

ANALYST CERTIFICATION AND IMPORTANT DISCLOSURES BEGIN ON PAGE 13

## Auto Finance

# Dangerous Regulatory Curves Ahead for Autos

*"There's just no denying what the change in that market has done to our recoveries. And it's had a significant and material impact on our loss rates."* - [Consumer Portfolio Services](#)

### The Takeaway:

*Used vehicle depreciation is only one challenge facing the auto industry. Others include regulatory inquiries into global positioning systems (GPS), kill switches, and ancillary product sales, which combine with a backdrop of credit deterioration. Last week, we [reported](#) that J.D. Power Valuation Services (JDP) Used Vehicle [Index](#) 6.9% year-over-year (YoY) decline compared to Black Book's (BB) Used Vehicle Retention [Index's](#) decline of 5.1% YoY (Fig. 1). We have also highlighted the pullback in auto finance lending by several major banks driven by increasing losses. Increased regulatory scrutiny of product sales and repossession tools could further inhibit lending. We are focused on the trends that will continue to build in 2017 and exert downward pressure on used vehicle valuations. These trends include 1) record levels of off-lease volumes in 2017, 2018, and 2019; 2) used car volumes constraining auction capacity in 2017 and exceeding it in 2018 and 2019; 3) tighter credit underwriting standards (Wells Fargo - **WFC**, TCF Financial - **TCF**, Consumer Portfolio Services - **CPSS**); 4) new car incentives nearing historical peaks; and 5) the number of days new vehicles "sit" on dealers' lots is the highest since 2009. The combination of lower used car auction prices and weakening credit quality will manifest in the operations of auto finance companies with subprime lending concentrations, including Credit Acceptance Corp (**CACC**), Santander Consumer (**SC**), Ally Financial (**ALLY**), and Capital One Financial (**COF**). For more information on used car pricing trends, please see our [May 26](#), [May 17](#), [May 10](#), [April 19](#), and [April 12](#) reports.*

- › **Used car values continue their downward slide.** Both the JDP and BB indices are down YTD and YoY. The JDP index shown prices down YTD by more than 4% in February, March and April, which are the strongest months from a used car price perspective. As the market enters the seasonally weaker period, we expect the indices will show declines of 6-7% in 2017 and possibly greater.
- › **BB weekly data indicates average decline YTD.** The weekly data shows used car prices down 4.2% as of May 19 (11.0% annualized) and used truck prices down 4.6% (12.0% annualized). The key issue is that prices continued to decline at the average rate during the seasonally strong period. If prices

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can only maintain average declines in a strong season, that indicates used car price declines are set to accelerate for the balance of 2017. We combined the 2017 YTD price declines with the decline in prices from May 13 to December 31, 2016 of 16.3%. This suggests that average used car prices will be down 20.5% in 2017, assuming the price change for the balance of 2017 tracks the changes that occurred in 2016. We view the risks in the used car market as elevated and expect the decline in prices will be above 20.5%.

- › **JDP monthly data shows a similar trend.** JDP monthly data shows average used car prices have declined by 1.9% through April (Figure 3). This is an annualized rate of 5.7%, well below average annual depreciation estimates; however, this data has also been down in every month of 2017. In addition, the decline of 1.9% is 30 basis points higher than the 1.6% decline registered through April 2016. This supports our view that price declines in 2017 are set to exceed 2016 declines.
- › **Depreciation is running above average.** Annual used vehicle depreciation estimates vary with Edmunds estimating 12% and Black Book (BB) estimating 18%. Using Black Book's weekly Market Insights, we estimate the annualized YTD price change for cars to be 11% and 12% for trucks; however, YoY, cars have depreciated 19.8% and trucks by 16.9% (Figure 5). The above-average annual depreciation in used cars is the reason the Black Book's index is down YTD and YoY.
- › **Off-lease vehicle volumes set to hit multi-year highs.** Off-lease vehicle volumes will be a record 3.6 million units in 2017, and the number is expected to continue increasing until it peaks at 4.6 million units in 2020. We expect off-lease volumes to result in above-average annual depreciation in 2017 and 2018.
- › **Auto credit quality is deteriorating.** CPSS's 1Q17 credit quality commentary supports reports from the Federal Reserve Bank of New York, Fitch, and S&P highlighting credit weakness in the auto lending sector, notably in subprime credits. Wells Fargo (**WFC**) reported that "there was an expected decline in auto loans from the fourth quarter as continued proactive steps to tighten underwriting standards resulted in lower origination volume." A significant reduction in auto credit could cause used car prices to step down. This could happen in 2017 or 2018, if credit trends continue to deteriorate.
- › **New car sales timeline is increasing.** The American International Automobile Dealers Association reported the "average length of time a car sat on a dealer's lot hit 70 days in March – the longest stretch of time since July 2009." The increased inventory levels will likely keep incentives high.
- › **New vehicle incentives are elevated.** Incentives are 10.4% of a new vehicle's MSRP, according to J.D. Power. This is the highest level since 2009 when incentives hit 11.4%. Incentives are likely to remain high to move inventories that are building on dealers' lots.
- › **Conclusion.** Black Book's Used Vehicle Retention Index is down 5.1% year-over-year (Figure 1). This level of price depreciation is in line with several forecasts, including the one used by Ally Financial

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(ALLY); however, the seasonally strong period of used car prices has now ended. Pressure on used car prices from higher interest rates, credit normalization, and off-lease volumes will likely take the helm for the balance of 2017 and pressure used vehicle prices at a pace that exceeds industry expectations.

**Regulatory scrutiny could inhibit auto lending.** Earlier this year, CACC reported that the Federal Trade Commission began a civil investigation and [requested](#) information on the company's policies, practices and procedures related to so-called GPS starter interrupter devices (SID). The FTC's investigation into the use of these repossession tools resulted in SC [announcing](#) it would stop using them.

Both Fitch and S&P have reported that subprime delinquencies and losses have increased in 2017. Lenders that cease using GPS and SIDs will likely see these metrics increase further as it will take longer to repossess a vehicle. The Consumer Financial Protection Bureau's (CFPB) Automobile Finance Examination Procedures directs examiners to review the use of SIDs and how the auto loan servicers disclose the use of SIDs to consumers, if the use of a SID is appropriate, and the policies and procedures for using SIDs. The manual also highlights the use of GPS systems.

The issue of income verification has also been [raised](#) by Moody's Investor Service in SC's auto securitizations. In March, SC [entered](#) into settlements with the states of Massachusetts and Delaware. SC was accused of violating consumer-protection laws with regard to its underwriting practices and car dealer management between 2009 and 2014. Issues concerned inflating borrowers' incomes and vehicle values as well as selling ancillary products. The CFPB's examination procedures require an evaluation of underwriting practices, including evidence of false or undocumented income. At present, it is unclear if the CFPB will seek to implement an income verification or an ability-to-repay (ATR) requirement for auto lenders. However, the prospect of such an action will increase if more lenders are found to be inflating borrowers' incomes.

The manual also discusses the sales of ancillary products, such as guaranteed auto protection (GAP) insurance, extended warranties, and vehicle add-on products (i.e. Lo-Jack systems and paint protection). At the May 15 Auto Finance Risk and Compliance Summit, CFPB Deputy Assistant Director for Originations Calvin Hagins [stated](#) that lenders should expect to receive questions on the sales of ancillary products. He specifically stated that the CFPB will focus on how the product is offered to the consumer, at what state in the process it is offered, how the disclosures are being provided to the consumer, and the acceptance rate. He made it clear that a 95% acceptance rate on an optional product will receive additional scrutiny. The FTC is also [focused](#) on ancillary product sales. The FTC is focused on tactics that pressure consumers into purchasing these products in order to obtain financing for the vehicle.

If pressure from the CFPB and FTC result in fewer ancillary product sales, it would reduce the profit margin for auto dealers. This could result in reduced sales (i.e. profit targets not achieved) or down-selling consumers into lower priced, higher margin vehicles. In either case, these actions could contribute to additional downward pressure on used vehicle prices.

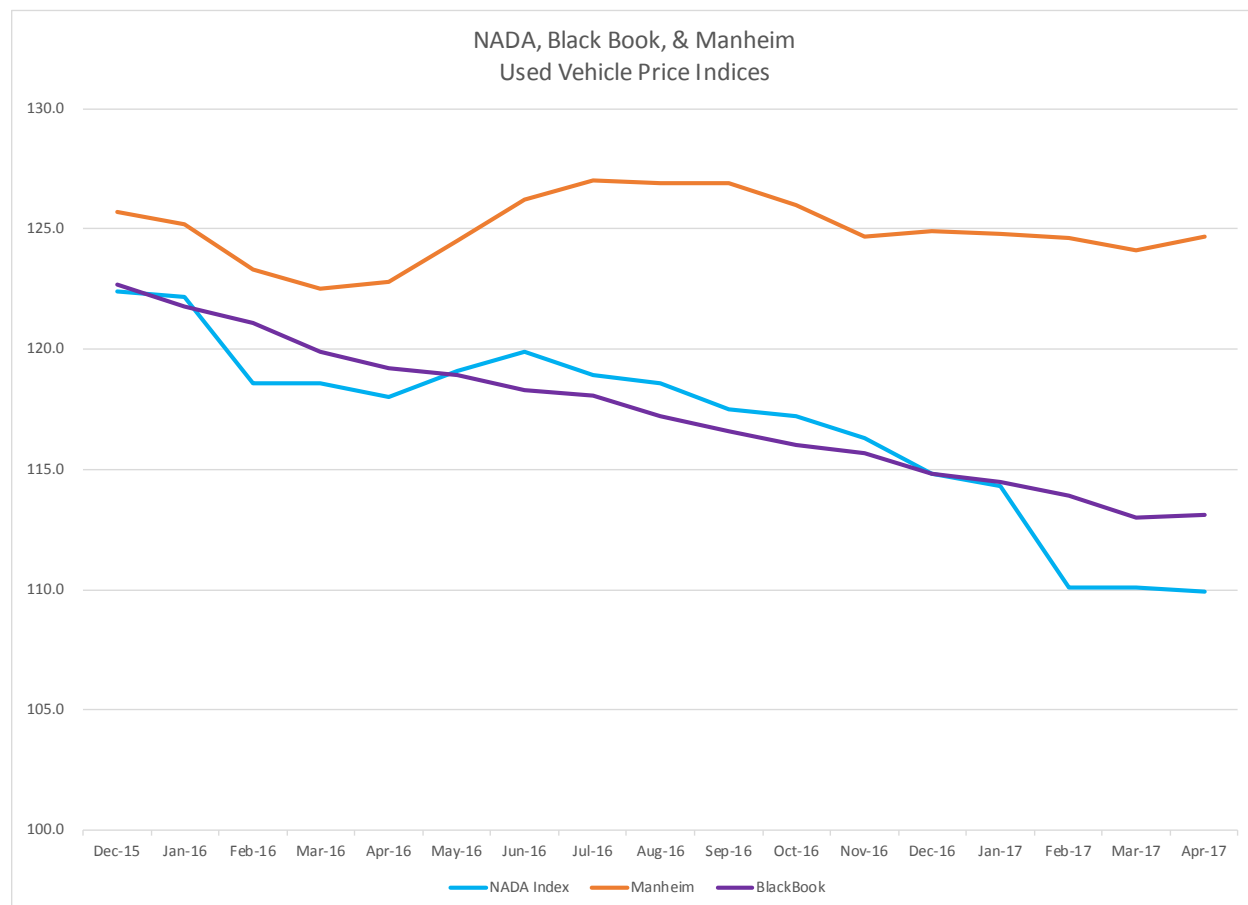
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**Figure 1. J.D. Power Valuation Services Used Car Price Index – YTD and YOY changes**

	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17
<b>NADA Index</b>	122.4	122.2	118.6	118.6	118.0	119.1	119.9	118.9	118.6	117.5	117.2	116.3	114.8	114.3	110.1	110.1	109.9
MoM Change	-1.1%	-0.2%	-2.9%	0.0%	-0.5%	0.9%	0.7%	-0.8%	-0.3%	-0.9%	-0.3%	-0.8%	-1.3%	-0.4%	-3.7%	0.0%	-0.2%
YTD Change	-1.4%	-0.2%	-3.1%	-3.1%	-3.6%	-2.7%	-2.0%	-2.9%	-3.1%	-4.0%	-4.2%	-5.0%	-6.2%	-0.4%	-4.1%	-4.1%	-4.3%
YoY Change	-1.4%	-2.2%	-4.0%	-4.6%	-5.0%	-3.8%	-3.1%	-3.0%	-3.7%	-3.7%	-4.3%	-6.1%	-6.2%	-6.5%	-7.2%	-7.2%	-6.9%
<b>BlackBook Index</b>	122.7	121.8	121.1	119.9	119.2	118.9	118.3	118.1	117.2	116.6	116.0	115.7	114.8	114.5	113.9	113.0	113.1
MoM Change	-0.5%	-0.7%	-0.6%	-1.0%	-0.6%	-0.3%	-0.5%	-0.2%	-0.8%	-0.5%	-0.5%	-0.3%	-0.8%	-0.3%	-0.5%	-0.8%	0.1%
YTD Change	-3.2%	-0.7%	-1.3%	-2.3%	-2.9%	-3.1%	-3.6%	-3.7%	-4.5%	-5.0%	-5.5%	-5.7%	-6.4%	-0.3%	-0.8%	-1.6%	-1.5%
YoY Change	-3.2%	-3.9%	-4.5%	-5.3%	-5.7%	-5.6%	-5.7%	-5.7%	-6.3%	-6.5%	-6.6%	-6.2%	-6.4%	-6.0%	-5.9%	-5.8%	-5.1%
<b>Manheim Index</b>	125.7	125.2	123.3	122.5	122.8	124.5	126.2	127.0	126.9	126.9	126.0	124.7	124.9	124.8	124.6	124.1	124.7
MoM Change	0.5%	-0.4%	-1.5%	-0.6%	0.2%	1.4%	1.4%	0.6%	-0.1%	0.0%	-0.7%	-1.0%	0.2%	-0.1%	-0.2%	-0.4%	0.5%
YTD Change	1.5%	-0.4%	-1.9%	-2.5%	-2.3%	-1.0%	0.4%	1.0%	1.0%	1.0%	0.2%	-0.8%	-0.6%	-0.1%	-0.2%	-0.6%	-0.2%
YoY Change	1.5%	-0.1%	-1.4%	-1.6%	-1.1%	0.6%	1.9%	2.3%	2.1%	1.7%	0.6%	-0.3%	-0.6%	-0.3%	1.1%	1.3%	1.5%

Source: J.D. Power Valuation Services Guidelines [May 2017](#), NADA Guidelines 2013 – April 2017, [Black Book](#), [Manheim](#), Height Securities.

**Figure 2. J.D. Power Valuation Services, Black Book, & Manheim Used Vehicle Price Indices**



Source: J.D. Power Valuation Services Guidelines [May 2017](#), NADA Guidelines 2013 – April 2017, [Black Book](#), [Manheim](#), Height Securities.

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**Figure 3. JDP Used Vehicle Annual Price Changes 2013 - 2016 & YTD 2017**

2013 MoM Wholesale Used Car Price Change													YTD Change											
AVERAGE	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13												
AVERAGE	-0.8%	0.0%	1.2%	-0.5%	-2.6%	-3.7%	-4.7%	-5.8%	-8.4%	-11.9%	-11.4%	-12.4%												
Compact Car	-1.2%	0.6%	2.7%	0.7%	-2.6%	-4.3%	-6.1%	-7.5%	-10.6%	-14.2%	-14.7%	-15.8%												
Compact Utility	-0.6%	0.1%	1.0%	-1.0%	-2.8%	-3.9%	-5.0%	-6.3%	-8.5%	-11.4%	-12.5%	-13.2%												
Large Pickup	-0.6%	0.0%	1.0%	0.4%	0.5%	0.7%	0.7%	0.9%	-0.1%	-2.4%	6.6%	5.8%												
Large Utility	-1.5%	-1.4%	-1.3%	-1.8%	-2.0%	-2.2%	-2.9%	-3.3%	-3.9%	-6.7%	1.4%	-1.2%												
Luxury Large Utility	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%												
Luxury Mid-Size Car	-1.8%	-2.9%	-2.4%	-3.6%	-4.9%	-5.9%	-7.6%	-9.6%	-12.4%	-16.2%	-17.7%	-18.5%												
Luxury Mid-Size Utility	-1.4%	-1.9%	-1.9%	-3.2%	-4.8%	-5.6%	-7.0%	-8.2%	-10.1%	-12.5%	-13.3%	-15.4%												
Mid-Size Car	-0.4%	0.7%	2.0%	-0.1%	-3.1%	-5.2%	-6.4%	-7.6%	-10.5%	-13.9%	-14.6%	-15.5%												
Mid-Size Utility	-0.6%	-0.3%	-0.1%	-1.5%	-3.4%	-4.0%	-4.5%	-5.3%	-7.5%	-10.9%	-8.8%	-9.8%												
Mid-size Van	-0.3%	1.4%	2.7%	1.7%	0.3%	-0.9%	-2.5%	-4.2%	-7.0%	-11.7%	-8.1%	-9.0%												

2014 MoM Wholesale Used Car Price Change													YTD Change											
Vehicle Type	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14												
AVERAGE	0.1%	2.3%	6.0%	4.9%	2.7%	0.3%	-3.2%	-6.3%	-9.9%	-13.6%	-14.9%	-14.6%												
Compact Car	0.4%	3.6%	8.4%	7.6%	4.6%	6.6%	3.0%	-0.3%	-4.2%	-8.5%	-9.7%	-9.7%												
Compact Utility	-0.3%	1.9%	5.8%	4.6%	2.5%	0.1%	-2.8%	-5.2%	-8.2%	-11.5%	-12.3%	-12.1%												
Large Pickup	0.3%	2.0%	4.7%	3.4%	2.4%	1.3%	-0.3%	-1.7%	-3.9%	-6.0%	-6.8%	-6.9%												
Large Utility	-0.3%	0.7%	2.0%	1.6%	-0.7%	-1.9%	-4.8%	-7.1%	-10.7%	-14.3%	-14.7%	-16.0%												
Luxury Compact Car	0.0%	0.0%	0.0%	0.0%	-2.4%	-4.7%	-8.1%	-10.7%	-12.8%	-15.1%	-15.8%	-16.1%												
Luxury Compact Utility	0.0%	0.0%	0.0%	0.0%	-1.8%	-3.4%	-5.8%	-8.8%	-10.2%	-11.4%	-12.6%	-11.3%												
Luxury Large Car	0.0%	0.0%	0.0%	0.0%	-1.7%	-4.9%	-8.5%	-12.2%	-15.3%	-15.8%	-17.0%	-18.2%												
Luxury Mid-Size Car	0.0%	3.2%	4.5%	3.5%	1.6%	-1.9%	-5.8%	-8.8%	-10.6%	-13.0%	-13.7%	-14.5%												
Luxury Mid-Size Utility	-1.1%	-1.2%	0.0%	-0.6%	-2.4%	-4.7%	-8.2%	-10.2%	-11.9%	-13.7%	-14.7%	-15.1%												
Mid-Size Car	-0.9%	-0.6%	3.7%	2.3%	-0.5%	-3.5%	-7.1%	-10.5%	-14.2%	-17.8%	-18.9%	-18.5%												
Mid-Size Utility	0.4%	2.1%	5.1%	3.9%	2.1%	0.0%	-2.4%	-4.8%	-8.0%	-10.9%	-11.8%	-11.6%												
Mid-size Van	-0.2%	1.8%	6.0%	4.6%	2.4%	0.3%	-2.3%	-4.7%	-8.1%	-13.2%	-15.8%	-16.3%												

2015 MoM Wholesale Used Car Price Change													YTD Change											
Vehicle Type	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15												
AVERAGE	0.5%	1.3%	3.6%	2.2%	-1.0%	-3.5%	-5.7%	-7.6%	-11.0%	-13.8%	-15.7%	-17.6%												
Compact Car	0.3%	1.0%	3.5%	2.1%	-1.4%	-4.3%	-7.6%	-10.1%	-14.1%	-17.9%	-20.6%	-22.7%												
Compact Utility	0.6%	1.3%	3.8%	3.2%	-0.2%	-2.3%	-3.9%	-5.6%	-8.4%	-11.0%	-12.4%	-14.2%												
Large Car	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.9%	-5.1%	-8.5%	-10.8%	-11.9%												
Large Pickup	-0.1%	0.6%	2.5%	1.9%	0.8%	0.3%	0.3%	-0.6%	-3.3%	-5.3%	-6.9%	-8.5%												
Large Utility	0.6%	1.1%	3.4%	2.9%	2.2%	1.2%	1.4%	1.5%	-0.8%	-2.7%	-3.5%	-5.0%												
Luxury Compact Car	-1.4%	-2.4%	-1.7%	-2.7%	-5.2%	-7.0%	-9.4%	-11.2%	-13.9%	-16.2%	-18.2%	-19.9%												
Luxury Compact Utility	-0.8%	-1.3%	-1.0%	-1.6%	-3.8%	-5.5%	-7.3%	-9.0%	-11.4%	-13.7%	-15.7%	-17.0%												
Luxury Large Car	-2.5%	-2.9%	-2.0%	-3.7%	-7.0%	-8.5%	-11.2%	-13.3%	-16.9%	-17.5%	-18.6%	-19.0%												
Luxury Mid-Size Car	-0.8%	-1.4%	-0.6%	-2.2%	-5.2%	-7.4%	-10.8%	-12.2%	-14.7%	-16.4%	-18.5%	-20.8%												
Luxury Mid-Size Utility	-1.1%	-1.5%	-0.6%	-1.1%	-3.0%	-4.8%	-6.3%	-8.2%	-10.1%	-12.5%	-14.2%	-15.2%												
Mid-Size Car	0.5%	1.9%	4.4%	2.6%	-1.2%	-4.1%	-7.3%	-9.5%	-13.3%	-16.2%	-17.6%	-19.2%												
Mid-Size Pickup	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.2%	-3.5%	-4.8%	-5.9%	-7.2%												
Mid-Size Utility	0.8%	1.5%	4.2%	3.4%	0.9%	-1.3%	-2.8%	-3.7%	-7.1%	-9.4%	-11.0%	-11.9%												
Mid-size Van	2.0%	2.9%	5.4%	3.8%	1.4%	-0.4%	-1.3%	-2.5%	-6.5%	-9.9%	-11.8%	-13.6%												
Subcompact Car	0.7%	1.7%	3.3%	1.6%	-2.1%	-5.6%	-9.9%	-13.3%	-19.0%	-21.3%	-23.4%	-25.2%												

Source: J.D. Power Valuation Services Guidelines [May 2017](#), NADA Guidelines 2013 – April 2017, Height Securities.

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**Figure 3. JDP Used Vehicle Annual Price Changes 2013 - 2016 & YTD 2017 (continued)**

2016 MoM Wholesale Used Car Price Change		YTD Change											
Vehicle Type		Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
<b>AVERAGE</b>		<b>-0.1%</b>	<b>-1.0%</b>	<b>0.1%</b>	<b>-1.6%</b>	<b>-3.6%</b>	<b>-6.0%</b>	<b>-8.3%</b>	<b>-10.9%</b>	<b>-14.5%</b>	<b>-18.1%</b>	<b>-21.4%</b>	<b>-23.1%</b>
Compact Car		-0.2%	-1.8%	-0.1%	-2.4%	-5.4%	-8.4%	-11.2%	-13.1%	-17.1%	-21.0%	-23.9%	-26.0%
Compact Utility		-0.4%	-1.1%	0.1%	-1.1%	-3.6%	-5.8%	-7.5%	-9.6%	-12.8%	-16.0%	-18.4%	-19.7%
Large Car		-0.2%	-0.8%	0.5%	-1.2%	-4.0%	-7.2%	-9.7%	-12.4%	-16.1%	-20.1%	-22.4%	-25.2%
Large Pickup		-0.6%	-1.5%	-0.4%	-1.0%	-1.3%	-1.6%	-2.1%	-3.3%	-4.6%	-6.9%	-8.6%	-9.5%
Large Utility		0.0%	-1.1%	-1.0%	-1.1%	-2.4%	-3.4%	-3.7%	-6.7%	-9.7%	-13.1%	-14.9%	-18.5%
Luxury Compact Car		-1.6%	-3.8%	-2.8%	-3.7%	-5.0%	-6.4%	-9.1%	-12.6%	-15.7%	-20.1%	-25.2%	-26.6%
Luxury Compact Utility		-1.5%	-2.6%	-2.4%	-3.7%	-5.8%	-8.4%	-11.5%	-13.8%	-17.6%	-20.7%	-24.9%	-28.4%
Luxury Large Car		-3.2%	-4.5%	-4.9%	-7.0%	-7.4%	-12.1%	-13.9%	-17.1%	-20.6%	-24.0%	-27.0%	-28.8%
Luxury Large Utility		0.0%	-2.1%	-2.8%	-4.2%	-4.9%	-7.9%	-9.9%	-11.7%	-15.2%	-18.7%	-21.2%	-24.1%
Luxury Mid-Size Car		-1.7%	-3.4%	-3.1%	-4.6%	-6.6%	-8.9%	-11.0%	-14.4%	-17.7%	-21.8%	-25.7%	-29.0%
Luxury Mid-Size Utility		-1.6%	-3.5%	-3.6%	-4.0%	-5.7%	-7.5%	-9.5%	-13.0%	-16.9%	-19.7%	-24.0%	-24.9%
Mid-Size Car		-0.2%	-1.0%	0.6%	-1.7%	-4.3%	-7.5%	-10.5%	-13.2%	-16.7%	-20.1%	-22.7%	-24.0%
Mid-Size Pickup		0.6%	0.1%	0.7%	0.0%	-0.5%	-1.3%	-2.7%	-5.0%	-8.4%	-9.9%	-11.8%	-13.5%
Mid-Size Utility		-0.3%	-1.1%	0.0%	-0.7%	-2.8%	-4.3%	-6.1%	-8.4%	-10.0%	-13.7%	-16.7%	-18.6%
Mid-size Van		-0.2%	-0.7%	1.7%	0.7%	-0.1%	-1.8%	-4.5%	-5.7%	-8.5%	-12.9%	-16.5%	-18.6%
Subcompact Car		-0.8%	-1.7%	-0.4%	-4.7%	-7.1%	-11.6%	-15.5%	-18.4%	-22.4%	-27.1%	-29.7%	-31.4%

2017 MoM Wholesale Used Car Price Change		YTD Change			
Vehicle Type		Jan-17	Feb-17	Mar-17	Apr-17
<b>AVERAGE</b>		<b>-0.4%</b>	<b>-2.0%</b>	<b>-0.4%</b>	<b>-1.9%</b>
Compact Car		0.1%	-1.3%	1.3%	-1.2%
Compact Utility		-0.5%	-2.0%	-1.3%	-2.7%
Large Car		-0.4%	-1.0%	0.5%	-0.6%
Large Pickup		-0.8%	-1.3%	-0.7%	-0.8%
Large Utility		-0.8%	-2.7%	-2.7%	-5.0%
Luxury Compact Car		-1.2%	-2.3%	-3.0%	-3.2%
Luxury Compact Utility		0.4%	-1.1%	-0.9%	-1.6%
Luxury Large Car		-0.6%	-3.7%	-5.1%	-9.5%
Luxury Large Utility		-1.0%	-2.8%	-4.3%	-4.1%
Luxury Mid-Size Car		-0.1%	-1.8%	-2.6%	-2.6%
Luxury Mid-Size Utility		-1.8%	-2.7%	-2.4%	-3.2%
Mid-Size Car		-0.2%	-1.8%	0.8%	-1.4%
Mid-Size Pickup		-0.4%	-1.0%	0.2%	0.9%
Mid-Size Utility		-0.4%	-2.1%	-0.7%	-1.9%
Mid-size Van		-0.4%	-1.6%	0.0%	-0.8%
Subcompact Car		-0.9%	-3.0%	0.4%	-2.0%

Source: J.D. Power Valuation Services Guidelines [May 2017](#), NADA Guidelines 2013 – April 2017, Height Securities.

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**Figure 4. J.D. Power Valuation Services Used Vehicle YTD Price Changes 2015 - 2017**

NADA YTD Wholesale Used Car Price Change				Price Change in bps		Inc (Dec)
Vehicle Type	Apr-15	Apr-16	Apr-17	Mar '15-16	Mar '16-17	In Price Chg
<b>AVERAGE</b>	<b>2.2%</b>	<b>-1.6%</b>	<b>-1.9%</b>	<b>-380</b>	<b>-30</b>	<b>-350</b>
Compact Car	2.1%	-2.4%	-1.2%	-450	120	-570
Compact Utility	3.2%	-1.1%	-2.7%	-430	-160	-270
Large Car	n.a.	-1.2%	-0.6%	n.a.	60	n.a.
Large Pickup	1.9%	-1.0%	-0.8%	-290	20	-310
Large Utility	2.9%	-1.1%	-5.0%	-400	-390	-10
Luxury Compact Car	-2.7%	-3.7%	-3.2%	-100	50	-150
Luxury Compact Utility	-1.6%	-3.7%	-1.6%	-210	210	-420
Luxury Large Car	-3.7%	-7.0%	-9.5%	-330	-250	-80
Luxury Large Utility	n.a.	-4.2%	-4.1%	n.a.	10	n.a.
Luxury Mid-Size Car	-2.2%	-4.6%	-2.6%	-240	200	-440
Luxury Mid-Size Utility	-1.1%	-4.0%	-3.2%	-290	80	-370
Mid-Size Car	2.6%	-1.7%	-1.4%	-430	30	-460
Mid-Size Pickup	n.a.	0.0%	0.9%	n.a.	90	n.a.
Mid-Size Utility	3.4%	-0.7%	-1.9%	-410	-120	-290
Mid-size Van	3.8%	0.7%	-0.8%	-310	-150	-160
Subcompact Car	1.6%	-4.7%	-2.0%	-630	270	-900

Source: J.D. Power Valuation Services Guidelines [May 2017](#), NADA Guidelines 2013 – April 2017, Height Securities.



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**Figure 5. Black Book Weekly Data Trends**

Weekly Wholesale Used Car Price Change Vehicle Type	WoW Change	Price Change YTD 2017	YTD Price Chg Annualized	Price Change YOY
Sub-Compact Car	-0.06%	-3.1%	-8.1%	-20.9%
Compact Car	-0.43%	-1.7%	-4.4%	-17.7%
Mid-Size Car	-0.17%	-4.6%	-12.0%	-19.4%
Full-Size Car	0.04%	-3.1%	-8.0%	-18.6%
Near Luxury Car	-0.01%	-6.1%	-15.7%	-21.2%
Luxury Car	0.11%	-6.2%	-16.0%	-22.4%
Prestige Luxury Car	0.43%	-10.2%	-26.5%	-26.9%
Sporty Car	0.06%	-1.7%	-4.3%	-19.7%
Premium Sporty Car	-0.16%	-5.5%	-14.3%	-18.3%
<b>CARS-Overall</b>	<b>-0.11%</b>	<b>-4.2%</b>	<b>-11.0%</b>	<b>-19.8%</b>
Sub-Compact Crossover	0.32%	-4.0%	-10.3%	-19.1%
Compact Crossover/SUV	-0.24%	-4.6%	-11.9%	-17.8%
Mid-Size Crossover/SUV	-0.31%	-4.6%	-11.8%	-19.0%
Full-Size Crossover/SUV	0.03%	-5.4%	-13.9%	-17.1%
Sub-Compact Luxury Crossover	-1.25%	-5.3%	-13.7%	-10.9%
Compact Luxury Crossover/SUV	-0.61%	-6.5%	-16.9%	-20.9%
Mid-Size Luxury Crossover/SUV	-0.43%	-6.2%	-16.1%	-20.7%
Full-Size Luxury Crossover/SUV	0.02%	-6.4%	-16.7%	-20.0%
Minivan	-0.73%	-4.5%	-11.7%	-18.4%
Compact Van	-0.29%	0.9%	2.3%	-18.6%
Full-Size Van	0.02%	-4.2%	-10.9%	-14.9%
Small Pickup	-0.58%	-2.7%	-7.1%	-12.8%
Full-Size Pickup	-0.16%	-2.6%	-6.7%	-12.4%
<b>TRUCKS-Overall</b>	<b>-0.27%</b>	<b>-4.6%</b>	<b>-12.0%</b>	<b>-16.9%</b>

Source: [Black Book](#), Height Securities.



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**Figure 6. Estimated 2017 Price Change Using Black Book Weekly**

Weekly Wholesale Used Car Price Change Vehicle Type	Price Change YTD 2017	Price Change 5/13 -12/30/16	Est 2017 Price Chg
Sub-Compact Car	-3.1%	-18.3%	-21.5%
Compact Car	-1.7%	-16.3%	-18.0%
Mid-Size Car	-4.6%	-15.5%	-20.1%
Full-Size Car	-3.1%	-16.0%	-19.1%
Near Luxury Car	-6.1%	-16.1%	-22.1%
Luxury Car	-6.2%	-17.2%	-23.4%
Prestige Luxury Car	-10.2%	-18.6%	-28.8%
Sporty Car	-1.7%	-18.3%	-20.0%
Premium Sporty Car	-5.5%	-13.5%	-19.1%
<b>CARS-Overall</b>	<b>-4.2%</b>	<b>-16.3%</b>	<b>-20.5%</b>
Sub-Compact Crossover	-4.0%	-15.7%	-19.7%
Compact Crossover/SUV	-4.6%	-13.9%	-18.4%
Mid-Size Crossover/SUV	-4.6%	-15.1%	-19.7%
Full-Size Crossover/SUV	-5.4%	-12.5%	-17.8%
Sub-Compact Luxury Crossover	-5.3%	-5.9%	-11.2%
Compact Luxury Crossover/SUV	-6.5%	-15.4%	-21.9%
Mid-Size Luxury Crossover/SUV	-6.2%	-15.4%	-21.6%
Full-Size Luxury Crossover/SUV	-6.4%	-14.6%	-21.0%
Minivan	-4.5%	-14.5%	-19.0%
Compact Van	0.9%	-19.3%	-18.4%
Full-Size Van	-4.2%	-11.2%	-15.4%
Small Pickup	-2.7%	-10.3%	-13.1%
Full-Size Pickup	-2.6%	-10.1%	-12.7%
<b>TRUCKS-Overall</b>	<b>-4.6%</b>	<b>-12.9%</b>	<b>-17.5%</b>

Source: [Black Book](#), Height Securities.

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**Figure 7. Bank Auto Recovery Rates Comparison by Quarter**

Bank Auto Recovery Rates																	
Ticker	1Q13	1Q14	1Q15	1Q16	1Q17	2Q13	2Q14	2Q15	2Q16	3Q13	3Q14	3Q15	3Q16	4Q13	4Q14	4Q15	4Q16
FITB	67%	33%	38%	36%	25%	55%	50%	56%	33%	40%	36%	45%	36%	45%	36%	38%	36%
CFG		40%	39%	44%	41%		73%	46%	53%		44%	45%	38%	0%	38%	38%	32%
WFC	54%	50%	48%	40%	35%	67%	68%	55%	49%	49%	42%	39%	36%	41%	38%	36%	32%
RF	33%	30%	40%	38%	33%	33%	43%	44%	40%	38%	40%	40%	38%	25%	30%	25%	27%
TCF	11%	10%	15%	14%	14%	17%	16%	17%	15%	12%	17%	20%	15%	8%	9%	13%	13%

Source: FITB 10Q & 10K filings, CFG 10Q & 10K filings, WFC 10Q & 10K filings, RF 10Q & 10K filings, TCF 10Q & 10K filings, Height Securities.

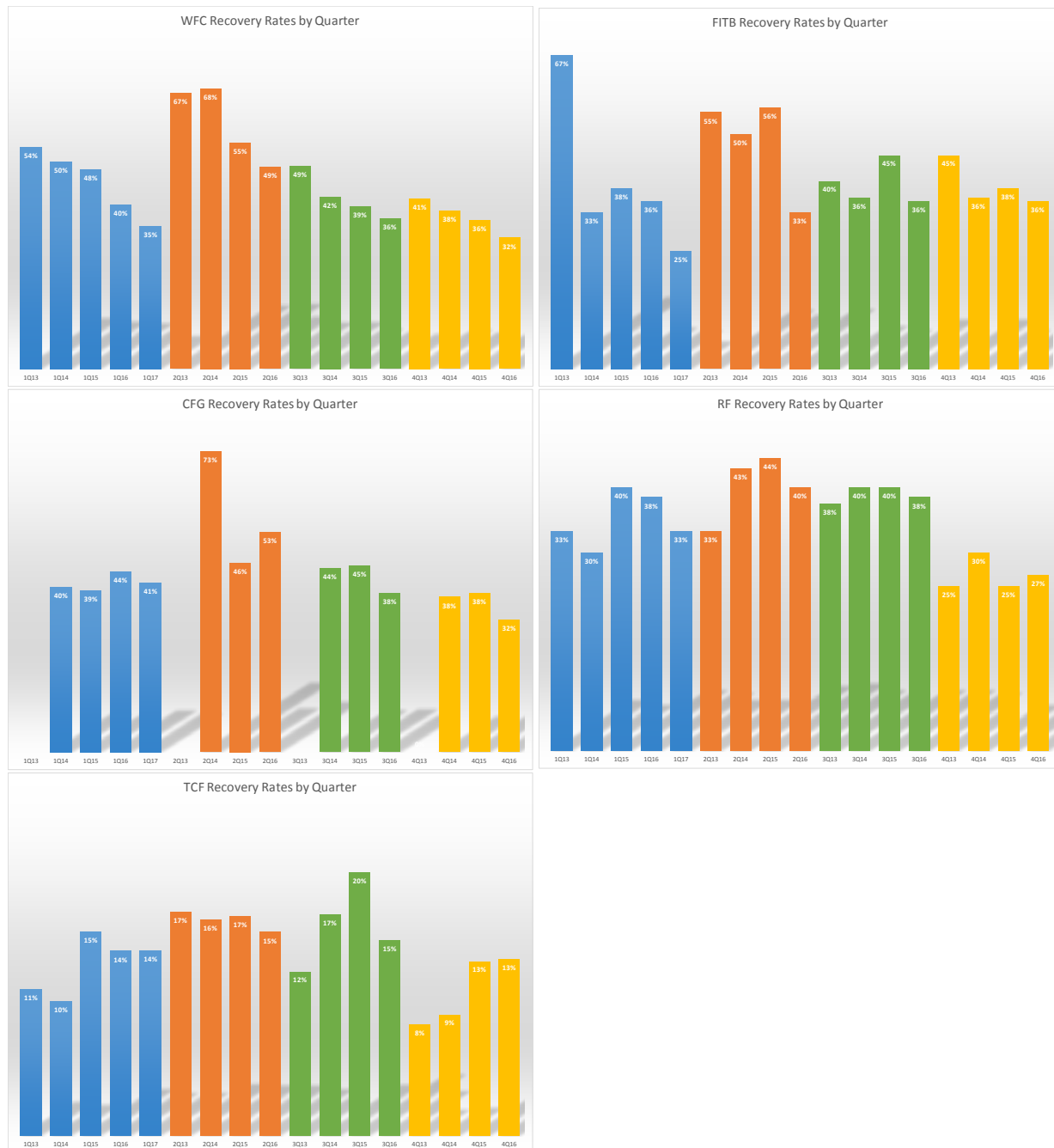
**Figure 8. Bank Auto Recovery Rates 2013 – 1Q17**

Ticker		1Q13	2Q13	3Q13	4Q13	1Q14	2Q14	3Q14	4Q14	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	3Q16	4Q16	1Q17
FITB	Losses	\$ 12	\$ 11	\$ 10	\$ 11	\$ 12	\$ 10	\$ 11	\$ 11	\$ 13	\$ 9	\$ 11	\$ 13	\$ 14	\$ 12	\$ 14	\$ 14	\$ 24
	Recoveries	\$ 8	\$ 6	\$ 4	\$ 5	\$ 4	\$ 5	\$ 4	\$ 4	\$ 5	\$ 5	\$ 5	\$ 5	\$ 5	\$ 4	\$ 5	\$ 5	\$ 6
	Recovery Rate	67%	55%	40%	45%	33%	50%	36%	36%	38%	56%	45%	38%	36%	33%	36%	36%	25%
CFG	Losses				\$ 2	\$ 5	\$ 11	\$ 9	\$ 16	\$ 23	\$ 24	\$ 31	\$ 39	\$ 39	\$ 32	\$ 39	\$ 50	\$ 44
	Recoveries				\$ -	\$ 2	\$ 8	\$ 4	\$ 6	\$ 9	\$ 11	\$ 14	\$ 15	\$ 17	\$ 17	\$ 15	\$ 16	\$ 18
	Recovery Rate				0%	40%	73%	44%	38%	39%	46%	45%	38%	44%	53%	38%	32%	41%
WFC	Losses	\$164	\$126	\$153	\$182	\$180	\$143	\$192	\$214	\$195	\$150	\$186	\$211	\$211	\$176	\$215	\$243	\$255
	Recoveries	\$ 88	\$ 84	\$ 75	\$ 75	\$ 90	\$ 97	\$ 80	\$ 82	\$ 94	\$ 82	\$ 73	\$ 76	\$ 84	\$ 86	\$ 78	\$ 77	\$ 88
	Recovery Rate	54%	67%	49%	41%	50%	68%	42%	38%	48%	55%	39%	36%	40%	49%	36%	32%	35%
RF	Losses	\$ 9	\$ 6	\$ 8	\$ 8	\$ 10	\$ 7	\$ 10	\$ 10	\$ 10	\$ 9	\$ 10	\$ 12	\$ 13	\$ 10	\$ 13	\$ 15	\$ 15
	Recoveries	\$ 3	\$ 2	\$ 3	\$ 2	\$ 3	\$ 3	\$ 4	\$ 3	\$ 4	\$ 4	\$ 4	\$ 3	\$ 5	\$ 4	\$ 5	\$ 4	\$ 5
	Recovery Rate	33%	33%	38%	25%	30%	43%	40%	30%	40%	44%	40%	25%	38%	40%	38%	27%	33%
TCF	Losses	\$ 0.9	\$ 1.0	\$ 1.3	\$ 2.1	\$ 2.5	\$ 2.2	\$ 3.0	\$ 4.2	\$ 4.0	\$ 4.4	\$ 4.6	\$ 5.4	\$ 6.3	\$ 5.6	\$ 6.8	\$ 8.3	\$ 8.8
	Recoveries	\$ 0.1	\$ 0.2	\$ 0.2	\$ 0.2	\$ 0.3	\$ 0.4	\$ 0.5	\$ 0.4	\$ 0.6	\$ 0.7	\$ 0.9	\$ 0.7	\$ 0.9	\$ 0.9	\$ 1.0	\$ 1.1	\$ 1.2
	Recovery Rate	11%	17%	12%	8%	10%	16%	17%	9%	15%	17%	20%	13%	14%	15%	15%	13%	14%

Source: FITB 10Q & 10K filings, CFG 10Q & 10K filings, WFC 10Q & 10K filings, RF 10Q & 10K filings, TCF 10Q & 10K filings, Height Securities.

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**Figure 9. Bank Auto Recovery Rates Comparison by Quarter**



Source: FITB 10Q & 10K filings, CFG 10Q & 10K filings, WFC 10Q & 10K filings, RF 10Q & 10K filings, TCF 10Q & 10K filings, Height Securities.

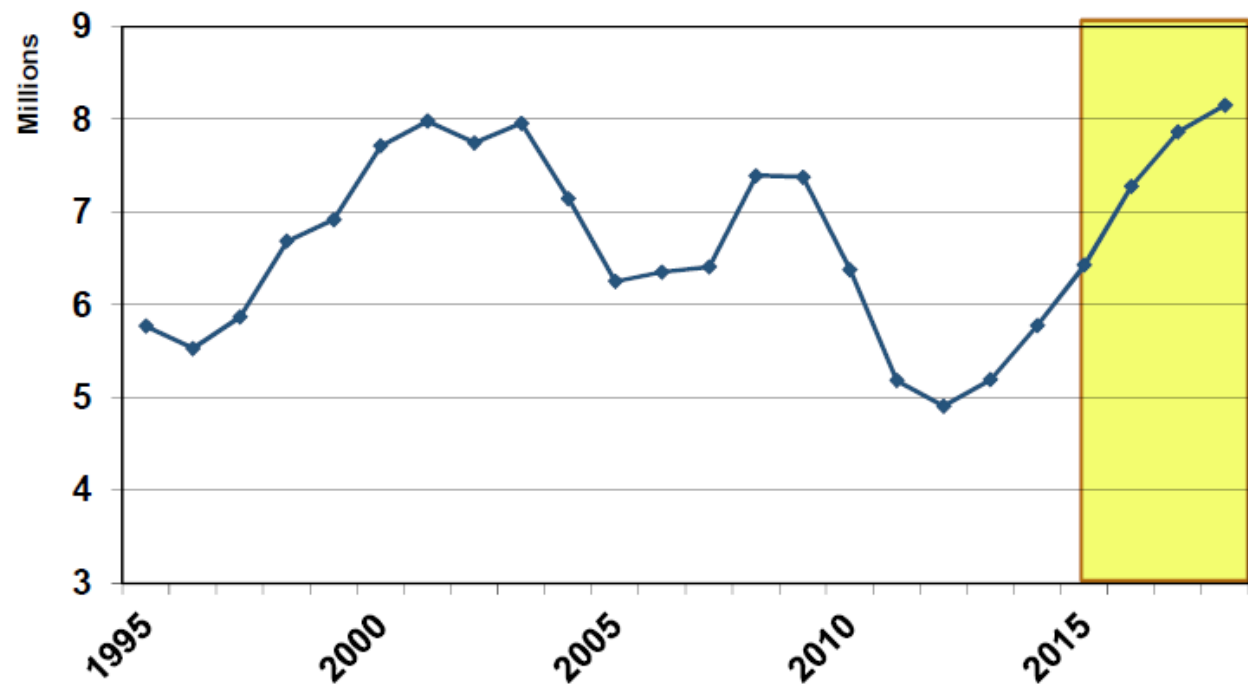
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**Figure 10. Off-Lease Volumes Will Continue to Increase Through 2018**

Leasing Activity units in millions	2010	2011	2012	2013	2014	2015	2016	2017	2018
New Leases	1.8	2.2	2.6	3.2	3.6	3.9			
Wholesale Off-lease Volumes				0.8	1.0	1.3	1.6	1.8	2.2
Percent Change -YoY	2010	2011	2012	2013	2014	2015	2016	2017	2018
New Leases		23%	19%	24%	14%	7%			
Wholesale Off-lease Volumes					33%	25%	28%	13%	22%
Off-lease Volume Inc 2015 to 2018									76%

Source: [Manheim Consulting](#), Height Securities.

**Figure 11. Wholesale Used Car Volumes Are Expected to Increase Materially by 2018**



Source: [Manheim Consulting](#).

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Capital One Financial (COF)  
Credit Acceptance Corp (CACC)  
Wells Fargo (WFC)  
Ally Financial (ALLY)  
Consumer Portfolio Services, Inc. (CPSS)  
TCF Financial (TCF)  
Fifth Third Bancorp (FITB)  
Regions Financial (RF)  
Citizens Financial Group (CFG)

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None

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# RESEARCH REPORT

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