MARKET DATA: MARCH 2017

EquipmentWatch remains the largest sales database on the planet with 20x the sales data of any other source.

$29,175,175,834

RESALE
$28,996,278,414
382,131 Assets

AUCTION
$178,897,420
6,225 Assets

The *EquipmentWatch* **Market Report™** is a monthly resource for the construction, lift/access, agriculture and commercial truck industries to make better-informed decisions by leveraging key **equipment values, market activity, age and usage metrics**.

How is the Price Stability INDEX calculated?

MARKET SUMMARY

For more detailed articles, visit *EquipmentWatch* Intelligence online.

MARKET ACTIVITY	YEAR OVER YEAR MARKET METRICS	MONTH OVER MONTH MARKET METRICS	MONTH OVER MONTH PRICE STABILITY INDEX ™
CONSTRUCTION $14,161,569,772 MARKET VALUE 166,226 ASSETS	VALUES ▼ 1.0% FMV ▼ 3.9% FLV VOLUME ▼ 7.6% RESALE ▼ 47.6% AUCTION	VALUES ▼ 0.4% FMV ▼ 0.8% FLV VOLUME ▲ 48.5% RESALE ▼ 14.4% AUCTION	98.44 (95 – 105) DEFLATED / STABLE / INFLATED
LIFT/ACCESS $1,126,684,014 MARKET VALUE 35,382 ASSETS	VALUES ▼ 4.1% FMV ▼ 3.9% FLV VOLUME ▼ 9.1% RESALE ▼ 59.3% AUCTION	VALUES ▼ 2.8% FMV ▼ 2.4% FLV VOLUME ▼ 7.6% RESALE ▼ 39.3% AUCTION	98.35 (95 – 105) DEFLATED / STABLE / INFLATED
AGRICULTURE $11,745,224,137 MARKET VALUE 138,201 ASSETS	VALUES ▼ 0.2% FMV ▼ 0.6% FLV VOLUME ▲ 47.2% RESALE ▼ 39.0% AUCTION	VALUES ▲ 1.9% FMV ▲ 1.8% FLV VOLUME ▼ 19.4% RESALE ▼ 43.6% AUCTION	103.61 (95 – 105) DEFLATED / STABLE / INFLATED
COMMERCIAL TRUCK $2,141,697,911 MARKET VALUE 48,547 ASSETS	VALUES ▼ 7.9% FMV ▼ 6.6% FLV VOLUME ▲ 107.8% RESALE ▼ 66.4% AUCTION	VALUES ▼ 1.6% FMV ▼ 0.2% FLV VOLUME ▼ 9.1% RESALE ▼ 50.0% AUCTION	97.54 (95 – 105) DEFLATED / STABLE / INFLATED

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CONSTRUCTION

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$14,161,569,772
MARKET VALUE

166,226
ASSETS

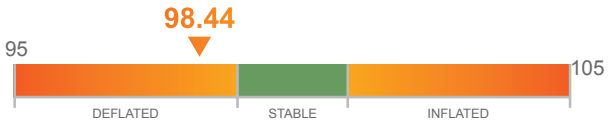
YEAR OVER YEAR MARKET METRICS

VALUES	▼ 1.0% FMV	▼ 3.9% FLV
VOLUME	▼ 7.6% RESALE	▼ 47.6% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▼ 0.4% FMV	▼ 0.8% FLV
VOLUME	▲ 48.5% RESALE	▼ 14.4% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

With a sharp seasonal increase in resale market activity of over 48%, April 2017 continued March's slide in average FMV by dropping another 0.4%. The continued surge in market activity following a busy auction season dropped the resale channel into a Deflated rating of the Price Stability Index.™

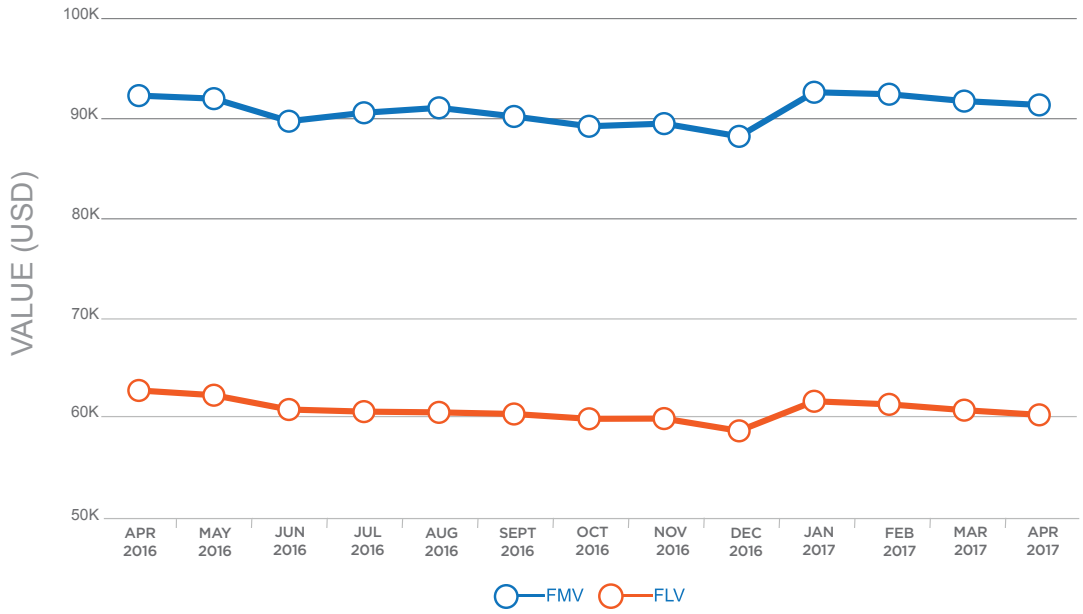
MARKET HIGHLIGHTS

- Average age decreased on both auction and resale channels in April while average usage increased marginally on the resale channel and substantially on the auction channel.
- Even with a 48.5% increase in the number of assets available on the resale channel.
- April's fluctuations in average age and usage alongside a volume spike and value drop are typical of a month where defleeting increases.

MARKET FORECAST

May and the following summer months typically see a decline in both resale and auction market activity, accompanied by a stagnation or even slight decline in average FMV and FLV. The outlook for these secondary markets remains positive through this period.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▲ 48.5% RESALE	▼ 14.4% AUCTION	▼ 1.7% RESALE	▼ 5.7% AUCTION	▲ 0.2% RESALE	▲ 12.5% AUCTION
YEAR OVER YEAR	▼ 7.6% RESALE	▼ 47.6% AUCTION	▼ 1.3% RESALE	▲ 4.1% AUCTION	▲ 0.6% RESALE	▲ 2.9% AUCTION

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LIFT/ACCESS

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$1,126,684,014
MARKET VALUE

35,382
ASSETS

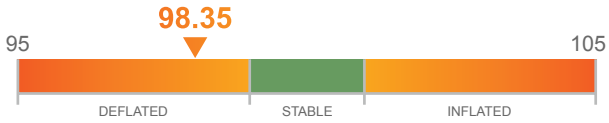
YEAR OVER YEAR MARKET METRICS

VALUES	▼ 4.1% FMV	▼ 3.9% FLV
VOLUME	▼ 9.1% RESALE	▼ 59.3% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▼ 2.8% FMV	▼ 2.4% FLV
VOLUME	▼ 7.6% RESALE	▼ 39.3% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

As compared to March, lift values decreased by over 2% in both channels in April. Volume also decreased across both channels in April, with drops of 7.6% and 39.3%, respectively. The overall market value remained even and the number of assets decreased by almost 6% as compared to March.

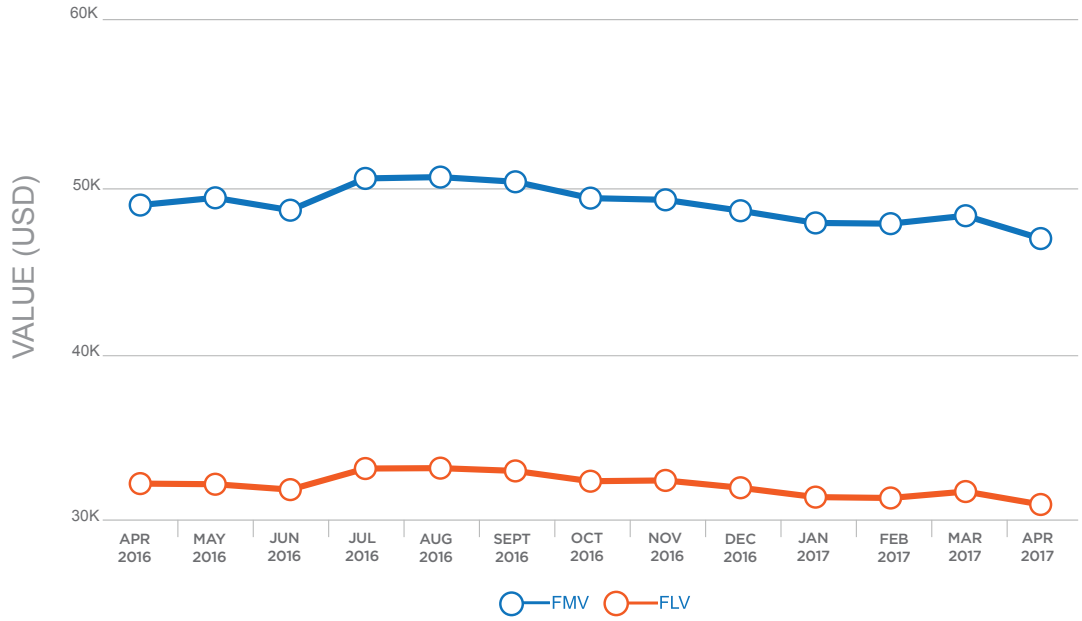
MARKET HIGHLIGHTS

- The Price Stability Index™ was deflated in April with a score of 98.35; drops in values and volume caused this deflation.
- There was a large drop in auction volume due to the large decrease in the number of auctions held in April as compared to March.
- Average age and utilization increased slightly in the resale channel, while both decreased in the auction channel.

MARKET FORECAST

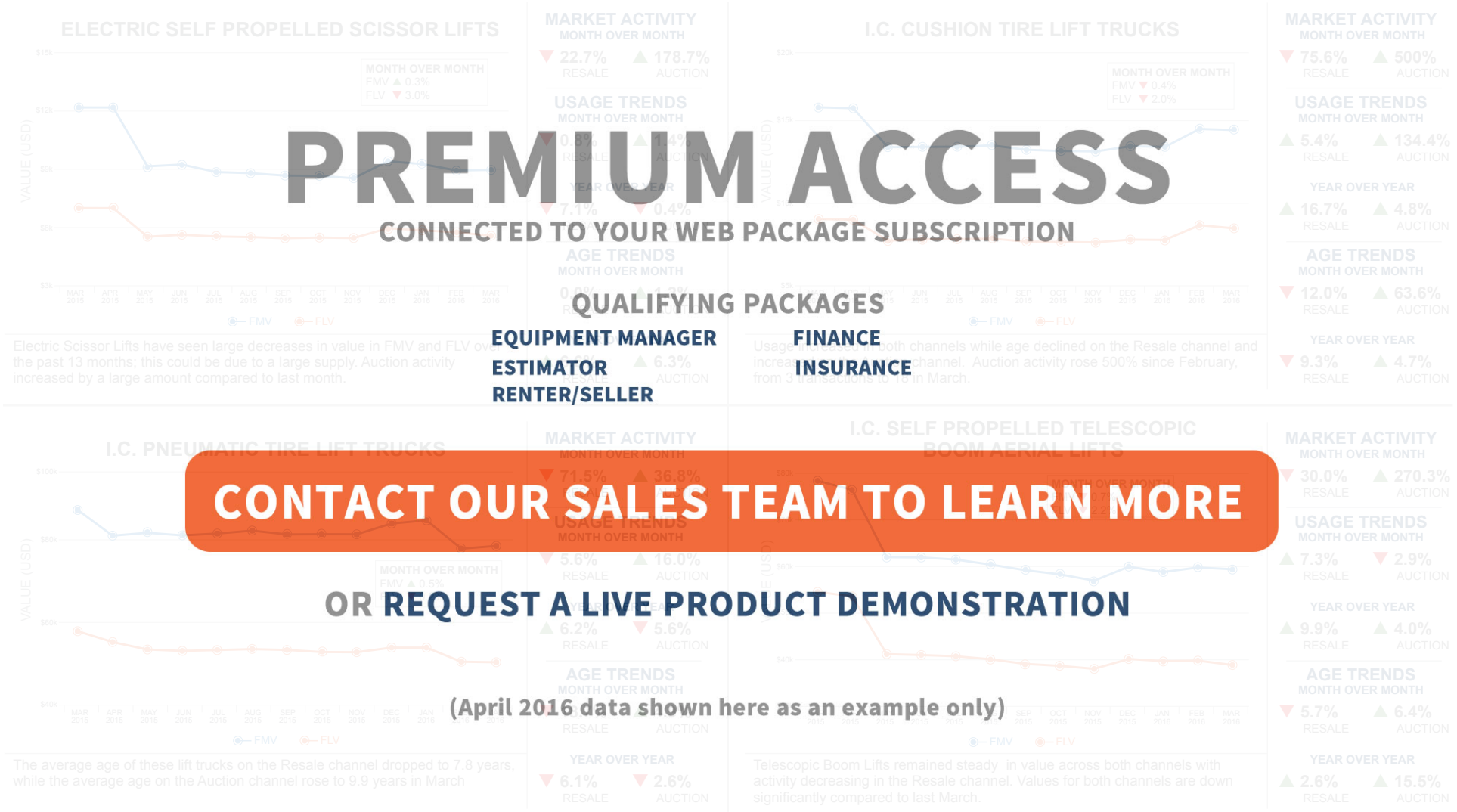
Values should continue to decrease in May, while volume should remain about the same.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 7.6% RESALE	▼ 39.3% AUCTION	▲ 0.9% RESALE	▼ 3.1% AUCTION	▲ 0.7% RESALE	▼ 10.3% AUCTION
YEAR OVER YEAR	▼ 9.1% RESALE	▼ 59.3% AUCTION	▲ 4.2% RESALE	▲ 9.6% AUCTION	▼ 3.5% RESALE	▼ 15.7% AUCTION

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AGRICULTURE

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$11,745,224,137
MARKET VALUE

138,201
ASSETS

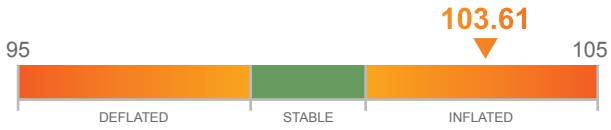
YEAR OVER YEAR MARKET METRICS

	FMV	FLV
VALUES	▼ 0.2%	▼ 0.6%
VOLUME	▲ 47.2% RESALE	▼ 39.0% AUCTION

MONTH OVER MONTH MARKET METRICS

	FMV	FLV
VALUES	▲ 1.9%	▲ 1.8%
VOLUME	▲ 19.4% RESALE	▼ 43.6% AUCTION

PRICE STABILITY INDEX ™



MARKET PERFORMANCE

Average FMV and FLV prices were higher month over month and relatively flat year over year. Auction market activity was down relative to March 2017 and April 2016, yet resale market activily increased month over month while decreasing from April 2016 levels..

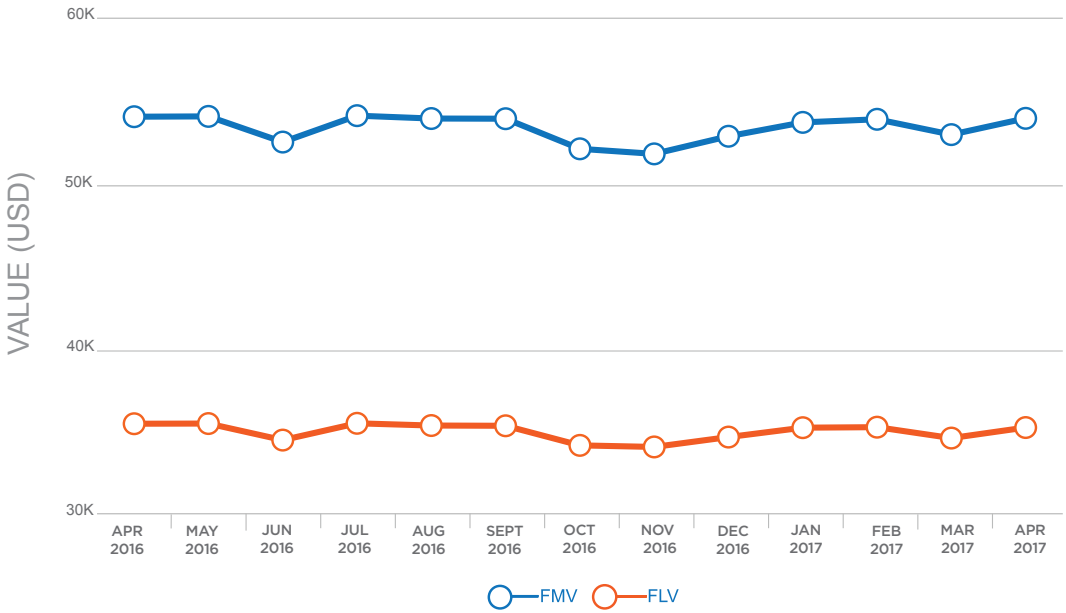
MARKET HIGHLIGHTS

- Average age year over year went up by more than 11% for auction and higher than 4% for resale.
- As expected, usage went up for resale, but it went down for the auction channel for year over year.
- The same year over year age pattern occurred last month, but for usage, resale was down and auction was up.

MARKET FORECAST

Looking ahead, we expect FMV and FLV prices to increase slightly over the next month, given the stable Price Stability Index™ of 103.61 and trend lines patterns.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▲ 19.4% RESALE	▼ 43.7% AUCTION	▲ 0.5% RESALE	▲ 20.8% AUCTION	▼ 13.2% RESALE	▼ 53.4% AUCTION
YEAR OVER YEAR	▼ 43.7% RESALE	▼ 39.0% AUCTION	▲ 4.2% RESALE	▲ 11.2% AUCTION	▲ 11.9% RESALE	▼ 24.4% AUCTION

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COMMERCIAL TRUCK

OVERALL | TYPE TRENDS | BRAND TRENDS | REGIONAL TRENDS

How is the Price Stability INDEX calculated?

MARKET ACTIVITY

$2,141,697,911
MARKET VALUE

48,547
ASSETS

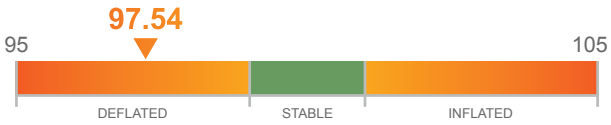
YEAR OVER YEAR MARKET METRICS

VALUES	▼ 7.9% FMV	▼ 6.6% FLV
VOLUME	▲ 107.8% RESALE	▼ 66.5% AUCTION

MONTH OVER MONTH MARKET METRICS

VALUES	▼ 1.6% FMV	▼ 0.2% FLV
VOLUME	▼ 9.1% RESALE	▼ 50.0% AUCTION

MONTH OVER MONTH PRICE STABILITY INDEX ™



MARKET PERFORMANCE

FMV and FLV were slightly below March with monthly increases in average usage for both channels. The volume was down for both channels in April, but in comparison to last year resale volume more than doubled. This year over year increase in volume along with an average age increase of 6.6%, the 7.9% drop in FMV was to be expected.

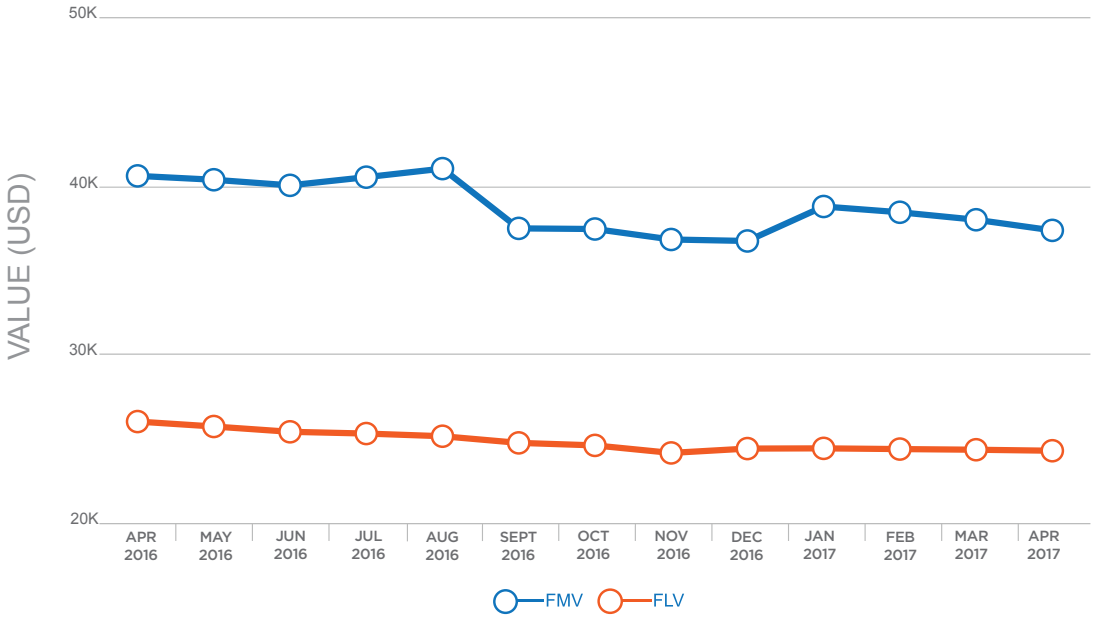
MARKET HIGHLIGHTS

- Average usage on the auction channel increased 15.5% above where it was in March and 18.2% from last year as the types of vehicles currently left at auction are racking up the mileage considering the drop in volume this month.
- The average age on the auction market jumped since last year coinciding with usage changes while the age on resale also increased but at a slower rate considering the high influx of volume year over year.
- The year over year drop in FMV is not only a result of the large increase in volume, but also the drops in FMV for the 2012 and 2011 models these past few months.

MARKET FORECAST

Expect the drop in FMV to slow down in the coming months, especially on the 2016 and 2015 models as their depreciation curve begins to level out as these models continue to age.

FMV AND FLV TRENDS



	VOLUME CHANGE		AVERAGE AGE		USAGE	
MONTH OVER MONTH	▼ 9.1% RESALE	▼ 50.0% AUCTION	▲ 3.3% RESALE	▼ 3.4% AUCTION	▲ 3.4% RESALE	▲ 15.5% AUCTION
YEAR OVER YEAR	▲ 107.8% RESALE	▼ 66.4% AUCTION	▲ 6.6% RESALE	▲ 28.4% AUCTION	▼ 9.5% RESALE	▲ 18.2% AUCTION

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APPENDIX

INTRODUCTION

The EquipmentWatch Market Report is a compilation of a wide array of EquipmentWatch's data, designed to bring you an in-depth look at used equipment markets over the last month.

This Appendix is designed to answer your questions regarding this report. Here we define and illustrate how we think about values, market activity, age, Usage, and regional influence for the most common types of equipment seen on used markets across North America.

OUR DATA

Selection Criteria for OEMs and Subtypes

EquipmentWatch tracks Resale and Auction prices and activity for over 15,000 models across 389 manufacturers throughout North America. With over $800 billion in collected equipment transactions, EquipmentWatch is your primary source for intelligence regarding used equipment markets.

The data in this report is divided into four distinct equipment markets: Construction, Lift/Access, Agriculture, and Commercial Trucks. For each market, we selected the top equipment types based on their market share from January 2015 to December 2015. They're listed in the table to the right.

Construction	Lift/Access	Agriculture	Commercial Trucks
4-Wd Articulated Wheel Loaders	Electric Self Propelled Scissor Lifts	Track Tractors	Heavy Duty: Conventional - Sleeper (Heavy Tractor)
Articulated Frame Graders	I.C. Pneumatic Tire Lift Trucks	Balers	Heavy Duty: Conventional - Day Cab (Heavy Tractor)
Articulated Rear Dumps	I.C. Self Propelled Telescopic Boom Aerial Lifts	Combines	Heavy Duty: Conventional - Day Cab (Heavy Cab Chassis)
Compact Track Loaders	I.C. Self-Propelled Articulating Boom Aerial Lifts	Corn Headers	Medium Duty: Conventional - Day Cab (Cab Chassis)
Crawler Mounted Compact Excavators	Telescoping Boom Rough Terrain Lift Trucks	Wheel Tractors	Medium Duty: Cabover - Day Cab (Cab Chassis)
Crawler Mounted Hydraulic Excavators	I.C. Cushion Tire Lift Trucks	Planters	Medium Duty: Crew (Cab Chassis)
Large Generator Sets			
Single Drum Vibratory Compactors			
Skid Steer Loaders			
Standard Crawler Dozers			
Tandem Vibratory Compactors			
Tractor-Loader-Backhoes			

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APPENDIX

We have also limited the scope of the EquipmentWatch Market Report to the following brands in each market:

Construction	Lift/Access	Agriculture	Commercial Truck
Bobcat	Caterpillar	Deere	International
Case	Genie	Case IH	Freightliner
Caterpillar	JLG	New Holland	Volvo
Deere	Sky Trak	Massey Ferguson	Kenworth
Komatsu	Skyjack	Challenger	Peterbilt
Volvo	Hyster	Kubota	Hino

THE EQUIPMENTWATCH PRICE STABILITY INDEX™

Academic justification

The EquipmentWatch Price Stability Index™ is a new metric for understanding used equipment markets for used heavy equipment. It measures resale price capacity based on the movement of market prices and market activity among the equipment types and manufacturers presented above.

Methodology and Calculation

The EquipmentWatch Price Stability Index™ is based on the Laspeyres Index, one of the many economic indices used to monitor changes in prices over time. To calculate it, we use the framework provided by the Laspeyres Index:

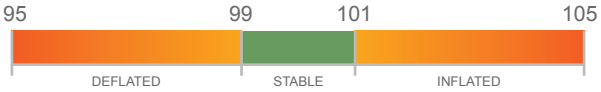
$$P_L = \frac{\sum(p_{c,t_n}) * (q_{c,t_0})}{\sum(p_{c,t_0}) * (q_{c,t_0})}$$

This equation sums the product of prices in the current month and quantity of the previous month and divides that by the product of prices in the previous month and quantity in the previous month.

We have modified this method to track the change in prices for each equipment type from month-to-month against the change in market activity for each equipment type month to month.

Interpretation

The EquipmentWatch Price Stability Index™ can be thought of as an index of price capacity. In more formal terms, it measures how efficiently used markets adjust to equilibrium given previous adjustments in prices and market activity. There are three primary ranges in the EquipmentWatch Price Stability Index™, as noted below:



When the EquipmentWatch Price Stability Index™ is higher than 101, that indicates that equipment is valued at a higher level than expected, given last month's prices and amount of market activity. We categorize this range as "Inflated".

When the EquipmentWatch Price Stability Index™ is lower than 99, it indicates that equipment is valued at a lower level than expected, given last month's prices and market activity. We categorize this range as "Deflated".

When the EquipmentWatch Price Stability Index™ is between 99 and 101, it is typically demonstrating that equipment prices and market activity are moving appropriately towards market equilibrium. We categorize this range as "Stable".

It is important to note that a higher rating on EquipmentWatch Price Stability Index™ does not necessarily imply that used markets are better than a lower rating. For some, price inflation is desirable; for others, it is undesirable. However, all parties involved in buying or selling equipment on used markets can use the EquipmentWatch Price Stability Index™ to easily understand how prices in a particular region or equipment channel are moving relative to the previous month.

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APPENDIX

SECTION GUIDES

The Introduction

In the top left, we exhibit a tally of the estimated market value of market activity last month in the Resale channel and Auction channel.

In the main table, we display market activity and assets for each market, along with month over month and year over year changes in Fair Market Value and Forced Liquidation Value.

Overall Trends

This page is an overview of each channel. The graph highlights an overall FMV and FLV trend line for all of the equipment types and manufacturers in the report for the last 13 months. It also displays very general month over month and year over year trends across the entire channel.

Type Trends

This page subsets the analysis of the previous page across each of the key equipment types in this report.

Brand Trends

This page shows some of the key month over month trends for the manufacturers represented in this report, including equipment values, Usage, market activity, and age trends.

Regional Trends

This page shows the EquipmentWatch Price Stability Index™ for each of the 14 regions, using the same calculation method as the EquipmentWatch Price Stability Index™ shown on the first page of the report. The states and provinces which make up each region are listed in the table to the right.

Note that due to regional disparity in market activity, some regions with very little or no market activity in the last month are excluded from the analysis. These are marked with “NA” on the map.

Country	Region	State/Province
USA	A	CT, DE, MA, ME, NH, NJ, MY, RI, VT
USA	B	MD, P, VA, WV
USA	C	AL, FL, GA, KY, MS, NC, SC, TN
USA	D	IL, IN, MI, OH, WI
USA	E	IA, KS, MO, NE
USA	F	AR, LA, OK, TX
USA	G	AZ, CO, NM, UT
USA	H	ID, MN, MT, ND, SD, WY
USA	I	CA, NV, OR, WA
USA	J	HI
USA	K	AK
CAN	L	NT, NU, YT
CAN	M	AB, BC, MB, SK
CAN	N	NB, NL, NS, ON, PE, QC

FAQS

Why did you limit the equipment types in this report?

EquipmentWatch tracks market activity for over a hundred unique equipment types each month. For each channel, we selected the most popular equipment types, based on the frequency of appearance on the resale and auction channels.

Why are there only 24 manufacturers in this report?

EquipmentWatch tracks market activity for almost 400 unique manufacturers each month. For each market, we selected the top 6 manufacturers. As the markets shift and prominence on used markets changes, we will adjust our selections accordingly.

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APPENDIX

Why don't you use OLV?

Orderly Liquidation Value, or OLV, is a third major category of values. These are the values of an asset given a single seller and multiple potential buyers given a long or indefinite timeframe in which to dispose. Given the lack of clarity around the time dimension, we have chosen not to make assumptions about the orderly liquidation process. However, OLV is typically between FLV and FMV in gross value.

IMPORTANT DEFINITIONS

Fair Market Value (FMV): the value of an asset sold to a single buyer under no compulsion.

Forced Liquidation Value (FLV): the value of an asset sold at a properly advertised and conducted auction in which the seller is under compulsion to sell on an as-is, where-is basis as of a specific date.

Market Activity: A measure of the total number of observations collected by EquipmentWatch, including publicly-available dealer listings, auction results, and final sales data.

Meter Reads: A measure of Usage that varies by equipment market. For most equipment types, this represents engine hours at the time of observation.

Age: the age of an asset, based on model year and the year of observation.

ABOUT EQUIPMENTWATCH

EquipmentWatch is the trusted source for heavy equipment data and intelligence. EquipmentWatch produces the leading database information products for the construction equipment industry and is the world leader in heavy construction research and serves more than 15,000 professional, high-volume users of construction and lift-truck data. Our online and print products are valuable tools in decisions surrounding the purchase, valuation, operation, and disposal of equipment.

For nearly 50 years, EquipmentWatch has served contractors, equipment manufacturers, dealers, rental companies, lenders and insurers, and government agencies involved in heavy civil construction.

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