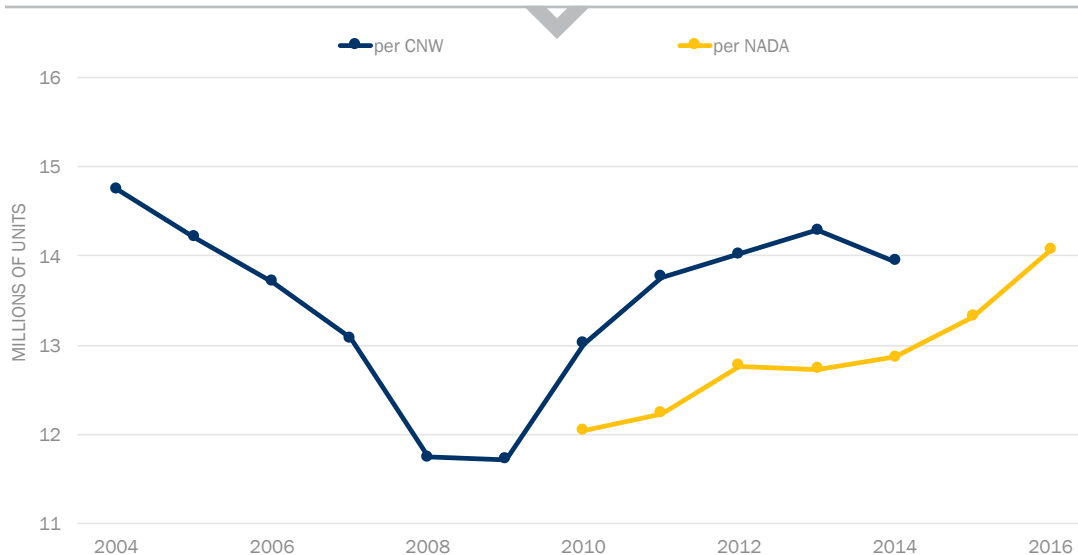
It's that last fact that restrained the growth of CPO sales in 2016. Lease returns, off-rental volumes, and late-model trade-ins were skewed more toward compact and midsize cars than current customer preferences would desire. As a result, the potential gross profit on the subsequent retail sales of those units was skinny. So skinny that dealers decided the lift from CPOing the unit would be inadequate relative to the associated costs. They retailed the

CPO AS PERCENT OF NEW VEHICLE SALES OVER PRIOR FOUR YEARS



Source: Automotive News & Autodata/Motor Intelligence

USED VEHICLE RETAIL SALES BY INDEPENDENT DEALERS



Note: CNW ceased reporting in 2015. NADA started reporting in 2015 using a different methodology. Source: CNW Marketing Research, NADA

unit without CPOing it. Relatedly, manufacturers continued to offer attractive lease deals on new small sedans, which often made the monthly retail payment on a competing CPO unit uncompetitive.

Some of the pressures above should ease in 2017, and thus, CPO sales will continue to grow. It is important, however, that manufacturers design programs that allow dealers to benefit financially.

GREATER INVENTORY AVAILABILITY HELPS INDEPENDENT DEALERS

As wholesale supplies grew in 2016, independent dealers were better able to secure inventory that met the needs of their individual customer bases. As a result, unit sales grew considerably faster than in the prior two years, and at a pace that was higher than that of franchised dealers. Earlier in this cycle, many independents suffered as a result of a lower flow of wholesale units from franchised dealers, fewer desirable trade-ins, and reduced auction supplies. With all of those sources now growing, independent dealers should have another good year in 2017, if all-important credit conditions remain favorable.

BHPH DEALERS ADAPT TO CHANGING CONDITIONS

One of the biggest challenges for Buy-Here, Pay-Here (BHPH) dealers in this cycle has been deep subprime lenders' buying down into the traditional BHPH customer base. The customers left behind were the ones least likely to pay. To handle this and other challenges, individual BHPH operators have developed a multitude of different business models. No longer is there a "traditional BHPH model." Some operators significantly

DIGITAL SERVICES DRIVE EFFICIENCIES, PROFITS FOR DEALERS

Digital transactions continue to increase industrywide. In fact, digital sales were up 25 percent year-over-year on Manheim digital channels in 2016.

The digital sales trend, driven by benefits such as improved efficiencies and increased operations speed and profits, has led to further enhancement and improvements in a number of the tools dealers need to make smart purchasing decisions.

- » **The Manheim Market Report** (MMR) will now provide a more concise view of pricing information and include the ability to adjust wholesale values based on the color and AutoGrade condition of a vehicle, factors that can impact vehicle value by as much as 20 percent.
- » **Manheim's InSight Condition Report** is being refreshed, and a new, more accurate, reliable, and consistent product will become available in 2017. Dealers are three times more likely to bid on a vehicle with a condition report and four times more likely to purchase a vehicle with a condition report.
- » **Enhanced Vehicle Imaging Services** are available at 74 U.S. auctions and have captured more than 500,000 images. Enhanced Imaging drives a 27 percent increase in speed to sale and 16 percent more bids on a vehicle, and increases likelihood of selling online by 5 percent.

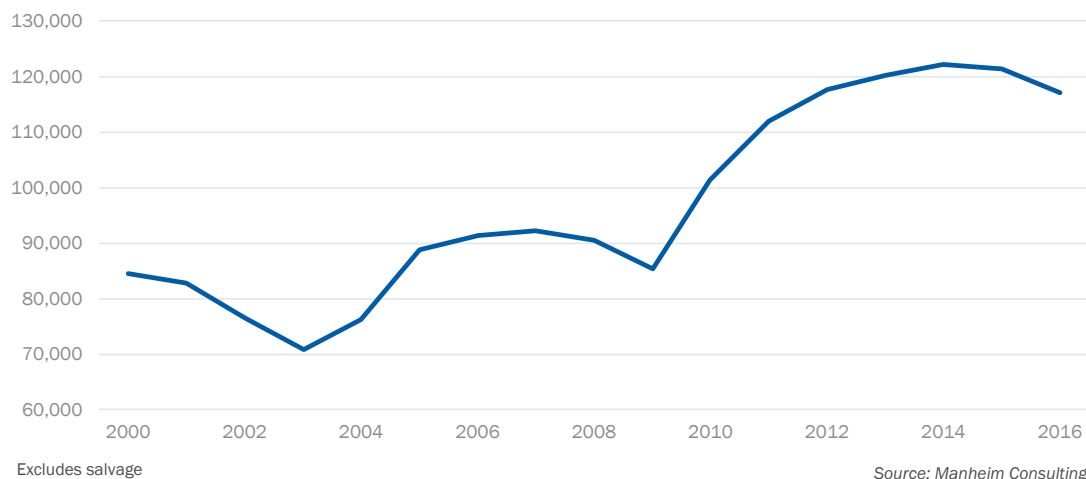
increased the price point of the vehicles they offer, others kept their price point and built in more goodwill policy work as a reserve, some moved to the Lease-Here, Pay-Here model, others adjusted interest rates to coincide with subprime lenders, and others worked diligently to capture more upfront money in the deal.

In recent years, many BHPH dealers have used downpayment deferral programs to get a jump-start on the tax selling season. These became more important in 2016 as the PATH Act will require that the IRS hold tax refunds claiming the Earned Income Tax Credit (EITC) until Feb. 15. In recent years, more than \$100 billion in tax refunds had already been disbursed by mid-February, with much of that being EITC monies, which have the highest correlation with lower-end retail used vehicle sales.

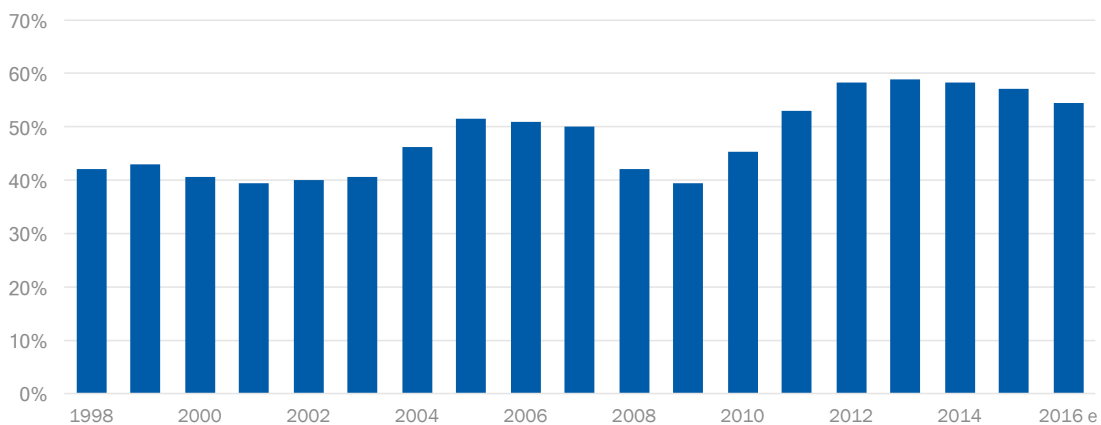
WHAT \$5,000 WILL BUY. Rising wholesale prices have often caused headaches for BHPH dealers as they need to find vehicles their customers can afford, but that will also be capable of running the term of the note with minimal repairs. To give a sense of just how much wholesale prices have gone up over time in the lower price tiers, we looked at the average mileage on auction vehicles that sold between \$4,000 and \$6,000 over the past 16 years. As seen in the graphic, if you spent, on average, \$5,000 for a vehicle at auction in 2000, you got, on average, a vehicle with 84,541 miles. Average mileage slipped over the following three years as wholesale supplies grew and the overall pricing environment weakened. But between 2003 and 2014, average mileage for the typical \$5,000 auction purchase rose every year, except for the recession of 2008–2009. In 2015 and 2016, BHPH dealers got a little reprieve when the average mileage on a \$5,000 auction purchase fell below 120,000 miles for the first time since 2012.

WHAT \$5,000 WILL BUY

Average miles at time of sale of all transactions between \$4,000 and \$6,000 sold between April 1 and May 15



DEALER CONSIGNMENT SALES AS PERCENT OF NAAA-MEMBER AUCTION VOLUMES



*2015 is a Manheim Consulting estimate based on both internal and industry sources

Source: National Auto Auction Association Surveys, 2001-2014

DEALER CONSIGNMENT REMAINS THE CORE OF AUCTION OPERATIONS

After reaching a high of nearly 59 percent of all NAAA-member auction sales in 2013, the dealer consignment share slipped to an estimated 52 percent in 2016. That's still high by historical standards, and even as commercial consignments grow more rapidly in the years ahead, it is likely that dealer sales will remain a high and key component of auction volumes. In past cycles, commercial consignments sometimes pushed out dealer consignments due to limited physical capacity, as well as prime lane and time slots. Not so today. Online sales, multiblock selling, Simulcast, other online options, and mobile auctions have put all sellers on an equal footing and have broadened the whole definition as to what is a "prime" slot.

Likewise, several years ago it was argued that traditional auctions would be disintermediated as new and improved online options enabled dealers to more easily bypass the traditional auction process. After all, dealer wholesale transactions outside the traditional auction have always been considerably larger than the number going through auctions. And technology was promising to make those informal networks more efficient. What evolved, however, was a stronger partnership between dealers and auctions and the setting up of dealership trade networks that auctions created and play a major role in facilitating.

Going forward, it is likely that mobile auctions (run by the auction houses) will become an increasingly important method for dealers to sell and source inventory. It enables companies like Manheim to bring the excitement and success of

Continued on page 31

MOBILE AUCTIONS GENERATE 70 PERCENT SALES RATE IN 2016

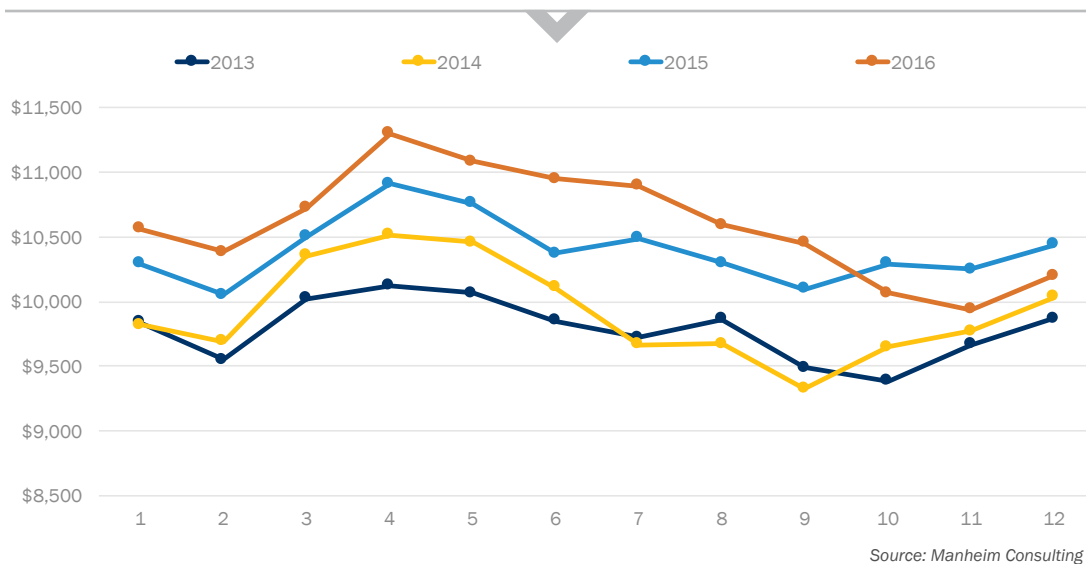
The rapid growth of mobile auctions is providing increased inventory sourcing options to dealers in underserved markets across the country.

In 2016, Manheim's Mobile Auction program generated a 70 percent sales rate, the highest among all Manheim channels, including in-lane, mobile, and online. More than 60,000 cars were sold at mobile auctions in 2016—a 20 percent increase over 2015, and mobile auctions grew to 60-plus sales per month at auction sites in 20 states.

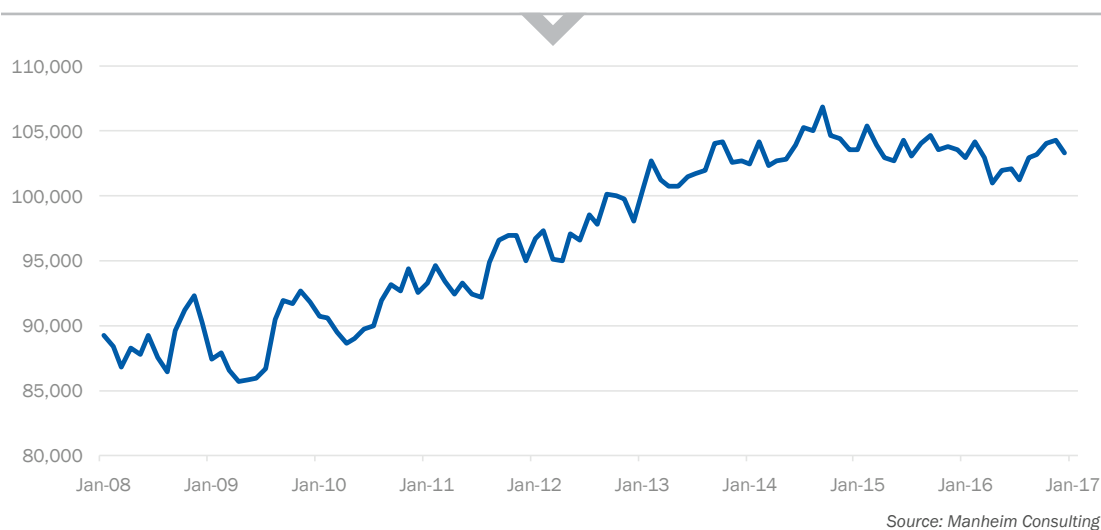
The mobile auction model is tailored to dealers who prefer to do business locally and work with trusted sellers with whom they have an established relationship. Dealers benefit from having a nearby location to source inventory—reducing transportation costs, minimizing time away from the dealership and providing choice in regard to where they do business.

As mobile sales continue to become more established, everything necessary to conduct the sales—overseeing licensing and permitting, transporting the vehicles, Simulcast technology, marketing the event, and providing all back office and ancillary services required—has become standard. With continued technology improvements, the growth in mobile auctions is expected to escalate in coming years.

AVERAGE AUCTION PRICE DEALER-CONSIGNED VEHICLES



AVERAGE MILEAGE DEALER-CONSIGNED VEHICLES



a live auction (coupled with Simulcast bidding) anywhere and everywhere. Many of these auctions are held in rural areas that are some distance from a major physical auction. Usually the sale is located at the site of the primary selling dealer—and, although the majority of attendees come from nearby areas, there is often robust remote bidding via Simulcast. Manheim has found that conversion rates at these sales are higher than for typical physical auction sales because the sellers are very committed. The high conversion rate feeds on itself by attracting more local dealers. Importantly, technology allows Manheim to perform all of the important back office functions and ancillary services just as efficiently as if the sales were held at a major auction house.

WHOLESALE PRICES FOR DEALER-CONSIGNED UNITS DECLINE IN LATE 2016.

Pricing for dealer-consigned units was strong in the first nine months, but declined on a year-over-year basis in the fourth quarter. That reflects some of the weakness that we will likely see in 2017. That will be somewhat offset as dealers receive newer trade-ins and better use the auction process for velocity management. After many years of moving upward, the average mileage on dealer-consigned units declined in 2015 and the first part of 2016, but then began to rise later in the year.



2017 USED CAR MARKET REPORT

Q&A WITH DOUG KEIM & TONY DRUMMOND

DOUG KEIM

Senior Vice President of Client Experience, Cox Automotive

TONY DRUMMOND

Vice President of Client Experience, Cox Automotive

Q What have dealers told you most frustrates them when they conduct business today? How are you helping?

A Tony Drummond: As with anyone trying to run a successful business, frustration often emerges when they feel that they are not 100 percent in control of processes and outcomes. This shows up in our industry when our dealers don't get full, timely visibility to data regarding the status of their wholesale buys and sells. It shows up when they need help ordering services and addressing issues and exceptions, and they end up standing in line or waiting for call-backs. Cox Automotive Inventory Solutions is hyper-focused on removing such friction from our dealers' lives. As we move forward with our multiyear, multiphased technology refresh, we are prioritizing efforts and driving design decisions by asking ourselves what needs to happen to make it easier for our clients to do business with us, and how can we make it easier for our dedicated team members to serve them. The result is better, more intuitive access to near-real-time data that puts our clients and our team members more squarely in the driver's seat.

Q Digital transactions continue to grow rapidly year-over-year. How is Manheim enhancing its offerings as dealers are more and more often sourcing inventory online?

A Tony Drummond: At Manheim, we are enhancing integration and working to foster greater trust in the digital platforms. With integration, we are focused on ensuring consistency between physical and digital processes, as well as enabling our dealers to seamlessly navigate between them. We are focused on aligning processes between channels so buyers don't have to stop and think about how to place a bid or order a post-sale inspection based on the interaction channel. Again, it comes back to how we can remove friction and reduce the effort required from our clients. Sellers should not expend undue effort when deciding to shift their listings to different buying audiences throughout a selling cycle.

Equally important, trust is critical to growing the pool of clients who feel they can be successful buying and selling in the digital space. We hear from many clients who, while open to experimenting with digital, have a strong belief in the power of the physical wholesale auction environment in setting the true market for used inventory. The digital pioneers who have learned to use—and trust—a data-driven model have realized early successes and are ahead of the curve. The trends that our analytics teams are uncovering clearly show that early advantage. For dealers who are late comers to the digital party, we need to make it easier for them to see the facts and use the digital tools to their advantage while finding ways to transfer elements of the physical marketplace that breed trust into the digital experience.

Q Providing efficiencies for dealers is a key theme of this year's UCMR. In what ways is Manheim helping dealers most effectively improve efficiencies and, in turn, increase their bottom lines?

A Doug Keim: Each of our priorities is focused on helping dealers become hyper-efficient. Our investments in technology and process redesign speed up decision-making, transactions, and ordering services like transportation, DealShield, and post-sale inspections. In short, we're removing nonvalue-added costs from the value chain and allowing dealers to focus their time on growing their businesses.

Q What do you see as emerging trends that will impact how dealers conduct business in 2017?

A Doug Keim: There are several trends that could become important for dealers this year:

» **Smart Inventory Sourcing** Using the power of data to place their most important bets.

» **Technology Integration** Selecting partners that can help take full advantage of best-in-class technology solutions that scale across their operations.

» **Digital Literacy** Using digital tools to drive change in efficiency and productivity levels.

» **Vendor Consolidation** Dealers' choosing supplier partners that offer an integrated menu of services and solutions. It is not practical or financially viable for dealers to manage a large stable of vendors anymore. Fewer vendor partners that can do more is the name of the game.

Q What tools should dealers embrace now to grow their businesses over the next two to three years?

A Doug Keim: Dealers need to come on board with smart-sourcing tools—they'll get outgunned if they continue to rely on instinct and intuition. They should also get comfortable transacting in the digital world and sorting out smart ways to extract nonvalue-added costs out of their operations through automation.

Q With the variety of used vehicle solutions and services offered to dealers, how can they better understand which ones would benefit them the most?

A Doug Keim: It is time for all of us to go back to school—and stay in school. Raising our collective intelligence around software and hardware solutions is a must. Technology will continue to drive massive change and opportunity, so being a great student and building a network of trusted partners will be critical to long-term success.

Q How do you see the emergence of millennials and Generation Z impacting the way dealers do business with Manheim?

A Tony Drummond: We live in a world where it is increasing difficult to distinguish between physical and digital environments. I witnessed this several years ago when my toddler daughter, apparently displeased with the TV program we were watching, wobbled up to the screen and used her finger in an attempt to swipe it away. A friend's young daughter, having to use the rest room mid-show in a movie theater, said out loud, "Daddy, pause it!" My generation is forced to learn and adopt as technological advances push us into new territory. Millennials and Gen Z's have grown up with a personalized experience as the baseline for living. And they are often mostly unaware of the behind-the-scenes technology that makes it possible. They don't want to know about the complexities of technology. They just want it to work, and they want it now. These digital natives are among us now—they are increasingly showing up in our business and the businesses of our clients. It is imperative for us to find ways to create work environments that provide intuitive, flexible, and personalized experiences if we want to attract top talent to our industry and keep them engaged.

A portrait of Mark Scarpelli, a middle-aged man with short, light-colored hair, wearing a dark suit, white shirt, and patterned tie. He is smiling slightly. The background is a solid yellow color.A blue arrow graphic pointing to the right, located to the left of the main title.

2017 USED CAR MARKET REPORT

**Q&A WITH 2017 NADA CHAIRMAN
MARK SCARPELLI**

NADA Chairman Mark Scarpelli is president of Raymond Chevrolet and Raymond Kia in Antioch, Ill., and co-owner of Ray Chevrolet and Ray Chrysler-Jeep-Dodge-Ram in Fox Lake, Ill. He represents Chicago-area new-car dealers on NADA's board.

Q How would you describe business conditions for franchised dealers in 2016?

A The sales momentum remained strong for cars and light trucks in 2016, with SUVs and CUVs leading the way. Leasing grew as well. Last year, overall business conditions at new-car dealerships were good, but challenging. Growth was strong, but the expense of running dealerships has also increased. We have not forgotten the lessons learned from 2008 and 2009.

Q What do you see as the biggest challenges facing franchised dealers in 2017?

A We must continue to work with policymakers in Washington, D.C., to get them to understand that many of their decisions, while well-intentioned, are having very negative impacts on our customers in the form of increased prices—on everything from the prices of new cars and trucks to the cost of financing, to the value of their trade-ins. On the economic front, we expect sales in the new-vehicle market to level out in 2017, which will bring a new set of challenges to both dealers and their respective auto manufacturers.

Q What are some best practices NADA dealers are using to maintain relationships through the customer cycle?

A Relationship building is exactly what new-car dealers do every day across America. It's in our DNA. In addition to community service, creating touch points throughout the customer cycle is vital. Customer service clinics, technology clinics, new-owner events, email reminders, online service and scheduling, and pickup and drop-off services, to name just a few examples, keep us in contact with our customers throughout the ownership experience. This results in owner loyalty.

Q NADA will celebrate its 100th anniversary in 2017. What do you hope to accomplish during your anniversary year?

A I am truly honored to be at the helm for NADA's 100th anniversary. NADA has the ability to be involved and represent new-car dealerships in several areas of the business. NADA is only getting better with age, and I plan on continuing that great tradition. My top priorities include promoting the consumer benefits of the dealer franchise system, working with auto manufacturers, advocating for our issues in Washington, D.C., and identifying and getting the next generation of new-car dealers more involved with NADA.

Q More and more millennials are shopping for vehicles. What has your dealership learned so far about working with this emerging audience?

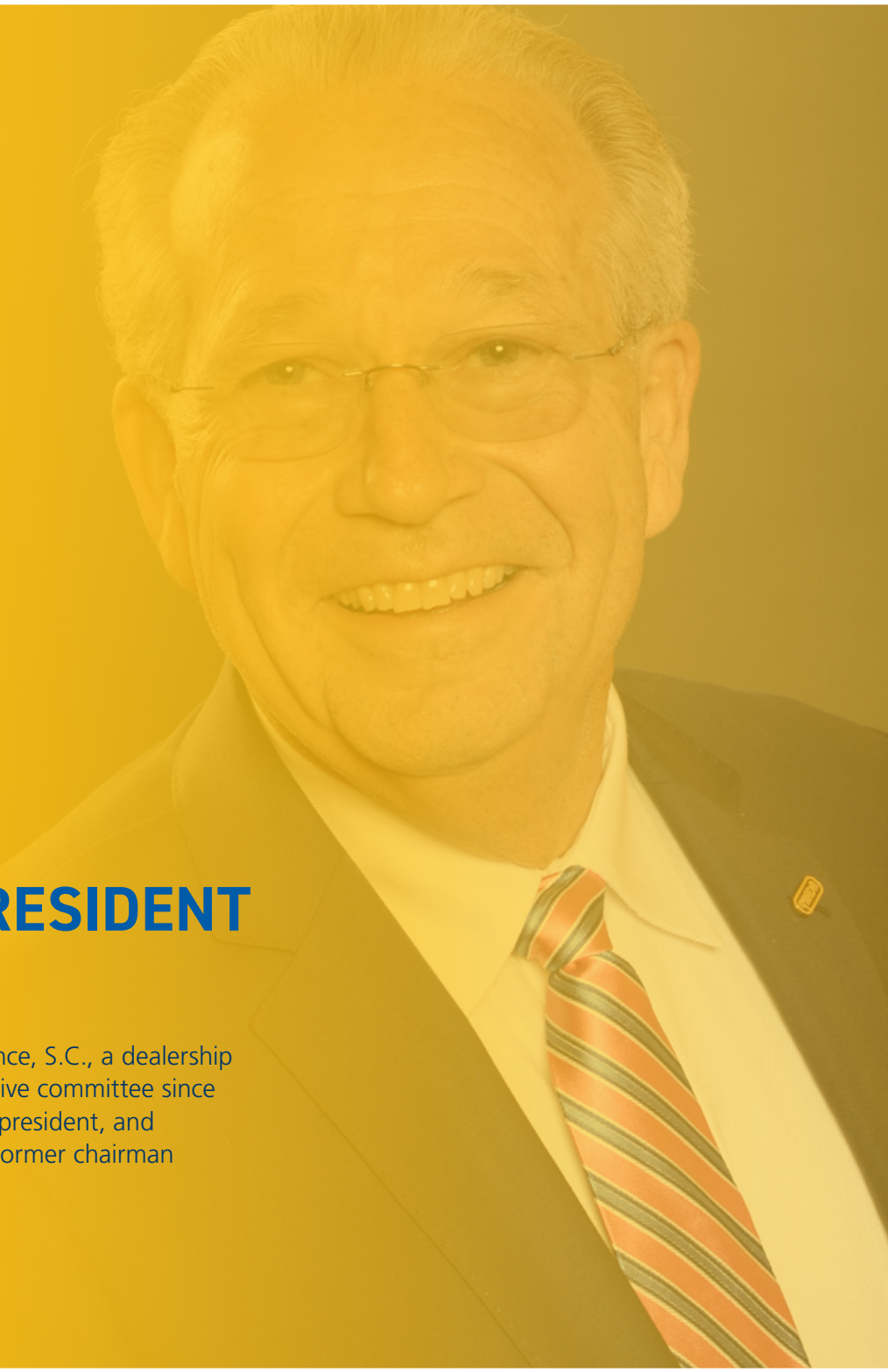
A This emerging market certainly has its own perspective on how, when, and where they should buy, finance, and service their vehicles, and dealers are doing an excellent job of meeting those expectations. We communicate vigorously through emails and texting, and we've learned that it's important to keep communications short and to the point. But we've also learned that, at the end of the day, our customers—regardless of their age or generation—still want to communicate, and they still want someone on the ground locally who can guide them through the whole process, from trade-in to financing, to completing the purchase. So the question isn't whether they want the help of their local dealer; the question is how they want that help delivered.

Q In recent years, dealers have had to engage multiple services and make continuing investments in rapidly changing technologies in order to stay competitive and meet customer expectations. What services or tools would you recommend to other dealers?

A Our world as car dealers seems to change and evolve almost overnight. The business five years ago is definitely not the business it is today. If you want to be on a customer's shopping list and be top-of-mind, you have to build your own brand through digital and traditional media. Internally, a good CRM system is a must to manage current and new customers in all areas of your dealership. And while our world continues to change, it will always be a people business. All the great technology in the world can never replace building personal relationships with our customers.

Q What are your most important unmet needs?

A We are constantly striving to ensure that the customer remains the most important part of the car business. Policymakers, lawmakers and others often forget this premise. For new-car dealers who want to be successful, it's always about thinking of new ways to improve the customer experience.

A portrait of Billy Threadgill, an older man with white hair and glasses, wearing a suit and a striped tie. The background is a solid yellow color.A blue arrow graphic pointing to the right, located to the left of the main title.

2017 USED CAR MARKET REPORT

Q&A WITH 2016-17 NIADA PRESIDENT BILLY THREADGILL

NIADA president Billy Threadgill is president of Van's Auto Sales in Florence, S.C., a dealership founded by his father in 1975. Threadgill has been on the NIADA executive committee since 2009, serving as secretary, treasurer, regional vice president, senior vice president, and president-elect. He is also a past president of the Carolinas IADA and a former chairman of the NIADA State President's Council.

Q How would you describe business conditions for independent car dealers in 2016?

A It's been a year of many positives. We're on pace to sell nearly 40 million used cars, and independent dealers will sell about 37 percent of them—more than the 35 percent sold by franchised dealers. This will be the second year in a row that independent dealer used car sales will exceed franchised dealers. And because new car sales have been strong, inventory is more readily accessible than it has been in the past several years.

Q What do you see as the biggest challenges facing independent dealers in 2017?

A As large dealer groups such as AutoNation and Penske ratchet up their used car businesses, independent dealers will have to fight harder for their piece of the pie. They'll have to be creative in their marketing, cut their transaction time, reduce the age of their inventory, and leverage technology for a better customer experience.

Two of the biggest challenges are all the regulations and acquiring capital.

When we started in the car business, we had a bill of sale and a form 400, which was a 4-by-10-inch card we filled out. Today, if your file's not 2 inches thick, you're missing something.

You've got to have documentation. You've got to be Red Flag-compliant and Safeguard Rules-compliant, and on and on. It almost takes the fun out of it.

And while capital might not be a problem for conglomerates like CarMax and DriveTime, for Joe's Auto Sales on the corner and his son—I'm a second-generation dealer myself and my son works with me, so that's a third—it's been very tough at times to stay in the business. Around 85 percent of our dealers are mom-and-pop operations that employ 10 or fewer people, and in most cases five or fewer. For them—and that includes me—I see things becoming extremely challenging.

Q How are dealerships changing their strategies to better serve and engage the growing number of millennial car shoppers?

A Independent dealers must understand how millennials buy and recognize how much they use mobile devices in their shopping. Dealers' websites now must be mobile-friendly, and dealers must communicate with

those customers in ways that leverage mobile technology, such as text messaging and social media.

Dealers also need to recognize millennial customers are socially conscious. They're looking for messaging focused on sustainability of the community.

Q What do you hope to accomplish during your year as NIADA president?

A I want to be the voice of the independent dealer. I want us to grow the footprint we've created in Washington. I want to explain to our members why it's so important to establish those grass roots.

We need to let our dealers know the value of their membership. I want them to understand that, what we do, we do because we're part of the industry. I want them to say, "I'm proud to be a member of NIADA, and I get a lot out of it."

Whether it's through our member benefit programs or through our insurance program or through our warranty and CPO program or through the Certified Master Dealer program or through our 20 Groups, however it happens, I want our members to understand the value of the membership statement they have framed on their wall.

Q In recent years, dealers have had to engage multiple services and make continuing investments in rapidly changing technologies in order to stay competitive and meet customer expectations. What services or tools would you recommend to other dealers? What are the most important unmet needs for independent dealers?

A Far too many dealers have failed to invest in an appropriate DMS system, relying instead on antiquated approaches that don't maximize their time and effort. I recommend dealers find a DMS system suitable to their needs.

I also recommend dealers use an inventory management system to help them minimize costs and be more aggressive in pricing, particularly on trades.

And affordable, easy-to-reach training is always something dealers can use. NIADA is continually looking for ways to meet dealers' education needs without costing an arm and a leg.

2017 USED CAR MARKET REPORT

RENTAL

2016 HIGHLIGHTS

28.4
BILLION

Total **rental car industry revenue** rose again in 2016 from \$27.1 billion the previous year to \$28.4 billion.

REVENUE
PER UNIT 

Total revenue per unit in the rental fleet declined again in 2016.

36%

Car rentals accounted for 36 percent of ground transportation transactions, according to the Certify SmartSpend report. Ride-hailing services (like Uber, Lyft) accounted for 52 percent and taxis 12 percent.

1.82
MILLION

The number of **vehicles purchased by rental companies** increased 4 percent to 1.82 million in 2016.



Rental car companies are putting more pickups in their fleets. With the proper cab configuration, a pickup truck can satisfy the needs of a renter who otherwise might have preferred a large car or SUV.

RENTAL INDUSTRY REVENUE INCREASES IN 2016

Total rental car industry revenue moved up again in 2016 to reach a record \$28.4 billion. Disruptors and competitive pricing meant inconsequential revenue growth for the on-airport segment. However, revenue growth in the insurance replacement market remained strong (due in part to recalls and stop sales), and pricing for leisure rentals benefited from more restrained fleet growth.

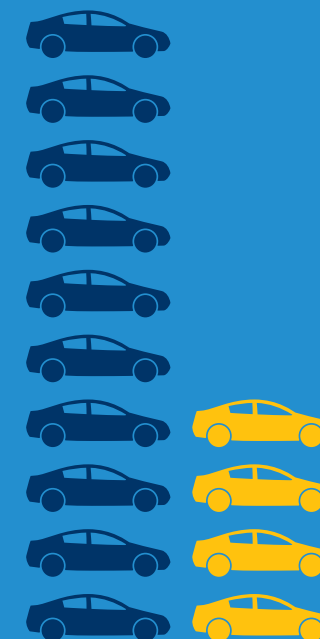
Total rental revenue per unit in the fleet fell again in 2016 due to over-fleeting. Total revenue generated per unit has been relatively flat the past eight years. Utilization and revenue per unit would have been significantly better in 2016 if not for the large number of out-of-service units due to recalls and stop sales.

Despite three companies owning more than 95 percent of the rental fleet, the industry has always been characterized by intense price competition. In fact, pricing power, as measured by revenue per day, has greatly lagged the sorts of increases that hotels and airlines have been able to achieve in revenue per room and revenue per seat mile during the past several years. If, as expected, vehicle depreciation costs rise in coming years, the industry will need stronger revenue-per-day performance. They will also need the higher cash flow to offset higher interest rates. The money factor is important to rental companies whether they are funded through the ABS market, self-funding, or leasing a portion of their fleet.

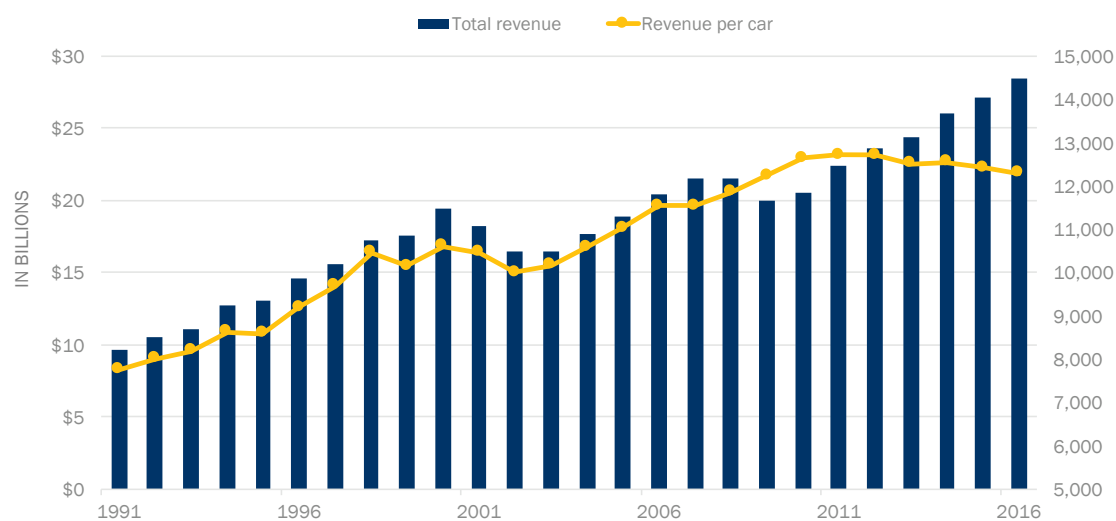
Although history suggests there is positive correlation between fleet costs and rental rates, the traditional rental revenue stream has not been immune to some skimming-off by new

DID YOU KNOW?

Approximately **40 million** used vehicles are sold each year, about **2.5 times** the number of new vehicles.



U.S. CAR RENTAL MARKET REVENUE



Source: Auto Rental News

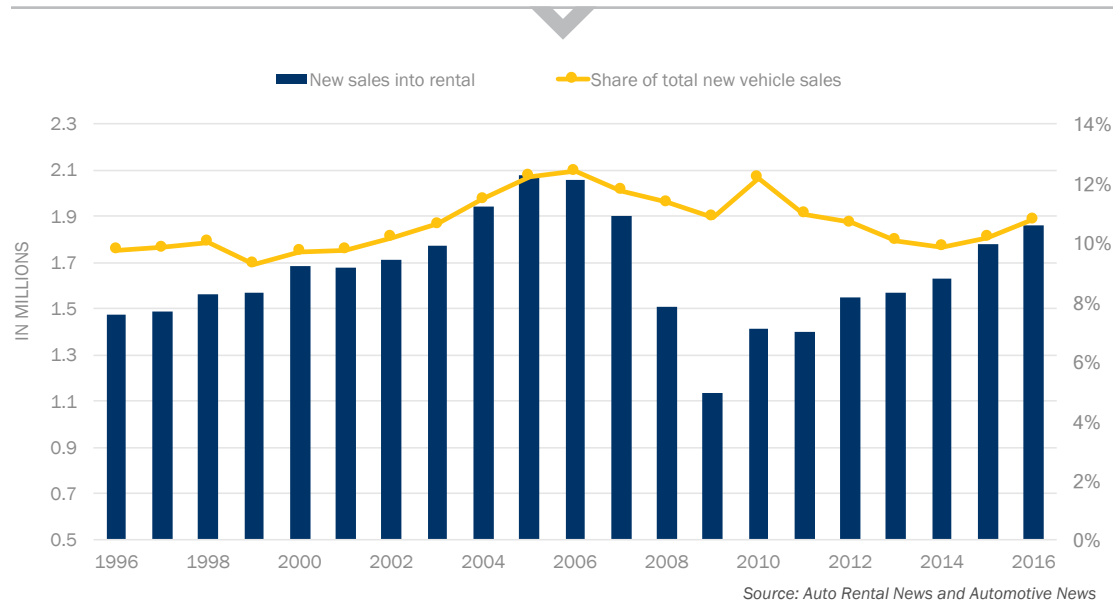
entrants. In the past, the lack of pricing power was simply explained away as commodity-like pricing in a competitive industry dominated by the most cost-efficient producer; but today we have to consider that the industry is slowly being redefined beyond daily rental to include ride-sharing and car-sharing.

An analysis of business travel expenses in the Certify SmartSpend report for the third quarter of 2016 put ride-hailing services (e.g., Uber, Lyft) at 52 percent of ground transportation transactions, up from 46 percent a year ago. Car rentals accounted for 36 percent of transactions, and taxis made up 12 percent. The biggest share loss was for taxis, but auto manufacturers and rental car companies have taken note of the new entities. Many have invested in or developed car-sharing services and are offering short-term leases or purchase deals in partnership with the ride-hailing firms. Some believe that longer-term trends in the industry — for example, autonomous vehicles — might actually offer opportunities for the rental car companies as they promise a world where vehicles are more corporate-owned and fleet-managed — two areas in which rental car companies excel. Either way, business revenue models and competitive dynamics are destined to shift.

DID YOU KNOW?

NextGear Capital floor-planned nearly 2 million vehicles in 2016.

NEW VEHICLE SALES INTO RENTAL



NEW VEHICLE SALES INTO RENTAL REACH 1.82 MILLION IN 2016

The number of vehicles purchased by rental companies increased 4 percent to 1.82 million in 2016. It was the highest purchase volume since 2007, but still below the 2.1 million new vehicles that were sold into rental in 2005 and 2006. Given the shift from program to risk units (and a longer average service life for risk vehicles), rental company purchases of new vehicles are not expected to reach 2 million units a year any time soon. Relative to total new vehicle sales, rental's share was close to 11 percent in 2016. That was up from earlier years in the recovery, but it is not at a level that should cause great concern as to future residual values. Most manufacturers are

not pushing units into the rental fleet at a loss to off-load excess production capacity.

New vehicle sales into rental in 2016 were heavily front-loaded into the first half of the year, with sales through June accounting for 60 percent of full-year purchases. This meant that the remarketing of off-rental units was also stronger in the first half of the year than in the second half.

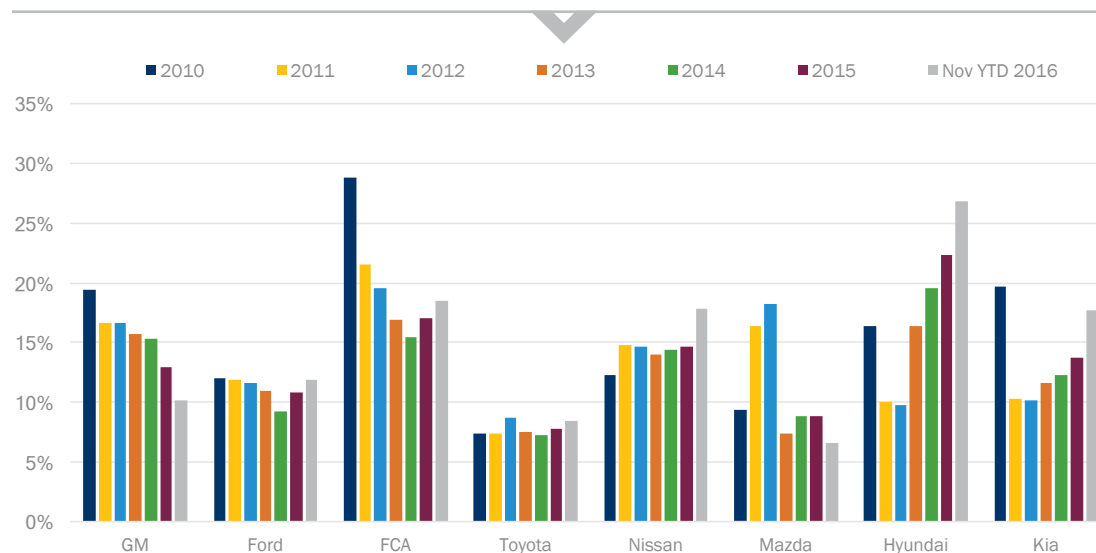
The shifting pattern of purchasing, rental demand, and remarketing enticed some rental car companies to buy more used vehicles at auction to supplement their fleets. And of course, with all of the majors now involved in all segments of the business, there is a greater opportunity to cascade vehicles down from premium brands to value brands as unit ages.

TODAY'S RENTAL FLEET MORE CLOSELY REFLECTS THE RETAIL MARKET

The share of new vehicles sold into rental accounted for by domestic manufacturers fell for the sixth consecutive year in 2016. It marked their lowest share ever — even lower than 2009, when the GM and Chrysler bankruptcies forced rental companies to shift their purchasing patterns. Relative to total new vehicle sales, GM made the biggest shift away from rental in recent years. In 2016, GM's share of new vehicle sales fell below the industry average for the first time ever. The share of new vehicle sales accounted for by rental increased for most other manufacturers in 2016, with the biggest increases accounted for by Nissan, Hyundai, and Kia.

Generally speaking, over the past decade, the mix of manufacturers and models making up the rental fleet — as well as the option contenting of the vehicles — has become more representative of overall retail new vehicle sales. For individual rental car companies, the shift toward a more diverse fleet has been even more striking since, in earlier times, some of the companies had major supply agreements with only one or two manufacturers. The greater mix of models in the off-rental supply has had several implications for remarketing — most of them positive. Most importantly, it has helped protect residual values since one rental company is no longer forced to sell large numbers of any one model at any one point in time. It also means that the rental car company is not as susceptible to the negative consequences of an individual model's having weak residual performance or being subject to a recall. The wider mix of off-rental units has, however, required that rental companies (and their auction partners) work harder to ensure

SHARE OF NEW VEHICLE SALES INTO RENTAL



Source: Bobit Business Media and Automotive News

specific vehicles get exposed to the dealers most interested in that particular product.

For dealers, the wider mix of rental units — and better contenting — has meant they are better able to find units that their customers want. Manheim data indicates that, in the third quarter of last year, rental car companies remarketed

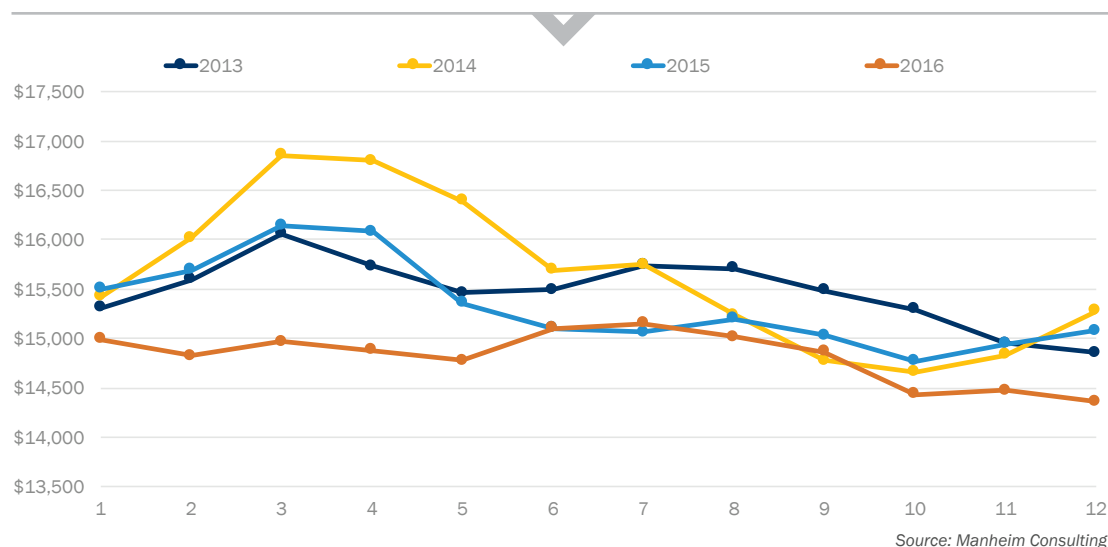
vehicles with 3,352 different year/make/model/body configurations. In the third quarter of 2016, it took 97 unique year/make/model/body configurations to account for 50 percent of all rental risk sales at auction. As recently as third quarter of 2011, it took only 31 such unique configurations.

RENTAL RISK VEHICLES REMARKETED AT AUCTIONS

	3 RD QTR 2011	3 RD QTR 2014	3 RD QTR 2016
Number of unique year, make, model, body (YMMB) configurations sold	2,216	3,303	3,352
Share accounted for top 10 YMMB	28.2%	17.3%	15.7%
Share accounted for top 25 YMMB	46.5%	21.7%	27.1%
Number of YMMB to reach 50% share	31	86	97

Source: Manheim Consulting

AVERAGE AUCTION PRICE – RENTAL RISK UNITS (MIX- AND MILEAGE-ADJUSTED)



Recent rental company purchases also reflect the market shift from sedans to crossovers. The total number of new vehicle sales into rental increased 4 percent in the first 11 months of 2016; but car purchases were down 12 percent, while truck purchases jumped 31 percent. Most of those “trucks” were crossovers, but rental car companies have also found it worthwhile to put more pickups into their fleets. With the proper cab configuration, a pickup truck can satisfy the needs of a renter who otherwise might have preferred a large car. For the rental company, the acquisition cost will be higher; but the depreciation rate may be lower.

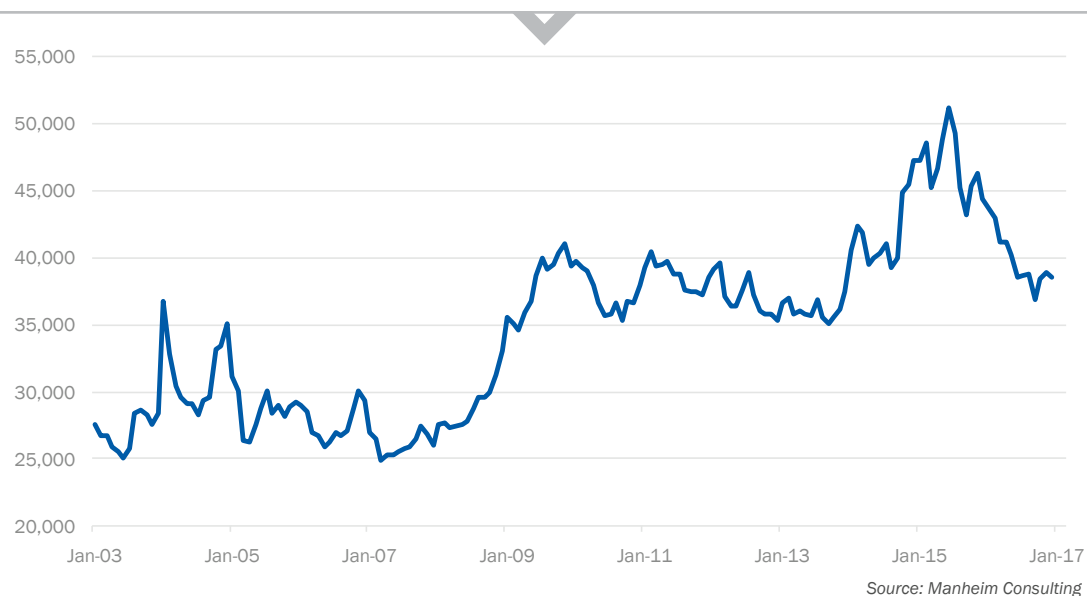
RENTAL RISK PRICING AT AUCTION REMAINS IN A NARROW RANGE

In 2016, prices for rental risk units sold at auction were similar to, but slightly less robust than, what was experienced over the past five years. Our index of mix- and mileage-adjusted prices for rental risk units underperformed in the first quarter of 2016, but that was reflective of the overall wholesale market. By the middle of last year, wholesale pricing for rental risk units was very much in tune with earlier years. Auction pricing for rental risk units was somewhat soft as the year ended.

In 2016, the average mileage on rental risk units sold at auction returned to normal after being inflated by temporary industry and company-specific factors in 2015. It provided evidence that the presumed shift of lower-mileage units into non-auction channels did not really occur.

Although our index of rental risk prices at auction appears to have significantly outperformed the overall wholesale market in recent years, we

AVERAGE MILEAGE RENTAL RISK UNITS SOLD AT AUCTION

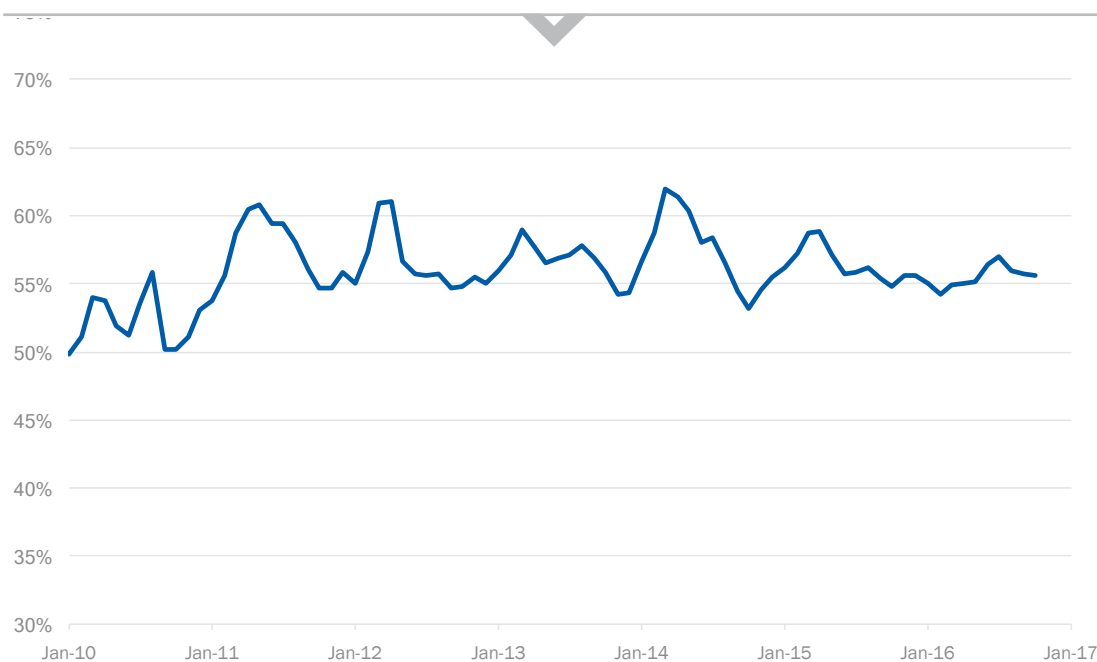


DID YOU KNOW?

70%

Mobile auction unit sales at Manheim have an average conversion rate of **70 percent**, the highest of any channel.

RENTAL RISK AUCTION PRICE VS. NEW VEHICLE SALE PRICE
(BUSINESS) ONE YEAR PRIOR



Source: BEA and Manheim Consulting

would caution against such simple comparisons. Auction prices for end-of-service rental units have been relatively strong, but these vehicles represent a unique slice of the overall wholesale market. It is a segment that is susceptible to swings in new vehicle inventory levels and pricing.

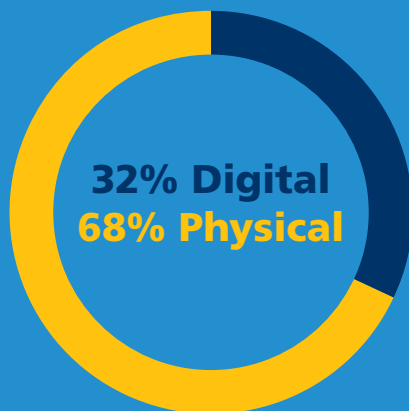
The Bureau of Economic Analysis (as part of national income accounting) produces a monthly series of average prices for new vehicles bought by businesses. If we take that series and relate it to the mix- and mileage-adjusted price series for rental risk units produced by Manheim, we find that off-rental auction prices have been very stable throughout this recovery.

There is justifiable concern that the influx of off-lease units in 2017 and beyond may dampen pricing for off-rental units. Although these two wholesale segments are not exactly great substitutes for each other (the distribution of model years, makes, and contenting are different), there is the issue of share of the dealer's mind and wallet. In coming years, returning lessees will be driving high-quality inventory right to the dealer's door, and lessors will be enticing grounding dealers (with carrots and sticks) to buy these units at fair market value (or sometimes even less) with no buy fee. Each such acquisition will mean that the dealer has a need for one less unit from other sources.

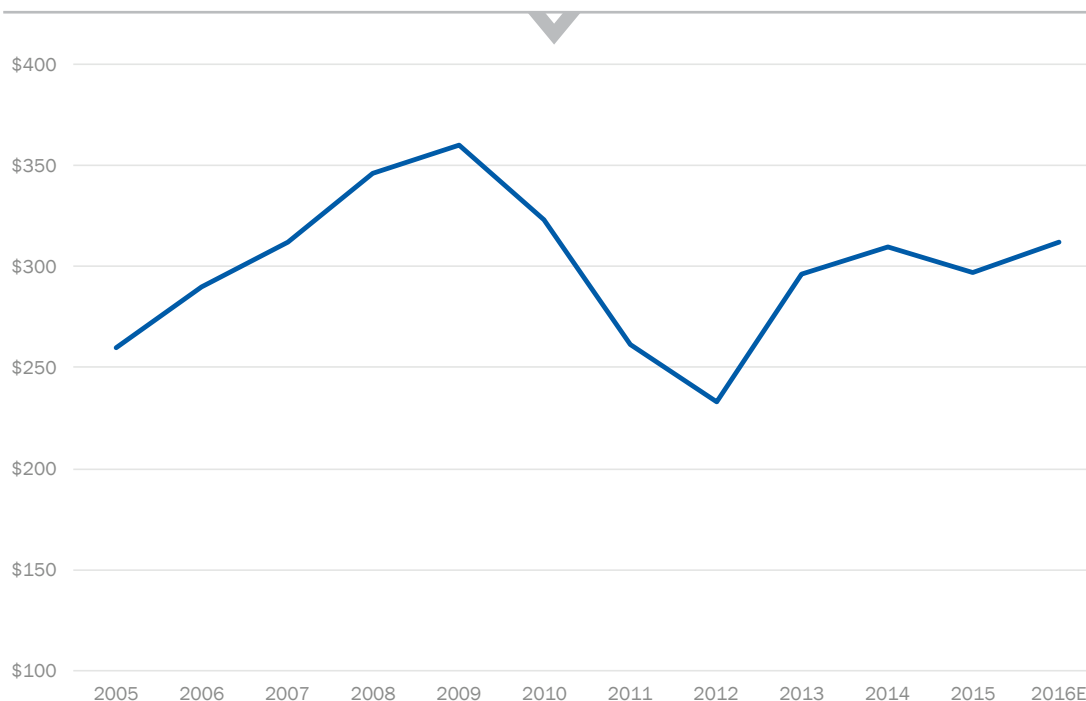
The biggest influence on off-rental pricing will, as always, be manufacturer practices with respect to incentives and inventory levels. On that front, manufacturers have been better at equating production with demand. But the real test will come in future years as the pace of new vehicle sales levels off. Most rental car companies are expecting — and planning for — a higher per-vehicle monthly depreciation cost in 2017, but nothing like 2008 and 2009.

DID YOU KNOW?

Approximately 32% of Manheim sales are digital, and approximately 68% are physical.



AVERAGE MONTHLY PER-UNIT FLEET COSTS FOR AVIS BUDGET GROUP (AMERICAS)



Source: Avis Budget Group

PRIOR RENTAL USE DOES NOT DIMINISH RESIDUAL VALUE

As part of court cases in states where dealers are required to disclose a vehicle's prior use as a rental to the retail buyer, we were asked to conduct an analysis of whether there is any diminution in value for a vehicle that was previously used as a rental, as opposed to one that was not. On a multiyear, yearly, and monthly basis, we looked at all individual year/make/body configurations for which

there was an adequate sample size of both rental and nonrental sales at auction. After we controlled for mileage, vehicle condition, and seasonality, a regression analysis showed that in many cases the results were statistically insignificant and in all cases were small in magnitude — sometimes positive for the rental units and sometimes negative. It is true that, if a manufacturer sells a large number of a particular model into rental, it can harm the residual value of that model; but it does so for both the units owned by rental fleets as well as those owned by retail customers.

RENTAL CAR COMPANIES GROW DIGITAL REMARKETING

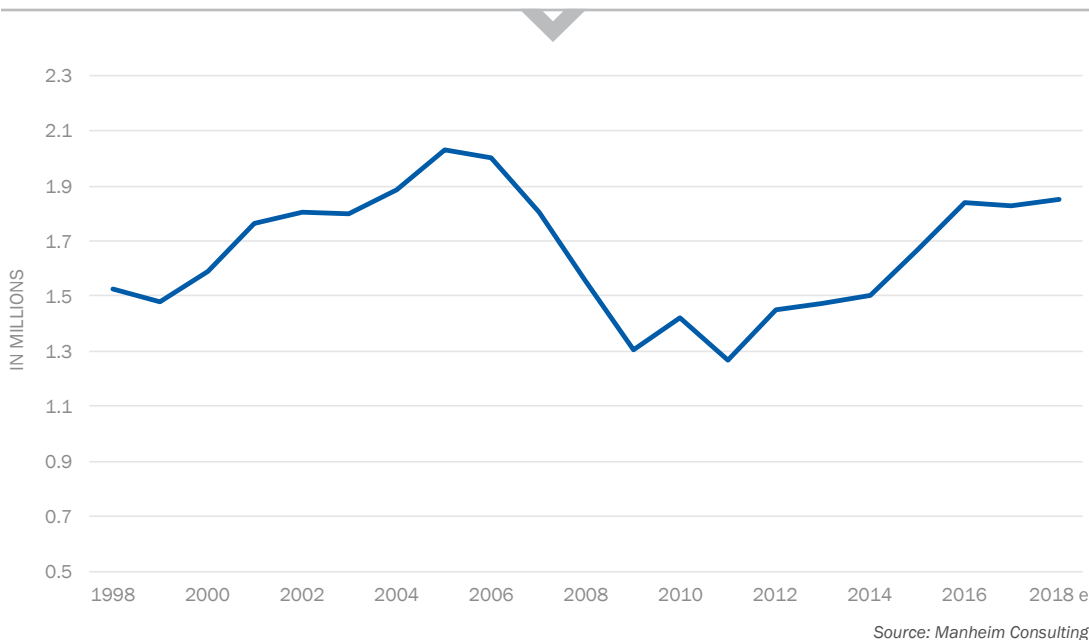
Rental car companies have been quick to adopt, as well as develop, innovative technologies and strategies to remarket end-of-service units. The reason is simple — fleet depreciation is a major determinant of company profitability. When it comes to upstream remarketing, the rental companies have advantages and disadvantages. On the plus side, rental companies are long-established sellers in the wholesale market (which builds buyer trust), and their end-of-service fleet is large, concentrated in a relatively narrow mileage and price range, and often needs only modest reconditioning.

The disadvantage that rental companies face in selling upstream is that their time pressures are acute, and they certainly don't want to marshal unproductive units. As such, the companies have developed strategies to pre-offer units while they are still in service as rental units.

Digital remarketing of off-rental units is also important given that fleets are often concentrated in a particular geography — so much so that they can swamp local demand. Digital remarketing allows the seller to efficiently bring the buyer to the car rather than guess where to move the car.

Another remarketing technique that some rental car companies have used successfully is the offering of specific makes in conjunction with the factory sale of that brand on auction day. To be successful at that, rental car companies need to ensure that their offerings blend better with the other units in the lane. In other words, they need to do more reconditioning and strive for a consistently higher conversion rate.

TOTAL WHOLESALE SUPPLY: OFF-RENTAL



REMARKETING VOLUMES CONTINUE TO GROW

In 2016, more than 1.8 million off-rental vehicles entered the wholesale market. Of these, more than 725,000 units were sold at NAAA-member auctions. Another 200,000 plus were sold directly to retail customers, and the remainder were sold directly to dealers outside the traditional auction process. In 2017 and 2018, off-rental volumes are expected to remain relatively stable and consistent with the number of new units sold into rental.

2017 USED CAR MARKET REPORT

LEASING

2016 HIGHLIGHTS

4.4
MILLION UNITS

New retail consumer lease originations grew 7 percent in 2016 to 4.4 million units.

3
YEARS

Ideally, the **term of a lease** should be for three or fewer years. In 2016, most new vehicle leases had a term of around three years.

18%
HIGHER

Off-lease volumes were 18 percent higher than CPO sales in 2016.

**OFF-LEASE
VOLUMES**

The **rise in new lease originations** will produce a steady rise in off-lease volumes. It will be challenging for the industry to absorb these volumes without producing large residual losses.


PEAKING

New lease originations generally peak at the top of the economic cycle when residual values are at their highest. That means off-lease volumes will rise as the economic down cycle begins.

NEW LEASE ORIGINATIONS CONTINUE TO RISE

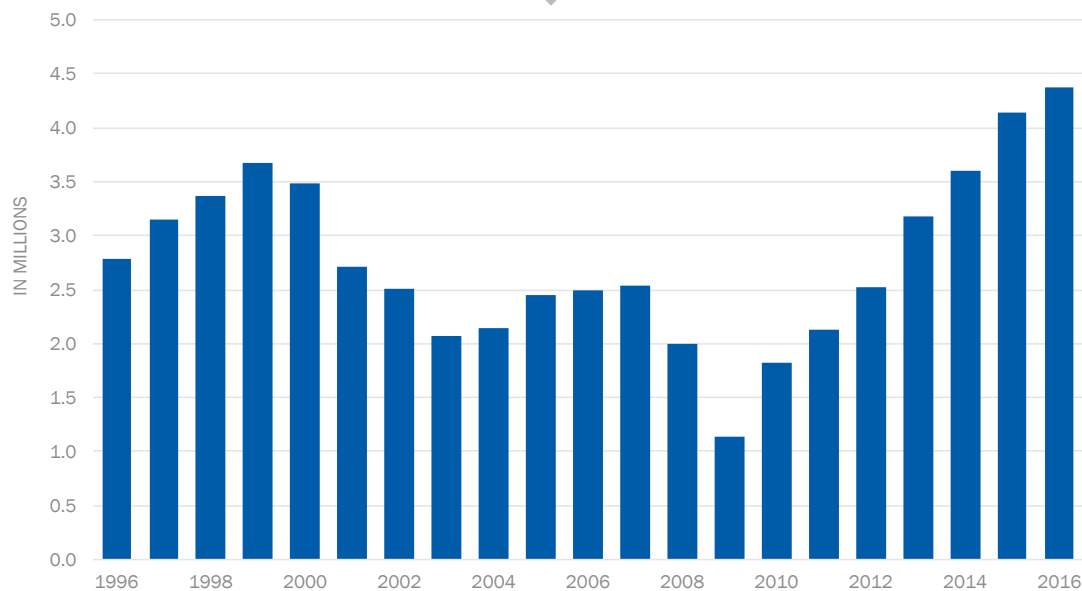
After first surpassing the 4 million mark in 2015, new retail consumer lease originations grew another 7 percent in 2016 to 4.4 million units. Last year's gain came despite a decline to total retail new unit sales. As a result, the lease penetration rate exceeded 30 percent for the first time ever. The number of new vehicles put out on lease in 2016 was nearly four times higher than the 2009 trough, which was a result of the financial collapse that pushed two automakers into bankruptcy and greatly limited funding access for all lessors.

Although 2016 as a whole was a record, the growth in lease originations slowed throughout

the year. On a year-over-year basis, the first quarter of 2016 produced a 15 percent increase in new lease originations. The second quarter was up 11 percent, the third quarter rose only 3 percent, and the fourth quarter was flat. This leveling-off in lease originations (and the penetration rate) reflected responsible business practices on the part of lessors as they refused to pursue volume at any cost. They also reached the dollar limit of the amount of residual exposure they were willing to hold.

From the recession low, lease penetration rates for GM, Ford, and Chrysler products have risen the most. Their lease penetration rates are now close to the industry average after falling to the low single digits in 2009. Major Japanese brands have also kept pace with the overall increase in lease

NEW VEHICLE LEASE ORIGINATIONS



Source: Manheim Consulting

LEASE PENETRATION RATES BY MANUFACTURER

	2009	2015	2016
FCA	3.0%	20.5%	23.5%
Ford	5.4%	23.8%	23.8%
GM	2.1%	25.4%	27.8%
Honda	19.1%	31.6%	33.8%
Toyota	15.9%	28.8%	29.0%
Hyundai/Kia	1.9%	25.5%	28.1%
BMW	50.9%	59.5%	62.2%
Mercedes-Benz	46.4%	53.7%	54.0%
TOTAL INDUSTRY	13.0%	28.0%	30.1%

Source: J.D. Power and Associates

penetration rates. And Hyundai/Kia, relatively new to leasing, went from a 2 percent lease rate in 2009 to more than 28 percent last year. In the luxury segment, lease penetration rates have always been more than twice the overall industry average. The key trend that has emerged in leasing over the past decade is that it has gone more mainstream—no longer is leasing just for luxury models.

AN IMPROVED LEASING MODEL

The previous peak in leasing in 1999 was “leasing gone wrong.” Factors at play in the leasing gone wrong scenario include having the wrong car (the one that couldn’t be retailed), the wrong customer (the one who couldn’t get financed), the wrong residual (guidebooks were

DID YOU KNOW?

Off-lease volume is expected to hit **3.6 million units** in 2017 and eclipse **4 million units** in 2018.

overly optimistic and that residual was bumped another 5 points or more in the lease contract), and the wrong remarketing process (or, to be honest, there was no remarketing process at all). Today, for the most part, we have “leasing done right.” In that scenario, we have the right car (one the lessor wants to get back), the right customer (one who wants to trade on a regular cycle and wants to avoid the residual risk entailed in a long-term finance contract), the right residual (analysts have become better forecasters, and when residuals are subvented, lessors often hold reserves), and the right remarketing process (a holistic approach that is planned in conjunction with the origination process).

As new vehicle sales become increasingly skewed to high-income households, it is only natural that lease penetration rates have risen. That’s because these are the very households that want to trade on a short, and regular, cycle. Putting this type of customer into a 72- or 84-month loan may garner near-term profits, but it will breed long-term

customer dissatisfaction. Remember, residual risk is present in all transactions—whether it is a retail finance contract, lease, or cash deal. It is just a difference of who holds that residual risk.

THE RIGHT LEASE CUSTOMER AND THE RIGHT TERM

Ideally, lease customers should fall into the higher credit tiers—and, for the most part, they do. In the second quarter of 2016, 75 percent of all lessees were in either the prime or super prime credit tier, and their average FICO score was 716. For new vehicle buyers in a retail finance contract, only 70 percent were in the prime or super prime category, and their average FICO was 708. That sounds good and makes sense; but when looking at individual makes and models, we sometimes see that the lease customer has a much lower FICO than the retail finance purchaser of the same model. That should raise a red flag as it is a sign that leasing is being used to simply move metal or put customers in a vehicle they can’t otherwise afford.

Likewise, in most cases, the term of a lease should be for three or fewer years. On that front, the industry has held true, despite the lengthening maturities for retail loans. The bulk of new vehicle leases continue to have a term of around three years. (In leasing, it is common to use non-full-year terms, like 39 months, to control return cycles and adjust monthly payments.)

LEASING AND THE NEW VEHICLE SALES CYCLE

An inherent risk in leasing (from the lessors’ standpoint) is that originations will generally peak at the top of the economic cycle, meaning that peak off-lease volumes will come back in a less

favorable retail environment—and maybe even during a recession. Hence the importance of never aggressively subventing leases at the top of the cycle and of building reserves throughout the cycle.

However, the fact that maximum lease returns may occur in a weak retail environment could be viewed as a positive if it helps moderate the new vehicle sales cycle. New vehicle sales have always been subject to large peak-to-trough swings (typically 25 percent to 33 percent—and during the Great Recession 42 percent), but a high volume of off-lease returns could reduce the magnitude of those swings. End-of-term customers are forced back into the market regardless of economic conditions. If they are satisfied customers whose financial conditions have not materially changed (and, for many, they won’t have changed since lessees are skewed to high-income households), they will lease another new vehicle. Had they been in a retail finance contract, they would have been more likely to remain on the sidelines until the overall economic environment improved. Securing these additional new vehicle sales, as well as supporting the dealer network (and themselves) with potential CPO sales, should be a partial offset to some of the pain of end-of-term residual losses experienced by lessors.

RETURNING LESSEES WILL SUPPORT NEW VEHICLE SALES

Pent-up demand was the principal driver of new vehicle sales increases in the initial stages of this recovery. By definition, that is not a long-term, sustainable force. We are now beginning to

Continued on page 51

DECREASING PURCHASING POWER

AN IMPENDING DISRUPTOR FOR THE INDUSTRY

We live in an age of disruptors, and the automotive industry has had its share.

The ridesharing economy, behavior patterns of millennials and their younger Gen Z counterparts, urbanization, autonomous vehicles: It is fair to say that each will have an impact on the industry, though perhaps not as much or as soon as some would expect.

Arguably more unavoidable are the changes the industry will have to make to accommodate the decreasing purchasing power of potential buyers. During a recent study conducted by Kelley Blue Book, individuals who did not own a car were asked why they had not purchased a vehicle. Affordability was cited as the top reason.

The prices of cars, while not increasing as dramatically as the CPI, have grown by double digits, with the prices of used vehicles up 25 percent and new vehicles up 35 percent since 1997.*

These factors work together to create a real squeeze on consumer purchasing power.

In 2015, it took 38 million additional people over the age of 18 to sell the same number of vehicles as were sold in 2000. If per capita new car sales had stayed consistent over the last 15 years, 2015 new car sales would have been 20.5 million rather than 17.4 million and overall car sales would have been 68.9 million (new and used combined) as opposed to 58.5 million.

Despite the decrease in purchasing power, the automotive market has been favorable and, since 2009, experienced its longest consecutive annual increase since the 1920s. This growth has been fueled by a number of factors, including pent-up demand, historically low interest rates, OEM incentives, availability of credit, increases in leasing, low fuel costs, the improvement of the economy, and decreasing unemployment rates.

Increasing loan lengths have helped minimize the effects of decreased purchasing power as well. In order to keep car payments more affordable, buyers are taking out longer loans than ever before, and 66 percent of buyers are more concerned with the monthly payment than the total price. According to data from Dealertrack, 75 percent of new vehicle loans in 2015 were longer than five years, as opposed to just 51 percent in 2009.

Millennials are taking out the longest loans, with an average loan length of 70.2 months for a new vehicle in 2015. Baby boomers' loans are, on average, 68.3 months, and Gen Xers' are 69.7 months. Loans could arguably continue to lengthen until they reach nine or 10 years, when the monthly payment actually starts becoming more expensive.

Eventually, monthly car payments will become unattainable for average Americans as buying power continues to weaken. This will not happen in the near future as there are still other ways to keep payments down, including leasing and OEM incentives; but it is an eventuality that the industry must prepare for now.

*Source: U.S. Census Bureau, Manheim Data, MSNMoney, and Federal Reserve

THE EMERGENCE OF CPO LEASING

With a market flooded with more off-lease units than ever before and new car MSRPs' steadily increasing, CPO leasing is emerging as a viable and beneficial solution for manufacturers, dealers, and customers.

In 2017, more than 3.6 million vehicles will come off lease, a 16 percent increase over 2016. All of these vehicles must go somewhere, but supply may very well surpass demand and lower used car prices if the units are all pushed back through the wholesale channels. And, if auction prices begin to fall, residual values for new vehicles will be negatively affected, driving monthly payments up. This is certainly an undesirable scenario for customers and could make purchasing a new car unattainable for some.

At the same time, vehicle MSRPs are increasing, leading to higher monthly payments for new cars at a time when customers are very payment-focused. Some customers are wary of pre-owned cars, as traditional retail contracts do not provide peace of mind or assurance. CPO leasing gives customers another option when getting into the market.

New cars depreciate so much during the first few months that the majority of a new car lease payment pays that depreciation. With a used vehicle, the rapid depreciation has already occurred. Depreciation is less significant in the monthly payment of a used lease.

Many customers are concerned that when leasing a used car they are making payments on a car that they won't own and will incur out-of-warranty repair costs for. With CPO leasing, customers are covered under the remaining new car limited warranty and then the CPO warranty as well.

However, a pre-owned lease payment does not always have a significant enough cost savings against a new lease payment with OEM incentives.

If we take an example vehicle with a new value today of \$55,000 and estimate the residual value at 57 percent with no OEM incentives, the monthly payment would be around \$847/month.

Three years from now, that same vehicle could be sold for \$35,350 (the new retail value but \$4,000 for reconditioning, certification, and profit) and the monthly payment could be around \$581 (31.4 percent less).

However, that new vehicle will most likely come with several incentives, the first being a customer rebate. Let's assume \$3,000. Additionally, the OEM may choose to buy down the rate from 0.00220 to 0.00021 (0.50 percent APR

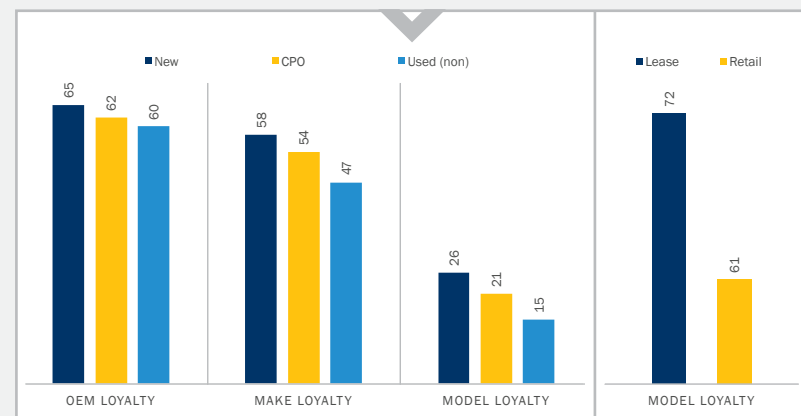
equivalent). If both of those were put into place, the monthly payment would be \$591 —just \$10 more than a like-kind, 3-year-old CPO vehicle. OEMs should incentivize CPO leasing in order to increase loyalty and retention and shorten the length of the customer lifecycle.

Lessors that start a CPO leasing program should recognize that the "return rate" (the percentage of end-of-term units not bought by the grounding dealer or lessee) will likely be considerably higher than for a new vehicle lease. As such, they should develop a well-thought-out remarketing plan.

HIDDEN BENEFITS OF CPO LEASING

- » Cox Automotive analysis, based on Experian data, shows that customer loyalty is higher for CPO than non-CPO pre-owned customers, and buyers who lease have more customer loyalty than retail customers.
- » The 2016 Cox Automotive Dealer Service Study indicates that service retention of customers who purchase either a new or used vehicle is significantly lower than for lease customers. Sixty percent of new purchasers and 56 percent of used purchasers had not returned to the originating dealership for service in the last 12 months, whereas 63 percent of those customers who leased a vehicle had returned to the originating dealer for service.

CUSTOMER LOYALTY BY PURCHASE TYPE



Sources: Cox Automotive Analysis based on Experian Data, 2016 Cox Automotive Dealer Service Study

transition to a market supported by returning lessees. And not just any type of lessee—a satisfied one. From a dealer’s perspective, that’s pretty much automotive retailing’s utopia—happy customers returning on a regular cycle.

The current bifurcation in the retail finance market—a high lease-penetration rate as well as a lengthening in retail contract maturities—could be a good thing if dealers and salespeople correctly put the right customer into the right finance option. The higher lease-penetration rate will help offset some of the lengthening in the trade cycle that naturally occurs with longer-term loans.

That said, the sheer volume of new lease originations could pose a challenge to remarketers in future years. In addition to off-lease volumes often coming back into a less-favorable retail environment, there is also the issue of shifting consumer tastes. In 2016, for example, the bulk of off-lease units were cars, whereas new car buyer preference had clearly shifted to crossovers.

Lessors also need to be mindful of the level of subvention entailed in the original lease. When not overly subvented at origination, a lease return is viewed by the lessor and grounding dealer as an opportunity to sell a satisfied customer another car. But, if overly subvented, that lease return can start a downward spiral in both residual values and customer satisfaction.

OFF-LEASE VOLUMES WILL RISE SIGNIFICANTLY

Given the growth in new lease originations, we can be assured of a steady rise in off-lease volumes. And since the increases in lease-penetration rates were not consistent across manufacturers, neither will be the changes in off-lease volumes. It will be challenging for the

industry to absorb these off-lease volumes without producing large residual losses. All of these off-lease units will have to be subsequently retailed in the used vehicle market—and in short order, at a profit—so the question is: To what level will prices in the wholesale market need to adjust to effectuate these transactions? The needed residual adjustments in 2016 were manageable because the retail environment remained favorable.

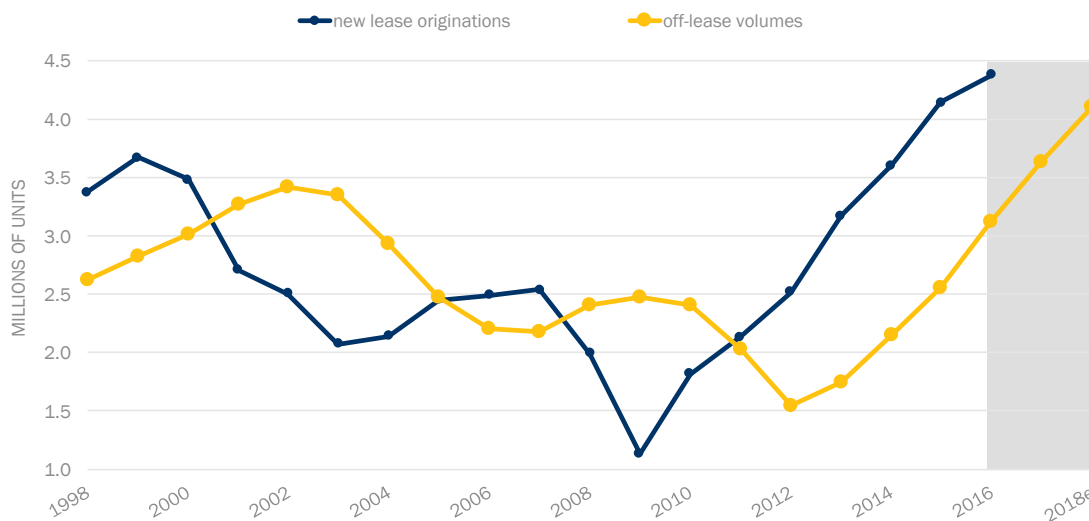
OFF-LEASE VOLUMES AND CPO SALES ARE BENEFICIALLY LINKED

End-of-term vehicles are generally a perfect fit to be sold as a CPO unit. In turn, CPO sales help support wholesale values and thus mitigate the lessor’s residual risk. And the lessor has

opportunities to further moderate the residual risk by providing additional marketing muscle or incentives (like reduced rate financing) behind the CPO programs. In 2002, during the last peak in off-lease volumes, CPO sales were only 38 percent as big as total off-lease volumes. In 2015, CPO sales and off-lease volumes were basically identical. And in 2016, despite the surge in off-lease volumes, they were only 18 percent higher than the level of CPO sales—about the same ratio as 2011.

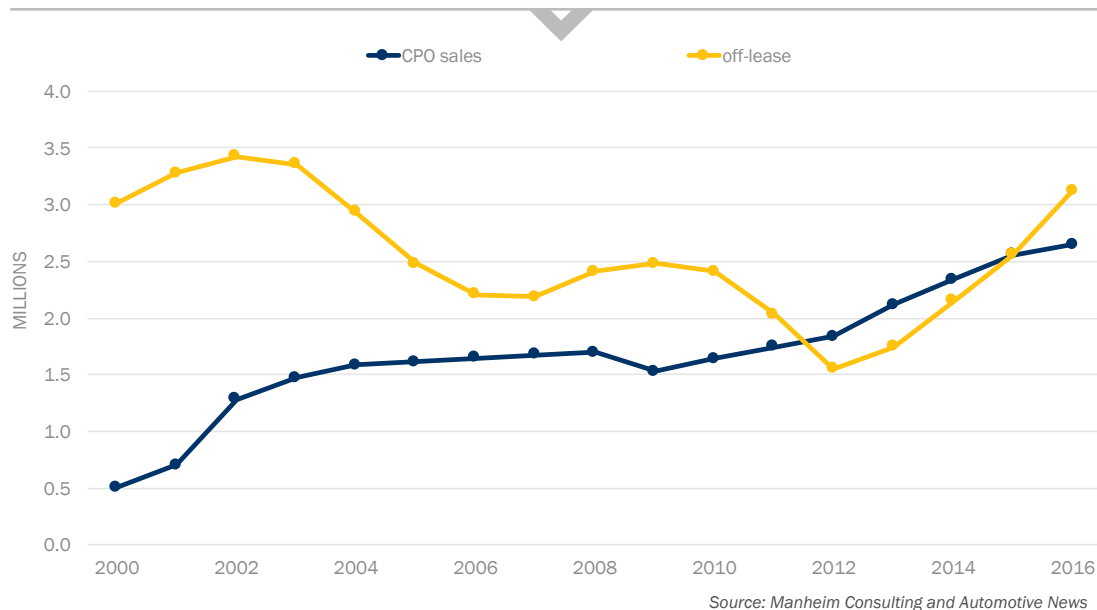
The leasing of used vehicles has remained, up until now, a niche market; but with higher off-lease volumes and more robust CPO programs, that may change. The leasing of CPO units offers captive finance companies another lever to pull to protect residual values. The leasing of CPO units, as opposed to traditional used car leasing, offers

OFF-LEASE VOLUMES—FURTHER GROWTH AHEAD



Source: Manheim Consulting

OFF-LEASE VOLUMES VS. CPO SALES

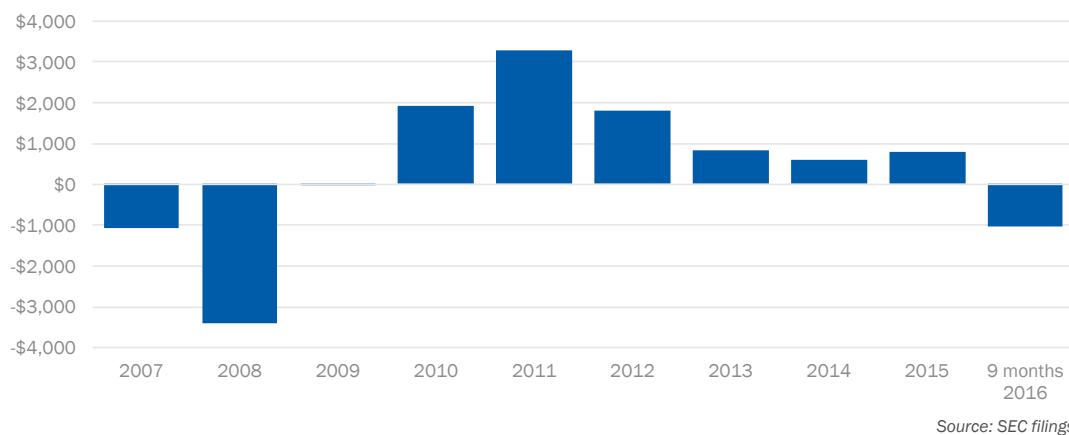


lessors a better assessment of the collateral value of the unit being placed in the lease. In addition, lessors will often find that a vehicle that was a poor new vehicle lease (high end-of-term residual loss) will prove to be a good used vehicle lease.

END-OF-TERM GAINS DISAPPEAR

Lease remarketers are well-accustomed to cyclical swings in their portfolio performance. For example, they went from large losses on end-of-term units in 2008 to record gains on units sold in 2011. Strong equity positions enabled lessors and dealers to strategically use pull-ahead lease programs to stimulate new sales, retain customer loyalty, and enhance customer satisfaction. Unfortunately, such equity positions in lease contracts are now rare. There are no aggregated data on the performance of all lease portfolios, but the nearby graphic depicting results for Ford Credit gives an indication of industry trends.

As noted before, these swings in portfolio performance are an inherent, and unavoidable, risk contained in the lease business model. New lease originations generally peak at the top of the economic cycle when residual value projections are lofty (since they are based, in large part, on past experience). That means that the peak in off-lease volumes will often come back during an economic down cycle when used vehicle valuations are low. Swings between gains and losses are also amplified by the fact that lease return rates (i.e., the share of off-lease units not bought by either the lessee or grounding dealers) are inversely correlated to used vehicle values. When wholesale prices were at their lowest in 2008, lease return rates were often well above 80 percent. As wholesale values reached new highs in 2011 and 2012, return rates fell well below 50 percent. As we expect off-lease volumes

AVERAGE GAIN OR LOSS ON LEASE RETURNS
FORD CREDIT

to rise in future years, and wholesale prices to fall, lease return rates should begin to creep back up; but it is unlikely they will approach earlier highs. That's because lessors have a greater variety of tools (both carrots and sticks) to help, and entice, grounding dealers to purchase a reasonable share of returning units.

Expected, as well as contract, residuals have risen during the recovery—and the spread between the two has widened.

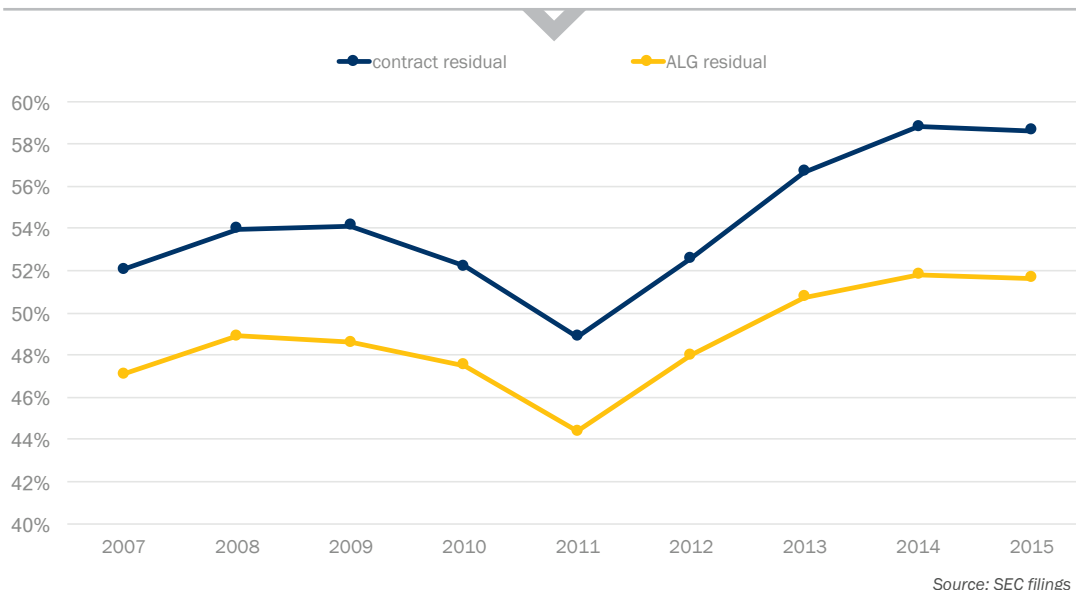
OFF-LEASE REMARKETING PRIORITIZES THE GROUNDING DEALER

All captive finance companies, as well as the major independents, utilize at least one internet upstream platform that offers end-of-term vehicles to an ever-widening audience of dealers prior to sale at physical auction. And those technologies, platforms, and processes have improved significantly in recent years.

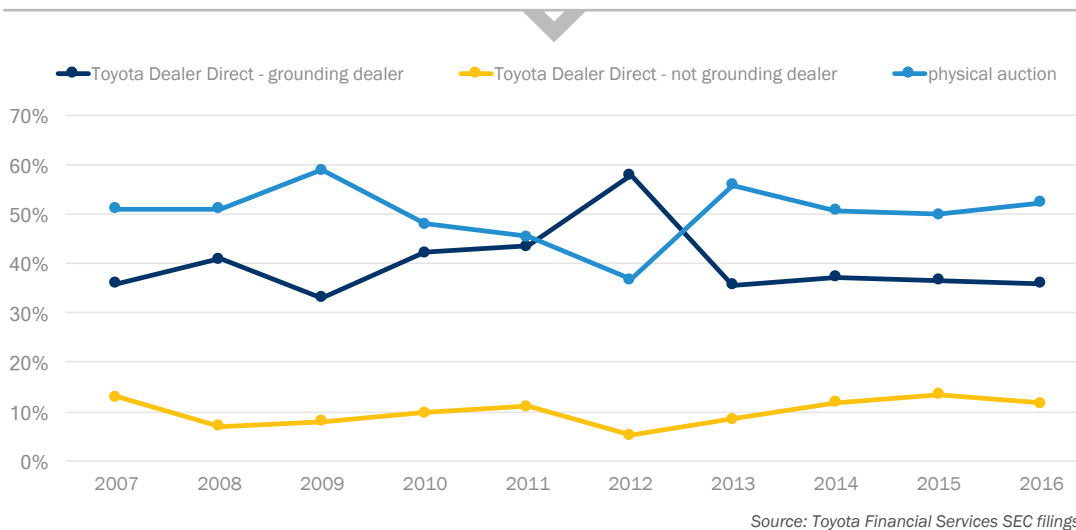
Most of the captives are using these technologies to keep a large share of the returning lease volume within their dealer network—and, most notably, the grounding dealer. As off-lease volumes grow in coming years, it is likely that the share of off-lease units bought by the grounding dealer will decline, but probably not by much since the captive lessor will still put priority on that first possible sale—and offer an attractive price to achieve it.

The share of Toyota Financial Services' off-lease units sold at physical auction declined from 59 percent in fiscal year 2009 (height of the recession) to 37 percent in 2012 (height of used vehicle values). The auction share has remained slightly above 50 percent ever since.

CONTRACT RESIDUALS VS. ALG RESIDUALS—FORD CREDIT LEASES AS PERCENT OF MSRP



DISTRIBUTION OF TOYOTA FINANCIAL SERVICES OFF-LEASE SALES IN U.S. (PERCENT OF TOTAL—FOR FISCAL YEAR ENDING 3/31)





2017 USED CAR MARKET REPORT

REPOSSESSIONS

2016 HIGHLIGHTS

1.1
TRILLION

The **dollar amount of auto loans outstanding** stands at a record level of \$1.1 trillion.

30%

The **total number of auto loans** has grown by 30 percent over the past five years.

61+

The **share of used vehicle loans** with a term of 61 or more months now stands at 59 percent.

620
RISK SCORE

The **share of auto loan originations** accounted for by people with a risk score below 620 (i.e., subprime) was more than 30 percent at the height of the last lending cycle. Today it stands at 23 percent.

3.7
MILLION
DELINQUENT

The **number of auto loans seriously delinquent** (90-plus days) rose from 2.9 million in the third quarter of 2014 to 3.7 million in the third quarter of 2016, a 28 percent increase.

In 2016, the retail financing environment (and actual results) remained favorable for all concerned—lenders, dealers, and borrowers. That came as no surprise for those focused on the fundamentals (labor market stability, financial market liquidity, and competitive investment opportunities), but it was in stark contrast to some of the dire predictions that were floated before the year began—most notably, the premature talk of a bubble in subprime lending which actually started many years earlier.

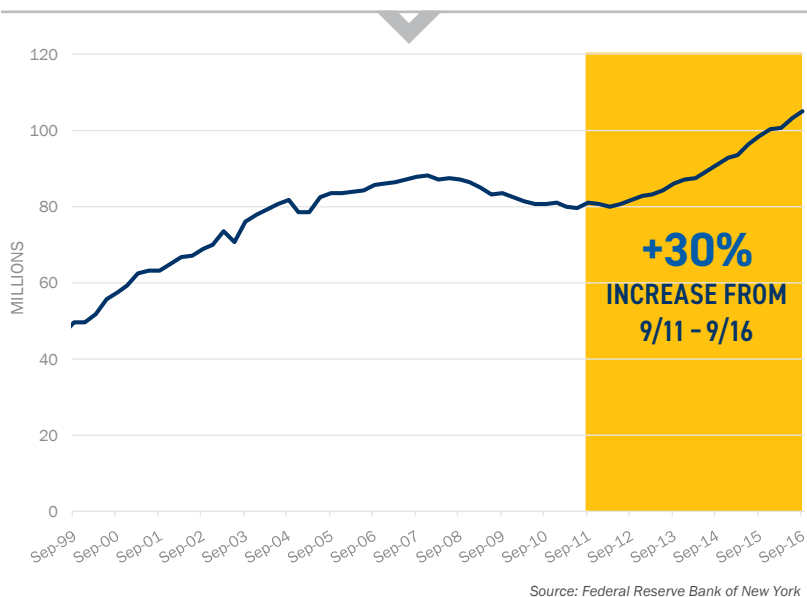
Going into 2017, there is once again concern that retail auto financing may be flowing too freely (this time with more justification); but there are also signs that the industry is self-adjusting, so although financing availability will likely be less generous than in recent years, it should not prove overly restrictive to new and used unit sales.

LOANS OUTSTANDING REACH RECORD LEVELS

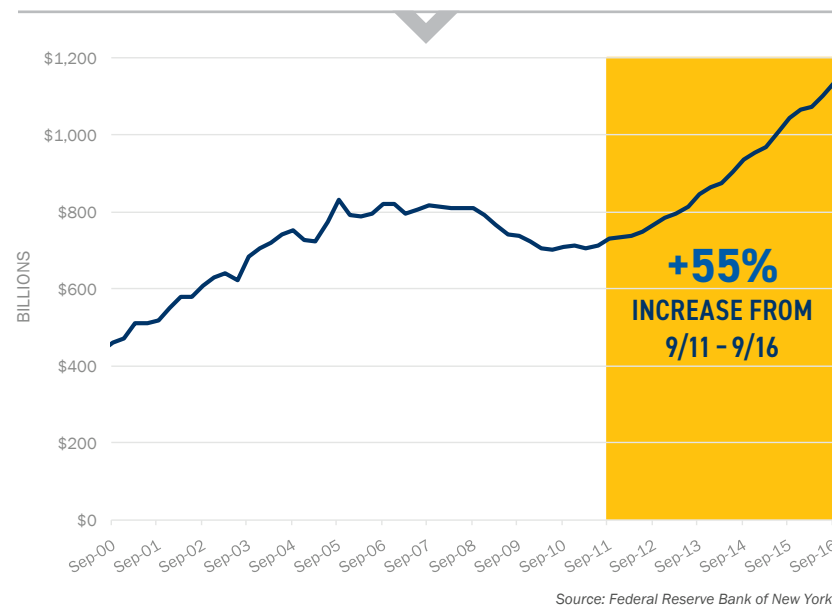
The strong recovery in new and used vehicle sales since the recession has pushed the number of auto loans outstanding up by 30 percent over the past five years. Add in a higher contract amount and newer loans, and you find the dollar amount of auto loans outstanding has grown by 55 percent over the past five years, and now stands at a record \$1.1 trillion.

Naturally, the growth in auto loan originations and outstandings has been dependent on a robust asset-backed securitization (ABS) market. Auto ABS issuance has averaged more than \$92 billion a year over the past five years. And while the terms of the deals remain favorable to issuers, ABS investors still find the risk-adjusted yields attractive in today's low-interest-rate environment.

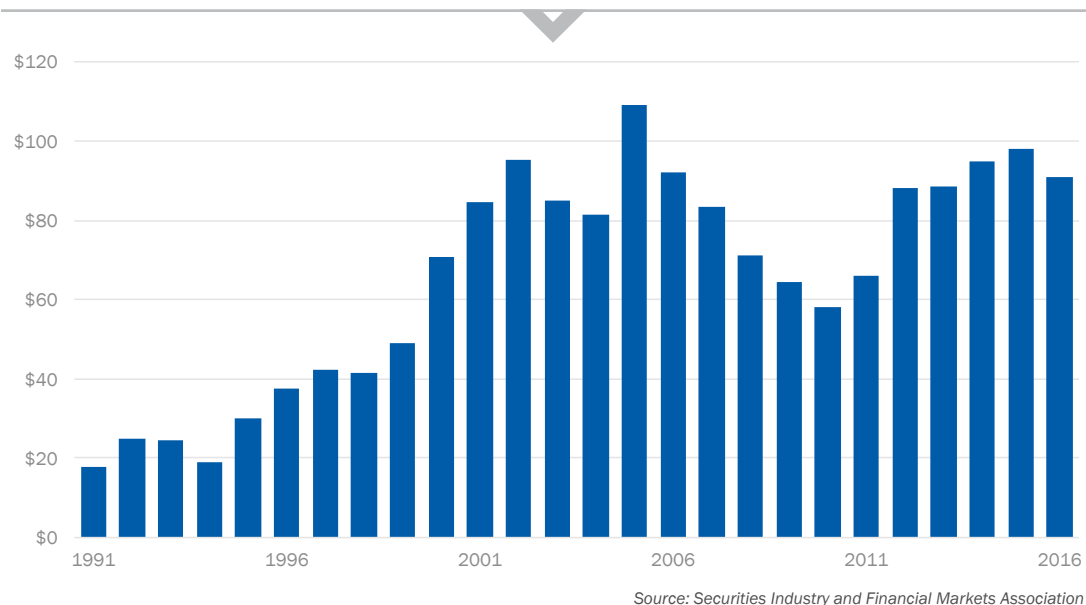
NUMBER OF AUTO LOANS OUTSTANDING



VALUE OF AUTO LOANS OUTSTANDING



AUTO ABS ISSUANCE BY YEAR

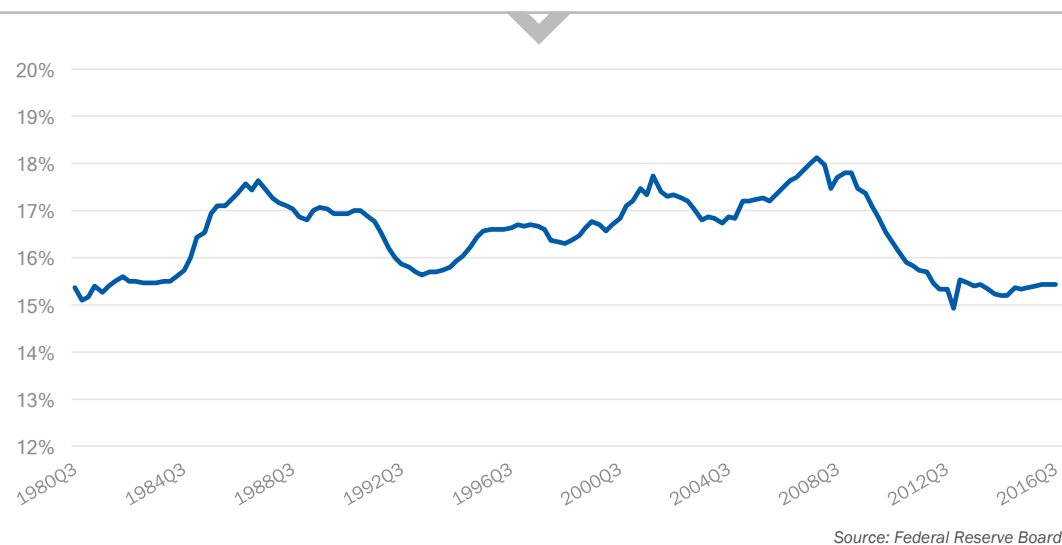


HAVE BORROWERS OVEREXTENDED THEMSELVES?

Needless to say, household incomes have risen much more slowly than auto loans outstanding. So, will borrowers be able to service their debt? Yes. Due to the different recovery trajectories for housing and autos (as well as the writing-off of real estate debt through foreclosures and short sales during the recession), mortgage obligations (by far the biggest component of household debt) remain 10 percent below the peak reached in the third quarter of 2008. Credit card debt also remains well below its previous peak. Only auto loans and student debt are at new highs. Calculate in low interest rates, and you find that the financial obligation ratio (the sum of mortgage, rent, auto lease and loan, and property tax payments as a percent of disposable personal income) has been running at its lowest levels in 30 years.

FINANCIAL OBLIGATION RATIO

Total household mortgage, rent, auto loans and leases, and property taxes as percent of disposable personal income



AUTO DELINQUENCIES AND DEFAULT RATES REMAIN AT HISTORIC LOWS

The lighter debt load relative to income partially explains why borrowers have been able to keep current on their auto loans, but the real difference in recent years has been the shift in labor market conditions. To be sure, wage growth has been weak and the share of employment accounted for by part-time workers remains high; but those are factors that workers are aware of, and can account for, when taking out their loans. What they can't account for is unexpected job loss, which is the number one reason for credit default. In 2016, job security—as measured by initial jobless claims adjusted for employment—was at its highest

S&P AUTO CREDIT DEFAULT INDEX



Source: Standard & Poor's

level ever. Likewise, the ratio of job openings per job seekers hit a new high.

Low gas prices have been another factor keeping loan delinquencies in check, especially in the subprime tiers. That's because pump prices are another cost that can unexpectedly hit household budgets—either favorably or unfavorably. Given all this, it is not surprising that the S&P Auto Credit Default Index remains near historic lows.

GIVING CREDIT WHERE CREDIT IS DUE

The auto lending market is a competitive landscape, with many players—ranging from large money center banks to small independent finance companies. Some lenders provide loans across all credit tiers, while others focus on particular

niches. Some lenders make direct loans to consumers, but many more make indirect loans through dealers. Some lenders are national; many more are local. The end result is an industry that efficiently, and cost-effectively, funds new and used vehicle buyers of all credit types—in other words, “giving credit where credit is due.”

Another byproduct is an industry with low levels of lender concentration. On the new vehicle side, the top 10 lenders control about 60 percent of the market, and on the used vehicle side, the top 10 lenders account for only 30 percent of all financing. As a result, there are many banks, finance companies, and credit unions with small auto loan portfolios and, thus, few repossessions. This has created an opportunity for third-party providers to handle the collateral collection and remarketing needs of these lenders.

THE LOOMING ISSUE OF LONG-TERM LOANS

In a period of just three years, the share of used vehicle loans with a term of 61 months or more grew from 51 percent to 59 percent. Currently, 18 percent of all used vehicle loans are for a term of 73 to 84 months, up from just 12 percent in 2013. The prevalence of long-term loans is, of course, even higher for new vehicle financing, where 72-month contracts have become the new norm.

Lenders report that longer loans, in and of themselves, do not materially impact repossession rates. That may be true, but it is inarguable that longer loans increase the severity of loss on credit defaults. And, since the equity point is reached further out in long-term contracts, it is reasonable to expect that a greater number of repossessions will take place further out in the contract. This can be especially problematic in the lower credit tiers. These are households that by definition are living on the edge. Unfortunate events such as illness, divorce, or job loss can quickly push them into default, and of course, with the longer loan, the odds of a bad event occurring at some point during the term increases. But, even for the higher credit tiers and the vast majority of loans that never go delinquent, longer-term contracts can pose a problem—customer dissatisfaction. That's because many owners will find it expensive, or impossible, to trade out of their current vehicle at the time they would like.

Lenders and dealers can mitigate some of the issues of longer-term loans by securing more upfront money. In reality, however, the opposite is occurring as loan-to-value ratios have generally risen. But again, lenders are comfortable with this given the exceptionally low level of delinquencies.

SUBPRIME RECAPTURES NORMAL SHARE OF THE AUTO LENDING MARKET

The share of auto loan originations accounted for by people with a risk score below 620 (i.e., subprime) grew from 17.1 percent in the third quarter of 2010 to 22.9 percent in the third quarter of 2015, according to data from the Federal Reserve Bank of New York. At the height of the last lending cycle, subprime accounted for approximately 30 percent of all auto lending. Given where we are in the economic cycle, it is not surprising that some of these subprime auto loan originations are not performing as well as in recent years. At the beginning of the recovery, many of the subprime borrowers were simply people who had been caught up in the recession. They had good debt-to-income and payment-to-income ratios, but their credit scores had been dinged by the foreclosures and short sales that allowed them to reduce their debt burden. Today, seven years into the recovery, the profile of the subprime borrower is becoming more typical of the past. Look for delinquency rates to rise.

REPOSSESSION VOLUMES GROW MODESTLY

Despite good portfolio performance, repossessions—and potential repossessions—continue to grow simply because of the larger number of contracts outstanding. Note, for example, that although the seriously delinquent rate for auto loans (90-plus days) has been flat in recent years, the actual number of seriously delinquent accounts has been rising. Based on data from the Federal Reserve Bank of New York, the number of auto loans seriously delinquent rose from 2.9 million in the third quarter of 2014 to 3.7 million in the third quarter of 2016.

SUBPRIME AS SHARE OF AUTO LOAN ORIGINATIONS



Source: Federal Reserve Bank of New York

DID YOU KNOW?

NextGear Capital credit lines are accepted at more than 1,000 auctions and are accessible via numerous other inventory sources throughout the U.S.



NUMBER OF AUTO LOANS OUTSTANDING 90-PLUS DAYS DELINQUENT



Source: Federal Reserve Bank of New York

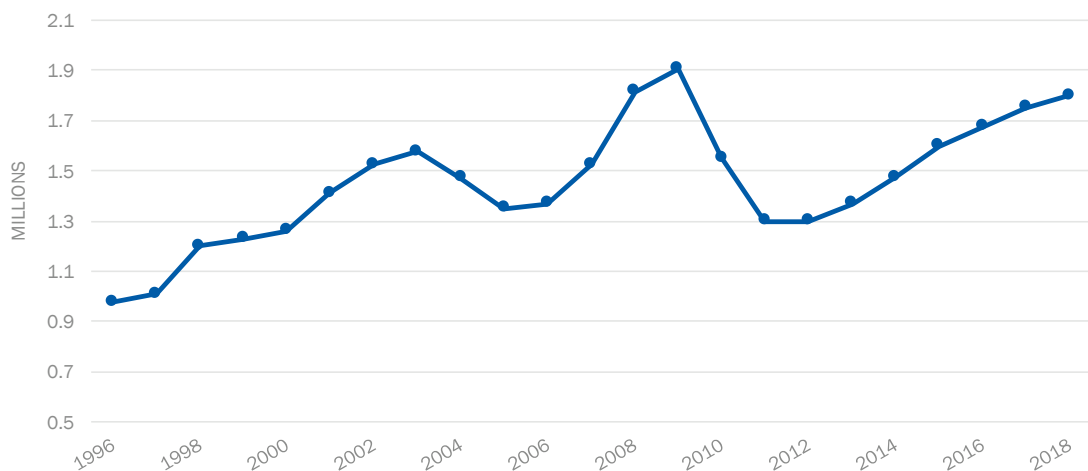
Given the number and credit tier distribution of contracts outstanding, the number of repossessions will grow in coming years even if the economic environment remains stable. If one assumes a recession scenario, repossession volumes could quickly approach 2 million annually.

REPOSSESSION REMARKETING: QUICK CONVERSIONS FOR HIGH RETURNS

Lenders are naturally focused on converting repossessed units into cash as quickly as possible. Various laws and regulations dealing with the processes of collateral collection and liquidation often present a stumbling block to that quick conversion, but lenders and their auction partners have been successful in streamlining the processes that they do control.

Given lenders' strong focus on time-to-sale, they generally strive for, and achieve, high conversion rates. That, coupled with little or no reconditioning, means that wholesalers are often the buyers of repo units. Sometimes they will do some light cosmetic work and then re-wholesale the unit. That arbitrage should not be regarded as a lost opportunity for the seller, but rather simply the wholesale market efficiently getting vehicles to the ultimate end dealer in the condition desired.

NUMBER OF REPOSSESSIONS



Source: Manheim Consulting

2017 USED CAR MARKET REPORT

FLEETS

2016 HIGHLIGHTS

6%

New vehicle purchases by commercial and government fleets went up 6 percent in 2016.

953,000

673,000 units were purchased by commercial fleets and 280,000 by government agencies. That's 953,000 **combined units** sold.

TOP
5

The top five **models of 2016** accounted for 40–50 percent of all new cars registered to commercial fleets.

70,000

The average mileage on end-of-service **midsize fleet cars** declined for the third consecutive year and slipped below 70,000.

110,000

The average mileage on end-of-service **pickups** fell below 110,000 miles for the first time since 2011.

NEW VEHICLE FLEET PURCHASES INCREASE FOR SEVENTH CONSECUTIVE YEAR

Total new vehicle purchases by commercial and government fleets grew more than 6 percent in 2016 to 953,000 units. It was the seventh consecutive yearly increase and pushed total purchases 62 percent higher than during the 2009 recession. New vehicle purchases by commercial fleets totaled 673,000 (+3 percent), while government agencies purchased 280,000 new vehicles (+16 percent). In 2016, nonrental fleet purchases of cars fell by 7 percent, while truck purchases rose 11 percent.

Although commercial fleet purchases will continue to be supported by higher employment levels, further significant increases will be difficult to achieve given that earlier sales were also boosted

by both pent-up demand and the desire to “short-cycle” some of the fleet to take advantage of exceptionally high wholesale prices. Over the longer term, we see new vehicle sales into fleet constrained by employment shifts between industries, changed occupational distributions within industries, continued tight reins on both private and public fleet budgets, concerted efforts to improve the utilization of the existing fleet, and the shift to employee reimbursement as opposed to company-provided cars. As such, future fleet sales will be driven more by the replacement cycle created by the nearly 7 million vehicles currently operated by commercial entities and government agencies, rather than a growth in fleet size.

FLEET OPERATING COSTS REMAIN LOW IN 2016

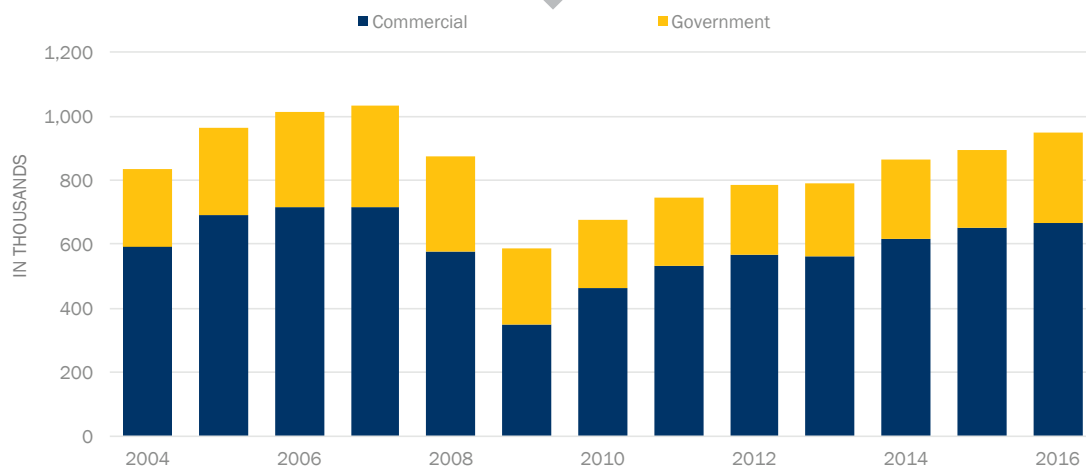
In 2016, fleet managers once again enjoyed stable or declining operating costs, primarily as

a result of low energy prices (fuel accounts for approximately 60 percent of the average fleet’s budget). Operating costs were also helped by stable maintenance and repair expenses and depreciation costs. These savings were partially offset by recalls that increased rental outlays for supplemental units. Keeping operating expenses in check is important for the future health and growth of the fleet industry since budget outlays to the fleet department remain constrained. Lower operating expenses better enable fleet managers to grow units in operation and provide higher service levels to fleet drivers.

Today’s higher-quality vehicles and, in some cases, extended powertrain warranties have kept fleet expenses in check by reducing maintenance and repair costs on a per-mile basis. When repair incidences do occur, however, they are significantly more expensive than in the past as the diagnosis is often more complex and the parts and labor costs higher. Similarly, the prevalence of synthetics has made oil changes more expensive, but it has lengthened service intervals. Additionally, fleet operators, like retail consumers, have benefited from manufacturer programs that cover early oil changes and tire rotation. But it remains important that fleet managers and fleet management companies ensure that all required fluid changes and scheduled service is actually performed and documented. Otherwise, warranty claims will be denied.

After years of significant increases, tire prices have been stable the past three years as a result of low input commodity prices, e.g., oil, rubber, and steel. The shift toward more expensive, larger-diameter tires appears to be a trend that has mostly played out; but there is a continuing increased use of special-sized tires for which there is not a lot of price competition, or availability, in the replacement market.

NEW VEHICLE SALES INTO COMMERCIAL AND GOVERNMENT FLEETS



Source: Bobit Business Media

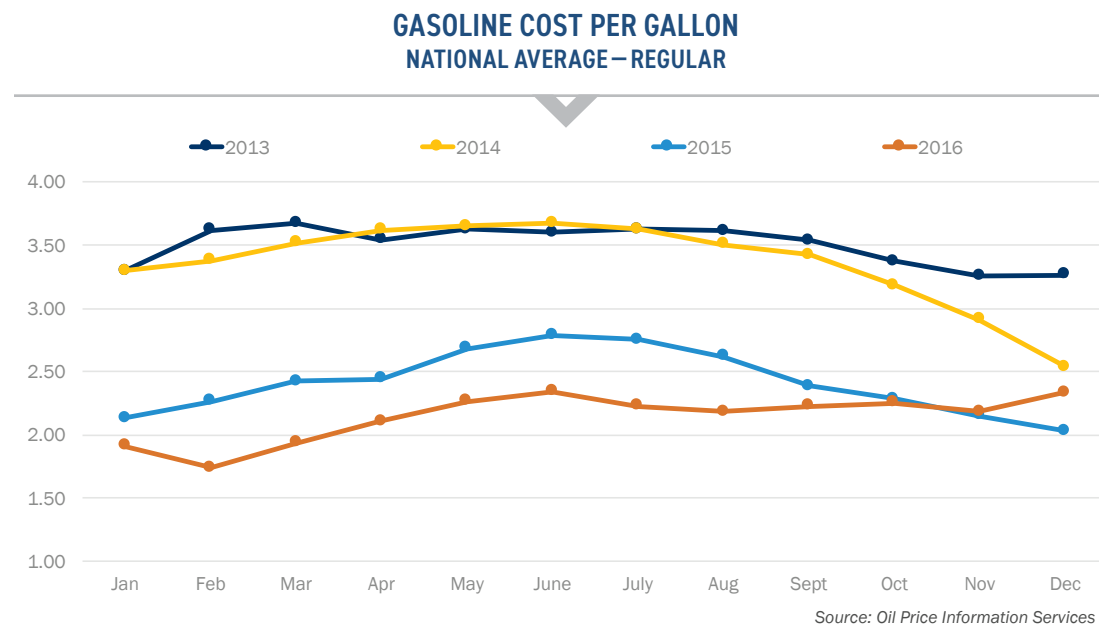
One area of fleet operating expenses that is bound to rise in coming years is funding costs. The benchmark 10-year Treasury yield rose from under 1.5 percent in July to 2.5 percent by December. The two-year yield rose from less than 0.6 percent to more than 1 percent during the same period. It is unlikely that we will see another summer swoon in interest rates in 2017.

FLEET FUEL EFFICIENCY CONTINUES TO IMPROVE

Fleet managers have worked hard for many years to right-size the vehicles in their fleets to precisely meet needed requirements. After achieving the proper market class mix, they then strived to purchase the most fuel-efficient models and equip them with the proper options. This practice not only lowered annual fuel costs, but in many instances, also protected resale values, as consumer interest in fuel economy was also high in the used vehicle market. In 2015 and 2016, however, this did not play out as well. Significantly lower gas prices shifted consumer preferences. Most notably, sedans lost favor to crossovers. In addition, strong price competition on the new vehicle side within the compact and midsize car segments further hurt residual values for these types of vehicles.

Alternative fuel vehicles have often been placed in fleet service due to corporate sustainability dictates, not because of expected savings. In some instances, however, the higher number of miles driven by fleet vehicles enables them to show a positive payback that would not be possible for a typical retail user. For example, vehicles powered by natural gas already often have a favorable total cost of ownership in some fleet situations.

But in 2016, most alternative fuel vehicles, such as hybrids, suffered from both a higher acquisition



cost and a faster depreciation rate. In addition, alternative fuel vehicles open up the fleet manager to greater residual risk since the end-of-service value is less predictable and is subject to large short-term swings.

CONCENTRATED, BUT COMPLEX, BUYING DECISIONS

Unlike rental fleets, commercial and government vehicle purchases are generally concentrated within a few makes and models. Registration data from R.L. Polk shows that the top five models usually accounted for 40-50 percent of all the new cars registered to commercial fleets. And in the van and pickup segments, the percentage runs well over 80 percent.

Part of this concentration is a result of historic buying patterns geared toward domestic manufacturers that are fleet-friendly with respect to order-to-delivery times, custom up-fitting, and incentives. But it also reflects the fleet manager's conscious decision to limit the number of models available to drivers on fleet selector lists.

More concentrated buying has not meant less complicated buying. In particular, the practice of staggered new model introductions throughout the year has made the fleet manager's task more difficult. It's impossible for the fleet manager to do model-to-model comparisons when the final specs of a potential buy have not yet been released. And staggered new model introductions invariably lead to staggered purchasing and remarketing cycles, something the fleet manager would prefer to avoid. In 2016, as in prior years, February to April accounted for the highest share of new fleet deliveries.

FLEET RESALE PRICES: CARS DOWN, TRUCKS UP

The important midsize car segment of the commercial fleet market had a modest decline in pricing in 2016, despite having fewer miles at time of sale. This was reflective of the trend in the overall wholesale market. End-of-service pickups and vans, however, commanded strong pricing throughout the year. Many fleets now also have a larger number of the newer Euro-style vans coming out of service. They are popular in the wholesale market.

Earlier in this recovery, fleet managers availed themselves of opportunities to cycle out of fleets early to take advantage of higher wholesale prices. Interestingly, at the same time, some fleets were extending the service lives of their vehicles. As a result, the mileage on fleet units being remarketed became more dispersed. Recently, mileage dispersions have narrowed.

In 2016, the average mileage on end-of-service midsize fleet cars declined for the third consecutive year and slipped slightly below 70,000 miles. For pickup trucks, average mileage ticked down noticeably in 2016, and as some fleets cycled out early to take advantage of new exciting product offerings, the average mileage on pickups fell below 110,000 miles for the first time since 2011.

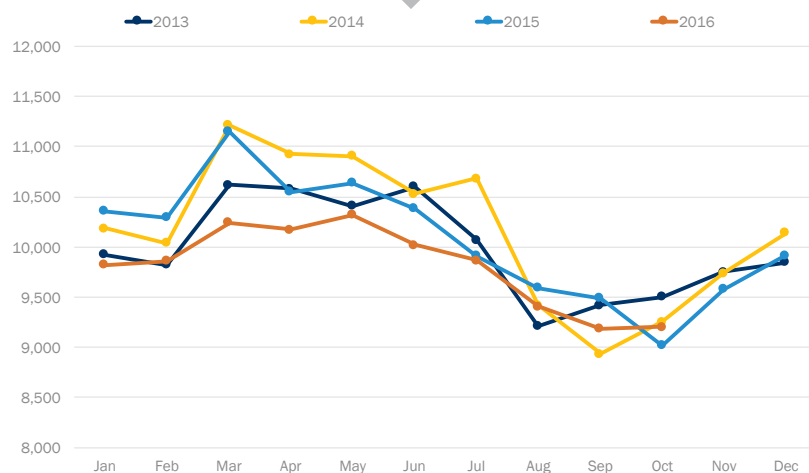
FLEET MANAGEMENT COMPANIES DRIVE REMARKETING IMPROVEMENTS

Fleet management companies (FMCs) have been pioneers in using analytics to protect residual values—for example, studying the impact that various vehicle options have on resale value or

determining the optimal service life for particular types of vehicles. FMCs have also been innovators as well as catalysts in moving the whole remarketing industry forward—for example, upstream selling and multiplatform listing.

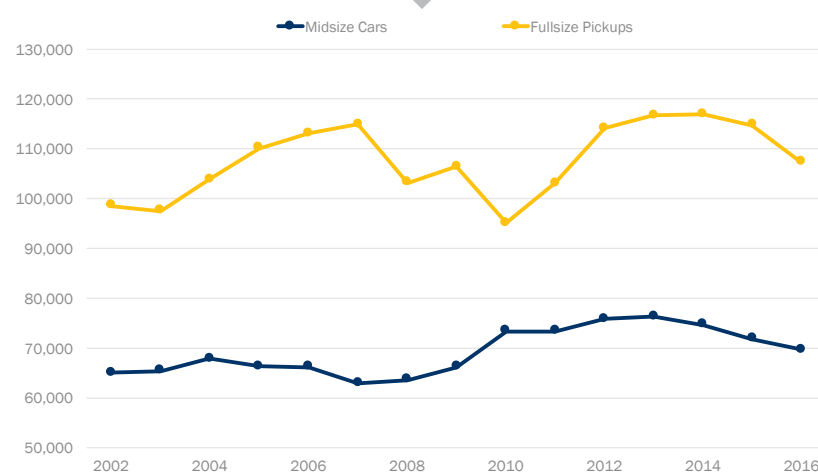
All of this belies the common myth that fleet management companies are less interested in resale value since, generally, they do not carry the residual risk. The FMC/fleet manager client relationship, like most others in the remarketing world, is built on a true partnership working toward mutually beneficial goals.

**AVERAGE AUCTION PRICE
MIDSIZE FLEET CARS**



Source: Manheim Consulting

**AVERAGE MILEAGE
COMMERCIAL FLEET UNITS SOLD AT AUCTION**



Source: Manheim Consulting

2017 USED CAR MARKET REPORT

INTERNATIONAL

2016 HIGHLIGHTS

90
MILLION UNITS

Global new vehicle sales for 2016 are expected to grow to 90 million units.

4.6%

China retained the top ranking in global new vehicle sales, as its 2016 sales were up 4.6 percent to 25 million vehicles.



Despite unfavorable market conditions in the U.K., 2016 saw **record sales** of 2.69 million passenger cars.

2.74
MILLION

New car sales in India are expected to triple in size by 2019. Sales in 2016 show 7.4 percent growth with 2.74 million new car sales through November 2016.



Brazil's market has struggled as 2016 new car sales saw a 20 percent fall to 1.68 million units.

GLOBAL

There are an estimated 1.24 billion vehicles on roads around the world today. In 2015, 89.6 million new vehicles were sold worldwide. Halfway through 2016, new unit sales were up 3 percent compared to the same time period in 2015. **At this current rate, 2016 global new vehicle sales were expected to grow marginally, to 90 million units** (full year data not yet available).

China has retained its dominance at the top of the global new vehicle sales ranking with estimated 2016 sales showing a 13.7 percent increase to 27.9 million vehicles sold. **Brazil's current economic situation** led to a 25 percent decline in its 2016 sales, despite a new government's taking power.

U.K. MARKET

Market conditions were not favorable in the U.K. during the second half of 2016 due to the uncertainty around the decision to leave the European Union. Consumer confidence was negative throughout 2016, and in recent months, the 17 percent devaluation of the pound put pressure on new car prices. However, the U.K. market is surprisingly robust, and after a record 2015 (2.63 million new passenger car sales), 2016 saw record sales of 2.69 million passenger cars. Record low interest rates, low fuel prices, an abundance of finance options, and a wide range of new car models to choose from are still helping drive the new car market, which has now achieved its fifth consecutive year of growth.

Prior to the Brexit vote in June, new car sales were performing positively compared to 2015. After the vote, new car sales fell 0.8 percent versus the same month in 2015. Major OEMs decided to increase new car prices to protect themselves

2016 NEW VEHICLE SALES
RANKINGS ARE BASED ON 2016 FIGURES

	2014	2015	2016	% CHANGE
1. China	23,499,001	24,597,583	27,967,451	Up 13.7%
2. USA	16,522,663	17,470,659	17,550,351	Up 0.4%
3. Japan	5,562,888	5,046,511	4,970,000	Down 1.5%
4. Germany	3,356,718	3,539,825	3,836,116	Up 7.7%
5. UK	2,842,025	3,061,406	3,068,473	Up 0.2%
6. India	3,177,005	3,425,336	3,664,750	Up 7%
7. France	2,210,927	2,345,092	2,425,283	Up 3.3%
8. Brazil	3,498,012	2,568,976	2,050,327	Down 25%
9. Canada	1,890,387	1,939,949	1,948,000	Up 0.4%
10. South Korea	1,661,868	1,833,786	1,890,632*	Up 3%

*Full-year estimates based on November growth rates due to end-of-year figures' not being available

Sources: (See page 69)

from higher real costs and the devaluation of the pound. However, this did not scare British car buyers off, as U.K. sales grew by 0.1 percent in July and continued to grow in the following months. The U.K. continued to defy the pessimism of Brexit with another record sales year.

During the first half of 2016, used car sales reached record levels with over 4.18 million used vehicles sold, representing an increase of more than 300,000 vehicles from the first half of 2015. The 8 percent growth in sales for the period was also the first time the sale of used cars in the U.K. surpassed 4 million in the first half of any year on record, putting used car sales on track to exceed pre-recession levels. The first three quarters of

2016 remained strong with a 7.9 percent increase from the same period in 2015 (6.3 million used cars were sold, an increase of over 460,000 vehicles). This current run rate looks to surpass previous used car sales records.

Approximately 80 percent of consumers' new car sales are financed and driven by Personal Contract Plans (PCPs). PCPs allow consumers to pay an initial deposit and then a fixed monthly payment based on an agreed term and annual mileage. At the end of the term, the user can either pay off the remainder of the car or trade in the vehicle as a deposit for a new car. In a recent Manheim survey, around 57 percent of franchised dealers said that over 60 percent of their new car sales

were facilitated with a PCP scheme, and that **94 percent of dealers believe PCP has been the most important factor in the growth of new car registrations.**

CONTINENTAL EUROPE AND TURKEY

The global financial crisis had a heavy impact on Europe, and the road to recovery is taking place at varying speeds across the region. Spain is growing fast despite political problems, while Italy faces problems after voters rejected reforms to the country's economy. Portugal, which emerged out of its recession in 2014, has cooled off somewhat. Meanwhile, Germany, the U.K., and France have managed to sustain moderate growth rates since the recession with 0.7 percent, 0.6 percent, and 0.3 percent GDP growth per year, respectively.

Other factors impacting recovery across the region include the immigration problem, the ongoing Syrian conflict, and fallout from the U.K.'s vote to leave the EU.

The top six markets in Europe in terms of new car sales have remained in the same positions since 2014, with Germany leading, the U.K. second, followed by France, Italy, Spain, and Belgium.

Poland has overtaken the Netherlands for seventh place, showing the growth potential of the Eastern European country as a developing automotive market.

Europe's 2016 new car sales had a 2.1 percent increase from 2015 to 13.9 million units, making it the best result since 2007. The trend is positive but low compared to pre-recession levels. Europe's five biggest markets contributed positively to overall growth during this period. Spain sold 1.15 million new cars (up 11 percent), Italy sold 1.82 million new cars (up 15.8 percent), France sold

2.01 million cars (up 4.7 percent), and Germany sold 3.35 million cars (up 5 percent), boosted by growing economies and promotional discounts set by OEMs. Preliminary estimates of used car sales show the major European countries' used car markets experienced growth in 2016. Spain looks set to carry on its growth from 1.83 million sales despite the ending of the PIVE scrappage scheme, and Italy's 2015 2.6 million sales also look set to grow marginally.

Although Turkey remained resilient during the global financial crisis, recent political instability, including a failed coup, has affected the country's economy—the lira plunged to a record low against the U.S. dollar, and investors dumped equities in the biggest sell-off since 2008.

Turkey ended 2015 with record highs in production, domestic markets, trade, and employment. New car sales grew 23 percent in 2015 to 725,000 units, despite the uncertainty of the U.S. Federal Reserve's raising exchange rates and the country's general elections. Similarly, used passenger car sales grew 4.5 percent from 4.2 million in 2014 to 4.4 million in 2015. Affected by the country's political instability, vehicle sales took a hit in July and August 2016 with sales dropping 29 percent and 13 percent, respectively. However, 2016 full-year vehicle sales actually rose 1.6 percent to a record 983,720 as a result of customers' bringing forward purchases with the depreciation of the lira expected to hit demand in 2017.

The European car parc has aged during the recession—Portugal's average car is now 12 years old from 10.1 in 2010, over a quarter of the Italian car parc is more than 15 years old, and Spain has an average car parc age of 11.5 years. Overall, the average age of the European Union car parc has increased 14 percent in the last 10 years.

Cox Automotive's presence in Europe is mainly in the retail solutions space and is represented by the Modix and Incadea brands. Modix is based in Koblenz, Germany, and supports car dealers and OEMs with their digital marketing products, including dealer and CPO websites, used vehicle locators, and lead tracking systems. Modix currently operates across 18 countries with over 10,000 dealer customers and 30 OEMs. As part of the 2015 acquisition of Dealertrack, Cox Automotive also acquired Incadea—a provider of DMS and business intelligence software and services to the global retail automotive and wholesale market. Incadea, headquartered in Munich, Germany, has a presence in over 90 countries, and its software is used in more than 4,000 dealerships globally.

ASIA PACIFIC

Many worldwide regions are currently struggling with low economic growth rates; however, the 10-country ASEAN region is forecast to grow at 5 percent annually over the next five years. Among the six major ASEAN economies, Vietnam, the Philippines, and Indonesia were expected to have the best growth prospects of 6.3 percent, 6.1 percent, and 5.1 percent, respectively, in 2016. The growth stems from strong domestic economies' sheltering them from sluggish external demand and weak financial climates elsewhere in the world.

Economic conditions in Thailand had deteriorated slightly since the Royal Thai Armed Forces launched a coup d'état, the 12th since the country's first coup in 1932, against the caretaker government of Thailand. The recent death of the king created more uncertainty in Thailand as the country entered a period of one year's mourning. However, 2016 year-end forecasts predict modest growth of 3.2 percent and similarly into 2017.

In the Thai market, new passenger car sales have fallen steadily since 2012 from 660,000 to 369,000 in 2014 and 304,000 in 2015. The drop of more than 50 percent over this period is drastic but expected as the Thai government ceased its “first car buyer” financial incentive scheme, which increased new car sales during 2012 and 2013. Unfortunately, the downward trend continued into 2016 with the first half of the year’s new vehicle sales down a drastic 11 percent compared to 2015 figures, perhaps due to the country’s recent political instability. Since naming the new King Vajiralongkorn as successor to the throne, the instability has subsided and 2016 full-year

estimates are expected around 750,000 vehicles sold. With the expiry of the government’s five-year lock-up period for vehicles bought under the first-time car buyer scheme, 2017 is forecast to offer a recovery in new vehicle sales. In terms of used cars, Thailand had been on a continued growth path for a number of years from 816,000 in 2002 to just over 2 million in 2013. However, it suffered a blip in 2014 regarded as a consequence of the government incentives around new car sales. 2015 year-end figures show it again recovered with 1.9 million used vehicles sold. **It is estimated that around 50 percent of these transactions are C2C.**

Elsewhere in Asia Pacific, Australia is experiencing an economic slowdown following the end of the resources boom and a reduction in house price growth. However, rising commodity prices and export volumes in Q4 2016 have helped the country record its first trade-balance surplus in three years and eliminated fears of a technical recession. The automotive production industry in Australia will also cease in 2016/17 as Ford, Holden, and Toyota—the last of the manufacturers—exit the market. Ford recently shut its factory in Australia after more than 90 years of operation.

In 2016, Australia recorded its third new vehicle sales record in four years with 1.17 million vehicles sold (an increase of 2 percent). Affordable cars, record low interest rates, and a diverse selection of vehicles were the driving force behind Australia’s continued growth in vehicle sales, and it is expected to continue into 2017.

New Zealand’s economic growth remained relatively weak in 2016; but robust performances in construction, retail trade, and the tourism sectors shielded the economy from external headwinds and sluggish demand for the country’s key commodities. New Zealand has experienced six consecutive years of growth in new vehicle sales, achieving a record 133,000 units in 2015, a 5 percent increase over 2014. The upward trend in new vehicle sales continued through the first half of 2016, with a 3 percent increase over the first half of 2015. Through November 2016, sales increased 11.4 percent to 123,000 units sold. **The estimated size of the used vehicle market was 110,000 vehicles per annum in 2015, with a significant volume being imported from Japan.**

DID YOU KNOW?

NextGear Capital has operations in Ireland, the U.K., and Canada.



CANADA

Despite recording a dismal Q2 2016 and its poorest economic quarterly performance since the Great Recession, Canada bounced back in Q3 2016 with GDP rising stronger than expected by 3.5 percent. Driving this growth was an increase in exports and a return to normal oil production after the wildfires in Alberta. Q4 results were not yet released at time of publication but were expected to grow around 1.5 percent.

Canada recorded a fourth consecutive new vehicle sales record in 2016 with 1.95 million sales (an increase of 2.7 percent on 2015). This increase has been attributed to demand from baby boomers with disposable income, who are now treating themselves to new vehicles in retirement.

Canada ended 2015 with 2.8 million used car sales, up 3 percent from the previous year. In 2016, the used car market had been performing well due to a strong demand from U.S. buyers spurred by a favorable exchange rate. However, it has recently regressed, and with longer waiting periods at the borders, U.S. buyers are starting to pull back. There are still buyers coming across the border, but they have specific needs and appetites, with much of the market now driven by Canadian dealers again.

KEY GLOBAL MARKETS

BRAZIL

Brazil is now the ninth-largest economy in the world, falling from seventh last year. Previous year forecasts had suggested Brazil will move to fifth place by 2030. However, the economy fell into recession during 2015—it has been beset by a combination of high inflation and borrowing costs, political paralysis, and growing government debt

and deficits, which have pushed it into its worst economic downturn since the 1930s.

The recession has clearly impacted the vehicle market, with OEMs' holding back proposed investments and demand for new cars falling. 2016 new car sales saw a 20 percent fall to 1.68 million units compared to 2015 as the economic recession impacts Brazil's new car market greatly. However, with a new president in place and new measures announced, there is optimism that the economy is on the road to recovery in 2017.

Brazil's economic problems have also impacted the used car market, with 8.64 million sales in 2016 and 2015 (compared to 8.73 million in 2014). However, this drop is not as large as 2013/2014, when the market dropped from 9.6 million. Brazil was forecast to grow by 7.5 percent CAGR by 2018; however, this growth rate was set pre-recession. **Despite this negativity, Brazil still has one of the biggest vehicle parks in the world, and sales should recover once the country's political uncertainties are dissipated.**

CHINA

China's economy grew 6.7 percent in the first three quarters of 2016 and was expected to remain flat for the rest of the year. However, the economic data China presents globally has long been scrutinized, and many suspect that China's economic slowdown in 2015/2016 was not fully reflected in its figures. Concerns are growing globally over the slowdown in China and its effect on the greater global economy, especially if figures are being distorted.

China has been the largest auto market in the world for eight consecutive years, with estimated sales of 27.9 million new vehicles in 2016 (up 13.7 percent from the previous year). This is on the

back of 2015 results, which marked the smallest increase in three years for new car sales following a slowdown in its economy. However, with a tax break scheduled for expiration, consumers flocked to buy new cars before the end of 2016. Government tax incentives will continue to stimulate new car sales growth and will focus on new energy vehicles (NEVs). Electric vehicles were up 50 percent versus the previous year, making China the leader in electric vehicle sales.

The sale of second-hand cars in China was expected to soar in 2016 after The Chinese State Council released a guideline to stimulate the sector's growth by proposing to lift the bans currently in place that stop used cars' being imported from different regions of the country. Used car sales in 2015 were estimated at 9.4 million units and, with this new proposal, have the potential to grow substantially for years to come. Used car sales in China were expected to surpass the 10 million mark in 2016 and reach 20 million by 2020.

INDIA

India is now the fifth-largest market in terms of new vehicle sales, with 3.66 million new registrations in 2016 (up 7 percent compared to 2015). In terms of passenger car sales, 2016's performance was once again strong with a 7.4 percent growth rate (2.74 million new car sales) through November. It's expected to surpass last year's registrations of 2.78 million new cars despite the latter months' reporting falls in sales due to the effects of the government's demonetisation.

The used car market equalled the new car market only in 2014 and reached 3.2 million sales in 2015. It is expected to continue to grow and triple in size by 2019, surpassing new car sales substantially.

Although two-wheelers dominate almost 80 percent of the market, there are over 22 million cars on Indian roads today; however, the motorisation rate is very low, with just 22 cars per 1,000 people, offering large potential for growth.

In late 2015, Cox Automotive announced a strategic investment in India with Mahindra First Choice Wheels Ltd. — India's largest multibrand certified used car company, with more than 650 franchised outlets spread across nearly 300 cities and towns throughout the country. The company aims to expand its number of outlets to more than 1,800 by the end of 2020. In addition, there is a Retail Solutions presence in the market through our Incadea brand supporting dealers and OEMs.

SOURCES OF CHART DATA LISTED ON PAGE 65:

2014 and 2015 data

OICA.net

2016 data

China: <https://www.ft.com/content/73ceffb4-d8ac-11e6-944b-e7eb37a6aa8e>

USA: http://online.wsj.com/mdc/public/page/2_3022-autosales.html

Japan: <http://asia.nikkei.com/Business/Trends/Japan-s-annual-new-car-sales-sink-to-five-year-low>

Germany: http://www.kba.de/DE/Presse/Pressemitteilungen/2017/Fahrzeugzulassungen/pm01_2017_n_12_16_pm_komplett.html?nn=646300

India: Our partners at Mahindra

U.K.: <https://www.smmf.co.uk/vehicle-data/>

France: <http://www.ccfa.fr/>

Brazil: www.fenabrave.org.br

Canada: www.Desrosiers.ca – Autowatch report

South Korea – estimate based on November growth rate from www.focus2move.com



2017 USED CAR MARKET REPORT

MMR CASE STUDY

CALCULATE RETENTION USING INITIAL OFFERING MMR VALUE FOR MORE ACCURATE DEPRECIATION MEASUREMENT

For vehicles offered for sale at auction multiple times, benchmarking against the Manheim Market Report (MMR) value on the original offer date provides the most effective measurement of depreciation.

Historically, depreciation has been captured based on the sell date MMR value, which is not always the same as the value of the unit the first time it was offered for sale.

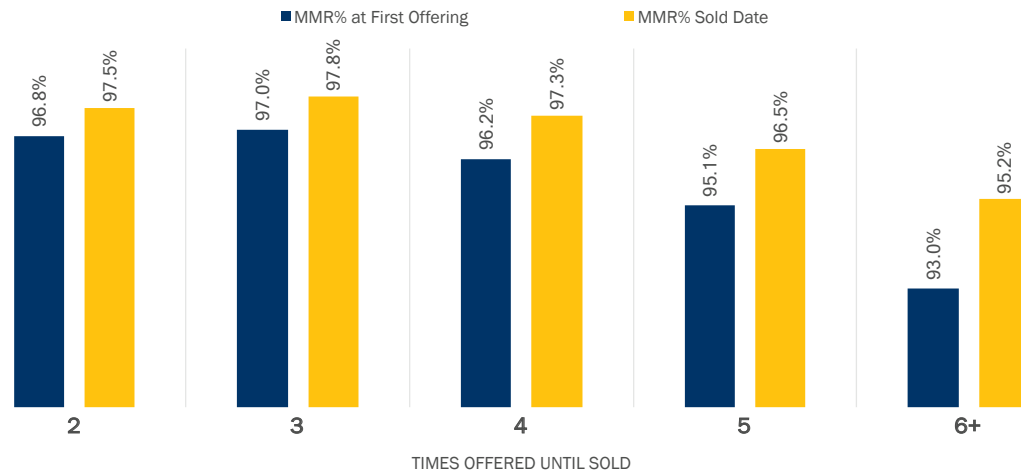
Once a unit has been offered more than once, the depreciation trend declines steeply and continues to do so with subsequent offerings. Using initial offering MMR value reveals even more dramatic depreciation and seasonal sales trends that can inform dealers' holding strategies.

For instance, during the second half of the year, vehicle values achieve a lower percentage MMR value for every subsequent offering for the unit compared to the first half of the year. Based on these findings, dealers should consider revisiting existing strategies from June to December and consider listing "no-sales" on OVE to quickly offer the unit again with high probability of achieving a higher profit. Placing these units on OVE has proved to increase auction values by up to 3 percent. This MMR increase applies to all grade buckets comparing retention gained on OVE versus the second time offering in-lane.

KEY FINDINGS:

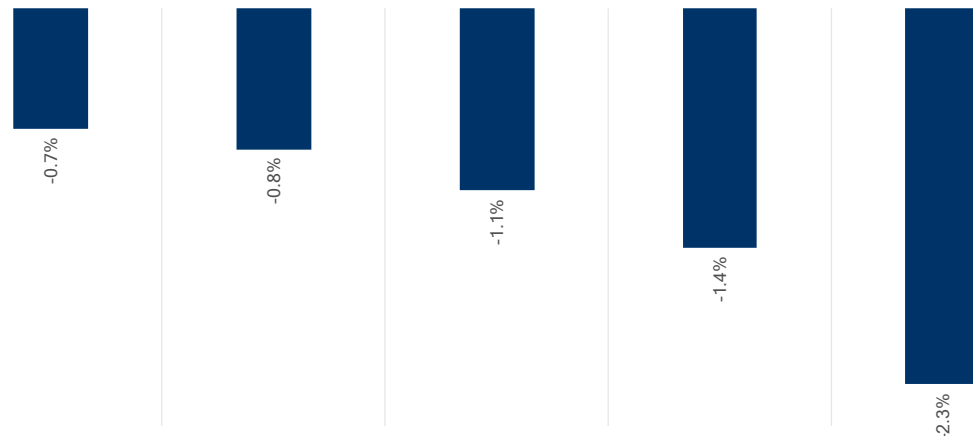
- » For vehicles that have been offered multiple times, the gap between retention compared to MMR the first time a vehicle was offered and sale date retention reveals how much vehicles typically depreciate between offers.
- » At second offer, this gap is 0.7 percent. For a \$12,000 unit, this equates to approximately \$87 of value lost to depreciation.
 - By the fifth offer, the gap increases to 1.4 percent. For a \$12,000 unit, this equates to approximately \$172 of depreciation.
 - In general, vehicles depreciate by approximately 0.4 percent per week. Strategies that involve no-selling a vehicle and holding out for a higher price at the next offer must overcome this depreciation to be worthwhile to the consignor.
- » Not surprisingly, retention depreciates at a faster rate during the second half of the year, exacerbating the cost of holding vehicles during this season.

PERCENT MMR OBTAINED COMPARING PRICE TO SOLD DATE MMR AND FIRST OFFERING DATE MMR



Source: Manheim Consulting

PERCENT MMR VARIANCE COMPARING TO SOLD DATE AND FIRST OFFERING DATE



Source: Manheim Consulting



Cox Automotive brands operate in five groups with a domestic and global presence. Our complete and connected view of the automotive ecosystem allows us to identify new solutions and opportunities that will redefine the industry. By working across our range of solutions, we can help each client run a smarter, more streamlined and profitable business.

HomeNet
AUTOMOTIVE

VinSolutions
Mobility solutions

FirstChoice

精真估
JINGZHENGU



MANHEIM
Retail Services

vAuto
LIVE MARKET VIEW

AUTOST
汽车街
autostreet.com

incadea

Manheim

Ready
Logistics



Autotrader



Modix

Dealertrack

MOTORS

Central Dispatch
NEXTGEAR
CAPITAL

overtime

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Automotive Insurance Management

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DEALER.COM

